

ORIGINAL TO GENERAL FILES

D.O.T. 66

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** BRST-1169(8) Webster County **OFFICE** Preconstruction  
P.I. No. 343362  
**DATE** August 23, 2001  
**FROM**   
C. Wayne Hutto, Assistant Director of Preconstruction  
**TO** SEE DISTRIBUTION

**SUBJECT** PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

CWH/cj

Attachment \_\_\_\_\_

**DISTRIBUTION:**

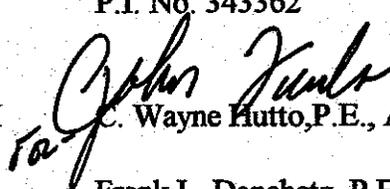
Tom Turner  
David Mulling  
Harvey Keepler  
Jerry Hobbs  
Herman Griffin  
Michael Henry  
Marion Waters  
Marta Rosen  
Paul Liles  
Jimmy Chambers  
Glenn Durrence  
BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** BRST-1169(8) Webster County **OFFICE** Preconstruction  
P.I. No. 343362

**DATE** August 13, 2001

**FROM**  C. Wayne Hutto, P.E., Assistant Director of Preconstruction

**TO** Frank L. Danchetz, P.E., Chief Engineer

**SUBJECT** PROJECT CONCEPT REPORT

This project is the replacement of a structurally deficient bridge on SR 153 over Lanahassee Creek 3.5 miles northeast of Preston, Georgia. The existing bridge, constructed in 1959, is load limited with a sufficiency rating of 15. State Route 153 at this location is a rural two lane roadway with 12' travel lanes with rural shoulders. Traffic is projected to be 900 VPD and 1,400 VPD in the years 2006 and 2026 respectively. The posted speed and the design speed are 55 MPH.

The construction proposes to construct a new 160' x 38' concrete bridge over Lanahassee Creek at the existing bridge site. The approaches will consist of two, 12' lanes with 8' rural shoulders (2' paved). Traffic will be maintained during construction utilizing an on-site detour.

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>PROG DATE</u>	<u>LET DATE</u>
Construction (includes E&C and inflation)	\$992,000	\$1,306,000	2004	03-07
Right-of-Way	\$ 18,000	\$ 35,000		
Utilities*	LGPA	LGPA		

\*Webster County signed LGPA for utilities 8-17-99.

Frank L. Danchetz  
Page 2

BRST-1169(8) Webster  
August 13, 2001

This project is in the STIP. I recommend this project concept be approved.

CWH:JDQ/cj

Attachment

CONCUR

  
\_\_\_\_\_  
Thomas L. Turner, P.E., Director of Preconstruction

APPROVE

  
\_\_\_\_\_  
Frank L. Danchetz, P.E., Chief Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

**FILE:** BRST-1169(8) Webster  
P.I. Number 343362-

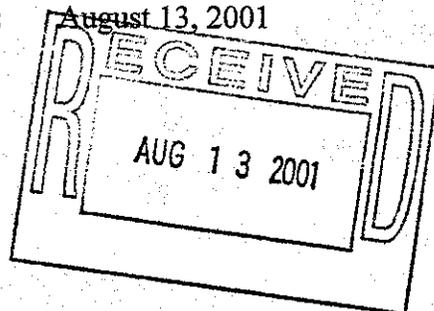
**OFFICE:** Engineering Services

**DATE:** August 13, 2001

*DTM*  
**FROM:** David Mulling, Project Review Engineer

**TO:** Wayne Hutto, Assistant Director of Pre-construction

**SUBJECT: CONCEPT REPORT**



We have reviewed the concept report submitted August 7, 2001 by the letter from James R. Chambers dated August 7, 2001, and have the following comment:

1. Reimbursable utility costs conflict with note on Page 6 of report stating no known utilities located within proposed project limits.

The costs for the project are:

Construction	\$820,000
Inflation	\$ 82,000
E&C	\$ 90,000
Reimbursable Utilities	\$ 30,000
Right of Way	\$ 18,000

DTM

c: Jim Chambers – Office of Consultant Design

## SCORING RESULTS AS PER MOG 2440-2

<b>Project Number:</b> BRST-1169(8)		<b>County:</b> Webster		<b>PI No.:</b> 343362-		
<b>Report Date:</b> 8/7/01		<b>Concept By:</b>				
		DOT Office: CONSULTANT DESIGN				
<input checked="" type="checkbox"/> CONCEPT						
		Consultant: LPA GROUP				
<b>Project Type:</b> Choose One From Each Column		<input type="checkbox"/> Major <input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural	<input type="checkbox"/> ATMS <input checked="" type="checkbox"/> Bridge <input type="checkbox"/> Building <input type="checkbox"/> Interchange <input type="checkbox"/> Intersection <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous		
<b>FOCUS AREAS</b>	<b>SCORE</b>	<b>RESULTS</b>				
<b>Presentation</b>	100%	Utility note conflicts with reimbursable utility costs.				
<b>Judgement</b>	100%					
<b>Environmental</b>	100%					
<b>Right of Way</b>	100%					
<b>Utility</b>	100%					
<b>Constructability</b>	100%					
<b>Schedule</b>	100%					

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

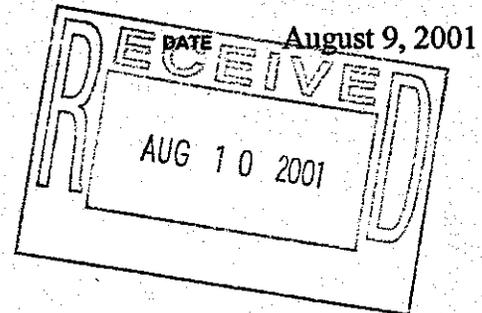
**FILE** BRST-1169(8) Webster County  
SR 153 over Lanahassee Creek 3.5 mi NE of Preston  
P.I. No. 343362-

**FROM** *James R. Chambers*  
James R. Chambers, State Consultant Design Engineer

**TO** Wayne Hutto, Assistant Director of Preconstruction

**SUBJECT** PROJECT CONCEPT REPORT

**OFFICE** Atlanta



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

Those on the distribution list below should review the Concept Report and send comments and/or the signature page to the Preconstruction Office within 10 days as per the PDP.

If you have any questions or require further information please call Otis Clark at (404) 463-6265 or Al Bowman of LPA Group, Inc. at (770) 263-9118.

*Distribution:*

David Mulling, Project Review Engineer  
Harvey Keepler, State Environmental/Location Engineer  
Marion Waters, State Traffic Operations Engineer  
Marta Rosen, State Transportation Planning Administrator  
Herman Griffin, State Transportation Programming Engineer  
Glenn Durrence, District Engineer - Thomaston  
Paul Liles, Sate Bridge & Structural Engineer

JRC: OC

cc: LPA Group, Inc.

