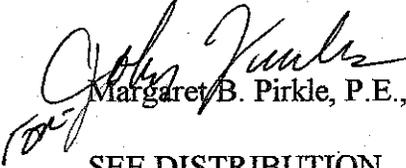


**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

**FILE** BRST-0869(17) Henry County **OFFICE** Preconstruction  
P. I. No. 343395

**DATE** November 27, 2002

**FROM**  Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

**TO** SEE DISTRIBUTION

**SUBJECT** PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

MBP/cj

Attachment

**DISTRIBUTION:**

- David Mulling
- Harvey Keepler
- Jerry Hobbs
- Percy Middlebrooks
- Michael Henry
- Phillip Allen
- Marta Rosen
- Paul Liles
- Ben Buchan
- Thomas Howell
- BOARD MEMBER

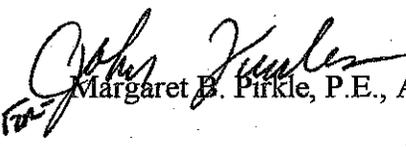
**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** BRST-0869(17) Henry County  
P.I. No. 343395

**OFFICE** Preconstruction

**DATE** November 19, 2002

**FROM**   
Margaret B. Pirkle, 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 20 over Walnut Creek, 6 miles northeast of McDonough, Georgia. The existing bridge, constructed in 1957 is load limited with a sufficiency rating of 64. The original design load capacity of H-15. In accordance with DOT MOG 2405-1, the existing bridge meets the established criteria for replacement. State Route 20 at this location is a rural two lane roadway with 12' travel lanes with rural shoulders. This section of SR 20 is functionally classified as an urban major collector. Traffic is projected to be 6,400 VPD and 10,500 VPD in the years 2007 and 2027 respectively. The posted speed and the design speed are 55 MPH.

The construction proposes to construct a new 200' x 44' concrete bridge over Walnut Creek at existing bridge site. The approaches will consist of two, 12' lanes with 10' rural shoulders (6.5' 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.

**This project will require split funding because the sufficiency rating exceeds 50. "BR" funding will cover the amount equal to the widening and the remainder will consist of "STP" funding.**

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<br>and inflation) | <b>BR</b><br>\$1,522,000 | <b>BR</b><br>\$877,000  |                  |                 |
|  | <b>STP</b><br>\$ 233,000 | <b>STP</b><br>\$877,000 | 2005             | FY-05           |
| Right-of-Way                                 | \$ 74,000                | \$ 10,000               |                  |                 |
| Utilities*                                   | \$ 30,000                | -----                   |                  |                 |

Frank L. Danchetz

Page 2

BRST-0869(17) Henry

November 19, 2002

\*LGPA sent 7-20-99 requesting Henry County do utilities.

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

MBP: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-0869(17) Henry  
P.I. Number 343395

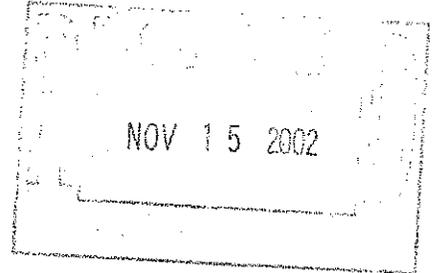
**OFFICE:** Engineering Services

**DATE:** November 14, 2002

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

**TO:** Meg Pirkle, Assistant Director of Preconstruction

**SUBJECT:** CONCEPT REPORT



We have reviewed the concept report submitted October 24, 2002 by the letter from James B. Buchan dated October 23, 2002, and have no additional comments.

|                        | <b>Bridge Replacement</b>   | <b>Bridge Widening</b> |
|------------------------|-----------------------------|------------------------|
| Construction           | \$1,446,385                 | \$1,254,460            |
| Inflation              | \$148,256                   | \$128,583              |
| E&C                    | \$159,465                   | \$138,305              |
| Reimbursable Utilities | \$30,000 (LGPA anticipated) | \$30,000               |
| Right of Way           | \$73,600                    | \$73,600               |

**NOTE:** This project will require split funding since the bridge has a sufficiency rating above 50 and is to be replaced. The BR funding is the amount equal to the Bridge Widening costs. Other costs will have to come from other funding sources.

REW

c: Ben Buchan, Attn: Ted Cashin

## SCORING RESULTS AS PER MOG 2440-2

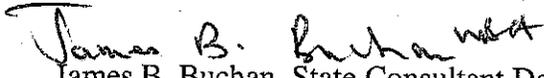
|   |              |   |   |  |  |
|---|--------------|---|---|--|--|
| <b>Project Number:</b><br>BRST-0869(17)             |              | <b>County:</b><br>Henry   |   | <b>PI No.:</b><br>343395   |  |
| <b>Report Date:</b><br>October 23, 2002             |              | <b>Concept By:</b><br>DOT Office: Consultant Design                         |   |  |  |
| <input checked="" type="checkbox"/> Concept Stage   |              | Consultant: Parsons Brincherhoff Quade & Douglas                            |   |  |  |
| <b>Project Type:</b><br>Choose One From Each Column |              | <input type="checkbox"/> Major<br><input checked="" type="checkbox"/> Minor | <input checked="" type="checkbox"/> Urban<br><input type="checkbox"/> Rural | <input type="checkbox"/> ATMS<br><input checked="" type="checkbox"/> Bridge Replacement<br><input type="checkbox"/> Building<br><input type="checkbox"/> Interchange Reconstruction<br><input type="checkbox"/> Intersection Improvement<br><input type="checkbox"/> Interstate<br><input type="checkbox"/> New Location<br><input type="checkbox"/> Widening & Reconstruction<br><input type="checkbox"/> Miscellaneous |  |
| <b>FOCUS AREAS</b>                                  | <b>SCORE</b> | <b>RESULTS</b>  |   |  |  |
| Presentation  | 100          |   |   |  |  |
| Judgement   | 100          |   |   |  |  |
| Environmental                                       | 100          |   |   |  |  |
| Right of Way  | 100          |   |   |  |  |
| Utility   | 100          |   |   |  |  |
| Constructability                                    | 100          |   |   |  |  |
| Schedule  | 100          |   |   |  |  |

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

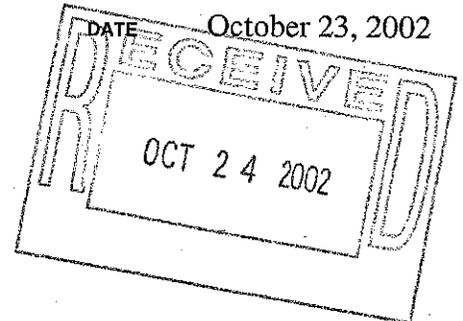
FILE **BRST-0869(17) Henry County**  
SR 20 over Walnut Creek 6 mi NE of McDonough  
P.I. No. 343395-

OFFICE Atlanta

FROM   
James B. Buchan, State Consultant Design Engineer

TO Margaret B. Pirkle, 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).

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 Ted Cashin at (404)463-6135 or John Durand of Parsons Brinckerhoff Quade & Douglas at (404) 364-5236.

*Distribution:*

David Mulling, Project Review Engineer  
Harvey Keeper, State Environmental/Location Engineer  
Phillip Allen, State Traffic Safety and Design Engineer  
Marta Rosen, State Transportation Planning Administrator  
Herman Griffin, Office of Financial Management Administrator  
Thomas Howell, District Engineer – Thomaston  
Paul Liles, State Bridge & Structural Engineer

JBB:MBA:EJC

cc: Parsons Brinckerhoff Quade & Douglas

**DEPARTMENT OF TRANSPORTATION**  
**STATE OF GEORGIA**  
*Office of Consultant Design*

**PROJECT CONCEPT REPORT**

Project Number: BRST-0869(17)

County: HENRY

P. I. Number: 343395-

Federal Route Number: N/A

State Route Number: 20

Recommendation for approval:

DATE 10-23-02

DATE 10-23-02



\_\_\_\_\_  
Project Manager  
*James B. Buchanan WSA*  
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 \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

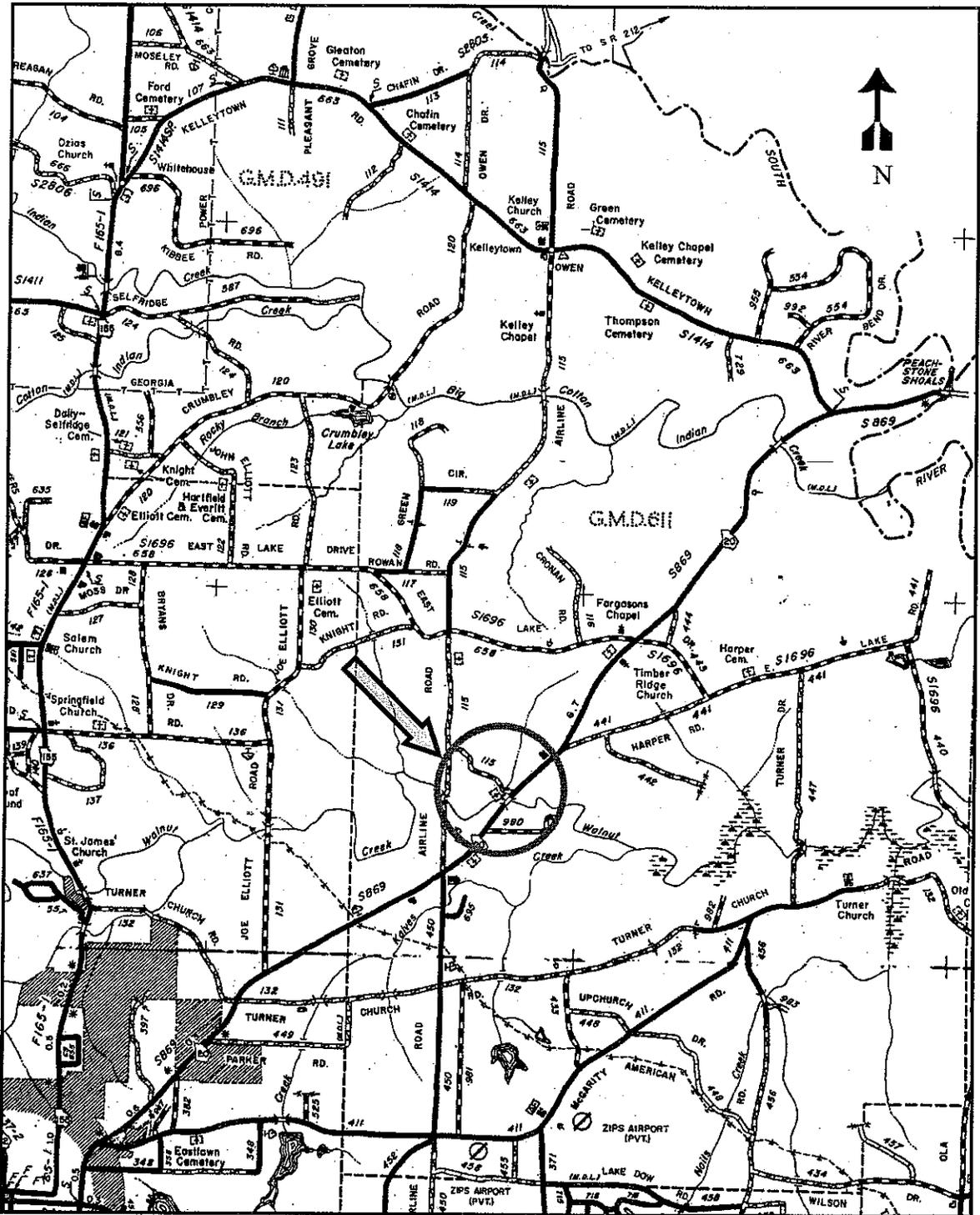
\_\_\_\_\_  
District 3 Engineer, Thomaston

