

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 142260-, Forsyth County **OFFICE** Preconstruction
BRST-0862(9)
SR 369 over Settingdown Creek –
Bridge Replacement **DATE** March 21, 2007

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

TO *rs* David E. Studstill, Jr., P.E. Chief Engineer

SUBJECT APPROVED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

GRS/cj

Attachment

DISTRIBUTION:

Brian Summers
Harvey Keepler
Ken Thompson
Jamie Simpson
Michael Henry
Keith Golden
Angela Alexander (file copy)
Paul Liles
Babs Abubakari
Russell McMurry
BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: P. I. No. 142260-, Forsyth County **OFFICE:** Preconstruction
BRST-0862(9)
SR 369 over Settingdown Creek -
Bridge Replacement **DATE:** March 8, 2007

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

TO: *DS* David E. Studstill, Jr., P.E., Chief Engineer

SUBJECT: PROJECT CONCEPT REPORT

This project is the replacement of a structurally deficient bridge on SR 369 over Settingdown Creek, 6.0 miles north of Cumming, Georgia. The existing bridge, constructed in 1953 is load limited with a sufficiency rating of 57. The original design load capacity is H-15. In accordance with DOT MOG 2405-1, the existing bridge meets the established criteria for replacement. State Route 369 at this location is a rural two lane roadway with 12' travel lanes with rural shoulders. This section of SR 369 is functionally classified as a rural major collector. Traffic is projected to be 15,000 VPD and 22,000 VPD in the years 2009 and 2029 respectively. The posted speed and the design speed are 55 MPH.

The construction proposes to relocate SR 369 south of its present location, extending a total of 0.51 miles. The proposed new bridge will be 170' x 44' and will be located just south of the existing bridge structure. The relocated SR 369 will consist of two, 12' lanes with 10' rural shoulders (6.6' paved). Traffic will be maintained on the existing bridge while the proposed bridge is constructed.

Environmental concerns include requiring a COE 404 Permit; a Categorical Exclusion is anticipated; a public hearing open house 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.

P. I. No. 142260-, Forsyth
March 8, 2007

The estimated costs for this project are:

	PROPOSED	APPROVED	FUNDING	PROG DATE
Construction (includes E&C and inflation)	BR \$1,672,000	BR \$1,672,000	LICO	LR
	STP \$ 22,000	STP \$ 22,000	L240	LR
Right-of-Way	\$ 347,000	\$ 347,000	LICO	<u>2008</u>
Utilities*	-0-	-0-		

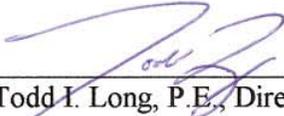
*Forsyth County signed for utilities; rescission letter sent to Forsyth County 7-22-05.

I recommend this project concept be approved.

GRS:JDQ/cj

Attachment

CONCUR



Todd I. Long, P.E., Director of Preconstruction

APPROVE



David E. Studstill, Jr., P.E., Chief Engineer

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENTAL CORRESPONDENCE

FILE: BRST-0862(9) Forsyth County **OFFICE:** Engineering Services
P.I. No. 142260
Bridge Replacement on CR 369@ Settingdown Creek

DATE: February 19, 2007

FROM: Brian K. Summers, P.E., Project Review Engineer

TO: Genetha Rice-Singleton Assistant Director of Preconstruction

SUBJECT: CONCEPT REPORT

We have reviewed the Concept Report received February 14, 2007 from Ted Cashin, and have the following comment.

The right of way costs should be reviewed and approved by the Office of Right of Way.

The costs for this project are:

Construction	\$1,539,533
E & C	\$ 153,953
Reimbursable Utilities	\$ 0
Right of Way	\$ 347,200

BKS

cc: Paul Liles, Attn.: Ted Cashin

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Bridge Design

PROJECT CONCEPT REPORT

Project Number: BRST-0862(9)
County: Forsyth
P. I. Number: 142260

Federal Route Number: N/A
State Route Number: 369

DESCRIPTION: S.R. 369 bridge replacement over Settingdown Creek

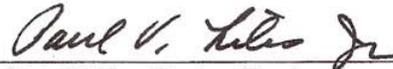
Recommendation for approval:

DATE 2-14-07



Project Manager

DATE 2-14-07



State Bridge 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

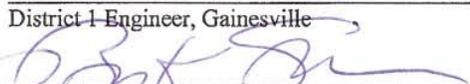
DATE _____

State Traffic Safety and Design Engineer

DATE _____

District 1 Engineer, Gainesville

DATE 2/19/07



Project Review Engineer

SCORING RESULTS AS PER MOG 2440-2

Project Number: BRST-0862(9)		County: Forsyth		PI No.: 142260	
Report Date: February 14, 2007		Concept By: DOT Office: Bridge Design			
<input checked="" type="checkbox"/> Concept Stage					
Project Type: 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 Replacement <input type="checkbox"/> Building <input type="checkbox"/> Interchange Reconstruction <input type="checkbox"/> Intersection Improvement <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous	
FOCUS AREAS	SCORE	RESULTS			
Presentation	100				
Judgement	100				
Environmental	100				
Right of Way	100				
Utility	100				
Constructability	100				
Schedule	100				

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

Office of Bridge Design

PROJECT CONCEPT REPORT

Project Number: BRST-0862(9)

County: Forsyth

P. I. Number: 142260

Federal Route Number: N/A

State Route Number: 369

DESCRIPTION: S.R. 369 bridge replacement over Settingdown Creek

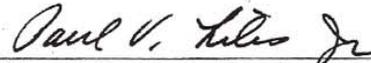
Recommendation for approval:

DATE 2-14-07



Project Manager

DATE 2-14-07



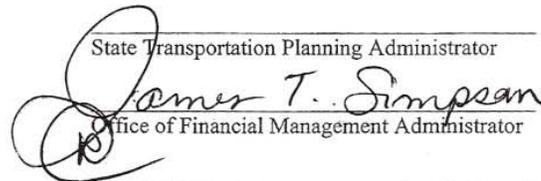
State Bridge Design Engineer

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 2-15-07

State Transportation Planning Administrator



Office of Financial Management Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety and Design Engineer

