

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: STP00-2688-00(004), Hall County **OFFICE:** Engineering Services
P. I. No.: 170735
SR 347 Friendship Road **DATE:** March 18, 2009

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

TO: Neil Kantner, P.E., District Design Engineer
Attention: Teresa Walcott

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

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

ALT No.	Description	Savings PW & LCC	Implement	Comments
ROADWAY (RD)				
RD-8	Reduce Right of Way at SR 13 and SR 347.	Proposed= \$260,213 Actual= \$225,925	Yes	This should be done.
RD-9	Reduce ties at SR 347 and McEver Road.	\$93,467	Yes	This should be done.
RD-10	Delete the continuous right-in and right-out lane on the south side of SR 347 from Countryside Village (Sta. 21+70 LT) to Bristol Industrial Way (Sta. 29+19 LT).	\$316,569	No	Requires entering and exiting the side roads and businesses from the live right through lane. High traffic volumes, 32,550 ADT (2012), 49,850 ADT (2032). Proposed pavement width, including right turn lane area is needed for construction staging.

ROADWAY (RD) Continued				
RD-11	Delete the continuous right-in and right-out lane on the south side of SR 347 from Bristol Industrial Way (Sta. 29+19 LT) to the driveway at Sta. 31+71 LT.	Proposed= \$1,125,349* Actual= \$60,245*	No	<i>*Incorrect area given to VE Team. Savings only \$60,245.</i> Requires entering and exiting the side roads and businesses from the live right through lane. High traffic volumes, 32,550 ADT (2012), 49,850 ADT (2032). Proposed pavement width, including right turn lane area is needed for construction staging.
RD-12	Delete the continuous right-in and right-out lane on the north side of SR 347 from Bristol Industrial Way (Sta. 29+19 RT) to B.U. Bowman Drive (Sta. 33+98 RT).	\$284,831	No	Requires entering and exiting the side roads and businesses from the live right through lane. High traffic volumes, 32,550 ADT (2012), 49,850 ADT (2032). Proposed pavement width, including right turn lane area is needed for construction staging.
RD-13	Delete the continuous right-in and right-out lane on the north side of SR 347 from B.U. Bowman Drive (Sta. 33+98 RT) to the driveway at Sta. 42+05 RT.	\$230,172	No	Requires entering and exiting the side roads and businesses from the live right through lane. High traffic volumes, 32,550 ADT (2012), 49,850 ADT (2032). Proposed pavement width, including right turn lane area is needed for construction staging.
RD-20	Use a two-way left turn lane.	\$527,964	No	Opening day and design year traffic too high, 32,550 ADT (2012), 49,850 ADT (2032).
RD-26	Utilize existing profile grade line; construct no corrections to existing vertically.	\$248,783	No	Increased side road costs due to new ROW impacts and new construction limits. Vertical improvements are needed to provide proper drainage design. Additional redesign costs.
RD-32	Delete sidewalks on the west portion of the project.	Proposed= \$1,695,714 Actual= \$142,944	Yes	Delete the sidewalks only; do not reduce the ROW footprint. The proposed alternate eliminates the sidewalk and reduces the shoulder width from 16 to 5-feet. This does not meet clear zone and eliminates the future corridor for pedestrian traffic.

BRIDGE (BR)				
BR-1	Eliminate widening by reducing median width and no parapet construction.	\$570,656	No	BR-2 will be implemented.
BR-2	Eliminate widening by reducing median width and parapet construction.	\$475,766	Yes	This should be done. However, this option would require a design variance for the below minimum taper length shift for the westbound lanes between the bridge and the intersection of SR 347 and McEver Road.

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

Approved:  Date: 3/19/09
Gerald M. Ross, P. E., Chief Engineer

REW/DMF

Attachments

- c. Genetha Rice-Singleton
- Russell McMurry
- Robert Mahoney
- Neil Kantner
- Teressa Walcott
- Paul Liles
- Bill Ingalsbe
- Bill DuVall
- Vince Wilson
- Kim Coley
- James Magnus
- Randy Davis
- Jason Dykes
- Steve Sander
- Ken Werho
- Lisa Myers
- Douglas Fadool
- General Files

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: STP00-2688-00(004), Hall County
SR 347 Friendship Road
P.I. No. 170735

OFFICE: Engineering Services

DATE: March 3, 2009

FROM: Neil Kantner, P.E., District Design Engineer

TO: Ronald E. Wishon, Acting Project Review Engineer

SUBJECT: Value Engineering Study-Responses

Reference is made to the alternative proposals contained in the Value Engineering Study- Final Report dated January 31, 2009 for the above referenced project. Our recommendations and responses are as follows:

1. **Value Engineering Alternative RD-8** – Reduce Right of Way at SR 13 and SR 347. Anticipated Initial Cost Savings are \$260,613.