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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



Scale: 1 inch = 1 mile

**Location Map**

**Project:** BRST-0869(17) Henry County PI No.: 343395-  
**Description:** SR 20 over Walnut Creek 6 mi NE of McDonough

Project Concept Report page 2  
 Project Number: BRST-0869(17) Henry County  
 P. I. Number: 343395-

**Need and Purpose:** The purpose of project BRST-0869(17) is to replace a functionally obsolete bridge on S.R.20 over the Walnut Creek. The existing bridge sufficiency rating is currently 64.30. See attached Need & Purpose Statements.

**Description of the proposed project:** Project BRST-0869(17) is a bridge replacement project in Henry County 6 miles northeast of McDonough on State Route 20 over Walnut Creek. The total project length is approximately 1700 feet (0.322 miles), beginning at M.P. 3.92 and extending to M.P.4.24. This bridge structure will require Split Funding since the sufficiency rating is greater than 50(64.30). Also a letter from the Maintenance Office recommending replacement is attached

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

The proposed design, of this project, does not add any additional capacity to State Route 20. The existing roadway has two lanes. The proposed roadway will be designed for two lanes. The project is consistent with what is identified in the District 3 STIP.

**PDP Classification:** Major \_\_\_\_\_ Minor  \_\_\_\_\_  
**Federal Oversight:** Full Oversight ( ), Exempt (  ), State Funded ( ), or Other ( )

**Functional Classification:** Urban Major Collector

**U. S. Route Number(s):** None **State Route Number(s):** 20  
**Local Road Number(s):** None

**Traffic (AADT):**

Current Year: (2007) 6,400 Design Year: (2027) 10,500

**Existing design features:**

- Typical Section: 2-12 ft. travel lanes, with a 2 ft. paved and variable width grassed shoulder on both sides.
- Posted speed 55mph Maximum degree of curvature: 2 degree.
- Maximum grade: 4.0 % Mainline; 5.0% Cross Roads, and 4% Driveways
- Width of right of way: 130ft. total
  
- Major structures: Concrete bridge, 5 spans for a total length of 150 ft., width 32 ft., (bridge roadway width 25.8 ft.) sufficiency rating is 64.30.
- Existing length of the S.R. 20 roadway is approximately 1700 feet long.

**Proposed Design Features:**

Proposed typical section(s): Two 12'-0" travel lanes with 10' graded shoulders (6.5 Ft. paved due to the high volume of traffic). Typical section attached.

- Proposed Design Speed Mainline 55 mph based on Green Book for ADT
- Proposed Maximum grade Mainline 4% Maximum grade allowable 6%.
- Proposed Maximum grade Side Street N/A Maximum grade allowable 12%.
- Proposed Maximum grade driveway 6%
- Proposed Maximum degree of curve 2 deg. Maximum degree allowable 6 deg.
- Right of way
  - Width 100' additional R/W on southeast side of existing road.
  - Easements: Temporary (  ), Permanent (  ), Utility (  ), Other (  ).
  - Type of access control: Full (  ), Partial (  ), By Permit (  ), Other (  ).
  - Number of parcels: 4 Number of displacements: None
    - Business: 0
    - Residences: 0
    - Mobile homes: 0
    - Other: 0
- Structures:
  - Bridges: The proposed concrete bridge will be 44 ft wide and approximately 200 ft long, consisting of two 12'-0" travel lanes and 10'-0" shoulders.
  - Retaining walls: None Required
- Major intersections and interchanges. None
- Traffic control during construction: The traffic will be maintained along an "on-site" detour constructed on the east side of existing S.R.20 and a new bridge will be constructed in the same location as the existing bridge.

Design Exceptions to controlling criteria anticipated:

|                             | <u>UNDETERMINED</u> | <u>YES</u> | <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

- Environmental concerns: Possible Historic Property on the north side of S.R.20
- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes ( **X** ), No (   ),
  - Categorical exclusion: **Anticipated**
  - Environmental Assessment/Finding of No Significant Impact (FONSI) (   ), or
  - Environmental Impact Statement (EIS) (   ).
- Utility involvement: Henry County has a 8" PVC water line located on the east side of the project that goes under the creek. There is a 42" Sanitary Sewer line under construction along the northeast side, with a jack and bore pit located just outside the existing right of way. Bell South has a telephone line on the existing bridge.

**Project responsibilities:**

- Design: Office of Consultant Design/Parsons Brinckerhoff
- Right of Way Acquisition: Dist. 3 Preconstruction R/W Office
- Relocation of Utilities: District 3 Utility Office.
- Letting to contract: General Office (Office of Contract Administration)
- Supervision of construction: District 3 Construction Office
- Providing material pits: Construction Contractor
- Providing detours: A temporary "on-site" detour designed by Parsons Brinckerhoff/Office of Consultant Design

**Coordination**

- Initial Concept Meeting date and brief summary. N/A
- Concept meeting date and brief summary. See Attach minutes. Held on 9-26-02.
- P. A. R. meetings, dates and results: None required.
- FEMA, USCG, and/or TVA: Nationwide 404
- Public involvement: None Required
- Local government comments: Henry County signed utility LGPA 7-20-99
- Other projects in the area: Br.Repl. on S.R. 20 over Big Cotton Indian Creek
- Other coordination to date. N/A
- Railroads: None-N/A

### **Scheduling – Responsible Parties' Estimate**

- Time to complete the environmental process: 9 Months.
- Time to complete preliminary construction plans: 3 Months.
- Time to complete right of way plans: 1 Month.
- Time to complete the Section 404 Permit: 2 Months.
- Time to complete final construction plans: 3 Months.
- Time to complete to purchase right of way: 10 Months.
- List other major items that will affect the project schedule:

~~Other~~<sup>and</sup> Alternates considered: (1) Construct proposed bridge at same location as the existing bridge with temporary on-site detour and detour bridge (2) Construct proposed bridge at same location as the existing bridge with off-site detour; close road; (3) Construct proposed bridge parallel and offset from existing, and remove existing bridge; (4) No Build

### **Comments:**

#### **Comparison Summary of Concepts 1 - 4**

Alternate (1) is recommended for this concept. The short on-site run-around detour will eliminate the need to impact homes and properties located on the east side of S.R. 20. The on-site detour constructed on the east side will eliminate encroachment into a longitudinal stream on the west side of S.R. 20 draining into Walnut Creek.

Alternate (2) is not recommended for this concept, due to the high volumes of traffic on S.R. 20 (Approximately 6,400 ADT). Also, there are no acceptable State Routes or County Roads in the area to detour traffic or to provide access for emergency vehicles.

Alternate (3) is not recommended for this concept due to the right of way impact to adjacent properties and homes along S.R. 20 in close proximity to the existing roadway and bridge.

Alternate (4) was eliminated due to the condition of the existing bridge (Sufficiency Rating of 64.30) and also because of the long-term maintenance cost on a functionally deficient bridge.

**Attachments:**

1. Cost Estimates:
  - a. Construction including E&C, (For Bridge Replacement and Widening)
  - b. Right of Way, and
  - c. Utilities.
2. Need and Purpose Statements.
3. Minutes of Concept Meeting.
4. Typical Section.
5. Bridge Inventory and existing Bridge plan and elevation drawing
6. Traffic Assignments,
7. Flexible Pavement Design.
8. Location and Design Notice.
9. Project Concept Conformity/Certification letter.
10. Office of Maintenance Recommendation Letter
11. Concept Layout
12. Project Schedule Report

**PRELIMINARY COST ESTIMATE**

**(Bridge Replacement)**

DATE: October 21, 2002 PREPARED BY: Parsons Brinckerhoff

PROJECT NO.: BRST-0869(17) Henry County

P.I. NO.: 343395-

LENGTH: 0.322mi./1700 ft.

PROJECT DESCRIPTION: SR 20 over Walnut Creek bridge replacement - Proposed bridge length of approximately 200 ft and 44'-0" wide.

PROPOSED CONCEPT: Two 12'-0" travel lanes with 10'-0" shoulders (6.5' Paved). The traffic will be maintained along an "on-site" detour constructed on the east side of existing S.R.20 and a new bridge will be constructed in the same location as the existing bridge.

