ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. #0007128
CSBRG-0007-00(128)
GDOT District 5 - Jesup
Chatham County
CR 787/Islands Expressway at Wilmington
River Bascule Bridge Replacement

OFFICE Design Policy & Support

DATE 3/13/2012

FROM Kim Phillips for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT **APPROVED CONCEPT REPORT**

Attached is the approved Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Genetha Rice-Singleton, Program Control Administrator
Bobby Hilliard, State Program Delivery Engineer
Cindy VanDyke, State Transportation Planning Administrator
Angela Robinson, Financial Management Administrator
Glenn Bowman, State Environmental Administrator
Ben Rabun, State Bridge Engineer
Kathy Zahul, State Traffic Engineer
Georgene Geary, State Materials & Research Engineer
Lisa Myers, State Project Review Engineer
Jeff Baker, State Utilities Engineer
Ken Thompson, Statewide Location Bureau Chief
Michael Henry, Systems & Classification Branch Chief
Karon Ivery, District Engineer
Brad Saxon, District Preconstruction Engineer
Stephen Thomas, District Utilities Engineer
Robert Murphy, Project Manager
BOARD MEMBER – 1st and 12th Congressional Districts

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Project Number: CSBRG-0007-00(128)
County: Chatham
P.I. Number: 0007128
Federal Route Number: N/A
State Route Number: N/A

Replacement of the Islands Expressway Bridges over the Wilmington River

Submitted for approval:

DATE 7/22/11 — Al Bowman, The LPA Group, Inc.

DATE 7/5/11 — Chatham County Leon Davenport, Asst Co. Engr.

DATE 12/5/2011 — Bobby Hilliard, State Program Delivery Engineer

DATE 12/2/2011 — Robert P. Murphy, Project Manager

Recommendation for approval:

DATE _____ — Program Control Administrator

DATE 8/23/2011 — *GLENN BOWMAN — State Environmental Administrator

DATE 8/24/2011 — *KATHY ZAHLEN — State Traffic Engineer

DATE 8/23/2011 — *RON WISHON — Project Review Engineer

DATE 8/23/2011 — *SAL PIRZAD FOR JEFF BAKER — State Utilities Engineer

DATE 8/24/2011 — *STEPHEN THOMAS — District Engineer/District Utilities Engineer

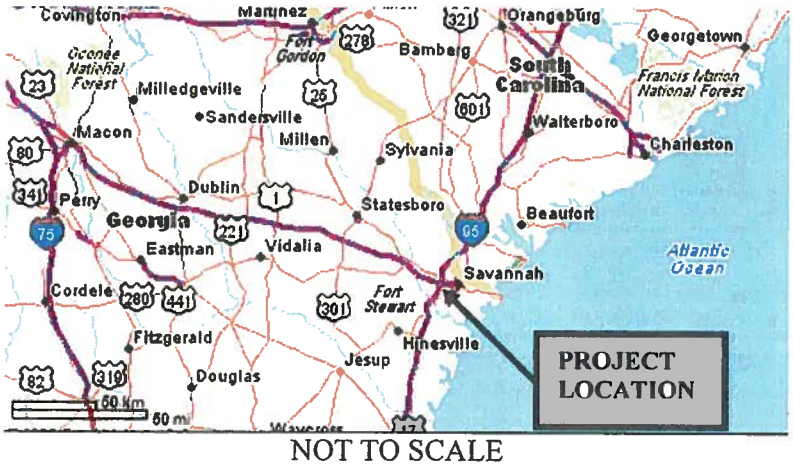
DATE 9/27/2011 — *BEN RABUN — State Bridge Design Engineer

DATE _____ — State Transportation Financial Management Administrator

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Program (RTP) and/or the State Transportation Improvement Program (STIP).

DATE 8/30/2011 — * CYNTHIA L. VANDIKE — State Transportation Planning Administrator

* RECOMMENDATION ON FILE



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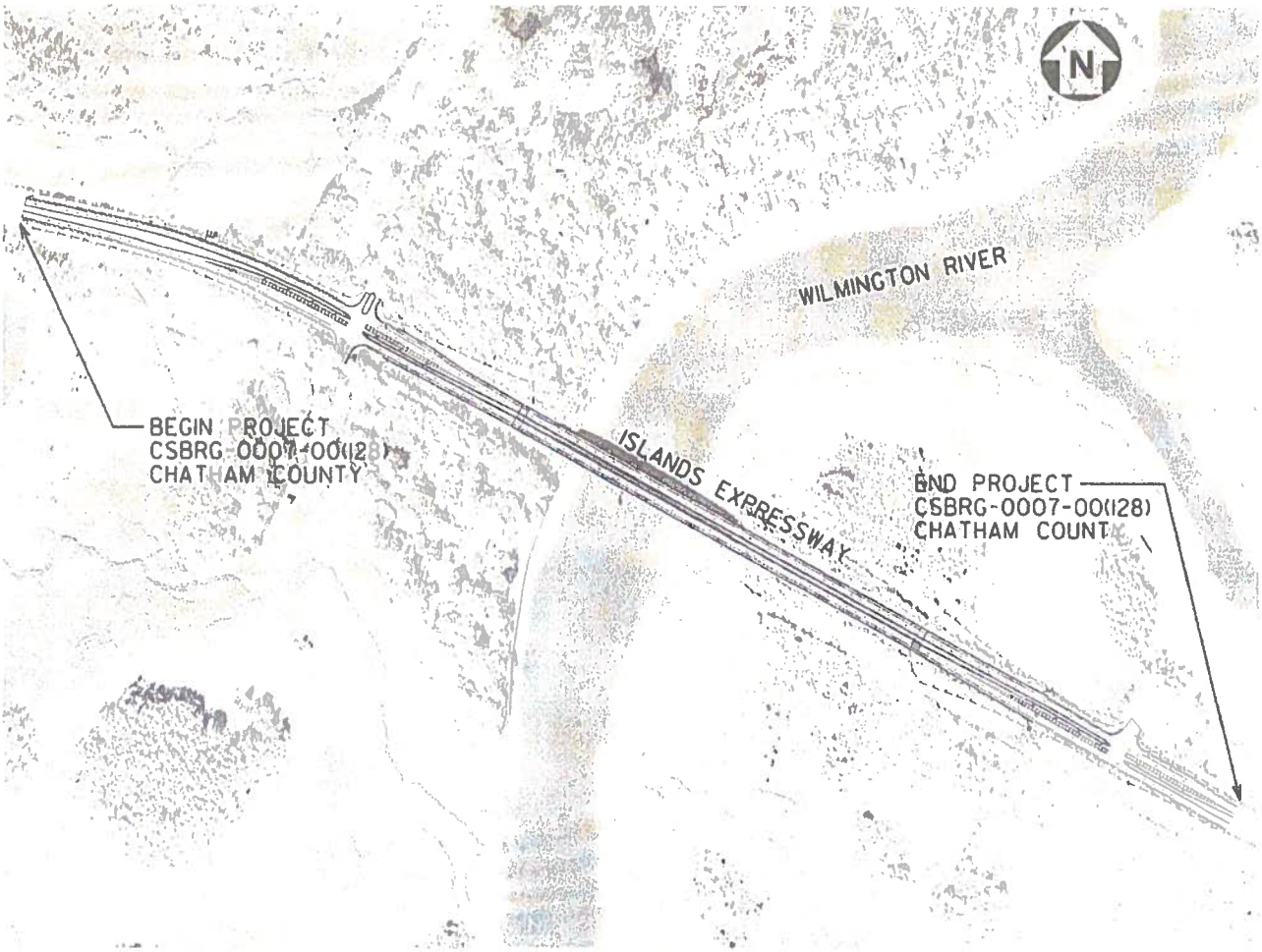


PROJECT LIMITS

Need and Purpose Statement

Background

Islands Expressway (CR 787) provides two parallel bascule bridges over the Wilmington River at Causton Bluff, approximately 1/3 of a mile east of the city limit of Savannah in Chatham County. East of the Wilmington River crossing, Islands Expressway merges with US 80/SR 26, which provides direct access to Tybee Island.

Islands Expressway is a four-lane rural divided highway with grass median. The functional classification of the roadway is Urban Principal Arterial. The eastbound bridge (Structure ID 051-0132-0) provides two 12-ft travel lanes and it was constructed in 1963. The westbound bridge (Structure ID 051-5027-0) provides two 12-ft travel lanes and it was constructed in 1989. The westbound bridge was previously part of the US 80/ SR 26 crossing of the Wilmington River at Thunderbolt. The bridge was moved to the Islands Expressway crossing of the Wilmington River in 1989 when US 80/ SR 26 was widened and the bascule bridge was replaced with a 2,188-ft long by 72-ft wide fixed span structure.

The project area is characterized by surrounding coastal marshland and late 20th century residential development. A large single-family subdivision constructed on Causton Bluff is located north and south of the Islands Expressway, west of the Wilmington River crossing. The communities of Oatland and Riverside are located to the east of the Wilmington River crossing.

The Wilmington River is a navigable waterway that is part of the Atlantic Intracoastal Waterway. The Wilmington River and associated marshlands are tidally influenced. The two bascule bridges have a vertical clearance of 22.3-ft in the closed position. Islands Expressway is a designated school bus route and is the major hurricane evacuation route for Tybee Island on the current GEMA, FEMA and local evacuation plan route maps. This portion of Islands Expressway is located on the Savannah-Whitemarsh bicycle corridor. This project is currently in the Chatham County Urban Transportation Study (CUTS) Transportation Improvement Program (TIP) (FY 2008-2011) Amended on February 25, 2009. This project is currently listed as 2nd Priority by the Metropolitan Planning Organization (MPO) TIP.

Need and Purpose

The proposed project would replace the existing Islands Expressway bridges over the Wilmington River with two fixed span structures having a minimum vertical clearance of 65-feet for the navigational waterway. The existing bascule bridges are functionally obsolete. The bridges are opened/ closed approximately 4,000 times per year. The frequent openings cause traffic delays, which results in an inconvenience to the traveling public. The proposed project would increase the vertical clearance of the crossing and eliminate the traffic delay and associated lost travel time due to frequent bridge openings.

The maintenance and operation of the Islands Expressway bascule bridges are a substantial burden to Chatham County. Chatham County is solely responsible for these costs because Islands Expressway is a county route. The annual operation and routine maintenance costs for these bridges represent approximately 60 percent of the County's annual bridge budget. For fiscal year 2009-2010, the maintenance cost was $31,992 and the operational cost was $326,346 for a total of $358,338. The average annual maintenance and operational costs over the past four years was $353,633.25. The cost associated with the operation of the bascule bridges includes three full-time employees; the bridge is manned 24 hours per day, seven days a week. The annual maintenance and

operational costs do not include any capital expenditures; i.e., specific improvements to the bridge that need to be done on a regular basis, such as rehabilitation of electrical on span motors, lock motor, navigation lights, traffic lights, and console (required every 20 years); steam clean and pressure washing (required every 5 years); replacement of bridge grating; rehabilitate locks and grease fittings (required every 5 years); and painting (required every 20 years). The removal of the Islands Expressway bascule bridges would eliminate the operation costs and reduce the maintenance and required capital improvements costs, which are anticipated to be less with the new fixed span structures.

The existing horizontal clearance for the Wilmington River at the site of the bridge is 100-ft between the existing bridge piers. Nonetheless, barge traffic still has difficulty maneuvering through the crossing, and there have been several collisions with the fender system. Not only does this represent a safety issue, the collisions also add to the maintenance and operation costs of the existing bridge. The proposed fixed span bridges would provide increased horizontal clearance for maritime traffic under the bridge, which would enhance the safety of the navigational waterway and the Islands Expressway.

Logical Termini

This project is not associated with any other construction project and would not restrict consideration of any future improvements to Islands Expressway. The proposed improvements are limited to the replacement of the existing bridges, on essentially the same alignment with the same number of lanes. The total project length is approximately 1.2 miles. The project termini occur where the new bridges can appropriately tie into the existing Islands Expressway.

Bridge Sufficiency Rating

The eastbound bridge (Structure ID 051-0132-0) has a sufficiency rating of 60.50 and the westbound bridge (Structure ID 051-5027-0) has a sufficiency rating of 71.93. Bridge sufficiency rating includes factors such as: structural condition, bridge geometry, and traffic considerations. The sufficiency rating is calculated per a formula defined in the Federal Highway Administration's Recording and Coding Guides for the Structure Inventory and Appraisal of the Nation's Bridges. This rating is indicative of a bridge's sufficiency to remain in service. The formula places 55 percent value on the structural condition of the bridge, 30 percent on its serviceability and obsolescence, and 15 percent on its essentiality to public use. The point calculation is based on a 0 – 100 scale and it compares the existing bridge to a new bridge designed to current engineering standards.

The bridge's sufficiency rating provides an overall measure of the bridge's condition and is used to determine eligibility for federal funds. Bridges are considered structurally deficient if significant load carrying elements are found to be in poor condition due to deterioration or the adequacy of the waterway opening provided by the bridge is determined to be extremely insufficient to the point of causing intolerable traffic interruptions.

Bridges with a sufficiency rating below 80 are eligible to receive federal funding for rehabilitation. If a bridge has a sufficiency rating below 50 and is considered functionally obsolete or structurally deficient, the structure is eligible for federal bridge replacement funding.

Condition ratings are based on a scale of 0 – 9 and are collected for the following components of a bridge. A condition rating of 4 or less on one of the following item classifies a bridge as structurally deficient.

- The bridge deck, including wearing the surface;
- The superstructure, including all primary load-carrying members and connection;

- The substructure, considering the abutments and all piers.

Vehicular Accident Data

Traffic accident data was obtained from the GDOT *Office of Traffic Safety and Design* for the years 2005 through 2007. The accident data for roadway segments was available for all three years within the timeframe. The rates derived from this data were compared to the statewide average annual accident rates for a roadway classified as "Urban Principal Arterial" from GDOT's *Statewide Mileage, Travel and Accident Data* for the years 2005, 2006 and 2007.

Table 1: Chatham County, CR 787/Islands Expressway – P.I. 0007128
Accident Rate Calculations for year(s) 2005, 2006, & 2007 (Mile logs 3.71 – 4.91)

Year	Total Vehicle Miles	Total Accidents	Accident Rate	Statewide Average	Total Injuries	Injury Rate	Injury Rate (Statewide Average)	Total Fatalities	Fatality Rate	Fatality Rate (Statewide Average)
2005	25,116	11	120	363	1	11	151	1	10.91	1.43
2006	25,812	6	64	298	8	85	120	0	0	1.33
2007	25,932	1	11	445	0	0	174	0	0	1.49
NOTE: Rates are per 100 Million Vehicle Miles										

A comparison of the accident rates of the Islands Expressway segments under study versus the statewide average for similar roadways (Urban Principal Arterials, NHS, Non-Freeway) shows that the rates for total accidents and injury crashes were below the statewide averages for all three study years, 2005 – 2007. Fatality rates were also below the statewide averages in 2006 and 2007. However, the fatality rate in 2005 was well above the statewide average (**Table 1**).

Analysis of the accident data indicates that approximately 22 percent of the total number of accidents on Islands Expressway occurred at an intersection. Approximately 25 percent of the crashes occurring at an intersection were injury related, while 28.6 percent of crashes not at an intersection resulted in injuries.

Non-vehicle collisions were the most prevalent accident type occurring within the study area roadway segments. Nearly 56 percent of all the accidents along these segments of roadway were non-vehicle collisions. This type of crash accounted for 60 percent of the injury-related accidents and 100 percent of the fatality-related accidents for the study period. One recurring non-vehicle collision appears to be taking place at mile log 4.23. Thirty (30) percent of all the non-vehicle collisions took place at this location.

The most common type of collision between two vehicles occurring within the study area was rear end crashes. Of crashes occurring between two motor vehicles, 62.5 percent were rear end collisions, and 40 percent of these crashes were injury-related. The lone event taking place in 2007 involved a rear end collision.

Existing and Projected Traffic Volumes

The existing traffic volumes show extremely heavy directional flows during the morning and afternoon peak hours. During the morning peak hour, the westbound traffic (heading towards Savannah) exceeds 2100 vehicles and is nearly six times larger than the eastbound traffic. During the afternoon peak hour, the heavy directional flow is reversed, with over 1900 vehicles traveling away from Savannah towards the east. The eastbound volume is nearly three times the westbound volume during the afternoon peak hour.

Average Annual Daily Traffic Volume (AADT) data for the Islands Expressway was obtained from GDOT's Automatic Traffic Station Data. Data from 1997 through 2003 were obtained for Chatham County count stations 441 and 443. The AADT for the two count station locations, which were rounded to the nearest hundred vehicles, are summarized in (**Table 2**).

Table 2: Historic AADT

Year	Station 441	Station 443
1997	19,400	16,500
1998	20,100	17,300
1999	18,500	17,700
2000	21,700	18,600
2001	21,000	16,900
2002	20,200	18,700
2003	21,700	16,100
Average	20,400	17,400

Speed and Traffic data was collected using ATR on the eastbound and westbound approaches to the existing bascule bridges between Tuesday, December 14, 2004 and Friday December 17, 2004. Table 3 summarizes the daily traffic volumes at the count locations.

Table 3: Daily Traffic Counts – December 2004

Direction	December 14	December 15	December 16	December 17	Total
Eastbound	11,388	10,640	10,441	10,247	42,716
Westbound	11,436	11,435	11,621	11,955	46,447
Total	22,824	22,075	22,062	22,202	89,163

Based on this count information, the average daily westbound volume is 11,612 and the average daily eastbound volume is 10,679 vehicles, for an average daily traffic volume of 22,291 vehicles.

These traffic volumes were adjusted to account for seasonal variations in traffic. The monthly and weekday adjustment factors for roadways with the functional classification of 'urbanized arterials' were obtained from GDOT and applied to the daily traffic volumes. The resulting adjusted AADT for each of the four days counted were averaged to produce an adjusted 2004 AADT of 21,500 vehicles per day. Long term traffic projections for the Islands Expressway in the vicinity of the existing bascule bridges were obtained using the 2030 area transportation model loaded highway network from the Chatham Urban Transportation Study's *Long Range Transportation Plan*. For the purposes of this analysis, the six model links between nodes 2990 and 3506 represent the study area roadway system. The volumes on these links ranged from approximately 23,500 vehicles per day at the western end to approximately 22,300 vehicles per day on the eastern end. In the immediate vicinity of the bridge, the projected 2030 traffic volumes were about 22,500 vehicles per day.

The historic traffic data and the 2030 traffic projections were used to project trends in the annual growth of traffic. The average historic traffic volume (shown in Table 2) and the 2030 projected traffic volume from the long range plan were used to estimate total growth in traffic between 2004 and 2030. The estimated traffic growth rate is summarized in Table 4.

Table 4: Estimated Traffic Growth Rate		
	Station 441	Station 443
Average Historic	20,400	17,400
Projected 2030	22,500	22,500
Total Growth (percentage)	10.2%	29.3%

The more aggressive total growth rate of 29.3% (about one percent annually) was applied to the existing through movements on CR 787 to estimate 2030 peak hour traffic volumes at the intersection of Islands Expressway and Woodhull Road/ Causton Harbor Drive. The turning movements to and from Woodhull Road/ Causton Harbor Drive were not factored since these volumes are generated by the residential development within each subdivision and contain no through traffic. Growth in traffic would only occur on these streets if additional residential development would take place within the subdivisions. For the purposes of this analysis, it was assumed these subdivisions are largely built out in 2004.

Traffic Congestion/ LOS

Unsignalized intersection capacity analyses were performed for the intersection of CR 787 (Islands Expressway) with Woodhull Road/ Causton Harbor Drive for existing and projected 2030 traffic conditions. The analyses were performed using the Highway Capacity Software (HCS), release 4.1e. The results of the analyses are summarized in Table 5.

The results of the analyses reflect the heavy directional traffic flow along the Islands Expressway. During the morning peak hour, the heavy westbound through traffic causes delays to the eastbound left turn movement. The reverse is true during the afternoon peak hour: the heavy eastbound through movement causes delay to the westbound left turn movement. In addition, the extremely heavy through traffic during the morning and afternoon peak hour results in generally high delay and poor levels of service for the movements from the stop sign controlled side streets of Woodhull Road/ Causton Harbor Drive.

Table 5: Unsignalized Intersection Capacity Analysis Results					
	LOS (Delay)				
	CR 787		Woodhull Rd.		Causton Harbor Drive
	EB Left	WB Left	NB Left-Through	NB Right	SB Left-Through-Right
2004 AM Peak	D (28.2)	A (8.2)	F (64.4)	A (9.5)	F (178.6)
2030 AM Peak	F (57.0)	A (8.5)	F (1580)	A (9.9)	F (834.7)
2004 Mid-day Peak	A (9.2)	A (8.5)	C (15.2)	A (9.9)	B (12.2)
2030 Midday Peak	B (10.1)	A (9.1)	C (18.2)	C (10.6)	B (13.9)
2004 PM Peak	A (9.4)	C (21.5)	F (150.1)	C (23.8)	C (20.6)
2030 PM Peak	B (10.4)	E (36.3)	F (605.0)	E (38.0)	D (32.3)

The HCS analysis also provides an estimate of the 95th percentile queue (number of vehicles) for each of the turn movements. The estimated 95th percentile queues were rounded up to the next whole number of vehicles, and are summarized in Table 6.

Table 6: 95th Percentile Queue – Number of Vehicles

	LOS (Delay)				
	CR 787		Woodhull Rd.		Causton Harbor Drive
	EB Left	WB Left	NB Left-Through	NB Right	SB Left-Through-Right
2004 AM Peak	1	1	1	1	6
2030 AM Peak	1	1	4	1	10
2004 Mid-day Peak	1	1	1	1	1
2030 Midday Peak	1	1	1	1	1
2004 PM Peak	1	1	1	1	1
2030 PM Peak	1	1	2	1	1

Based on the queue analysis, traffic exiting Causton Harbor Drive during the morning peak hours creates the longest traffic queue. This is a result of a combination of the heavy westbound traffic and having only a single shared left turn-through-right turn lane provided for traffic to exit.

The analysis indicates that traffic coming from the residential areas accessed from Woodhull Road/ Causton Harbor Drive will face increasing delay entering CR 787 through 2030. Since traffic volumes from the side street approaches will likely not be high enough to warrant the installation of a traffic signal at that intersection, maintaining or widening the existing median area at the intersection will provide for additional vehicular storage for two stage left turn and through movements.

Conclusion

The average Annual Average Daily Traffic (AADT) on Islands Expressway between 1997 and 2003 was approximately 20,400 vehicles. The projected 2030 AADT from the *Long Range Transportation Plan* is 22,500. There is extremely heavy directional traffic during the morning and afternoon peak hours. Westbound traffic is nearly six times larger than the eastbound traffic during the morning peak hour, while eastbound traffic is nearly three times larger than the westbound traffic during the afternoon peak hour.

Description of the proposed project:

Project CSBRG-0007-00(128) represents the construction of two new, high level, fixed span, multi-lane bridges over the Wilmington River (Atlantic Intracoastal Waterway) approximately 0.3 mile east of the city limit of Savannah along Islands Expressway (CR 787) in Chatham County. The Project will replace the double bascule bridges that currently exist at this location, which are considered to be functionally obsolete. The Project will begin at a point approximately 0.6 mile west of the Wilmington River (mile log 3.71) and extend eastward to a point approximately 0.6 mile east of the Wilmington River (mile log 4.91). Project length is approximately 1.2 miles. The minimum vertical clearance under the new bridges at the Wilmington River channel will be approximately 65-ft above mean high water for vessels using the waterway. The horizontal clearance in the channel below the bridge will be increased from its current 100-ft in width to 195-ft in width between the proposed new fender system. The total length of the proposed new bridges is approximately 1836-ft each. The new westbound bridge will be 40 feet wide between the side barriers providing for two 12-ft lanes with an 8-ft wide outside shoulder and an 8-ft wide inside shoulder. The new eastbound bridge will be 36-ft wide between the side barriers providing for two 12-ft lanes with an 8-ft wide outside shoulder and 4-ft wide inside shoulder. The roadway approaches will be reconstructed to provide two 12-ft wide lanes in each direction separated by a 44-ft wide median transitioning to a 30-ft wide median near each end of the project to match the existing roadway. The new roadway will provide 10-ft wide outside shoulders with 6.5-ft paved for pedestrian and bicycle use and 6-ft inside shoulders with 2-ft paved. The intersection at Woodhull Road/ Causton Harbor Drive and Frank W. Spencer boat ramp Park will be reconstructed to meet current GDOT design guidelines. The concrete pipe culverts west of Woodhull Road/ Causton Harbor Drive intersection will be extended to accommodate the widening of the roadway at that location.