DATE _____

District 1 Engineer, Gainesville

DATE _____

Project Review Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

Office of Bridge Design

PROJECT CONCEPT REPORT

Project Number: BRST-0862(9)

County: Forsyth

P. I. Number: 142260

Federal Route Number: N/A

State Route Number: 369

DESCRIPTION: S.R. 369 bridge replacement over Settingdown Creek

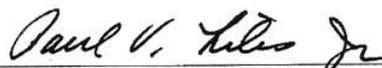
Recommendation for approval:

DATE 2-14-07



Project Manager

DATE 2-14-07



State Bridge 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 3-2-07



State Transportation Planning Administrator

DATE _____

Office of Financial Management Administrator

DATE _____

State Environmental/Location Engineer

DATE _____

State Traffic Safety and Design Engineer

DATE _____

District 1 Engineer, Gainesville

DATE _____

Project Review Engineer

NOTICE OF LOCATION AND DESIGN APPROVAL

Project No. BRST-0862(9) FORSYTH COUNTY

P.I. No. 142260

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: MARCH 21, 2007

This project consists of improvements of S.R. 369 over Settingdown Creek, located in Forsyth County, in GMD 878. The improvement project includes replacing the existing bridge over Settingdown Creek.

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:

Robert Mahoney

Robert.Mahoney@DOT.STATE.GA.US

2505 Athens Hwy., SE

Gainesville, Ga. 30503

Tel. No. 770-532-5520

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:

Paul V. Liles, P.E.

Georgia Department of Transportation

Paul.Liles@DOT.STATE.GA.US

No. 2 Capitol Square

Atlanta, Georgia 30334

Tel. No. 404-656-5280

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**

INTERDEPARTMENT CORRESPONDENCE

FILE **BRST-0862(9) Forsyth County** OFFICE Atlanta
SR 369/Matt Road over Settingdown Creek 6 mi N of Cumming
P.I. No. 142260- DATE February 14, 2007

FROM  Paul V. Liles, Jr., State Bridge Design Engineer

TO Genetha Rice-Singleton, Assistant Director of Preconstruction

SUBJECT **PROJECT CONCEPT REPORT**

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

Note that because the sufficiency rating of this bridge is greater than 50, split-funding will be required. The cost analysis determined that replacing the entire bridge will cost approximately \$21,411 more than widening the existing bridge. BR funding should be set up to cover \$2,040,687 and STP funds should be set up to cover the additional \$21,411.

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) 656-5302 or Tahir Chaudhry of PB Americas, Inc. at (404) 364-2647.

Distribution:

- Brian Summers, Project Review Engineer
- Harvey Keepler, State Environmental/Location Engineer
- Keith Golden, State Traffic Safety and Design Engineer
- Angela Alexander, State Transportation Planning Administrator
- Jamie Simpson, State Financial Management Administrator
- Russell McMurry, District Engineer – Gainesville

PVL: EJC

cc: PB Americas, Inc.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
Office of Bridge Design

PROJECT CONCEPT REPORT

Project Number: BRST-0862(9)
County: Forsyth
P. I. Number: 142260

Federal Route Number: N/A
State Route Number: 369

DESCRIPTION: S.R. 369 bridge replacement over Settingdown Creek

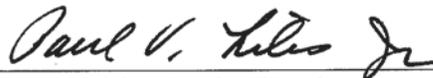
Recommendation for approval:

DATE 2-14-07



Project Manager

DATE 2-14-07



State Bridge 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 _____

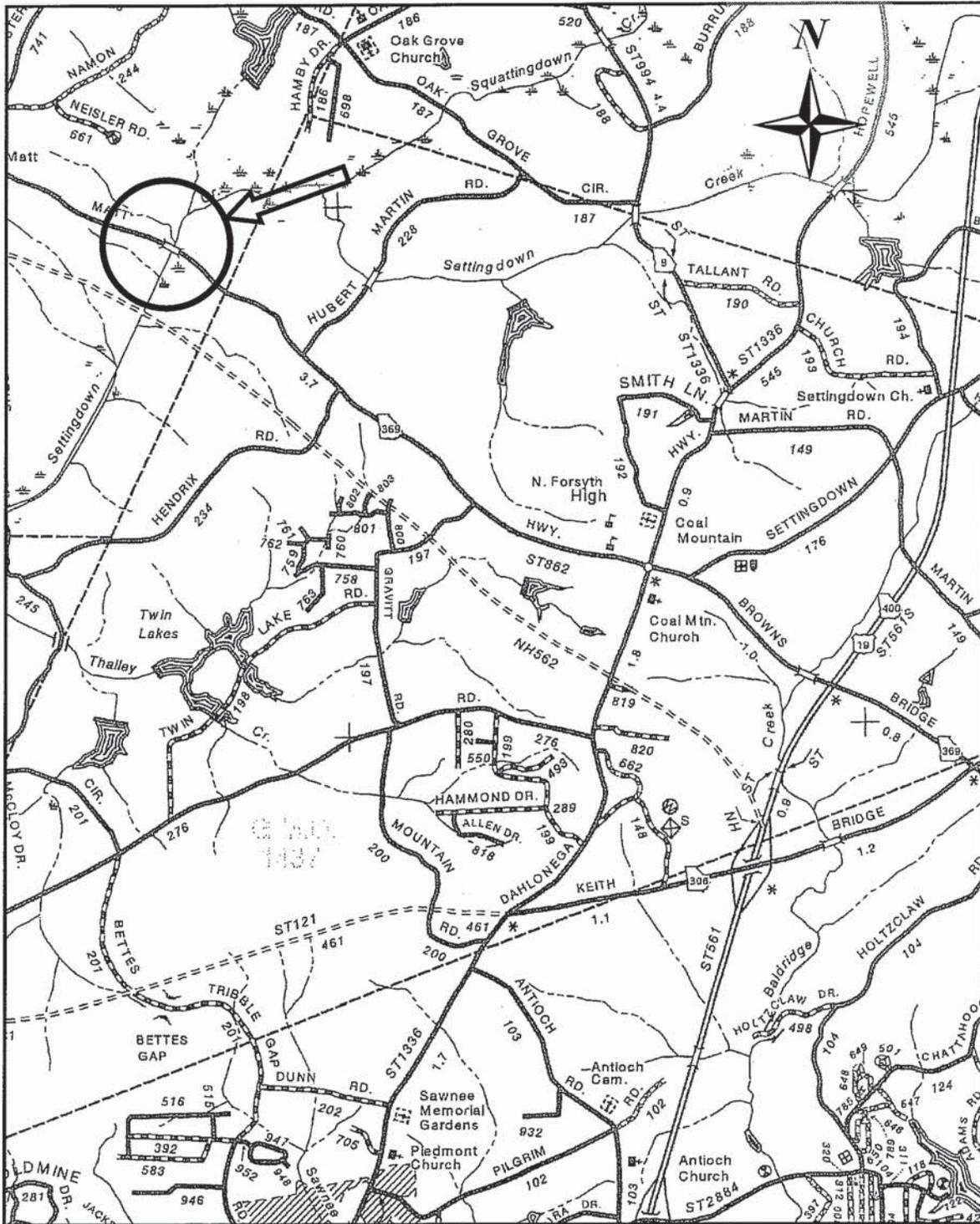
State Traffic Safety and Design Engineer

