

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: STP00-0017-03(064) Floyd **OFFICE:** Engineering Services
P.I. No.: 631480
SR 1/US 27 Veterans Hwy to Old Dalton Rd **DATE:** June 10, 2011

FROM: Ronald E. Wishon, State Project Review Engineer *REW*

TO: Bobby K. Hilliard, PE, State Program Delivery Engineer
Attn.: Terry Rogers

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held March 21-24, 2011. Responses were received on June 9, 2011. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
A-1	Show required right of way to shoulder breakpoint and easements for slopes and ditches	\$2,010,000	Yes	This will be done.
A-2.1	Reduce commercial right of way with retaining walls on the west side of the project	Proposed = \$215,000 Actual = \$233,277	Yes, with modifications	A wall is not needed in this area. The new slopes can be tied into the existing slopes utilizing temporary slope easements to provide the necessary areas for construction. In some areas, the back slope can be steepened to 3:1. The additional savings afforded by the use of temporary construction easement, in lieu of the wall, is \$18,277.
A-2.2	Reduce right of way offset to construction limits on parcels in front of mall	\$411,000	Yes	This will be done.
A-3	Reduce shoulder width on the non-trail side of SR 1/US 27	\$120,000	Yes	This will be done.

B-1	Build a separate multi-use trail bridge instead of combining with the vehicular bridge	\$200,000	No	To provide connectivity to the trail system on the Armuchee Connector, and for direct access to the mall, the multi-use trail was planned for the east side of the roadway. The meandering of the creek just east of the bridge would prevent construction of a separate trail bridge on the east side. The multi-use trail bridge would need to maintain the span arrangement and profile of the vehicular bridge, and the unit cost of the multi-use trail bridge would be the same as the vehicular bridge. This recommendation would add \$71,040 to the overall bridge cost.
B-2	Use detour bridge as a permanent separate pedestrian/multi-use trail bridge instead of combining with the main bridge	\$123,000	No	As noted in B-1, the multi-use trail bridge would have the same unit cost as a vehicular bridge. A detour bridge designed and constructed as a permanent structure would add \$232,400 to the overall bridge cost.
B-4	Reduce the width of the multi-purpose trail across the bridge by two feet	\$59,000	Yes	This will be done
B-5	Eliminate utility strip from bridge width	\$147,000	No	The 5 foot strip is not a utility strip, but is intended to provide separation between pedestrians and motorists.
B-6	Add barrier to bridge to separate multi-use trail	\$(-20,000) Cost Increase	No	The installation of a barrier to separate the vehicular traffic from the pedestrian/bike traffic would become an obstruction and would require impact attenuators. There would be added costs for the installation and maintenance of the attenuators.
D-1	Minimize U-turn and right turn lane access at 3 locations	\$24,000	No	Median openings at the specified locations provide the opportunity to make U-turns away from other major intersections. Only allowing U-turns at the major intersections would be disruptive to traffic.

E-1	Shift alignment west, and retain existing shoulder along east side	\$1,147,000	No	The current alignment has been approved by SHPO and Berry College. The existing rural shoulder is substandard in width in many locations, and the existing ditch and/or fill slopes range from 2:1 to 4:1.
H-1	Reduce multi-use path width from 12 feet to 10 feet	\$357,000	Yes	This will be done.

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

Approved:  Date: 6/13/2011
Gerald M. Ross, PE, Chief Engineer

REW/LLM

Attachments

- c: Ben Buchan/Russell McMurry
Bobby Hilliard/Stanley Hill/Terry Rogers
Paul Liles/Ben Rabun/Bill Duvall/Bill Ingalsbe
Sam Pugh
Patrick Bowers/Kenny Beckworth
Ken Werho
Lisa Myers
Matt Sanders

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE



FILE: STP00-0017-03(064), Floyd County
SR 1/US 127 from Veterans Pkwy to Old Dalton Rd
P.I. No. 631480

OFFICE: Program Delivery
DATE: June 8, 2011

FROM: Bobby Hilliard, *Mezger for* State Program Delivery Engineer

TO: Ronald E. Wishon, Project Review Engineer
Attn: Lisa Myers

SUBJECT: Value Engineering Study Responses

Reference is made to the alternative proposals contained in the Value Engineering Study- Final Report dated April 1, 2011 for the above referenced project. Attached are the consultant responses for the Value Engineering Study. The Bridge Office has issued a letter of concurrence. This office is in concurrence with these responses. Plan sheets have not been developed so there is no cover sheet.