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

Office of Consultant Design  
Project Number: BRST-1169(8)  
County: Webster  
P. I. Number: 343362

Federal Route Number: N/A  
State Route Number: 153

**PROJECT CONCEPT REPORT  
S.R. 153 over Lanahassee Creek**

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE 8-7-01

DATE 8-9-01

*for*

Project Manager - Otis Clark

*James R. Chambers*  
State Consultant 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/or the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

State Transportation Planning Administrator

DATE \_\_\_\_\_

State Transportation Programming Engineer

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Operations Engineer

DATE \_\_\_\_\_

District Engineer

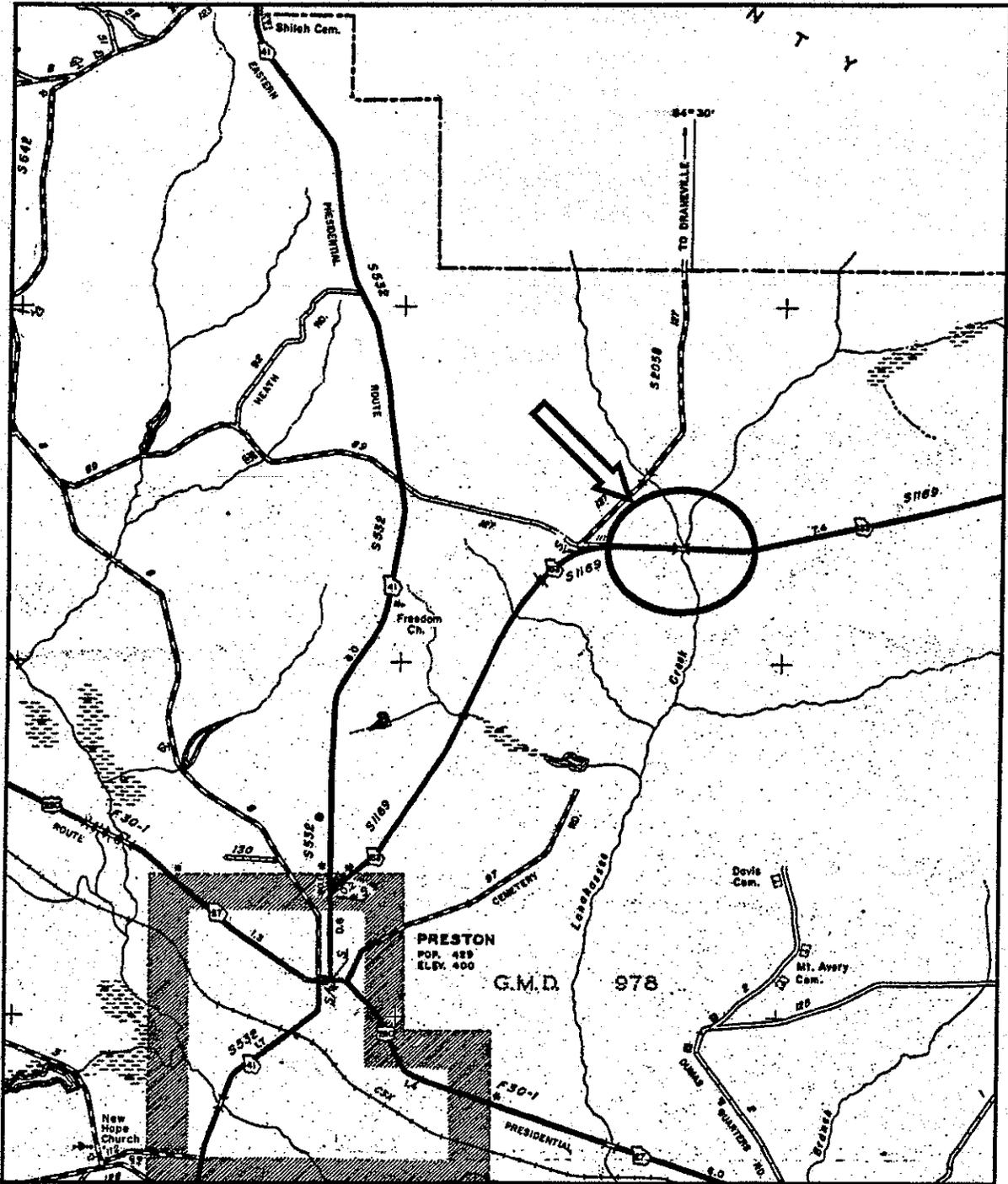
DATE \_\_\_\_\_

Project Review Engineer

DATE \_\_\_\_\_

State Bridge and Structural Design Engineer

### PROJECT LOCATION MAP



**Project:** BRST-1169(8) Webster County  
**PI No.:** 343362  
**Description:** SR 153 over Lanahassee Creek 3.5 mi NE of Preston

Project Concept Report pag  
Project Number: BRST-1169 (8)  
P. I. Number: 343362  
County: Webster

**NEED AND PURPOSE**  
**PROJECT BRST-1169 (8) WEBSTER COUNTY**  
**P. I. NO 343362-**  
**Bridge Replacement**

Project Number BRST-1169 (8) will replace the existing, structurally deficient bridge located on State Route (SR) 153 over Lanahassee Creek in Webster County approximately 1-mile southwest of Preston, Georgia.

This bridge was constructed in 1959 and the sufficiency rating is 15.2. The Office of Bridge Design has determined that any structure with a sufficiency rating of less than 50 should be replaced rather than improved. This project will replace the existing bridge with a structurally adequate bridge.

State Route 153 is functionally classified as a rural major collector and is designated as a school bus route. The posted speed limit is 55 miles per hour. The Annual Average Daily Traffic (ADT) along this section of roadway has been projected to be 900 in 2006 and 1400 in 2026 with 8 percent trucks. There are no other projects within the immediate project area that are in the Departments' Long Range Construction Work Program. Also, SR 153 is not on the National Highway System nor is it in the Georgia Bicycle Statewide Network. Sidewalks are not proposed for this bridge. Replacing this bridge will bring it up to current design standards and improve the operation and safety of this roadway.

Project Concept Report pag  
Project Number: BRST-116 (8)  
P. I. Number: 343362  
County: Webster

### Description of the proposed project:

This project proposes to replace the existing structurally deficient S.R.153 Road Bridge over Lanahassee Creek with a new structure. The bridge is located in Webster County approximately 3.5 miles Northeast of Preston.

The proposed bridge will be constructed on existing alignment with traffic maintained during construction on a temporary on-site detour. To accommodate the length of the proposed on-site detour, the project will begin approximately 600 feet west of Lanahassee Creek and end approximately 600 feet east of the creek. The total proposed length of this project is 0.27 miles.