Is the project located in a PM 2.5 Non-attainment area? ___Yes __X__ No

Is the project located in an Ozone Non-attainment area?___Yes __X__ No

PDP Classification: Major __ Minor X

Federal Oversight: Full Oversight ( ), Exempt(**X**), State Funded ( ), or Other ( )

Functional Classification: Urban Principal Arterial

U. S. Route Number(s): N/A **State Route Number(s):** N/A **County Route Number(s):** 787

Traffic (AADT):
Islands Expressway: Open Year: (2017) 20,940 Design Year: (2037) 23,500

Existing design features:

Islands Expressway

- Typical Section: Rural 4 12-ft lanes, 2 lanes each direction separated by 30-ft wide depressed grassed median
- Posted speed: 50 mph Minimum radius for curve: 3819.72 ft.
- Maximum super-elevation rate for curve: 3.0%
- Maximum grade: 3.00 %
- Width of right of way: 195-600 ft.
- Major structures: Double Bascule bridges over the Intracoastal Waterway(Wilmington River)
  Structure ID# 051-0132-0 (EB), 051-5027-0 (WB)
  Sufficiency Rating: 60.50 (EB), 71.93 (WB)
- Major interchanges or intersections along the project: Woodhull Road/ Causton Harbor Drive and Frank W. Spencer Boat Ramp Park with median crossovers (type B)
- Project Length: 1.2 miles

Proposed Design Features:

Islands Expressway

- Proposed typical section: Rural 4 12-ft lanes with a 30-ft to 44-ft width depressed grassed median (added or modified right and left turn lanes at two locations), 10 ft outside shoulder 6.5 ft paved and 6 ft inside shoulder 2 ft paved.
- Proposed Design Speed: 55 mph
- Proposed Maximum grade: 7.00 %
- Maximum grade allowable: 5.00 %
- Proposed Maximum grade driveway 3.00 %
- Proposed Minimum radius of curve: 5000.00 ft.
- Minimum radius allowable: 1060.00 ft.
- Maximum allowable superelevation rate: 6.0 %
- Proposed maximum superelevation rate: 2.6 %
- Right of way
  - Width 195-600 ft.
  - Easements: Temporary (X), Permanent (X), Utility ( ), Other ( ).
  - Type of access control: Full ( ), Partial ( ), By Permit (X), Other ( ).
  - Number of parcels: 4 Number of displacements:
    - Business: 0
    - Residences: 0
    - Mobile homes: 0
    - Other:

- Structures:
  - Bridges: An eastbound 39.58 feet wide x 1836 feet long and westbound 43.58 feet wide x 1836 feet long, fixed span, high level, pre-stressed concrete bridges with wrap around abutments – See Structure Type Study
  - Retaining walls: MSE walls and wrap-around vertical abutments, approximately 63,430-

sq. ft.

- Major intersections and interchanges: Woodhull Road/ Causton Harbor Drive and Frank W. Spencer Boat Ramp Park with median crossovers (type B)

- Transportation Management Plan Anticipated: Yes (X) No ( )

- Traffic control during construction: Maintain two lanes of traffic in each direction for stage one construction. See Alternate 8, page . Maintain two lanes of traffic for peak hour AM/PM directional movements using reversible lanes on the new westbound bridge during stage 2 construction. Some temporary lane closures and on-site detours may be required during staged construction.

- Design Exceptions to controlling criteria anticipated:

	YES	NO	UNDETERMINED
1. DESIGN SPEED:	( )	(X)	( )
2. LANE WIDTH:	( )	(X)	( )
3. SHOULDER WIDTH:	( )	(X)	( )
4. BRIDGE WIDTH:	( )	(X)	( )
5. HORIZONTAL ALIGNMENT:	( )	(X)	( )
6. SUPERELEVATION:	( )	(X)	( )
7. VERTICAL ALIGNMENT:	( )	(X)	( )
8. GRADE:	(X)	( )	( )
9. STOPPING SITE DISTANCE:	( )	(X)	( )
10. CROSS SLOPE:	( )	(X)	( )
11. VERTICAL CLEARANCE:	( )	(X)	( )
12. LATERAL OFFSET TO OBSTRUCTION:	( )	(X)	( )
13. BRIDGE STRUCTURAL CAPACITY:	( )	(X)	( )

A Design Exception is required for the use of 6.5 and 7.0 % grades for the new bridge and approaches (5.0% is the maximum for level terrain at 55 mph) for the following reasons: Lesser percent grades on the approaches result in a greater grade change at the intersections west and east of the bridge approaches. The increased roadway grade height at these intersections will require relocation of the intersection into undisturbed salt marsh habitat and/or complete reconstruction of two ornate subdivision entrances resulting in extreme cost increases and adverse impacts to the surrounding human and natural environment.

- Design Variances: None Anticipated
- Environmental concerns:
  - Section 10 Permit / Section 404 NWP 23 / Section 401 Water Quality Certification (with wetland mitigation; assumes agency concurrence with extent of salt marsh impacts).
  - Section 7 of Endangered Species Act; Fish & Wildlife Coordination Act – Section 7 Biological Assessment and consultation with USFWS and NMFS regarding T&E species.
  - Magnuson-Stevens Fishery Conservation and Management Act – preparation of materials for GDOT coordination with NOAA-NMFS regarding Essential Fish Habitat.
  - GA Sediment & Erosion Control Act – Request for Buffer Variance (impacts to 25-foot

waters of the State buffer).
- Revocable License from GADNR Coastal Resources Division.
- Coastal Zone Management (CZM) Plan – Consistency Certification.
- Migratory Bird Treaty Act.
- Section 106 of NHPA – A history survey and a Phase I archaeology survey are planned for the Area of Potential Effect (APE) of the proposed project. The eastbound and westbound bascule bridges were constructed in 1963 and 1989, respectively. The eastbound bridge will be evaluated for NRHP eligibility as a structure built between 1955 and 1965, in accordance with the 2008 update to the Georgia Historic Bridge Survey. Based on preliminary investigations, no adverse effects to archaeological resources on the west approach are anticipated, assuming no land disturbing activities outside of the existing right-of-way and previous land disturbance within the existing right-of-way. Field surveys will be performed to identify potential historic and archaeological resources. GDOT recommends including an underwater survey and a low-water shoreline survey to identify potential submerged archaeological resources. An Assessment of Effects (AOE) will be performed for any NRHP-eligible historic or archaeological resources identified within the APE. Mitigation measures, such as archival photographic documentation may be recommended as part of an AOE.
- NEPA – Project eligibility for environmental analysis as a NEPA CE with an 18-month schedule for environmental clearance is based on initial screening results and is subject to current regulatory requirements and agency determinations. Consultant will coordinate with GDOT to address any need for additional public involvement activities, based on the results of GDOT's evaluation.

- Additional Permits
  - Notice of Intent (NOI) with SWPPP/SPCCP under the State's NPDES General Permit.
  - Section 9 Bridge Permit.

- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes (X), No ( ),
  - Categorical exclusion (X),
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ( ), or
  - Environmental Impact Statement (EIS)

- Utility involvements: Georgia Power (Overhead Power); City of Savannah (16" force main; Bell South (fiber optic); Atlanta Gas Light Co. (6" high pressure gas main)

- Public Interest Determination Policy and Procedure Required? Yes ( ), No (X),

VE Study Anticipated Yes (X) No ( )

Benefit/Cost Ratio N/A

Project Cost Estimate and Funding Responsibilities for Alternate 8:

	PE	ROW	Utility	CST	Mitigation
By Whom	**Chatham**	**Chatham**	**Chatham**	**GDOT**	**GDOT**
$ Amount	**1,229,625**	**34,200**	**7,776,500**	**34,774,874.53**	**441,124**

Project Activities Responsibilities:

- Design: Chatham County
- R/W Acquisition: Chatham County
- Right-of Way funding (real property): Chatham County
- Relocation of Utilities: Chatham County
- Letting to contract: Georgia DOT
- Supervision of construction: Georgia DOT
- Providing material pits: Contractor
- Providing detours: Not anticipated; will be staged constructed under traffic
- Environmental: Chatham County/Georgia DOT- FHWA approval.
- Environmental Mitigation: Georgia DOT

Coordination

- Initial Concept Meeting date and brief summary, held on February 4, 2005.
- Concept meeting date and minutes attached (held April 26, 2007)
- P. A. R. meetings, dates and results. Not Required
- FEMA, USCG, USFWS, NMFS, COE: Required
- Public involvement: A public information open house meeting (PIOH) held May 26, 2005 & April 12, 2011.
- Local government comments: See Meeting minutes (attached)
- Other projects in the area: NH000-0005-05(038), P.I. 522860 Widening of Islands Expressway from General McIntosh Blvd. To Harry S. Truman Parkway
- Other coordination to date: Pre-concept meetings held with GDOT Office of Urban Design on November 2, 2004 and December 13, 2004.

Scheduling – Responsible Parties' Estimate

• Time to complete the environmental process:	Begin 8/3/2010	End 9/25/2012
• Time to complete preliminary construction plans:	Begin 2/1/2012	End 2/1/2013
• Time to complete right of way plans:	Begin 12/3/2012	End 5/8/2013
• Time to complete the Section 404 Permit:	Begin 2/1/2013	End 12/1/2013
• Time to complete final construction plans:	Begin 1/14/2013	End 12/3/2014

- Time to complete to purchase right of way: Begin 5/8/2013 End 5/8/2014
- List other major items that will affect the project schedule: Concept Approval

Alternates considered:

Nine Alternates were studied for this project. The alternates studied represented a no build, single bridge and double bridge options and considered 2 lane, 3 lane, and 4 lane maintenance of traffic during the construction period. A structural alternate study has also been performed and is available as a part of this report. Please find attached an *alternatives matrix* to compare attributes of each alternative.

Alternate No. 1---- Alternate No. 1 maintains 4 lanes of traffic through the construction period. Alternate No. 1 proposes two parallel bridges (1836-ft x 39.58-ft each) over the Wilmington River separated by a 52-ft +/- median. The entire north (westbound bridge) would be constructed in stage 1 and westbound traffic would be transferred to the new bridge with eastbound traffic being shifted to the existing westbound bridge. The southern bridge (eastbound) would be removed and the new eastbound bridge would be constructed in stage 2. Eastbound traffic would be shifted from the old westbound bridge to the new eastbound bridge and the old westbound bridge would be removed. This alternate may require relocation of the bridge tender house and all controls for the stage 2 operation of the westbound bascule bridge if the tender house and controls cannot be maintained on the existing eastbound bridge bent.

Alternate No.1 was not selected due to its higher overall estimated construction cost and longer estimated time of construction. Alternate No.1 requires that the contractor mobilize twice for the removal of the existing bridges. Removal of the existing west bound bridge may also be more costly due to its location between the two new high level bridges.

Alternate No. 2----Alternate No. 2 maintains 4 lanes of traffic through the construction period. Alternate No. 2 proposes a single bridge structure (1836-ft x 91.92-ft) over the Wilmington River with a 24-ft raised median. Stage 1 proposes to construct a 55-ft +/- section of the new bridge on the north side of the existing north (westbound bridge). Once constructed, all 4 lanes of east bound and westbound traffic would be shifted to this new section of the bridge and the existing bridges would be removed. The remaining section (36-ft +/-) of the new bridge would then be constructed in stage 2.

Alternate No. 2 was not selected due to its adverse effects to the subdivision entrance, specimen trees and privacy wall on the north side of the west approach (Causton Bluff) as well as the higher overall project cost.

Alternate No. 3----Alternate No. 3 maintains 2 lanes of traffic for half of the construction period and 4 lanes of traffic for the remaining half of the construction period and proposes a single structure (1836-ft x 91.92-ft) over the Wilmington River with a 24-ft raised median. Alternate No. 3 stage one construction proposes to reduce the existing 4 lane roadway to 2 lanes and utilize the south (eastbound bridge) to maintain 2 lanes of traffic while removing the existing north (westbound bridge). Once removed, stage 1 would construct a 55-ft +/- section of a new single bridge directly north and adjacent to the existing eastbound bridge. 4 lanes of traffic would be shifted to the new bridge and the existing

eastbound bridge would be removed and the remaining 36-ft +/- of the new bridge would be constructed as stage 2.

Alternate No. 3 was not selected due to its inability to maintain an adequate number of lanes of traffic for the entire construction period. Utilization of 2 lane (one lane each direction) maintenance of traffic for half of the construction period will result in lengthy delays for commuters during peak hours and higher potential for delay during hurricane evacuation.
An operational failure of the existing southbound bascule bridge during stage one construction would result in temporary closure of Islands Expressway and rerouting all traffic south to US 80 greatly congesting this route and creating major inconvenience and long delays for commuter and tourist traffic. Every effort to avoid closure of this roadway during construction must be made to ensure its efficient operation during an emergency hurricane evacuation event.

Alternate No. 4-----Alternate No. 4 maintains only 2 lanes of traffic for the entire construction period and proposes two parallel bridges (1836-ft x 39.58-ft each) over the Wilmington River. Alternate No. 4 would require reducing the travel lanes to one lane in each direction and utilizing the south (eastbound bridge) while removing the north (westbound) bridge in stage 1. Stage 1 would then require construction of the new westbound bridge. 2 lanes of traffic would then be shifted to the new westbound bridge, the existing eastbound bridge would then be removed and the new eastbound bridge would be constructed in stage 2.

Alternate No. 4 was not selected due to its inability to maintain an adequate number of lanes of traffic for the entire construction period. Utilization of 2 lane maintenance of traffic for half of the construction period will result in lengthy delays for commuters during peak hours and higher potential for delay during hurricane evacuation. An operational failure of the existing southbound bascule bridge during stage one construction would result in closure of Islands Expressway and rerouting all traffic south to US 80 greatly congesting this route and creating major inconvenience and long delays for commuter and tourist traffic. Every effort to avoid closure of this roadway during construction must be made to ensure its efficient operation during an emergency hurricane evacuation event.

Alternate No. 5-----Alternate No. 5 maintains 4 lanes of traffic for the entire construction period and proposes a single bridge structure (1836-ft x 91.92-ft) over the Wilmington River with a 24-ft raised median. Alternate No. 5 proposes to construct a temporary 2 lane bridge and approaches on the north side of the existing north (westbound bridge) in stage 1. Westbound traffic would be shifted to the new temporary bridge and eastbound traffic would be shifted to the old westbound bridge. The existing south (eastbound) bridge would be removed and a (55-ft +/-) section of the new bridge would be constructed directly adjacent to the existing westbound bridge in stage 2. Once constructed, all 4 lanes of traffic would be shifted to the new section of the new bridge and the temporary and old westbound bridge would be removed. The remaining 36-ft +/- section of the new bridge would then be constructed as stage 3. This alternate would require relocation of the eastbound bascule bridge, bridge tender house and all controls to the temporary bridge in stage one and would require 2 lane maintenance of traffic during this operation.

Alternate No. 5 was not selected due to its higher overall project cost, increased adverse effects to the "Causton Bluff "subdivision entrance, privacy wall and surrounding specimen trees, and increased time of construction.

Alternate No. 6-----Alternate No. 6 maintains 4 lanes of traffic through the construction period and proposes two parallel bridges (1836-ft x 39.58-ft each) over the Wilmington river separated by a 70-ft +/- median. 4 lanes of traffic would be maintained on the existing bridges and the new east bound bridge would be constructed on the south side of the existing south (eastbound) bridge in stage 1. Once completed, the eastbound traffic would be shifted to the new eastbound bridge and the westbound traffic would be shifted to the existing eastbound bridge, allowing for the removal of the existing north (westbound) bridge. Stage 2 would then be the construction of the new westbound bridge in the same location as the existing westbound bridge.

Alternate No. 6 was not selected due to its increased potential for adverse effects to the underground utilities on the south side of Islands Expressway, increased wetland impacts, higher overall project cost, increased time of construction, and increased adverse effects to "The Bluffs" subdivision entrance including a potential loss of very large live oak tree at the entrance island.

Alternate No. 7---- Alternate No. 7 maintains 4 lanes of traffic through the entire construction period and proposes two parallel bridges (1836-ft x 39.58-ft each) over the Wilmington River separated by a 21-ft +/- median. Stage 1 would be the construction of the new north (westbound) bridge while maintaining traffic on the existing eastbound and westbound bridges. Westbound traffic would then be shifted to the new westbound bridge and the existing westbound bridge would be removed. Once removed, the new eastbound bridge would be constructed in the same location as the old westbound bridge parallel to the new westbound bridge in stage 2. This alternate requires the use of a launching truss to construct the superstructure of the new westbound bridge in stage 2. The old south (eastbound) bridge would be removed once eastbound traffic was shifted to the new eastbound bridge.

Alternate No. 7 was not selected due to its higher overall project cost and increased adverse effects to the "Causton Bluff" subdivision entrance, privacy wall and surrounding specimen trees.

Alternate No. 8---- Alternate No. 8 maintains 3 lanes of traffic (2 lanes in one direction during peak hours utilizing a reversible center lane) for approximately 18 months of the construction period (stage 2). Alternate 8 proposes to construct two parallel bridges (1836-ft x 39.58-ft and 1836-ft x 43.58-ft) over the Wilmington River separated by a 44 foot wide median. The entire new westbound bridge would be constructed in stage 1 just north of the existing westbound bridge, and eastbound and westbound traffic would be maintained on the existing two bascule bridges. Once the new westbound bridge is completed, three lanes of traffic would be shifted to the new westbound bridge where a reversible lane configuration would be utilized allowing two lanes of traffic for the morning westbound and evening eastbound peak hours during stage 2. Stage 2 construction will include removal of both existing bascule bridges and construction of the new eastbound bridge.

Alternate 8 is the recommended alternate for this project. The reasons for selecting Alternate 8 are as follows: 1. Alternate 8 will provide the lowest overall project costs while maintaining 4 lanes

during stage 1 construction and 3 lanes during stage 2 construction. Alternate 8 will provide for the least overall time of construction. Time savings and cost savings can be realized during the removal of the existing two bascule bridges since they can be removed simultaneously in stage 2. Other alternates require that at least one of the existing bridges be maintained during stage 2 construction for vehicular traffic and maritime traffic maintenance. 3. Alternate 8 provides for the construction of the new bridges to be located as far north of the existing utilities as possible allowing for potential cost savings when determining the need to relocate utilities.

Alternate No. 9----Alternate No. 9 represents the "No Build "alternative.

Alternate No. 9 was rejected for not meeting the transportation need stated in the "Need and Purpose" above.

Comments: On May 26, 2005, a PIOH was held near the project location at the Islands Expressway Elementary School. After consulting with GDOT OEL, Chatham County was instructed to take three alternates to the PIOH which represented the most desirable alternates from a cost and impacts perspective. After careful review with the Office of Urban Design, it was determined that Alternates 1, 4, and 6 were the alternates which provided the best value for the traveling public and caused the least adverse affects to the surrounding human and natural environment. The results of the PIOH are attached herein. On April 26, 2007, a concept team meeting was held to discuss the recommended alternates for this project. (See attached meeting minutes.) At that meeting, it was recommended by the project team to study an additional alternate which provided for 3 lanes of traffic maintenance during the construction period. This alternate (Alternate 8) would provide two lanes for traffic in the AM and PM peak traffic hours and one lane for off peak traffic. The project team decided that this alternate could provide benefits not realized in the other alternates specific to utility impacts, time of construction, bridge removal, and overall time of construction and it deserved consideration.

A VE study was held on October 4-7, 2010. The VE team confirmed the merits of Alternate 8. Subsequent meetings with both GDOT Director of Engineering (Ben Buchan) and State Bridge Engineer (Paul Liles) confirmed that Alternate 8 is the alternate that should be designed. Since Alternate 8 had not previously been shown to the public, a second PIOH was held on April 12, 2011 at the Oatland Island Wildlife Center. Alternate 8 was presented to the public and the majority of comments were in favor.

Attachments:

1. Detailed Cost Estimates:
    a. Construction including Engineering and Inspection
    b. Completed Fuel & Asphalt Price Adjustment forms
    c. Right-of-Way
    d. Utilities
    e. Environmental Mitigation
2. Typical Sections (Includes stage construction sequencing for all alternates considered.)
3. Bridge Inventory
4. Minutes of Initial Concept meetings, held 2/04/05
5. Synopsis of PIOH held 5/26/2005, and PIOH 4/12/2011
6. Minutes from Consultation meeting, held 12/13/04 and 11/02/04
7. Concept Team Meeting minutes, held April 26, 2007
8. Project Funding Agreement (PFA)
9. Alternative Matrix
10. Layout of the proposed project
11. Comments from Environmental Services
12. Responses to Environmental Services Comments
13. Meeting with Jennifer Giersch (FHWA) regarding 4(f), 5/5/2011
14. VE Recommendations

Approvals, Exempt projects:

Concur: _____
Director of Engineering

Approve: _____ Date: 3/9/2012
Chief Engineer

STATE HIGHWAY AGENCY

DATE : 11/30/2011
PAGE : 1

JOB DETAIL ESTIMATE

JOB NUMBER : 0007128_COST8 SPEC YEAR: 01
DESCRIPTION: ISLANDS EXPRESSWAY BRIDGE REPLACEMENT, **ALTERNATE 8**
CHATHAM COUNTY

COST GROUPS FOR JOB 0007128_COST8

COST GROUP	DESCRIPTION	QUANTITY	PRICE	AMOUNT	ACTIVE?
STRO	STRUCTURES, OTHER (SF)	152682.000	124.00000	18932568.00	Y
RMVL	REMOVALS (LS)	1.000	1000000.00000	1000000.00	Y
DRNGEA	DRAINAGE (EA)	1.000	290500.00000	290500.00	Y
ACTIVE COST GROUP TOTAL				$20,223,068.00	
INFLATED COST GROUP TOTAL				$20,223,068.00	

ITEMS FOR JOB 0007128_COST8

LINE ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0005 150-1000		LS	TRAFFIC CONTROL - CSBRG-0007-00(128)	1.000	3413463.00	3413463.00
0010 150-5010		EA	TRAF CTRL,PORTABLE IMPACT ATTN	4.000	5506.31	22025.24
0015 153-1300		EA	FIELD ENGINEERS OFFICE TP 3	1.000	125000.00	125000.00
0020 201-1500		LS	CLEARING & GRUBBING –CSBRG-0007-00(128)	1.000	200000.00	200000.00
0025 205-0001		CY	UNCLASS EXCAV	30153.000	10.00	301530.00
0030 206-0002		CY	BORROW EXCAV, INCL MATL	137871.000	15.00	2068065.00
0035 310-1101		TN	GR AGGR BASE CRS, INCL MATL	23152.000	14.87	344270.24
0040 318-3000		TN	AGGR SURF CRS	200.000	16.89	3378.00
0045 402-1812		TN	RECYL AC LEVELING,INC BM&HL	100.000	59.21	5921.00
0050 402-3121		TN	RECYL AC 25MM SP,GP1/2,BM&HL	10141.000	54.01	547715.41
0055 402-3130		TN	RECYL AC 12.5MM SP,GP2,BM&HL	3001.000	59.87	179669.87
0060 402-3190		TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	4002.000	58.00	232116.00
0065 413-1000		GL	BITUM TACK COAT	3202.000	1.73	5539.46
0070 433-1200		SY	REF CONC APPR SL/I SLOPED EDGE	540.000	134.01	72365.40