DATE _____

District 1 Engineer, Gainesville

DATE _____

Project Review Engineer



Location Map

Project: BRST-0862(9) Forsyth County PI No.: 142260

Description: SR 369 bridge replacement over Settingdown Creek 6 mi N of Cumming

Need and Purpose: See attached Need & Purpose Statement.

Description of the proposed project: Project BRST-0862(9) is a bridge replacement project in Forsyth County on S.R. 369 over Settingdown Creek. The total project length is approximately 2700 feet (0.511 mile), beginning approximately 6 miles west of S.R. 400 at MP 7.14 and extending to MP 7.65. The purpose of this project is to replace a structurally deficient and functionally obsolete bridge (bridge serial number 117-0017-0) on SR 369. The existing bridge sufficiency rating of 57.87 indicates that the existing bridge could be widened and rehabilitated. However, the GDOT TOPPS directive 2405-01 requires that a bridge on a State Route with a current load rating of less than HS-20 be replaced.

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

The proposed project design does not add any additional capacity to State Route 369. The existing and proposed roadways have two travel lanes. The project is consistent with what is identified in the District 1 STIP.

PDP Classification: Minor/ Existing
Full Oversight (), Exempt(X), State Funded (), or Other ()

Functional Classification: Rural Major Collector

U. S. Route Number(s): None

State Route Number(s): 369

Traffic (AADT):

Current Year: 15,000 (2009)

Design Year: 22,000 (2029)

Existing design features:

- Typical Section: Two 12 ft. wide travel lanes, with 2 ft. shoulders
- Posted speed 55 mph Maximum radius: 2320 ft.
- Maximum grade: 6.0 % Mainline, and 10% Driveways
- Width of right of way: 170 ft (maximum)
- Major structures: (1) Concrete and steel bridge over Settingdown Creek, 5 spans at 30 ft long, total length 150 ft., width 30 ft.-3 in. (bridge roadway width 23 ft-8 in.) sufficiency rating is 57.87.
- Major interchanges or intersections along the project: None

Project Concept Report page 3

Project Number: BRST-0862(9)

P. I. Number: 142260

County: Forsyth

Proposed Design Features:

Proposed typical section(s): Two 12' wide travel lanes, 10' wide graded outside shoulders (6'6" paved). Typical sections attached. (Shoulder to be paved under guardrail)

- Proposed Design Speed Mainline: 55 mph
- Proposed Maximum grade Mainline: 6.0% Maximum grade allowable: 6.5%
- Proposed Maximum grade Side Street: N/A Maximum grade allowable: 9.5%
- Proposed Maximum grade driveway: 10%
- Proposed Minimum radius of curve: 1500 ft. Minimum radius allowable: 965 ft.
- Right of way
 - Width: 50 feet of additional Right of Way on the South side is anticipated.
 - Easements: Temporary (), Permanent (X), Utility (), Other ()
 - Type of access control: Full (), Partial (), By Permit (X), Other ()
 - Number of parcels: 6 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 170 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 on the existing roadway while the new alignment and bridge is constructed. The traffic will then be redirected to the new alignment as the existing bridge is dismantled and the old roadway removed.
- 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: None Anticipated
- Level of environmental analysis:
 - Are Time Savings Procedures appropriate? Yes (X), No (),
 - Categorical exclusion (Anticipated),
- Utility involvement: Yes, existing utilities to be relocated

Project responsibilities:

- Design, Office of Consultant Design
- Right of Way Acquisition, District 1 Preconstruction (Right of Way Office)
- Relocation of Utilities, District 1 Utility Office
- Letting to contract, General Office (Office of Contract Administration)
- Supervision of construction, District 1 Construction Office
- Providing material pits, Project Contractor
- Providing detours. Office of Consultant Design (provided in project design)

Coordination

- Initial Concept Meeting date and brief summary. N/A
- Concept meeting date and brief summary. Minutes Attached
- FEMA, USCG, and/or TVA: Nationwide 404 with PCN
- Public involvement: None anticipated
- Local government comments: Forsyth County has not signed utility LGPA
- Other projects in the area. None
- Other coordination to date. None

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 Months
- 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: 6 Months
- List other major items that will affect the project schedule: N/A
- Time to construct project: 18 Months

Alternates considered: (1) Construct proposed bridge at same location as the existing bridge with temporary on-site detour; (2) Construct proposed bridge at same location as the existing bridge with off-site detour; close road; (3) Construct proposed bridge on the south side of the existing bridge on new alignment; (4) Widen the existing bridge while maintaining traffic; (5) No Build

Comments:

Comparison Summary of Concepts 1 - 4

Alternate (1) was eliminated due to the time and cost required to install & remove a temporary on-site detour alignment and bridge (refer to the alternate cost estimates for bridge comparisons). Alternate (2) was eliminated due to the need of rebuilding/repairing a lengthy detour route on County Roads. Alternate (4) was eliminated due to the requirements with regards to Load ratings in GDOT policy 2405-1. Alternate (5) was eliminated due to long-term maintenance activities required for a functionally obsolete bridge. Alternate (3) is recommended for this concept.