EXISTING ROADWAY: STATE ROUTE 20

TRAFFIC: Existing: 6,400 ADT (2007)

Design: 10,500 ADT (2027)

( ) PROGRAMMING PROCESS ( x ) CONCEPT DEVEL. ( ) DURING PROJ DEVEL.

| PROJECT COST   |            |
|--|------------|
| A. RIGHT-OF-WAY:   |            |
| 1. PROPERTY (R/W & EASEMENT) 2.3 acre R/W@\$20,000/Ac.             | \$ 46,000  |
| 2. DISPLACEMENTS:.   |            |
| 3. OTHER COST (ADM./COST, INFLATION)                               | \$ 27,600  |
| SUBTOTAL:A   | \$ 73,600  |
| B. REIMBURSABLE UTILITIES:   |            |
| 1. RAILROAD  | \$ 0       |
| 2. TRANSMISSION LINES  | \$ 0       |
| 3. SERVICES (Henry County has not signed LGPA )                    | \$ 30,000  |
| SUBTOTAL:B   | \$ 30,000  |
| C. CONSTRUCTION:   |            |
| 1. MAJOR STRUCTURES  |            |
| a. OVERPASSES – Bridge over Walnut Creek (47'-3"x 200')@\$55/Sq.Ft | \$ 634,200 |
| b. Detour Bridge –140 'x 27'-3"@ \$30/SqFt.                        |            |
| b. APPROACH SLAB – 294 SY @\$90/SY 2 each spillways @\$1200 ea     | \$ 28,860  |
| SUBTOTAL:C-1   | \$ 663,060 |
| 2. GRADING AND DRAINAGE:   |            |

| <b>PROJECT COST</b>   |    |            |
|---|----|------------|
| a. EARTHWORK – 24,000 CY Borrow @ \$5.00/CY (Mainline & Detour )  |    | \$ 120,000 |
| b. DRAINAGE:  |    |            |
| 1) CROSS DRAIN PIPE   |    | \$ 5,000   |
| 2) LONGITUDINAL PIPE  |    | \$         |
| 3) CATCH BASINS   |    | \$         |
| SUBTOTAL:C-2  |    | \$ 125,000 |
| 3. BASE AND PAVING:   |    |            |
| a. AGGREGATE BASE – Mainline 5600-Detour 1600 TN @ \$18/TN  |    | \$ 129,600 |
| b. ASPHALT PAVING: SURFACE – MnLi 700, Det. 385 TN @ \$45/TN  | \$ | \$ 48,825  |
| BINDER – Mainline 940- Detour 515 TN @ \$40   | \$ | \$ 58,200  |
| BASE – Mainline 1900-Detour 1000 TN @ \$40  | \$ | \$ 116,000 |
| SUBTOTAL:C-3.b  |    | \$ 352,625 |
| c. CONCRETE PAVING  |    |            |
| d. OTHER  |    | \$         |
| SUBTOTAL:C-3  |    | \$ 325,625 |
| 4. LUMP ITEMS:  |    |            |
| a. GRASSING – 5 acres @ \$2000/ac   |    | \$ 10,000  |
| b. CLEARING AND GRUBBING - 7 acres @ \$2000/ac  |    | \$ 14,000  |
| c. LANDSCAPING  |    | \$         |
| d. EROSION CONTROL- Silt fence type A 4000 LF @ \$3.10/LF, Silt fence type C 1000 LF @ \$4.80/LF, Floating silt fence 600 ft. @ \$12/LF |    | \$ 24,400  |
| e. TRAFFIC CONTROL  |    | \$ 50,000  |
| SUBTOTAL:C-4  |    | \$ 98,400  |
| 5. MISCELLANEOUS:   |    |            |
| a. LIGHTING - NONE  |    | \$         |
| b. SIGNING - MARKING  |    | \$ 10,000  |
| c. GUARDRAIL – 1500 LF @ \$15/LF, 4 ea Type 12 or 1 anch @ \$1700/ea  |    | \$ 29,300  |
| d. CURB & GUTTER  |    | \$         |
| SUBTOTAL:C-5  |    | \$ 39,300  |
| 6. SPECIAL FEATURES- Rem. Exist. Bridge @ \$7/sq.ft-\$28,000; Field Eng. Office Ty 3  |    | \$ 168,000 |

| <b>PROJECT COST</b>   |  |
|---|--|
| \$40,000, Remove Detour Br. & Detour Rdwy. Grade to Drain & Grass \$100,000 |  |
| SUBTOTAL:C-6  |  |

| <b>ESTIMATE SUMMARY</b>                                    |            |                     |
|--|------------|---------------------|
|  |            |                     |
| A. RIGHT-OF-WAY  | \$ 73,600  |                     |
| B. REIMBURSABLE UTILITIES (Henry Co. has not signed LGPA.) | \$ 30,000  |                     |
| C. CONSTRUCTION  |            |                     |
| 1. MAJOR STRUCTURES  | \$ 663,060 |                     |
| 2. GRADING AND DRAINAGE                                    | \$ 125,000 |                     |
| 3. BASE AND PAVING   | \$ 352,625 |                     |
| 4. LUMP ITEMS  | \$ 98,400  |                     |
| 5. MISCELLANEOUS   | \$ 39,300  |                     |
| 6. SPECIAL FEATURES  | \$ 168,000 |                     |
| SUBTOTAL CONSTRUCTION COST                                 |            | \$ 1,446,385        |
| E. & C. (10%)  |            | \$ 159,465          |
| INFLATION (5% PER YEAR)                                    |            |                     |
| NUMBER OF YEARS  | 2          |                     |
|  |            | \$ 148,256          |
| TOTAL CONSTRUCTION COST                                    |            | \$ 1,754,106        |
|  |            |                     |
| <b>GRAND TOTAL PROJECT COST</b>                            |            | <b>\$ 1,857,706</b> |

**PRELIMINARY COST ESTIMATE**

**(Bridge Widening)**

DATE: October 21, 2002    PREPARED BY: Parsons Brinckerhoff

PROJECT NO.: BRST-0869(17) Henry County

P.I. NO.: 343395-

LENGTH: 0.322mi./1700 ft.

PROJECT DESCRIPTION: SR 20 over Walnut Creek bridge widening - Proposed bridge length of approximately 150 ft with 23.25 feet of widening (11.625symmetrical widening on each side)

PROPOSED CONCEPT: Two 12'-0" travel lanes with 10'-0" shoulders (6.5' Paved). The traffic will be maintained along an "on-site" temporary detour constructed on the east side of existing S.R.20 and the existing bridge will be retained and widened

EXISTING ROADWAY: STATE ROUTE 20

TRAFFIC: Existing: 6,400 ADT (2007)

Design: 10,500 ADT (2027)

( ) PROGRAMMING PROCESS    ( x ) CONCEPT DEVEL.    ( ) DURING PROJ DEVEL.

| PROJECT COST   |            |
|--|------------|
| A. RIGHT-OF-WAY:   |            |
| 1. PROPERTY (R/W & EASEMENT) 2.3 acre R/W@\$20,000/Ac.             | \$ 46,000  |
| 2. DISPLACEMENTS:  |            |
| 3. OTHER COST (ADM./COST, INFLATION)                               | \$ 27,600  |
| SUBTOTAL:A   | \$ 73,600  |
| B. REIMBURSABLE UTILITIES:   |            |
| 1. RAILROAD  | \$ 0       |
| 2. TRANSMISSION LINES  | \$ 0       |
| 3. SERVICES (Henry County has not signed LGPA )                    | \$ 30,000  |
| SUBTOTAL:B   | \$ 30,000  |
| C. CONSTRUCTION:   |            |
| 1. MAJOR STRUCTURES  |            |
| c. OVERPASSES – Bridge over Walnut Creek (23'-3"x 150')@\$94/Sq.Ft | \$ 442,275 |
| d. Detour Bridge –140 'x 27'-3"@ \$30/SqFt.                        |            |
| b. APPROACH SLAB – 294 SY @\$90/SY 2 each spillways @\$1200 ea     | \$ 28,860  |
| SUBTOTAL:C-1   | \$ 471,135 |

| PROJECT COST  |    |            |
|---|----|------------|
| 2. GRADING AND DRAINAGE:  |    |            |
| a. EARTHWORK – 24,000 CY Borrow @ \$5.00/CY (Mainline & Detour )  |    | \$ 120,000 |
| b. DRAINAGE:  |    |            |
| 1) CROSS DRAIN PIPE   |    | \$ 5,000   |
| 2) LONGITUDINAL PIPE  |    | \$         |
| 3) CATCH BASINS   |    | \$         |
| SUBTOTAL:C-2  |    | \$ 125,000 |
| 3. BASE AND PAVING:   |    |            |
| a. AGGREGATE BASE – Mainline 5600-Detour 1600 TN @ \$18/TN  |    | \$ 129,600 |
| b. ASPHALT PAVING: SURFACE – MnLi 700, Det. 385 TN @ \$45/TN  | \$ | \$ 48,825  |
| BINDER – Mainline 940- Detour 515 TN @ \$40   | \$ | \$ 58,200  |
| BASE – Mainline 1900-Detour 1000 TN @ \$40  | \$ | \$ 116,000 |
| SUBTOTAL:C-3.b  |    | \$ 352,625 |
| c. CONCRETE PAVING  |    |            |
| d. OTHER  |    |            |
|   |    | \$         |
| SUBTOTAL:C-3  |    | \$ 325,625 |
| 4. LUMP ITEMS:  |    |            |
| a. GRASSING – 5 acres @ \$2000/ac   |    | \$ 10,000  |
| b. CLEARING AND GRUBBING - 7 acres @ \$2000/ac  |    | \$ 14,000  |
| c. LANDSCAPING  |    |            |
|   |    | \$         |
| d. EROSION CONTROL- Silt fence type A 4000 LF @ \$3.10/LF, Silt fence type C 1000 LF @ \$4.80/LF, Floating silt fence 600 ft. @ \$12/LF |    | \$ 24,400  |
| e. TRAFFIC CONTROL  |    |            |
|   |    | \$ 50,000  |
| SUBTOTAL:C-4  |    | \$ 98,400  |
| 5. MISCELLANEOUS:   |    |            |
| a. LIGHTING - NONE  |    |            |
|   |    | \$         |
| b. SIGNING - MARKING  |    |            |
|   |    | \$ 10,000  |
| c. GUARDRAIL – 1500 LF @ \$15/LF, 4 ea Type 12 or 1 anch @ \$1700/ea  |    |            |
|   |    | \$ 29,300  |
| d. CURB & GUTTER  |    |            |
|   |    | \$         |

