

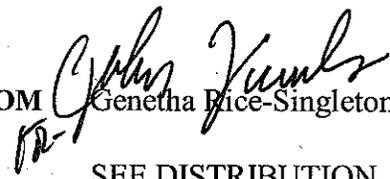
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

**FILE** P. I. No. 522920-, Chatham County  
NH000-0009-00(093)  
SR 404 Spur/US 17 @ Back River-  
Bridge Replacement

**OFFICE** Preconstruction

**DATE** March 12, 2009

**FROM**  Genetha Rice-Singleton, Assistant Director of Preconstruction

**TO** SEE DISTRIBUTION

**SUBJECT** APPROVED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

Attachment

DISTRIBUTION:

Ron Wishon  
Glenn Bowman  
Ken Thompson  
Michael Henry  
Keith Golden  
Glenn Durrence  
Paul Liles  
Brad Saxon  
Ben Buchan  
Albert Welch  
BOARD MEMBER

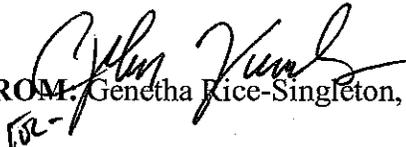
**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENTAL CORRESPONDENCE**

**FILE:** P.I. No. 522920-, Chatham County  
NH000-0009-00(093)  
S.R. 404 Spur/US 17 @ Back River-  
Bridge Replacement

**OFFICE:** Preconstruction

**DATE:** February 11, 2009

  
**FROM:** Genetha Rice-Singleton, Assistant Director of Preconstruction

**TO:** Gerald M. Ross, P.E., Chief Engineer

**SUBJECT: PROJECT CONCEPT REPORT**

This project is the replacement of a structurally deficient bridge on S.R. 404 Spur/US 17 over Back River, 1.0 miles north of Savannah, Georgia. The south approach ties directly into the Talmadge Memorial Bridge, which crosses the Front River into Savannah. The existing bridge connects Hutchinson Island with South Carolina and has a length of approximately 3204'. The existing bridge, constructed in 1954, has a sufficiency rating of 40. S.R. 404 Spur/US 17 has two-way traffic and is a two-lane facility and part of the National Highway System. The corridor is not part of the Statewide Bicycle Plan, but is a designated bikeway known as the East Coast Greenway. The base year traffic (2010) along this section of roadway is 19,800 VPD. The design year (2030) volumes are projected to be 35,900 VPD. The proposed speed design is 45 MPH.

The project will replace the existing bridge with a new bridge (3204' x 43.25') on the west side of the existing bridge. This bridge will consist of two, 12' lanes with 8' outside shoulders along with appropriate barriers. The 8' shoulder on the deck will be bicycle friendly and accommodate the East Coast Greenway. An auxiliary lane to exit southbound onto Hutchinson Island is proposed on the west side of the bridge. The northbound access from Hutchinson Island will remain stop controlled condition with an improved sight distance angle. The proposed roadway on the north bank in South Carolina will continue the two lane facility and will tie into the existing roadway approximately 1545' north of the proposed bridge. The ultimate design for this crossing will include two parallel spans, providing a four lane facility to adequately handle the projected traffic. Traffic will be maintained on the existing bridge during construction.

Environmental concerns include requiring a COE 404 permit; a Categorical Exclusion will be prepared; a Public hearing is not required; Time saving procedures are appropriate.

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C)	\$ 19,079,631	\$ 45,457,626	LY10S/L1C0	2012
Right-of-way	\$ 10,000	\$ 1,348,480	LY10S	2008
Utilities	\$ -0-			

\* South Carolina signed Bi-State Agreement for 10% CST and PE costs/ both Georgia and SC to do right-of-way, utilities and approaches on respective sides.

I recommend this project concept be approved.

GRS: JDQ  
Attachment

CONCUR

*Michael R. Smith* <sup>to Board</sup>  
\_\_\_\_\_  
Director of Preconstruction

APPROVED

*Gerald M. Ross*  
\_\_\_\_\_  
Gerald M. Ross, P.E., Chief Engineer

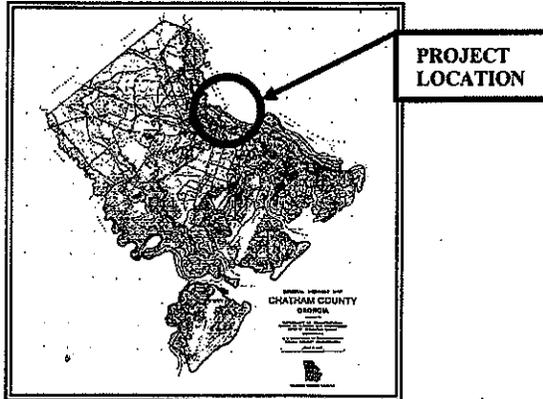
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Urban Design

PROJECT CONCEPT REPORT

Back River Bridge Replacement  
Project Number: NH000-0009-02(093)  
County: Chatham  
P. I. Number: 522920

Federal Route Number: 17  
State Route Number: 404 Spur



Recommendation for approval:

DATE 19 Nov 08

Albert S. White  
Project Manager

DATE 11/21/2008

James B. Beck  
State Urban Design Engineer

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

DATE 12/3/08

Angela J. Alexander  
State Transportation Planning Administrator

DATE \_\_\_\_\_

State Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

District Engineer

DATE \_\_\_\_\_

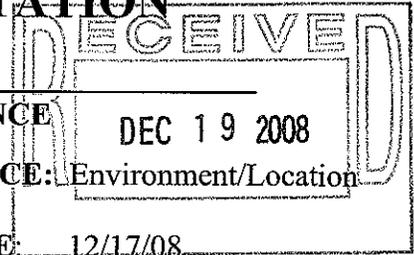
Project Review Engineer

DATE \_\_\_\_\_

State Bridge and Structural Design Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE



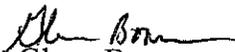
FILE: P.I. No. 522920

OFFICE: Environment/Location

PROJECT No. NH000-0009-02(093) / CHATHAM  
County

DATE: 12/17/08

Back River Bridge Replacement @ SR 404 Spur and US 17

FROM:   
Glenn Bowman, P.E., State Environmental/Location Engineer  
TO: Genetha Rice-Singleton, Assistant Director of Preconstruction  
SUBJECT: PROJECT CONCEPT REPORT REVIEW

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

1. See "Environmental Concerns" in concept report. The historic vessel has been mitigated. The bridge is listed as Not Eligible in the GHBS.
2. Based on the remaining tasks (completion of Coast Guard coordination, completion of Section 7 consultations with National Marine Fisheries Service, and completion of the Categorical Exclusion), this office is not on schedule for a May '09 ROW authorization date. We currently expect the CE to be approved by May 09.

If you have any questions, please contact Glenn Bowman at (404) 699-4401.

GB:lc

cc: Ron Wishon  
Angela Whitworth  
Keith Golden  
Angela Alexander  
Ben Buchan  
Paul Liles

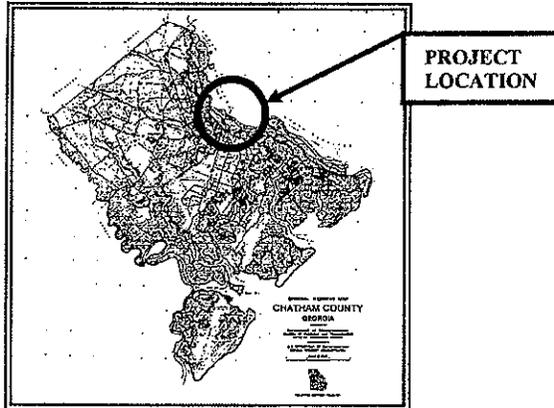
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Urban Design

PROJECT CONCEPT REPORT

Back River Bridge Replacement  
Project Number: NH000-0009-02(093)  
County: Chatham  
P. I. Number: 522920

Federal Route Number: 17  
State Route Number: 404 Spur



Recommendation for approval:

DATE 19 Nov 08

Albert S. Walker  
Project Manager

DATE 11/21/2008

James B. Beck  
State Urban Design Engineer

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Financial Management Administrator

DATE 12/17/08

Mike Brown  
State Environmental/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
District Engineer

DATE \_\_\_\_\_

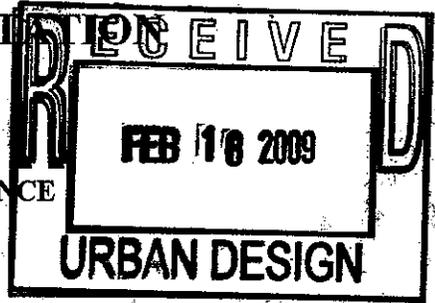
\_\_\_\_\_  
Project Review Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Bridge and Structural Design Engineer

BUCHAN	_____
HASTY	_____
RICHARDSON	<u>Butch</u>
VANMETER	_____
OTHER	_____
GROUPS	_____
FILE	_____
_____	_____
_____	_____

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**



INTERDEPARTMENT CORRESPONDENCE

*BWS*

DATE February 16, 2009

**FROM** Glenn W. Durrence, P.E., District Engineer

**TO** James B. Buchan, P.E., State Urban Design Engineer  
Attn: Butch Welch

**SUBJECT** Back River Bridge Replacement  
NH000-0009-02(093), PI 522920-, Chatham County

Attached is the signature page for the above project. The District has reviewed the concept report and would like to offer the following comment:

District Construction Office – The tie-in point is a short between the Back River Bridge and the Talmadge Bridge. If the new bridge is approximately 3 feet higher to obtain freeboard clearance, half or more of the elevation difference needs to be accounted for on the bridge on the Talmadge side. This will allow for a better tie-in to the existing roadway, ramps and Talmadge Bridge itself, while maintaining traffic.

District Utilities Office - Based upon the information that I have there are no utilities attached to the existing bridge. Also, the construction cost estimate has \$0 for the reimbursable utilities on this project. That figure did not come from our office and we cannot assure without further research that there will not be something on the west side that is eligible for reimbursement. The majority of the project is covered with water, so there will not be any visible markers or pylons present to distinguish the utility facility locations. That determination will have to be made when existing utility plans are returned. You may also want to consider sending the concept to all the utility companies and ask if they have any existing facilities that are eligible for reimbursement on this project.

Should you have any questions, please contact the District Office at (912) 427-5788.

Attachment

GWD:BWS:TAS:tas

CC: Will Murphy, District Construction Engineer, Jesup  
Karon Ivery, District Utilities Engineer, Jesup  
Troy Pittman, Area Engineer, Savannah  
File

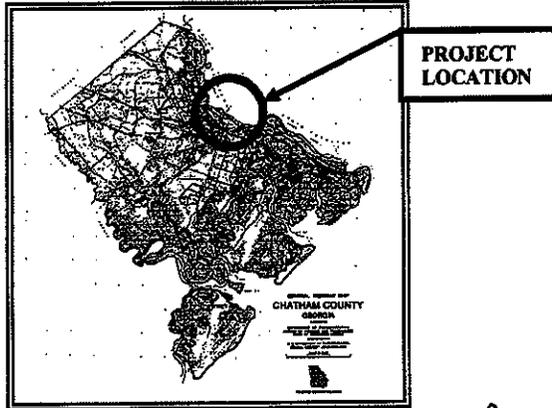
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

Urban Design

PROJECT CONCEPT REPORT

Back River Bridge Replacement  
Project Number: NH000-0009-02(093)  
County: Chatham  
P. I. Number: 522920

Federal Route Number: 17  
State Route Number: 404 Spur



Recommendation for approval:

DATE 19 Nov 08

Albert S. White  
Project Manager

DATE 11/21/2008

Jamie B. Beck  
State Urban Design Engineer

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Financial Management Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environmental/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety and Design Engineer

DATE 2/16/09

[Signature]  
District Engineer

DATE \_\_\_\_\_

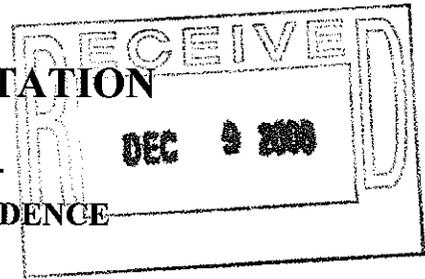
\_\_\_\_\_  
Project Review Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Bridge and Structural Design Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENTAL CORRESPONDENCE**



**FILE** NH000-0009-02(093), Chatham County **OFFICE** Urban Design  
SR404SP/ US17 @ Back River Bridge Replacement  
P.I. No. 522920 **DATE** November 19, 2008

**FROM**   
James B. Buchan, P. E., State Urban Design Engineer

**TO** Genetha Rice-Singleton, Assistant Director of Preconstruction

**SUBJECT** Project Concept Report

Attached is the original copy of the Concept Report for your further handling for approval in accordance with the Plan Development Process (PDP).

This project will replace the structurally deficient bridge located on SR404SP/ US17, over Back River, one mile north of Savannah. The length of the total project is approximately 1.0 mile.

If you have any questions, please contact Albert Welch or Dexter Whaley at 404-631-1977.

JBB:ASW:dlw *ASW*

Attachment

cc: Angela Alexander, State Transportation Planning Administrator, w/ attachment  
Angela Whitworth, Financial Management Administrator, w/ attachment  
Glenn Bowman, P. E., State Environmental/Location Engineer, w/ attachment  
Keith Golden, P. E., State Traffic Safety and Design Engineer, w/ attachment  
Glenn Durrence, P. E., District 5 Engineer, w/ attachment  
Brian Summers, P. E., Project Review Engineer, w/ attachment  
Paul Liles, P. E., State Bridge and Structural Design Engineer, w/ attachment

# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

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INTERDEPARTMENT CORRESPONDENCE

**FILE** PROJECT No. NH000-0009-02(093), Chatham County  
SR 404 Spur/US 17 @ Back River  
P.I. No. 522920

**OFFICE** Urban Design

**DATE** 11/17/2008

**FROM** James B. Buchan, P.E., State Urban Design Engineer

**TO** Ronald E. Wishon Acting Project Review Engineer

**SUBJECT** REVISIONS TO PROGRAMMED COSTS

PROJECT MANAGER: Albert Welch

MNGT LET DATE: 7/15/2011

MNGT R/W DATE: 5/15/2009

**PROGRAMMED COST (TPro W/OUT INFLATION)**

**LAST ESTIMATE UPDATE**

CONSTRUCTION \$ 27,612,020.00

DATE 1/3/2007

RIGHT OF WAY \$ 1,075,000.00

DATE 12/1/2006

UTILITIES \$Enter Utility Cost

DATE Select Date

**REVISED COST ESTIMATES**

CONSTRUCTION\* \$ 19,079,630.92

RIGHT OF WAY \$ 10,000.00

UTILITIES\*\* \$Enter Revised Utility Cost

\* Costs contain 5% Engineering and Inspection, 5% Construction Contingencies, and Fuel & Liquid AC Adjustments.

\*\* Costs contain \_\_\_% contingency.

**REASON FOR COST INCREASE** Minimal ROW will be required for this project. Bridge cost reduced due to scope change from a 4-lane single structure to a 2-lane single structure.



## Estimate Report for file "522920\_080715GA"

### Section Major Structures

Item Number	Quantity	Units	Unit Price	Item Description	Cost
000-0001	128025	SF	90.00	PROPOSED BRIDGE - 2 LANES 3289 ft x 43.25 ft x 90%	11522250.00
000-0001	6440	SF	90.00	PROPOSED BRIDGE - 400 ft DECELERATION LANE w/ 100 ft TAPER	579600.00
000-0002	93717	SF	25.00	REMOVAL OF EXISTING BRIDGE 3204 ft x 32.5 ft x 90%	2342925.00
<b>Section Sub Total:</b>					<b>\$14,444,775.00</b>

### Section Roadway Items

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1010	1	LS	450000.00	TRAFFIC CONTROL - NH-009-2(93) 90%	450000.00
153-1300	1	EA	67500.00	FIELD ENGINEERS OFFICE TP 3 90%	67500.00
210-0100	1	LS	90000.00	GRADING COMPLETE - NH-009-2(93)	90000.00
310-1101	1386	TN	21.00	GR AGGR BASE CRS, INCL MATL	29106.00
402-1812	32	TN	83.02	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	2656.64
402-3121	440	TN	62.68	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	27579.20
402-3130	273	TN	62.42	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	17040.66
402-3190	388	TN	77.04	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	29891.52
413-1000	66	GL	5.55	BITUM TACK COAT	366.30
433-1000	155	SY	151.25	REINF CONC APPROACH SLAB	23443.75
641-1100	250	LF	35.99	GUARDRAIL, TP T	8997.50
641-5012	2	EA	1687.27	GUARDRAIL ANCHORAGE, TP 12	3374.54
<b>Section Sub Total:</b>					<b>\$749,956.11</b>

### Section Signing and Marking

Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1020	30	SF	36.30	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	1089.00
636-1031	4	SF	52.15	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING TP 6	208.60
636-2070	35	LF	9.43	GALV STEEL POSTS, TP 7	330.05
636-2090	20	LF	10.49	GALV STEEL POSTS, TP 9	209.80
653-0120	7	EA	62.83	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	439.81
653-0210	7	EA	101.31	THERMOPLASTIC PVMT MARKING, WORD, TP 1	709.17
653-1501	9395	LF	0.39	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	3664.05
653-1502	7695	LF	0.39	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	3001.05
653-1704	30	LF	5.75	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	172.50
653-3501	118	GLF	0.28	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	33.04
653-4501	2	GLM	712.14	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	1424.28
653-6004	194	SY	3.45	THERMOPLASTIC TRAF STRIPING, WHITE	669.30
654-1001	20	EA	5.75	RAISED PVMT MARKERS TP 1	115.00
654-1003	65	EA	5.75	RAISED PVMT MARKERS TP 3	373.75
<b>Section Sub Total:</b>					<b>\$12,439.40</b>

### Section Erosion Control

Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	1	AC	632.74	TEMPORARY GRASSING	632.74
163-0240	24	TN	310.62	MULCH	7454.88
163-0300	1	EA	1822.17	CONSTRUCTION EXIT	1822.17
163-0503	2	EA	516.75	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3	1033.50
163-0530	64	LF	5.61	CONSTRUCT AND REMOVE BALED STRAW EROSION CHECK	359.04
				CONSTRUCT AND REMOVE SEDIMENT BASIN, TP	

163-0531	2	EA	7859.28	1, STA NO -	15718.56
163-0550	1	EA	340.36	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	340.36
165-0030	158	LF	1.31	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	206.98
165-0060	1	EA	1082.46	MAINTENANCE OF TEMPORARY SEDIMENT BASIN, STA NO -	1082.46
165-0070	64	LF	4.67	MAINTENANCE OF BALED STRAW EROSION CHECK	298.88
165-0087	1	EA	170.22	MAINTENANCE OF SILT CONTROL GATE, TP 3	170.22
165-0101	1	EA	481.42	MAINTENANCE OF CONSTRUCTION EXIT	481.42
165-0105	1	EA	312.10	MAINTENANCE OF INLET SEDIMENT TRAP	312.10
167-1000	1	EA	3110.78	WATER QUALITY MONITORING AND SAMPLING	3110.78
171-0030	3162	LF	5.61	TEMPORARY SILT FENCE, TYPE C	17738.82
603-2024	24	SY	82.91	STN DUMPED RIP RAP, TP 1, 24 IN	1989.84
603-2181	32	SY	37.73	STN DUMPED RIP RAP, TP 3, 18 IN	1207.36
603-7000	55	SY	6.20	PLASTIC FILTER FABRIC	341.00
700-7000	2	TN	72.48	AGRICULTURAL LIME	144.96
700-7010	44	GL	18.72	LIQUID LIME	823.68
700-8000	2	TN	339.38	FERTILIZER MIXED GRADE	678.76
710-9000	111	SY	5.52	PERMANENT SOIL REINFORCING MAT	612.72
715-2200	221	SY	2.12	BITUMINOUS TREATED ROVING, WATERWAYS	468.52
716-2000	395	SY	1.12	EROSION CONTROL MATS, SLOPES	442.40
<b>Section Sub Total:</b>					<b>\$57,472.15</b>

**Total Estimated Cost: \$15,264,642.66**

**Subtotal Construction Cost \$15,264,642.66**

E&C Rate 10.0 % \$1,526,464.27

Inflation Rate 0.0 % @ 0 Years \$0.00

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**Total Construction Cost \$16,791,106.93**

Right Of Way \$0.00

ReImb. Utilities \$0.00

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**Grand Total Project Cost \$16,791,106.93**

**Estimate Report for file "522920\_080715SC"**

<b>Section Major Structures</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
000-0001	14225	SF	90.00	PROPOSED BRIDGE - 2 LANES 3289 ft x 43.25 ft x 10%	1280250.00
000-0002	10413	SF	25.00	REMOVAL OF EXISTING BRIDGE 3204 ft x 32.5 ft x 10%	260325.00
<b>Section Sub Total:</b>					<b>\$1,540,575.00</b>