0075	441-6222	LF	CONC CURB & GUTTER/ 8"X30"TP2	407.000	11.76	4786.32
0080	456-2015	GLM	INDENT. RUMB. STRIPS - GRND-IN-PL (SKIP)	2.000	1004.05	2008.10
0085	620-0100	LF	TEMP BARRIER, METHOD NO. 1	10000.000	24.74	247400.00
0090	641-1100	LF	GUARDRAIL, TP T	83.000	43.40	3602.20
0095	641-1200	LF	GUARDRAIL, TP W	1500.000	14.56	21840.00
0100	641-5001	EA	GUARDRAIL ANCHORAGE, TP 1	5.000	632.59	3162.95
0105	641-5012	EA	GUARDRAIL ANCHORAGE, TP 12	5.000	2225.99	11129.95
0110	550-1180	LF	STM DR PIPE 18",H 1-10	2800.000	29.13	81564.00
0115	550-1240	LF	STM DR PIPE 24",H 1-10	830.000	35.46	29431.80
0120	550-1600	LF	STM DR PIPE 60",H 1-10	300.000	102.53	30759.00
0125	550-4218	EA	FLARED END SECT 18 IN, ST DR	15.000	445.27	6679.05
0130	668-2100	EA	DROP INLET, GP 1	23.000	1821.91	41903.93
0135	627-1000	SF	MSE WALL FACE, 0 - 10 FT HT, WALL NO -	43125.000	55.00	2371875.00
0140	163-0232	AC	TEMPORARY GRASSING	2.000	291.16	582.32
0145	163-0240	TN	MULCH	73.000	141.98	10364.54
0150	163-0300	EA	CONSTRUCTION EXIT	2.000	932.66	1865.32
0155	163-0503	EA	CONSTR AND REMOVE SILT CONTROL GATE,TP 3	2.000	368.60	737.20
0160	163-0529	LF	CNST/REM TEMP SED BAR OR BLD STRW CK DM	2500.000	2.75	6875.00
0165	165-0010	LF	MAINT OF TEMP SILT FENCE, TP A	1500.000	0.43	645.00
0170	165-0030	LF	MAINT OF TEMP SILT FENCE, TP C	3200.000	0.63	2016.00
0175	165-0071	LF	MAINT OF SEDIMENT BARRIER - BALED STRAW	1250.000	0.94	1175.00
0180	165-0087	EA	MAINT OF SILT CONTROL GATE, TP 3	2.000	99.23	198.46
0185	165-0101	EA	MAINT OF CONST EXIT	2.000	432.20	864.40
0190	167-1000	EA	WATER QUALITY MONITORING AND SAMPLING	2.000	409.97	819.94
0195	167-1500	MO	WATER QUALITY INSPECTIONS	36.000	508.17	18294.12
0200	171-0010	LF	TEMPORARY SILT FENCE, TYPE A	3000.000	1.31	3930.00
0205	171-0030	LF	TEMPORARY SILT FENCE, TYPE C	6400.000	2.65	16960.00
0210	603-2182	SY	STN DUMPED RIP RAP, TP 3, 24"	50.000	32.56	1628.00
0215	603-7000	SY	PLASTIC FILTER FABRIC	50.000	3.36	168.00
0220	700-6910	AC	PERMANENT GRASSING	5.000	667.95	3339.75
0225	700-7000	TN	AGRICULTURAL LIME	23.000	52.94	1217.62
0230	700-7010	GL	LIQUID LIME	19.000	15.90	302.10
0235	700-8000	TN	FERTILIZER MIXED GRADE	4.000	360.45	1441.80
0240	700-8100	LB	FERTILIZER NITROGEN CONTENT	375.000	2.22	832.50
0245	700-9300	SY	SOD	5500.000	2.78	15290.00
0250	716-2000	SY	EROSION CONTROL MATS, SLOPES	1000.000	0.94	940.00
0255	636-1020	SF	HWY SGN,TP1MAT,REFL SH TP3	52.000	13.48	700.96
0260	636-1029	SF	HWY SGN,TP2 MATL,REFL SH TP 3	65.000	19.79	1286.35
0265	636-1033	SF	HWY SIGNS, TP1MAT,REFL SH TP 9	125.000	18.17	2271.25
0270	636-1041	SF	HWY SIGNS,TP 2MAT,REFL SH TP 9	120.000	27.70	3324.00
0275	636-2070	LF	GALV STEEL POSTS, TP 7	403.000	6.93	2792.79
0280	636-2080	LF	GALV STEEL POSTS, TP 8	40.000	8.94	357.60
0285	636-2090	LF	GALV STEEL POSTS, TP 9	200.000	7.63	1526.00
0290	653-0120	EA	THERM PVMT MARK, ARROW, TP 2	23.000	68.70	1580.10
0295	653-1501	LF	THERMO SOLID TRAF ST 5 IN, WHI	10300.000	0.31	3193.00
0300	653-1502	LF	THERMO SOLID TRAF ST, 5 IN YEL	10300.000	0.33	3399.00
0305	653-1704	LF	THERM SOLID TRAF STRIPE,24",WH	120.000	3.59	430.80

0310 653-3501	GLF	THERMO SKIP TRAF ST, 5 IN, WHI	11250.000	0.22	2475.00
0315 653-6004	SY	THERM TRAF STRIPING, WHITE	3000.000	2.55	7650.00
0320 653-6006	SY	THERM TRAF STRIPING, YELLOW	108.000	2.65	286.20
0325 654-1001	EA	RAISED PVMT MARKERS TP 1	20.000	2.97	59.40
0330 654-1003	EA	RAISED PVMT MARKERS TP 3	300.000	3.35	1005.00
ITEM TOTAL					$10,500,025.44

TOTALS FOR JOB 0007128_COST **ALTERNATE 8**

ESTIMATED COST:	$30.723,093.44
CONTINGENCY PERCENT (10.0):	$ 3,072,309.34
ESTIMATED TOTAL:	$ 33,795,402.78
RIGHT OF WAY	$ 34,200.00
REIMB. UTILITIES	$7,776,500.00
FUEL/ASPHALT PRICE ADJUSTMENT	$ 293,369.04
MITIGATION COST	$ 441,124.00
GRAND TOTAL PROJECT COST	$ 42,340,495.82

PROJ. NO.	CSBRG-0007-00(128)
P.I. NO.	0007128
DATE	11/30/2011

CALL NO.

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	Nov-11	$ 3.353
DIESEL		$ 3.847
LIQUID AC		$ 558.00

Link to Fuel and AC Index:
http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)]xTMTxAPL

Asphalt

Price Adjustment (PA)			**288664.56**	**$**	**288,664.56**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$ 892.80		
Monthly Asphalt Cement Price month project let (APL)			$ 558.00		
Total Monthly Tonnage of asphalt cement (TMT)			862.2		

ASPHALT	Tons	%AC	AC ton
Leveling	100	5.0%	5
12.5 OGFC		5.0%	0
12.5 mm	3001	5.0%	150.05
9.5 mm SP		5.0%	0
25 mm SP	10141	5.0%	507.05
19 mm SP	4002	5.0%	200.1
	17244		**862.2**

BITUMINOUS TACK COAT

Price Adjustment (PA)			**$ 4,604.48**	**$**	**4,604.48**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$ 892.80		
Monthly Asphalt Cement Price month project let (APL)			$ 558.00		
Total Monthly Tonnage of asphalt cement (TMT)			13.75291315		

Bitum Tack Gals	gals/ton	tons
3202	232.8234	13.7529132

PROJ. NO.	CSBRG-0007-00(128)		CALL NO.
P.I. NO.	0007128		
DATE	11/30/2011		

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)				**0**	**$ -**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	892.80	
Monthly Asphalt Cement Price month project let (APL)			$	558.00	
Total Monthly Tonnage of asphalt cement (TMT)				0	

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf.Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0
					0

TOTAL LIQUID AC ADJUSTMENT	**$**	**293,269.04**

Department of Transportation
State of Georgia

Interdepartmental Correspondence

FILE	R/W Cost Estimate	**OFFICE**	Atlanta
		DATE	February 09, 2012
FROM	Phil Copeland, Right of Way Administrator		
TO	Billy Gordon, Moreland Altobelli Associates		

SUBJECT **Preliminary Right of Way Cost Estimate**
Project: CSBRG-0007-00(28) Chatham County
P.I. No.: 0007128
Description: Replacement of Islands Expressway Bridges

As per your request, attached is a copy of the approved Preliminary Right of Way Cost Estimates on the above referenced projects.

If you have any questions, please contact LaShone Alexander at One Georgia Center 600 West Parkway Street, NW Atlanta, GA 30308, Right of Way Office at (478) 553-1569 or (478) 232-4045.

PC:LA
Attachments
c:File

GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date: 12/7/2005 Project: CSBRG-0007-00(128)
Revised: 2/8/2012 County: Chatham
PI: 7128

Description: Replacement of Islands Expressway Bridge
Project Termini: From west of Wilmington River & bridge to east of River & bridge

Existing ROW: Approx. 230'
Parcels: 3 Required ROW: Approx. 230'

Land and Improvements		$32,890.15
Proximity Damage	$0.00	
Consequential Damage	$0.00	
Cost to Cures	$0.00	
Trade Fixtures	$0.00	
Improvements	$6,800.00	
Valuation Services		$6,000.00
Legal Services		$39,525.00
Relocation		$6,000.00
Demolition		$0.00
Administrative		$28,500.00
TOTAL ESTIMATED COSTS		$112,915.15
TOTAL ESTIMATED COSTS (ROUNDED)		***$113,000.00***

Preparation Credits	Hours	Signature
J.G. Simshauser	2	

Prepared By: CGII: 2772 (DATE) 2-8-12
Approved By: CGII: 256999 (DATE) 2/8/12

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI CSBRG-0007-00(128) Chatham 7128

		A	B	C	D
	Land and Improvements	Agriculture	Residential	Commercial	Industrial
1	Estimate Low (ac)	$0.00	$218,671.00	$0.00	$0.00
2	Estimate High (ac)	$0.00	$725,274.00	$0.00	$0.00
3	Estimate Used (ac)	$0.00	$465,439.00	$0.00	$0.00
4	Fee Simple Area (ac)	0.00	0.00	0.00	0.00
5	Fee Simple Estimate	$0.00	$0.00	$0.00	$0.00
6	Perm Esmt Area (ac)	0.00	0.07	0.00	0.00
7	Perm Esmt Factor	0%	50%	0%	0%
8	Perm Esmt Estimate	$0.00	$15,126.77	$0.00	$0.00
9	Temp Esmt Area (ac)	0.00	0.00	0.00	0.00
10	Temp East Factor	0%	0%	0%	0%
11	Temp Esmt Estimate	$0.00	$0.00	$0.00	$0.00
12	Proximity Damages	$0.00	$0.00	$0.00	$0.00
13	Consequential Damages	$0.00	$0.00	$0.00	$0.00
14	Cost to Cures	$0.00	$0.00	$0.00	$0.00
15	Improvements	$0.00	$6,800.00	$0.00	$0.00
16	Trade Fixtures	$0.00	$0.00	$0.00	$0.00
17					
18	PROPERTY TYPE TOTALS	$0.00	$21,926.77	$0.00	$0.00
19			SUB TOTAL PROPERTY TYPES		$21,926.77
20			Counter Offers and Condemnation Increases		$10,963.38
21					
22			GRAND TOTAL LANDS AND IMPROVEMENTS		$32,890.15

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI CSBRG-0007-00(128) Chatham 7128

		A	B	C	D
	Valuation Services	Agriculture	Residential	Commercial	Industrial
1	Appraisals (# of Parcels)	0	3	0	0
2	Estimated Fees (per Parcel)	$0.00	$2,000.00	$0.00	$0.00
3	TOTAL APPRAISALS	$0.00	$6,000.00	$0.00	$0.00
4	Sign Estimates	0	0	0	0
5	Estimated Fees	$0.00	$0.00	$0.00	$0.00
6	TOTAL SIGN ESTIMATES	$0.00	$0.00	$0.00	$0.00
7	Specialty Reports	0	0	0	0
8	Estimated Fees	$0.00	$0.00	$0.00	$0.00
9	TOTAL SPECIALTY REPORTS	$0.00	$0.00	$0.00	$0.00
10	Septic/Well Reports	0	0	0	0
11	Estimated Fees	$0.00	$0.00	$0.00	$0.00
12	TOTAL SEPTIC/WELL REPORTS	$0.00	$0.00	$0.00	$0.00
13					
14					
15					
16	TOTAL VALUATION FEES	$0.00	$6,000.00	$0.00	$0.00
17			SUB TOTAL VALUATION SERVICES		$6,000.00
18			Updates and Incidentals (Min $2,500 or 25%)		$2,500.00
19			GRAND TOTAL VALUATION SERVICES		$6,000.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI CSBRG-0007-00(128) Chatham 7128

		A	B	C	D
	Legal Services	Parcels	Estimated Fees		TOTALS
1	Meeting with Attorney	3	$125.00		$375.00
2	Preliminary Titles	3	$200.00		$600.00
3	Closing and Final Title	3	$300.00		$900.00
4	Recording Fees	3	$50.00		$150.00
5	Condemnation Filing	1	$5,000.00		$5,000.00
6	Litigation Costs	1	$25,000.00		$25,000.00
7	Updates and Incidentials	1	$7,500.00		$7,500.00
8					
9					
10					
11					
12					
13					
14					
15					
16					
17			GRAND TOTAL LEGAL SERVICES		$39,525.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI CSBRG-0007-00(128) Chatham 7128

		A	B	C	D
	Relocation	Displacements	Estimated Costs		TOTALS
1	Business Displacement		$15,000.00		$0.00
2	Residential Tenant		$20,000.00		$0.00
3	Residential Owner		$40,000.00		$0.00
4	Pro-Rata Taxes	3	$1,000.00		$3,000.00
5	Property Pin Replacement	3	$1,000.00		$3,000.00
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17			GRAND TOTAL RELOCATION		$6,000.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI CSBRG-0007-00(128) Chatham 7128

		A	B	C	D
	Demolition	Items/Improvements	Estimated Costs		TOTALS
1	Residential Structures		$15,000.00		$0.00
2	Commercial Structures		$25,000.00		$0.00
3	Hotels/Apartments		$60,000.00		$0.00
4	UST's - Dispensers		$50,000.00		$0.00
5	Billboards		$8,000.00		$0.00
6	Signs - Light Standards		$1,500.00		$0.00
7	Water Vaults		$15,000.00		$0.00
8	Gas/Water Service Separation		$2,500.00		$0.00
9					
10					
11					
12					
13					
14					
15					
16					
17			GRAND TOTAL DEMOLITION		$0.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI CSBRG-0007-00(128) Chatham 7128

		A	B	C	D
	Administrative	Parcels	Man hours per Parcel		TOTALS
1	Pre-Acquisition	3	40		$6,000.00
2	Acquisition	3	100		$15,000.00
3	Relocation		50		$0.00
4	Administrative Appeals	1	50		$2,500.00
5	Post-Acquisition	1	100		$5,000.00
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17			GRAND TOTAL INHOUSE		$28,500.00

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE CSBRG-0007-00(128)
P.I. # 0007128 Chatham

OFFICE Jesup
DATE 11/10/11

FROM Stephen Thomas, Asst. District Utility Engineer

TO Robert Murphy, Project Manager

SUBJECT PRELIMINARY UTILITY COST (ESTIMATE)

As requested by your office, we are furnishing you with a Preliminary Utility Cost

estimate of each utility with facilities potentially located within the above project limits.

Facility Owner	Non-Reimbursable	Reimbursable	Comments
Atlanta Gas Light	$144,500.00		
City of Savannah	$1,560,000.00		
Bellsouth	$72,000.00		
GPC-Transmission	$6,000,000.00		
Totals	$7,776,500.00		
Total Reimbursement			

Atlanta Gas Light Company has an existing 6" high pressure steel main on the south side of the existing bridge, to avoid damage to this line from STA 30+00 to STA 41+00 during construction this 1100' section should be relocated and the from STA 41+00 to 47+00 this 600' section of line needs to be relocated because of the amount of fill placed in this area so line can be maintained. A total length of 1700LF @ $85.00 LF, total cost to Atlanta Gas light Company being $144,500.00, which is not reimbursable since they are on existing R/W.

The City of Savannah has a 16" force main on the south side of the existing bridge, to avoid damage to this line from STA 29+00 to STA 41+00 during construction this 1200' section should be relocated and the from STA 41+00 to 55+00 this 1400' section of line needs to be relocated because of the amount of fill placed in this area so line can be maintained. A total length of 2600LF @ $600.00 LF, total cost to The City of Savannah being $1,560,000.00, which is not reimbursable since they are on existing R/W.

BellSouth has buried fiber optic cable on the on the south side of the existing bridge which will cost BellSouth $72,000.00 to relocate, which is not reimbursable since they are on existing R/W.

SEPCO has 115KV line on the south side of the existing bridge, which will have to be relocated to accommodate construction because of the swing radius of cranes and other equipment; we have been informed by construction that they would prefer at least a 200 foot clear work area for safety. The cost to SEPCO, now Georgia Power Company-Transmission is $6,000,000.00

We need to keep in mind that the users of these utilities are also taxpayers to both Chatham County and State of Georgia not just the fact they are on existing R/W. Additionally, any unforeseen utility relocation costs that are determined to be reimbursable still will not be at GDOT's expense. According to the executed PFA from 2005 Chatham County is responsible for all utility reimbursements. This project is an off system bridge replacement located on County road # 787.

CC: Angie Robinson, Office of Financial Management;
Terry Brigman, Assistant State Utilities Engineer
District Office File
Utilities Office File

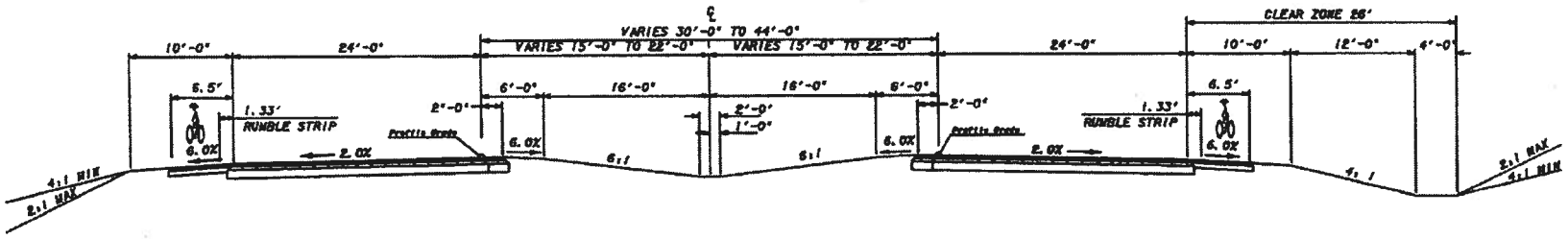
Preliminary Mitigation Cost Estimate
CSBRG-0007-00(128) , P.I. No. 0007128
Prepared by The LPA Group, Inc.
Dated: November 30, 2011

Pending identification of a suitable location and agency approval of a conceptual mitigation plan, construction of a salt marsh restoration site is assumed to provide a 2:1 ratio of restoration area to impacted area (i.e., currently 3 acres of wetland restoration area to mitigate for 1.5 acres of salt marsh impacts). A typical salt marsh restoration would provide for the use of standard excavation equipment for bulk excavation and low ground pressure equipment for precision and fine-grading operations in environmentally sensitive areas. Unsuitable vegetation from the site to be restored, and fine-grading to attain suitable elevations for tidal influx and plant establishment. The estimated cost for this phase is $ 419,916.00.

Consultant will perform twice-yearly inspections of the mitigation site for a two-year period following acceptance of the as-built report by the regulatory agencies. The inspections will include a quantitative survey of total percent cover and species composition (including invasive species as well as native salt marsh species), and a qualitative inspection of scouring and/or erosion within the mitigation site. Each inspection report will include raw survey data, an analysis and summary of the restoration status, summary tables and figures, and photo-documentation of the restoration area from pre-determined vantage points, supplemented by photographs of any areas of environmental concern. The estimated cost for monitoring of the site following the construction will be $21,208.00

Assumptions:

1. Four field visits will be required (two visits per year for two years).
2. If *Spartina alterniflora* (and/or *S. patens* or other desired native salt marsh species, depending on site location/elevation) are not re-colonizing the site to the satisfaction of the regulatory agencies at the end of the two year monitoring period, any supplemental measures, such as sprigging the site with suitable plant species to promote growth of a salt marsh vegetation community, as well as any additional monitoring, will be performed under a separate agreement.



TYPICAL SECTION

CONCEPT

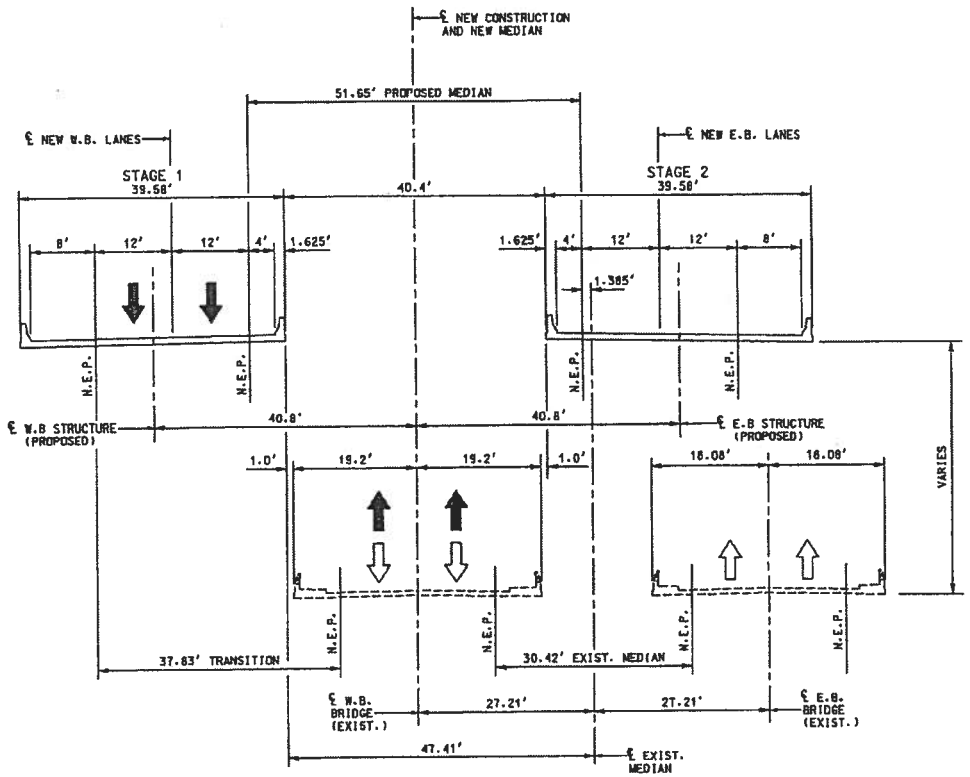
ISLANDS EXPRESSWAY (CAUSTON BLUFF)

BRIDGE REPLACEMENT

PROJECT No: CSBRG-0007-00(128)

P. I. No: 0007128

CHATHAM COUNTY, GA



CONSTRUCTION STAGING

REQUIRED STAGES:

1) CONSTRUCT 39.58' WIDE (ENTIRE) NEW WESTBOUND BRIDGE (NORTH) (OFFSET 1' NORTH OF EXISTING WESTBOUND BRIDGE).

2) SHIFT WESTBOUND TRAFFIC TO NEW WESTBOUND BRIDGE.

3) SHIFT EASTBOUND TRAFFIC TO EXISTING WESTBOUND BRIDGE (NORTH).

4) REMOVE EXISTING EASTBOUND BRIDGE AND APPROACHES.

5) CONSTRUCT 39.58' WIDE NEW EASTBOUND BRIDGE.

6) SHIFT EASTBOUND TRAFFIC TO NEW EASTBOUND BRIDGE (SOUTH).

7) REMOVE EXISTING WESTBOUND BRIDGE AND APPROACHES.

ADVANTAGES

1) MAINTAINS 4 LANES OF TRAFFIC AT ALL TIMES PROVIDED THERE ARE NO BREAKDOWNS OF EXISTING BRIDGES DURING CONSTRUCTION.

2) MINIMAL INTRUSION TO SUBDIVISIONS AND SALT MARSH WHILE MAINTAINING 4 LANES OF TRAFFIC.

3) TWIN 39.58' WIDE BRIDGES MINIMIZES BRIDGE COST.

4) MINIMIZES IMPACT TO UNDERCHANNEL UTILITIES ON THE SOUTHSIDE OF EASTBOUND BRIDGE.

DISADVANTAGES

1) HIGHER PROJECT COSTS (HIGHER RETAINING WALLS ON WEST APPROACH).

2) DIFFICULT REMOVAL OF WESTBOUND EXISTING BRIDGE.

3) REQUIRES RELOCATION OF BRIDGE TENDER HOUSE/POWER TO EXISTING WESTBOUND BRIDGE (STAGE 2).