Attachments:

1. Cost Estimates:
 - a. Construction including E&C
 - b. Right of Way
 - c. Utilities
2. Typical sections
3. Bridge inventory
4. Minutes of Initial Concept and Concept meetings
5. Location and Design Notice
6. Preliminary Pavement Design
7. Need and Purpose Statement
8. Traffic Data

PRELIMINARY COST ESTIMATE
(BRIDGE REPLACEMENT)

DATE: July 7, 2006

PREPARED BY: Parsons Brinckerhoff

PROJECT NO.: BRST-0862(9)

P.I. NO.: 142260

LENGTH: 0.511 mi.

PROJECT DESCRIPTION: SR 369 over Settingdown Creek bridge replacement. Proposed bridge length of 170 ft and 44'-0" wide.

PROPOSED CONCEPT: Two 12' wide travel lanes with 10' outside shoulders (6'6" paved). Traffic will be shifted to the new alignment during construction.

EXISTING ROADWAY: State Route 369

TRAFFIC: Existing: 15000 ADT (2009) Design: 22000 ADT (2029)

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

PROJECT COST	
A. RIGHT-OF-WAY:	
1. PROPERTY (R/W & EASEMENT) 2.0 acres@\$50,000/ac.	\$ 100,000
2. DISPLACEMENTS: NONE	\$
3. OTHER COST (ADM./COST, INFLATION)	\$ 247,200
SUBTOTAL:A	\$ 347,200
B. REIMBURSABLE UTILITIES:	
1. RAILROAD	\$
2. TRANSMISSION LINES	\$
3. SERVICES (Forsyth County has not signed LGPA)	\$
SUBTOTAL:B	
C. CONSTRUCTION:	
1. MAJOR STRUCTURES	
Bridge replacement over Settingdown Creek (47.25'x 170')@\$75/sq.ft.	\$ 602,438
b. APPROACH SLAB – 180 SY @\$150/SY; 2 each spillways @\$1500 ea; 100 LF 15" slope drain pipe @\$23/LF	\$ 32,300
SUBTOTAL:C-1	\$ 634,738
2. GRADING AND DRAINAGE:	
a. EARTHWORK – 10,000 CY Borrow @\$12.00/CY	\$ 120,000
b. DRAINAGE:	

PROJECT COST	
1) METAL DRAIN INLETS: 12 ea metal drain inlets @\$1200 ea	\$ 14,400
2) SIDE DRAIN PIPE: 200 LF @ \$24/LF	\$ 4,800
SUBTOTAL:C-2	\$ 139,200
3. BASE AND PAVING:	
a. AGGREGATE BASE – Mainline 6500 TN @ \$18/TN	\$ 117,000
b. ASPHALT PAVING: SURFACE – Mainline 817 TN@\$70/TN;	\$ 57,190
BINDER – Mainline 1100 TN@\$65/TN; Leveling 100 TN @\$65/TN;	\$ 78,000
BASE – Mainline 3300 TN @\$60/TN	\$ 198,000
SUBTOTAL:C-3.b	\$ 333,190
c. CONCRETE PAVING	\$
d. OTHER- Bituminous tack coat 1200 gal @\$2.00/gal	\$ 2,400
SUBTOTAL:C-3	\$ 452,590
4. LUMP ITEMS:	
a. GRASSING – 5 acres @ \$2000/ac	\$ 10,000
b. CLEARING AND GRUBBING – 5 acres @\$1000/Ac	\$ 5,000
c. LANDSCAPING	\$
d. EROSION CONTROL- 4000 LF silt fence type A @\$2.75/LF, 2000 LF silt fence type C @\$4.80/LF; 1500 LF Baled Straw Erosion Check @\$2.50/LF; 2 sediment basins @\$6000 ea; 4000 SY slope mat @\$1.50/SY; 75 TN mulch @\$250/TN; 4 construction exits @\$1500 ea; 2 each water quality moni&samp @\$1700/ea.; 18 months water quality inspect @\$1000/mo	\$ 88,500
e. TRAFFIC CONTROL	\$ 50,000
SUBTOTAL:C-4	\$ 153,500
5. MISCELLANEOUS:	
a. LIGHTING - None	\$
b. SIGNING & MARKING	\$ 5,000
c. GUARDRAIL – 1500 LF @ \$25/LF, 2 ea Type 12 anch @ \$1500/ea; 2 ea Type 1 anch @\$440 ea	\$ 41,380
d. CURB & GUTTER - None	\$
SUBTOTAL:C-5	\$ 46,380
6. SPECIAL FEATURES- Rem. Exist. Bridge \$71,500; Remove 1300 LF guardrail	

PROJECT COST	
@\$1.25/LF; 1000 temporary concrete barrier @\$40/LF	
SUBTOTAL:C-6	\$ 113,125

ESTIMATE SUMMARY	
A. RIGHT-OF-WAY	\$ 347,200
B. REIMBURSABLE UTILITIES (Forsyth didn't sign LGPA)	\$
C. CONSTRUCTION	
1. MAJOR STRUCTURES	\$634,738
2. GRADING AND DRAINAGE	\$ 139,200
3. BASE AND PAVING	\$ 452,590
4. LUMP ITEMS	\$ 153,500
5. MISCELLANEOUS	\$ 46,380
6. SPECIAL FEATURES	\$ 113,125
SUBTOTAL CONSTRUCTION COST	\$ 1,539,533
E. & C. (10%)	\$ 153,9536
INFLATION (5% PER YEAR)	
NUMBER OF YEARS	
TOTAL CONSTRUCTION COST	\$ 1,693,487
GRAND TOTAL PROJECT COST	\$ 2,040,687

PRELIMINARY COST ESTIMATE
(Bridge Widening)

DATE: July 7, 2006 PREPARED BY: Parsons Brinckerhoff

PROJECT NO.: BRST-0862(9) Forsyth County

P.I. NO.: 142260

LENGTH: 0.511mi..