<b>Section Roadway Items</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1010	1	LS	50000.00	TRAFFIC CONTROL - NH-009-2(93) 10%	50000.00
153-1300	1	EA	7500.00	FIELD ENGINEERS OFFICE TP 3 10%	7500.00
210-0100	1	LS	100000.00	GRADING COMPLETE - NH-009-2(93)	100000.00
310-1101	2115	TN	21.00	GR AGGR BASE CRS, INCL MATL	44415.00
402-1812	68	TN	83.02	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	5645.36
402-3121	510	TN	62.68	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	31966.80
402-3130	297	TN	62.42	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	18538.74
402-3190	397	TN	77.04	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	30584.88
413-1000	85	GL	5.55	BITUM TACK COAT	471.75
433-1000	155	SY	151.25	REINF CONC APPROACH SLAB	23443.75
641-1100	550	LF	35.99	GUARDRAIL, TP T	19794.50
641-5012	2	EA	1687.27	GUARDRAIL ANCHORAGE, TP 12	3374.54
<b>Section Sub Total:</b>					<b>\$335,735.32</b>

<b>Section Signing and Marking</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1020	30	SF	36.30	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	1089.00
636-1031	4	SF	52.15	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING TP 6	208.60
636-2070	35	LF	9.43	GALV STEEL POSTS, TP 7	330.05
636-2090	20	LF	10.49	GALV STEEL POSTS, TP 9	209.80
653-0120	3	EA	62.83	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	188.49
653-0210	3	EA	101.31	THERMOPLASTIC PVMT MARKING, WORD, TP 1	303.93
653-1501	2470	LF	0.39	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	963.30
653-1502	2310	LF	0.39	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	900.90
653-3501	32	GLF	0.28	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	8.96
654-1003	15	EA	5.75	RAISED PVMT MARKERS TP 3	86.25
<b>Section Sub Total:</b>					<b>\$4,289.28</b>

<b>Section Erosion Control</b>					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	2	AC	632.74	TEMPORARY GRASSING	1265.48
163-0240	52	TN	310.62	MULCH	16152.24
163-0300	2	EA	1822.17	CONSTRUCTION EXIT	3644.34
163-0503	3	EA	516.75	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3	1550.25
163-0530	137	LF	5.61	CONSTRUCT AND REMOVE BALED STRAW EROSION CHECK	768.57
163-0531	2	EA	7859.28	CONSTRUCT AND REMOVE SEDIMENT BASIN, TP 1, STA NO -	15718.56
163-0550	2	EA	340.36	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	680.72
165-0030	342	LF	1.31	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	448.02
165-0060	2	EA	1082.46	MAINTENANCE OF TEMPORARY SEDIMENT BASIN, STA NO -	2164.92
165-0070	137	LF	4.67	MAINTENANCE OF BALED STRAW EROSION CHECK	639.79

165-0087	2	EA	170.22	MAINTENANCE OF SILT CONTROL GATE, TP 3	340.44
165-0101	2	EA	481.42	MAINTENANCE OF CONSTRUCTION EXIT	962.84
165-0105	2	EA	312.10	MAINTENANCE OF INLET SEDIMENT TRAP	624.20
167-1000	2	EA	3110.78	WATER QUALITY MONITORING AND SAMPLING	6221.56
171-0030	6838	LF	5.61	TEMPORARY SILT FENCE, TYPE C	38361.18
603-2024	52	SY	82.91	STN DUMPED RIP RAP, TP 1, 24 IN	4311.32
603-2181	69	SY	37.73	STN DUMPED RIP RAP, TP 3, 18 IN	2603.37
603-7000	120	SY	6.20	PLASTIC FILTER FABRIC	744.00
700-7000	4	TN	72.48	AGRICULTURAL LIME	289.92
700-7010	96	GL	18.72	LIQUID LIME	1797.12
700-8000	3	TN	339.38	FERTILIZER MIXED GRADE	1018.14
710-9000	240	SY	5.52	PERMANENT SOIL REINFORCING MAT	1324.80
715-2200	479	SY	2.12	BITUMINOUS TREATED ROVING, WATERWAYS	1015.48
716-2000	855	SY	1.12	EROSION CONTROL MATS, SLOPES	957.60
<b>Section Sub Total:</b>					<b>\$103,604.86</b>

**Total Estimated Cost: \$1,984,204.46**

**Subtotal Construction Cost \$1,984,204.46**

E&C Rate 10.0 % \$198,420.45

Inflation Rate 0.0 % @ 0 Years \$0.00

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**Total Construction Cost \$2,182,624.91**

Right Of Way \$0.00

ReImb. Utilities \$0.00

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**Grand Total Project Cost \$2,182,624.91**

**Special Provision, Section 109-Measurement and Payment  
FUEL PRICE ADJUSTMENT (ENGLISH 125% MAX)**

ENTER FPL DIESEL	2.732
ENTER FPM DIESEL	6.147

ENTER FPL UNLEADED	1.729
ENTER FPM UNLEADED	3.89025

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

<b>INCREASE ADJUSTMENT</b>
125.00%

<b>INCREASE ADJUSTMENT</b>
125.00%

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 (CUBIC YARD)		0.29		0.15		N/A
Excavations paid as specified by Sections 206 (CUBIC YARD)		0.29		0.15		N/A
GAB paid as specified by the ton under Section 310 (TON)	3501.000	0.29	1015.29	0.24	840.24	
Hot Mix Asphalt paid as specified by the ton under Sections 400 (TON)		2.90		0.71		N/A
Hot Mix Asphalt paid as specified by the ton under Sections 402 (TON)	2405.000	2.90	6974.50	0.71	1707.55	
PCC Pavement paid as specified by the square yard under Section 430 (SY)		0.25		0.20		N/A

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		N/A
Class __ Concrete (CY) Section 500				8.00		1.50		N/A
Class __ Concrete (CY) Section 500				8.00		1.50		N/A
Class __ Concrete (CY) Section 500				8.00		1.50		N/A
Superstru Con C class__(CY) Section 500				8.00		1.50		N/A
Superstru Con C class__(CY) Section 500				8.00		1.50		N/A
Superstru Con C class__(CY) Section 500				8.00		1.50		N/A
Concrete Handrail (LF) Section 500				8.00		1.50		N/A
Concrete Barrier (LF) Section 500				8.00		1.50		N/A

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50		N/A
Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50		N/A
PSC Beams____ (LF) Section 507				8.00		1.50		N/A
PSC Beams____ (LF) Section 507				8.00		1.50		N/A
PSC Beams____ (LF) Section 507				8.00		1.50		N/A
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50		N/A
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50		N/A
Bar Reinf Steel (LB) Section 511				8.00		1.50		N/A
Piling____ inch (LF) Section 520				8.00		1.50		N/A
Piling____ inch (LF) Section 520				8.00		1.50		N/A
Piling____ inch (LF) Section 520				8.00		1.50		N/A
Piling____ inch (LF) Section 520				8.00		1.50		N/A
Piling____ inch (LF) Section 520				8.00		1.50		N/A
Piling____ inch (LF) Section 520				8.00		1.50		N/A
Drilled Caisson____ (LF) Section 524				8.00		1.50		N/A
Drilled Caisson____ (LF) Section 524				8.00		1.50		N/A
Drilled Caisson____ (LF) Section 524				8.00		1.50		N/A
Pile Encasement____ (LF) Section 547				8.00		1.50		N/A
Pile Encasement____ (LF) Section 547				8.00		1.50		N/A
<b>SUM QF DIESEL=</b>				<b>7989.79</b>	<b>SUM QF UNLEADED=</b>		<b>2547.79</b>	
<b>DIESEL PRICE ADJUSTMENT(\$)</b>					<b>\$25,102.32</b>			
<b>UNLEADED PRICE ADJUSTMENT(\$)</b>					<b>\$5,065.90</b>			



## ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

ENTER APL

ENTER APM

125.00%	INCREASE ADJUSTMENT
---------	---------------------

Use this side for Asphalt Emulsion Only		
L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)
N/A		
TMT = <input style="width: 100px;" type="text"/>		
REMARKS:		

Use this side for Asphalt Cement Only		
L.I.N.	TYPE	TACK (GALLONS)
N/A		
TMT = <input style="width: 100px;" type="text"/>		
REMARKS:		

MONTHLY PRICE ADJUSTMENT(\$)	
------------------------------	--

### ADJUSTMENT SUMMARY

FUEL PRICE ADJUSTMENT (ENGLISH 125% MAX)

DIESEL PRICE ADJUSTMENT(\$) \$25,102.32

UNLEADED PRICE ADJUSTMENT(\$) \$5,065.90

ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX) \$406.26

400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX \$75,324.60

ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

REMARKS:	
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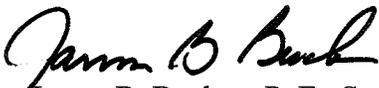
<b>TOTAL ADJUSTMENTS</b>	<b>\$105,899.08</b>
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**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENTAL CORRESPONDENCE**

**FILE** NH000-0009-02(093), Chatham County                      **OFFICE** Urban Design  
SR404SP/ US17 @ Back River Bridge Replacement  
P.I. No. 522920    **DATE** November 19, 2008

**FROM**   
James B. Buchan, P. E., State Urban Design Engineer

**TO** Genetha Rice-Singleton, Assistant Director of Preconstruction

**SUBJECT** **Project Concept Report**

Attached is the original copy of the Concept Report for your further handling for approval in accordance with the Plan Development Process (PDP).

This project will replace the structurally deficient bridge located on SR404SP/ US17, over Back River, one mile north of Savannah. The length of the total project is approximately 1.0 mile.

If you have any questions, please contact Albert Welch or Dexter Whaley at 404-631-1977.

JBB:ASW:dlw 

Attachment

cc: Angela Alexander, State Transportation Planning Administrator, w/ attachment  
Angela Whitworth, Financial Management Administrator, w/ attachment  
Glenn Bowman, P. E., State Environmental/Location Engineer, w/ attachment  
Keith Golden, P. E., State Traffic Safety and Design Engineer, w/ attachment  
Glenn Durrence, P. E., District 5 Engineer, w/ attachment  
Brian Summers, P. E., Project Review Engineer, w/ attachment  
Paul Liles, P. E., State Bridge and Structural Design Engineer, w/ attachment

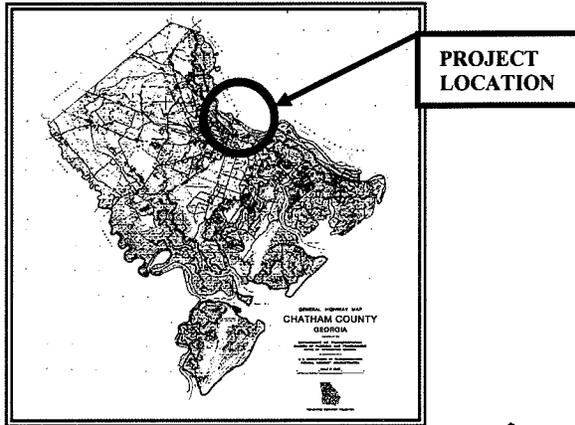
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

*Urban Design*

PROJECT CONCEPT REPORT

Back River Bridge Replacement  
Project Number: NH000-0009-02(093)  
County: Chatham  
P. I. Number: 522920

Federal Route Number: 17  
State Route Number: 404 Spur



Recommendation for approval:

DATE 19 Nov 08

Project Manager

DATE 11/21/2008

State Urban Design Engineer

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

DATE \_\_\_\_\_

State Transportation Planning Administrator

DATE \_\_\_\_\_

State Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

District Engineer

DATE \_\_\_\_\_

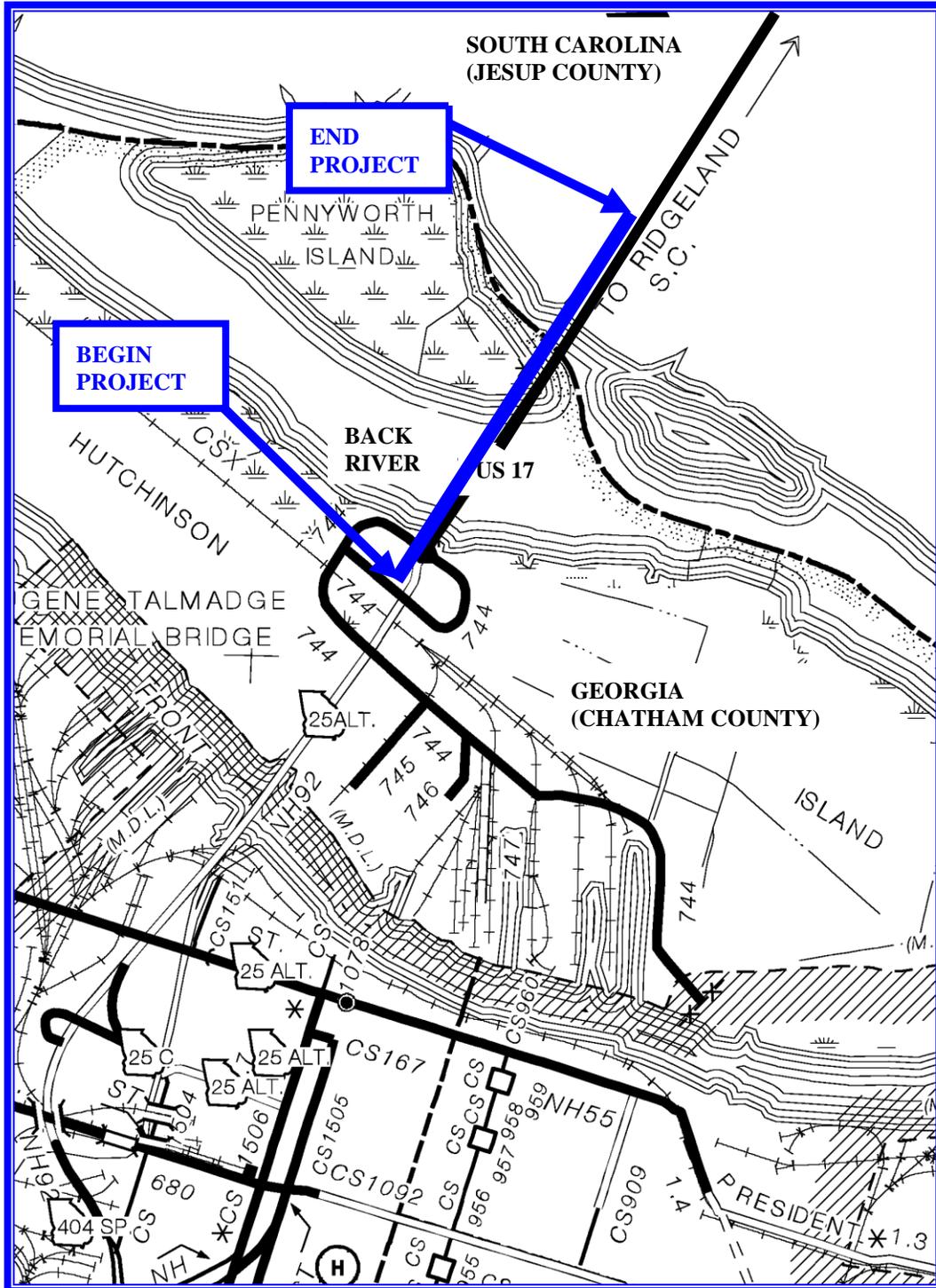
Project Review Engineer

DATE \_\_\_\_\_

State Bridge and Structural Design Engineer



## Project Location



## **Need and purpose:**

### Project Description

Project Number NH000-0009-02(093) will replace the structurally deficient bridge located on SR404 Spur/ US17, over Back River, one mile north of Savannah. The bridge is located in Chatham County, just north of the city limits of Savannah. The existing bridge connects Hutchinson Island with South Carolina and has a length of approximately 3204-ft (please see location map on page two). The project extends for approximately 1.0 mile at road inventory milepost 2.51. This project is listed in the FY 2007-2009 TIP as part of the Chatham Urban Transportation Study, as a bridge replacement.

### Bridge Characteristics

The existing bridge was constructed in 1954. The bridge sufficiency rating is currently 40. The bridge is being replaced as per DOT policy 2405-1. The Office of Bridge Maintenance has determined that any bridge with a bridge sufficiency rating below 50 should be replaced. This project will replace the existing two-lane bridge with a structurally adequate two-lane bridge.

### Route Characteristics

SR404 Spur/ US17 is functionally classified as a rural principal arterial. It lies just beyond the Urban Area Boundaries of the Chatham Urban Transportation Study (CUTS). SR404 Spur/ US17 has two-way traffic and is a two-lane facility. It is part of the National Highway System. It is not a Truck Route, and is not part of the Statewide Bicycle Plan, but it is a designated bikeway known as the East Coast Greenway. The new bridge will be constructed with 8-foot wide bicycle-friendly shoulders that would accommodate this bicycle route. Sidewalks are not planned for the route. The posted speed limit is 55 mph.

### Traffic

The design traffic along this section of roadway is currently 17,600 and projected to be 35,900 in 2030 based on approved Office of Environment and Location estimates.

### Conclusion

Because the bridge is considered structurally deficient, GDOT has proposed project NH000-0009-02(093) to replace the bridge with a new structure. This project has independent utility.

**Description of the proposed project:** This project consists of the replacement of the 3204-ft Back River Bridge and roadway construction on each approach in order to tie the new bridge into the existing roadway. The bridge will be raised approximately three feet for increased freeboard.

This project would construct a new structure on the west side of the existing bridge. This bridge will be a minimum of 43.25-ft wide to include two 12-ft through lanes with 8-ft outside shoulders along with the appropriate barriers. The 8-ft shoulders on the bridge deck will be bicycle friendly and accommodate the East Coast Greenway bicycle trail.

The proposed bridge will tie into Georgia on the south bank, also the north shore of Hutchinson Island. An auxiliary lane to exit southbound onto the island is proposed on the west side of the bridge. The northbound access from Hutchinson Island will remain stop controlled condition with an improved sight distance angle. The two through lanes will tie into the existing roadway on Hutchinson Island approximately 500-ft south of the end of the bridge. This roadway then ties directly into the Talmadge Memorial Bridge, which crosses the Front River into mainland Georgia.

The proposed roadway on the north bank in South Carolina will continue the two-lane facility and will tie into the existing roadway approximately 1545-ft north of the proposed bridge. A northbound auxiliary lane is proposed to provide access to a side roadway on the eastside of the bridge.

All lanes and turning movements will remain open through the construction period.

The project length is 1.0 mile from mile marker 2.51 to mile marker 3.07 on Georgia and from mile marker 0.00 to mile marker 0.44 in South Carolina.

**Is this project located in a Non-attainment area?** Yes \_\_\_\_\_ No  X

**PDP Classification:** Major  X  Minor \_\_\_\_\_

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

**Functional Classification:** Rural Principal Arterial

**U.S. Route Number (s):** 17      **State Route Number(s):** 404 Spur

**Traffic (AADT):**  
Base Year: (2010)  19,800       Design Year (2030)  35,900

### Existing Design Features:

- Typical Section: Two-lane roadway with 12-ft lanes. 3-ft shoulders in South Carolina, variable shoulders in Georgia through Hutchinson Island interchange. Existing bridge has 2-ft shoulders and a total deck width of approximately 32.5-ft.
- Posted speed: 55 mph                      Minimum radius for curve: 3800-ft
- Maximum super-elevation rate for curve: 6.5% Georgia  
2.3% South Carolina
- Maximum grade: 1.70% Georgia, and 5.50% on the Talmadge Memorial Bridge  
1.25% South Carolina
- Width of right of way: Varies from 200-ft on the Georgia side to 300-ft on the South Carolina side.
- Major structures: Structure ID: 051-0059-0, Back River Bridge; structure length 3204-ft (0.61 mi), maximum span length 36-ft, and deck width 34-ft. The current Sufficiency Rating is 40.
- Major interchanges or intersections along the project: Hutchinson Island Interchange.
- Existing length of roadway segment and the beginning mile logs for each county segment: This project is a bridge replacement, the existing bridge length is 3204-ft (0.61 miles) starting at the mile post 2.6 to 3.07 Chatham County, Georgia. The bridge continues for 0.14 miles in Jasper County, South Carolina from mile post 0.00 to 0.14. The project also includes roadway work to tie the new bridge into the existing roadways on the Georgia (south) end, and on the South Carolina (north) end of the proposed bridge.