Is the project located in a Non-attainment area?  Yes  No

**PDP Classification:** Minor

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

**Functional Classification:** Rural Major Collector

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

**State Route Number(s):** 153

**Traffic (AADT):**

Current Year: (2006) 900 ADT

Design Year: (2026) 1400 ADT

#### Existing design features:

- **Typical Section:** The existing roadway has two 12-foot travel lanes with six-foot grassed shoulders.
- **Posted speed:** 55 mph                      **Maximum degree of curvature:** 1°30'
- **Maximum grade:** 6.2%
- **Width of right of way:** 100 ft
- **Major structures:** Concrete Bridge overlaid with asphalt – Steel Piles  
Width: 26 ft.  
Length: 140 ft.  
Sufficiency Rating: 15.2
- **Major interchanges or intersections along the project:** None

**Proposed Design Features:**

- **Proposed typical section(s):** The proposed roadway will consist of two 12-foot travel lanes with eight-foot shoulders that will include a two-foot paved shoulder (See attached typical sections).
- **Proposed Design Speed Mainline:** 55 mph
- **Proposed Maximum grade Mainline:** 6.2%    **Maximum grade allowable:** 6.5%
- **Proposed Maximum grade Side Street:** N/A    **Maximum grade allowable:** N/A
- **Proposed Maximum degree of curve:** N/A    **Maximum degree allowable:** 6°00'
- **Right of way**
  - **Width:** 80 feet Min.
  - **Easements:** Temporary (X), Permanent ( ), Utility ( ), Other ( )
  - **Type of access control:** Full ( ), Partial ( ), By Permit (X), Other ( )
  - **Number of parcels:** 4                      **Number of displacements:** 0
    - **Business:** 0
    - **Residences:** 0
    - **Mobile homes:** 0
    - **Other:** 0
- **Structures:**
  - **Bridges –** The proposed bridge is 38 feet wide and approximately 160 ft in length. The proposed structure will carry two 12-foot travel lanes with seven-foot shoulders.
  - **Retaining walls –** None Anticipated
- **Major intersections and interchanges:** None
- **Traffic control during construction:** Two-way traffic will be maintained utilizing a temporary on-site detour and detour bridge that will be constructed downstream of the existing bridge and roadway.

**Design Exceptions to controlling criteria anticipated:** None

	UNDETERMINED	YES	<u>NO</u>
HORIZONTAL ALIGNMENT:	( )	( )	(X)
ROADWAY WIDTH:	( )	( )	(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:** None Anticipated
- **Environmental concerns:** Anticipate COE 404 Permit. Wetland area located immediately upstream of existing bridge. Do not anticipate any UST, hazardous waste, historical, archeological, etc. impacts.
- **Level of environmental analysis:** CE - Anticipated
  - Are Time Saving Procedures appropriate? Yes (X), No ( ),
  - Categorical exclusion (X),
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ( ), or
  - Environmental Impact Statement (EIS) ( ).
- **Utility involvement:** No known utilities located within the proposed project limits.

**Project responsibilities:**

- Design – GDOT
- Right of Way Acquisition – GDOT
- Relocation of Utilities – Webster County
- Letting to contract – GDOT
- Supervision of construction – GDOT
- Providing material pits – Contractor
- Providing detours – Contractor

**Coordination**

- Concept meeting date and brief summary – July 18, 2001
- P. A. R. meetings, dates and results – Not Applicable
- FEMA, USCG, and/or TVA – Not anticipated.
- Public involvement – None anticipated
- Local government comments – None anticipated
- Other projects in the area – BRST-030-1(26) and BRST-0532(12)
- Other Coordination to date – None

**Scheduling – Responsible Parties' Estimate**

- Time to complete the environmental process: 4 Months
- Time to complete preliminary construction plans: 3 Months
- Time to complete right of way plans: 3 Months
- Time to complete the Section 404 Permit: 3 Months
- Time to complete final construction plans: 3 Months
- Time to complete to purchase right of way: 8 Months
- List other major items that will affect the project schedule: N/A

**Other alternates considered:** 1) Construct on existing alignment using a temporary on-site detour to maintain existing traffic; 2) Stage construct on shifted alignment while maintaining traffic on existing roadway; 3) Construct on existing alignment using an offsite detour to maintain existing traffic; 4) No Build.

**Comments:** Alternate (1) was chosen as the preferred Alternate due to its cost effectiveness (See Alternate 1 Cost Estimate). Alternate (2) was not chosen due to the length and cost of the additional approach work that would be required to achieve desirable horizontal geometry (See Alternate 2 Cost Estimate). Alternate (3) was not chosen due to the shortest length of detour available using state and county routes is approximately 20 miles. Alternate (4) was not chosen because of the substandard condition of the existing bridge and the long-term maintenance cost of retaining the deficient structure.

**Attachments:**

1. Cost Estimates
2. Typical sections
3. Bridge Inventory
4. Location and Design Notice
5. Concept Team Meeting Minutes

**Approvals:**

Concur: \_\_\_\_\_  
Director of Preconstruction

Approve: \_\_\_\_\_  
Chief Engineer

*JDL*  
*1/1*

Project Concept Report pag  
Project Number: BRST-1169 (8)  
P. I. Number: 343362  
County: Webster

**PRELIMINARY COST ESTIMATE  
(ALTERNATE 1)**

DATE: August 6, 2001

PREPARED BY: The LPA Group, Inc.

PROJECT NO.: BRST-1169 (8)

P.I. NO.: 343362

LENGTH: 0.27 Miles

PROJECT DESCRIPTION: S.R. 153 over Lanahassee Creek

**PROJECT COSTS**

**A. RIGHT OF WAY**

1. Property (Land & Easement)	\$5,000
2. Displacements; Res: 0, Bus: 0, M.H.: 0	\$0
3. Other Cost (Adm./Cost, Inflation)	\$10,000
4. Detour (Temp. Easement)	\$3,000
Subtotal: A	\$18,000

**B. REIMBURSEABLE UTILITIES**

1. Railroad; (None)	\$0
2. Transmission Lines;	\$0
3. Services:	\$30,000
Subtotal: B	\$30,000

**C. CONSTRUCTION**

1. Major Structures			
a. Retaining Walls; (None)			\$0
b. Bridges; 6,080 sft @ \$65 sft			\$395,200
c. Box Culverts; (None)			\$0
d. Removal of existing 3,640 sft @ \$20 sft			\$72,800
Subtotal: C-1			\$468,000
2. Grading and Drainage:			
a. Earthwork; 2,500 cy @ \$4 cy			\$10,000
b. Drainage;			
1) Cross Drain Pipe (exclude box culverts) (None)			\$4,000
2) Curb and Gutter (None - Rural)			\$0
3) Longitudinal System (include catch basin (None - Rural)			\$0
Subtotal: C-2			\$14,000