4) PROVIDES MINIMUM DECELERATION DISTANCE TO SUBDIVISION ENTRANCE.

5) REQUIRES TWO SEPARATE MOBILIZATIONS FOR REMOVAL OF EXISTING BRIDGES.

⇨ STAGE 1 TRAFFIC

➡ STAGE 2 TRAFFIC

CONSTRUCTION STAGING ALTERNATE 1
MAINTAIN 4 LANES OF TRAFFIC
2 SEPARATE STRUCTURES 39.58' WIDE

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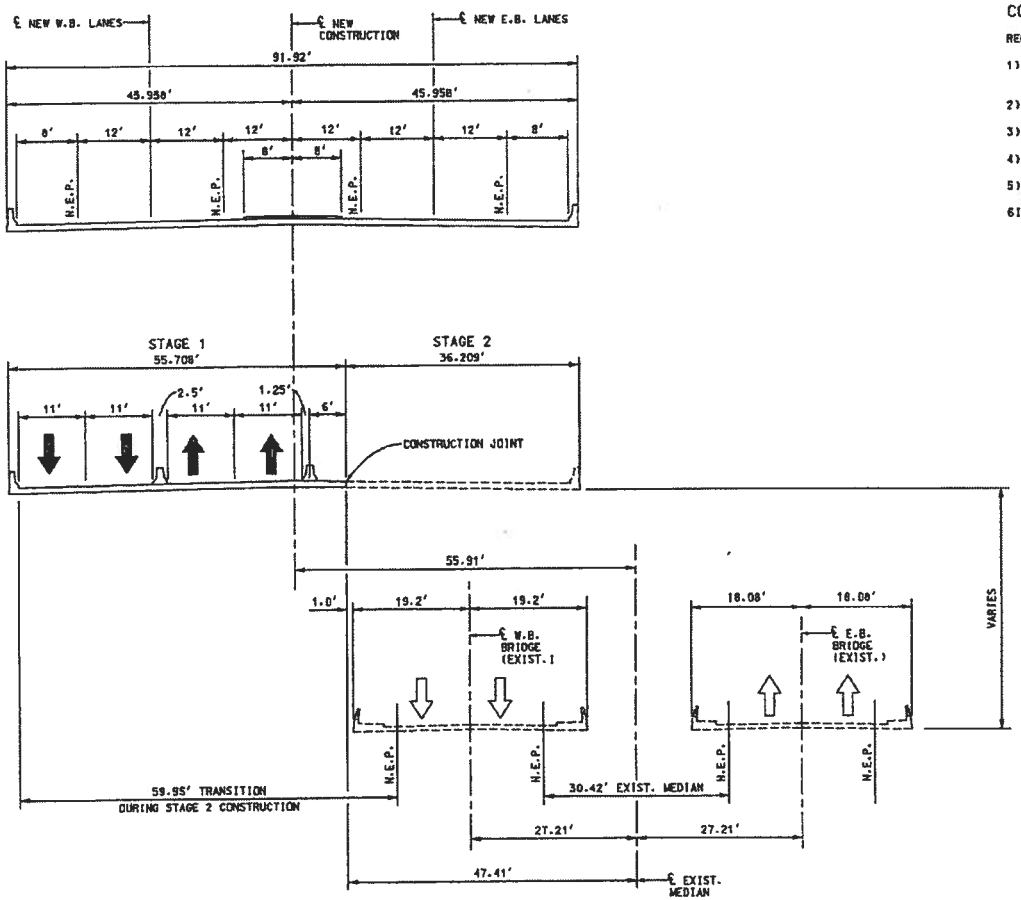


CONSTRUCTION STAGING

REQUIRED STAGES:

1) CONSTRUCT 55'± NEW BRIDGE (NORTH) (OFFSET 1' NORTH OF EXISTING WESTBOUND BRIDGE).

2) SHIFT EASTBOUND AND WESTBOUND TRAFFIC TO NEW WESTBOUND LANES.

3) REMOVE EXISTING WESTBOUND BRIDGE AND APPROACHES.

4) REMOVE EXISTING EASTBOUND BRIDGE AND APPROACHES.

5) CONSTRUCT REMAINING PORTION (36'±) OF NEW BRIDGE.

6) TRANSITION REQUIREMENT FOR PAVEMENT 60' APPROX.

ADVANTAGES

1) MAINTAINS 4 LANES OF TRAFFIC AT ALL TIMES PROVIDED THERE ARE NO BREAKDOWNS OF EXISTING BRIDGES DURING CONSTRUCTION.

2) SIMPLE STAGE CONSTRUCTION (2 TRAFFIC SHIFTS).

3) SINGLE BRIDGE STRUCTURE.

4) MINIMIZES IMPACT TO UNDERCHANNEL UTILITIES ON THE SOUTHSIDE OF EASTBOUND BRIDGE.

5) REQUIRES ONLY ONE MOBILIZATION FOR REMOVAL OF BOTH BRIDGES.

DISADVANTAGES

1) INCREASED SALT MARSH IMPACTS AND RIGHT-OF-WAY IMPACTS.

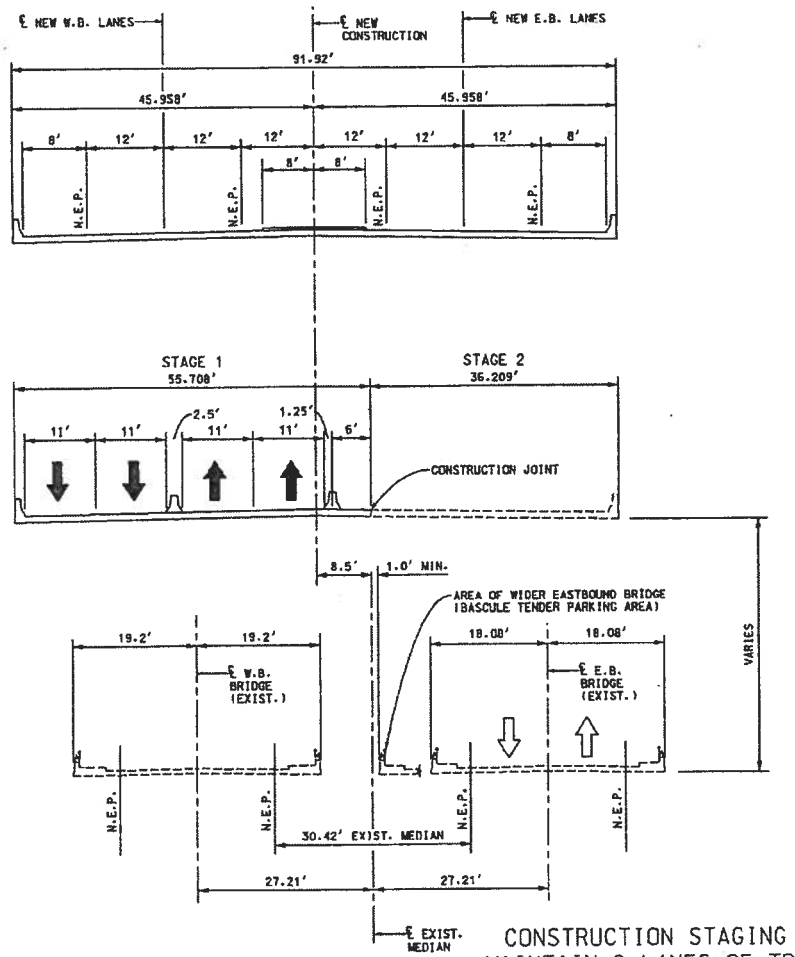
2) HIGHER PROJECT COSTS.

3) REDUCED WIDTH OF MEDIAN AT SUBDIVISION ENTRANCE.

STAGE 1 TRAFFIC

STAGE 2 TRAFFIC

CONSTRUCTION STAGING ALTERNATE 2
MAINTAIN 4 LANES OF TRAFFIC
SINGLE STRUCTURE 91.92' WIDE



CONSTRUCTION STAGING

REQUIRED STAGES:

1) SHIFT WESTBOUND TRAFFIC TO EASTBOUND BRIDGE. MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION.

2) REMOVE EXISTING WESTBOUND BRIDGE AND APPROACHES.

3) CONSTRUCT 55'+ PORTION OF NEW BRIDGE ON THE NORTH SIDE.

4) SHIFT 4 LANES OF TRAFFIC TO NEW BRIDGE.

5) REMOVE EXISTING EASTBOUND BRIDGE.

6) CONSTRUCT REMAINING PORTION (36'+) OF NEW BRIDGE.

ADVANTAGES

1) NEW BRIDGE IS LOCATED CLOSE TO EXISTING ALIGNMENT (MINOR ALIGNMENT CHANGE).

2) SMALL PROJECT FOOTPRINT.

3) MINIMAL IMPACTS TO SALT MARSH.

4) MINIMAL RIGHT-OF-WAY IMPACTS.

5) SIMPLE STAGE CONSTRUCTION.

6) MINIMIZES POTENTIAL IMPACT TO UNDERCHANNEL UTILITIES ON THE SOUTHSIDE OF EASTBOUND BRIDGE.

DISADVANTAGES

1) MAINTAINS ONLY 2 LANES OF TRAFFIC FOR ½ THE CONSTRUCTION PERIOD RESULTING IN GREATER DELAY FOR MOTORISTS.

2) POTENTIAL FOR COMPLETE ROAD CLOSURE IF EXISTING EASTBOUND BRIDGE SUFFERS A BREAKDOWN. (FATAL FLAW)

⇨ STAGE 1 TRAFFIC

➡ STAGE 2 TRAFFIC

CONSTRUCTION STAGING ALTERNATE 3
MAINTAIN 2 LANES OF TRAFFIC STAGE 1
MAINTAIN 4 LANES OF TRAFFIC STAGE 2
SINGLE STRUCTURE 91.92' WIDE

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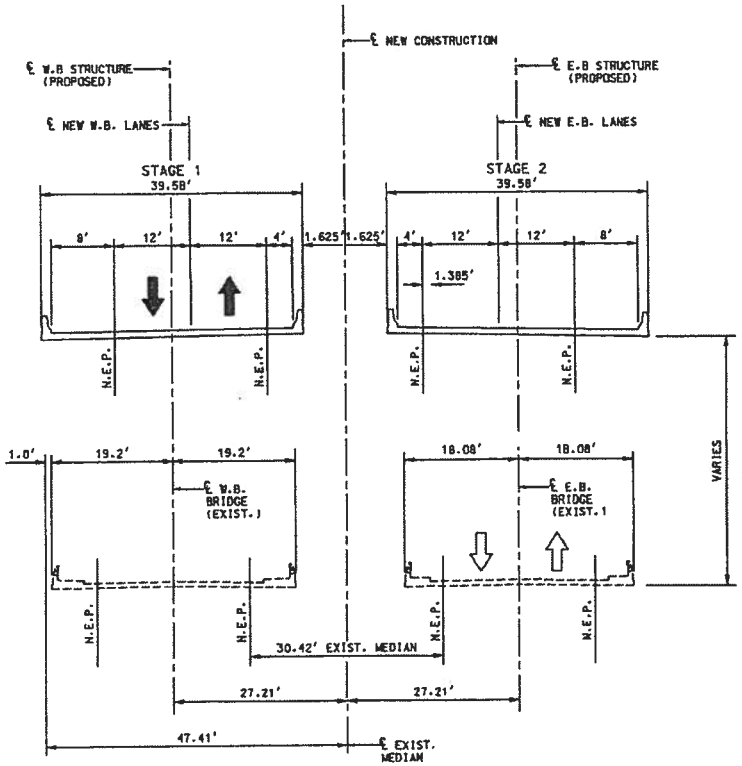

CONSTRUCTION STAGING ALTERNATE 4
MAINTAIN 2 LANES OF TRAFFIC
2 SEPARATE STRUCTURES 39.58' WIDE

CONSTRUCTION STAGING

REQUIRED STAGES:

1) SHIFT WESTBOUND TRAFFIC TO EXISTING EASTBOUND BRIDGE. MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION.
2) REMOVE EXISTING WESTBOUND BRIDGE AND APPROACHES.
3) CONSTRUCT NEW WESTBOUND BRIDGE.
4) SHIFT TRAFFIC TO NEW WESTBOUND BRIDGE. MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION.
5) REMOVE EXISTING EASTBOUND BRIDGE AND APPROACHES.
6) CONSTRUCT NEW EASTBOUND BRIDGE.
7) SHIFT EASTBOUND TRAFFIC TO NEW EASTBOUND BRIDGE.

ADVANTAGES

1) MINIMIZES PROJECT FOOTPRINT. MINIMAL SALT MARSH IMPACTS.
2) TWIN 39.58' WIDE BRIDGES MINIMIZE BRIDGE COST.
3) MINIMAL OVERALL PROJECT COSTS.
4) NO NEW RIGHT-OF-WAY REQUIRED.
5) MINIMIZES IMPACT TO UNDERCHANNEL UTILITIES ON THE SOUTHSIDE OF EASTBOUND BRIDGE.

DISADVANTAGES

1) ONLY ONE LANE OF TRAFFIC IN EACH DIRECTION FOR ENTIRE CONSTRUCTION PERIOD - GREATEST POTENTIAL FOR DELAY.
2) IF EXISTING EASTBOUND BRIDGE SUFFERS BREAKDOWN THE ROAD MUST BE CLOSED. (FATAL FLAW)

⇨ STAGE 1 TRAFFIC

➡ STAGE 2 TRAFFIC

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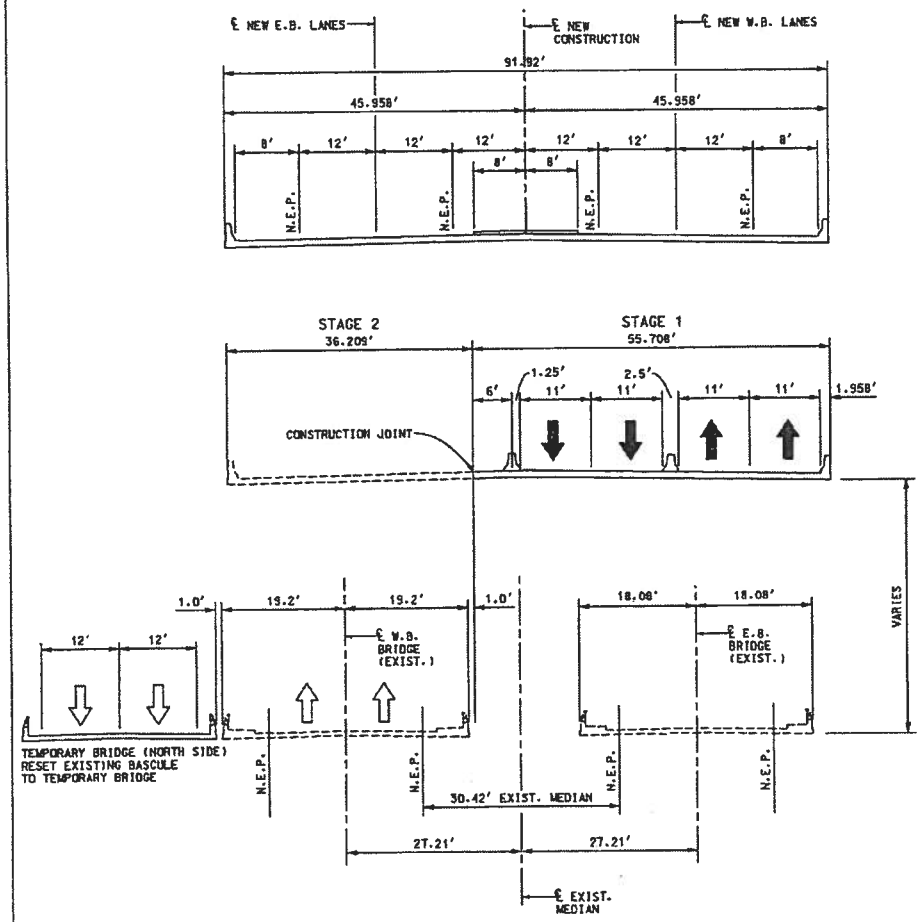

CONSTRUCTION STAGING ALTERNATE 5
MAINTAIN 4 LANES OF TRAFFIC
UTILIZING TEMPORARY DETOUR AND BRIDGE
SINGLE STRUCTURE 91.92' WIDE

CONSTRUCTION STAGING

REQUIRED STAGES:

1) CONSTRUCT TEMPORARY BRIDGE ON NORTH SIDE OF EXISTING WESTBOUND BRIDGE. TEMPORARILY CLOSE EASTBOUND LANES AND REMOVE BASCULE FROM EXISTING EASTBOUND BRIDGE. RESET BASCULE ON TEMPORARY BRIDGE. (REQUIRES SHORT-TERM ONE LANE TRAFFIC IN EACH DIRECTION ON EXISTING WESTBOUND BRIDGE).

2) SHIFT WESTBOUND TRAFFIC TO TEMPORARY BRIDGE. SHIFT EASTBOUND TRAFFIC TO EXISTING WESTBOUND BRIDGE.

3) REMOVE REMAINDER OF EASTBOUND BRIDGE AND APPROACHES.

4) CONSTRUCT 55'+ PORTION OF NEW BRIDGE ON THE SOUTH SIDE.

5) SHIFT ALL TRAFFIC (4-LANES) TO THE NEW BRIDGE SEGMENT.

6) REMOVE TEMPORARY BRIDGE.

7) REMOVE EXISTING WESTBOUND BRIDGE.

8) CONSTRUCT REMAINING 36'+ SEGMENT OF NEW BRIDGE.

ADVANTAGES

1) MAINTAINS 4-LANES OF TRAFFIC THROUGHOUT CONSTRUCTION PERIOD (DISCOUNTS TEMPORARY CLOSURE OF EASTBOUND LANES TO REMOVE AND RESET BASCULE).

2) NEW BRIDGE IS LOCATED ON EXISTING ALIGNMENT.

3) SMALLER PROJECT FOOTPRINT.

4) MINIMAL PERMANENT IMPACTS TO SALT MARSH.

5) MINIMIZES IMPACT TO UNDERCHANNEL UTILITIES ON THE SOUTHSIDE OF EASTBOUND BRIDGE.

DISADVANTAGES

1) COST OF TEMPORARY BRIDGE/RELOCATION OF BASCULE.

2) INCREASED TIME OF CONSTRUCTION.

3) ADVERSE IMPACTS TO SUBDIVISION ENTRANCE (CAUSTON BLUFF).

4 POTENTIAL FOR ROAD CLOSURE IF WESTBOUND BRIDGE SUFFERS BREAKDOWN. (FATAL FLAW)

⇨ STAGE 1 TRAFFIC

➡ STAGE 2 TRAFFIC

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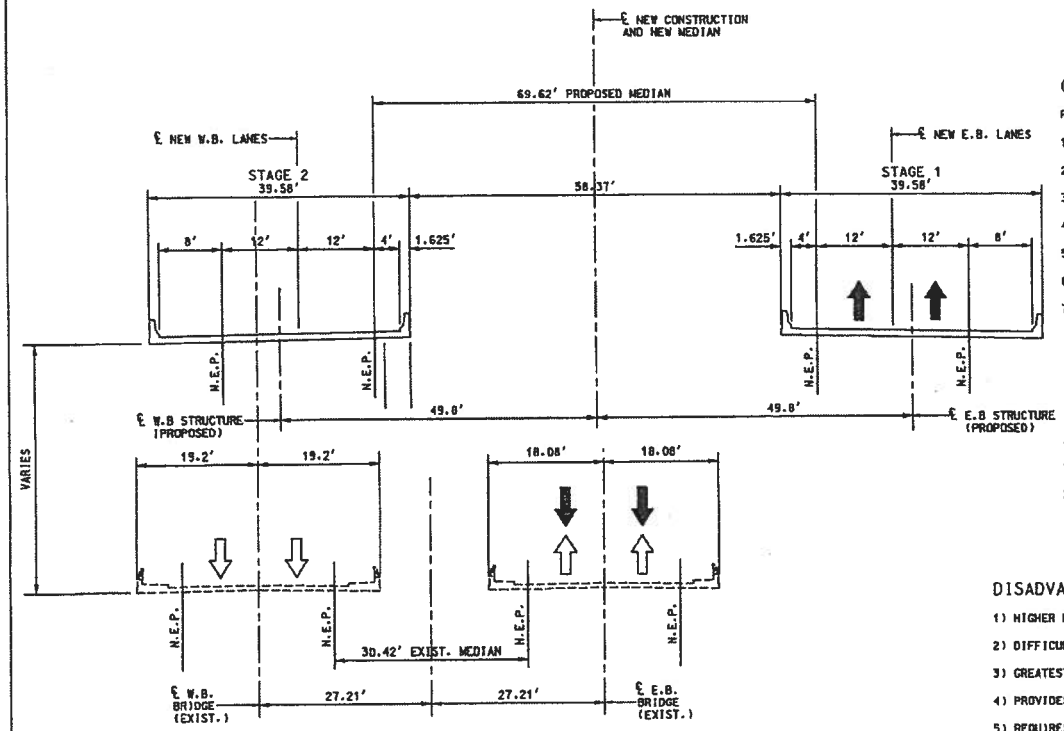

CONSTRUCTION STAGING

REQUIRED STAGES:

1) CONSTRUCT 39.58' WIDE (ENTIRE) NEW EASTBOUND (SOUTH) BRIDGE.
2) SHIFT EASTBOUND TRAFFIC TO NEW EASTBOUND BRIDGE.
3) SHIFT WESTBOUND TRAFFIC TO EXISTING EASTBOUND (SOUTH) BRIDGE.
4) REMOVE EXISTING WESTBOUND (NORTH) BRIDGE.
5) CONSTRUCT 39.58' WIDE NEW WESTBOUND (NORTH) BRIDGE.
6) SHIFT WESTBOUND TRAFFIC TO NEW WESTBOUND (NORTH) BRIDGE.
7) REMOVE EXISTING EASTBOUND BRIDGE (SOUTH).

ADVANTAGES

1) MAINTAINS 4 LANES OF TRAFFIC AT ALL TIMES.
2) TWIN 39.58' WIDE BRIDGES MINIMIZES BRIDGE COST.

DISADVANTAGES

1) HIGHER PROJECT COSTS(HIGHER RETAINING WALLS ON WEST APPROACH).
2) DIFFICULT REMOVAL OF EASTBOUND EXISTING BRIDGE.
3) GREATEST POTENTIAL FOR RELOCATION OF UTILITIES ON SOUTHSIDE OF BRIDGE.
4) PROVIDES MINIMUM DECELERATION DISTANCE TO SUBDIVISION ENTRANCE.
5) REQUIRES TWO SEPARATE MOBILIZATIONS FOR REMOVAL OF EXISTING BRIDGES.