For any questions, please call Terry Rogers at 404-608-4778.

BKH:SH:tr

Cc: Ben Buchan, Director of Engineering

WILLIAMS, SWEITZER & BARNUM, INC.

Robert L. Moss, P.E., R.L.S.
John E. Schrock, P.E.

ENGINEERS • SURVEYORS

2232 Redmond Circle
Rome, Georgia 30165-2087
Telephone: 706/234-0552
Facsimile: 706/234-0556

June 8, 2011

Ms. Terry Rogers
Associate Project Manager
Georgia Department of Transportation
Office of Program Delivery
15 Kennedy Drive
Forest Park, GA 30297

**Re: SR 1/US 27 from Veterans Memorial Hwy to
Old Dalton Road
STP00-0017-03(064) PI 631480
Floyd County, GA**

Dear Ms. Rogers:

From our review of the Value Engineering Report, dated April 1, 2011, for the referenced project, we offer the following responses concerning the implementation of the suggested Value Engineering measures.

A. RIGHT OF WAY

A-1: Show required right of way to the shoulder breakpoint and then use easements for slopes and ditches.

VE Team Estimated Savings - \$2,010,000.

Response: Yes, we will implement.

A-2.1: Reduce commercial right of way by using retaining walls on the west side of the project.

VE Team Estimated Savings - \$215,000.

Response: Yes, we will partially implement.

In this area, the proposed construction limits fall at, or within, the existing right of way. The existing businesses mentioned have curbed parking lots and drives that are at an elevation that is at, or below, the existing roadway and are landscaped to the existing roadway. A wall is not needed in this area. Instead, the new slopes can be tied into the existing slopes utilizing temporary slope easements to provide the necessary access for construction. We estimate that the cost of temporary construction easements should be approximately 25% of the required right-of-way costs. In addition, if needed in some areas, the backslope could be steepened to 3:1. Furthermore, a reduction in the shoulder width by two feet, as recommended below in A-3.0, would also reduce the needed right-of-way. The cost of the recommended wall was estimated,

by the VE Team, at \$96,000. The cost of temporary construction easement is estimated at 10,920 SF x \$28.47/SF x 25% = \$77,723. The additional savings afforded by the use of temporary construction easements, in lieu of the wall, is \$18,277.

Revised Estimated Savings - \$233,277.

A-2.2: Reduce right of way offsets to construction limits on several parcels on the project in front of the mall.

VE Team Estimated Savings - \$411,000

Response: Yes, we will implement.

A-3.0: Reduce the shoulder width on non-trail side of US 27/SR 1.

VE Team Estimated Savings - \$120,000.

Response: Yes, we will implement.

B. BRIDGE (Responses provided by Heath & Lineback Engineers)

B-1: Build a separate multi-purpose trail bridge instead of combining with the vehicular bridge.

VE Team Estimated Savings - \$200,000

Response: No, we will not implement.

To provide for connectivity to the trail system on the Armuchee Connector, and for direct access to the mall, the multi-use trail was planned for the east side of the roadway and approved by the Locals. The meander of the creek just east of the bridge would prevent a separate trail bridge from being constructed on that side and could only be built on the west side. In addition, construction of a separate trail bridge will increase the overall bridge area from 24,602 ft² (100'-5" x 245'-0) to 25,194 ft² (88'-5"+14'-5" x 245'-0"). The multi-purpose path bridge would need to maintain the span arrangement and profile of the vehicular bridge. Due to substructure costs and maintaining the span arrangement of the vehicular bridge, the unit cost of the multi-purpose path bridge would be the same as the vehicular bridge and would increase the cost.