3. Base and Paving

a. Aggregate Base;	(	450 tons	@ \$17 tn )	\$7,650
b. Asphalt Paving;				
1) Surface	(	308 tons	@ \$47 tn )	\$14,476
2) Binder	(	68 tons	@ \$47 tn )	\$3,196
3) Base	(	205 tons	@ \$45 tn )	\$9,225
c. Concrete Paving;	(	0 syd	@ \$100 syd )	\$0
d. Other;		(None)		\$0
				<u>Subtotal: C-3</u>
				\$34,547

4. Lump Items:

a. Traffic Control;				\$40,000
b. Clearing & Grubbing;				\$1,000
c. Grassing;				\$1,000
d. Erosion Control;				\$1,500
				<u>Subtotal: C-4</u>
				\$43,500

5. Miscellaneous:

a. Lighting;		(None)		\$0
b. Striping - (5 in yellow);	2800 ft	@ \$0.50 ft )		\$1,400
c. Striping - (5 in white);	2800 ft	@ \$0.50 ft )		\$1,400
d. Guardrail				\$13,000
e. Sidewalk - Median Barrier;				\$0
				<u>Subtotal: C-5</u>
				\$15,800

6. Special Features (None)

Subtotal: C-6 \$0

7. Detour

a. Detour Bridge	3,840 sft	@ \$40 sft	\$153,600
b. Earthwork	6,000 cy	@ \$4 cy	\$24,000
c. Surface	264 tons	@ \$47 tn	\$12,408
d. Binder	352 tons	@ \$47 tn	\$16,544
e. Aggregate Base	1,104 tons	@ \$17 tn	\$18,768
f. Clearing & Grubbing	1.50 acres	@ \$3,500 acre	\$5,250
g. Grassing	1.50 acres	@ \$3,500 acre	\$5,250
h. Erosion Control	1.50 acres	@ \$4,000 acre	\$6,000
i. Signing & Marking	4,800 ft	@ \$0.50 ft	\$2,400
			<u>Subtotal: C-7</u>
			\$244,220

**ESTIMATE SUMMARY**  
(Alternate 1)

A. Right-of-Way		<u>\$18,000</u>
B. Reimbursable Utilities		<u>\$30,000</u>
C. Construction		
1. Major Structures	<u>\$468,000</u>	
2. Grading and Drainage	<u>\$14,000</u>	
3. Base and Paving	<u>\$34,547</u>	
4. Lump Items	<u>\$43,500</u>	
5. Miscellaneous	<u>\$15,800</u>	
6. Special Features	<u>\$0</u>	
7. Detour	<u>\$244,220</u>	
Subtotal Construction Cost	<u>\$820,067</u>	
E & C (10%)	<u>\$82,007</u>	
Inflation (5% per year for 2 years)	<u>\$84,057</u>	
Total Construction Cost		<u>\$986,131</u>
<b>GRAND TOTAL PROJECT COST</b>	<u><u>\$1,034,131</u></u>	

Project Concept Report page  
Project Number: BRST-1169 (8)  
P. I. Number: 343362  
County: Webster

**PRELIMINARY COST ESTIMATE  
(ALTERNATE 2)**

DATE: August 6, 2001  
PROJECT NO.: BRST-1169(8)  
P.I. NO.: 343362

PREPARED BY: The LPA Group, Inc.

LENGTH: 0.37 Miles

PROJECT DESCRIPTION: S.R. 153 over Lanahassee Creek

**PROJECT COSTS**

**A. RIGHT OF WAY**

1. Property (Land & Easement)	\$10,000
2. Displacements; Res: 0, Bus: 0, M.H.: 0	\$0
3. Other Cost (Adm./Cost, Inflation)	\$10,000
4. Detour (Temp. Easement)	\$0
Subtotal: A	\$20,000

**B. REIMBURSEABLE UTILITIES**

1. Railroad; (None)	\$0
2. Transmission Lines;	\$0
3. Services:	\$30,000
Subtotal: B	\$30,000

**C. CONSTRUCTION**

1. Major Structures	
a. Retaining Walls; (None)	\$0
b. Bridges; 6,080 sft @ \$65 sft	\$395,200
c. Box Culverts; (None)	\$0
d. Removal of existing 3,640 sft @ \$20 sft	\$72,800
Subtotal: C-1	\$468,000
2. Grading and Drainage:	
a. Earthwork; 35,000 cy @ \$4 cy	\$140,000
b. Drainage;	
1) Cross Drain Pipe (exclude box culverts) (None)	\$4,000
2) Curb and Gutter (None - Rural)	\$0
3) Longitudinal System (include catch basin (None - Rural)	\$0
Subtotal: C-2	\$144,000

3. Base and Paving

a. Aggregate Base;	(	3,040 tons	@ \$17 tn )	<u>\$51,6</u>
b. Asphalt Paving;				
1) Surface (		540 tons	@ \$47 tn )	<u>\$25,3</u>
2) Binder (		720 tons	@ \$47 tn )	<u>\$33,8</u>
3) Base (		1,075 tons	@ \$45 tn )	<u>\$48,3</u>
c. Concrete Paving;	(	0 syd	@ \$100 syd )	<u>          </u>
d. Other;		(None)		<u>          </u>
				Subtotal: C-3 <u>\$159,2</u>

4. Lump Items:

a. Traffic Control;				<u>\$40,0</u>
b. Clearing & Grubbing;	3.50 acres	@ \$3,500 acre		<u>\$12,2</u>
c. Grassing;	3.50 acres	@ \$3,500 acre		<u>\$12,2</u>
d. Erosion Control;	3.50 acres	@ \$4,000 acre		<u>\$14,0</u>
				Subtotal: C-4 <u>\$78,5</u>

5. Miscellaneous:

a. Lighting;		(None)		<u>          </u>
b. Striping - (5 in yellow);	4000 ft	@ \$0.50 ft )		<u>\$2,0</u>
c. Striping - (5 in white);	4000 ft	@ \$0.50 ft )		<u>\$2,0</u>
d. Guardrail				<u>\$13,0</u>
e. Sidewalk - Median Barrier;				<u>          </u>
				Subtotal: C-5 <u>\$17,0</u>