| <b>PROJECT COST</b>   |            |
|---|------------|
| SUBTOTAL:C-5  | \$ 39,300  |
| 6. SPECIAL FEATURES- Rem. Exist. Bridge @\$7/sq.ft-\$28,000; Field Eng. Office Ty 3 \$40,000, Remove Detour Br. & Detour Rdwy. Grade to Drain & Grass \$100,000 | \$ 168,000 |
| SUBTOTAL:C-6  |            |

| <b>ESTIMATE SUMMARY</b>                                    |            |                     |
|--|------------|---------------------|
|  |            |                     |
| A. RIGHT-OF-WAY  | \$ 73,600  |                     |
| B. REIMBURSABLE UTILITIES (Henry Co. has not signed LGPA.) | \$ 30,000  |                     |
| C. CONSTRUCTION  |            |                     |
| 1. MAJOR STRUCTURES  | \$ 471,135 |                     |
| 2. GRADING AND DRAINAGE                                    | \$ 125,000 |                     |
| 3. BASE AND PAVING   | \$ 352,625 |                     |
| 4. LUMP ITEMS  | \$ 98,400  |                     |
| 5. MISCELLANEOUS   | \$ 39,300  |                     |
| 6. SPECIAL FEATURES  | \$ 168,000 |                     |
| SUBTOTAL CONSTRUCTION COST                                 |            | \$ 1,254,460        |
| E. & C. (10%)  |            | \$ 138,305          |
| INFLATION (5% PER YEAR)                                    |            |                     |
| NUMBER OF YEARS  | 2          | \$ 128,583          |
| TOTAL CONSTRUCTION COST                                    |            | \$ 1,521,348        |
|  |            |                     |
| <b>GRAND TOTAL PROJECT COST</b>                            |            | <b>\$ 1,624,948</b> |

**NEED AND PURPOSE**  
**PROJECT BRST-0869(17), HENRY COUNTY**  
**PI No. 343395**  
**BRIDGE REPLACEMENT**

Project BRST-0869 (17) consists of the replacement of the bridge on State Route 20 over the Walnut Creek in Henry County, six miles northeast of the City of McDonough. This route serves commuter traffic traveling north to Newton and Rockdale Counties and south to Henry County. State Route 20 is classified as an Urban Major Collector and is not a designated bike route.

This bridge was constructed in 1957 and consists of concrete bents, steel beam superstructure, and a concrete deck. The original load capacity is H-15. The sufficiency rating on this structure is 64.30, and the bridge is classified as Functionally Obsolete. The sufficiency rating is a number from 0 to 100 and is a method of evaluating structural adequacy and safety, serviceability, and functional obsolescence. The Office of Bridge Maintenance has determined that any structure with a sufficiency rating less than 50 should be replaced rather than improved. However, in accordance with DOT policy 2405-1, the policy recommends that this bridge be replaced rather than improved due to the unacceptable load capacity.

Present conditions on this structure are 12-foot, one-lane travel lanes in each direction, no sidewalks or shoulders to allow for pedestrian movements. Existing 2000 Average Annual Daily Traffic (AADT) along this section of roadway were 5000. Future volumes are expected to be approximately 6,400 AADT in the year 2007; and 10,500 AADT in 2027 with eight-percent trucks.

Replacing this bridge will bring it up to current AASHTO geometric design standards and in doing so will improve the operation and safety of this roadway. This project is committed to a safe, efficient and sustainable transportation system for all users.

## MINUTES OF INITIAL CONCEPT TEAM MEETING

- Project:** GDOT Project Work Order No. 5 in Henry County  
BRST-0869(17)- PI No. 343395,  
SR 20 @ Walnut Creek
- Date:** September 26, 2002
- Place:** Henry County Government Offices, Rm. 203 (Training Room)
- Present:** Ted Cashin – GDOT OCD  
Wade Harris – GDOT Eng. Services  
Tom Queen – GDOT District 3  
Kerry Gore – GDOT District 3 Utilities  
— David Coleman – GDOT  
Marc Mastronardi – GDOT  
Shawanna Qawiy – Henry County  
Jim O’Neal – Henry County DOT  
Barry Carter – Henry County Board of Education  
Beverly Skipper – Henry County Board of Education  
Jerry Wylie – Georgia Power  
Shane Hallford – HCWSA  
Tony Carwell – HCWSA  
Steve Manley – Manley Acquisition Services, LLC  
Jim Graybeal – Parsons Brinckerhoff  
John Durand – Parsons Brinckerhoff  
George Krausser – Parsons Brinckerhoff
- Distribution:** Attendees
- Purpose:** Initial Concept Team Meeting
- 

### DISCUSSION:

1. The proposed runaround to the south side of S.R. 20 along with photos looking north and south along the project, and a photo of the bridge, looking upstream were presented.
2. Jim Graybeal explained to the group the major aspects of the concept report and why we decided to go with the option of using a detour.
3. Wade stated the contractor is required to furnish a material pit, instead of District 3 as originally stated in the concept report.
4. Steve recommended that the time to purchase right of way be extended to 10 months, as opposed to 6 months as written in the report.
5. Ted said that 2 cost estimates will be required – one for a bridge widening (a BR) and for a bridge replacement (an STP).

6. This project will require split funding between bridge replacement and bridge widening funds because of the bridge structural sufficiency rating of 64.30, which is higher than the 50 required for a bridge replacement.
7. Ted requested the cost for the bridge be changed from \$65/sq. ft. to \$55/sq. ft.
8. Jim O'Neal mentioned the flooding of Walnut Creek back in 1994 and how it was considered a 500-year storm. He would like to see the new bridge installed higher than the old bridge.
9. Wade then asked about realigning the county road to tie into S.R. 20 at a 90° angle. He indicated that the County Road could be designed for 25 MPH to minimize the impacts of the realignment.
10. Steve asked if the right of way could be changed to easement Jim Graybeal said that GDOT'S requirements have been that any additional property needed be designed as right of way.
11. The detour was said to meet 45 MPH design speed.
12. Tom stated the TIP for this project to be HE158A.
13. Ted suggested having one field engineer's office for both this project and BRST-0869 (16) S.R. 20 over Big Cotton Indian Creek. This will be looked into further.
14. Tony described the waterlines in the vicinity of this project, including an 8" PVC waterline along the east side of the project (it goes under the creek). There is also a 42" sewer line under construction along the northeast side. A jack & bore pit is located just outside the existing right of way.
15. Kerry gave a estimated figure of \$30,000 reimbursable cost for utilities. He added that there is a Bell South telephone line on the existing bridge.
16. The concept layout showed an unknown structure just inside the existing right of way. It is believed to be a pump station and will be looked into further.

The preceding is my understanding of the topics discussed. If you have any corrections or comments, please fax them to me at 404-237-3015.

Sincerely,

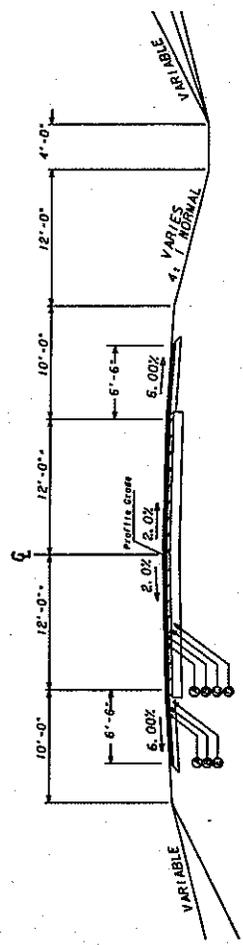
**PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.**

John Durand, P.E.  
Project Manager

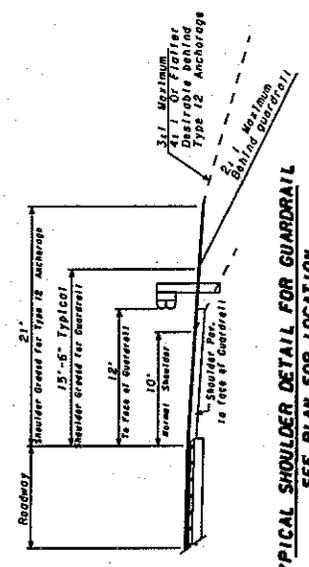
|       |                |      |       |
|-------|----------------|------|-------|
| STATE | PROJECT NUMBER | DATE | SCALE |
| GA.   | BRST-0859177   |      |       |

# TYPICAL SECTIONS

## S. R. 20 MAINLINE



FULL DEPTH SECTION



TYPICAL SHOULDER DETAIL FOR GUARDRAIL  
SEE PLAN FOR LOCATION

NOT TO SCALE

- REQUIRED PAVEMENT
- ① 12.5 mm ASPHALTIC CONCRETE SUPERPAVE - 165\*/5T
  - ② 19mm ASPHALTIC CONCRETE SUPERPAVE - 200\*/5T
  - ③ 25mm ASPHALTIC CONCRETE SUPERPAVE - 440\*/5T
  - ④ GRADED AGGREGATE BASE, 12"
  - ⑤ GRADED AGGREGATE BASE, 6"

BRST/ARL/EN  
12/21/2002  
10:22:42 PM

Programming Data

201 Project No.: S-869 (5)  
 202 Plans Available: 0  
 249 Prop. Proj. No. BRST-0869 (17)  
 250 Approval Status: 0000  
 251 P.I. No.: 343395-  
 252 Contract Date: 02/01/2004  
 260 Seismic No.: 00000  
 75 Type Work: 34 1  
 94 Bridge Imp. Cost \$ 144  
 95 Roadway Imp. Cos \$ 236  
 96 Total Imp Cost: \$ 467  
 76 Imp. Length: 001470  
 97 Imp. Year: 1990  
 114 Future ADT: 007950 Year: 2019