<i>Item</i>	<i>Units</i>	<i>Unit Cost</i>	<i>Cost</i>
<i>Original Bridge Cost</i>			
<i>245' x 100'-5"</i>	<i>24602</i>	<i>\$120/sf</i>	<i>\$2,952,240</i>
<i>VE Suggested Bridges</i>			
<i>Vehicular Bridge</i>			
<i>245' x 88'-5"</i>	<i>21662</i>	<i>\$120/sf</i>	<i>\$2,599,440</i>
<i>Multi-Use Path Bridge</i>			
<i>245' x 14'-5"</i>	<i>3532</i>	<i>\$120/sf</i>	<i>\$423,840</i>
		<i>Total</i>	<i>\$3,023,280</i>

This would be a net increase of \$71,040 in the overall bridge costs.

B-2: Use the proposed detour bridge as the multi-purpose use bridge for this project, and build the vehicular bridge as a reduced size structure.

VE Team Estimated Savings - \$123,000.

Response: No, we will not implement.

As noted in the response to Recommendation B-1, the unit cost of the multi-use trail bridge would be the same as a vehicular bridge. The detour bridge would be designed and constructed as a permanent structure which would increase the cost.

Item	Units	Unit Cost	Cost
<i>Original Bridge Cost</i>			
245' x 100'-5"	24602	\$120/sf	\$2,952,240
Detour Bridge			\$250,000
		Total	\$3,202,240
<i>VE Suggested Bridges</i>			
<i>Vehicular Bridge</i>			
245' x 88'-5"	21662	\$120/sf	\$2,599,440
Multi-Use Path Bridge			
245' x 28'-5"	6960	\$120/sf	\$835,220
		Total	\$3,434,640

This would be a net increase of \$232,400 in the overall bridge costs.

B-4: Reduce the width of the multipurpose trail and retain the 5 foot utility strip from the bridge width.

VE Team Estimated Savings - \$59,000

Response: Yes, we will implement.

B-5: Eliminate the utility strip from the bridge width.

VE Team Estimated Savings - \$147,000.

Response: No, we will not implement.

Actually, this 5 ft strip of grass between the back of the curb and edge of the multi-use path is not a utility strip, but is intended to provide separation between pedestrians and motorists. During the revision of the final concept report, the roadway typical section was applied to the

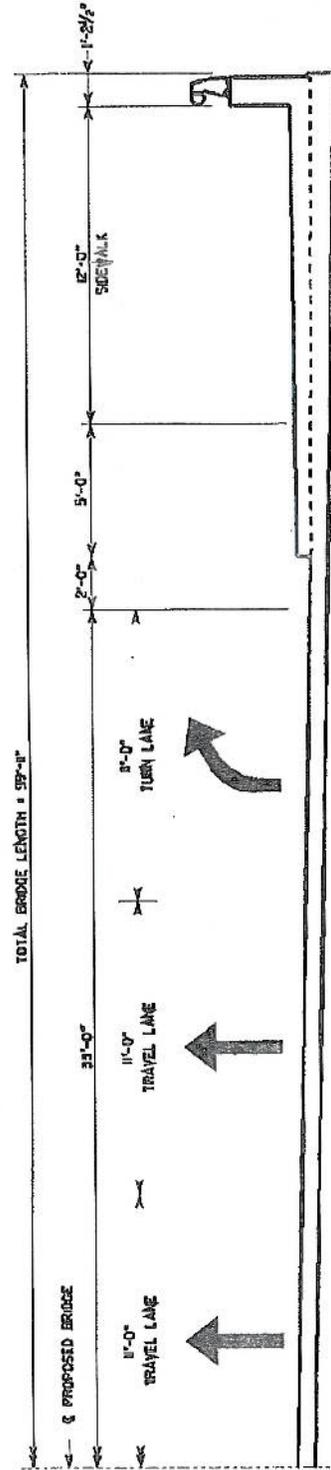
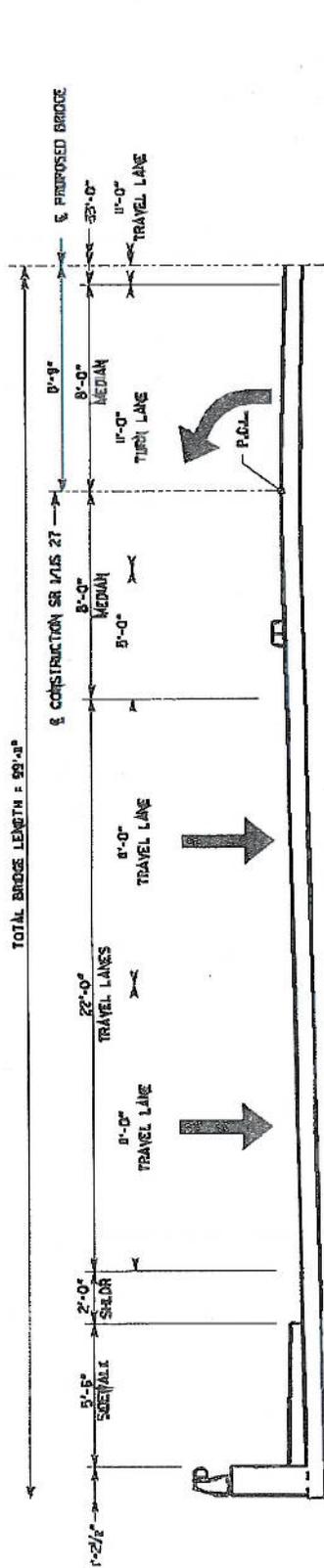
bridge section. The Georgia Department of Transportation Pedestrian and Streetscape Guide states that AASHTO requires a 5 feet minimum horizontal separation from motor vehicle traffic.