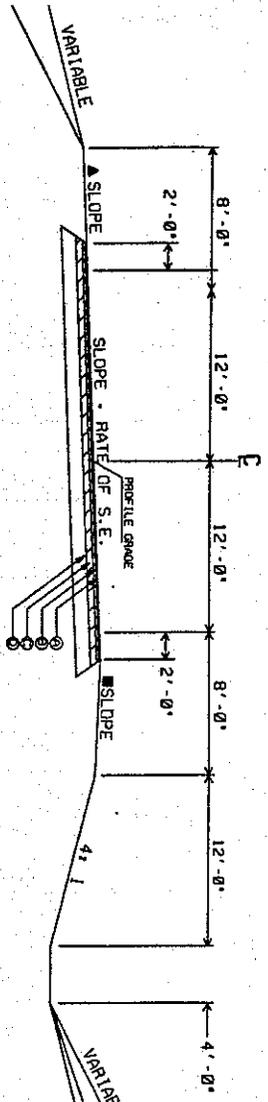
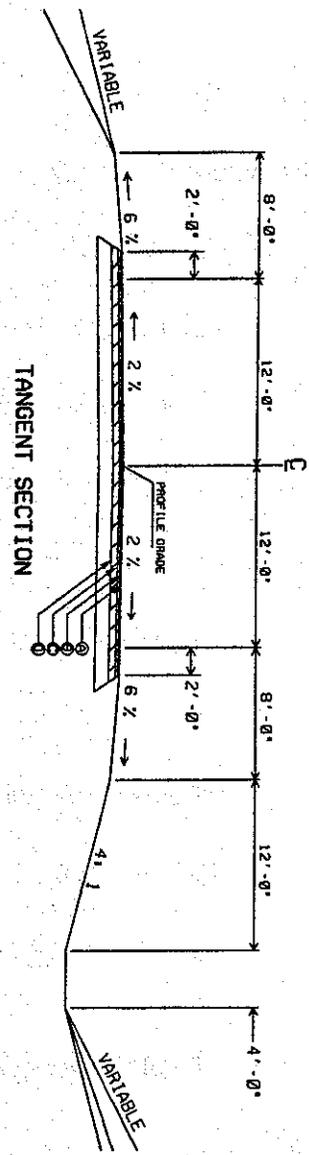
6. Special Features (None)

Subtotal: C-6

**ESTIMATE SUMMARY**  
(Alternate 2)

A. Right-of-Way		<u>\$20,000</u>
B. Reimbursable Utilities		<u>\$30,000</u>
C. Construction		
1. Major Structures	<u>\$468,000</u>	
2. Grading and Drainage	<u>\$159,275</u>	
3. Base and Paving	<u>\$133,200</u>	
4. Lump Items	<u>\$78,500</u>	
5. Miscellaneous	<u>\$17,000</u>	
6. Special Features	<u>\$0</u>	
Subtotal Construction Cost	<u>\$855,975</u>	
E & C (10%)	<u>\$85,598</u>	
Inflation (5% per year for 2 years)	<u>\$87,737</u>	
Total Construction Cost		<u>\$1,029,310</u>
<b>GRAND TOTAL PROJECT COST</b>	<u>\$1,079,310</u>	

STATE	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	WEBSTER	BRST-1169181		

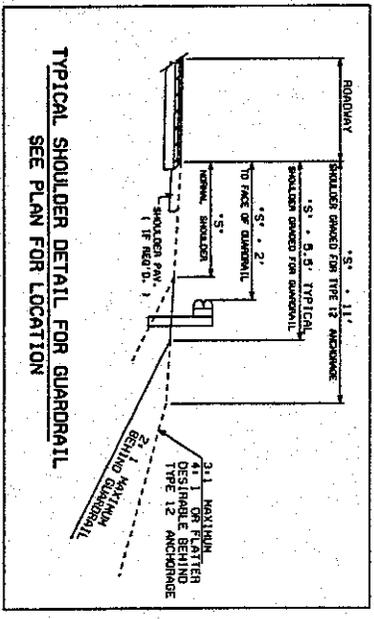


SLOPE SELECTION	
SLOPE CUT	FILL
4:1	10:1
2:1	10:1

**SUPERELEVATED SECTION**

- REQUIRED PAVEMENT**
- ① ASPHALTIC CONCRETE 12.5 MM SUPERPAVE, 185 LBS./S.Y.
  - ② ASPHALTIC CONCRETE 19 MM SUPERPAVE, 220 LBS./S.Y.
  - ③ ASPHALTIC CONCRETE 25 MM SUPERPAVE, 300 LBS./S.Y.
  - ④ GRADED AGGREGATE BASE, 8"

- ▲ SEE GEORGIA STANDARD 9028C - NOTE (D)
- SEE GEORGIA STANDARD 9028C - NOTE (E)
- ▲ SLOPE  $3/4$ " / 1'-0" OR RATE OF S.E. WHICHEVER IS GREATER
- SLOPE AS FOLLOWS:
  - S.E. RATE OF 0.03'/FT OR LESS USE  $1/2$ " IN 1'-0"
  - S.E. RATE OF 0.04'/FT. USE  $3/4$ " IN 1'-0"
  - S.E. RATE OF 0.05'/FT. USE  $1/2$ " IN 1'-0"
  - S.E. RATE OF 0.06'/FT. USE  $1/2$ " IN 1'-0"
  - S.E. RATE OF 0.08'/FT. USE  $1/2$ " IN 1'-0"
- ALGEBRAIC DIFFERENCE IN PAVING AND SHOULDER SLOPES NOT TO EXCEED 0.07'/FT



TYPICAL SHOULDER DETAIL FOR GUARDRAIL  
SEE PLAN FOR LOCATION

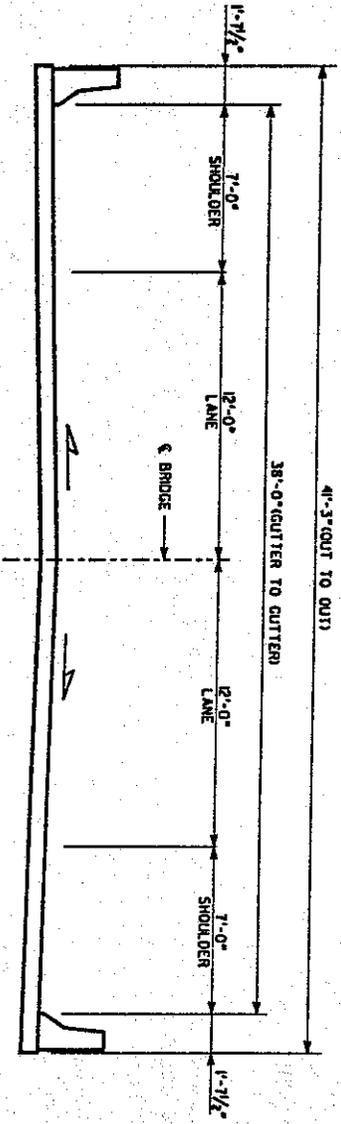


THE LPA GROUP INCORPORATED  
TRANSPORTATION CONSULTANTS  
3595 ENGINEERING DRIVE  
NORCROSS, GEORGIA 30092  
(770) 263-9118

STATE OF GEORGIA  
DEPARTMENT OF TRANSPORTATION

ROADWAY TYPICAL SECTION  
S.R. 153 OVER LANAHASSEE CREEK  
WEBSTER CO.  
BRST-11691(8)

STATE	COUNTY	PROJECT NUMBER	SHEET TOTAL
GA.	WEBSTER	BHST-15181101	NO. SHEETS



BRIDGE TYPICAL SECTION  
SCALE: 1/8" = 1'-0"

PROJECT NO.:	A1258120	DATE
DESIGNED BY:		
DRAWN BY:		
CHECKED BY:		
SUPERVISED BY:	ALBERT W. BOWMAN, P.E.	