Hydraulic Data

215 Waterway Data  
 Highwater Elev.: 0000.0 Year: 1900  
 Avg. Streambed Elev.: 0000.0 Freq.: 00  
 Drainage Area: 00000  
 Area Of Opening: 000000  
 113 Scour Critical: 6  
 216 Water Depth: 02.3 Br. Height: 17.2  
 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: 0.00 Height: 0.00  
 Length: 0 Apron: 0 Diver: ZZZ  
 \* 265 U/W Insp. Area: 0

\* Location I.D. No.: 151-00020D-004.08E

Measurements

\* 29 ADT: 004700 Year: 1999  
 109 % Trucks: 9  
 \* 28 Lanes On: 02 Under: 00  
 210 No. Tracks On: 00 Under: 00  
 \* 48 Max. Span Length: 0030  
 \* 49 Structure Length: 150  
 51 Br. Rwdy. Width: 25.80  
 52 Deck Width: 32.20  
 \* 47 Tot. Horz. Cl: 25.80  
 50 Curb/Sdewlk Width: 2.00/2.00  
 32 Approach Rdwy Width: 024  
 \* 229 Shoulder Width: 2.00 Type: 2 Rt: 2.00  
 Fwrd Lt: 2.00 Type: 2 Rt: 2.00  
 Pavement Width:  
 Rear: 24.00 Type: 2  
 Fwrd: 24.00 Type: 2  
 Intersection Rear: 1 Fwrd: 0  
 36 Safety Features Br. Rail: 2  
 Transition: 2  
 App. G. Rail: 2  
 App. Rail End: 1  
 53 Minimum Cl.Over: 99 ' 99 "  
 Under: N 00 ' 00 "  
 \* 228 Min. 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 99.90  
 56 Lateral Undercl. Lt: 0.00  
 \* 10 Max Min Vert Cl: 99 ' 99 " Dir: 0  
 39 Nav Vert Cl: 000 Horz: 0000  
 116 Nav Vert Cl Closed: 000  
 245 Deck Thickness Main: 6.50  
 Deck Thick Approach: 0.00  
 246 Overlay Thickness: 0.00  
 212 Year Last Painted: Sup: 0000 Sub: 0000

Ratings

65 Inventory Rating Method: 2  
 63 Inventory Rating Method: 2  
 66 Inventory Type: 2 Rating: 24  
 64 Operating Type: 2 Rating: 40  
 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: 15  
 262 H Operating Rating: 25  
 67 Structural Evaluation: 5  
 58 Deck Condition: 7  
 59 Superstructure Condition: 7  
 \* 227 Collision Damage: 0  
 60A Substructure Condition: 6  
 60B Scour Condition: 7  
 60C Underwater Condition: N  
 71 Waterway Adequacy: 8  
 61 Channel Protection Cond: 7  
 68 Deck Geometry: 2  
 69 UnderClr. Horz/Vert: N  
 72 Appr. Alignment: 6  
 62 Culvert: N

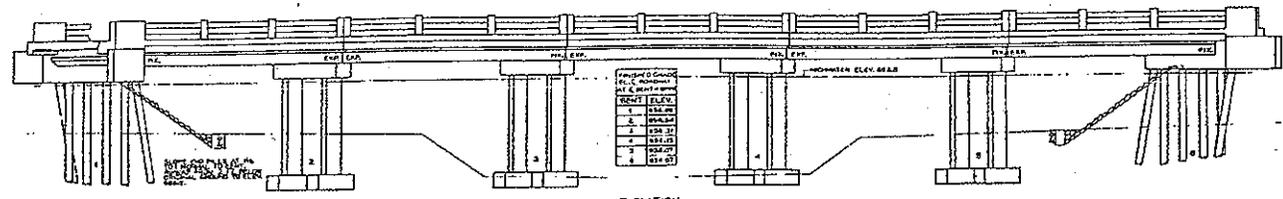
Posting Data

70 Bridge Posting Required: 5  
 41 Struct Open, Posted, Cl: A  
 \* 103 Temporary Structure: 0  
 232 Posted Loads H-Modified: 15  
 HS-Modified: 00  
 Type 3: 27  
 Type3s2: 00  
 Timber: 32  
 Piggyback: 00  
 253 Notification Date 02/01/1901  
 253 Fed Notify Date: 02/01/1901 0

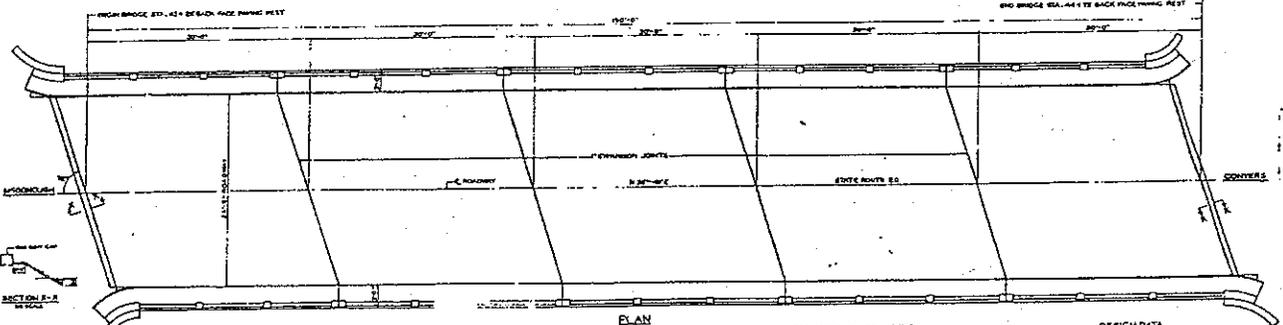
| Location & Geography            |                      | Signs & Attachments             |              |
|---------------------------------|----------------------|---------------------------------|--------------|
| * Structure I.D.No:             | 151-0006-0           | * 104 Highway System:           | 1            |
| * 200 Bridge Information        | 07                   | * 26 Functional Classification: | 07           |
| * 6A Feature Int:               | WALNUT CREEK         | * 204 Federal Route Type:       | S No.: 00869 |
| * 6B Critical Bridge:           | 0                    | * 105 Federal Lands Highway:    |              |
| * 7A Route Number Carried:      | SR00020              | * 110 Truck Route:              | 0            |
| * 7B Facility Carried:          | SR 20                | * 206 School Bus Route:         | 1            |
| * 9 Location:                   | 6 MI NE OF MCDONOUGH | * 217 Benchmark Elevation:      | 0659.00      |
| * 2 DOT District:               | 3                    | * 218 Datum:                    | 2            |
| * 207 Year Photo:               | 1999                 | * 19 Bypass Length:             | 08           |
| * 91 Inspection Frequency:      | 24                   | * 20 Toll:                      | 3            |
| * 92A Fract Crit Insp Freq:     | 00                   | * 21 Maintenance:               | 01           |
| * 92B Underwater Insp Freq:     | 00                   | * 22 Owner:                     | 01           |
| * 92C Other Spc. Insp Freq:     | 00                   | * 31 Design Load:               | 2            |
| * 4 Place Code:                 | 00000                | * 37 Historical Significance:   | 5            |
| * 5 Inventory Route (O/U):      | 1                    | * 205 Congressional District:   | 03           |
| * Type:                         | 3                    | * 27 Year Constructed:          | 1957         |
| * Designation:                  | 1                    | * 106 Year Reconstructed:       | 0000         |
| * Number:                       | 00020                | * 33 Bridge Median:             | 0            |
| * Direction:                    | 0                    | * 34 Skew:                      | 25           |
| * 16 Latitude:                  | 33-29.1              | * 35 Structured Flared:         | 0            |
| * 17 Longitude:                 | 84-05.6              | * 38 Navigation Control:        | 0            |
| * 98 Border Bridge:             | 000                  | * 213 Special Steel Design:     | 0            |
| * 99 ID Number:                 | 0000000000000000     | * 267 Type of Paint:            | 0            |
| * 100 STRAHNET:                 | 0                    | * 42 Type of Service on:        | 1            |
| * 12 Base Highway Network:      | 0                    | * 214 Movable Bridge:           | 0            |
| * 13A LRS Inventory Route:      |                      | * 203 Type Bridge:              | A-O-O-O      |
| * 13B Sub Inventory Route:      |                      | * 259 Pile Encasement:          | 3            |
| * 101 Parallel Structure:       | N                    | * 43 Structure Type Main:       | 1            |
| * 102 Direction of Traffic:     | 2                    | * 45 No. Spans Main:            | 005          |
| * 264 Road Inventory Mile Post: | 004.08               | * 44 Structure Type Appr:       | 0            |
| * 208 Inspection Area:          | 03                   | * 46 No. Spans Appr:            | 0000         |
| * Engineer's Initial:           | JAA                  | * 226 Bridge Curve Horz:        | 0            |
|                                 |                      | * 111 Pier Protection:          | 0            |
|                                 |                      | * 107 Deck Structure Type:      | 1            |
| * Location I.D. No.:            | 151-00020D-004.08E   | * 108 Wearing Surface Type:     | 1            |
|                                 |                      |                                 | Mr 8         |
|                                 |                      |                                 | F 8          |
|                                 |                      | * 248 County Continuity No.:    | 00           |

|     |          |                 |                 |           |
|-----|----------|-----------------|-----------------|-----------|
| NO. | DATE     | BY              | CHKD.           | APP.      |
| 1   | 10/22/57 | J. J. [unclear] | J. J. [unclear] | [unclear] |

100 V.L.  
 GRADE DATA  
 FULL SCALE CROSS SECTION ELEVATION



ELEVATION



PLAN

**BRIDGE CONSISTS OF**

- 1 - 30'-0" CONCRETE BEAM SPAN
- 2 - CONCRETE CAST IN PLACE PILE END BENTS
- 3 - CONCRETE INTERMEDIATE BENTS
- CONCRETE HIGHWAY

**DRAINAGE DATA**

ONE PILE, 1000  
 AREA OF OPENING UNDER HIGHWAY ELEVATION (NORMAL TO SPAN) = 1100 SQUARE FEET

**GENERAL NOTES**

1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
2. ALL CONCRETE SHALL BE PLACED AND FINISHED TO THE DESIGN ELEVATION.
3. ALL STEEL SHALL BE GALVANNEAL.
4. ALL WOOD SHALL BE DRY LUMBER.
5. ALL PAINT SHALL BE AS SPECIFIED.
6. ALL LABOR SHALL BE AS SPECIFIED.
7. ALL OTHERS SHALL BE AS SPECIFIED.