⇨ STAGE 1 TRAFFIC

➡ STAGE 2 TRAFFIC

CONSTRUCTION STAGING ALTERNATE 6
MAINTAIN 4 LANES OF TRAFFIC
2 SEPARATE STRUCTURES 39.58' WIDE

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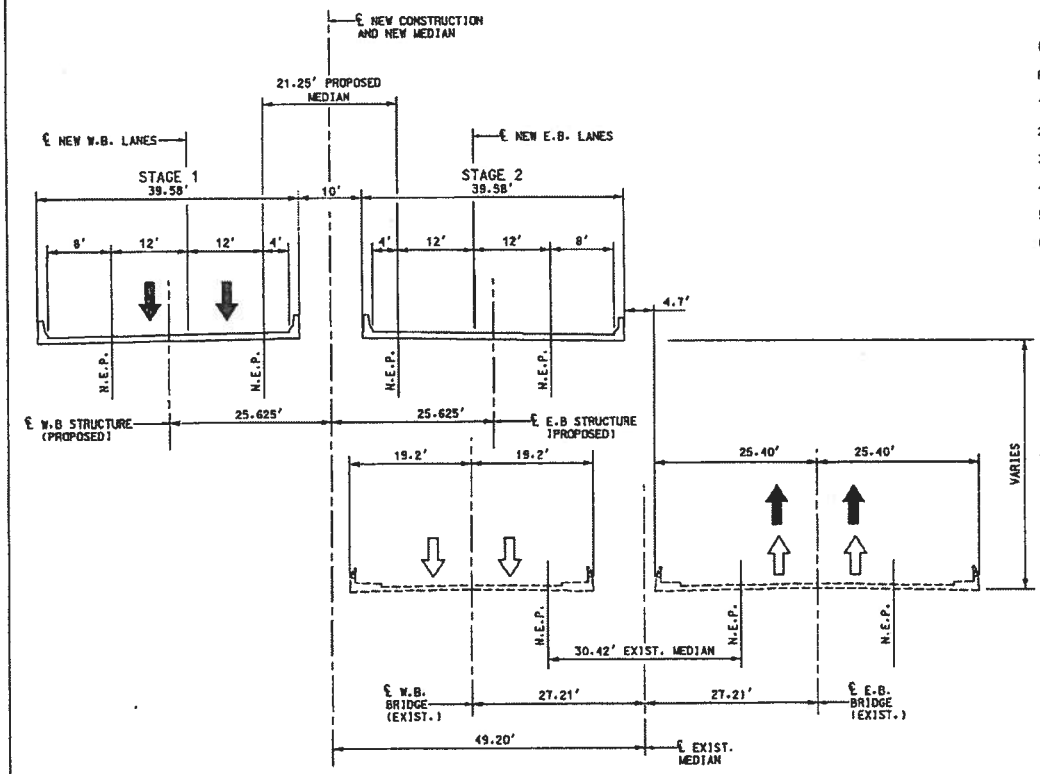

CONSTRUCTION STAGING ALTERNATE 7
MAINTAIN 4 LANES OF TRAFFIC
2 SEPARATE STRUCTURES 39.58' WIDE

CONSTRUCTION STAGING

REQUIRED STAGES:

1) CONSTRUCT 39.58' WIDE (ENTIRE) NEW WESTBOUND BRIDGE (NORTH).
2) SHIFT WESTBOUND TRAFFIC TO NEW WESTBOUND BRIDGE.
3) REMOVE EXISTING WESTBOUND BRIDGE AND APPROACHES.
4) CONSTRUCT 39.58' WIDE NEW EASTBOUND BRIDGE.
5) SHIFT EASTBOUND TRAFFIC TO NEW EASTBOUND BRIDGE (SOUTH).
6) REMOVE EXISTING EASTBOUND BRIDGE AND APPROACHES.

ADVANTAGES

1) MAINTAINS 4 LANES OF TRAFFIC AT ALL TIMES PROVIDED THERE ARE NO BREAKDOWNS OF EXISTING BRIDGES DURING CONSTRUCTION.
2) TWIN 39.58' WIDE BRIDGES MINIMIZES BRIDGE COST.
3) MINIMIZES IMPACT TO UNDERCHANNEL UTILITIES ON THE SOUTHSIDE OF EASTBOUND BRIDGE.

DISADVANTAGES

1) HIGHER PROJECT COSTS(HIGHER RETAINING WALLS ON WEST APPROACH).
2) DIFFICULT REMOVAL OF WESTBOUND EXISTING BRIDGE.
3) PROVIDES MINIMUM DECELERATION DISTANCE TO SUBDIVISION ENTRANCE.
4) DIFFICULT CONSTRUCTION OF NEW EASTBOUND BRIDGE.
5) INCREASED CONSTRUCTION TIME.
6) ADVERSE IMPACT TO SUBDIVISION ENTRANCE (CAUSTON BLUFF).

STAGE 1 TRAFFIC

STAGE 2 TRAFFIC

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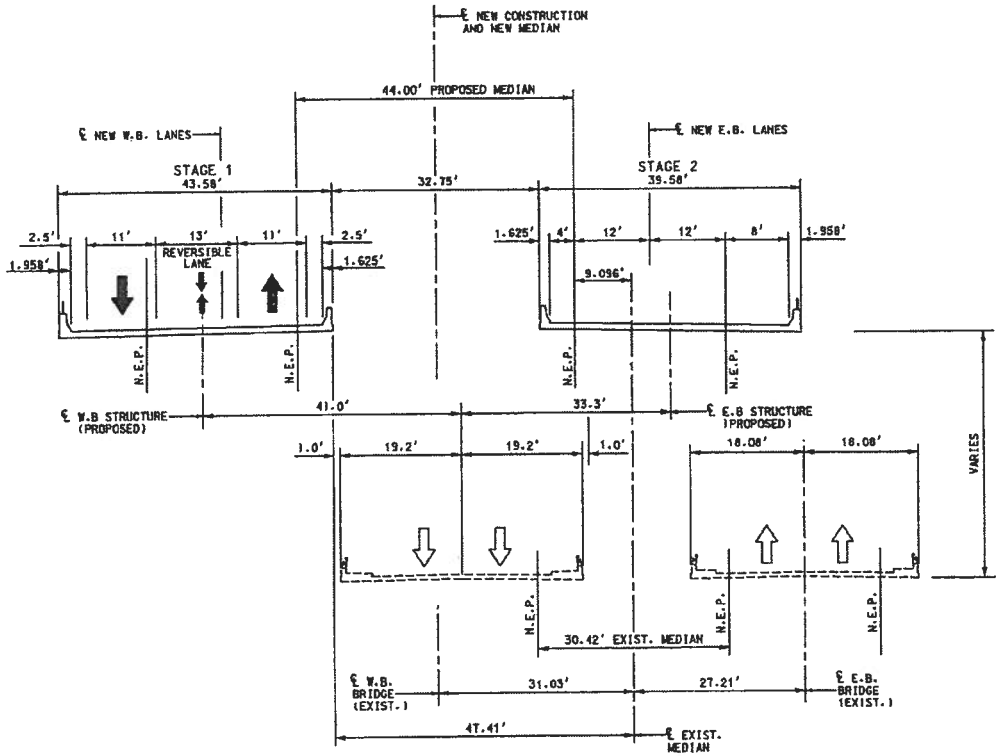

CONSTRUCTION STAGING ALTERNATE 8
MAINTAIN 4 LANES OF TRAFFIC STAGE 1
MAINTAIN 3 LANES OF TRAFFIC STAGE 2
2 SEPARATE STRUCTURES 43.58' AND 39.58' WIDE
SCALE: 1'=20'

CONSTRUCTION STAGING

REQUIRED STAGES:

1) CONSTRUCT 43.58' WIDE (ENTIRE) NEW WESTBOUND BRIDGE (NORTH) (OFFSET 1' NORTH OF EXISTING WESTBOUND BRIDGE).

2) SHIFT 3 LANES, ONE BEING REVERSIBLE, TO NEW WESTBOUND BRIDGE. DURING THE AM TWO LANES SHOULD BE OPEN TO WESBOUND TRAFFIC AND ONE LANE OPEN FOR EASTBOUND TRAFFIC. DURING THE PM TWO LANES SHOULD BE OPEN TO EASTBOUND TRAFFIC AND ONE LANE OPEN FOR WESTBOUND TRAFFIC.

3) REMOVE EXISTING EASTBOUND AND WESTBOUND BRIDGES AND APPROACHES.

4) CONSTRUCT 39.58' WIDE NEW EASTBOUND BRIDGE.

5) SHIFT EASTBOUND TRAFFIC TO NEW EASTBOUND BRIDGE (SOUTH).

ADVANTAGES

1) REMOVAL OF EXISTING BRIDGES IS SIMPLIFIED.

2) MINIMAL INTRUSION TO SUBDIVISIONS AND SALT MARSH WHILE MAINTAINING 3 LANES OF TRAFFIC.

3) ONE TIME MOBILIZATION FOR REMOVAL OF EXISTING BRIDGES.

4) DOES NOT REQUIRE TEMPORARY REPLACEMENT OF BRIDGE TENDER HOUSE AND CONTROLS.

5) POTENTIALLY LEAST AFFECT TO UNDERCHANNEL UTILITIES ON SOUTHSIDE OF EASTBOUND BRIDGE.

DISADVANTAGES

1) HIGHER PROJECT COSTS (HIGHER RETAINING WALLS ON WEST APPROACH).

2) MAINTAINS 2 LANES PEAK TRAFFIC AND ONE LANE OFF PEAK TRAFFIC.

3) REQUIRES SPECIAL TRAFFIC SIGNALIZATION FOR REVERSIBLE LANE OPERATIONS.

4) PROVIDES MINIMUM DECELERATION DISTANCE TO SUBDIVISION ENTRANCE.

⇨ STAGE 1 TRAFFIC

➡ STAGE 2 TRAFFIC

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Processed Date:8/10/2010

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:051-5027-0 | **Chatham** | **SUFF. RATING: 71.93**

Location & Geography

Structure ID:	051-5027-0
20C Bridge Information:	01
*8A Feature Int:	WILMINGTON RIVER
*8B Critical Bridge:	0
*7A Route No Carried:	CR00787
*7B Facility Carried.	ISLAND EXPRESSWAY
9 Location:	1 MI E OF SAVANNAH
2 Dot District:	5
207 Year Photo:	2009
*51 Inspection Frequency:	24 Date: 10/21/2008
52A Fract Crit Insp Freq:	1 Date: 10/22/2009
52B Underwater Insp Freq:	2 Date: 03/14/2007
52C Other Spc. Insp Freq:	0 Date: 02/07/1901
* 4 Place Code:	80000
*5 Inventory Route(NUM):	1
Type:	4
Designation:	1
Number:	00707
Direction:	0
*16 Latitude	32 03.7570 NAD83 Prelim
*17 Longitude	81 -81.8390 NAD83 Surface MP:0.00
98 Border Bridge:	000%Shared.00
99 ID Number.	000000000000000
*100 STRAHNET:	0
12 Base Highway Network:	1
13A LRS Inventory Route:	512078700
13B Sub Inventory Route	0
101 parallel Structure:	L
*102 Direction of Traffic:	1
*204 Road Inventory Mile Pnt.	003.48
*20A Inspection Area	5 Initials: EFT
Engineer's Initials	MGM
* Location ID No:	051-00787X-003.48E

*104 Highway System.	0
*26 Functional Classification	14
*20M Federal Route Type:	F No: 00055
105 Federal Lands Highway	0
*110 Truck Route:	0
2006 School Bus Route:	1
217 Benchmark Elevation.	0000.00
218 Datum:	0
*19 Bypass Length:	01
*20 Toll	3
*21 Maintenance:	02
*22 Owner.	02
*31 Design Load:	5
37 Historical Significance:	5
205 Congressional District:	12
27 Year Constructed:	1989
106 Year Reconstructed:	0000
31 Bridge Mroteur:	1
34 Skew:	00
35 Structure Flared.	0
38 Navigation Control:	1
219 Special Skod Design	4
267 Type of Paint.	2
*42 Type of Service On.	5
Type of Service Under	5
214 Mov able Bridge:	1
205 Type Bridge:	D
259 Pile Encasement	3
*43 Structure Type Main:	5 16
45 No.Spans Main:	001
44 Structure Type Appr	5 02
46 No Spans Appr:	0009
226 Bridge Curve Horz	3 Vert: 0
111 pier Protection	2
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	8
Deck Protection:	8

Signs & Attachments

223 Expansion Joint Type	02
242 Deck Drains:	1
243 Parapet Location:	3
Height:	2
Width:	1
238 Curb Height:	1
Curb Material:	1
239 Hazorail	3.5
*248 Medium Barrier Rail	0
241 Bridge Median Height:	0
* Bridge Median Width:	0
230 Guardrail Loc. Dir. Rear:	3
Fwrn:	3
Oppo. Dir. Rear:	0
Oppo. Fwrd:	0
244 Approach Slab	3
224 Retaining Wall:	7
233Posted Speed Limit.	50
236 Warning Sign:	9.00
234 Delineator:	0.00
235 Hazzard Boards:	0
237 Utilities Can:	00
Water:	00
Electric:	00
Telephone:	00
Sewer:	00
247 Lighting Street:	1
Navigation:	1
Aerial:	0
*240 County Continuity No.:	00

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Processed Date:8/10/2010

Bridge Inventory Data Listing

Parameters: Bridge Serial Num

Structure ID:051-5027-0

Programming Data	
26 Project No:	MA-F-005-5 (12) CT,5
26A Plans Available:	1
249 Prop Proj No:	BRG-0007-00(128)
250 Approval Status:	0000
251 TI Number	0007128
252 Contract Date:	02/01/1901
253 Scheme No:	00000
75 Type Work:	06 0
76 Bridge Imp. Cost:	35
95 Roadway Imp. Cost:	10
96 Total Imp Cost:	20
76 Imp Length:	000003
97 Imp Year:	0000
114Future ADT:	032190 Year:2027
Hydraulic Data	
215Waterway Data	
High Water Elev:	0000.0 Year:1900
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000000
113 Scour Critical	T
218Water Depth:	22.5 Br Height:36.5
222Slope Protection:	1
221Slope Protection	0 Fwd:0
219Fender System	8
220Dolphin	4
223Current Cover:	000
Type:	0
No Barrels:	0
* Width:	0.00 Height:0.00
* Length:	0 Apron:0
265 HW Insp. Area	2 Diver:RMO
Location ID No:	051-007837X-003.44E

Measurement:	
*29ADT	021460 Year:2007
109%Trucks	0
* 28 Lanes On:	02 Under:00
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0144
* 49 Structure Length:	634
51 Br. Rwdy. Width	27.10
52 Deck Width:	37.83
* 47 Tot. Horiz. Cl:	27
50 Curb / Sidewalk Width	4.00 / 4.00
32 Approach Rdwy. Width	023
*220 Shoulder Width:	
Rear Lt:	6.00 Type:8 Rt:6.00
Fwd. Lt:	6.00 Type:8 Rt:6.00
Permanent Width:	
Rear	23.00 Type:5
	23.00 Type:2
Intersection Rear:	0 Fwd: 0
36 Safety Features Br. Rail:	2
Transition:	2
App. G. Rail:	1
App. Rail End:	2
53 Minimum Cl. Over:	99' 99 "
Under:	
*228 Minimum Vertical Cl	
Act. Odm Dir:	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt	N 0 0
56 Lateral Undercl. Lt:	0.00
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	021 Horiz:0130
116 Nav Vert Cl Closed:	021
245 Deck Thickness Main / Deck Thick Approach:	8.00 / 7.00
249 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:1989Sub:0000

65 Inventory Rating Method:	2
63 Operating Rating Method:	2
66 Inventory Type:	2 Rating: 36
64 Operating Type:	2 Rating: 36
231 Calculated Loads:	
H-Modified	29 0
HS-Modified:	25 0
Type 3:	28 0
Type 3s2:	40 0
Tandem	36 0
Piggyback	00 0
261 H Inventory Rating:	23
262 H Operating Rating	44
67 Structural Evaluation:	8
58 Deck Condition.	8
59 Superstructure Condition:	8
* 227 Collision Damage:	0
60A Substructure Condition:	8
60B Scour Condition:	7
60C Underwater Condition	8
71 Waterway Adequacy:	8
61 Channel Protection Cond.:	8
68 Deck Geometry:	3
69 UnderClr. Horz/Vert:	N
72 Appr. Alignment:	8
62 Culvert:	N
Posting Data	
70 Bridge Posting Required	5
41 Struct Open, Posted, Cl:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
259 Fed Notify Date:	2/1/1901 12:00:00AM

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Processed Date:8/10/2010

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:051-0132-0 | **Chatham** | **SUFF. RATING: 60.50**

Location & Geography

Structure ID:	051-0132-0
209 Bridge Information:	05
*6A Feature Int:	WILMINGTON RIVER
*6B Critical Bridge:	0
*7A Route No Carried:	CR00787
*7B Facility Carried:	ISLAND EXPRESSWAY
9 Location:	1 MI E OF SAVANNAH
2 Dot District:	5
257 Year Photo:	2009
*91 Inspection Frequency:	24 Date: 10/21/2008
92A Fract Crit Insp Freq:	1 Date: 10/22/2009
92B Underwater Insp Freq:	2 Date: 03/14/2007
92C Other Spc. Insp Freq:	0 Date: 02/01/1901
* 4 Place Code:	68306
*5 Inventory Route(ON/U):	1
Type:	4
Designation:	1
Number:	00787
Direction:	C
*16 Latitude:	32 03.7430 HMMS Prefix:
*17 Longitude:	81 -01.8350 HMMS Suffix: MP 0.00
98 Border Bridge:	003%Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	0
12 Base Highway Network:	1
13A LRS Inventory Route:	812078700
13B Sub Inventory Route:	0
101 parallel Structure:	R
*102 Direction of Traffic:	1
*364 Road Inventory Mile Pos:	004.23
*208 Inspection Area:	5 Initials: BPF
Engineer's Initials:	SCH
* Location ID No.	051-00787X-003.47E

*104 Highway System:	0
*26 Functional Classification:	14
*204 Federal Route Type:	F No: 00055
105 Federal Lands Highway:	0
*110 Truck Route:	0
2006 School Bus Route:	1
217 Benchmark Elevation:	0000.00
218 Datum:	0
*19 Bypass Length:	01
*20 Toll:	3
*21 Maintenance:	02
*22 Owner:	02
*31 Design Load:	5
37 Historical Significance:	5
205 Congressional District:	12
27 Year Constructed:	1963
106 Year Reconstructed:	0000
33 Bridge Medium:	1
34 Skew:	00
35 Structure Flared:	1
38 Navigation Control:	1
213 Special Steel Design:	4
367 Type of Paint:	1
*42 Type of Service On:	1
Type of Service Under:	5
314 Movable Bridge:	1
201 Type Bridge:	C
259 Pile Encasement:	3
*43 Structure Type Main:	3 16
45 No.Spans Main:	001
44 Structure Type Appr:	5 02
46 No Spans Appr:	0012
220 Bridge Curve Horz:	0 Vert: 1
111 pier Protection:	2
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	6
Deck Protection:	8

Signs & Attachments

225 Expansion Joint Type:	02
242 Deck Drains:	1
243 Parapet Location:	3
Height:	0
Width:	0
238 Curb Height:	1
Curb Material:	1
239 Handrail	5 1
*240 Median Barrier Rail:	0
241 Bridge Median Height:	0
* Bridge Median Width:	0
230 Guardrail Loc. Dir. Rear:	3
Fwrd:	3
Oppo. Dir. Rear:	0
Oppo. Fwrd:	0
244 Aproach Slab	3
224 Retaining Wall	7
293Posted Speed Limit:	50
236 Warning Sign:	0.00
234 Delineator:	0.00
235 Hazzard Boards:	0
237 Utilities Gas:	00
Water:	00
Electric:	22
Telephone:	21
Sewer:	00
247 Lighting Street:	1
Navigation:	1
Aerial:	0
*248 County Continuity No.:	00

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Processed Date:8/10/2010

Bridge Inventory Data Listing

Parameters: Bridge Serial Num

Structure ID:051-0132-0

Programming Data	
201 Project No:	F-005-5(12) CT.1
202 Fiscal Available:	4
249 Prop Proj No:	RRG-0007-00(128)
250 Approval Status:	0000
251 PI Number:	0007128
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	31 1
94 Bridge Imp. Cost:	$2,442
95 Roadway Imp. Cost:	287
96 Total Imp Cost:	3150
76 Imp Length:	001009
97 Imp Year:	1990
114Future ADT:	032415 Year:2027
Hydraulic Data	
219Waterway Data:	
High Water Elev:	0000.0 Year:1900
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000000
113 Scour Critical	7
218Water Depth:	21.3 Br.Height:36.0
222Slope Protection:	1
221Slope Protection	0 Fwd:0
215Fender System	6
220Dolphin	4
253Current Cover	000
Type:	0
No Barrels:	0
* Width:	0.00 Height:0.00
* Length:	0 Apron:0
265 I/W Insp. Area	2 Diver:RMO
Location ID No:	051-00787X-003.47E

Measurements:	
*29ADT	021610 Year:2007
109%Trucks	0
* 28 Lanes On:	02 Under:00
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0150
* 49 Structure Length:	804
51 Br. Rwdy. Width	28.00
52 Deck Width:	34.00
* 47 Tot. Horiz. Cl:	28
50 Curb / Sidewalk Width	2.10 / 2.10
32 Approach Rdwy. Width	023
*229 Shoulder Width:	
Rear Lt:	6.00 Type:8 Rt:6.00
Fwd. Lt:	6.00 Type:8 Rt:6.00
Permanent Width:	
Rear:	23.00 Type:6
	23.00 Type:2
Intersection Rear:	0 Fwd: 0
36Safety Features Br. Rail:	2
Transition:	2
App. G. Rail:	1
App. Rail End:	2
53 Minimum Cl. Over:	99' 99 "
Under:	
*228 Minimum Vertical Cl	
Act. Obm Dir:	99' 99"
Oppe. Dir:	99' 99"
Posted Obm. Dir:	00' 00"
Oppe. Dir:	00' 00"
55 Lateral Underel. Rt:	N 0 0
56 Lateral Underel. Lt:	0.00
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	021 Horiz:0100
116 Nav Vert Cl Closed:	021
245 Deck Thickness Main Deck Thick Approach:	8.00 8.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:1989Sub:0000

65 Inventory Rating Method:	2
63 Operating Rating Method:	2
66 Inventory Type:	2 Rating: 36
64 Operating Type:	2 Rating: 36
231Calculated Loads:	
H-Modified:	20 0
HS-Modified:	25 0
Type 3:	28 0
Type 3+2:	40 0
Timber:	36 0
Piggyback:	00 0
201 H Inventory Rating:	23
202 H Operating Rating	44
67 Structural Evaluation:	5
58 Deck Condition:	6
59 Superstructure Condition:	6
* 227 Collision Damage:	0
60A Substructure Condition:	5
60B Scour Condition:	7
60C Underwater Condition	5
71 Waterway Adequacy:	8
61 Channel Protection Cond.:	8
68 Deck Geometry:	3
69 UnderClr. Horz/Vert:	N
72 Appr. Alignment:	6
62 Culvert:	N
Posting Data	
70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3+2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	2/1/1901 12:00:00AM

File Location: CF Conversions/BIMS

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Project Number: CSBRG-0007-00(128) P. I. No. 0007128, Chatham County
Replacement of the Islands Expressway Bridges Over Wilmington River
Initial Concept Meeting
Office of Urban Design
Date: 2/04/05

Purpose of meeting: Discuss the controlling criteria for the design of the project. Discuss speed design, grades, sight distance, intersection design, design vehicles, and alternatives for design for a single bridge and double bridges.

Attendees:

Mr. Darryl VanMeter GDOT Office of Urban design
Ms. Marcela Coll GDOT Office Of Urban Design
Mr. Darrell Richardson GDOT Office of Urban design
Mr. Jim Kennerly LPA
Mr. Al Bowman LPA
Mr. Tom Montgomery LPA
Mr. Al Black Chatham County (remote teleconference)

MINUTES: Darryl Van Meter began the meeting and introduced the attendees. Jim Kennerly began the discussion by handing out an agenda. He followed up by handing out a copy of the speed study and accident analysis performed by LPA for the project corridor. The results of the speed study indicated that the 85th percentile speed along the corridor was between 55 and 60 mph and that the project area had no specific accident problems at the project location. Jim presented vertical alignments for the bridge and approaches for 50, 55, and 60 mph design speeds. 50 mph was rejected due to the higher operating speeds on the corridor. 60 mph was also considered but rejected due to the resulting steep mainline and driveway grades to the subdivision and to the county park. 55 mph was selected as the preferred design speed for the project. The 55mph design speed resulted in grades that exceeded the AASHTO maximum grade (5%) for a principle arterial on level terrain. A design exception will be required for the proposed 6.5 % grades. Conditions for mitigating the effects of the steeper mainline grades would be to maintain the 50 mph posted speed and possible advisory signing. Justification for the design exception is that flatter grades would result in relocation of the subdivision entrance roads into the salt marsh west of their current location and creation of an unsafe intersection serving the entrance to the County Park.