### Proposed Design Features:

- Proposed typical section(s):  
    Bridge: Two 12-ft lanes with 8-ft shoulders  
    Roadway: Two 12-ft lanes with 10-ft shoulders (6.5-ft to 8-ft paved)
- Proposed Design Speed Mainline: 45 mph
- Proposed Maximum Grade Mainline: 1.70%      Maximum grade allowable: 5 %
- Proposed Maximum grade Side Street: 5 %      Maximum grade allowable: 5 %
- Proposed Minimum radius for curve: 2500-ft
- Proposed Maximum super-elevation rate for curve: 8 %

- Right of way:
  - Width: 200-ft
  - Easements: Temporary ( ), Permanent ( X ), Utility ( ), Other ( ).
  - Type of access control: Full ( ), Partial ( ), By Permit ( X ), Other ( ).
  - Number of parcels  2  Number of displacements:
    - Business:  0
    - Residences:  0
    - Mobile homes:  0
    - Other:  0
- Structures:
  - Bridge: Bulb Tees with columns/footings/cofferdams or caissons
  - Retaining walls: None anticipated at this time
- Major intersections and interchanges: Changes will be made at the Hutchinson Island Interchange to match the new alignment and grade of US17. The proposed northbound on-ramp would remain a stop controlled condition with an improved sight distance angle. The proposed southbound off-ramp would continue to function as a free-flow ramp.
- Traffic control during construction: All traffic movements are expected to remain open through the construction period. The new bridge will be built while the existing bridge remains. Both bridges will be used for staging traffic while the interchange is completed. Once all traffic is moved to the new bridge, the old bridge will be removed.
- Design exceptions to controlling criteria anticipated:

	<u>UNDETERMINED</u>	<u>YES</u>	<u>NO</u>
HORIZONTAL ALIGNMENT	( )	( )	( X )
ROADWAY LENGTH	( )	( )	( X )
SHOULDER WIDTH	( )	( )	( X )
VERTICAL GRADES	( )	( )	( X )
CROSS SLOPES	( )	( )	( X )
STOPPING SIGHT DISTANCE	( )	( )	( X )
SUPERELEVATION RATES	( )	( )	( X )
HORIZONTAL CLEARANCE	( )	( )	( X )
SPEED DESIGN	( )	( )	( X )
VERTICAL CLEARANCE	( )	( )	( X )
BRIDGE WIDTH	( )	( )	( X )
BRIDGE STRUCTURAL CAPACITY	( )	( )	( X )

- Design variances: Shoulder width, and deceleration lane length
- Environmental concerns: Shipwreck, Back River is habitat for threatened and endangered species; CORPS permit for wetlands may be required.

- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes ( ), No (X),
  - Categorical Exclusion (X)
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ( )
  - Environmental Impact Statement (EIS) ( )
- Utility Improvements: none expected

**VE Study Required Yes ( X ) No ( )**

- A Value Engineering Study was conducted and a Final Report dated November 9, 2007 compiled the recommendations. VE Study accepted recommendations were implemented on June 16, 2008.

**Project Responsibilities**

- Design – Qk4
- Environmental – GDOT
- Right of Way Acquisition – Qk4 (MAAI)
- Relocation of Utilities - GDOT
- Letting of Contract - GDOT
- Supervision of construction - GDOT
- Providing material pits - Contractor
- Providing detours (as necessary) – GDOT

**Project Costs Responsibilities**

- Total Project Cost: \$18,973,731.84
- Preliminary engineering: GDOT - 100%
- Cost of new bridge and removal of existing bridge:
  - Total bridge and removal cost: \$15,985,350.00
  - GDOT: 90% (\$14,444,775.00)
  - SCDOT: 10% (\$ 1,540,575.00)
- Roadway approaches in the State of Georgia, including rights of way acquisition, utility relocation, construction, and construction supervision and inspection.
  - GDOT: 100% (\$ 2,346,331.93)
- Roadway approaches in the State of South Carolina, including rights of way acquisition, utility relocation, construction, and construction supervision and inspection.
  - SCDOT: 100% (\$ 642,049.91)

### **Coordination**

- Initial Concept Meeting 09-21-2004 held in Savannah (minutes attached).
- Interagency Meeting 01-19-2005.
- Concept and coordination meeting with South Carolina 06-08-2006 held in Savannah (minutes attached).
- Letter from East Coast Greenway Alliance (ECGA) 03-22-2006 on East Coast Greenway Bike Trail.
- Projects in the area: P.I.No.0003803, MSL00-0003-00(803) PE FOR SECURITY SYSTEMS ON TALMADGE & SIDNEY LANIER BRIDGES. Traffic Operations/ Maintenance project.
- Concept Team Meeting minutes 03-22-2007.
- Post Concept Meeting with GDOT team leaders on 04-25-2007.

### **Scheduling – Responsible Parties’ Estimate**

- Time to complete the environmental process: 14 Months
- Time to complete preliminary construction plans: 8 Months
- Time to complete right of way plans: 3 Months
- Time to complete the Section 404 Permit: 12 Months
- Time to complete final construction plans: 12 Months
- Time to complete purchase of right of way: 6 Months (if required)
- Other major items that will affect the project schedule: None

### **Other alternatives considered:**

Two of the alternatives considered involved a four-lane section. One by replacing the existing two-lane bridge with a single four-lane bridge, and the other by constructing a parallel two-lane bridge and replace the existing bridge. The existing and future traffic on this section of roadway warrants a four-lane section, but four-lane alternatives were rejected because to four-lane this bridge would require an environmental study that would extend several miles north into South Carolina in order to reach a logical termini. South Carolina DOT has identified this project as “long range” and currently has no funding committed for preliminary engineering. Constructing a four-lane bridge at this time would not be cost-effective, since the four-lane facility could not be continued north of the bridge for many years. Also, the existing bridge is not expected to last beyond several more years, thus the additional time required to environmentally clear the extended project into South Carolina may force weight restrictions on the existing bridge before the replacement structure could be constructed.

A third alternative was to construct the parallel two-lane bridge on the east side of the existing structure instead of the preferred west side. This alternative would possibly require the relocation of a fiber optic cable that is located approximately 60-ft east of the existing bridge. Another issue with constructing the parallel bridge on the east side is that tying into the existing facility south of the Back River would require the reconstruction of two or more pony spans on the Talmadge Bridge, since the existing horizontal alignment of the Talmadge Bridge “aims” to the southwest. A parallel structure on the west side of the existing bridge can tie into the existing Talmadge Bridge alignment.

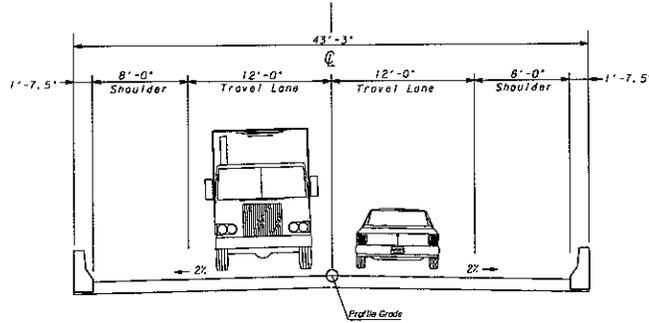
An acceleration lane for the north-bound on ramp from Hutchinson Island was examined. This ramp and acceleration lane would be entirely on structure. Because the structure would cause the bridge to be staged in construction, and because the ramp and acceleration lane would need to be removed once the future 4-lane configuration was built, it was decided to have a stop condition for this traffic movement.

The addition of a southbound deceleration lane to exit onto Hutchinson Island is proposed in this project. Six factors considered were 1) the speed change from the 55-mph through lane to 25-mph for the ramp, 2) this is a State Route facility connecting Georgia and South Carolina and although not a designated Truck Route, the percentage of trucks is high (10%), which is expected to increase due to current Bi-State Port endeavor in Jasper County, 3) the cost to build this auxiliary lane as part of the bridge, 4) the accident rates are below the statewide rates for 2003, 2004 and 2005, 5) the low 2030 Peak Hour Volume of the SB off-ramp (80), although the 2-through lanes are almost at capacity by 2030 (1610 SB and 1680 NB), and 6) the 4% grade of the approach to the Talmadge Memorial Bridge by trucks.

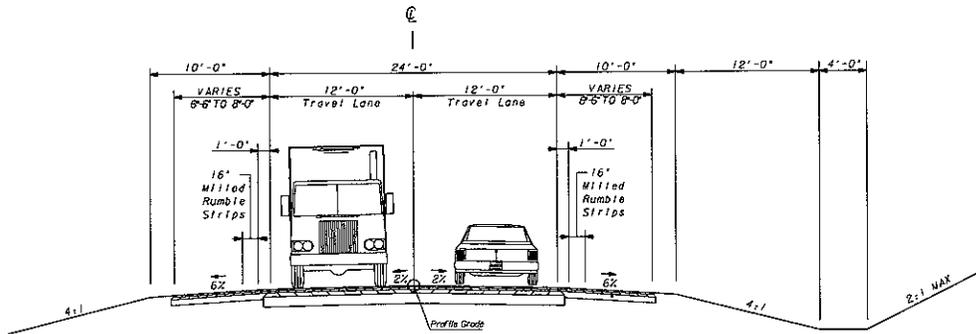
**Attachments:**

1. Cost Estimates, Construction including E&C
2. Typical Sections
3. Concept Layout
4. Accident Data
5. Traffic and Accident analysis
6. Bridge Inventory Data
7. Bi-State Agreement letter to South Carolina
8. Minutes of Initial Concept team meeting on 09-21-04
9. Interagency Quarterly Meeting on 01-19-05
10. East Coast Greenway Alliance letter on bike lanes dated 03-22-06
11. Minutes of Savannah Area coordination meeting on 06-08-06
12. Concept Team Meeting Minutes 03-22-07
13. Minutes from post concept meeting on 04-25-07
14. Implementation of Value Engineering Study Alternatives dated 06-16-08

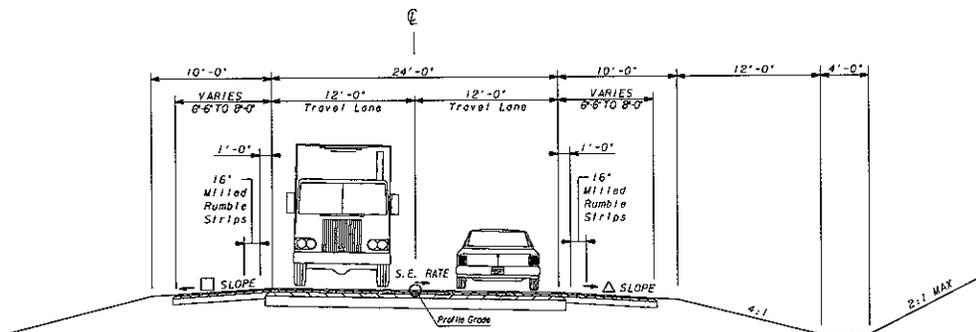
**US 17  
BACK RIVER BRIDGE  
REPLACEMENT  
PROJECT NUMBER NH-009-2(93)  
CHATHAM COUNTY  
P.I. NUMBER 522920**



**Bridge Deck**



NORMAL CROWN SECTION



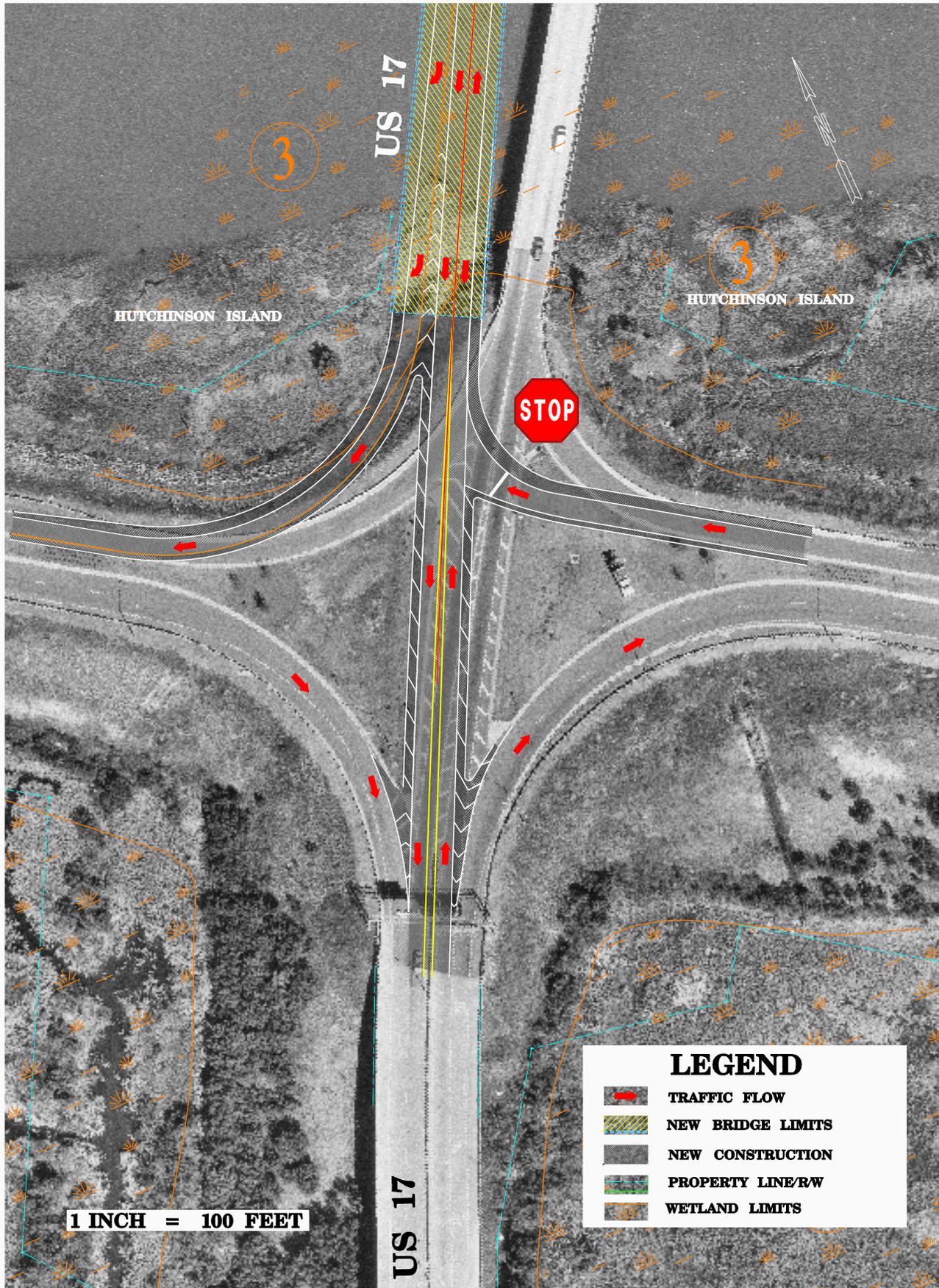
SUPERELEVATED SECTION

**Roadway Approach**

△ SLOPE 6.00% OR RATE OF S. E. WHICHEVER IS GREATER

□ ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 0.08' / FT

**BACK RIVER BRIDGE REPLACEMENT  
NH-009-2(93) P.I. 522920  
CHATHAM COUNTY**



**CONCEPT LAYOUT  
SHEET 1 OF 7**

**BACK RIVER BRIDGE REPLACEMENT  
NH-009-2(93) P.I. 522920  
CHATHAM COUNTY**

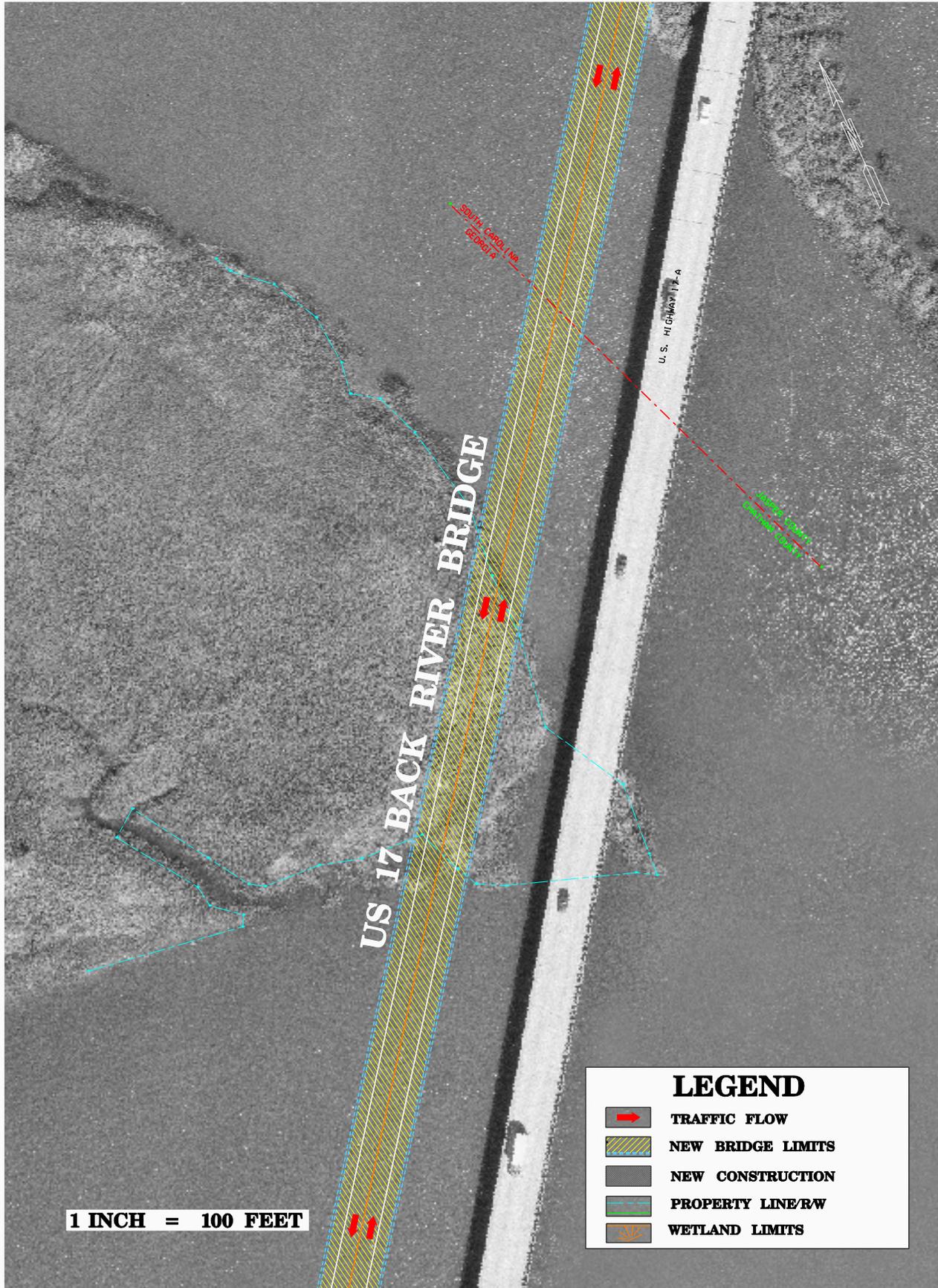


**CONCEPT LAYOUT  
SHEET 2 OF 7**

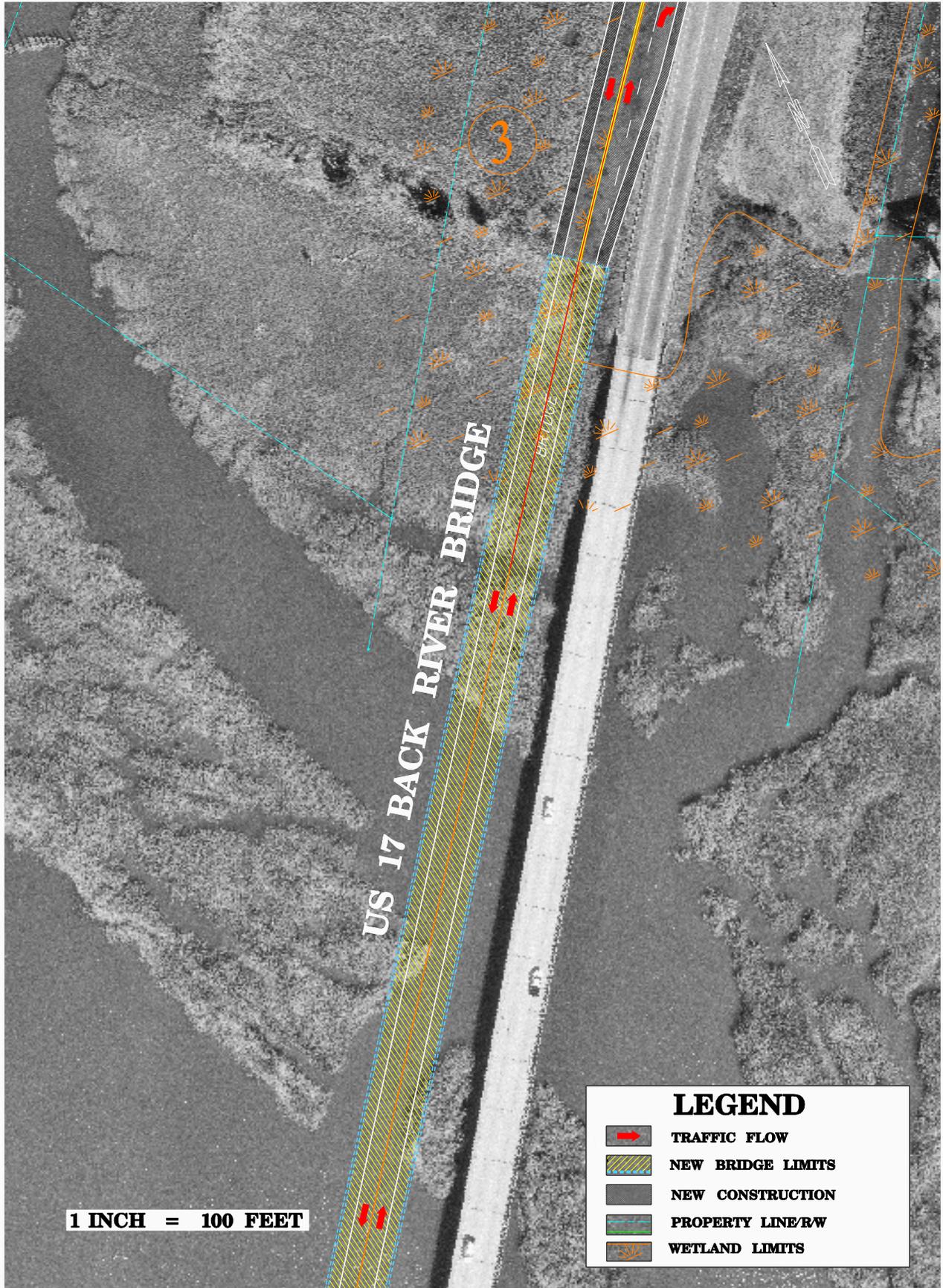
**BACK RIVER BRIDGE REPLACEMENT  
NH-009-2(93) P.I. 522920  
CHATHAM COUNTY**