**SUMMARY OF QUANTITIES**

|        |  |
|--------|--|
| 770    | CU. YD. CONC. 74' GRADE                      |
| 28,701 | WGT. BAR REINFORCEMENT STEEL                 |
| 308    | CU. YD. CONCRETE HIGHWAY                     |
| 700    | CU. YD. CONCRETE CAST IN PLACE PILING (100%) |
| 2      | CONCRETE TEST PILES                          |
| 84     | CU. YD. BRIDGE ENDABUTMENT                   |
| 683    | WGT. STEEL AND DRIVING CLAMP                 |
| 1000   | WGT. GALV. SHEET PILING                      |
| 250    | CU. YD. BRIDGE PILING                        |

**DESIGN DATA**

VELOCITY = 40 M.P.H. (100 K.M.P.H.)  
 WIND = 100 M.P.H. (160 K.M.P.H.)  
 FLOODING = 100 M.P.H. (160 K.M.P.H.)

BRIDGE NO. 1  
 STATE HIGHWAY DEPARTMENT OF GEORGIA  
 BIRMINGHAM

PLAN AND ELEVATION  
 BRIDGE OVER WALNUT CREEK  
 STA. 43+25 TO STA. 44+75  
 HENRY COUNTY  
 S.0689 (4)

SCALE: 1" = 10'-0" UNLESS NOTED  
 JUNE 1958

# Department of Transportation State of Georgia

## INTERDEPARTMENT CORRESPONDENCE

**FILE** BRST-0869(17), Henry County P.I. # 343395  
**OFFICE** Environment/Location  
**DATE** January 24, 2002

**FROM** Harvey D. Keepler, State Environment/Location Engineer

**TO** James B. Buchan, P.E., State Consultant Design Engineer.  
 Attn. Ted Cashin

**SUBJECT** Traffic Assignments for S.R. 20 @ Walnut Creek 6 Mi NE of McDonough in Henry County.

We are furnishing estimated traffic assignments for the above project is attached:

2000 AADT = 5000  
 2007 AADT = 6400  
 2027 AADT = 10500  
 K = 9%  
 D = 60%  
 T = 8%  
 24 HOUR T = 10%  
 S.U. = 5%  
 COMB. = 5%

If you have any questions concerning this information please contact Abby Ebodagne at (404) 699-4460.

# FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: BRST-0869(17)

County: Henry

P.I. no.: 343395

Description: Bridge Replacement on S.R. 20 over Walnut Creek

Traffic Data (NOTE: AADTs are one-way)

24-hour Truck Percentage: 10.00%

AADT initial year of design period: 3,200 vpd (2007)

AADT final year of design period: 5,250 vpd (2027)

Mean AADT (one-way): 4,225 vpd

Design Loading

|           |        |         |           |                   |
|-----------|--------|---------|-----------|-------------------|
| Mean AADT | LDF    | Trucks  | 18-K ESAL | Total Daily Loads |
| 4,225 *   | 1.00 * | 0.100 * | 0.95 =    | 402               |

Total predicted design period loading = 402 \* 20 \* 365 = 2,934,600

Design Data

Terminal Serviceability Index: 2.50

Soil Support: 2.50

Regional Factor: 1.60

### PROPOSED FLEXIBLE PAVEMENT STRUCTURE

| Material              | Thickness<br>mm | (in.)   | Structural<br>Coefficient | Structural<br>Value |
|-----------------------|-----------------|---------|---------------------------|---------------------|
| 12.5 mm Superpave     | 38              | (1.50)  | 0.0173                    | 0.66                |
| 19 mm Superpave       | 50              | (1.97)  | 0.0173                    | 0.86                |
| 25 mm Superpave       | 26              | (1.02)  | 0.0173                    | 0.45                |
|                       | 74              | (2.91)  | 0.0118                    | 0.87                |
| Graded Aggregate Base | 300             | (11.81) | 0.0063                    | 1.89                |

Required SN = 5.28

Proposed SN = 4.73

>>> Proposed pavement is 10.5% Underdesign <<<

Remarks: Br. replac. along the existing align. with "on-site detour

Prepared by Ted Cashin-GDOT/Jim Graybeal-PB      September 4, 2002  
Date

Recommended State Materials & Research Engineer      Date

Approved State Consultant Design Engineer      Date

**NOTICE OF LOCATION AND DESIGN APPROVAL**

**Project No. BRST-0869(17) HENRY COUNTY**

**P.I. No. 343395**

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.

The date of Location Approval is: NOVEMBER 27, 2002

Project BRST-0869(17) is a bridge replacement project in Henry County. This project is in the 611th GMD, 6 miles northeast of McDonough on State Route 20 over Walnut Creek. The total project length is approximately 1700 feet (0.322 miles), beginning at M.P. 3.92 and extending to M.P. 4.24. The purpose of this project is to replace a structurally deficient and functionally obsolete bridge on S.R. 20 over Walnut Creek. The traffic will be maintained along an "on-site" detour constructed on the east side of existing S.R.20 and a new bridge will be constructed in the same location as the existing bridge.

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

Marc Mastronardi

Marc.Mastronardi@DOT.STATE.GA.US

1001 Highway 19 South

Griffin, Ga. 30223

Tel. No. 770-228-7205

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:

Ted Cashin

Georgia Department of Transportation

Ted.Cashin@DOT.STATE.GA.US

No. 2 Capitol Square

Atlanta, Georgia 30334

Tel. No. 404-463-6135

Any written request or communication in reference to this project or notice SHOULD include the PROJECT AND P.I. NUMBERS AS NOTED AT THE TOP OF THIS NOTICE.





# Department of Transportation State of Georgia

J. TOM COLEMAN, JR.  
COMMISSIONER  
(404) 656-5206

HAROLD E. LINNENKOHL  
DEPUTY COMMISSIONER  
(404) 656-5212

FRANK L. DANCHETZ  
CHIEF ENGINEER  
(404) 656-5277

EARL MAHFUZ  
TREASURER  
(404) 656-5224

## INTERDEPARTMENT CORRESPONDENCE

April 22, 2002

  
**FROM:** Buddy Gratton, P.E., State Maintenance Engineer

**TO:** James B. Buchan, P.E., State Consultant Design Engineer  
Attn: Ted Cashin

**SUBJECT:** Bridge Replacement

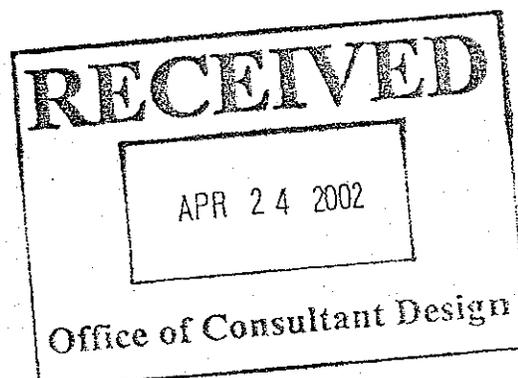
**BRST-08694 (17) / Henry  
Structure ID 151-0006-0  
Location ID 151-00020D-004.08E  
SR 20 over Walnut Creek**

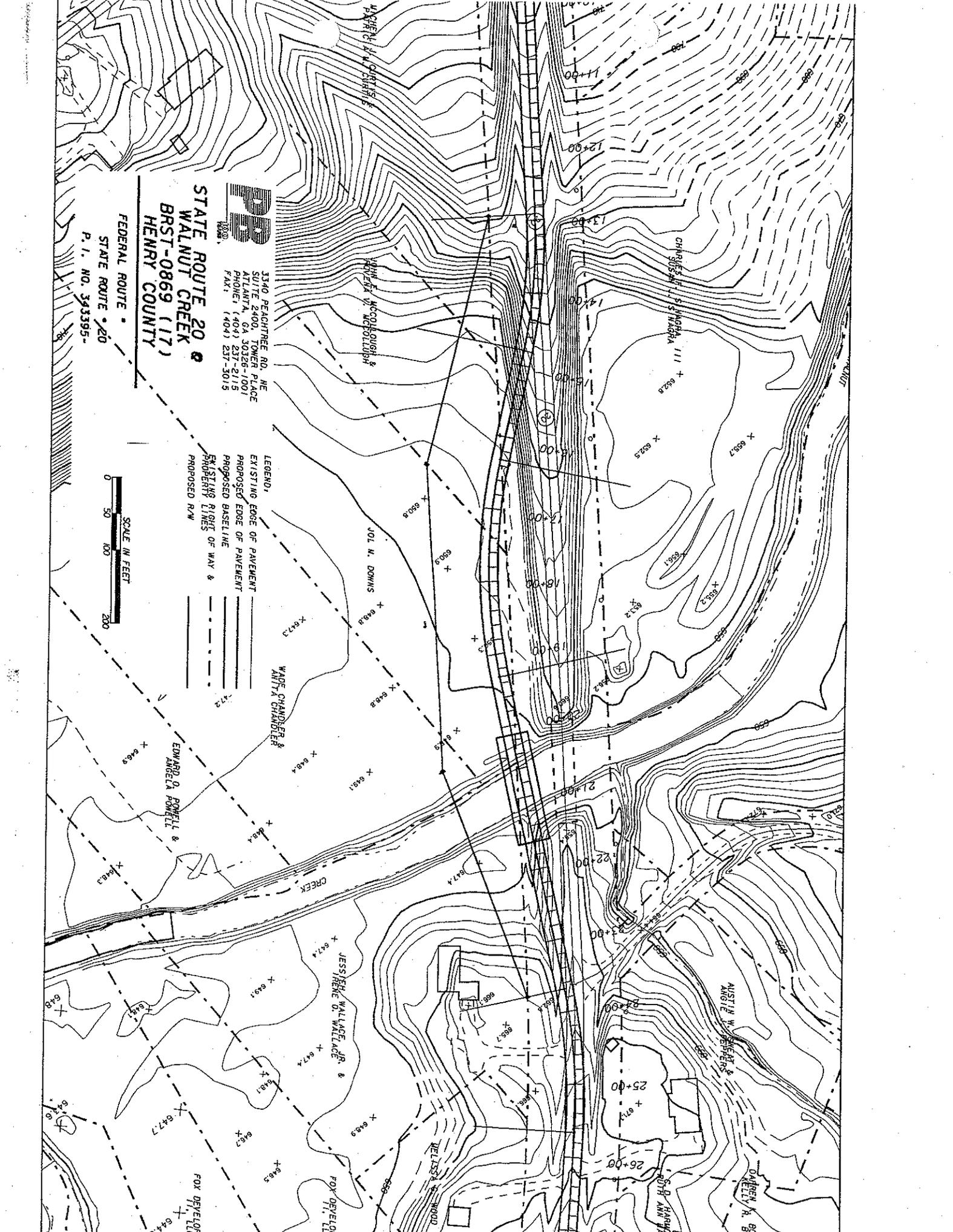
This bridge was built in 1957 and consists of concrete bents, concrete T- beam superstructure, and a concrete deck. The original design load capacity is H-15. The sufficiency rating on the structure is 64.3, and the bridge is classified as Functionally Obsolete and requires widening. However, in accordance with DOT policy 2405-1, we recommend that this bridge be replaced though due to unacceptable load capacity. Due to this criteria no additional cost analysis or coring by the lab will be required. This bridge does not currently qualify for federal replacement BR funding but does qualify for federal bridge widening funds which can be used toward replacement up to the estimated cost of widening. The remaining funds would have to come from another funding source.