The next topic of discussion was the location and design of the subdivision entrance roads/intersection on the west side of the project and the entrance/intersection to the County Park on the east side of the project. An intersection sight distance diagram was presented to GDOT for their review. Intersection sight distance (ISD) requirements were shown for both the passenger vehicle and the SU vehicle for both intersections and available sight distance exceeded the requirements at both intersections using the 55mph vertical alignment. It was noted that left turning vehicles from the subdivision roads would make a 2 stop movement by crossing the near two lanes and storing in the median opening prior to making the left turn into the mainline traffic lanes. Left turn vehicles from the County Park drive could make a continuous movement by not stopping in the median but proceeding into the mainline lanes when an adequate gap existed. It

was also noted that the single and double bridge alternates under consideration presented specific design problems for the two median divided intersections. The available decel length is less for the double bridge alternate than the single bridge alternate due to the fact that no decel or taper could occur on the bridges. The single bridge option will allow turn lane tapers and decel lanes on the bridges if necessary. The single bridge alternates will have less distance to transition the travel lanes from the bridge to provide a desired type "B" (44-ft wide) median opening at the two intersections. The median opening width may be reduced thus affecting the left turn movements and the intersection sight distance. It was determined that the pavement transition from the bridge(s) would be based on the 85th percentile speed multiplied by the transition width (L=WS) in all alternates considered and the resulting available median widths would be identified and sight distance would be calculated for each.

The LPA Group presented 5 alternatives designs for the project. Alternate 1 indicated twin 38-ft wide bridges with 4 lanes of traffic maintained through the construction period. Alternate 2 would construct a four lane section of the single new bridge to the north and complete the single structure upon removal of the existing westbound bridge. 4 lanes of traffic could be maintained through the construction period. Alternate 3 would stage construct a single structure similar to Alternate 2 but would occur above the location of the existing west bound bridge(removed). Two lanes of traffic would be maintained during stage 1 and 4 lanes during stage 2. Alternate 4 is construction of twin bridges in the same location as the existing bridges. Traffic could be maintained only on two lanes through the construction period. Alternate 5 would construct a temporary two lane bridge north of the west bound bridge and require temporary relocation of the bascule spans from the existing eastbound bridge. 4 lanes of traffic could be maintained through the construction period and a stage constructed single bridge would be required.

Due to the high traffic volumes (>20,000 vpd) and the predominant AM/PM commuter traffic distribution, Chatham County strongly recommends an alternative that maintains 4 lanes of traffic through the construction period. All four lane alternatives considered thus far included stage construction or separate bridge construction occurring to the north of the existing westbound bridge to avoid impacting the array of under channel and overhead utilities south of the existing eastbound bridge. It was determined that maintaining traffic on the eastbound bridge is less problematic than on the westbound bridge due to the fact that the bridge tenders house /control panel is located on the eastbound bridge. Removal of the eastbound bridge before removal of westbound bridge would require relocation of the bridge tenders house/control panel to the existing westbound bridge. This costly relocation could be avoided by removal of the westbound bridge first and maintaining traffic on the eastbound bridge through the construction period. Therefore, LPA will consider additional alternates that take this fact into consideration.

Darryl Van Meter stated that no PE funds had yet been established for their office to participate in a Concept Team meeting, but his office would continue to participate in pre-concept meetings to flush out design parameters and alternatives. He also stated that an initial concept team meeting may not be needed and one concept meeting may suffice due to the upfront work done thus far on the project. Darryl suggested that the County work with OEL to plan a public information open house meeting (PIOH) in the near future and determine the number of viable alternatives to be shown at that meeting. Al Black suggested that several alternates should be presented to clearly demonstrate that all viable alternatives of this project are considered. LPA

will develop the additional alternatives mentioned herein and work with Chatham County and GDOT to determine a preferred alternative(s).

Synopsis

PIOH May 26,2005

CSBRG-0007-00(128) PI 0007128 Chatham County

76 people attended

26 comment cards received (two cards from same person)(Includes e-mail comments)

19 support the project

1 uncommitted

5 conditional

0 against

Preferred Alternate:

Alt. 1	Alt.4	Alt.6
13	10	0

One person selected both 1 and 4. Each was counted

13 comments were received by the Court Reporter

13 comments appear to support the project

Preferred Alternates:

3 preferred alternates were counted in the above synopsis

1 no preference

Alt.1	Alt. 4	Alt.6
4	3	1

Total Of Preferred Alternates

Alt.1	**Alt. 4**	**Alt. 6**
17	**13**	**1**

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: P. I. No. 0007128 OFFICE: Environmental Services
DATE: April 19, 2011

FROM Glenn Bowman, P.E., State Environmental Administrator

TO Distribution Below

SUBJECT PUBLIC INFORMATION OPEN HOUSE SYNOPSIS

PROJECT No. & COUNTY:	CSBRG-0007-00(128), Chatham
PROJECT DESCRIPTION:	Replacement of the Islands Expressway Bridges over the Wilmington River
DATE:	April 12, 2011
NUMBER IN ATTENDANCE:	133
FOR:	11
CONDITIONAL:	4
UNCOMMITTED:	2
AGAINST:	1
OFFICIALS IN ATTENDANCE:	Patrick Farrell - District 4 County Commissioner
ADDITIONAL COMMENTS:	10-day comment period will end on April 22, 2011.
PREPARED BY:	Paul F. Condit, Sr. (The LPA Group Incorporated)
TELEPHONE No.:	(678) 966-6622

cc: Gerald M. Ross, P.E.
Ben Buchan, P.E.
Karen Ivery
Robert Murphy
Bobby Hilliard, P.E.
Brad Saxon
Teresa Scott

Project: Islands Expressway @ Wilmington River at Causton Bluff, Chatham County
Date: 12/13/04 10:30 A.M.
Project Consultation Meeting with GDOT Officials
Place: Office of Urban Design Conference Room

Attendees:

Mr. Ben Buchan-----GDOT Office of Urban Design
Mr. Darryl VanMeter—GDOT Office of Urban Design
Mr. Darrell Richardson-GDOT Office of Urban Design
Ms. Irene Belinfante----GDOT Office of Bridge Design
Mr. Keith Melton-------GDOT Office of Planning
Mr. Steve Adewale-----GDOT Office of Urban Design
Mr. Jim Kennerly-------LPA Group
Mr. Al Bowman --------LPA Group
Mr. Al Black (Remote)---Chatham County Department of Engineering

Purpose of Meeting

Brief GDOT Officials on the above Project and gather input for the development of a project concept following Department guidelines for a major project. Identify some concerns and issues by GDOT at an early stage so solutions recommended in the concept will address those issues relative to design and safety for the proposed transportation facility.

Opening Discussion

Darryl VanMeter opened the meeting and turned it over to Jim Kennerly to provide a project overview. Various drawings of the project site with preliminary conceptual drawings were located in the room and used for talking points. Jim explained the project location, existing bridge maintenance and operation issues, posted speed (50 mph), known environmental concerns, design speed selection issues, and the difference in impacts to the two subdivision entrances located on the west approach to the bridge with respect to a 50 mph and 45 mph design speed. Bridge clearances both horizontally and vertically were discussed as well as stage construction requirements for both maintaining 2 lanes and 4 lanes of traffic. The potential for the relocation of the existing driveway entrances to the upscale subdivisions on the west approach was also discussed with explanations of the difference in driveway grades between the 45mph and the 50 mph designs. Hurricane evacuation was also discussed and it was explained that Islands Expressway is currently the major evacuation route for Tybee Island on the current GEMA, FEMA and local evacuation plan route maps.

GDOT Issues and Concerns

1. Ben Buchan expressed concern that the raising of the grade on Islands Expressway to construct the new bridge(s) (65 ft. vertical clearance) will create a change in driver expectancy for motorists traveling Islands Expressway westbound with regard to intersection for the subdivision entrances. Such a major change in grade has resulted in accident situations on like

and similar projects especially when intersections are located very near the ends of the new bridge/approaches and driver sight distances are reduced. Reaction time to turning/crossing traffic or stopping traffic queuing is reduced especially for vehicles traveling at high speeds. LPA will need to address this issue by obtaining 85th percentile speeds (operating speed) and comparing it with the posted and proposed design speeds. All alternatives considered should include comparisons of stopping and intersection sight distance prior to recommending a final design speed for the project.

2. Ben Buchan was concerned with the location of the vertical curve with respect to the location of the navigational channel. This could have a direct effect on the stopping and intersection sight distance at the subdivision entrance intersection. The PVI of the vertical curve should be located as far east of the river channel as possible while still providing the necessary clearance over the navigational channel for maritime usage. Also the possibility of widening or shifting the navigational channel eastward was discussed to maximize the available sight distance. LPA will address these issues with its alternative studies.

3. Relocation of the subdivision entrances to the west was also discussed and will also be considered to achieve improved sight distances if necessary during the upcoming alternative studies. Relocating these entrances will likely add additional impacts to the adjacent marsh and may not be acceptable to the homeowners.

4. Darryl VanMeter recommended that a single bridge be considered with a wide raised median in lieu of 2 separate bridges to help facilitate stage construction maintaining 4 lanes of traffic. The preference of Chatham County is to maintain 4 lanes of traffic during the construction period. Such a bridge could be designed with a raised median while meeting high speed (>45 mph) design criteria. LPA will consider this during alternative studies.

5. LPA will determine if Islands Expressway is currently on the Chatham County or GDOT Statewide bicycle plan.(*Keith Melton has stated that this portion of Islands Expressway is located on the Savannah-Whitemarsh bicycle Corridor*)

6. Darryl VanMeter suggested that all alternates considered include adequate right of way to construct the bridge(s). LPA will consult with the Office of Bridge Design/ Office of Construction/Bridge Contractor to determine the needed amounts for the recommended alternate(s).

7. Keith Melton indicated that the project is not currently identified in the Chatham County TIP for any phase. Al Black stated that there is an ongoing effort to program PE for this project in the February 2005 TIP amendment to cover GDOT participation costs for FY 2005. ROW and construction funding is not yet identified but the County desires for the project to be federally funded and the contract let by GDOT at some time in the future.

8. Ben Buchan and Darryl Van Meter agreed to participate in the review of design work developed by LPA for the alternative studies but an official concept meeting could not be held until PE funds were established for GDOT participation.

9. Al Black stated that he attended the annual Causton Bluff homeowners' association meeting and provided information to the members in regard to this project. The homeowners expressed concern about the noise generated by the grates on the current bridges but expressed no real opposition to the bridge replacement project. It is likely a reduction in noise levels would occur with the new bridge(s).

10. Darryl Van Meter stated Islands Expressway is on the National Highway System (NHS) which could open the project to further scrutiny by the FHWA. Darryl also requested that any survey control work be reviewed by OEL at the earliest opportunity. Darryl mentioned that shoulders on this project would most likely be full depth paving.

11. Darryl VanMeter stated that it would permissible for LPA to pursue consultations with the resource agencies (USCG, COE, GEMA, FEMA etc.) for input in the concept process.

12. Jim Kennerly stated that the survey database for the concept work would be complete in two to three weeks and that the concept alternatives would be available in the latter part of January 2005.

Islands Expressway Bridge @ Causton Bluff (Intracoastal Waterway) Wilmington River
Chatham County Engineering Office
Kick off meeting minutes
11/2/04

Attendees: Mr. Al Black Chatham County
Tom Montgomery LPA
Jim Kennerly LPA
Al Bowman LPA
Jim Gardner Ward Edwards
Ray Cook Ward Edwards

Items Discussed:

1. Initial Concept team meeting

Al Black stated that an Initial Concept Team Meeting may be required by GDOT for this project. This meeting could be held in Savannah at Chatham County Engineering Office, or at the District 5 office in Jesup, or at the Office of Urban Design in Atlanta. LPA will discuss this with GDOT and County officials and make a determination on the need for this meeting and the preferred location.

2. Survey letters to the affected public

LPA will draft a general letter to the public, following Chatham County format, which will inform the public of the project and that environmental surveys and land surveys will be made within the project area in the near future. It will also state that access to their property may be required to gather needed project information and explain why such information is needed. LPA will provide a draft of this letter to the Chatham County for their review and approval prior to mail out. No field work should begin outside the project existing right of way until property owners are notified. Ward Edwards will obtain the names and addresses of all affected property owners and provide them to LPA as soon as possible. LPA will handle the mail out to the property owners.

3. Public Information Meeting

The need for an initial public information meeting (PIM) was discussed and it was decided that due to the limited number of affected properties, that the need for such a meeting was not warranted at present and that such a meeting could wait until expressed public interest was requested through Chatham County or GDOT during the concept or environmental processes.

4. Project Status/ Meetings

Currently this project is identified in the 2003-2008 SPLOST program for road improvements in Chatham County. This project is not currently identified in the GDOT Construction Work Program or the Chatham County TIP. The County will handle all programming issues with GDOT and the Chatham County MPO. LPA's main function will be solely to handle concept development with County and GDOT officials following GDOT format. All meetings with GDOT shall address the technical issues related to concept development and wetlands delineation of the project and minutes of all meetings will be prepared by LPA and forwarded to the County for their information.

5. Schedule

The schedule for Concept Development and Wetlands delineation shall adhere to the schedule attached as part of the consultant contract for services between LPA and Chatham County for this project. This schedule may be extended by **one month** due the fact that the project did not officially begin until the date of the contract signing which was after the start date in the current schedule.

6. Maintenance of Traffic

The preliminary alternatives to be studied for replacement of the existing bridge will include alternatives for maintaining 4 lanes of traffic and 2 lanes of traffic through the construction period. Al Black stated that the preference of the County would be to maintain 4 lanes of traffic if possible.

7. Need and Purpose

Establishing a solid "need and purpose" for the project will be a first priority for LPA. Al Black suggested we discuss the maintenance and operational cost issues of the existing bridges with the Chatham County Public Works Office. Mr. Robert Drewry, Director, is the contact person with that office. (912-652-6842) LPA will develop the need and purpose statement in cooperation with Edwards- Pittman and the GDOT Office of Planning.

8. Utilities

The location of the overhead transmission power lines (SEPCO) will pose a problem for bridge construction on this project. LPA will coordinate with GDOT, SEPCO and the Chatham County Public Works Office to successfully address this matter during concept development.

Concept Team Meeting Minutes
CR 787/Islands Expressway @ Wilmington River/Bascule Bridge
Project Number: CSBRG-0007-00(128)
PI # 0007128
Chatham County
April 26, 2007
Chatham County-Savannah Metropolitan Planning Commission

- This meeting was held in accordance with the current Plan Development Process. (Albert) Butch Welch, GDOT Project Manager, began the meeting by introducing the project. He stated that the project is currently scheduled for construction in fiscal year 2010, but that the schedule is subject to change.

- Jim Kennerly, with LPA gave a description of the proposed project.

  - Project CSBRG-0007-00(128) represents the construction of two new, high level, fixed span, multi-lane bridges over the Wilmington River (Intracoastal Waterway) in the City of Savannah along Islands Expressway (CR 787) in Chatham County. The Project will replace the existing double bascule bridges that currently exist at this location and considered to be functionally obsolete. The Project will begin at a point approximately one-half mile west of the Wilmington River and extend eastward to a point approximately one-half mile east of the Wilmington River. Project length is approximately one mile. The begin project milelog is approximately 2.9 and end project milelog is approximately 4.1. The minimum vertical clearance under the new bridges at the Wilmington River channel will be approximately 65-ft above mean high water for vessels using the waterway. The horizontal clearance in the channel below the bridge will be increased from its current 100-ft in width to 195-ft in width between the proposed new fender system. The total length of the new bridges is approximately 1715-ft each. The new bridges will each be 38-ft wide between the side barriers providing for two 12-ft lanes in each direction with a 10-ft wide outside shoulder and 4-ft wide inside shoulder. The roadway approaches will be reconstructed to provide two 12-ft wide lanes in each direction separated by a 44-ft wide median transitioning to a 30-ft wide median near each end of the project to match the existing roadway. The new roadway will provide 10-ft wide outside shoulders with 6.5-ft paved for pedestrian and bicycle use and 6-ft inside shoulders with 2-ft paved.

- Josh Earhart, with Edwards Pittman discussed the Need and Purpose of the proposed project.

- The proposed project would replace the existing Islands Expressway bridges over the Wilmington River with a fixed span structure having a minimum vertical clearance of 65-feet for the navigational waterway. The existing bascule bridges are functionally obsolete. The bridges are opened/ closed approximately 4,000 times per year. The frequent openings cause traffic delays, which results in an inconvenience to the traveling public. The proposed project would increase the vertical clearance of the crossing and eliminate the traffic delay and associated lost travel time due to frequent bridge openings.
- The maintenance and operation of the Islands Expressway bascule bridges are a substantial burden to Chatham County. Chatham County is solely responsible for these costs because Islands Expressway is a county route. The annual operation and routine maintenance costs for these bridges represent approximately 60 percent of the County's annual bridge budget.

- Jim Kennerly, discussed the Vehicular Accident Data, Existing and Projected Traffic Volumes, and Traffic Congestion/LOS portion of the Need & Purpose of the proposed project.
  - He stated that an updated traffic report was just received and would be incorporated into the Concept Report.

- Jim Kennerly, then discussed the proposed design features of the project which included the following: Roadway typical, proposed design speed, proposed maximum grade, proposed maximum degree of curve, and right-of-way width.

- Josh Earhart, discussed the environmental impacts of the proposed project.
  - He stated that it is not likely that the proposed project would impact archaeological resources eligible for listing on the NRHP.
  - He stated that the review of the existing information on previously identified historic properties revealed that no National Register listed properties, proposed National Register nominations, National Historic Landmarks, or bridges determine eligible for inclusion in the National Register in the updated Georgia Historic Bridge Survey were identified within the proposed project's APE.
  - He stated that there would need to be coordination with US Fish and Wildlife.
  - He stated that there could be a possible 4f at Boat Ramp.
  - He stated a Nationwide 404 permit would be needed.

- Al Bowman, discussed the bridge structure type study of the proposed project.

- He stated that since the bridge will be spanning over the Intercoastal Waterway (ICWW), the Horizontal and Vertical Clearances were regulated by the United States Coast Guard (USCG). At this location the minimum vertical clearance for fixed span bridges is 65-ft.
- He further stated that the minimum Horizontal clearance in this location is 100-ft, however in conversations with Paul Liles, it was stated that 100-ft clearance does not provide enough safety from barge collisions, therefore Paul recommended providing as much horizontal clearance as possible using conventional beam or girder construction.
- Based on these limitations, exotic or long span superstructures such as trusses, tied arches, suspension cable, or cable-stayed bridges were eliminated from consideration.
- The beam type bridges studied included conventional pre-stressed beams, spliced post-tensioned beams, and segmental box girders. Steel Plate girders were eliminated due to GDOT bridge office policy to not use steel beams in coastal environments when there are other alternatives.
- Al stated that due to the raise in grade of approximately 50-ft over the channel, the bridge could not land near the bluffs and therefore a study was performed to determine the optimum locations for the bridge ends.
- On the West side of the ICWW, there are subdivisions to the north and south of Islands Expressway. In order to minimize impacts to these subdivisions, a retaining wall was needed for the abutment on this side. Historical cost data suggests that MSE walls are the most economical type of walls for fill heights over 20-ft. A bridge vs. MSE wall cost comparison was completed and it was determined that MSE walls would be least costly up to 50-ft in height. However, the representatives from Reinforced Earth, a MSE manufacturer stated that due to the soft soils in the area, the walls should be practically limited to 40-ft in height. This was used as the controlling factor for locating the West end of the bridge.
- On the East side of the ICWW, there are no cultural resources to protect, but there are marsh wetlands very near the existing edge of pavement. LPA was told by the environmental subconsultant that up to 3 acres of fill in these wetlands would be acceptable under a local permit, therefore the end of the bridge was based on limiting the height of the fill slopes to a level where the fill extension at 3:1 would result in less than 3 acres of fill in the wetlands. This corresponded to a 30-ft fill height, and was used to locate the end of the bridge on this side.
- He stated that the first bridge alternate studied used 78-FBT's which would span a maximum of 160-ft. Subtracting 15-ft either side of the channel for a fender system gave a 130-ft horizontal clearance with this option. This option could be built for $80/sf. It was mentioned that Paul Liles thought that 130-ft clearance was not enough clearance.
- The second alternate studied was a Post-tensioned, Spliced Bulb-T, which used modified 78-FBT's spliced together with post-tensioning to create a continuous beam allowing longer span lengths. He noted that Paul Liles limited the maximum span length for this type of construction to 225-ft. This allows for 195-ft of channel clearance and can be built for $85/sf.

- The last alternate was an AASHTO PC 2700 box girder. Span lengths were limited to 225 ft to compare with spliced bulb-T alternate. Therefore, clear channel was identical at 195 ft, but cost was much higher at $109/sf.
- Based on the studies performed it was easy to determine that the recommended design would use a spliced bulb-tee , due to the ability to provide nearly double the existing horizontal clearance of the channel for only a few dollars/sf more than the simple span bulb-T and much less than the Segmental box girder.

- It was stated that a VE study would be required.

- Brad Saxon stated it would be difficult and costly to remove the existing westbound bridge in between the two new proposed bridges during stage construction. Al stated that this had been discussed with both David Graham and Melissa Harper at a separate meeting and everyone was confident that a contractor could complete this work without too much difficulty.

- It was discussed to review a 3 lane option with reversible lanes.

- Bryan Prince, with GA Power stated some concerns with relocations.

  - He stated that GA Power would not want to be relocated on the bridge structure.

  - He has concerns with potential impacts to customers on the northwest side of the bridges.

  - He stated that relocation to 50-ft underneath the river channel would be very costly (5 million per mile).

  - He stated that GA Power needs a safe distance of 150-ft clear but in some cases 135-ft has been used per Brad Saxon.

  - He stated the schedule would be long for relocations.

Attendees: Darrell Richardson, GDOT Office of Urban Design
Albert Welch, GDOT Office of Urban Design
Marcela Coll, GDOT Office of Urban Design
Brad Saxon, GDOT District 5 Construction
Troy Pittman, GDOT
Slade Cole, GDOT
Shannon McGahee, GDOT
Doug Patten, GDOT
Rob McCall, GDOT
Teresa Scott, GDOT
Mike Clements, GDOT Bridge Design
Paul Condit, GDOT/OEL
Jane Love, Savannah MPO
Wykoda Wang, Savannah MPO
Mark Wilkes, Savannah MPO
Dialo Cartwright, Georgia Power
Bryan Prince, Georgia Power
Kenyatta Spraill, City of Savannah
Al Black, Chatham County
Martin Melville, Edwards Pittman
Josh Earhart, Edwards Pittman
Jim Kennerly, LPA
Al Bowman, LPA
Brad Gowen, LPA

BUCHAN
ROWMAN
RICHARDSON
VanMETER
OTHER
GROUPS
FILE

Department of Transportation

HAROLD E. LINNENKOHL
COMMISSIONER
(404) 656-5205

DAVID E. STUDSTILL, JR., P.E.
CHIEF ENGINEER
(404) 656-5277

State of Georgia
#2 Capitol Square, S.W.
Atlanta, Georgia 30334-1002

LARRY E. DENT
DEPUTY COMMISSIONER
(404) 656-5212

EARL L. MAHFUZ
TREASURER
(404) 656-5224

RECEIVED
NOV 4 2005
URBAN DESIGN

November 1, 2005

The Honorable Pete Liakakis, Commission Chairman
Chatham County Commission
P.O. Box 8161
Savannah, Georgia 31412

Attention: Al Bungard

Dear Chairman Liakakis:

I am returning for your files an executed agreement between the Georgia Department of Transportation and Chatham County for the following projects:

PROJECT#:CSBRG-0007-00(128) Chatham County, P.I.#0007128

We look forward to working with you on the successful completion of the joint project. Should you have any questions, please contact Albert Welch at (404)656-5447.

Sincerely,

James T. Simpson

James T. Simpson,
Financial Management Administrator

JTS:as
Enclosure
c: Bob Rogers
Gary Priester, P.E. – District 5
James Buchan – Urban Design

AGREEMENT

BETWEEN

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

AND

CHATHAM COUNTY

FOR

TRANSPORTATION FACILITY IMPROVEMENTS

This AGREEMENT is made and entered into this 28th day of October, 2005, by and between the DEPARTMENT OF TRANSPORTATION, an agency of the State of Georgia, hereinafter called the "DEPARTMENT", and CHATHAM COUNTY acting by and through its Board of Commissioners, hereinafter called the "SPONSOR".

WHEREAS, the SPONSOR has represented to the DEPARTMENT a desire to improve the transportation facility described in **Exhibit A**, attached and incorporated herein by reference and hereinafter referred to as the "PROJECT"; and

WHEREAS, the SPONSOR has represented to the DEPARTMENT a desire to participate in certain activities of the PROJECT as set forth in this AGREEMENT, and the DEPARTMENT has relied upon such representations; and

WHEREAS, the DEPARTMENT has expressed a willingness to participate in certain activities of the PROJECT as set forth in this AGREEMENT.