THE LPA GROUP INCORPORATED  
TRANSPORTATION CONSULTANTS  
5295 TRIANGLE PARKWAY, SUITE 300  
MORROCK, GEORGIA 30092  
(770) 883-9118

STATE OF GEORGIA  
DEPARTMENT OF TRANSPORTATION

BRIDGE TYPICAL SECTION  
S. R. 153 OVER LANAHASSEE CREEK  
WEBSTER CO.  
BRST-15181101

# BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Webster County

SUFF. RATING: 15.2

Structure ID: 307-0013-0  
 Location & Geography

## Signs & Attachments

<p>* Structure I.D. No.: 307-0013-0</p> <p>200 Bridge Information: 06</p> <p>* 6A Feature Int.: LANAHASSEE CREEK</p> <p>* 6B Critical Bridge: 0</p> <p>* 7A Route Number Carried: SR00153</p> <p>* 7B Facility Carried: SR 153</p> <p>* 9 Location: 3.5 MI NE OF PRESTON</p> <p>2 DOT District: 3</p> <p>207 Year Photo: 1997</p> <p>* 91 Inspection Frequency: 24 Date: 07/19/1999</p> <p>92A Fract Crit Insp Freq: 0 00 Date: 0000</p> <p>92B Underwater Insp Freq: 0 00 Date: 0000</p> <p>92C Other Spec. Insp Freq: 0 00 Date: 0000</p> <p>* 4 Place Code: 00000</p> <p>* 5 Inventory Route (O/U): 1</p> <p style="padding-left: 20px;">Type: 3</p> <p style="padding-left: 20px;">Designator: 1</p> <p style="padding-left: 20px;">Number: 00153</p> <p style="padding-left: 20px;">Direction: 0</p> <p>* 16 Latitude: 32-09.4</p> <p>* 17 Longitude: 84 -30.0</p> <p>98 Border Bridge: 000 %Shared: 00</p> <p>99 ID Number: 0000000000000000</p> <p>* 100 Defense Highway: 0</p> <p>* 101 Parallel Structure: N</p> <p>* 102 Direction of Traffic: 2</p> <p>264 Road Inventory Mile Post: 003.36</p> <p>* 208 Inspection Area: 08 Initials: JLA</p> <p>* Location I.D. No: 307-00153D-003.47N</p> <p>* XReferen I.D. No: 000-000000-000.000</p>	<p>* 104 Highway System: 0</p> <p>* 26 Functional Classification: 07</p> <p>* 204 Federal Route Type: S No: 01169</p> <p>* 110 Truck Route: 0</p> <p>206 School Bus Route: 1</p> <p>217 Benchmark Elevation: 0.00</p> <p>218 Datum: 0</p> <p>* 19 Bypass Length: 14</p> <p>* 20 Toll: 3</p> <p>* 21 Maintenance: 01</p> <p>* 22 Owner: 01</p> <p>* 31 Design Load: 2</p> <p>37 Historical Significance: 5</p> <p>205 Congressional District: 02</p> <p>* 27 Year Constructed: 1959</p> <p>106 Year Reconstructed: 0000</p> <p>33 Bridge Median: 0</p> <p>34 Skew: 00</p> <p>35 Structure Flared: 0</p> <p>38 Navigation Control: 0</p> <p>213 Special Steel Design: 0</p> <p>267 Type of Paint: 3</p> <p>* 42 Type Service On: 1</p> <p style="padding-left: 20px;">Under: 5</p> <p>214 Movable Bridge: 00</p> <p>203 Type Bridge: E-N-O-O</p> <p>259 Pile Encasement: 1</p> <p>* 43 Structure Type Main: 1 04</p> <p>45 No. Spans Main: 005</p> <p>44 Structure Type Appr: 00</p> <p>46 No. Spans Appr: 0000</p> <p>226 Bridge Curve Horz: 0 Vert: 0</p> <p>111 Pier Protection: 0</p> <p>107 Deck Structure Type: 1</p> <p>108 Wearing Surface Type: 1</p> <p style="padding-left: 20px;">Membrane: 0</p> <p style="padding-left: 20px;">Protection: 0</p>	<p>223 Expansion Joint Type: 02</p> <p>242 Deck Drains: 1</p> <p>243 Parapet Location: 0</p> <p style="padding-left: 20px;">Height: 0</p> <p style="padding-left: 20px;">Width: 0</p> <p>238 Curb: 1.21</p> <p>239 Handrail: 1.1</p> <p>* 240 Median Barrier Rail: 0</p> <p>241 Bridge Median Height: 0</p> <p style="padding-left: 20px;">Width: 0</p> <p>* 230 Guardrail Loc Dir Rear: 3</p> <p style="padding-left: 20px;">Fwrd: 3</p> <p style="padding-left: 20px;">Oppo Dir Rear: 0</p> <p style="padding-left: 20px;">Fwrd: 0</p> <p>244 Approach Slab: 0</p> <p>224 Retaining Wall: 0</p> <p>233 Posted Speed Limit: 55</p> <p>236 Warning Sign: 0</p> <p>234 Delineator: 1</p> <p>235 Hazard Boards: 1</p> <p>237 Utilities Gas: 00</p> <p style="padding-left: 20px;">Water: 00</p> <p style="padding-left: 20px;">Electric: 00</p> <p style="padding-left: 20px;">Telephone: 00</p> <p style="padding-left: 20px;">Sewer: 00</p> <p>247 Lighting Street: 0</p> <p style="padding-left: 20px;">Navigation: 0</p> <p style="padding-left: 20px;">Aerial: 0</p> <p>* 248 County Continuity No: 00</p>
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**BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION**  
 Structure ID: 307-0013-0 Webster County SUFF. RATING: 15.2

**Programming Data**

201 Project No: BA (4) SP 1677-B (10)  
 202 Plans Available: 2  
 249 Prop. Proj No: BRST-1169 (8)  
 250 Approval Status: 0000  
 251 P.I. No: 343362  
 252 Contract Date: 02/01/2004  
 260 Seismic No: 00000  
 75 Type Work: 00 0  
 94 Bridge Imp. Cost: \$ 0  
 95 Roadway Imp. Cost: \$ 0  
 96 Total Imp. Cost: \$ 0  
 76 Imp. Length: 000000  
 97 Imp. Year: 0000  
 114 Future ADT: 002700 Year: 2018