If further information is required, please contact Brian Summers at (404) 635-8179.

BG/BKS

cc: Percy Middlebrooks





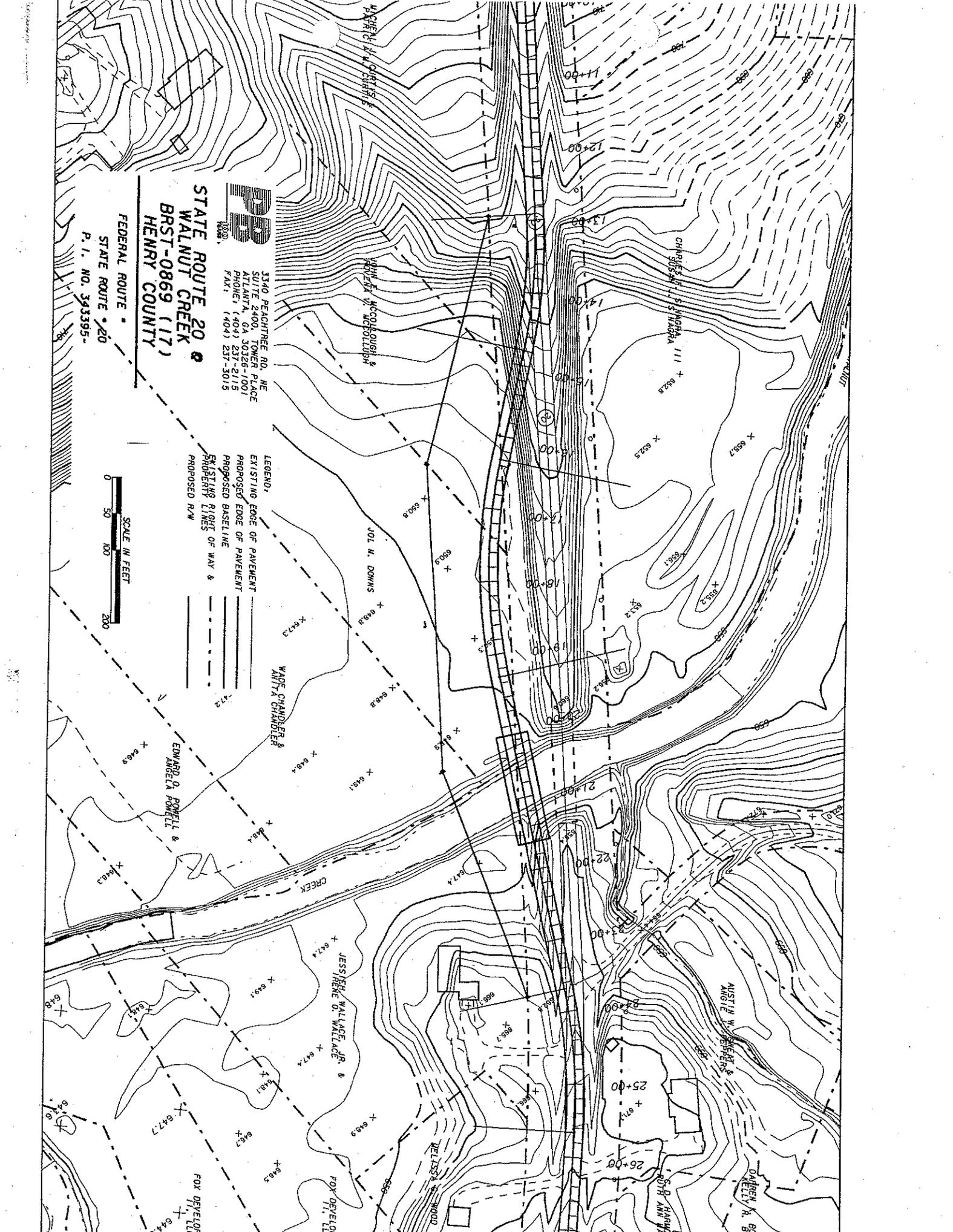
**STATE ROUTE 20**  
**WALNUT CREEK**  
**HENRY COUNTY**

FEDERAL ROUTE  
 STATE ROUTE 20  
 P. I. NO. 343395-



3340 BEACHTREE RD., NE  
 SUITE 2400, TOWER PLACE  
 ATLANTA, GA 30326-1001  
 PHONE (404) 237-2113  
 FAX (404) 237-5013

**LEGEND:**  
 EXISTING EDGE OF PAVEMENT  
 PROPOSED EDGE OF PAVEMENT  
 PROPOSED BASELINE  
 EXISTING RIGHT OF WAY &  
 PROPERTY LINES  
 PROPOSED R/W