NOW THEREFORE, in consideration of the mutual promises made and of the benefits to flow from one to the other, the DEPARTMENT and the SPONSOR hereby agree each with the other as follows:

1. The SPONSOR shall contribute to the PROJECT by funding all or certain portions of the PROJECT costs for the preconstruction engineering (design) activities as per Exhibit "A", utility relocations, right of way acquisitions as per a future Right of Way Agreement and construction as per a future Construction Agreement. Expenditures incurred by the SPONSOR and eligible for reimbursment by the DEPARTMENT shall not be considered reimbursible to the SPONSOR until execution of this agreement and written notice to proceed for each phase.

2. The DEPARTMENT shall contribute to the PROJECT by funding all or certain portions of the PROJECT costs for the preconstruction engineering (design) activities as per Exhibit "A", right of way acquisitions as per a future agreement or construction as per a future construction agreement.

3. It is understood and agreed by the DEPARTMENT and the SPONSOR that the funding portion as identified in Exhibit "A" of this agreement only applies to the Preconstruction Engineering Activities. Additional agreements will be required to be executed by the DEPARTMENT and the SPONSOR for the funding portion of subsequent phases.

4. The SPONSOR shall be responsible for all costs for the continual maintenance and the continual operations of any and all sidewalks and the grass strip between the curb and gutter and the sidewalk within the PROJECT limits.

5. The SPONSOR shall Certify that they have read and understands the regulations for "CERTIFICATION OF COMPLIANCES WITH FEDERAL PROCUREMENT REQUIREMENTS, STATE AUDIT REQUIREMENTS, AND FEDERAL AUDIT REQUIREMENTS" as stated in attachment A of this Agreement and will comply in full with said provisions.

6. When applicable engineering invoicing can only be submitted following submittal and acceptance of project milestones. Project milestones are defined as approval of the Concept Report, Completion and verification of the Database Preparation, approval of the Environmental Document, submittal of Preliminary Plans for PFPR, approval of Right of Way plans, and submittal of Final Plans for letting.

7. The SPONSOR shall accomplish all of the design activities for the PROJECT. The design activities shall be accomplished in accordance with the DEPARTMENT's Plan Development Process, the applicable guidelines of the American Association of State Highway and Transportation Officials, hereinafter referred to as "AASHTO", the DEPARTMENT's Standard Specifications Construction of Transportation Systems, the DEPARTMENT's Plan Presentation Guide, PROJECT schedules, and applicable guidelines of the DEPARTMENT. The SPONSOR's responsibility for design shall include, but is not limited to the following items:

a. Prepare the PROJECT concept report in accordance with the format used by the DEPARTMENT. The concept for the PROJECT shall be developed to accommodate the future traffic volumes as generated by the SPONSOR as provided for in paragraph 7b and approved by the DEPARTMENT. The concept report shall be approved by the DEPARTMENT prior to the SPONSOR beginning further development of the PROJECT plans. It is recognized by the parties that the approved concept may be modified by the SPONSOR as required by the DEPARTMENT and reapproved by the DEPARTMENT during the course of design due to public input, environmental requirements, or right of way considerations.

b. Develop the PROJECT's base year (year facility is expected to be open to traffic) and design year (base year plus 20 years) traffic volumes. This shall include average daily traffic (ADT) and morning (am) and evening (pm) peak hour volumes. The traffic shall show all through and turning movement volumes at intersections for the ADT and peak hour volumes and shall indicate the percentage of trucks expected on the facility.

c. Validate (check and update) the approved PROJECT concept and prepare a PROJECT Design Book for approval by the DEPARTMENT prior to the beginning of preliminary plans.

d. Prepare environmental studies, documentation, and reports for the PROJECT that show the PROJECT is in compliance with the provisions of the National Environmental Protection Act and Georgia Environmental Protection Act, as appropriate to the PROJECT funding. This shall include any and all archaeological, historical, ecological, air, noise, underground storage tanks

(UST), and hazardous waste site studies required as well as any environmental reevaluations required. The SPONSOR shall submit to the DEPARTMENT all environmental documents and reports for review and approval by the DEPARTMENT and the FHWA.

e. Prepare all public hearing and public information displays and conduct all required public hearings and public information meetings in accordance with DEPARTMENT practice.

f. Perform all surveys, mapping, soil investigation studies and pavement evaluations needed for design of the PROJECT.

g. Perform all work required to obtain project permits, including, but not limited to, US Army Corps of Engineers 404 and Federal Emergency Management Agency (FEMA) approvals. These efforts shall be coordinated with the DEPARTMENT.

h. Prepare the PROJECT's drainage design including erosion control plans and the development of the hydraulic studies for the Federal Emergency Management Agency Floodways and acquisition of all necessary permits associated with the drainage design.

i. Prepare traffic studies, preliminary construction plans including a cost estimate for the Preliminary Field Plan Review, preliminary and final utility plans, preliminary and final right of way plans, staking of the required right of way, and final construction plans including a cost estimate for the Final Field Plan Review, erosion control plans, lighting plans, traffic handling plans, and construction sequence plans and specifications including special provisions for the PROJECT.

j. Provide certification, by a Georgia Registered Professional Engineer, that the construction plans have been prepared under the guidance of the professional engineer and are in accordance with AASHTO and DEPARTMENT guidelines.

k. Failure of the SPONSOR to follow the DEPARTMENT's Plan Development Process will jeopardize the use of Federal funds in some or all of the categories outlined in this AGREEMENT, and it shall be the responsibility of the SPONSOR to make up the loss of that funding.

8. All Primary Consultant firms hired by the SPONSOR to provide services on the PROJECT shall be prequalified with the DEPARTMENT in the appropriate area-classes. The DEPARTMENT shall, on request, furnish the SPONSOR with a list of prequalified consultant firms in the appropriate area-classes.

9. The PROJECT construction and right of way plans shall be prepared in English units.

10. All drafting and design work performed on the project shall be done utilizing Microstation and CAICE software respectively, and shall be organized as per the Department's guidelines on electronic file management.

11. The DEPARTMENT shall review and has approval authority for all aspects of the PROJECT provided however this review and approval does not relieve the SPONSOR of its responsibilities under the terms of this agreement. The

DEPARTMENT will work with the FHWA to obtain all needed approvals with information furnished by the SPONSOR.

12. The SPONSOR shall be responsible for the design of all bridge(s) and preparation of any required hydraulic and hydrological studies within the limits of this PROJECT in accordance with the DEPARTMENT's policies and guidelines. The SPONSOR shall perform all necessary survey efforts in order to complete the design of the bridge(s) and prepare any required hydraulic and hydrological studies. The final bridge plans shall be incorporated into this PROJECT as a part of this AGREEMENT.

13. The SPONSOR shall follow the DEPARTMENT's procedures for identification of existing and proposed utility facilities on the PROJECT. These procedures, in part, require all requests for existing, proposed, or relocated facilities to flow through the DEPARTMENT's Project Liaison and the District Utilities Engineer.

14. The SPONSOR shall address all railroad concerns, comments, and requirements to the satisfaction of the DEPARTMENT.

15. Upon the SPONSOR's determination of the rights of way required for the PROJECT and the approval of the right of way plans by the DEPARTMENT, the necessary rights of way for the PROJECT shall be acquired by the SPONSOR. Right of way acquisition shall be in accordance with the law and the rules and regulations of the FHWA including, but not limited to, Title 23, United States Code; 23 CFR 710, et. seq., and 49 CFR Part 24, and the rules and regulations of the DEPARTMENT and in

accordance with the Contract for the Acquisition of Right of Way to be prepared by the DEPARTMENT and executed between the SPONSOR and the DEPARTMENT prior to the commencement of any right of way activities. Failure of the SPONSOR to follow these requirements may result in the loss of Federal funding for the PROJECT and it will be the responsibility of the SPONSOR to make up the loss of that funding. All required right of way shall be obtained and cleared of obstructions, including underground storage tanks, prior to advertising the PROJECT for bids. The SPONSOR shall further be responsible for making all changes to the approved right of way plans, as deemed necessary by the DEPARTMENT, for whatever reason, as needed to purchase the right of way or to match actual conditions encountered.

16. Upon completion and approval of the PROJECT plans, certification that all needed rights of way have been obtained and cleared of obstructions, and certification that all needed permits for the PROJECT have been obtained by the SPONSOR, the PROJECT shall be let for construction. The DEPARTMENT shall be solely responsible for securing and awarding the construction contract for the PROJECT.

17. The SPONSOR shall review and make recommendations concerning all shop drawings prior to submission to the DEPARTMENT. The DEPARTMENT shall have final authority concerning all shop drawings.

18. The SPONSOR agrees that all reports, plans, drawings, studies, specifications, estimates, maps, computations, computer diskettes and printouts, and any other data prepared under the terms of this AGREEMENT shall become the

property of the DEPARTMENT if required. This data shall be organized, indexed, bound, and delivered to the DEPARTMENT no later than the advertisement of the PROJECT for letting. The DEPARTMENT shall have the right to use this material without restriction or limitation and without compensation to the SPONSOR.

19. The SPONSOR shall be responsible for the professional quality, technical accuracy, and the coordination of all designs, drawings, specifications, and other services furnished by or on behalf of the SPONSOR pursuant to this AGREEMENT. The SPONSOR shall correct or revise, or cause to be corrected or revised, any errors or deficiencies in the designs, drawings, specifications, and other services furnished for this PROJECT. Failure by the SPONSOR to address the errors or deficiencies within 30 days shall cause the SPONSOR to assume all responsibility for construction delays caused by the errors and deficiencies. All revisions shall be coordinated with the DEPARTMENT prior to issuance. The SPONSOR shall also be responsible for any claim, damage, loss or expense, to the extent allowed by law, that is attributable to errors, omissions, or negligent acts related to the designs, drawings, specifications, and other services furnished by or on behalf of the SPONSOR pursuant to this AGREEMENT.

20. Both the SPONSOR and the DEPARTMENT hereby acknowledge that time is of the essence and both parties shall adhere to the priorities established in the approved Transportation Improvement Program/State Transportation Improvement Program (TIP/STIP) or earlier. Furthermore, all parties shall adhere to the detailed project schedule, as approved by the DEPARTMENT. In the completion of respective

commitments contained herein, if a change in the schedule is needed, the DEPARTMENT shall have final authority. If, for any reason, the SPONSOR does not produce acceptable deliverables at the milestone dates defined in the current TIP/STIP, or in the approved schedule, the DEPARTMENT reserves the right to delay the project's implementation until funds can be re-identified for construction or right of way, as applicable.

21. This AGREEMENT is made and entered into in FULTON COUNTY, GEORGIA, and shall be governed and construed under the laws of the State of Georgia. The covenants herein contained shall, except as otherwise provided, accrue to the benefit of and be binding upon the successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the DEPARTMENT and the SPONSOR have caused these presents to be executed under seal by their duly authorized representatives.

RECOMMENDED:

State Urban Design Engineer

Director, Preconstruction

Chief Engineer

DEPARTMENT OF TRANSPORTATION

BY: _____
Commissioner

ATTEST: _____
Treasurer

REVIEWED AS TO LEGAL FORM:
Sandra S Burgess 10.12.05
Office of Legal Services

CHATHAM COUNTY

BY: Pete Liakakis
Name
Title

Signed, sealed and delivered this 23rd day of September, 2005, in the presence of:

Witness

Notary Public, Chatham County, GA
My Commission Expires 04-01-08

This Agreement approved on the 23rd day of September, 2005.

County Clerk (as appropriate)

FEIN: 58-6001113

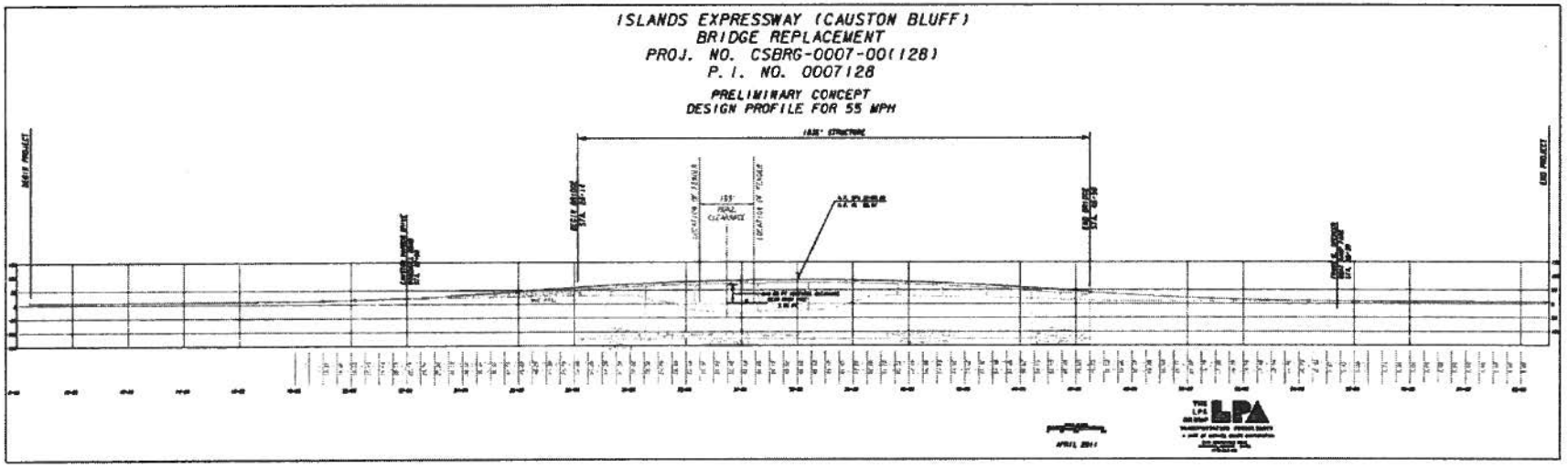
CSBRG 0007-00(128), Chatham County
P.I. No. 0007128

Alternatives Matrix

Alternatives	1	2	3	4	5	6	7	8	
Attributes									
Project Length	1.2 miles	1.2 miles	1.2 miles	1.2 miles	1.2 miles	1.2 miles	1.2 miles	1.2 miles	
Construction Cost	$ 35,222,328.28	$ 35,261,011.81	$ 35,304,125.75	$ 31,598,521.10	$ 37,018,543.30	$ 34,801,005.90	$ 35,558,549.77	$ 33,795,402.78	* Costs include E & C at 10%
ROW Cost	$34,200.00	$214,291.00	$50,305.00	$12,700.00	$45,430.00	$20,100.00	$99,300.00	$34,200.00	
Utility Relocations Cost	$7,776,500.00	$7,776,500.00	$7,776,500.00	$7,836,500.00	7,776,500.00	$9,323,770.00	7,776,500.00	7,776,500.00	* All costs shown are non-re-imbursable.
Fuel/Asphalt Price Adjustment	293,369.04	293,369.04	293,369.04	293,369.04	293,369.04	293,369.04	293,369.04	293,369.04	
Mitigation Cost	$441,124.00	$441,124.00	$441,124.00	$441,124.00	$441,124.00	$441,124.00	$441,124.00	$441,124.00	
TOTAL PROJECT COSTS	**$ 43,767,521.32**	**$ 43,986,295.85**	**$ 43,865,423.79**	**$ 40,182,214.14**	**$ 45,574,966.34**	**$ 44,879,368.94**	**$ 44,168,842.81**	**$ 42,340,595.82**	
Relocations	0	0	0	0	0	0	0	0	
Historic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Archaeological	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Wetlands impacts w/ no walls on east side	1.52 Ac.	1.3 Ac.	1.81 Ac.	1.41 Ac.	1.78 Ac.	2.48 Ac.	1.60 Ac.	1.52 Ac.	
Endangered Species -	Manatee, Short Nosed Sturgeon, (Risk is same for all Alternates during construction.)								
Park/Boat Ramp Impacts	5256 Sq. Ft.	5618 Sq. Ft.	5981 Sq. Ft.	5325 Sq. Ft.	5782 Sq. Ft.	6140 Sq. Ft.	5190 Sq. Ft.	5256 Sq. Ft.	
Time of Construction	2 Yr. 10 Mo.	2 Yr. 8 Mo.	2 Yr. 7 Mo.	2 Yr. 6 Mo.	3 Yr. 5 Mo.	3 Yr. 2 Mo.	2 Yr. 10 Mo.	2 Yr. 6 Mo.	

Maritime Delays - (Similar Construction Delays for All Alternatives.)


LEGEND
ISLANDS EXPRESSWAY (CAUSTON BLUFF)
BRIDGE REPLACEMENT
PROJECT No: CSBRG-0007-00(128)
P. I. No: 0007128
CHATHAM COUNTY, GA
ISLANDS EXPRESSWAY / C.R. 787


ISLANDS EXPRESSWAY (CAUSTON BLUFF)
BRIDGE REPLACEMENT
PROJ. NO. CSBRG-0007-00(128)
P. I. NO. 0007128
PRELIMINARY CONCEPT
DESIGN PROFILE FOR 55 MPH

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: **P.I. No. 0007128** **OFFICE:** Environmental Services

County: **CSBRG-0007-00(128) / CHATHAM County** **DATE:** 11/23/09

Description: **Replacement of the Islands Expressway Bridges over the Wilmington River**

FROM: Glenn Bowman, P.E., State Environmental Administrator
TO: Genetha Rice-Singleton, Program Control Administrator
SUBJECT: **PROJECT CONCEPT REPORT REVIEW**

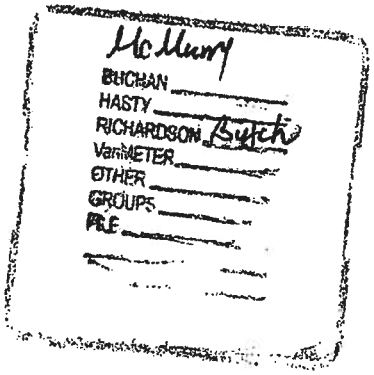
The Concept Report for the above project has been reviewed and it appears satisfactory for approval subject to the following comments:

1. Cultural Resource surveys are required; there are numerous previously recorded historic properties in the area of the project corridor. Please note, that in addition to the possible 4F concerns with the park, we notice several historical/archaeological resources that could be Section 4F concerns also. These could require alternatives analysis which must be factored into the schedule. If significant impacts to historic 4(f) resources cannot be avoided, the proposed environmental schedule must be revised significantly.
2. Please list who is responsible for the environmental in the Project Responsibilities section.
3. It appears that the last public meeting was over five (5) years ago. The Department will need to evaluate if any future public involvement is needed due to the time lapse (or possible changes to design).
4. Please allow eighteen (18) months for the completion of environmental work. There is no baseline schedule currently proposed, but the late start and late finish allow for eighteen (18) months. Please note the actual finish date will be influenced by the actual start date for the environmental studies.
5. If the project impacts essential fish habitat, consultation with the NMFS will be required and mitigation may be required. The mitigation may be in addition to the mitigation provided for the 404 permit. Also, the Coastal Resources Division of GA DNR must be consulted to determine the limits of the vegetative buffer for the marsh and if a buffer variance would be required.
6. The bridges will need to be evaluated for National Register eligibility; bascule bridges (and all movable bridges) are not common in Georgia.

If you have any questions, please contact Glenn Bowman at (404) 631-1101.

GB:lc

cc: Russell McMurry



Concept Report, Islands Expressway, CSBRG-0007-00(128) / P.I. No. 0007128
Responses to GDOT Comments dated November 23, 2009

1. Phase 1 cultural resources surveys are planned for the Area of Potential Effect (APE) of the proposed project. Previous investigations indicated that there are historical and archaeological resources recorded in the vicinity of the proposed project. Based on previous investigations, no adverse impacts to NRHP-eligible archaeological resources would be anticipated within the project right-of-way, and there would be no land-disturbing activities outside of the right-of-way. GDOT has recommended that additional investigation of historical and archaeological resources be conducted in the project area, including an underwater survey and a low-water shoreline survey to identify possible submerged and/or low-water resources. Also since the previous investigations, there is a requirement to evaluate the eastbound bascule bridge for NRHP eligibility. With a finding of No Adverse Effect or Conditional No Adverse Effect to NRHP-eligible historical or archaeological resources, and a *de minimus* finding for minor impacts at the boat ramp, there would be no Section 4(f) involvement that would require an alternatives analysis or an adjustment to the project schedule. A finding of Adverse Effect to the bascule bridge would require a Programmatic Section 4(f) evaluation. A finding of Adverse Effect to other NRHP-eligible resources would require a full Section 4(f) evaluation, including an alternatives analysis, which would require an adjustment to the project schedule.
2. The Consultant is responsible for the Environmental.
3. LPA will coordinate with GDOT to address any need for additional public involvement activities, based on the results of GDOT's evaluation.
4. LPA will allow for an 18-month schedule to complete the environmental clearance activities, assuming no extended regulatory reviews and no supplemental requirements for investigations of threatened and endangered species or Essential Fish Habitat.
5. Consultations with the NMFS regarding Essential Fish Habitat, as well as with the Coastal Resources Division of the GADNR regarding the salt marsh buffer, are anticipated to be needed in conjunction with the proposed project.
6. The eastbound bascule bridge will be evaluated for NRHP eligibility, in coordination with GDOT's Office of Environmental Services.

Meeting Notes
GDOT Project CSBRG-0007-00(128), Chatham County P.I. 0007128
Replacement of the Islands Expressway Bridges over the Wilmington River
Georgia Department of Transportation – Office of Environmental Services
May 5, 2011

Attendees:

Jennifer Giersch – FHWA
Jonathan Cox – GDOT
Al Bowman – LPA
Brad Gowen – LPA
Paul Condit – LPA

Introduction

The meeting began with introductions. Paul Condit distributed materials pertinent to the meeting agenda, including copies of the Programmatic 4(f) Evaluation reviewed by GDOT-OES and current aerial photographs of the proposed project area. Information regarding the (April 12, 2011) PIOH was discussed, including the high level of support for the project that was expressed by many of the meeting attendees.

The purpose of this meeting was to discuss with GDOT and FHWA the possibility of using the Frank W. Spencer Boat Ramp Park as a staging area during the 36-month project construction period. Paul Condit stated that, according to the 3/1/2005 FHWA Section 4(f) Policy Paper, closing the park for the entire construction phase then reopening it upon completion of the project would not classify the use of the park as "temporary" in terms of Section 4(f). The use would be temporary only in the sense that the park would not be permanently impacted by the project and it would be returned to an equal or better condition once the proposed project is completed.

Paul asked Jennifer Giersch whether there is a threshold in place regarding what percentage of the construction schedule the park must remain open in order to categorize a closure as a temporary impact; i.e., what duration would qualify as a temporary use of the park? Jennifer and Jonathan Cox responded that a temporary use would need to be a very minor portion of the construction schedule, e.g., closing the park for a week or two during construction of this project would qualify as a temporary use of the resource.

Project Background and Description

A full-sized concept layout was reviewed by the group as Al Bowman described the project concept. He stated that the concept report for Alternative 8 (Preferred Alternative) is currently under GDOT review, and a Value Engineering study has been completed.

Park Significance & Alternatives

Jennifer Giersch suggested that when dealing with impacts to parks that are considered to be 4(f) resources, it is important to determine the significance of the park by gathering data on the level of park usage by the public. If the data shows that the park is not heavily used, and that its closure would not represent a hardship to the local public, then it would be easier to argue that closing the park for 36 months would not be an unreasonable option. Jennifer also explained that some level of public

involvement would be required if the project were to move forward with a full closure of the park for 36 months. The public involvement would be an opportunity to provide locals with information regarding the park closure, as well as to obtain feedback from citizens that may or may not use the park. Ms. Giersch then asked what the alternatives would be to closing the park for the entire duration of the construction.

Some of the alternatives explored to date include the use of barges in conjunction with landside staging, building staging areas in the upland areas along the east bridge approach and inside the marsh, and allowing partial public access to the park during construction. Al Bowman and Brad Gowen agreed that partial public access to the park would not be a desirable option for any contractor working on the project. Mr. Bowman also suggested that the use of barges may lead to marine navigational issues by causing congestion in the channel of the Wilmington River, leaving little room for vessels to pass through the project area. The use of barges also would be a very expensive staging method.