**BACK RIVER BRIDGE REPLACEMENT**  
**NH-009-2(93) P.I. 522920**  
**CHATHAM COUNTY**



**BACK RIVER BRIDGE REPLACEMENT  
NH-009-2(93) P.I. 522920  
CHATHAM COUNTY**



**BACK RIVER BRIDGE REPLACEMENT  
NH-009-2(93) P.I. 522920  
CHATHAM COUNTY**



**BACK RIVER BRIDGE REPLACEMENT  
NH-009-2(93) P.I. 522920  
CHATHAM COUNTY**



**QUERY SUMMARY**  
For Year(s): 2003,2004,2005

Year	County	Route Type	Route Number	Beginning Milelog	Ending Milelog	No. Accidents	No. Vehicles	No. Injuries	No. Fatalities
2003	Chatham	State Route	0404SP	2.1	3.07	1	2	0	0
2003 SubTotal						1	2	0	0
2004	Chatham	State Route	0404SP	2.1	3.07	0	0	0	0
2004 SubTotal						0	0	0	0
2005	Chatham	State Route	0404SP	2.1	3.07	3	4	2	0
2005 SubTotal						3	4	2	0
All Year(s)Total						4	6	2	0

# ACCIDENT RATE CALCULATION for year(s) 2003, 2004, 2005

## Accident Data Information System

### ACCIDENT RATE CALCULATION 2003

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2003	Chatham	1	0404SP	2.1	2.55	14,700	0.45	6,615
2003	Chatham	1	0404SP	2.55	3.07	12,700	0.52	6,604
Total Vehicle Miles: 13,219		Accident Rate: 21		Statewide Rate: 148				
Average ADT: 13,628		Injury Rate: 0		Statewide Rate: 86				
Length in Miles: 0.97		Fatality Rate: 0.00		Statewide Rate: 1.98				

Rural Principal Arterial

NOTE: Rates are per 100 Million Vehicle Miles

### ACCIDENT RATE CALCULATION 2004

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2004	Chatham	1	0404SP	2.1	2.55	16,820	0.45	7,569
2004	Chatham	1	0404SP	2.55	3.07	14,010	0.52	7,285
Total Vehicle Miles: 14,854		Accident Rate: 0		Statewide Rate: 172				
Average ADT: 15,314		Injury Rate: 0		Statewide Rate: 99				
Length in Miles: 0.97		Fatality Rate: 0.00		Statewide Rate: 2.65				

Rural Principal Arterial

NOTE: Rates are per 100 Million Vehicle Miles

### ACCIDENT RATE CALCULATION 2005

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2005	Chatham	1	0404SP	2.1	2.55	18,660	0.45	8,397
2005	Chatham	1	0404SP	2.55	3.07	13,560	0.52	7,051
Total Vehicle Miles: 15,448		Accident Rate: 53		Statewide Rate: 141				
Average ADT: 15,926		Injury Rate: 35		Statewide Rate: 86				
Length in Miles: 0.97		Fatality Rate: 0.00		Statewide Rate: 2.42				

Rural Principal Arterial

NOTE: Rates are per 100 Million Vehicle Miles

Accident No	Date	Time	County	Route Type	Route	Milelog	Intersecting Rt	Intersecting Type	Ramp Section	Fatalities	Injuries	Collision	Location of Impact	Harmful Event	Light	Surface	DirVeh1	DirVeh2	MnvrVeh 1	MnvrVeh 2
'31210216	4/9/2003	2:05 PM	Chatham	State Route	'0404SP	2.87				0	0	Not A Collision With A Motor Vehicle	On Roadway	Other Object (Not Fixed)	Daylight	Dry	S	S	Straight	Straight
'51550389	4/6/2005	5:06 PM	Chatham	State Route	'0404SP	2.27				0	0	Not A Collision With A Motor Vehicle	On Roadway	Bridge Rail	Daylight	Dry	N		Straight	
'50510102	1/15/2005	3:32 AM	Chatham	State Route	'0404SP	2.37				2	0	Not A Collision With A Motor Vehicle	On Roadway	Bridge Rail	Dark-Lighted	Dry	N		Straight	
'55100684	12/25/2005	1:51 AM	Chatham	State Route	'0404SP	2.87				0	0	Rear End	On Roadway	Motor Vehicle in Motion	Dark-Not Lighted	Dry	N	N	Straight	Straight



*Planning • Transportation Engineering • Surveying*

To: Jeff Dyer, QK4  
From: Julie M. Doyle, P.E., PTOE, Street Smarts  
Date: 15 August 2007  
Subject: P.I. 522920 NH-009-02(23), Chatham County, SR 404 Spur/US 17 Back River Bridge Widening/Replacement

---

### **Introduction**

The purpose of this technical memorandum is to provide an analysis of various traffic conditions, including the existing 2006 weekday and Saturday daily and peak hour traffic volumes, the projected 2010 opening year weekday and Saturday daily and peak hour traffic volumes, and the 2030 design year weekday and Saturday daily and peak hour traffic volumes for the referenced project.

This Georgia Department of Transportation (GDOT) project will replace the existing two-lane bridge located on SR 404 Spur/US 17, over Back River, one mile north of Savannah, with a two-lane bridge. The bridge is located in Chatham County, just north of the city limits of Savannah. The bridge connects Hutchinson Island with South Carolina. The project extends for approximately 0.8 miles at road inventory milepost 2.60.

The ultimate design for this crossing will include two parallel spans, providing a four-lane facility. A future project will construct a new second bridge on the site of the existing bridge, which would add capacity to enable this crossing to adequately handle the projected traffic. This project will be done in conjunction with South Carolina DOT and will widen US 17 into South Carolina to a logical terminus.

However, the existing two-lane bridge, constructed in 1954, is structurally deficient and is rapidly approaching a condition to where it will have to be weight restricted. This project, NH-009-2(93), will only construct a new two-lane bridge parallel to the existing structure, but will be designed to be compatible with the future conversion of this crossing to a four-lane facility. For this reason, for the purpose of traffic analysis, this crossing is evaluated as both a two-lane and four-lane facility.

### **Existing Traffic Volumes**

Twenty-four hour bi-directional tube counts were performed on SR 404 Spur, north of Hutchinson Island, as well as on the on- and off-ramps from SR 404 Spur to Hutchinson Island, on Thursday through Saturday, 23 through 25 March 2006. The existing 2006

weekday and Saturday daily and peak hour traffic volumes are shown in Figures 1 and 2.

### Traffic Volume Projections

To grow the existing 2006 traffic volumes to 2010 opening year and 2030 design year volumes, historical volumes in the vicinity of SR 404 Spur were obtained from GDOT. Table 1 displays the Annual Average Daily Traffic (AADT) from 1999 through 2006.

**Table 1. Historic Volumes**

Year	GDOT Count Station - Location
	169 - Back River Bridge
2006	14840
2005	13560
2004	13431
2003	14007
2002	12682
2001	12085
2000	17500
1999	21359

Based on information provided by GDOT, an annual growth rate of 3% was used. Using the annual growth rate of 3%, the 2010 opening year and 2030 design year weekday and Saturday daily and peak hour traffic volumes were estimated. The results are shown in Figures 3 through 6.

The traffic volumes were estimated to be the following:

2006 ADT = 14840  
2010 ADT = 19800  
2030 ADT = 35900  
K = 9%  
D = 51%  
T = 7.7%  
24 Hour T = 10%  
S.U. = 4.3%  
COMB. = 5.7%

The truck percentages were estimated based on information provided by GDOT.