**Hydraulic Data**

215 Waterway Data  
 Highwater Elev: 0000.0 Year: 0000  
 Flood Elev: 0000.0 Freq: 00  
 Avg. Streambed Elev: 0000.0  
 Drainage Area: 00000  
 Area of Opening: 000000  
 113 Scour Critical: 6  
 216 Water Depth: 01.0 Br Height: 13.5  
 222 Slope Protection: 1  
 221 Spur Dikes Rear: 0 Fwrd: 0  
 219 Fender System: 0  
 220 Dolphin: 0  
 223 Culvert Cover: 000  
 Type: 0  
 No Barrels: 0  
 Width: 0.0  
 Height: 0.0  
 Length: 0  
 Apron: 0  
 \* 265 U/W Insp. Area: 0 Diver: ZZZ

**Measurements**

\* 29 ADT: 001800 Year: 1998  
 109 % Trucks: 16  
 \* 28 Lanes On: 02 Under: 00  
 210 No. Tracks On: 00 Under: 00  
 \* 48 Max. Span Length: 0028  
 \* 49 Structure Length: 140  
 51 Br. Rdwy. Width: 26.0  
 52 Deck Width: 32.3  
 \* 47 Tol. Horiz. Cl: 26.0  
 50 Curb/Stewlk Width: 2.0/2.0  
 32 Approach Rdwy Width: 022  
 \* 229 Sllder Width:  
 Rear Lt: 6.0 Type: 8 Rt: 6.0  
 Fwrd Lt: 6.0 Type: 8 Rt: 6.0  
 Pymnt Width:  
 Rear: 22.0 Type: 2  
 Fwrd: 22.0 Type: 2  
 Intersection Rear: 0 Fwrd: 0  
 36 Safety Features Br. Rail: 2  
 Transition: 2  
 App. G. Rail: 2  
 App. Rail End: 2  
 53 Minimum Cl. Over: 99' 99"  
 Under: N 00' 00"

**Ratings**

66 Inventory Type: 2 Rating: 13  
 64 Operating Type: 2 Rating: 29  
 231 Calculated Loads  
 H-Modified: 14 1  
 HS-Modified: 22 1  
 Type 3: 18 1  
 Type 3S2: 33 1  
 Timber: 25 1  
 Piggyback: 00 0  
 261 H Inventory Rating: 10  
 262 H Operating Rating: 15  
 67 Structural Evaluation: 2  
 58 Deck Condition: 7  
 59 Superstructure Condition: 7  
 \* 227 Collision Damage: 0  
 60A Substructure Condition: 4  
 60B Scour Condition: 8  
 60C Underwater Condition: N  
 71 Waterway Adequacy: 8  
 61 Channel Protection Cond: 8  
 68 Deck Geometry: 4  
 69 UnderClr. Horiz/Vert: N  
 72 Appr. Alignment: 8  
 62 Culvert: N

**Posting Data**

70 Bridge Posting Required: 3  
 41 Struct Open, Posted, Cl: P  
 \* 103 Temporary Structure: T  
 232 Posted Loads H-Modified: 14  
 HS-Modified: 22  
 Type 3: 18  
 Type 3S2: 33  
 Timber: 25  
 Piggyback: 00  
 253 Notification Date: 0000  
 253 Fed Notify Date: 0000

\* Location I.D. No: 307-00153D-003.47N  
 \* XReferen I.D. No: 000-0000000-000.000

## NOTICE OF LOCATION AND DESIGN APPROVAL

Project No. BRST-1169(8), Webster County  
P.I. No. 343362

Notice is hereby given in compliance with Georgia code 22-2-109 that the Georgia Department of Transportation has approved the Location and Design of the above project.

Date of Location Approval:

This project is located on S.R. 153 at Lanahassee Creek, located in Webster County, 25<sup>th</sup> Land District, Land Lots 121 & 122.

This project consists of replacing the existing 26 ft X 140 ft structurally deficient S.R. 153 at Lanahassee Creek with a new structure. The new bridge will be 38 ft wide and approximately 160 ft in length.

Drawings and/or maps, and/or plats of the proposed project, as approved, are on file and are available for public inspection at the Georgia Department of Transportation:

Andy Lindsey  
Area 2 Engineer  
Andy.Lindsey@dot.state.ga.us  
1557 E. Lamar Street (SR 27)  
Americus, Georgia 31709  
(912) 931-2434 / (912) 931-2435

Any interested party may obtain a copy of the drawings or maps or plats or portions thereof by paying a nominal fee and requesting in writing to:

Jimmy Chambers  
State Consultant Design Engineer  
jimmy.chambers@dot.state.ga.us  
Georgia Department of Transportation  
No. 2 Capitol Square  
Atlanta, Georgia 30334  
(404) 463-6133

Any written request or communication in reference to this Notice SHOULD include the PROJECT and P.I. NUMBERS as noted at the top of this notice.

July 23, 2001

Meeting notes from the July 18, 2001 concept meeting at the Thomaston archive building for the following projects:

BRST-0532(13) SR 41 over Bear Creek.  
BRST-0532(12) SR 41 over Kinchafoonee Creek.  
BRST-1518(11) SR 45 over Kinchafoonee Creek and O/F.  
BRST-1169(8) SR 153 over Lannahassee Creek.

**Attendees:**

Tom Queen	GDOT – District 3 Preconstruction	(706) 646-6591
Andy Lindsey	GDOT – Area Engineer	(229) 931-2434
Katie Mullins	GDOT - Office of Programming	(404) 651-7043
Kerry Gore	GDOT – District 3 Utilities	(706) 646-6552
Scott Parker	GDOT – District 3 Traffic Operations	(706) 646-6561
Wayne King	Alltel	(478) 988-4043
John Weingard	The LPA Group Incorporated	(770) 263-9118
Al Bowman	The LPA Group Incorporated	(770) 263-9118

**Meeting Notes:**

**General Comments For All Projects:**

It may be necessary to purchase additional Right-of-Way for relocation of Utility lines. Additional Temporary easement may be necessary on the opposite side of the Detour for construction of the bridges. LPA will check on this when existing Right-of-Way data (survey) becomes available.

It was asked if utilities could be located on the proposed bridges. GDOT prefers not to have utilities located on their bridges, but will make accommodations if necessary.

**BRST-0532(13) SR 41 over Bear Creek.**

The proposed bridge will be constructed on existing alignment with an onsite detour to maintain traffic. The onsite detour is proposed for the upstream side. It was asked if the detour could be moved to the downstream side to avoid utility relocation. It was shown that the proposed location for the detour is the best choice because it fits better with the curve off the west end of the bridge. Shifting the detour to the downstream side would require a longer detour to achieve desirable geometry at the tie-in on the west end of the project. The project limits would need to be extended approximately 350 feet to the west to accommodate the detour.