JOHN J. QUARTS  
 JOHN E. MCCOLLUGH &  
 ROYAL W. MCCOLLUGH

JOL H. DOMBS

WADE CHANDLER &  
 ANITA CHANDLER

EDWARD O. POWELL &  
 ANGELA POWELL

JESSIE WALLACE JR. &  
 JESSIE WALLACE

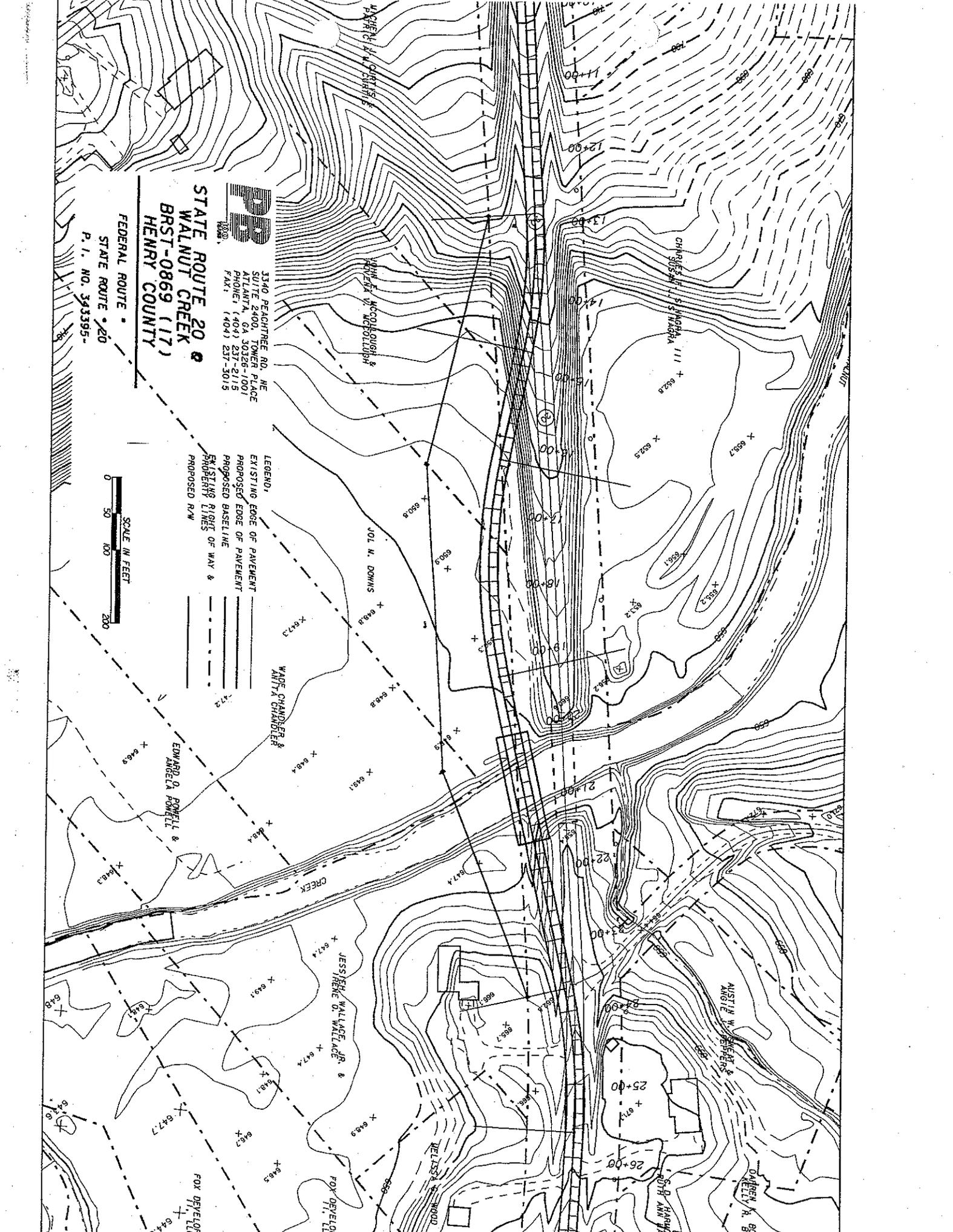
FOX DEVELOPMENT  
 FOX DEVELOPMENT

WELLS WOOD

AUSTIN W. BENTLEY &  
 ANGIE W. BENTLEY

DARREN A. BOSTER  
 KELLY A. BOSTER

JOHN HANCOCK &  
 JOHN HANCOCK



**PROJECT STATUS REPORT**

|                     |               |  |               |
|---------------------|---------------|--|---------------|
| <b>PI NUMBER</b>    |               |  | <b>READY</b>  |
| <b>PROJECT</b>      | <b>COUNTY</b> | <b>DESCRIPTION</b>   | <b>TO LET</b> |
| 343395-             | HENRY         | SR 20 @ WALNUT CREEK 6 MI NE OF MCDONOUGH                                      | FY05          |
| BRST-0869(17)       | US:           | <u>APPROVED DATES</u> PE DATE: 2002 RW DATE: 2004 CST DATE: 2004               |               |
| PROJ MGR: J. CASHIN |               | <u>PROPOSED DATES</u> TII PE DATE: 2002 TII RW DATE: 2004 TII CST DATE: 2005   |               |
| PROG TYPE: BRIDGES  |               | <u>APPROVED COSTS</u> PES: \$20,000 RIV COST: \$10,000 CST EST: \$1,100,000    |               |
| CONCEPT:            |               | <u>PROPOSED COSTS</u> TII PES: \$20,000 TII RWS: \$10,000 TII CSTS \$1,100,000 |               |
| P.E. PROJECT:       |               | NN: 64.3W REF PROJ: TWIN PROJ: EST DATE: 10/23/00                              |               |
| LENGTH: 0.23        | C DIST: 3     | FIELD DIST: 3 .STATUS: PRECST TIP #: HE 158A UAC: 1 FUND I: Q10                |               |

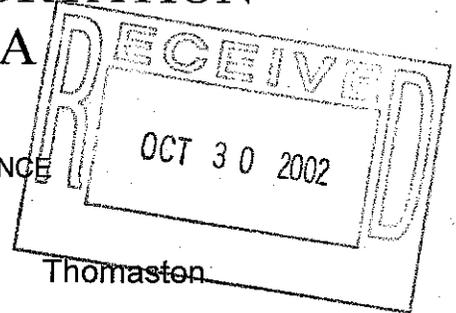
| SCHED START | SCHED FINISH | ACTIVITY                 | ACTUAL START | ACT/EST FINISH | PCT | DISTRICT COMMENTS         |
|-------------|--------------|--------------------------|--------------|----------------|-----|---------------------------|
|             |              | DEFINE CONCEPT RPT:      |              |                | 00  |                           |
|             |              | CONCEPT MEETING:         |              |                |     |                           |
|             |              | SUB RTP TO ENG SERVICES: |              |                |     |                           |
|             |              | REC ENG SERV APPROVAL:   |              |                | 00  |                           |
|             |              | MGT APPROV CPT REPORT:   |              |                | 00  |                           |
|             |              | ENVIRONMENTAL:           | 1/1/03       | 7/31/03        | 00  |                           |
|             |              | PUBLIC HEARING:          |              |                |     |                           |
|             |              | PHOTO MAPPING:           |              |                | 01  | TO SCHEDULE AFTER RECEIPT |
|             |              | FIELD SURVEY:            |              |                | 00  | OF WORK ORDER             |
|             |              | FINAL ALT APPRV:         |              |                |     | SCHEDULE PER SSE.         |
|             |              | PRELIM FPR HELD:         |              |                | 00  |                           |
|             |              | PREL RDWY RW PLANS:      |              |                | 00  |                           |
|             |              | SECURE 404 PROCESS:      |              |                | 00  |                           |
|             |              | LOC DZN APPRV:           |              |                | 00  |                           |
|             |              | FINAL CST PLANS:         |              |                | 00  |                           |
|             |              | APPRV RW PLANS:          |              |                | 00  |                           |
|             |              | STAKE RW:                |              |                | 00  |                           |
|             |              | FINAL FPR HELD:          |              |                |     |                           |
|             |              | LAB REC V SOIL REQUEST:  |              |                | 00  |                           |
|             |              | PREL HYDR PLANS:         |              |                | 00  |                           |
|             |              | LAB BFI REQUEST:         |              |                | 00  |                           |
|             |              | BRIDGE PLANS:            |              |                | 00  |                           |
|             |              | U.S.T.s:                 |              |                | 00  |                           |

BIKE PROVISIONS INCLUDED?: MEASUREMENT SYSTEM: CONSULTANT: C UT EST: \$0.00  
PDD : APRIL BOARD ADDITION: ASSIGNED CONSULTANT TASK FORCE 4/30/99  
PLANNING: "HOLD"  
DZN CMT:  
UTIL CMT:  
LGPA: REQ HENRY DO UTILITIES 7-20-99.  
LOC CMT: BRIDGE  
EIS: MM|AIELLO - CONSULT TASK FORCE  
404: NEED IMPACTS TO DETERMINE  
TS: CAH|BR REPL PRJCT|S&M PLNS N|R|030601

R/W INFORMATION:  
RW STATUS: PRECST NUMBER OF PARCELS TO BE ACQUIRED: 0 ACQUIRED BY: DOT ACQ MGR  
UNDER-REVIEW: 0 RELEASED 0 OPT-PEND: 0 DEEDS 0 COND-PEND 0 COND-FILED 0  
RWCERT:

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE



FILE BRST-0869(17) Henry County OFFICE Thomaston  
P. I. No. 343395  
SR20 over Walnut Creek 6 mi NE of McDonough

FROM *JBM* Thomas B. Howell, P.E., District Engineer DATE October 29, 2002

TO Margaret B. Pirkle, Assistant Director of Preconstruction

SUBJECT **PROJECT CONCEPT REPORT**

We have reviewed the concept report on the above project and concur with the recommendation for approval.

Attached for your further handling is the concept report cover sheet which has been signed by the District Engineer.

DBM:PD  
Attachment  
xc: David Mulling  
Harvey Keepler  
James B. Buchan

**DEPARTMENT OF TRANSPORTATION**  
**STATE OF GEORGIA**  
*Office of Consultant Design*

**PROJECT CONCEPT REPORT**

Project Number: BRST-0869(17)

County: HENRY

P. I. Number: 343395-

Federal Route Number: N/A

State Route Number: 20

Recommendation for approval:

DATE 10-23-02

DATE 10-23-02



\_\_\_\_\_  
Project Manager  
James B. Kisham *WSA*  
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 \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

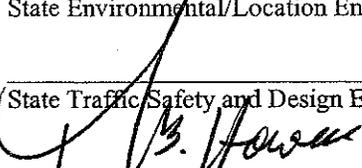
DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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

DATE 10-28-02

  
\_\_\_\_\_  
District 3 Engineer, Thomaston

DATE \_\_\_\_\_

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

DATE \_\_\_\_\_

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

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

*Office of Consultant Design*

**PROJECT CONCEPT REPORT**

Project Number: BRST-0869(17)

County: HENRY

P. I. Number: 343395-

Federal Route Number: N/A

State Route Number: 20

Recommendation for approval:

DATE 10-23-02

DATE 10-23-02



James B. Buchanan <sup>WST</sup>

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 10/31/02

Marta Riser  
State Transportation Planning Administrator

DATE \_\_\_\_\_

Office of Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

District 3 Engineer, Thomaston

DATE \_\_\_\_\_

Project Review Engineer

DATE \_\_\_\_\_

State Bridge and Structural Design Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

*Office of Consultant Design*

**PROJECT CONCEPT REPORT**

Project Number: BRST-0869(17)

County: HENRY

P. I. Number: 343395-

Federal Route Number: N/A

State Route Number: 20

Recommendation for approval:

DATE 10-23-02

DATE 10-23-02



James B. Kuhn *WBA*

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 \_\_\_\_\_

Office of Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

District 3 Engineer, Thomaston

DATE \_\_\_\_\_

Project Review Engineer

DATE 11/9/02

Paul V. Tellez Jr  
State Bridge and Structural Design Engineer

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
Office of Consultant Design

PROJECT CONCEPT REPORT

Project Number: BRST-0869(17)

County: HENRY

P. I. Number: 343395-

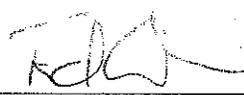
Federal Route Number: N/A

State Route Number: 20

Recommendation for approval:

DATE 10-23-02

DATE 10-23-02



James B. Buchanan <sup>WBA</sup>  
Project Manager  
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 \_\_\_\_\_

DATE 10/24/02

DATE \_\_\_\_\_

DATE \_\_\_\_\_

DATE \_\_\_\_\_

DATE \_\_\_\_\_

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator  
Herbert J. Saff  
Office of Financial Management Administrator

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

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

\_\_\_\_\_  
District 3 Engineer, Thomaston

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

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

**DEPARTMENT OF TRANSPORTATION**  
**STATE OF GEORGIA**  
*Office of Consultant Design*

**PROJECT CONCEPT REPORT**

Project Number: BRST-0869(17)

County: HENRY

P. I. Number: 343395-

Federal Route Number: N/A

State Route Number: 20

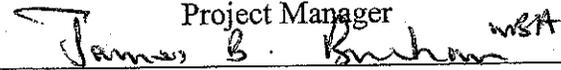
Recommendation for approval:

DATE 10-23-02



Project Manager

DATE 10-23-02



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 \_\_\_\_\_

Office of Financial Management Administrator

DATE \_\_\_\_\_

State Environmental/Location Engineer

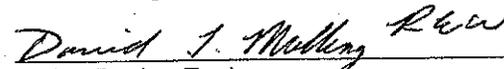
DATE \_\_\_\_\_

State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

District 3 Engineer, Thomaston

DATE 11-14-02

  
Project Review Engineer

DATE \_\_\_\_\_

State Bridge and Structural Design Engineer