**Figure 1. Existing 2006 Daily Volumes**

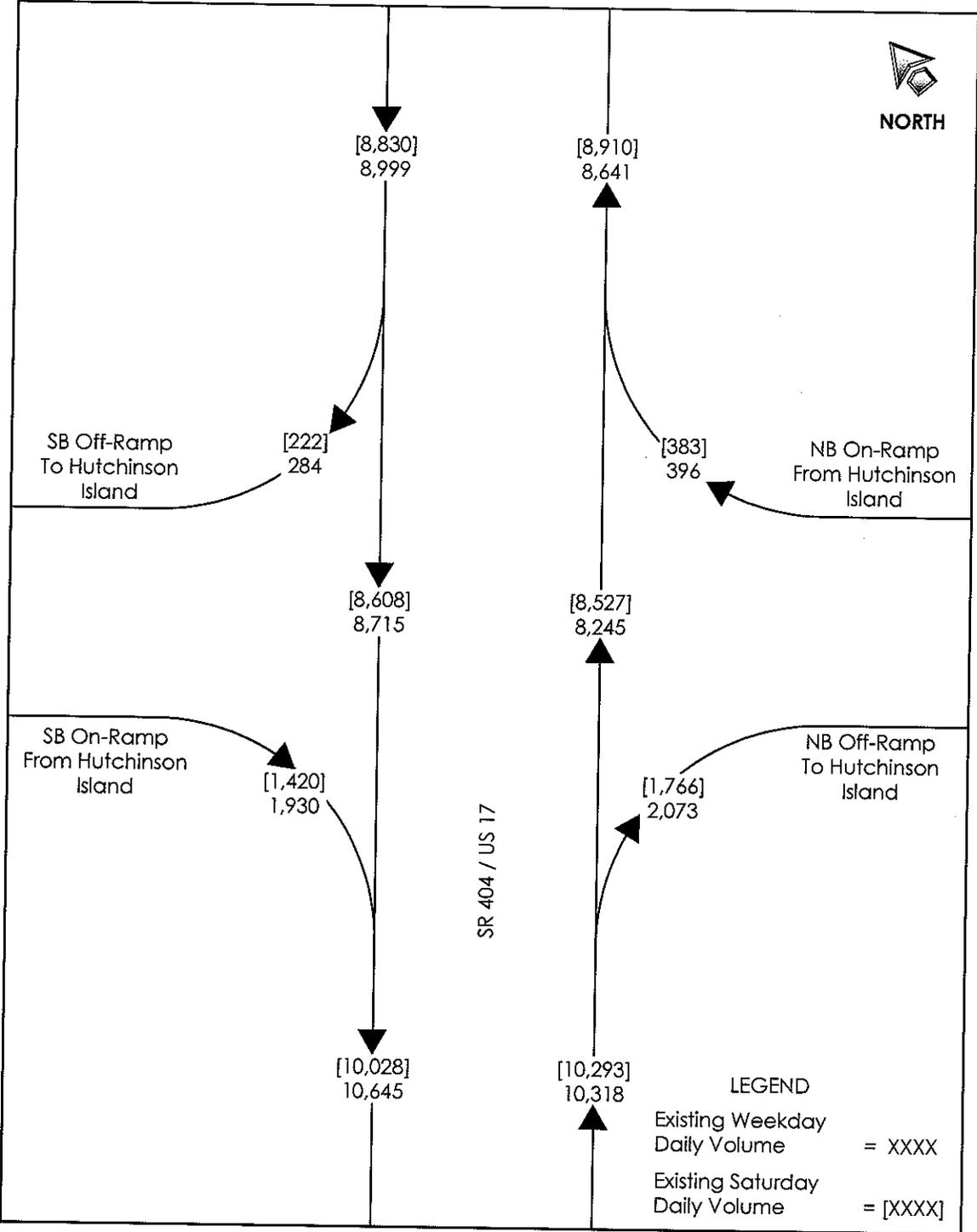


Figure 2. Existing 2006 Peak Hour Volumes

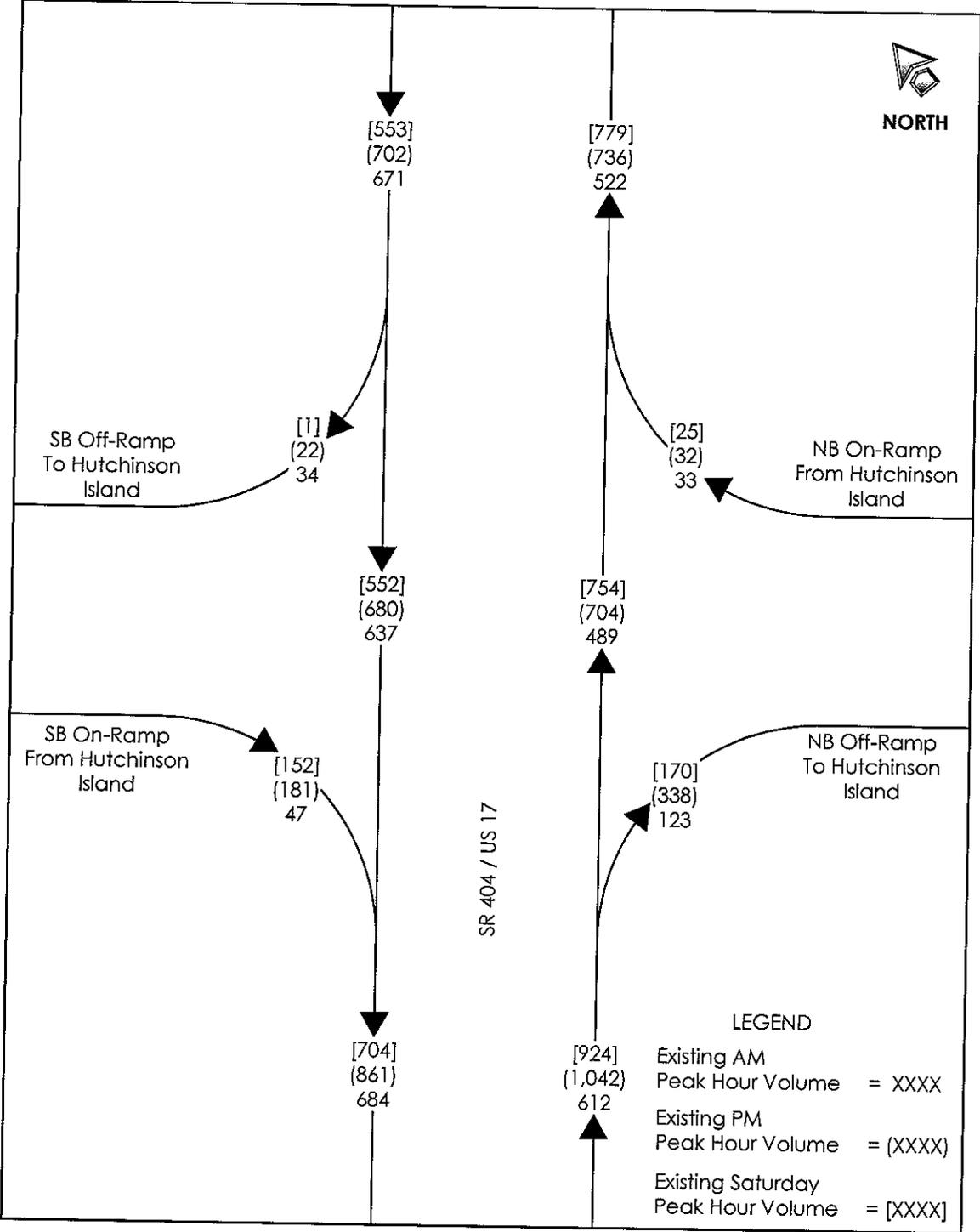


Figure 3. 2010 Opening Year Daily Volumes

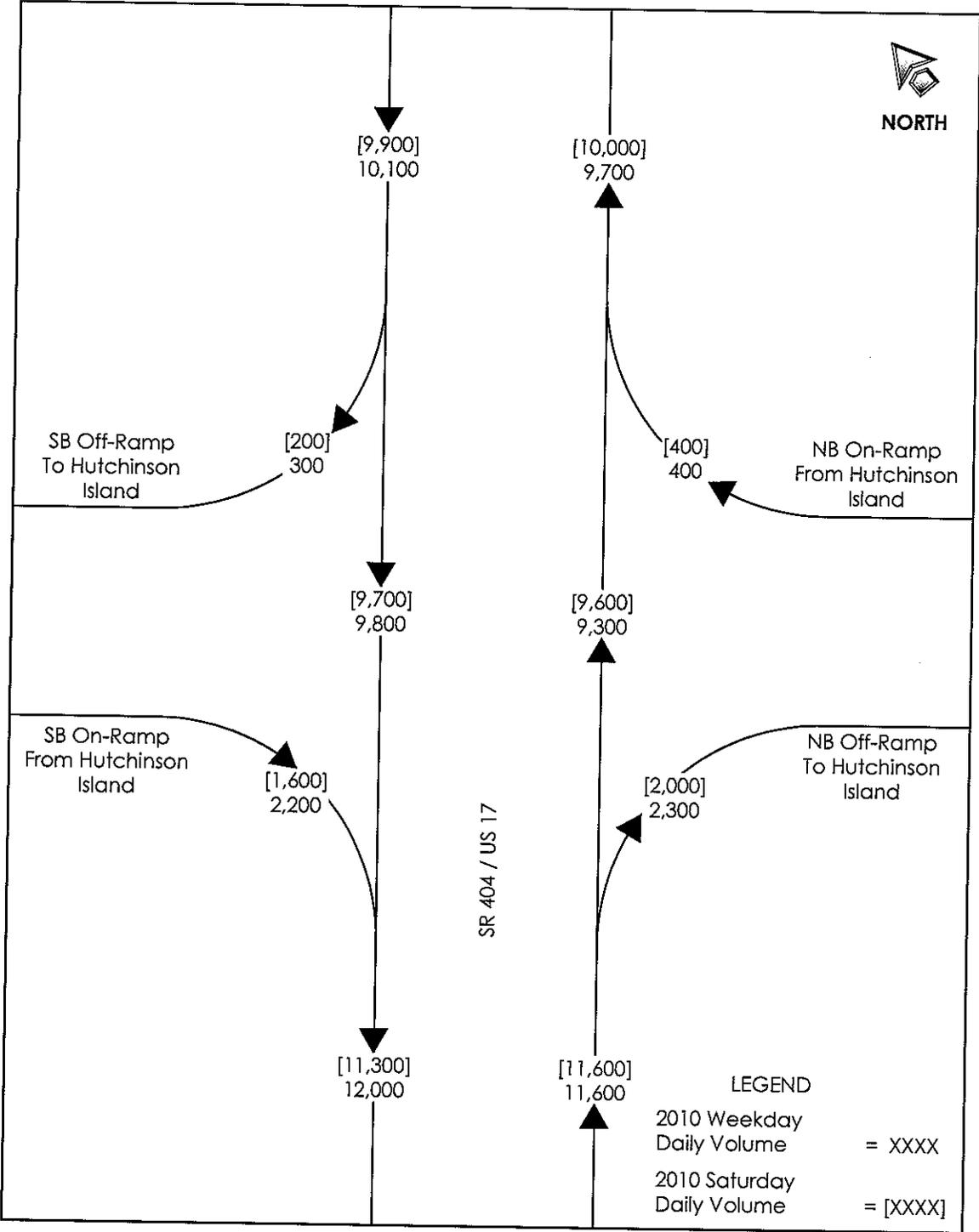
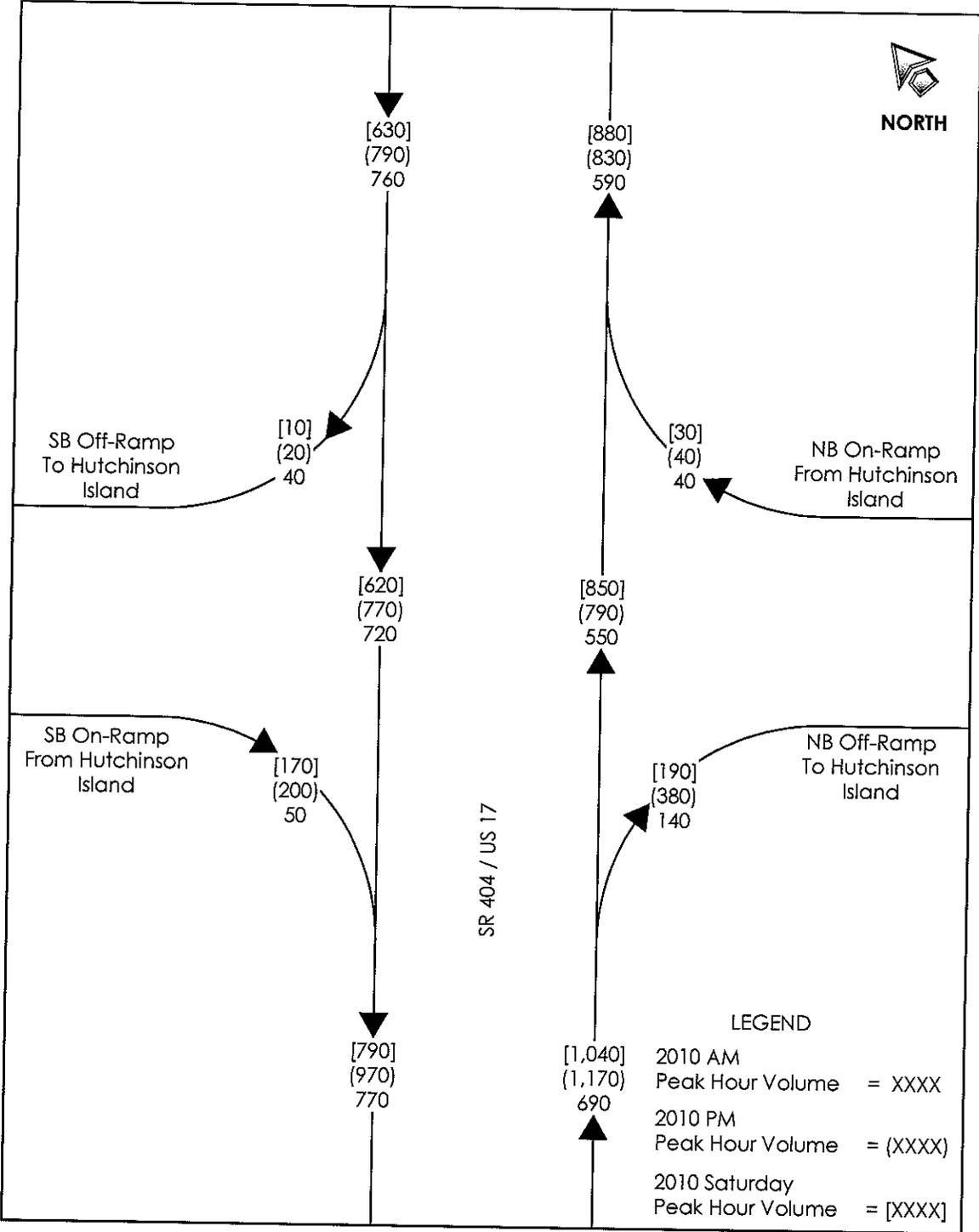
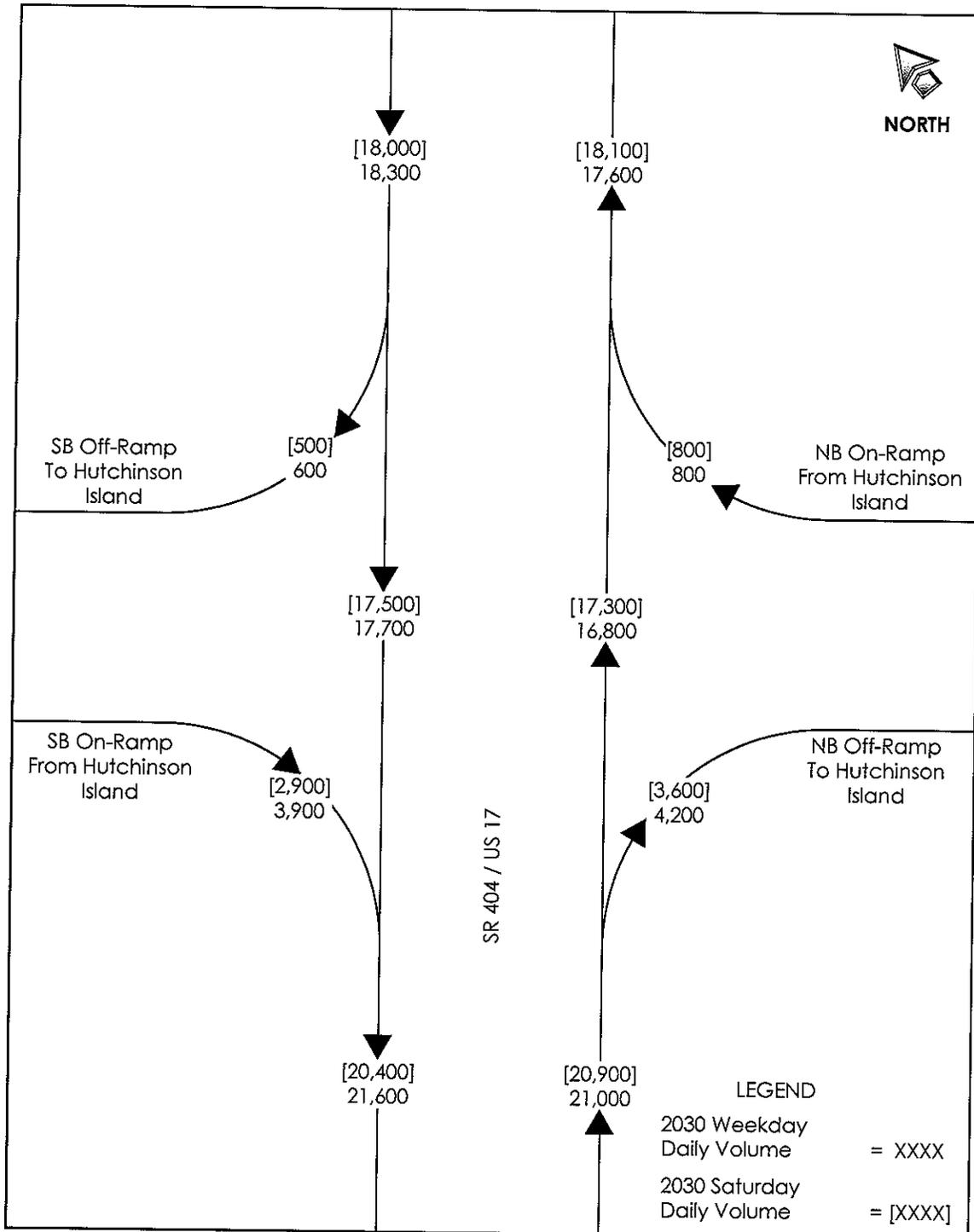


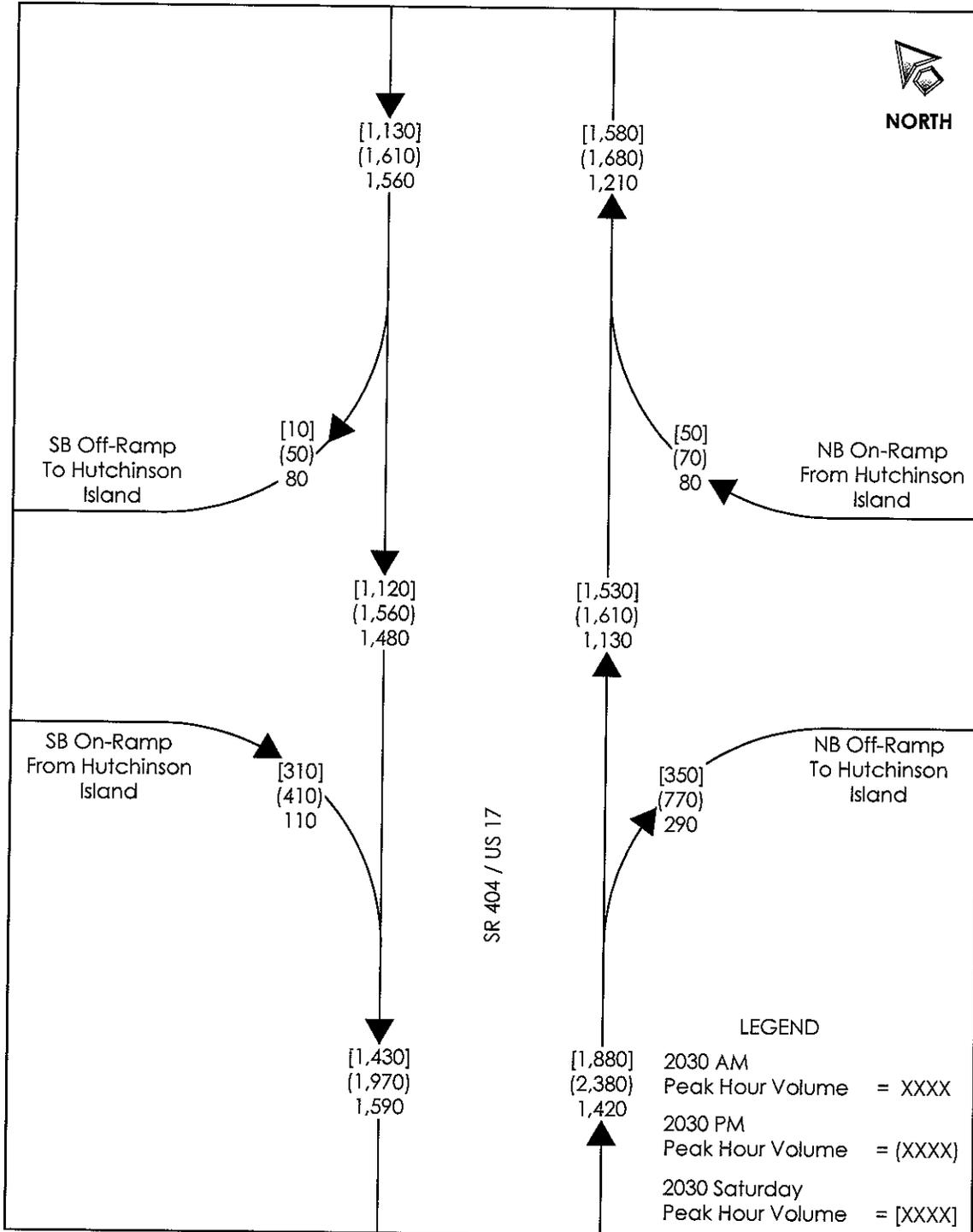
Figure 4. 2010 Opening Year Peak Hour Volumes



**Figure 5. 2030 Design Year Daily Volumes**



**Figure 6. 2030 Design Year Peak Hour Volumes**



### Intersection Capacity Analysis without Acceleration/Deceleration Lanes on SR 404 Spur

Intersection capacity analyses of the on-ramps from Hutchinson Island to SR 404 Spur were completed using procedures in the Transportation Research Board's *Highway Capacity Manual (HCM), 2000 Edition*. This is the usual methodology for the analysis of intersection traffic conditions. The software program *Synchro 6* (a nationally recognized computer software package for analyzing intersection capacities and Levels of Service) was used to perform the intersection capacity analyses.

Operating conditions at intersections are evaluated in terms of Levels of Service (LOS). LOS A through C are generally considered to be adequate peak hour operations for the design year. LOS D through F are generally considered inadequate conditions.

Traffic conditions at unsignalized intersections, with STOP sign control on the minor street only, are evaluated for the minor street approach(es) and for the left turns from the major street. This is because the major street traffic is assumed to have no delay since there is no control (no STOP sign). Inadequate Levels of Service for minor street approaches to unsignalized intersections are not uncommon, as the continuous flow traffic will always get the priority.

The *Highway Capacity Manual* Level of Service criteria for unsignalized intersections are shown in Table 2.

**Table 2. Highway Capacity Manual Intersection Level of Service Criteria**

LOS	Control Delay (seconds per vehicle)
	Unsignalized Intersection
A	$\leq 10$
B	$>10$ and $\leq 15$
C	$>15$ and $\leq 25$
D	$>25$ and $\leq 35$
E	$>35$ and $\leq 50$
F	$> 50$

Source: *Highway Capacity Manual, 2000 Edition*.

Intersection capacity analysis was performed for the existing lane configurations and intersection control, and for the anticipated lane configurations and intersection control if the bridge were widened to four lanes.

For the existing lane configurations and intersection control conditions, the eastbound right turn from Hutchinson Island to SR 404 Spur southbound is free-flow.

The anticipated lane configurations and intersection control if the bridge were widened to four lanes are: two lanes in each direction on SR 404 Spur, no acceleration/deceleration lanes on SR 404 Spur, single-lane on- and off-ramps, on-ramps are stop-sign controlled.

The results of the intersection capacity analysis for the existing 2006, 2010 opening year, and 2030 design year weekday and Saturday peak hours are presented in Table 3.

As can be seen from Table 3, the northbound on-ramp from Hutchinson Island to SR 404 Spur would be expected to experience inadequate Levels of Service during the weekday AM peak hour, the weekday PM peak hour, and Saturday peak hour in the 2030 design year with the existing lane configurations and intersection control.

The anticipated lane configurations and intersection control if the bridge were widened to four lanes would be expected to provide adequate Levels of Service for the northbound on-ramp from Hutchinson Island to SR 404 Spur. The southbound on-ramp from Hutchinson Island to SR 404 Spur would be expected to experience inadequate Levels of Service during the weekday PM peak hour and Saturday peak hour in the 2030 design year with the anticipated lane configurations and intersection control if the bridge were widened to four lanes, but the southbound on-ramp is stop-sign controlled.

**Table 3. Intersection Levels of Service without Acceleration/Deceleration Lanes**

Intersection	Move- ment	Existing 2006				2010 Opening Year				2030 Design Year			
		Lane Config. & Control	AM Peak Hour	PM Peak Hour	Sat Peak Hour	Lane Config. & Control	AM Peak Hour	PM Peak Hour	Sat Peak Hour	Lane Config. & Control	AM Peak Hour	PM Peak Hour	Sat Peak Hour
Hutchinson Island NB On-ramp & SR 404 Spur	WBR	Existing	B	B	C	Existing	B	C	C	Existing	D	F	F
		SR 404 Sp. widened to 4 lanes	n/a	n/a	n/a	SR 404 Sp. widened to 4 lanes	B	B	B	SR 404 Sp. widened to 4 lanes	C	C	C
Hutchinson Island SB On-ramp & SR 404 Spur	EBR	Existing	Free- flow	Free- flow	Free- flow	Existing	Free- flow	Free- flow	Free- flow	Existing	Free- flow	Free- flow	Free- flow
		SR 404 Sp. widened to 4 lanes	n/a	n/a	n/a	SR 404 Sp. widened to 4 lanes	B	B	B	SR 404 Sp. widened to 4 lanes	C	F	E

### Merge and Diverge Area Capacity Analysis

Merge and diverge area capacity analysis was performed to determine the impact of adding acceleration/deceleration lanes on SR 404 Spur if the bridge were widened to four lanes. A merge area is the point where an on-ramp connects to the highway. A diverge area is the point where an off-ramp connects to the highway. Merge and diverge area analyses on SR 404 Spur at the on- and off-ramps to Hutchinson Island were completed using procedures in the Transportation Research Board's Highway Capacity Manual (HCM), 2000 Edition.

The Highway Capacity Manual Level of Service criteria for merge and diverge areas are shown in Table 4.

**Table 4. Highway Capacity Manual Merge and Diverge Area Level of Service Criteria**

LOS	Density (pc/mi/ln)
A	$\leq 10$
B	> 10 - 20
C	> 20 - 28
D	> 28 - 35
E	> 35
F	Demand exceeds capacity

Source: Highway Capacity Manual, 2000 Edition.

The results of the merge and diverge area capacity analysis if the bridge were widened to four lanes with and without acceleration/deceleration lanes for the 2010 opening year and 2030 design year weekday and Saturday peak hours are presented in Table 5. Merge and diverge area capacity analysis was performed with two lanes in each direction on SR 404 Spur and single-lane on- and off-ramps.

**Table 5. Merge and Diverge Area Levels of Service**

Merge/ Diverge Area	Accel/ Decel	2010 Opening Year			2030 Design Year		
		AM Peak Hour	PM Peak Hour	Sat Peak Hour	AM Peak Hour	PM Peak Hour	Sat Peak Hour
SR 404 Sp. at NB On-ramp	none	B	B	B	B	C	C
	accel	A	A	A	B	B	B
SR 404 Sp. at SB Off-ramp	none	B	B	B	C	C	B
	decel	B	B	A	B	B	B
SR 404 Sp. at SB On-ramp	none	B	B	B	C	C	B
	accel	A	B	A	B	B	B
SR 404 Sp. at NB Off-ramp	none	B	B	B	B	D	C
	decel	A	B	B	B	C	C

As can be seen from Table 5, if the bridge were widened to four lanes, adequate Levels of Service would be expected for the merge and diverge areas on SR 404 Spur at the on- and off-ramps to Hutchinson Island, except for the northbound off-ramp from SR 404 Spur to Hutchinson Island during the weekday PM peak hour in the 2030 design year. If the bridge were widened to four lanes and acceleration/deceleration lanes are provided, the merge and diverge areas would be expected to operate at higher LOS, and the northbound off-ramp from SR 404 Spur to Hutchinson Island would be expected to operate at an adequate LOS during the weekday PM peak hour in the 2030 design year.

**GDOT Guidance on Acceleration and Deceleration Lanes**

According to Table 4-6, *GDOT Regulations for Driveway and Encroachment Control, October 2006*, the off-ramps from SR 404 Spur to Hutchinson Island would require right turn deceleration lanes.

According to Section 4I-3, *GDOT Regulations for Driveway and Encroachment Control, October 2006*, "acceleration lanes may be required at locations where grade, sight distance or traffic is such that the Department determines that they are needed. When operating speeds on the highway are 55 mph and above, full-width acceleration lanes of sufficient length should be considered". The speed limit on SR 404 Spur is 55 mph.

### **Roadway Segment Analysis**

Roadway segment analyses of the Back River Bridge were completed based on procedures in the Georgia Regional Transportation Authority's (GRTA) *GRTA DRI Review Package Technical Guidelines*, January 14, 2002. The roadway segment analysis compares the daily two-way volumes and the peak hour directional volumes on a roadway to generalized daily two-way and peak hour peak directional volumes for various roadway types. The number of lanes, number of signals, and presence of a median or left turn bay are taken into account.

The results of the roadway segment analysis for the existing 2006, 2010 opening year, and 2030 design year weekday and Saturday daily and peak hour volumes are presented in Table 6 for the existing two-lane section and the anticipated four-lane section if the bridge were widened.

As can be seen from Table 6, the existing two-lane Back River Bridge currently operates at inadequate Levels of Service and is expected to continue to operate at inadequate Levels of Service in the future. Widening the bridge to four lanes would be expected to provide adequate Levels of Service for the Back River Bridge.

### **Collision Analysis**

The collision records were obtained from GDOT for the years 2002 through 2005 for the section of SR 404 Spur from Hutchinson Island to the South Carolina state line. There were five collisions in 2002, one in 2003, zero in 2004, and three in 2005.

Four of the collisions in 2002 were at the interchange on Hutchinson Island, three of which were rear end collisions and one of which was an angle collision. The other collision in 2002 was a collision with a guardrail face on the Back River Bridge. The collision rate for the section for the year 2002 was 135 collisions per 100 million vehicle-miles. SR 404 Spur is a rural principal arterial. The statewide collision rate on rural principal arterials in 2002 was 141 collisions per 100 million vehicle-miles. Therefore, this section of SR 404 Spur had a collision rate below the statewide average for 2002.

The collision in 2003 was a collision with an unfixed object (not a motor vehicle) on the Back River Bridge. The collision rate for the section for the year 2003 was 24 collisions per 100 million vehicle-miles. The statewide collision rate on rural principal arterials in 2003 was 148 collisions per 100 million vehicle-miles. Therefore, this section of SR 404 Spur had a collision rate below the statewide average for 2003.

Mr. Jeff Dyer  
15 August 2007  
Page 15 of 16

There were no collisions on the section in 2004. Therefore, the collision rate for the section for the year 2004 was 0 collisions per 100 million vehicle-miles. The statewide collision rate on rural principal arterials in 2004 was 172 collisions per 100 million vehicle-miles. Therefore, this section of SR 404 Spur had a collision rate below the statewide average for 2004.

Two of the collisions in 2005 were collisions with a bridge rail on the Talmadge Bridge. The other collision in 2005 was a rear end collision on the Back River Bridge. The collision rate for the section for the year 2005 was 53 collisions per 100 million vehicle-miles. The statewide collision rate on rural principal arterials in 2005 was 141 collisions per 100 million vehicle-miles. Therefore, this section of SR 404 Spur had a collision rate below the statewide average for 2005.

H:\PROJECTS\700\743-06 SR404-US 17 Back River Bridge\report\revised tech memo 070815.doc

Table 6. Roadway Segment Analysis for Back River Bridge

Lane Config.	Existing 2006				2010 Opening Year				2030 Design Year						
	Wkdy Daily	Wkdy AM Peak Hour	Wkdy PM Peak Hour	Sat Daily	Sat Peak Hour	Wkdy Daily	Wkdy AM Peak Hour	Wkdy PM Peak Hour	Sat Daily	Sat Peak Hour	Wkdy Daily	Wkdy AM Peak Hour	Wkdy PM Peak Hour	Sat Daily	Sat Peak Hour
Existing	D	D	D	D	D	E	D	D	E	D	F	F	F	F	F
SR 404 Sp. widened to 4 lanes	A	A	A	A	A	A	A	A	A	A	C	B	B	C	B

Bridge Inventory Data Listing  
Georgia Department of Transportation.