PROJECT DESCRIPTION: SR 369 over Settingdown Creek bridge widening - Proposed bridge length of 150 ft and 23.25 feet of widening (11.625' symmetrical widening on each side).

PROPOSED CONCEPT: Two 12'-0" travel lanes with 10'-0" shoulders (6'-6" Paved). Traffic will be rerouted to an on-site detour while the bridge and approaches are widened.

EXISTING ROADWAY: STATE ROUTE 369

TRAFFIC: Existing: 15000 ADT (2009)

Design: 22000 ADT (2029)

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

PROJECT COST	
A. RIGHT-OF-WAY:	
1. PROPERTY (R/W & EASEMENT) 2.0 acres @\$50,000/ac.	\$ 100,000
2. DISPLACEMENTS:.	
3. OTHER COST (ADM./COST, INFLATION)	\$ 247,200
SUBTOTAL:A	\$ 347,200
B. REIMBURSABLE UTILITIES:	
1. RAILROAD	\$ 0
2. TRANSMISSION LINES	\$ 0
3. SERVICES (Forsyth County has not signed LGPA.)	\$ 0
SUBTOTAL:B	\$ 0
C. CONSTRUCTION:	
1. MAJOR STRUCTURES	
a. OVERPASS – Widen Bridge over Settingdown Creek (25'-3"x 150') @\$125/Sq.Ft	\$ 473,438
b. TEMPORARY BRIDGE – over Settingdown Creek (24'x150') @\$30/Sq.Ft.	\$ 108,000
b. APPROACH SLAB – 180 SY @\$150/SY; 2 each spillways @\$1500 ea; 100 LF 15" slope drain pipe @\$23/LF	\$ 32,300
SUBTOTAL:C-1	\$ 613,738
2. GRADING AND DRAINAGE:	
a. EARTHWORK -- 10,000 CY Borrow @ \$12.00/CY	\$ 120,000

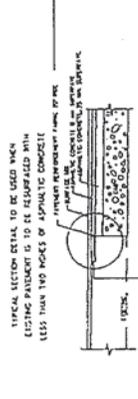
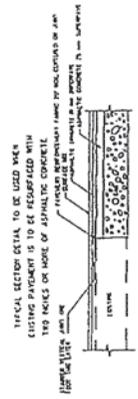
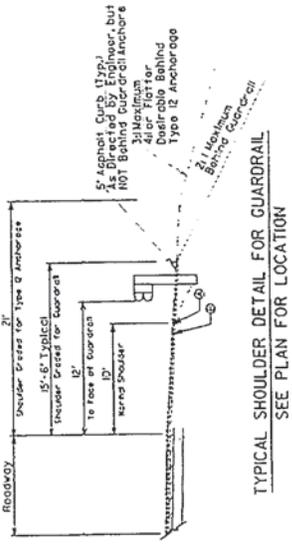
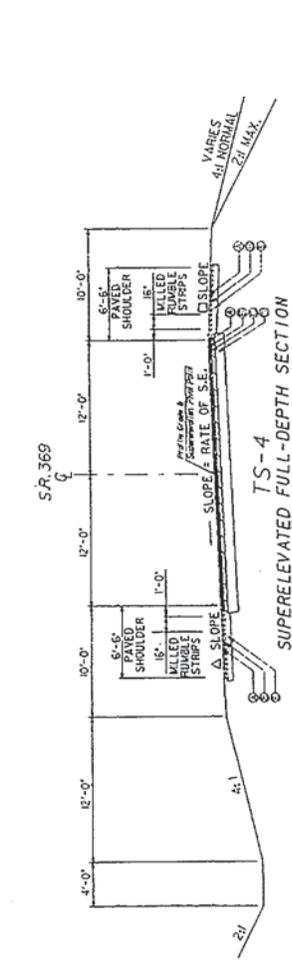
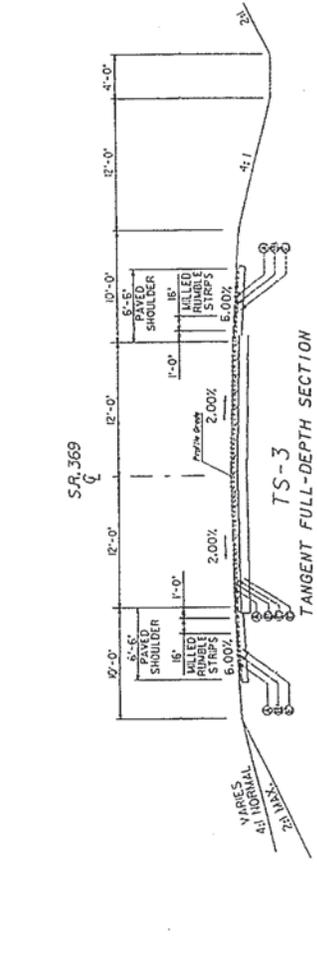
b. DRAINAGE:		
1) METAL DRAIN INLETS: 12 ea metal drain inlets @\$1200 ea		\$ 14,400
2) LONGITUDINAL PIPE		\$
3) CATCH BASINS		\$
	SUBTOTAL:C-2	\$ 134,400
3. BASE AND PAVING:		
a. AGGREGATE BASE Paved Shldr & Detour 3100 TN @ \$18/TN		\$ 55,800
b. ASPHALT PAVING SURFACE Mainline and Paved Shldr 713 TN @ \$70/TN	\$ 49,910	
BINDER - Mainline and Paved Shldr 951 TN @ \$65/TN	\$ 61,816	
BASE -	\$ 0	
	SUBTOTAL:C-3.b	\$ 111,726
c. CONCRETE PAVING		
d. OTHER Bituminous Tack Coat 1200 Gals.@ \$2.00/Gal		\$ 2,400
	SUBTOTAL:C-3	\$ 169,926
4. LUMP ITEMS:		
a. GRASSING - 5.0 acres @ \$2000/ac		\$ 10,000
b. CLEARING AND GRUBBING - 5.0 acres @ \$1000/ac		\$ 5,000
c. LANDSCAPING		
d. EROSION CONTROL- 4000 LF silt fence type A @\$2.75/LF, 2000 LF silt fence type C @\$4.80/LF; 1500 LF Baled Straw Erosion Check @\$2.50/LF; 2 ea sediment basins @\$6000 ea; 4000 SY slope mat @\$1.50/SY; 75 TN mulch @\$250/TN; 4 ea construction exits @\$1500; 2 ea water quality monit&sampl @\$1700/ea.; 18 months water quality inspections @\$1000/Mo		\$ 88,500
e. TRAFFIC CONTROL		\$ 200,000
	SUBTOTAL:C-4	\$ 303,500
5. MISCELLANEOUS:		
a. LIGHTING - NONE		
b. SIGNING - MARKING		\$ 4,000
c. GUARDRAIL - 1500 LF @ \$25/LF, 2 ea Type 12 anch @ \$1500/ea; 2 ea Type 1 anch @\$440 ea		\$ 41,380