B-6: Add barrier to the bridge to separate the pedestrians/bikes from vehicular traffic.

VE Team Estimated Additional Costs - \$20,000.

Response: No, we will not implement.

The installation of a barrier to separate the vehicular traffic from the pedestrian/bike traffic would become an obstruction and would require impact attenuators. The cost for the attenuators and maintenance of these attenuators would be an increase and maintenance of these are currently a challenge statewide.



D. AC PAVEMENT

D-1: Minimize u-turns and right turn only lanes.

VE Team Estimated Savings - \$24,000

Response: No, we will not implement.

Median openings at these locations provide the opportunity to make u-turns away from other major busy intersections. To only allow u-turns at the major intersections would be disruptive to traffic.

E. GRADING

E-1: Shift alignment west, retain east shoulder.

VE Team Estimated Savings - \$1,147,000

Response: No, we will not implement.

The current alignment has been approved by SHPO and Berry College after two previous shifts. The existing rural shoulder does not appear to be of adequate width, in many locations, and the ditch and/or fill foreslopes range from 2:1 to 4:1.

H. SIDEWALK-TRAIL

H-1: Reduce the trail width.

VE Team Estimated Savings - \$357,000

Response: Yes, we will implement.

We trust that the above responses are acceptable. Should you have any questions, or need additional information, please call.

Sincerely,

WILLIAMS, SWETZER & BARNUM, INC.



John E. Schrock, P.E.

JES/js

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE



FILE STP00-0017-03(064) FLOYD COUNTY OFFICE
SR 1 (US 27) from Veterans Memorial Hwy to Old Dalton Rd DATE
P.I. No. 631480

Atlanta, GA
June 8, 2011

FROM *for:* *WMD*
Benjamin F. Rabun, III, P.E., State Bridge Engineer

TO Bobby Hilliard, State Program Delivery Engineer
Attn: Terry Rogers

SUBJECT BRIDGE DESIGN VALUE ENGINEERING RESPONSE

The Value Engineering Study for the above referenced project dated March 23, 2011 contained nine VE Alternatives requiring responses from the Bridge Office: VE Alternatives B-1, B-2, B-4, B-5 and B-6. The consultant designer, Williams, Sweitzer & Barnum, provided the Bridge Office with initial responses with their letter dated June 3, 2011. The Bridge Office concurs with the designer's recommendations.