Structure ID: 051-0059-0

Chatham

SUFF. RATING: 40.00

Location & Geography

\* Structure ID: 051-0059-0  
 \* 200 Bridge Information: 07  
 \* 6A Feature Int: BACK RIVER  
 \* 6B Critical Bridge: 0  
 \* 7A Route Number Carried: SR00404  
 \* 7B Facility Carried: SR 404P- US 17  
 \* 9 Location: 1 MI N OF SAVANNAH  
 2 DOT District: 5  
 207 Year Photo: 2006  
 \* 91 Inspection Frequency: 24 Date: 9/6/2006  
 92A Fract Crit Insp Freq: 00 Date: 2/1/1901  
 92B Underwater Insp Freq: 60 Date: 4/3/2007  
 92C Other Spc. Insp Freq: 00 Date: 2/1/1901  
 \* 4 Place Code: 69000  
 \* 5 Inventory Route (O/U): 1  
 Type: 3  
 Designation: 4  
 Number: 00404  
 Direction: 0  
 Latitude: 32 - 05.8720 HMMS Prefix: SR  
 \* 16 Longitude: 81 - 05.5060 HMMS Suffix: SP  
 MP-2.60

Signs & Attachments

225 Expansion Joint Type: 02  
 242 Deck Drains: 1  
 243 Parapet Location: 0.00  
 Height: 0.00  
 Width: 0.00  
 238 Curb Height: 0.8  
 Curb Material: 1  
 239 Handrail: 1 1  
 \* 240 Median Barrier Rail: 0  
 241 Bridge Median Height: 0.0  
 \* Bridge Median Width: 0.0  
 230 Guardrail Loc. Dir. Rear: 3  
 Fwrd: 3  
 Oppo. Dir. Rear: 0  
 Oppo. Fwrd: 0  
 244 Approach Slab: 3  
 224 Retaining Wall: 0  
 233 Posted Speed Limit: 55  
 236 Warning Sign: 0  
 234 Delineator: 1  
 235 Hazard Boards: 1  
 237 Utilities - Gas: 00  
 Water: 00  
 Electric: 00  
 Telephone: 00  
 Sewer: 00  
 247 Lighting - Street: 0  
 Navigation: 0  
 Aerial: 0  
 \* 248 County Continuity No.: 00

213 Special Steel Design: 0  
 267 Type of Paint: 0  
 \* 42 Type of Service on: 1  
 Type of Service under: 5  
 214 Movable Bridge: 0  
 203 Type Bridge: 0  
 259 Pile Encasement: 3  
 \* 43 Structure Type Main: D O O O  
 45 No. Spans Main: 089  
 44 Structure Type Appr: 0 00  
 46 No. Spans Appr: 0000  
 226 Bridge Curve Horz: 0 Vert: 1  
 111 Pier Protection: 0  
 107 Deck Structure Type: 1  
 108 Wearing Surface Type: 1  
 Membrane Type: 8  
 Deck Protection: 8  
 \* Location I.D. No.: 051-00404P-002.60N

Structure ID: 051-0059-0

**Programming Data**

201 Project No.: COAST HWY D2ST  
 202 Plans Available: 0  
 249 Prop. Proj. No.: NH-009-2 (93)  
 250 Approval Status: 0 0 0  
 251 P.I. No.: 522920-  
 252 Contract Date: 2/1/2010  
 260 Seismic No.: 00000  
 75 Type Work: 34 I  
 94 Bridge Imp. Cost: \$5780  
 95 Roadway Imp. Cost: \$552  
 96 Total Imp Cost: \$8022  
 76 Imp. Length: 004524  
 97 Imp. Year: 1990  
 114 Future ADT: 022260 Year: 2026

**Measurements**

\* 29 ADT: 014840 Year: 2006  
 109 % Trucks: 0  
 \* 28 Lanes On: 02 Under: 00  
 210 No. Tracks On: 00 Under: 00  
 \* 48 Max. Span Length: 0036  
 \* 49 Structure Length: 3204  
 51 Br. Rwdy. Width: 28.00  
 52 Deck Width: 34.00  
 \* 47 Tot. Horiz. Cl: 28.00  
 50 Curb / Sidewalk Width: 2.00 / 2.00  
 32 Approach Rdwy. Width: 029  
 \* 229 Shoulder Width: 17.4 Type: 3 Rt: 6.4  
 Rear Lt: 3.0 Type: 2 Rt: 2.6  
 Fwrd Lt:  
 Pavement Width:  
 Rear:

**Ratings**

65 Inventory Rating Method: 1  
 63 Operating Rating Method: 1  
 66 Inventory Type: 2 Rating: 36  
 64 Operating Type: 2 Rating: 58  
 231 Calculated Loads  
 H-Modified: 20 0  
 HS-Modified: 25 0  
 Type 3: 28 0  
 Type 3s2: 40 0  
 Timber: 36 0  
 Piggyback: 40 0  
 261 H Inventory Rating: 22  
 262 H Operating Rating: 40  
 67 Structural Evaluation: 4  
 58 Deck Condition: 5  
 59 Superstructure Condition: 4  
 \* 227 Collision Damage: 0  
 60A Substructure Condition: 4  
 60B Scour Condition: 7  
 60C Underwater Condition: 5  
 71 Waterway Adequacy: 8  
 61 Channel Protection Cond.: 7  
 68 Deck Geometry: 4  
 69 UnderClr. Horz/Vert: N  
 72 Appr. Alignment: 8  
 62 Culvert: N

**Hydraulic Data**

215 Waterway Data  
 Highwater Elev.: 0000.0 Year: 1900  
 Flood Elevation: 0000.0 Freq.: 000  
 Avg. Streambed Elev.: 0000.0  
 Drainage Area: 00000  
 Area of Opening: 000000  
 113 Scour Critical: U  
 216 Water Depth: 21.0 Br. Height: 15.0  
 222 Slope Protection: I  
 221 Spur Dikes Rear: 0 Fwrd: 0  
 219 Fender System: 0  
 220 Dolphin: 0  
 223 Culvert Cover: 000  
 Type: 0  
 No. Barrels: 0  
 \* Width: 0.00 Height: 0.00  
 \* Length: 0 Apron: 0  
 265 U/W Insp. Area: 2 Diver: RMO  
 Location I.D. No.: 051-00404P-002.60N

**Intersection Rear:**

36 Safety Features Br. Rail:  
 Transition:  
 App. G. Rail: 3  
 App. Rail End: 3  
 53 Minimum Cl. Over: 99' 99 "  
 Under: N 00' 00 "  
 \* 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 99.9  
 56 Lateral Undercl. Lt: 0.0  
 \* 10 Max Min Vert Cl: 99' 99 " Dir: 0  
 39 Nav Vert Cl: 000 Horiz: 0000  
 116 Nav Vert Cl Closed: 000  
 245 Deck Thickness Main: 10.00  
 Deck Thiek. Approach: 0.00  
 246 Overlay Thickness: 0.00  
 212 Year Last Painted: Sup: 0000 Sub: 0000

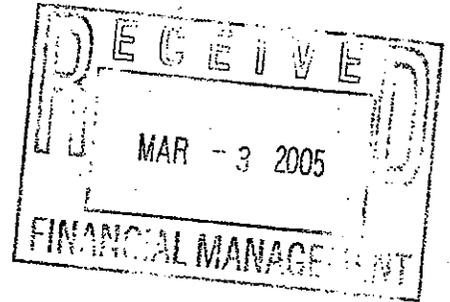
**Posting Data**

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: 2/1/1901  
 258 Fed Notify Date: 2/1/1901



South Carolina  
Department of Transportation

December 22, 2004



The Honorable Harold E. Linnenkohl, Commissioner  
Georgia Department of Transportation  
#2 Capitol Square, S.W.  
Atlanta, Georgia 30334-1002

DEC 27 2004  
*Chatham*  
*522920*

Dear Commissioner Linnenkohl:

Thank you for your letter of July 28, 2004 regarding the replacement of US 17 Back River Bridge. My staff has completed the review of the agreements and we are pleased to return three (3) signed copies as requested. Please return one fully executed agreement to Doug MacFarlane, Director of Contract Services, 955 Park Street, Room 329, Columbia, South Carolina 29201.

If you or your staff have any questions or need information about any of these bridge replacement projects, please contact Assistant Bridge Design Engineer Terry Koon at 803-737-1420. We look forward to working with you to replace this deficient structure.

Very truly yours,

*Elizabeth S. Mabry*  
Elizabeth S. Mabry  
Executive Director

ESM:slb  
Enclosure  
cc: D. H. Freeman, State Highway Engineer  
Tony L. Chapman, Deputy State Highway Engineer  
Doug MacFarlane, Director of Contract Services  
Terry Koon, Assistant Bridge Design Engineer  
File: PC/TBK





# Department of Transportation

HAROLD E. LINNENKOHL  
COMMISSIONER  
(404) 656-5206

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

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

April 5, 2005

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

EARL L. MAHFUZ  
TREASURER  
(404) 656-5224

Elizabeth S. Mabry, Executive Director  
South Carolina  
955 Park Street  
Columbia, South Carolina 29201

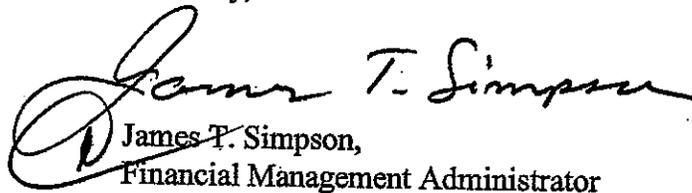
Dear Mrs. Mabry:

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

**PROJECT#:NH-009-2(93), Chatham County, P.I.#522920**

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

Sincerely,

  
James T. Simpson,  
Financial Management Administrator

JTS:as

Enclosure

c: Bob Rogers  
Gary Priestler - District 5  
Daryl Vanmeter

**A G R E E M E N T**

by and between the

**GEORGIA DEPARTMENT OF TRANSPORTATION**

and the

**SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION**

State of **GEORGIA** Project No. NH-009-2(93), PI # 522920

State of **SOUTH CAROLINA** Project No. BR-BR27(009)

Chatham County, Georgia/Jasper County, South Carolina

THIS AGREEMENT, made and entered into this 2<sup>nd</sup> day of March, 2004,  
by and between the **GEORGIA DEPARTMENT OF TRANSPORTATION** (hereinafter referred to  
as "**GEORGIA**") and the **SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION**  
(hereinafter referred to as "**SOUTH CAROLINA**").

**WHEREAS, GEORGIA and SOUTH CAROLINA** propose to replace the structurally deficient  
bridge and reconstruct the approaches of US 17/ SR 404 Spur crossing the Back River  
between the two states hereinafter called the "**PROJECT**".

**NOW, THEREFORE,** in consideration of the promises, covenants, responsibilities and  
obligations set forth herein, **SOUTH CAROLINA and GEORGIA** do mutually agree to  
coordinate the work required for the **PROJECT**.

**IT IS FURTHER AGREED BETWEEN THE PARTIES THAT:**

1. The responsibility for construction of the **PROJECT** in both States shall be the responsibility of **GEORGIA**. However, all final **PROJECT** plans and specifications, as well as the final **PROJECT** alignment for the part in South Carolina, shall be subject to the approval of both parties to this agreement, and **GEORGIA** shall not submit plans, specifications, or estimates on that part of the **PROJECT** in South Carolina to the Federal Highway Administration without first obtaining the approval of **SOUTH CAROLINA**.
2. **GEORGIA** shall be responsible for; a) production of project plans; specifications and quantities for the **PROJECT** in accordance with current design standards for US Highways; b) **PROJECT** location and alignment and all necessary environmental documentation and reports related thereto; c) the conduct of all public hearings related to the **PROJECT**, with **SOUTH CAROLINA**; d) construction of the **PROJECT**; and e) performing construction supervision and inspection for all phases of the **PROJECT** in both States.
3. All **PROJECT** construction activities in South Carolina shall be performed in compliance with all applicable South Carolina laws.

4. **GEORGIA** shall acquire all necessary rights-of-way for the **PROJECT** located within the State of Georgia and shall clear such rights-of-way of all obstructions and utility facilities which conflict with construction, with all costs and expenses thereof, including costs and expenses of acquisition, to be borne by **GEORGIA**. **SOUTH CAROLINA** shall acquire all necessary rights-of-way for the **PROJECT** located within the State of South Carolina and shall clear such rights-of-way of all obstructions and utility facilities which conflict with construction, with all costs and expenses thereof, including costs and expenses of acquisition, to be borne by **SOUTH CAROLINA**.

5. After approval of the plans, specifications and preliminary estimates for the **PROJECT** by the parties hereto **GEORGIA**, following its normal procedures, will prepare proposal items for the contractors and preliminary estimates and, after the proper advertisement, shall receive bids from qualified bidders on the **PROJECT**. Bid proposals will not be issued to prospective contractors who are disqualified or debarred from bidding on highway work in South Carolina or Georgia. No bids will be accepted from any such disqualified or debarred contractor. After the bids are tabulated by **GEORGIA**, and approved by **SOUTH CAROLINA**, **GEORGIA** shall award and execute a construction contract with the lowest responsible bidder using the unit prices contained in the lowest responsible bid.

6. **GEORGIA** shall administer the construction contracts for the construction of the **PROJECT** in accordance with its normal practices and subject to the terms of this Agreement. **GEORGIA** will disburse funds in payment for construction work based upon monthly statements of amounts due to the contractor. **GEORGIA** agrees to furnish copies of all estimates and monthly statements related to the construction of the **PROJECT** to **SOUTH CAROLINA**.

6. During construction of the **PROJECT**, **SOUTH CAROLINA** shall have the right to monitor the work in South Carolina to determine its conformity with the **PROJECT** plans and specifications.

7. The cost for the **PROJECT** shall be borne as follows:

- (a) The construction costs of the river bridge and removal of the old bridge shall be borne by the parties hereto, i.e., **GEORGIA** shall bear ninety percent (90%) of the construction costs and **SOUTH CAROLINA** shall bear ten percent (10%) of the construction costs. Preliminary engineering and construction engineering costs for the bridge and roadway approaches and the costs preparatory to the award of the construction contract shall also be considered and included as a part of the construction costs of the river bridge.
- (b) The cost for roadway approaches in the State of South Carolina, including rights of way acquisition, utility relocation, construction, and construction supervision and inspection shall be borne totally by **SOUTH CAROLINA** without any participation in such cost and expenses on the part of **GEORGIA**.
- (c) The cost for roadway approaches in the State of Georgia including rights-of-way acquisition, utility relocation, construction and construction supervision and inspection shall be borne totally by **GEORGIA** without any participation in such cost and expenses by **SOUTH CAROLINA**.
- (d) **GEORGIA** shall not let and award the construction contract or contracts for the **PROJECT** until both **GEORGIA** and **SOUTH CAROLINA** have funds authorized to cover the estimated cost of said contract or contracts, and that authorization is approved in writing by each state.

(e) **SOUTH CAROLINA** agrees to reimburse **GEORGIA** for **SOUTH CAROLINA'S** share of the costs for construction and construction supervision and inspection. Such reimbursement will be made promptly upon receipt and verification of bills submitted, which bills shall show in reasonable detail, the total construction and construction supervision and inspection costs of the **PROJECT** during the period covered by the bill. Such reimbursement will be no more often than monthly.

8. The parties agree that upon completion of a final audit of all costs incurred in connection with the construction of this **PROJECT**, each will promptly pay to, or reimburse if appropriate, the other any balance due the other under any provision of this agreement.

9. Upon completion, the **PROJECT** shall be opened to the general public.

10. Upon completion of the **PROJECT** and acceptance of the same from the contractors by all parties concerned, the responsibility for maintenance of the **PROJECT** will be as follows:

(a) **GEORGIA** will maintain at its expense, the bridge structure and the approaches in Georgia.

(b) **SOUTH CAROLINA** will maintain at its expense, the approaches in South Carolina.

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, GEORGIA and SOUTH CAROLINA have caused their hands and seals to be set hereon by their authorized officials, the date and year first set out above.

STATE OF GEORGIA

DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION

RECOMMENDED:

James Morgan  
Financial Management Administrator

Paul V. Mullins  
Chief Engineer

David R. Hummel  
Commissioner

(Seal)

[Signature]  
Treasurer

Linda S. Bergeron 2-4-05  
GDOT Legal Staff

SOUTH CAROLINA DEPARTMENT OF  
TRANSPORTATION

By: D. N. Freeman  
Deputy Director

Ⓜ  
Ⓢ

RECOMMENDED:

Tom B. Kow  
Title: Assistant Bridge Design  
Engineers

WITNESS:

\_\_\_\_\_

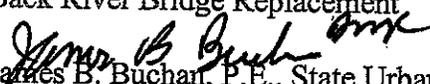
**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE** NH-005-5 (38) Chatham County, 1:00-2:30 PM **OFFICE** Urban Design  
P. I. No. 522860  
Island Expressway  
From: Gen. McIntosh Blvd. To: Truman Pkwy. **DATE** August 31, 2004

NH-009-2 (93) Chatham County, 3:00-4:30 PM  
P. I. No. 522920  
SR-404 Spur/ US-17  
Back River Bridge Replacement

**FROM**  James B. Buchan, P.E., State Urban Design Engineer

**TO** Distribution Below

**SUBJECT** **Initial Concept Meeting**

The Initial Concept Meeting for the above projects is scheduled for September 21, 2004 at the Conference Room of the GDOT Savannah Area Office located at 630 West Boundary Street, Savannah, Georgia (912) 651-2144.

The purpose of the meeting will be to organize the Department's resources, identify the core team and specialty team members, establish lines of communications and responsibilities between team members, validate the "Need and Purpose" before working on the concept, gain a better understanding the project corridor, understand the environmental scope, determine the anticipated public involvement approach, identify information that is available, define information that is needed to develop the concept, review the project schedule, and provide a transition between planning and design. Please review the draft concept reports and the attached layouts prior to the meeting.

By copy of this letter, the District Preconstruction Engineer is requested to contact and invite the local elected and public officials in Chatham County to attend the meeting.

Also, the Office of Environmental and Location is requested to contact and invite all resource agencies to attend this meeting.

Similarly, the District Utilities Engineer is requested to invite representatives from the appropriate utility companies to attend the meeting.

Please attend or send a representative to the meeting. Attached are the draft concept reports and the attached layouts for your review. It is requested that all attendees come prepared to participate in this meeting. If you have any questions concerning the projects prior to the meeting please contact Darryl VanMeter or Marcela Coll at (404) 656-5447.

JBB:DVM:mgc  
Attachment

DISTRIBUTION: Thomas L. Turner, Director of Pre-Construction- Letter only  
David Mulling, Project Review Engineer  
Garry Priester, District 5 Engineer  
Tony Collins, District 5 Pre-Construction Engineer  
Michael Garner, Savannah Area 5 Engineer  
Harvey Keepler, State Environmental/Location Engineer- Letter only  
Attn: Sheree Smart, District 5 Environmentalist  
Chip Craven, Right of Way Coordinator  
Phillip Allen, State Traffic Safety & Design Adm.- Letter only  
Scott Zehngraft, Plan Review Manager  
Cathy Bailey, Traffic Design Manager  
Robert McCall, District 5 Traffic Engineer  
Paul Liles, State Bridge and Structural Design Engineer  
Bradford Saxon, District 5 Construction Engineer  
Brian Summers, State Bridge Maintenance Engineer  
Joe Palladi, State Transportation Planning Administrator- Letter only  
Attn: Keith Melton, Urban Planning Engineer  
Karon Ivery, District 5 Utilities Engineer  
Allan Black, Assistant County Engineer  
Billy Jones, Facilities Maintenance Director City of Savannah  
Mike Weiner, Traffic Engineer Director City of Savannah  
Terry Koon, Assistant Bridge Design Engineer South Carolina DOT  
Bridge Design Office - Room 508  
955 Park St.  
Columbia, SC 29202-0191

## INITIAL CONCEPT MEETING MINUTES

Project Number: NH-009-2(93), Chatham County

P.I. Number: 522920

Project Description: SR 404 Spur/US 17 Bridge Replacement over Back River  
1 mile North of Savannah

Date and Time: September 21, 2004 at 3:00 pm

Place: Savannah Area Office

Attendees: Darryl VanMeter, GDOT Urban Design  
Keith Melton, GDOT Office of Planning  
Peter Eze, GDOT Urban Design  
Brad Saxon, GDOT Construction Engineer District 5  
Mike Garner, GDOT Savannah Area Engineer  
Sheree Smart, GDOT Environmental District 5  
Cynthia Philips, GDOT Traffic Operations District 5  
Jerome Sheffield, GDOT District 5 Construction  
Brian Summers, GDOT Bridge Maintenance  
Mark Wilkes, MPO  
Billy Jones, City of Savannah  
Mike Weiner, City of Savannah  
Allan Black, Chatham County  
Ginny Murphy, BellSouth  
Brad Wilkinson, Savannah Electric  
Mickey Bevil, Hargray  
Gary J. DeLong, Hargray

Participants introduced themselves and Darryl VanMeter announced that the South Carolina DOT contingent will not be attending the meeting as planned. Keith Melton read the project's need and purpose statement. Darryl VanMeter described the project including the typical section and reiterated that the main purpose of this project is to replace a bridge and improve capacity. He stated that the propose bridge design would be similar to Talmadge Bridge, in terms of lanes and shoulder arrangement.