**BRST-0532(12) SR 41 over Kinchafoonee Creek.**

The proposed bridge will be constructed on new alignment with traffic maintained on the existing roadway. It was noted that there is a stream gauge attached to the existing bridge that will require coordination with the USGS Department. LPA will coordinate with USGS on the removal and possible relocation of the stream gauge on to the proposed bridge. It was mentioned that the existing roadbed that is no longer needed due to the new alignment should be removed down to natural ground. LPA concurred.

BRST-1518(11) SR 45 over Kinchafoonee Creek and O/F.

The proposed bridges will be constructed on new alignment with traffic maintained on the existing roadway. It was mentioned that there is an existing boat ramp on Kinchafoonee Creek near the bridge. It was noted that the boat ramp and access to the ramp from SR 45 must be maintained. LPA concurred.

BRST-1169(8) SR 153 over Lannahassee Creek.

The proposed bridge will be constructed on existing alignment with an onsite detour to maintain traffic. It was mentioned that this bridge has been moved up in the programming schedule, and that Right-of-Way must be purchased in this fiscal year (2002). Accordingly, LPA will make it a high priority.

This is our understanding of the concept meeting on July 18, 2001. If you have any further comments or questions please call (770) 263-9118.

Al Bowman, P.E.  
The LPA Group Incorporated  
3595 Engineering Drive  
Norcross, Georgia 30092

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

Office of Consultant Design

Project Number: BRST-1169(8)

County: Webster

P. I. Number: 343362

Federal Route Number: N/A

State Route Number: 153

**PROJECT CONCEPT REPORT  
S.R. 153 over Lanahassee Creek**

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Manager – Otis Clark

DATE \_\_\_\_\_

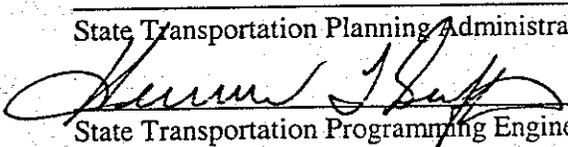
\_\_\_\_\_  
State Consultant Design Engineer

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

DATE \_\_\_\_\_

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

DATE 8/02/01

  
\_\_\_\_\_  
State Transportation Programming Engineer

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Operations Engineer

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

Office of Consultant Design

Project Number: BRST-1169(8)

County: Webster

P. I. Number: 343362

Federal Route Number: N/A

State Route Number: 153

**PROJECT CONCEPT REPORT**

**S.R. 153 over Lanahassee Creek**

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Manager – Otis Clark

DATE \_\_\_\_\_

\_\_\_\_\_  
State Consultant 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/or the State Transportation Improvement Program (STIP).

DATE 8/12/01

*Maite R. ...*  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Programming Engineer

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Operations Engineer

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

Office of Consultant Design

Project Number: BRST-1169(8)

County: Webster

P. I. Number: 343362

Federal Route Number: N/A

State Route Number: 153

**PROJECT CONCEPT REPORT  
S.R. 153 over Lanahassee Creek**

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Manager – Otis Clark

DATE \_\_\_\_\_

\_\_\_\_\_  
State Consultant 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/or the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Programming Engineer

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Operations Engineer

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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

DATE 8/8/01

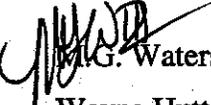
Paul V. Teller Jr.  
\_\_\_\_\_  
State Bridge and Structural Design Engineer

Department of Transportation  
State of Georgia

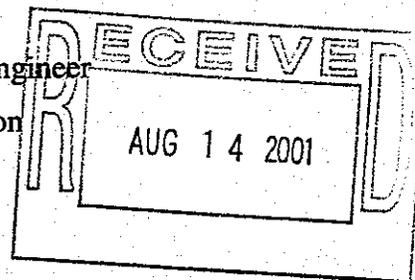
INTERDEPARTMENTAL CORRESPONDENCE

File: BRST-1169 (8) / Webster County  
P.I. No. 343362

Office: Traffic Operations  
Atlanta, Georgia  
Date: August 7, 2001

From:  M.G. Waters, III, P.E., State Traffic Operations Engineer  
To: Wayne Hutto, Assistant Director of Preconstruction

Subject: Project Concept Report Review



We have reviewed the above referenced concept report for the replacement of the structurally deficient bridge on SR 153 over Lanahassee Creek. This project is located southwest of Preston.

The existing structure is 26 feet wide with a sufficiency rating of 15.2. The concept proposes to construct a new structure 38 feet wide for the two-lane roadway. The current ADT is 900 vehicles and the design year ADT is projected to be 1400 vehicles. The proposed bridge width is in accordance with MOG 4265-10 for this type of roadway.

We believe this concept will improve safety and traffic operations within this area, therefore find this report satisfactory for approval.

MGW/BM

Attachment (signature page)

Cc: Harvey Keeper, State Environment/Location Engineer  
James Chambers, State Consultant Design Engineer  
David Mulling, State Review Engineer, w/ attachment  
Marta Rosen, State Transportation Planning Administrator  
Paul Liles, State Bridge & Structural Design Engineer  
Chuck Hasty, TMC  
General Files

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

Office of Consultant Design

Project Number: BRST-1169(8)

County: Webster

P. I. Number: 343362

Federal Route Number: N/A

State Route Number: 153

**PROJECT CONCEPT REPORT  
S.R. 153 over Lanahassee Creek**

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Manager – Otis Clark

DATE \_\_\_\_\_

\_\_\_\_\_  
State Consultant 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/or the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Programming Engineer

DATE \_\_\_\_\_

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

DATE 8/10/01

*Marion Sulata*  
\_\_\_\_\_  
State Traffic Operations Engineer

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

Office of Consultant Design

Project Number: BRST-1169(8)

County: Webster

P. I. Number: 343362

Federal Route Number: N/A

State Route Number: 153

**PROJECT CONCEPT REPORT  
S.R. 153 over Lanahassee Creek**

PROJECT LOCATION MAP: See Page 2

Recommendation for approval:

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Manager – Otis Clark

DATE \_\_\_\_\_

\_\_\_\_\_  
State Consultant 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/or the State Transportation Improvement Program (STIP).

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Programming Engineer

DATE \_\_\_\_\_

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

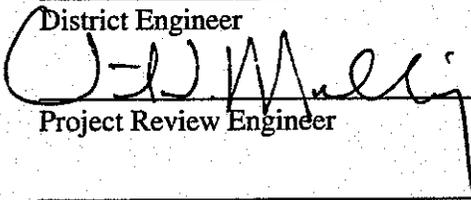
DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Operations Engineer

DATE \_\_\_\_\_

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

DATE 8/13/01

  
Project Review Engineer

DATE \_\_\_\_\_

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