Based on previous discussions between LPA staff and Chatham County officials about a potential closing of the Frank W. Spencer Boat Ramp Park, Brad Gowen brought up another scenario to Ms. Giersch: what if the County were to decide to close the park prior to construction of this project? Jennifer explained that it would have to be demonstrated to FHWA that the County's plan to shut down the park has been an ongoing process, and the decision to close the park was made independent of this project. This could be done by providing documentation in the form of meeting minutes where the closure has been discussed and by future land use plans showing that the area would be no longer designated as parkland.

Use of Other Uplands Along the Corridor

A review of the most recent aerial photography of the proposed project area brought up the question as to whether or not the utility haul road created for the recent power line relocation could be used by a contractor to stage construction. Paul Condit stated that the current road appears to be lying on mats, and the utility company's CWA Section 404 permit may require the removal of those mats once their work is completed. It was concluded by the group that if the haul road is permitted as permanent and if it is within the County's right-of-way, then there should be no reason why it could not be used for construction staging.

After looking further at the possibility of using the utility haul road as a staging area, it was suggested by Mr. Bowman that maybe using all of the upland area (island) within the County's existing right-of-way would be the best option. This option would require the clearing and grading of the existing vegetation on the island; however, the upland areas are not protected resources. The impacts to the marsh between the island and the east approach would need to be permitted, and mitigation would be necessary. Brad Gowen suggested the possibility of restoring the upland areas used for staging back to salt marsh as part of the overall mitigation plan. Paul Condit then asked Ms. Giersch if it would be possible to keep the environmental document as a Categorical Exclusion (CE), if an Individual Permit were to be required. Jennifer responded that FHWA has approved CEs in the past that have required an Individual Permit.

Additional Discussion

Jennifer Giersch suggested that Programmatic 4(f) evaluations typically move faster than Individual 4(f) evaluations because they are completed for projects that FHWA is comfortable with approving without a legal sufficiency review. She also mentioned that the depth and detail of the analysis should be equal for both evaluations. She believes that this project, due to the extensive duration of the park closure, would more than likely require an Individual Section 4(f) evaluation. Jonathan Cox expanded on

Jennifer's comments by suggesting that Section 4(f) resources, along with threatened and endangered species, are afforded the most protection by law, and it can be difficult to show there are no feasible and prudent alternatives to impacting these resources.

Mr. Cox suggested that Paul Condit contact Sam Pugh, a NEPA analyst in his unit, to ask him how he is dealing with a temporary park encroachment on a project in Albany, GA. He also suggested that we run the project concept by Marc Mastronardi, with GDOT Construction, to see if he believes the project could be constructed with a stipulation in the contract preventing any use of the Frank W. Spencer Boat Ramp Park.

Decision

Due to schedule demands and the level of effort required to complete an Individual Section 4(f) analysis, a decision has been made to attempt to avoid any use of the Frank W. Spencer Park during construction. The alternative to try and utilize the other upland areas along the east approach and within the marsh will be strongly considered.

Participants are asked to please review these meeting minutes and to provide any comments to the undersigned, for correction or clarification.

Prepared by: Paul F. Condit, Sr.
The LPA Group Incorporated
A Unit of Michael Baker Corporation
May 11, 2011

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: CSBRG-0007-00(128) Chatham
P.I. No.: 0007128
CR 787/Islands Expressway Bascule Bridge

OFFICE: Engineering Services

DATE: April 27, 2011

FROM: Ronald E. Wishon, State Project Review Engineer RGW

TO: Bobby K. Hilliard, PE, State Program Delivery Engineer
Attn.: Robert Murphy

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held October 4-7, 2010. Responses were received on April 26, 2011. The VE Study report included seven recommendations for Alternate 1, seven recommendations for Alternate 8 and two for Alternate 7. The Department selected Alternate 8 as the preferred alternate for this project; only the recommendations for Alternate 8 are included in the Implementation Letter.

Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
LPA Bridge Replacement Alternate Design 8				
BR-3	Retain portions of existing bridge	$747,810	No	The calculations provided by the VE team did not include maintenance, security or liability costs. Additional costs would be incurred for parking and providing access to the bridges. This could also increase the project's impact to the surrounding marshlands. Both the additional bridges would be partially located beneath the new eastbound bridge, making them an obstruction to construction that would increase construction costs.

BR-4A	Reduce outside shoulders of eastbound bridge to 6 ft	$403,920	No	The proposed bridge width for the bridges on this project is consistent with Department Policy 4265-10. The shoulder widths in the policy were developed through an implemented VE Study. This facility is a hurricane evacuation route and adequate width for disabled vehicles should be provided. A 6 foot shoulder would not be adequate.
BR-9	Signalize the reversible lanes in lieu of manually controlling traffic	$320,500	No	The VE Team incorrectly assumed that the design proposed manual placement of barrels for the reversible lane operation on the new westbound bridge during removal of the existing bridges and construction of the remaining eastbound bridge. The cost estimate provided by the Design Team for the daily placement of barrels only included the approaches to the bridge. Costs were provided within the traffic control estimate for overhead signals during the construction period. No cost savings can be achieved as illustrated by the VE report as daily barrel placement will still be required for the lane shifts on the approaches to the bridge.
BR-13	Optimize span arrangement by using BT-74 Girders	$361,068	No	Optimizing the span arrangement should be given consideration as the project progresses; however, it is premature at this point in the design phase to specifically set the span arrangement and select the beam type other than prestressed girders. The design team clearly documented that while it is possible to design a BT-74 to span the proposed 166 ft length, it would be excessively difficult to transport and lift into place due to lateral stability limitations of the narrow top flange of the BT-74.

BR-17	Include the time differential value in alternative selection process	$252,000	Yes	This will be done.
BR-18	Utilize alternate bidding by developing two sets of construction plans – one for each viable alternate – for letting to determine which alternate would provide the same functional equivalent at the lowest bid price.	$2,200,923	No	Preparation of two separate sets of construction plans for the two viable alternates (Alternate 1 and Alternate 8) is costly and exceeds the funding available for the design of the project. Alternate 8 has been selected as the preferred alternate; therefore, two sets of plans are not needed.
BR-20	Extend MSE wall to eliminate west end span	$752,275	No	The Office of Materials and Research recommends limiting the height of the wall at this site to 30 feet due to compressible soils. Without the additional height, the length of the wall cannot be increased to shorten the bridge.

The Office of Engineering Services concurs with the Project Manager's responses.

Approved: _____ **Date:** 4/28/11
Gerald M. Ross, PE, Chief Engineer

REW/LLM
Attachments
c: Ben Buchan
Bobby Hilliard/Mike Haithcock/Robert Murphy
Paul Liles/Ben Rabun/Bill Duvall/Bill Ingalsbe
Mike Murdoch/Larry Bowman
Brad Saxon/Teresa Scott/Will Murphy/Troy Pittman
Ken Werho
Lisa Myers
Matt Sanders

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE CSBRG-0007-00(128) Chatham, County
P.I. No. 0007128
Islands Expressway Wilmington River Bridge

OFFICE Program Delivery

DATE April 27, 2011

FROM Bobby K. Hilliard, PE, State Program Delivery Engineer BKH

TO Ron Wishon State Project Review Engineer
Atten: Lisa Myers

SUBJECT Value Engineering Responses

Ron,

Attached are the responses for the Value Engineering Study. This office concurs with the responses.

If there are any questions please contact Project Manager Mr. Robert Murphy of this Office at (404) 631-1586.

BKH:
RM Sr. PM
Attachments

Cc:

GEORGIA DEPT. OF TRANSPORTATION
Project CSBRG-0007-00(128) Chatham County PI 0007128
CR 787/Islands Expressway over the Wilmington River

RESPONSE TO THE VALUE ENGINEERING (VE) REPORT Dated: October 2010

This is the response to the Value Engineering Study/Report prepared by PBS&J for the above project. This response is the LPA Design Team analysis of the recommendations offered in the VE study/report that, if implemented, would presumably reduce the overall project costs and provide the best value for the Department in developing a project that would achieve the need and purpose. Out of 20 original alternatives/recommendations considered by the VE team, 10 were selected for implementation. The response provided herein will focus only on the 10 alternatives/recommendations suggested by the VE Team for implementation and will address each conceptual alternative separately developed by the LPA design team. The format and order of the responses follow the presentation in the VE Report. **(Please be advised that subsequent to the VE Response in February 2011, the Department selected Alternate 8 as the preferred alternate for this project.)**

VE Alternatives/recommendations for implementation:

BR-3: Retain portions of the existing bridges and roadways to be used for recreation and save demolition costs. Specifically the portions to be retained would be: WB Sta. 159+49 to Sta.161+27 (178') and from Sta. 163+72 to Sta.167+83(411'); EB Sta.159+89 to 167+27 (138') and from Sta. 163+72 to 167+83 (411'). (LPA Alternate 8)

Proposed Cost Savings: $747,810

Response: ***WILL NOT IMPLEMENT***

The VE Team recommends retaining the above portions of the existing bridges for recreational/community purposes but does not consider yearly maintenance, and security costs that Chatham County would be burdened with in addition to the liability associated with these facilities. Furthermore, additional costs would be needed for providing adequate parking and access to the bridges, which may increase the project's impact to the surrounding marshlands. Most importantly, a review of the old plans in comparison to Alternate 8 indicates that both existing bridges would be partially below the new EB Bridge, which makes the existing bridges an obstruction to construction and will increase construction and design costs. Therefore the Design Team does not recommend implementation of this recommendation.

BR-4A: Reduce the outside shoulder width on the new eastbound bridge from 8' to 6'to more closely match the approach roadway cross section. (Preferred Alternate 8)

Proposed Cost Savings: $403,920

*Response: **WILL NOT IMPLEMENT***

Islands Expressway is not on the Georgia state route system; however, it is a part of the National Highway System (NHS). Therefore the Georgia DOT's Bridge and Structures Design Policy Manual establishes the desired bridge width for all new bridges constructed in Georgia on its roadway systems. This manual indicates that for projects on the federal system with design traffic volumes in excess of 2,000 vehicles per day for multilane, median divided roadways, the proposed bridge width should be: 4'inside shoulder + traveled way width (24') + 8'outside shoulder equaling a total width of 36'barrier to barrier. Reducing the outside shoulder to 6' will require a design exception per the directions in the aforementioned bridge manual. The Design Team does not agree that a reduction in outside shoulder width is warranted for costs savings since there will be a reduction in the usable space on the bridge for emergencies. The 8'shoulder width should be retained for stranded motorist, cyclist, pedestrians and emergency vehicle parking as well as flexibility during hurricane evacuation. Therefore, the Design team does not recommend implementation of this recommendation.

BR-9: Use an electronic overhead signal system to route (AM/PM) traffic across the new westbound bridge (reversible lanes) during the removal of the existing bridges and the construction of the new eastbound bridge in lieu of manually moving barrels each day. (Preferred Alternate 8)

Proposed Cost Savings: $320,500

*Response: **WILL NOT IMPLEMENT***

The VE Team assumed that the LPA Design Team utilized manual placement of barrels for the reversible lane operation on the new westbound bridge during removal of the existing bridges and construction of the remaining eastbound bridge. The cost provided by the Design Team for daily placement of barrels only included the approaches to the bridge, not across the entire structure. Costs were provided within the estimate for Alternate 8 traffic control for overhead signals during this construction period and the $1500/day only covered barrel placement on the approaches. No cost savings can be achieved as is illustrated in the VE report as daily barrel placement will still be needed for the lane shifts on the approaches to the bridge. Therefore this recommendation is not valid as it was already accounted for in the cost estimate for Alternate 8.

BR-13: The alternative design proposes optimizing the span arrangement by using BT-74 Girders of similar lengths. The span arrangement in this alternative provides 10 spans, thus eliminating the need for two intermediate bents.

Proposed Cost Savings: $361,068

Response: ***WILL NOT IMPLEMENT***

The LPA Design Team concurs with the concept of minimizing the total number of substructure units by using longer span lengths and minimizing the number of different beam types. The beam layout shown in the structure type study was conceptual and arranged to maximize cost savings in the superstructure by using the least costly beam type which at the conceptual level showed greater cost savings over removing a substructure unit on the approaches. It was always the plan of the Design Team to revisit the span arrangement during Preliminary design, where detailed layouts are typically performed.

The Design Team does not support the VE recommendation to use a BT-74 for a 166 ft span length. During the development of the Structure Type Study, the Design team clearly documented that while it is possible to design a BT-74 to span that length, it would be excessively difficult to transport and lift into place due to lateral stability limitations of the narrow top flange of the BT-74. In addition, our preliminary analysis indicates that the use of BT-74's would require an additional beam line per span over that which would be required for an FBT-78. The Design Team maintains that the locally available FBT-78 remains the preferred section type for span lengths above 150 ft on this project and does not recommend implementation of this recommendation.

BR -17: Consider the time differential value in alternative selection and in the construction contract. This alternative proposes to assign a cost value to time for construction of the project since the project will likely cost in excess of $40,000,000 and will present some disruption to the traveling public during the construction period. (LPA Alternate 1 and 8)

Proposed Cost savings: $252,000

Response: ***IMPLEMENT***

The Design Team supports this recommendation to consider the use of liquidated damages as a means of minimizing the time of construction for this project due to its impact to the traveling public particularly during the removal of the existing bridges and the construction of the new eastbound bridge (Stage 2). The Design Team also agrees that consideration should be given to an incentive/disincentive special provision in the construction contract for this project by the Department in attempt to further minimize cost and time of construction.

BR-18: Develop two separate sets of construction plans for the two viable project alternates for letting to determine which alternative would provide the same functional equivalent at the lowest bid price. (LPA Alternate 1 and 8)

Proposed Cost Savings: $ 2,200,922.93

*Response: **WILL NOT IMPLEMENT***

Preparation of full Construction plans for two alternates is costly and exceeds the funding that Chatham County has available for the project. It is appropriate for a preferred Alternate to be selected based on the Concept report and subsequent Value Engineering study performed by learned individuals in industry. During this process, Alternate 8 was selected by the Department as the preferred alternate; therefore an additional full alternate design is not warranted.

BR-20: The alternative design proposes extending the MSE Wall to eliminate the need for the west end span from the current design.

Proposed Cost Savings: $752,275

*Response: **WILL NOT IMPLEMENT***

The Design team had initially discussed a maximum wall height of 40 ft for MSE walls on the project based on a recommendation from The Reinforced Earth Company. Shortly after the Concept Team meeting, Tom Scruggs at GDOT-OMR, commented that he was uncomfortable with a 40 ft wall on the compressible soils in the project area and recommended setting the maximum height at 30 ft. Based on this, the Design Team does not recommend implementation of this recommendation.

THE LPA GROUP INCORPORATED
Transportation Consultants

A Unit of Michael Baker Corporation

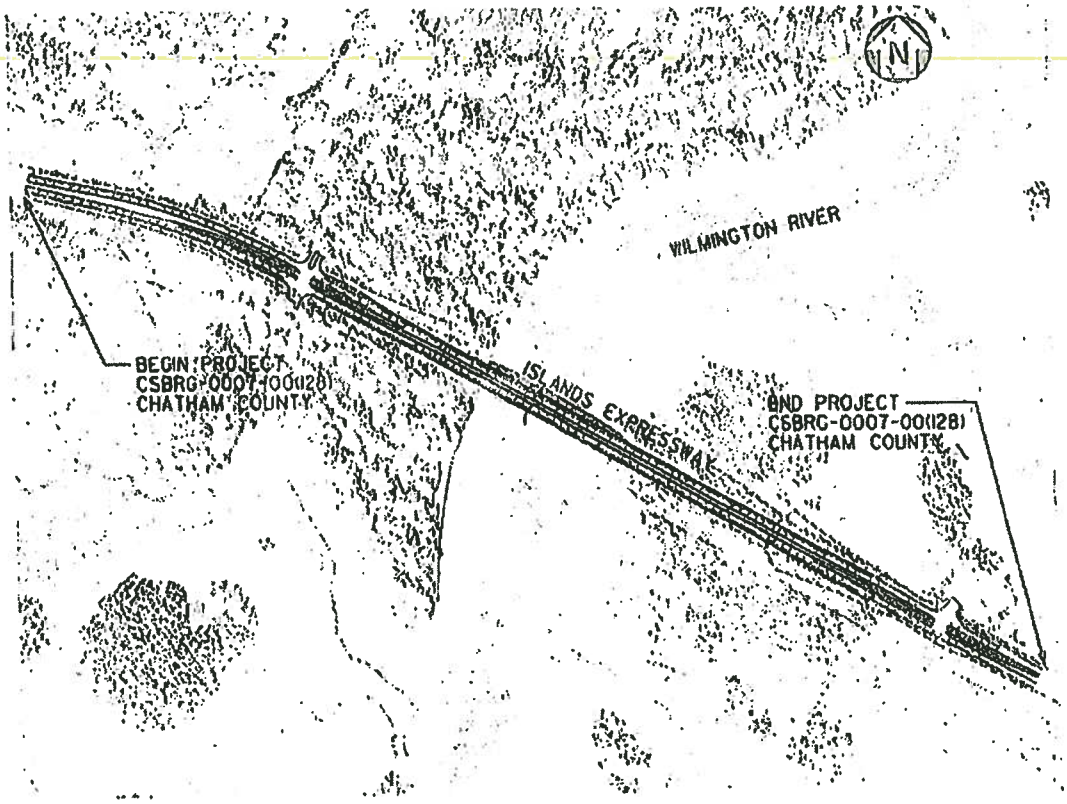
GEORGIA DEPARTMENT OF TRANSPORTATION

CSBRG-0007-000(128) P.I. No. 0007128

CR 787/Islands Expressway Bridge Replacement

Chatham County

Value Engineering Report--- RESPONSE



NOT TO SCALE

PROJECT LIMITS

3595 ENGINEERING DRIVE ◘ NORCROSS, GEORGIA 30092 ◘ 770-263-9118 ◘ FAX 770-263-9145
Offices in all Major U.S. Cities

PRECONSTRUCTION STATUS REPORT FOR PI:0007128

PROJ ID :	0007128	**CR 787/ISLANDS EXPRESSWAY @ WILMINGTON RIVER/BASCULE BRIDGE**				**MGMT LET DATE :**	11/15/2013
COUNTY :	Chatham					**MGMT ROW DATE :**	12/15/2011
LENGTH (MI)	0.40	**MPO:**	Savannah TMA	**PRIORITY CODE:**	STM09	**BASELINE LET DATE:**	11/19/2013
PROJ NO.:	CSBRG-0007-00(128)	**TIP #:**	2005-H-03	**DOT DIST:**	5	**SCHED LET DATE :**	1/6/2014
PROJ MGR:	Murphy, Robert P.	**MODEL YR :**		**CONG. DIST:**	12, 1	**WHO LETS?:**	GDOT Let
AOHD Initials:	MAH	**TYPE WORK:**	Bridges	**BIKE:**	Y	**LET WITH :**	
OFFICE :	Program Delivery	**CONCEPT:**	BR REPL	**MEASURE:**	E		
CONSULTANT:	Local Design, Reimbursed by GDOT funds	**PROG TYPE:**	Replacement	**NEEDS SCORE:**			
SPONSOR :	Chatham County	**Prov. for ITS:**	N	**BRIDGE SUFF:**	60.50, 71.93		
DESIGN FIRM:	The LPA Group Incorporated	**BOND PROJ :**					

BASE START	BASE FINISH	LATE START	LATE FINISH	TASKS	ACTUAL START	ACTUAL FINISH	%
	9/16/2010		5/26/2011	Concept Development	5/20/2007		73
				Concept Meeting	4/26/2007	4/26/2007	100
9/2/2010	9/2/2010			PM Submit Concept Report	11/10/2009	11/10/2009	100
9/3/2010	9/16/2010	5/13/2011	5/26/2011	Concept Report Review and Comments			0
9/16/2010	9/16/2010	5/26/2011	5/26/2011	**Management Concept Approval Complete**			0
			5/12/2011	Value Engineering Study	7/29/2010		83
				Public Information Open House Held	5/26/2005	5/26/2005	100
9/17/2010	4/14/2011		8/18/2011	**Environmental Approval**	5/4/2010		20
11/5/2010	11/25/2010			Mapping	9/10/2010	9/10/2010	100
11/29/2010	12/31/2010			Field Surveys/SDE	5/10/2010	10/10/2010	100
1/5/2011	7/19/2011		9/5/2011	**Preliminary Plans**	9/10/2010		30
4/13/2011	7/19/2011	5/31/2011	9/5/2011	Preliminary Bridge Design			0
9/17/2010	1/27/2011	5/27/2011	10/6/2011	Underground Storage Tanks			0
12/8/2011	3/21/2012	1/25/2012	5/8/2012	404 Permit Obtainment			0
8/10/2011	8/11/2011	9/27/2011	9/28/2011	PFPR Inspection			0
8/12/2011	11/3/2011	9/29/2011	12/21/2011	R/W Plans Preparation			0
11/4/2011	12/7/2011	12/22/2011	1/24/2012	**R/W Plans Final Approval**			0
9/19/2011	9/21/2011	11/4/2011	11/8/2011	L & D Approval			0
12/8/2011	12/8/2011	1/25/2012	1/25/2012	R/W Authorization			0
3/16/2012	3/29/2012	5/3/2012	5/16/2012	Stake R/W			0
10/12/2012	3/6/2013	11/29/2012	4/23/2013	Soil Survey			0
7/20/2011	4/23/2012	9/6/2011	6/8/2012	Bridge Foundation Investigation			0
9/22/2011	3/5/2013	11/9/2011	4/22/2013	**Final Design**			0
4/24/2012	1/28/2013	6/11/2012	3/15/2013	Final Bridge Plans Preparation			0
6/26/2013	6/27/2013	8/13/2013	8/14/2013	FFPR Inspection			0
7/11/2013	7/24/2013	8/28/2013	9/10/2013	Submit FFPR Responses (OES)			0

PROGRAMMED FUNDS

Activity	Approved	Proposed	Cost	Fund	Status	Date Auth
PE	2010	2010	1,000,000.08	C230	AUTHORIZED	5/11/2005
PE	2005	2005	90,000.00	Q23	AUTHORIZED	5/11/2005
ROW	LOCL	2012	100,000.00	LOC	PRECST	
CST	LR	2016	47,803,702.75	L110	PRECST	

Cost Estimate Amount

Activity	Amount	Date
PE	$90,000.00	
PE	$1,000,000.08	
ROW	$100,000.00	
CST	$40,000,000.00	2/7/2007

STIP AMOUNTS

Activity	Cost	Fund
PE	0.00	Q23
PE	1,000,000.00	C230
ROW	0.00	LOC
CST	0.00	L110

Bridge:	BRIDGE REQUIRED
Design:	Alignment selected: Consultant preparing for V.E. Sch 3/2010
EIS:	CE Anticipated|ROW date DEC '11|LB 2.17.11
LGPA:	PMA SGN CHATHAM DO PE & UTIL|ROW & CST TO BE DONE BY FUTURE AGREEMENTS 10-28-05
Prog. Develop:	ARRA ADM MOD 8-5-09
Programming:	#1 9-05|#2 12-09|#3 3-2010|#4 9-2010
Traffic Op:	SEND LOCAL PLANS FOR REVIEW AT PFPR/FFPR
Utility:	SUE(2-9-11) SUE plans to utils 3/17/11
EMG:	BRIDGE REPLACEMENT
Conceptual Desig:	BC=No Additional Capacity
Engr Services:	Final VE Report distributed 10/20/10, Waiting on Responses

District Comments

TAS/PIOH held on 5-26-05/9-26-05/working on concept (contract is for concept only)/11-15-06/concept report in UD/2-12-07/concept mtg 4-26-07/9-24-07/working on concept report Local, to request RFQ 10-1-09, begin design of bridge 2010. Chatham County selected LPA to do Pre. Eng. Preparing for V. E. Study 3/08/10. Revised Concept in circulation. Concept submitted to L&D 7-30-10 V.E. Study held 10-4-10. Addressing V.E. comments. Environ. Doc. anticipated in Early Summer 2011, preparing for PFPR in August 2011

Prel. Parcel CT:	6	**Total Parcel in ROW System:**		**Cond. Filed:**		**Acquired by:**	LOC	*DEEDS CT:*
Under Review:		**Options - Pending:**		**Relocations:**		**Acquisition MGR:**	Cravey, Mack (LOC)	
Released:		**Condemnations- Pend:**		**Acquired:**		**R/W Cert Date:**		