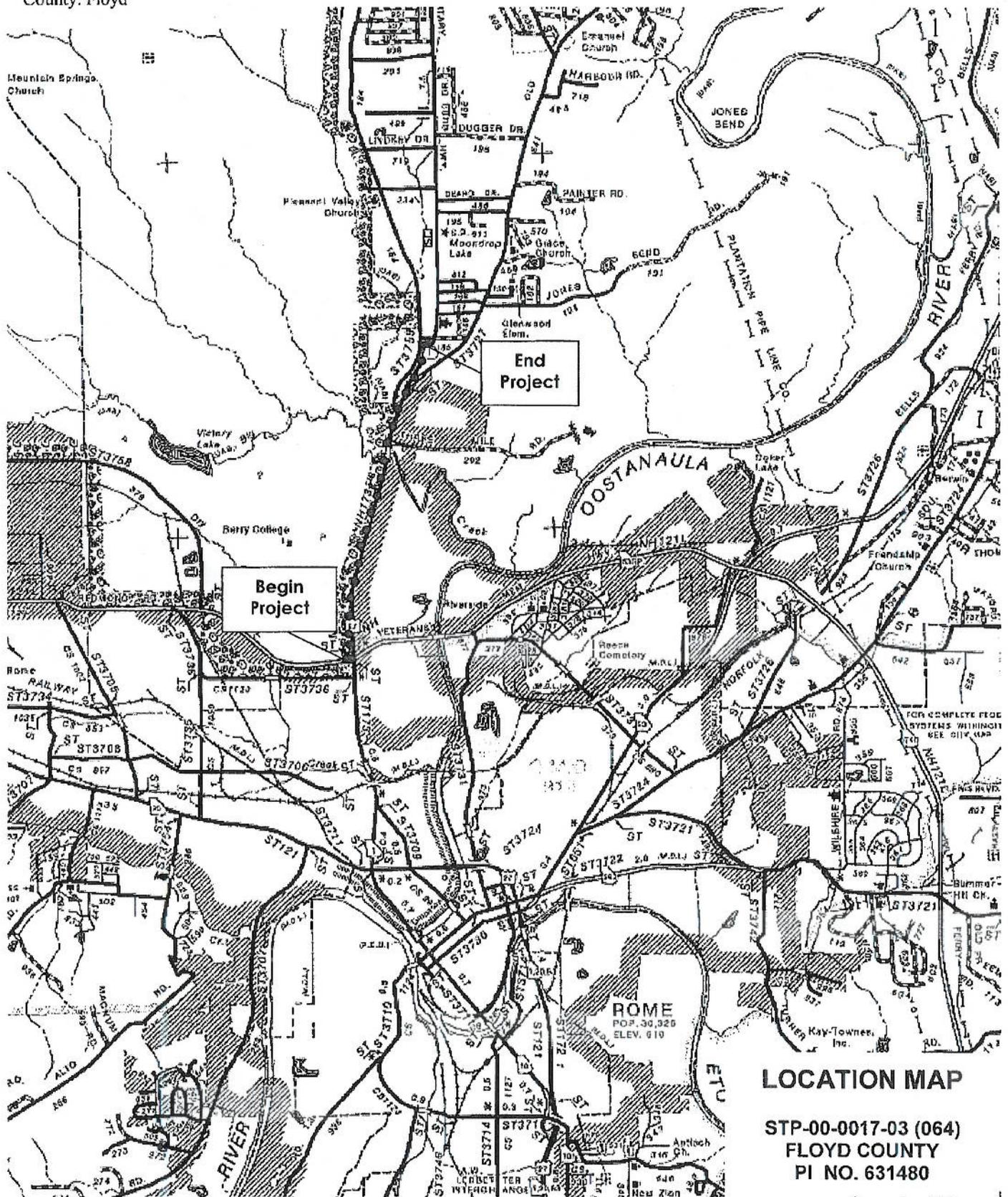
If you have any questions and/or comments, please contact Bill DuVall of the Bridge Design Office at (404) 631-1883 or at email address bduvall@dot.ga.gov.

BFR:WMD

Attachment: draft responses from Williams, Sweitzer & Barnum dated 6/3/11

cc: Ron Wishon, Engineering Services
Bill DuVall, Bridge Design

Project Concept Report Page 2
Project Number: STP00-0017-03(064)
P. I. Number 631480
County: Floyd



US 27/SR 1 from Veterans Memorial Highway
to Old Dalton Road

N.T.S.