SUBTOTAL:C-5	\$ 45,380
6. SPECIAL FEATURES- Rem. Temp. Bridge \$71,500; Remove 1300 LF guardrail @ \$1.25/LF; 2000 temporary concrete barrier @ \$40/LF; Remove Detour Pav. And earthwork \$100,000	\$ 253,125
SUBTOTAL:C-6	\$ 253,125

ESTIMATE SUMMARY	
<div style="position: relative; height: 40px;"> For Comparison Only </div>	
A. RIGHT-OF-WAY	\$ 347,200
B. REIMBURSABLE UTILITIES (Forsyth didn't sign LGPA)	\$
C. CONSTRUCTION	
1. MAJOR STRUCTURES	\$ 613,738
2. GRADING AND DRAINAGE	\$ 134,400
3. BASE AND PAVING	\$ 169,926
4. LUMP ITEMS	\$ 303,500
5. MISCELLANEOUS	\$ 45,380
6. SPECIAL FEATURES	\$ 253,125
SUBTOTAL CONSTRUCTION COST	\$ 1,520,069
E. & C. (10%)	\$ 152,007
INFLATION (5% PER YEAR)	
NUMBER OF YEARS	
TOTAL CONSTRUCTION COST	\$ 1,672,076
GRAND TOTAL PROJECT COST	\$ 2,019,276

TYPICAL SECTIONS

S. R. 369



1. ALL DIMENSIONS ARE IN FEET AND INCHES. FRACTIONS SHALL BE IN 16THS OF AN INCH UNLESS OTHERWISE SPECIFIED.



SLOPE	MIN. WIDTH	MIN. THICKNESS
2:1	12'	18"
3:1	12'	18"
4:1	12'	18"
5:1	12'	18"
6:1	12'	18"
7:1	12'	18"
8:1	12'	18"
9:1	12'	18"
10:1	12'	18"
12:1	12'	18"
15:1	12'	18"
20:1	12'	18"
25:1	12'	18"
30:1	12'	18"
40:1	12'	18"
50:1	12'	18"
60:1	12'	18"
75:1	12'	18"
100:1	12'	18"

- △ SLOPE IS ON RATE OF 5% UNLESS OTHERWISE SPECIFIED
- SLOPE IS ON RATE OF 10% UNLESS OTHERWISE SPECIFIED
- SLOPE IS ON RATE OF 15% UNLESS OTHERWISE SPECIFIED
- SLOPE IS ON RATE OF 20% UNLESS OTHERWISE SPECIFIED
- SLOPE IS ON RATE OF 25% UNLESS OTHERWISE SPECIFIED
- SLOPE IS ON RATE OF 30% UNLESS OTHERWISE SPECIFIED
- SLOPE IS ON RATE OF 40% UNLESS OTHERWISE SPECIFIED
- SLOPE IS ON RATE OF 50% UNLESS OTHERWISE SPECIFIED
- SLOPE IS ON RATE OF 60% UNLESS OTHERWISE SPECIFIED
- SLOPE IS ON RATE OF 75% UNLESS OTHERWISE SPECIFIED
- SLOPE IS ON RATE OF 100% UNLESS OTHERWISE SPECIFIED

BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Structure ID: 117-0017-0

Forsyth

SUFF. RATING

57.87

Location & Geography

* Structure I.D.No: 117-0017-0

* 200 Bridge Information 06

* 6A Feature Int: SETTINGDOWN CREEK

* 6B Critical Bridge: 0

* 7A Route Number Carried: SR00369

* 7B Facility Carried: MATT HIGHWAY

* 9 Location: 6 MI N OF CUMMING

2 DOT District: 1

207 Year Photo: 2005

* 91 Inspection Frequency: 24 Date: 08/08/2005

92A Fract Crit Insp Freq: 00 Date: 02/01/1901

92B Underwater Insp Freq: 00 Date: 02/01/1901

92C Other Spc. Insp Freq: 00 Date: 02/01/1901

* 4 Place Code: 00000

* 5 Inventory Route (O/U): 1

Type: 3

Designation: 1

Number: 00369

Direction: 0

* 16 Latitude: 34-07.6 MMS Prefix: SR

* 17 Longitude: 084-08.4 MMS Suffix: 00 MP: 6.97

98 Border Bridge: 000 %Shared: 00

99 ID Number: 0000000000000000

* 100 STRAHNET: 0

12 Base Highway Network: 1

13A LRS Inventory Route: 1171036900

13B Sub Inventory Route: 0

* 101 Parallel Structure: N

* 102 Direction of Traffic: 2

* 264 Road Inventory Mile Post: 007.40

* 208 Inspection Area: 01 Initials: JBC

Engineer's Initial: jal

* Location I.D. No.: 117-00369D-006.97E

Signs & Attachments

*	104	Highway System:	0		
*	26	Functional Classification:	07		
*	204	Federal Route Type:	S	No.: 00862	
*	105	Federal Lands Highway:	0		
*	110	Truck Route:	0		
*	206	School Bus Route:	1		
*	217	Benchmark Elevation:	0000.00		
	218	Datum:	0		
*	19	Bypass Length:	04		
*	20	Toll:	3		
*	21	Maintenance:	01		
*	22	Owner:	01		
*	31	Design Load:	2		
	37	Historical Significance:	5		
	205	Congressional District:	10		
	27	Year Constructed:	1953		
	106	Year Reconstructed:	0000		
	33	Bridge Median:	0		
	34	Skew:	00		
	35	Structure Flared:	0		
	38	Navigation Control:	0		
	213	Special Steel Design:	0		
	267	Type of Paint:	0		
*	42	Type of Service on:	1		
		Under:	5		
	214	Movable Bridge:	0		
	203	Type Bridge:	D-O-O-O		
	259	Pile Encasement:	3		
*	43	Structure Type Main:	1 04		
	45	No. Spans Main:	005		
	44	Structure Type Appr:	0 00		
	46	No. Spans Appr:	0000		
	226	Bridge Curve Horiz:	1	Vert: 0	
	111	Pier Protection:	0		
	107	Deck Structure Type:	1		
	108	Wearing Surface Type:	6		
		Membrane:	0		
		Protection:	8		