### Project schedule

Concept report approve ----- January 2005  
R/W acquisition -----October 2006  
Preliminary plans complete-----September 2005  
R/W plans Complete-----September 2006  
Final plans complete-----June 2007  
Let date ----- February 2009  
Construction ----- 2010

Brad Saxon pointed out that the Hutchison Island intersection as shown on the project layout is not correct. He pointed that the ramps of the intersection have been modified. Urban Design will request an update of the project aerial photo from OEL.

### Condition of the Existing Bridge

Brian Summers gave an over view of the existing bridge history and condition. According to Brian, the bridge was built in 1954 and the condition has deteriorated in the past 15 years due to salt water and loading. Brian said that the bridge sufficiency rating is currently 24 and that GDOT is considering closing the bridge. He stated that routine inspection of the bridge revealed among other things that some beams have no bearing and most steels have no concrete around it.

Brian said that plans to repair the bridge have been discussed with District 5. He also stated that some of the repair work would be handled by the contractor. The plans for now according to Brian are to do the least amount of repair to keep the bridge in use until a replacement is in place. He recommended that the bridge repair work should be carried out as soon as possible.

### Utilities

Hargray Communications have fiber optics located 60' deep and 75' to 80' down stream from the existing bridge.

### Design options for the new bridge

Two alternate designs were discussed in the meeting. The first option calls for the construction of the new bridge 56' down stream from the existing bridge. The disadvantage of this option is that the construction of the new bridge has to be completed before traffic can be moved off the existing bridge.

The second alternative calls for the construction of a two lane bridge on the upstream of the existing and move traffic off the existing bridge to the new bridge. Then the existing bridge will be torn down and the remaining two lane bridge will be constructed. Jerome Sheffield noted that there is a sunken wooden ship on that side of the existing bridge. Exact location of the ship will be investigated to determine the impact from the proposed design.

Darryl asked Brian Summers if the bridge can be fixed enough to hold for another 15 years. Brian responded that he will not like to extend the life of the bridge that long; however, if that is the only option available, it could be considered.

Finally it was agreed to set a target year of FY 2008 to let construction and FY 2010 to open the bridge to traffic.

### Environmental

Sheree Smart said that environmental requirements may include a 404 permit, a Coast Guard permit, historical impact because of the sunken ship, and consultation with USACOE. She said that further investigation is needed to determine the level of environmental impact. Sheree also recommended for Urban Design to organize a meeting to discuss the project environmental impact and to invite the Department of Fish and Wild Life, USACOE, Coast Guard, FHWA and OEL ecological personnel to the meeting. Sheree Smart requested that a project layout with the current Hutchison Island intersection aerial photo and a solid alignment be sent to her. The meeting was adjourned at 4:00 pm.

## **522920 SR-404 Spur/US-17 Bridge Replacement over Back River**

### **Interagency Quarterly Meeting**

Office of Environmental/ Location

January 19, 2005

1. Coast Guard Permit – Questionnaire to be supplied by OEL (Jonathan Cox contact)
2. Data Recovery was suggested for the Ship Wreck. It was suggested by OEL that more can be preserved and learned if we removed and record it than leaving it in place.
3. Both alternates are considered to affect the Ship Wreck in one way or another. Erosion, from construction on either side could change the currents.
4. South Carolina has State and Federal Permits to be satisfied.
5. Logical Termini is an issue that needs to be firmly established, due to widening to four lanes.
6. EPA questioned whether Pedestrian facilities would be provided.  
A: No sidewalks are provided due to rural functional classification. The route is not an approved Bike Route.
7. Mel Traylor. He has lobbied the Georgia commissioner to buy his property for a National Park or mitigation credits. His land ( +- 1500 acres down stream from the bridge) is in South Carolina; Georgia can not buy it for future credits
8. Section 7 should be in the Environmental Document. We are hoping to have the Environmental Document approved no later than the end of FY 06.
9. An Environmental screening and field inspection is suggested in order to identify Resources and delimited the area to show impacts. Urban Design left layouts for OEL use in accomplishing this.
10. DNR has been trying to re-establish striped bass fishing in the Back River.
11. Deepening the channel for navigation to reach a port in South Carolina is in discussions. This may or may not affect.
12. Need clarification on what SCDOT will do with respect of permits.
13. There is not enough information to conclude eliminating either alternate at this time, but environmental screening will help build the case.

14. The final Concept Report should not be submitted until environmental screenings are complete and resources are all identified on the layout. The environmental screening will commence immediately in order to achieve the projects accelerated schedule.

**Contacts:**

Lisa Westberry, Section 404 Permitting	(404)699-4433
Keisha Jackson, Environmental Planner	(404)699-6866
Jonathan Cox, NEPA Section Chief	(404)699-3475
Erik Duff, Archaeology Manager	(404)699-4437
Sheree Smart, District 5 Environmentalist	(912)427-5756

**People invited to the meeting:**

Ben West; Phillips, Bill; Bob Lord; Buck Bennett; Carol Bernstein; Clyde Johnson; Grachen, David (FHWA); David Rackley; Ed Johnson; Eric VandeGenachte; Harold Draper; Jennifer Giersch; Jocelyn Karazsia; Kathy Chapman; Katy Allen; Keith Parsons; Kelie Moore; Keysha Cutts; Mary Best; Mary Dills; Michele Hart; Mike Harris; Mike Ruth; Mirian J. Magwood; Cooke, Patrick; Pete Pattavina; Rebecca Rowden; Richard Morgan; Sandy Tucker; Strant Colwell; Terry Kazmerzak; Yates Allen; Charles Bruton; Erik Alford; John Vermont; Jordan Myers; Lee Griffith  
**Cc:** Barrow, Galen; Knudson, Susan; Jackson, Keisha; Carter, Corey; Smart, Sheree; Cox, Jonathan; D'Avino, Gail; VanMeter, Darryl; Thompson, Ken; Will Griffin ([wgriffin@golder.com](mailto:wgriffin@golder.com)); 'Jim Renner'; Dickerson, Ben; Bouthillier, William; Glen, Casey; Coppola, Christopher; Thompson, Julie; McCafferty, Katie; Woodruff, Kevin; Lindsley, Mara; Wiedl, Steve; Miller, Tamara

Minutes from June 8, 2006 Meeting

**Project Number NH-009-2(93) / BR-BR27(009)**  
**PI No. 522920**  
**SR 404 Spur / US 17 @ Back River 1 mile N. of Savannah**  
**Chatham County, Georgia / Jasper County, South Carolina**

**Time:** 2:00 P.M.

**Location:** Savannah Area Office

**Attendees:** Brent Rewis, South Carolina DOT  
Jennifer Giersch, FHWA  
Paul Condit, GDOT-Office of Environmental/ Location  
Donnie Williams, GDOT-Savannah Office  
Slade Cole, GDOT-Savannah Office  
Sheree Smart, GDOT-Dist. Environmentalist  
Matt Houser, Qk4 Consultant for GDOT  
Jeff Dyer, Qk4 Consultant for GDOT  
Albert Welch, GDOT-Urban Design (Project Manager)  
Marcela Coll, GDOT-Urban Design

Mr. Welch started the meeting by welcoming everyone and inviting each one to introduce themselves. Mr. Welch identified the project and provided a description. Traffic information: 19,100 ADT for Base Year (2010)  
26,100 ADT for Design Year (2030)  
Scheduled Right of Way Acquisition to begin in Fiscal Year 2007  
Scheduled Let date of September 15, 2008.  
The bridge sufficiency rating is less than 50 and needs to be replaced. Maintenance repairs are currently underway.

**Discussion:**

1. The alternatives proposed are to replace the existing 2 lane bridge with a 2 lane bridge or a 4 lane bridge. The corridor is a designated bike route; therefore the shoulder design would accommodate bike traffic.
2. Environmental studies:
  - According to the suggestions received at the Interagency Quarterly Meeting (January 19, 2005), the existing shipwreck on the South West of the bridge has been recommended to have archeological data recovered and documented,
  - The 1954 Bridge is not eligible for historical preservation. History cleared.
  - Preliminary Ecological studies have been done in Georgia and 3,000 feet into South Carolina.

3. A copy of the signed Bi-State agreement was handed out and carefully discussed:
  - Mr. Rewis agreed that for Public Meetings in South Carolina, SCDOT should take the lead.
  - GDOT Construction does not have a problem with keeping track of items used in SC roadway approach to the bridge for 100% payment by SC as described by the Bi-State Agreement.
  - Mr. Rewis requested a cost estimate of the 2 alternatives for the bridge replacement. SCDOT does not have money allocated for the project; therefore money would need to be available before the project can be let.
  - GDOT Construction estimates that the project would take about 24 months.
  - Mr. Rewis stated that the widening of US 17 in South Carolina has not been funded and is not programmed for 10+ years.
4. There was consensus that the Traffic volumes warranted a 4 lane bridge. Ms. Giersch from FHWA explained that the project needs to have Logical Termini for the widening of the bridge. She recommends that the corridor be cleared to a point where there is a traffic drop. The objective is not to predispose future development and not to move the bottle neck to the other side of the bridge.
5. It was suggested that SCDOT could do the environmental studies in South Carolina to the point where the traffic drops. This data could then be given to Mr. Condit, GDOT/OEL, in order to put all the information in one Environmental Document. Ms. Giersch pointed out that there is a different group of Resource Agencies for South Carolina, and they need to be involved. Also, the project needs to be added into SCDOT STIP.
6. GDOT stated that a CE was done for the current GDOT maintenance project and could be used as a starting point for a 2 lane bridge replacement.
7. Mr. Condit mentioned that replacing 2 lanes now, and adding 2 more lanes later, would be disturbing the river bed twice and affecting endangered species (short-nosed sturgeon).
8. A Port in Jasper County, South Carolina, has been discussed, which would increase traffic volumes.
9. Summary:
  - a) Cost Estimate for a 2-lane and a 4-lane bridge to be provided by GDOT to SCDOT (1 or 2 weeks).

- b) Traffic Study of the south part of the project delivered to Mr. Rewis. An e-mail of the electronic version will be provided to Mr. Rewis and Mr. Wilson by Mr. Houser.
- c) The consensus of the group is a 4-lane widening.
- d) Telephone conference call is the preferred method to communicate between DOTs.
- e) To have a 2008 Let date, SCDOT will need to address funding.
- f) SCDOT will provide traffic counts for SC170 and SC170ALT (about 2 months). Hilton Head Island also expected to be a large traffic generator.
- g) Ms. Giersch suggested having a clear Need and Purpose. It will be challenging to prepare and Environmental Document in 1 year (possible 4-f, park, Wetlands, Savannah National Wildlife Refuge).
- h) Once the exchange of the data mentioned above takes place, SCDOT will communicate to GDOT their preferred alternative.

East Coast



Greenway ALLIANCE

Officers  
Chuck Flink Chair  
Mark Fenton Vice-Chair  
Tony Barrett Secretary  
Peter Dague Treasurer

Board of Trustees  
Tony Barrett Maine  
David Brickley Virginia  
Elizabeth Brody New Jersey  
Bill Bussey North Carolina  
Eugene Conti North Carolina  
Peter Dague Ohio  
David Dionne Maryland  
Mark Fenton Massachusetts  
Chuck Flink North Carolina  
M. Katherine Kraft New Jersey  
Nancy Lewis New York

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David Burwell Co-Founder,  
Rails-to-Trails Conservancy

Andy Clark Executive Director,  
League of American Bicyclists

Tony Hiss Environmental Author

John Horsley Executive Director,  
AASHTO

Wil Hylton Washington  
Correspondent, GQ Magazine

Harry Jaffe National Editor,  
Washingtonian Magazine

Patricia King ECGA Founder

Keith Laughlin President,  
Rails-to-Trails Conservancy

Jeff Olson Alta Planning + Design

Hon. Paul Sarbanes U.S. Senator,  
Maryland

Chuck Sloan Chairman, Trust  
for the Appalachian Trail Lands

Dr. Philip Troped Harvard  
School of Public Health

Trail Council  
Mark Fenton Chair  
Craig Della Penna Vice-Chair

Executive Director  
Karen M. Votava

To BUTCH WELCH	From AL BLACK
Co./Dept. GDOT	Co.
Phone #	Phone #
Fax # - 7921	Fax # Ken MISCUSW

PIN: 522920-

**RE: Back River replacement bridge**

March 22, 2006

Al Bungard, County Engineer  
PO Box 8161  
Chatham County  
Savannah, GA 31405

**RECEIVED  
COUNTY ENGINEERING**

MAR 23 2006

Dear Mr. Bungard,

AG	PV	FS	AB
1			2
VO	RP	GD	DN

The East Coast Greenway Alliance (ECGA) ~~wishes~~ <sup>uses</sup> the addition of bike lanes to the Back River replacement bridge that links South Carolina to Georgia. This is a critical piece of the East Coast Greenway connecting the US 17/SR 404 Spur over the Back River from South Carolina to Hutchinson Island. From Hutchinson Island, the trail can be linked via ferry to River Street in Savannah. It is critical that this improvement be done now while this replacement project is in development or we'll lose the chance for decades. Note that the Greenway way will bring thousands of walkers and cyclists along this Maine to Florida trail.

The East Coast Greenway will provide muscle-powered users with a safe trail connecting the cities of the eastern seaboard. This 2,950 mile off-road trail system, the urban sister to the Appalachian Trail, will be a pathway to adventure for walkers, cyclists, skaters, skiers, equestrians and persons with disabilities. It will bring low-impact tourism to Georgia and to the other states along its route.

The ECGA is a national nonprofit organization dedicated to making the East Coast Greenway a reality. We urge you to advance this important project.

Sincerely,

Karen M. Votava  
Executive Director

CC: Pete Liakakis, Chairman, Chatham Co. Board of Commissioners  
Mark Wilkes, Chatham-Savannah Metro Planning Commission  
Harvey Keepler, GDOT Environmental Engineer  
Jo Hickson, ASLA



LINKING CITIES FROM MAINE TO FLORIDA / 27 NORTH ROAD WAKEFIELD RI 02879 / T 401.789.4625 / F 401.789.4625 / INFO@GREENWAY.ORG / GREENWAY.ORG

**EAST COAST**



**East Coast Greenway®**

**Georgia Section**  
Spine: 142 miles

**GREENWAY** December 2000

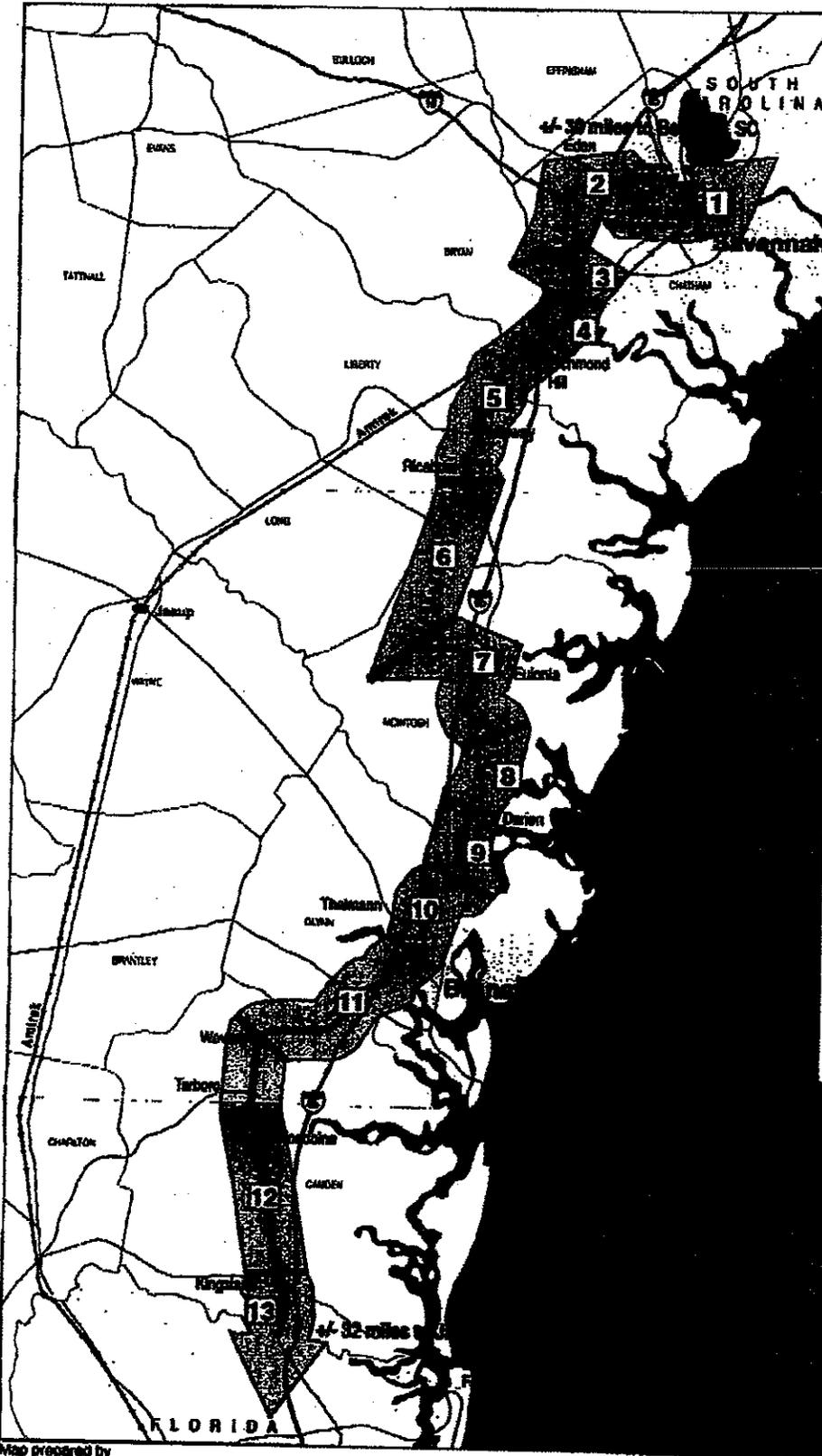
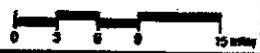
**Key To Segments**

- 1 SC to Savannah (in East Five-Partway 1)
- 2 Savannah & Ogeechee Canal
- 3 O&G Canal to Old River State
- 4 Richmond RR Yarp
- 5 Richmond RR to Milledgeville
- 6 Milledgeville-Thomson Railroad
- 7 Thomson to Marietta
- 8 Marietta to Dalton
- 9 Dalton to New Hope
- 10 New Hope to Benning
- 11 Benning to Milledgeville
- 12 Milledgeville-Columbus Railroad
- 13 Columbus to Florida Line

\* portions of this segment presently owned

**Legend**

- Interstate
- U.S. Route / State Route
- County Line
- Aerial Rail & Station
- Open Space
- Urban Area
- Significant Linking Greenway
- Spine Route Center
- Alternate Route Center
- Trail Route Identified
- Trail Route in Public Control
- Trail in Planning or Design
- Trail Completed / in Construction
- Designated East Coast Greenway



Map prepared by  
Vance Hagan Brustin, Inc.  
101 Walnut Street  
Watertown, MA 02471-9151  
781/924-4122 fax 781/924-2626

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## Minutes from March 22, 2007 Concept Team Meeting

**Project Number NH-009-2(93) / BR-BR27(009)**

**PI No. 522920**

**SR 404 Spur / US 17 @ Back River 1 mile N. of Savannah  
Chatham County, Georgia / Jasper County, South Carolina**

**Time:** 9:00 A.M.

**Location:** Savannah Metropolitan Planning Commission Office

**Attendees:** See Attached Sign in Sheet

Mr. Welch started the meeting by welcoming everyone and then turned the presentation of the concept design over to the staff of Qk4. Qk4 presented the information as outlined on the attached agenda. Questions were asked and discussion occurred among the project team and the invitees. Major points of discussion are noted below.

### **Discussion:**

1. The alternative proposed would replace the existing two-lane bridge with a two-lane bridge. The corridor is a designated bike route; therefore, the shoulder design would accommodate bike traffic (10-foot wide shoulder). The proposed bridge would include acceleration and deceleration lanes for the Hutchinson Island interchange.
2. Traffic projections to the year 2030 indicate the need for a four-lane facility. Representatives of the Metropolitan Planning Organization (MPO) mentioned that growth in neighboring areas of South Carolina, the proposed new port in Jasper County, and proposals for future development of Hutchinson Island may result in higher traffic volumes than those estimated in the project traffic report.
3. Local representatives provided first-hand accounts of traffic bottlenecks occurring for traffic to/from Hutchinson Island, particularly related to events at the convention center. Concerns were expressed regarding the merging conditions that exist at the Hutchinson Island interchange, the ramp radii and the subsidence that is occurring at the ramp from Hutchinson Island to the Talmadge Bridge.
4. The alternatives for the project were presented. The proposed Build Alternative would be on the north side of the existing bridge and situated to accommodate the future construction of a parallel bridge (that will provide for a total of four through lanes). The future parallel bridge would be constructed on the alignment of the existing bridge. The proposed profile will be approximately three to four feet higher than the existing bridge.
5. The construction staging was presented. Local representatives expressed concern that access for large trucks be maintained throughout the construction. Staging of the acceleration lane proposed for the new bridge would involve demolition of the existing bridge. Discussion occurred regarding the most appropriate spacing between

the two proposed bridges as it related to ease of construction and construction cost. Options for the bike friendly shoulder were included in this discussion. Mike Clements commented that the bridge cost for the acceleration lane should be doubled from 90\$/SF to 180\$/SF.