	225	Expansion Joint Type:	02		
	242	Deck Drains:	1		
	243	Parapet Location:	0		
		Height:	0.00		
		Width:	0.00		
	238	Curb:	0		0.80 1
	239	Handrail:	1 1		
	*	240	Median Barrier Rail:	0	
	241	Bridge Median Height:	0.00		
		Width:	0.00		
	*	230	Guardrail Loc Dir Rear:	3	
			Fwrd:	3	
			Oppo Dir Rear:	0	
			Fwrd:	0	
	244	Approach Slab:	0		
	224	Retaining Wall:	0		
	233	Posted Speed Limit:	55		
	236	Warning Sign:	1		
	234	Delineator:	1		
	235	Hazard Boards:	1		
	237	Utilities Gas:	31		
		Water:	00		
		Electric:	00		
		Telephone:	00		
		Sewer:	00		
	247	Lighting Street:	0		
		Navigaton:	0		
		Aerial:	0		
	*	248	County Continuity No.:	00	

BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION

Structure ID: 117-0017-0

Forsyth

SUFF. RATING

57.87

Programming Data

201 Project No.: S-862 (1)
 202 Plans Available: 4
 249 Prop. Proj. No. BRST-0862 (9)
 250 Approval Status: 0000
 251 P.I. No.: 142260-
 252 Contract Date: 02/01/2008
 260 Seismic No.: 00000
 75 Type Work: 34 1
 94 Bridge Imp. Cost: \$ 298
 95 Roadway Imp. Cost: \$ 62
 96 Total Imp Cost: \$ 445
 76 Imp. Length: 000361
 97 Imp. Year: 1990
 114 Future ADT: 023850 Year: 2024

Measurements

* 29 ADT: 015900 Year: 2004
 109 % Trucks: 10
 * 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: 23.70
 52 Deck Width: 30.20
 * 47 Tot. Horz. Cl: 23.70
 50 Curb/Sdewlk Width: 2.00/2.00
 32 Approach Rdwy Width: 027
 * 229 Shoulder Width:
 Rear Lt: 1.20 Type: 2 Rt: 1.10
 Fwd Lt: 1.30 Type: 2 Rt: 1.40
 Pavement Width:
 Rear: 24.30 Type: 2
 Fwd: 24.90 Type: 2
 Intersection Rear: 0 Fwd: 0
 36 Safety Features Br. Rail: 2
 Transition: 2
 App. G. Rail: 2
 App. Rail End: 2
 53 Minimum Cl.Over:
 Under: N
 * 228 Min. Vertical Cl
 Act. Odm Dir: 99 ' 99 "
 Opp. Dir: 99 ' 99 "
 Posted Odm. Dir: 00 ' 00 "
 Opp. Dir: 00 ' 00 "
 55 Lateral Undercl. Rt: N 0.00
 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: 6.00
 Deck Thick Approach: 0.00
 246 Overlay Thickness: 4.50
 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: 21
 67 Structural Evaluation: 5
 58 Deck Condition: 7
 59 Superstructure Condition: 6
 * 227 Collision Damage: 0
 60A Substructure Condition: 6
 60B Scour Condition: 6
 60C Underwater Condition: N
 71 Waterway Adequacy: 8
 61 Channel Protection Cond: 6
 68 Deck Geometry: 2
 69 UnderClr. Horz/Vert: N
 72 Appr. Alignment: 6
 62 Culvert: N

Hydraulic Data

215 Waterway Data
 Highwater Elev.: 0000.0 Year: 1900
 Avg. Streambed Elev.: 0000.0 Freq.: 00
 Drainage Area: 00020
 Area Of Opening: 000960
 113 Scour Critical: U
 216 Water Depth: 2.1 Br. Height: 22.2
 222 Slope Protection: 1
 221 Spur Dikes Rear: 0 Fwd: 0
 219 Fender System: 0
 220 Dolphin: 0
 223 Culvert Cover: 000
 Type: 0
 No. Barrels: 0
 Width: 0.00 Height: 0.00
 Length: 0 Apron: 0
 * 265 U/W Insp. Area: 0 Diver: ZZZ

Posting Data

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

* Location I.D. No.: 117-00369D-006.97E



Parsons
Brinckerhoff 3340 Peachtree Road, NE
Suite 2400, Tower Place
Atlanta, GA 30326-1001
404-237-2115
Fax 404-237-3015

Memorandum of Meeting No. 1

Date: July 22, 2005

Date of Meeting: July 6, 2005

Project: BRST-0862(9) FORSYTH COUNTY, P.I. 142260

Purpose of Meeting: Concept Team Meeting

Meeting Location: GDOT District 1 Office, Gainesville, Ga.

Attendees: Russell McMurry, GDOT District 1 Engineer
Robert Mahoney, GDOT District 1 Preconstruction Engineer
Brent Cook, GDOT District 1 Traffic Operations Engineer
Robby B. Oliver, GDOT Utilities
Jason Crane, GDOT Planning
Brandon Kirby, GDOT Area Engineer
Joe Barron, GDOT
Shane Dover, GDOT District 1 Location Engineer
James (Smoky) Butler, Butler Acquisition (Right of Way)
Tahir Chaudhry, PBQD
George Krausser, PBQD
Jim Graybeal, PBQD

Distribution:

Attendees
John Cunard, Forsyth County
Tim Allen, Forsyth County
Ted Cashin, GDOT, Office of Consultant Design
Donald Brown, GDOT State Right of Way Administrator
Terry Kazmerzak, PBQD

Discussion:

1. George initiated informal introductions and a sign-in sheet was routed for names of the attendees.
2. George began the meeting by welcoming everyone and stated that the projects consist of replacing the bridge over Settingdown Creek on S.R. 369 in Forsyth County.



Memorandum of Meeting

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July 22, 2005

3. George provided an aerial photography plot of the proposed relocation of S.R. 369, showing the new bridge on the downstream side of the existing bridge.
4. George gave a description of the proposed project concept as presented in the draft concept report.
5. George discussed the fact that the initial sufficiency rating shown on the bridge inventory report for the bridge was greater than 50 (59.01), whereby requiring two cost estimates one for a bridge replacement and the other for a bridge widening both to be submitted in the final concept report for approval
6. George indicated that the photography was somewhat outdated due to the fact that several new subdivisions were currently under construction. George stated that near the end of the proposed project limits the environmental screening had identified a potential historic property, but indicated that the proposed design should tie in to the existing right of way in this area and avoid the historic property.
7. Smoky Butler representing the Right of Way Office questioned the cost estimates with regards to the \$20,000 per acre right of way cost. He stated that this seemed low for property in Forsyth County and stated to use \$35,000 per acre. He also requested the designer review and consider the driveway tie-in at Sta. 30+00.
8. George stated that the proposed project design does not require any design exceptions or design variances.
9. Jim indicated that the pavement design submitted with the report would be revised to reflect the latest pavement memo to use a standard pavement depth.
10. The District Construction office representative stated to try and not raise the vertical alignment by more than two feet if possible, based on the proposed horizontal alignment. They also requested the designer to check the requirements for using barrier walls and or retaining walls during construction.
11. No comments from the District Traffic Operation Office.
12. The District Utilities Office stated that there are currently two utilities attached to the bridge. Also they would inform Mr. Pritchett about the project with regards to the proposed Georgia Power transmission installation.
13. The Office of Planning indicated that a need and purpose statement is required for the project. Also they would check to see if any future projects were proposed along this section of S.R. 369.



Memorandum of Meeting

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July 22, 2005

14. The District Preconstruction Engineer indicated that the concept was acceptable and instructed PB to move forward to obtain concept approval. He also requested that a copy of the meeting minutes be sent to the local government.

15. A color copy of the proposed alignment shown on aerial photography was left with the District 1 Office

16. The meeting was adjourned.

Action Items:

- GDOT Planning Office to provide a Need and Purpose Statement and a Conformity letter.
- Jason Crane from the Office of Planning provided a list of projects from the Forsyth County Long Range Transportation Plan & the ARC Mobility 2030, which included several projects along S.R. 369, including adding passing lanes, roadway widening, additional turn lanes at the intersection at S.R. 400, and bikeways.
- *Ted Cashin suggested that it would be appropriate to get a real RW estimate from Right of Way because of the development that is going on around the project.*
- *Jason Crane also stated that the Office of Planning will need to have received a request for a need and purpose statement of this project before it could be forwarded on.*

Sincerely,

PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.

A handwritten signature in cursive script that reads "George Krausser".

George Krausser, P.E.
Project Manager

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: BRST-2862(9)

County: FORSYTH

P.I. no.: 142260

Description: S.R. 369 BRIDGE REPLACEMENT OVER SETTINGDOWN CREEK

Traffic Data (NOTE: AADTs are one-way)

24-hour Truck Percentage: 8.00%
 AADT initial year of design period: 7,500 vpd (2009)
 AADT final year of design period: 11,000 vpd (2029)
 Mean AADT (one-way): 9,250 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
9,250	*	1.00	*	0.080	*	0.95	=	704

Total predicted design period loading = 704 * 20 * 365 = 5,139,200

Design Data

Terminal Serviceability Index: 2.50
 Soil Support: 3.00
 Regional Factor: 1.80

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	(mm)	Structural Coefficient	Structural Value
.5 mm Superpave	1.50	(38)	0.44	0.66
19 mm Superpave	2.00	(51)	0.44	0.88
25 mm Superpave	1.00	(25)	0.44	0.44
	5.00	(127)	0.30	1.50
Graded Aggregate Base	12.00	(305)	0.16	1.92
Required SN = 5.47			Proposed SN = 5.40	

>>> Proposed pavement is 1.3% Underdesign <<<

Remarks: Preliminary (for Concept Report)

Prepared by George Krausser - Design Engineer June 7, 2005
Date

Recommended State Consultant Design Engineer Date

Approved State Pavement Engineer Date

NEED AND PURPOSE
PROJECT BRST-0862(9), Forsyth County
PI NO. 142260
SR 369/Matt Road at Settingdown Creek 6 MI North of Cumming
Bridge Replacement, Structure ID 117-0017-0

Project BRST-0862(9), consists of the replacement of the bridge on SR 369/Matt Road at Settingdown Creek in Forsyth County. This bridge is located approximately three miles west of SR 400 and six miles north of the City of Cumming.

The current bridge is 2 lanes, with a deck width of 30.2 feet and has a sufficiency rating is 57.87, as classified by the Bridge Inventory Data Listing. The speed limit along this route is 55 mph and the percentage of trucks utilizing this route is approximately ten percent (10%). This route is functionally classified as a rural major collector. The current annual average daily traffic (AADT) along SR 369 at Settingdown Creek is 15,900 vehicles per day (vpd).

This bridge is listed in the Highway Bridge Replacement and Rehabilitation Program (HBRRP) and has been recommended for replacement in accordance with the criteria set forth in Policy 2405-1, which states that an existing bridge on the state route system which has a current Load Rating of less than HS-20 shall be replaced. The SR 369 Bridge over Settingdown Creek has a load rating of H-15.

The need for this project is to replace the deficient bridge over Settingdown Creek in Forsyth County. The purpose of this bridge replacement is to provide a facility that is in accordance with GDOT Policy 2405-1.