6. GDOT stated that a CE is anticipated for this project and that OEL will complete the CE and it is hoped that the CE could be approved by the summer. OEL's initial impression is that the Back River is not considered to be a high-quality water and so the bridge should be able to be drained directly into the river without treatment.
7. The existing bridge is anticipated to require load restrictions beginning in 2010. Therefore, the let date goal has been September of 2008. However, GDOT funding for construction of the replacement bridge has recently been moved to long range. Butch will request restoration of the funding.
8. Proper signage and marking for the Hutchinson Island interchange will need to be incorporated into the final plans.
9. AT&T may want to be able to hang a transmission line on the new bridge.

**Action Items:**

- a) GDOT will allow for approximately two weeks to receive written comments in regard to the proposed concept report. The goal will be to achieve an approved concept report by the end of May.
- b) Qk4 will prepare additional plans depicting the ultimate build condition assuming a four-lane bridge facility over the Back River, with acceleration and deceleration lanes for the Hutchinson Island interchange. In coordination with GDOT, Qk4 will prepare any necessary revisions or additions to the existing draft concept report prior to circulation for approval.
- c) The GDOT Bridge Office and the project team discussed substructure options, including a change to drilled caissons.
- d) GDOT and SCDOT need to discuss the bi-state agreement in light of the proposed approach to the ultimate four-lane construction of the Back River Bridge.
- e) OEL will proceed to complete the Categorical Exclusion, including the remaining coordination with appropriate resource agencies. OEL will also be responsible for any necessary environmental permits.
- f) The schedule may need to be modified to reflect the minimum times involved in the PDP, particularly given the time needed for the BFI report.

## SIGN IN SHEET

3/22/2007

US 17 Back River Bridge  
Savannah, Georgia

	Name	Organization	Phone Number	Email Address
1.	Tom Franklin	GA DOT	770 584-3915	TomFranklin@dot.state.ga.us
2.	James L. Braun	GDOT-D-5	912 427-5740	James.L.Braun@dot.state.ga.us
3.	Jeff Iyer	Qkcy		
4.	Teresa Scott	GDOT	912-427-5788	teresa.scott@dot.state.ga.us
5.	Mark Wilkes	MPO	912-651-1451	wilkesm@the MPC.org
6.	BRENT REWIS	SCDOT	803-737-7903	REWISBL@SCDOT.ORG
7.	Cynthia Phillips	GDOT	912-427-5767	Cynthia.Y.Phillips@dot.state.ga.us
8.	Stade Cole	GDOT	912-651-2144	george.cole@dot.state.ga.us
9.	PATRICK SHAY	CHARITAM COUNTY COMMISSIONER	912-232-1151	COMSARC@AOL.COM
10.	MARCELA COLL	GDOT URBAN DISTRICT	404 656 5447	marcela.coll@dot.state.ga.us
11.	Paul Candi	GDOT / OEL	404-699-4415	paul.candi@dot.state.ga.us
12.	Jane Low	MPO	912-651-1443	lowj@the MPC.org
13.	Wynkella Wang	Savannah MPO	912-651-1452	wangw@the MPC.org
14.	Jerome Sweareid	GDOT Dist. Const.	912-427-5760	
15.	BRAD SAXON	GDOT	912-427-5733	brad.saxon@dot.state.ga.us
16.	TROY PITTMAN	GDOT	912 651 2144	troy.pittman@dot.state.ga.us

	Name	Organization	Phone Number	Email Address
17.				
18.	Mike Clements	GDOT - Bayview Division	404-656-5283	Mike.Clements@DOT.STATE.GA.GOV
19.	ARUNA SASTRY	SASTRY AND ASSOC	678-366-9375	SASTRY375@bellsouth.net
20.	ALBERT WERZEL	GDOT - URBAN	404-656-5447	ALBERT.WERZEL@DOT.STATE.GA.GOV
21.	MATT HOUSER	QK4	404-329-5900	Mhouser@qk4.com
22.	BOS COFFEY	SPANNING TRADE & CRAW CENTER	912-447-4025	BOCOTTEY@SPANNING.COM
23.	ROBBIE FRIBBEK	J.B. TRUMBULL	770-952-1022	RFRIBBEK@JBTUMBULL.COM
24.	JOHN McWhorter	J.B. TRUMBULL	770-952-1022	JMcWhorter@JBTUMBULL.COM
25.	Allison Black	CHATHAM CO.	912-652-7812	avblack@chathamga.com
26.	ANDY BALTERSTEDT	QK4	404-329-5900	abalterstedt@qk4.com
27.				
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Architecture

Engineering

Construction

## MEETING MINUTES

**Project:** SR 404-Spur/US 17 over Back River, NH-009-2(93) P.I. # 522920

**Purpose:** Review & Discussion of Design Issues on Back River Bridge and Hutchinson Island intersection

**Place:** Georgia DOT, Urban Design Conference Room

**Meeting Date:** Wednesday, April 25, 2007

**Prepared By:** Jeff Dyer

**In Attendance:** Albert Welch – GDOT Urban Design  
Marcella Coll – GDOT Urban Design  
Darrell Richardson – GDOT Urban Design  
Clayton Bennett – GDOT Bridge Design  
Jason O’Neal – GDOT Bridge Design  
John McWhorter – JB Trimble  
Mike Davis – JB Trimble  
Robbie Frizzell – JB Trimble  
Matt Houser – Qk4  
Andy Ballerstedt – Qk4  
Jeff Dyer - Qk4

The following items were discussed:

Even though the 2-lane design should anticipate the ultimate four-lane configuration, the Back River Bridge could remain two-lane for many years.

The typical section was discussed. GDOT wants to provide 10’ wide shoulders in each direction in anticipation of the bike corridor and to provide “break-down” lanes.

Care must be taken with the horizontal, vertical and superelevation geometry to avoid flat spots and/or poor drainage. The options for crowns and cross-slopes were discussed. GDOT had no preference. Qk4 and JBT are to examine the drainage to arrive at the best solution.

The transition curvature from the island to the new bridge was discussed – this will need further review with Paul Liles of the Bridge Office.



Architecture

Engineering

Construction

## MEETING MINUTES

Some thought needs to be given on how the contractor will access the old bridge after erection of the new bridge.

GDOT wants the new bridge to include a southbound deceleration lane onto Hutchinson Island from the new bridge, but does not want to construct a northbound acceleration lane on the new bridge. Even with the northbound acceleration lane not being constructed, the horizontal alignment of the mainline may still require that a small section of the new bridge will have to be constructed after the old bridge is removed.

The concerns expressed by local officials at the Concept Team Meeting in Savannah regarding the current interchange configuration received much discussion. GDOT will independently investigate the subsidence issues on the ramp from Hutchinson Island to the Talmadge Bridge. Based on the results of the investigation, GDOT may include some additional work in this contract to fix the ramp.

Overall, GDOT is satisfied with the current configuration of three of the four existing ramps on Hutchinson Island as they relate to this replacement bridge project. The one ramp that may warrant reconfiguration is the ramp from Hutchinson Island onto the new bridge (traffic going to South Carolina). Qk4 will investigate the option of realigning this ramp into more of a "T" configuration with stop sign control. This would tend to make it easier for motorists to look behind them for gaps in traffic.

Qk4 will provide GDOT with some refined options for inclusion in the Concept Report and Mr. Welch will circulate the Concept Report for the approval signatures. The goal is to have the Concept Report approved by the end of May.

GDOT is moving to prepare the Categorical Exclusion.

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** NH-009-2(93) Chatham  
P. I. No.: 522920  
S.R. 404 Spur/U.S. 17 @ Back River

**OFFICE:** Engineering Services

**DATE:** June 16, 2008

**FROM:** Brian Summers, P.E., Project Review Engineer *REW*

**TO:** James B. Buchan, P.E. State Urban Design Engineer

**SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES**

Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. Incorporate alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT No.	Description	Savings PW & LCC	Implement	Comments
<b>New Bridge (A)</b>				
A-1	Increase span lengths to reduce the amount of substructure	\$219,700	No	The Bridge Office has approved the 70' spans that are currently shown. If 75' spans are used larger piles will be required which was not included in the VE Team's cost estimate.
A-3	Reduce shoulder widths for entire 3290' length of bridge structure	\$1,950,000 (proposed) \$1,302,993 (actual)	Yes / modified	The VE Team's recommendation was 10' on the outside and 10' on the inside. The Design Office has agreed to reduce the inside and outside shoulders to 8'.
A-4	Reduce length of Deceleration Lane	\$154,400	Yes	This should be done.

ALT No.	Description	Savings PW & LCC	Implement	Comments
<b>New Bridge (A) - continued</b>				
A-6	Reduce travel lane widths to 11' through entire project limits	\$680,000	No	The truck traffic is 10 % and the Design Year traffic is 35,900 vpd. In addition, the future Port development in SC will increase the truck percentage.
<b>Demolition and Staging (B)</b>				
B-1	Do not demolish existing bridge at this time	\$2,532,900	No	The Bridge Maintenance Office as well as Chatham County have both stated that they do not want to maintain this bridge. The liability and future maintenance costs could outweigh the proposed savings.
<b>Approaches (C)</b>				
C-1	Reduce Design Speed to 45 mph	\$291,000	Yes	This should be done.

A meeting was held on June 16, 2008 to discuss the above recommendations. Jeff Dyer, Andrew Ballerstedt, and Matt Houser with QK4, Robbie Frizzell with J.B. Trimble, Butch Welch, and Marcela Coll with Urban Design, and Brian Summers, Ron Wishon and Lisa Myers with Engineering Services were in attendance.

Approved: Gerald M. Ross Date: 6/18/08  
Gerald M. Ross, P. E., Chief Engineer

BKS/REW

Attachments

c: R. Wayne Fedora  
Todd Long

NH-009-2(93) Chatham

P.I. No. 522920

VE Study Implementation

Page 3.

Bill Ingalsbe  
Bill DuVall  
Mike Clements  
Ben Buchan  
Darrell Richardson  
Butch Welch  
Mareela Coll  
James Magnus  
Will Murphy  
Slade Cole  
Ken Werho  
Nabil Raad  
Lisa Myers



# Preconstruction Status Report By PI Number

Print Date: 06/16/2008

PROJ ID	COUNTY	DESCRIPTION	MGMT. ROW DATE	SCHED DATE	MGMT. LET DATE
522920-	Chatham	SR 464 SPUR US 17 @ BACK RIVER MILL N OF SAVANNAH	Sep-08	Mar-17	Sep-09

NH006-00089-02(093)  
 TIP #: 98-11-1  
 MPO: Savannah  
 MODEL YRS  
 PROJ MGR: Welch, Albert  
 PROG: Replacement  
 TYPE:  
 CONCEPT: BR REPL

**FIELD DIST:** 5  
**TWIN:**  
**US:** 17  
**EST DATE:** 1/3/2007  
**PROJ LENGTH:** 0.80  
**TYPE:** Bridges  
**WORK:**  
**LET RESP:** 1001

Phase	Approved	Proposed	Cost	Fund	Status
PE	1999	1999	1,905,155.44	005	AT TBR/REZ/D
ROW	2008	2009	813,000.00	LY108	PRJ C S I
ROW	2008	2009	368,091.14	1100	PRJ C S I
CST	2012	2012	20,813,000.00	1100	PRJ C S I
CST	2012	2012	4,187,000.00	LY108	PRJ C S I

Congressional 12

SCHED START	SCHED FINISH	ACTIVITY	ACTUAL START	ACT EST FINISH	PCT	DISTRICT COMMENTS
		Define Project Concept	10/3/2003	3/18/2004	100	District: 1AS/Initial Concept Meeting held 9-21-04, traffic needs to be off bridge by 2010. GDOT will do bus doc/3-30-05/Maint letting project in Apr-05 to work on bridge, project needs to be complete and opened to traffic by 2010/2-12-07/concept meeting 3-22-07/9-24-07/concept report submitted to USD
		Concept Meeting	3/22/2007	3/22/2007	100	
7/4/2008	8/7/2008	Concept Submittal and Review			0	
8/8/2008	8/21/2008	Receive Preconstruction Concept Approval			0	
<b>8/21/2008</b>	<b>8/21/2008</b>	<b>Management Concept Approval Complete</b>			<b>0</b>	
6/25/2008	7/1/2008	Value Engineering Study	7/23/2007		97	
9/12/2008	9/12/2008	Public Information Open House Held			0	
8/24/2009	8/21/2009	Environmental Approval	1/15/2007		55	
3/6/2009	3/6/2009	Public Hearing Held			0	
		Mapping	2/23/2005	3/22/2005	100	
9/15/2008	10/17/2008	Field Surveys/SDF			0	
<b>10/20/2008</b>	<b>5/8/2009</b>	<b>Preliminary Plans</b>			<b>0</b>	
2/23/2009	4/24/2009	Preliminary Bridge Design			0	
8/22/2008	9/26/2008	Underground Storage Tanks			0	
10/24/2008	3/12/2009	404 Permit Obtainment			0	
9/14/2009	9/15/2009	FFPR Inspection			0	
10/21/2009	1/12/2010	R/W Plans Preparation			0	
<b>3/10/2010</b>	<b>3/15/2010</b>	<b>R/W Plans Final Approval</b>			<b>0</b>	
10/21/2009	10/25/2009	E & D Report Development and Approval			0	
3/16/2010	1/24/2012	R/W Acquisition			0	
8/6/2010	8/19/2010	Stake R/W			0	
10/21/2009	10/30/2009	Soil Survey			0	
10/21/2009	11/25/2009	Bridge Foundation Investigation			0	
<b>10/26/2009</b>	<b>7/5/2010</b>	<b>Final Design</b>			<b>0</b>	
12/24/2009	2/17/2010	Final Bridge Plans Preparation			0	
7/27/2010	7/28/2010	FFPR Inspection			0	
8/11/2010	8/24/2010	FFPR Response			0	

**BIKE PROVISIONS INCLUDED?:** N      **MEASUREMENT SYSTEM:** U      **CONSULTANT:** U      **UT EST:** \$ 0.00

**PDD:** Waiting on SC DOT 95402. Need CSE 2008, bid bridge 10/5/04.  
**Bridge:** BRIDGE REQUIRED  
**Design:** ABC, QK4, developing Concept Report 04-24-08  
**EIS:** C1/NotApvd/NotonSched/Mry/fhd/04/23/08  
**LGPA:** BI-STAT AGREEMENT SIGN S. CAROLINA DO 16% CSE/PL COST 3-2-05  
**Planning:** GDOT PROJECT 1996, C1/SLTRIP 1999/2002, POOR SEPARATING  
**Prog. Develop:** BRIDGE IN BAD SHAPE-REPLACE BEFORE SC PROJ IF SC NOT MOVING  
**Programming:** PR2/P-2-2-99/#1 11-05/#2 2-06/#3 8-07  
**Traffic Op:** C/AT/BR REPL PRJCTS&M PLNS N/R 101001/\$  
**Utility:** C/D S/E  
**EMG:** 2112 (H85(94)-E/V88), DOT=M, C=S,D

**RAW INFORMATION:**

PREL PARCEL CT:	TOTAL PARCEL CT:	ACQUIRED BY: D01	ACQ MGR:
UNDER-REVIEW CT:	RELEASED CT:	OPT-PEND CT:	DEEDS CT:
RW CERT DT:	ACQUIRED CT:	RELOCATION CT:	COND-PEND CT:
			COND-FILED CT:

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

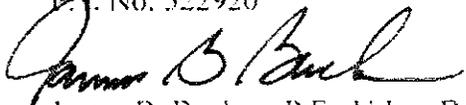
INTERDEPARTMENTAL CORRESPONDENCE



**FILE** NH-009-2(93), Chatham County  
SR404 SPUR/ US17 at Back River  
1 Mile North of Savannah  
P. I. No. 522920

**OFFICE** Urban Design

**DATE** May 27, 2008

**FROM**   
James B. Buchan, P.E., Urban Design Engineer

**TO** Brian Summers, P.E., Project Review Engineer

**SUBJECT** Value Engineering Study - Responses

Reference is made to the recommendations that were contained in the Value Engineering Study – Final Report dated November 9, 2007 for the above referenced project. Responses and recommendations are as follows:

**1. Value Engineering Alternative A-1: Increase span lengths to reduce the amount of substructure - Not Recommended**

This alternative is not recommended for implementation by the Department due to the following reasons:

- The current policy from the Office of Bridge Design states a maximum of a 50-ft span length for pile bents. The Bridge Office has approved the proposed design of 70-ft bent spacing which is a 28% increase over this policy.
- The longer span length of 75-ft as opposed to the proposed 70-ft reduces the number of foundation systems from 47 to 44. When comparing similar foundation systems, this will provide a cost savings of \$219,700. However, the VE Team uses the same size PSC piling for each scenario. The design team maintains this cost savings will not be realized since the number and pile size will increase as the dead load increases due to the larger beam size thus changing the bent design for each scenario. The design team also maintains construction cost will increase due to the requirement for heavier equipment to construct the bridge.

**2. Value Engineering Alternative A-3: Reduce shoulder width for entire length of bridge – Recommended – with modification**

This alternative is not recommended as proposed by the VE Team but should be implemented with a modification as proposed by the design team for the following reasons:

- The proposed length of the bridge is 3,290-ft. The VE Team proposed a 4-ft shoulder on one side of the bridge and a 10-ft shoulder on the other. This leaves one lane of traffic without a breakdown area for emergencies. It is not known if and when the parallel bridge will be constructed in the future.
- The design team proposes to provide 8-ft shoulders with 12-ft travel lanes. Even though the collision rate along this roadway is below the statewide average, the need for emergency shoulders in both directions along the bridge should be considered due to a high truck percentage and increasing traffic volumes. The 24-hr truck percentage is 10% while the 2006 ADT was 14,840 vpd and the projected 2030 ADT is 35,900 vph.
- The VE Team's proposal reduces the typical section by 6-ft at a cost savings of 1,950,000. The design team's proposal will reduce the typical section by 4-ft at a cost savings of 1,302,993. The cost of providing emergency shoulders in both directions for the entire length of the bridge will cost 647,007.

**3. Value Engineering Alternative A-4: Reduce the length of the deceleration lane –  
*Recommended***

This alternative is recommended for implementation by the Department and the length of the deceleration lane will be reduced.

**4. Value Engineering Alternative A-6: Reduce travel lane widths through the entire project to 11 feet – *Not Recommended***

This alternative is not recommended for implementation by the Department due to the following reasons:

- The 24-hr truck percentage is 10% while the 2006 ADT was 14,840 vpd and the projected 2030 ADT is 35,900 vph. Though not a designated Truck Route, this corridor has a high truck percentage and future Port development in South Carolina will only increase this percentage along with traffic volumes.
- The design team proposes to provide 8-ft shoulders with 12-ft travel lanes. Even though the collision rate along this roadway is below the statewide average, the need for 12-ft travel lanes and emergency shoulders in both directions along the bridge should be considered due to the high truck percentage and increasing traffic volumes.
- The proposed length of the bridge is 3,290-ft and it is not known if and when the parallel bridge will be constructed in the future.

**5. Value Engineering Alternative B-1: Do not demolish the existing bridge at this time –  
*Not Recommended***

This alternative is not recommended for implementation by the Department due to the following reasons:

- The liability and maintenance associated with keeping the bridge in place could outweigh the potential cost savings.

- The Office of Bridge Maintenance stated it does not desire to maintain the existing structure once traffic is shifted to the new bridge. Due to this, the city or county must assume the maintenance and legal responsibilities of the existing bridge if it were to remain. Chatham County has stated that it will not maintain the structure once traffic is shifted to the new bridge.
- If in the future it is found that a substantial cost savings is practical and liability and maintenance issues are resolved, this recommendation will be revisited.

**6. Value Engineering Alternative C-1: Reduce posted and design speed to 45 mph from the beginning of the project to 1,000 feet from the shore line – *Recommended***

This alternative is recommended for implementation by the Department due to the following reasons:

- The speed design for the Talmadge Memorial Bridge is 55 mph while the posted speed is 45 mph.
- Even though reducing the speed design from 55 to 45 mph will not maintain a consistent speed design through this corridor, it will reduce the decal lane on the bridge structure from 680-ft to 395-ft. This decal lane is proposed for the SB SR404 SPUR/ US17 exit onto Hutchinson Island from South Carolina to Georgia.
- All other design features will not be affected by reducing the speed design from 55 to 45 mph.

JBB:ASW:ab(QK4) <sup>ASW</sup>

Attachment