- *Approval of VE Alternative RD-8 is recommended with the following exception:*

For sheets 3, 4 & 5 of the RD-8 alternative, it is feasible to reduce the current proposed Right of Way limits. However, consideration should be given to the widening project tying into the south end of the SR 13 construction limits of this project. The adjacent project will require additional Right of Way in order to widen the existing pavement. The alternative's proposal to reduce Right of Way acquisition now may result in GDOT having to pay higher acquisition costs for the adjoining widening project due to ever increasing development in this area. This same argument can be made for the north side SR 13 construction limits. The proposed reduction in Right of Way acquisition for this project in that area may result in greatly increased cost of acquisition for any future widening project. For sheet 2 of the proposal, it is not recommended to reduce Right of Way acquisition in this area. After closer examination of the area, it was determined a ditch would be necessary to capture off-project drainage leading to an existing culvert. Despite not implementing the entire alternative, partial implementation would still result in a present savings of \$225,925 in Right of Way costs.

2. **Value Engineering Alternative RD-9** – Reduce ties at SR 347 and McEver Road. Anticipated Initial Cost Savings are \$93,467.

- *Approval of VE Alternative RD-9 is recommended.*

3. **Value Engineering Design Alternative RD-10** – Delete the continuous right-in and right-out lane on the south side of SR 347 from Countryside Village (Sta. 21+70 LT) to Bristol Industrial Way (Sta. 29+19 LT). Anticipated Initial Cost Savings are \$316,569.

- *Approval of VE Alternative RD-10 is not recommended.*

The area designated for the proposed continuous right turn lane is necessary for staging the project. During construction, a minimum of three 11-foot lanes (one through lane in each direction and a center two-way left turn lane) will be provided at all times to allow vehicles using SR 347 access to the multitude of side roads and driveways within the project limits without impeding drivers desiring to make through movements. Also, due to the high volume of traffic in this area (2032 ADT is 49,850), eliminating the right turn lane would likely increase the number of rear end collisions since vehicles would be exiting and entering driveways and streets directly from the right through lane at a higher rate of speed. This alternative inhibits the main objective of this project in overcoming the anticipated failure of the future LOS and would adversely impact the opening day level of service. The opportunity to reduce the weaving associated with limited spacing between right-in and right-out traffic can be addressed with appropriate pavement markings to indicate to drivers how the auxiliary lane is to be utilized.

4. **Value Engineering Design Alternative RD-11** – Delete the continuous right-in and right-out lane on the south side of SR 347 from Bristol Industrial Way (Sta. 29+19 LT) to the driveway at Sta. 31+71 LT. Anticipated Initial Cost Savings were \$1,125,349 but are actually \$60,245*.

*The value provided to the VE Study Team for the required Right of Way was incorrectly based on the remainder acreage rather than the required acreage. Another adjustment to the cost savings would be to subtract the drainage easement cost estimate from the overall amount since its need would not be eliminated by this proposal. Therefore, the amended cost savings would be \$60,245.

- *Approval of VE Alternative RD-11 is not recommended.*

The area designated for the proposed continuous right turn lane is necessary for staging the project. During construction, a minimum of three 11-foot lanes (one through lane in each direction and a center two-way left turn lane) will be provided at all times to allow vehicles using SR 347 access to the multitude of side roads and driveways within the project limits without impeding drivers desiring to make through movements. Also, due to the high volume of traffic in this area (2032 ADT is 49,850), eliminating the right turn lane would likely increase the number of rear end collisions since vehicles would be exiting and entering driveways and streets directly from the right through lane at a higher rate of speed. This alternative inhibits the main objective of this project in overcoming the anticipated failure of the future LOS and would adversely impact the opening day level of service. Also, the proposed right turn lane will facilitate turning movements for the large trucks entering the adjacent industrial park. The opportunity to reduce the weaving associated with limited spacing between right-in and right-out traffic can be addressed

with appropriate pavement markings to indicate to drivers how the auxiliary lane is to be utilized.

5. **Value Engineering Alternative RD-12** – Delete the continuous right-in and right-out lane on the north side of SR 347 from Bristol Industrial Way (Sta. 29+19 RT) to B.U. Bowman Drive (Sta. 33+98 RT). Anticipated Initial Cost Savings are \$284,831.

- *Approval of VE Alternative RD-12 is not recommended.*

The area designated for the proposed continuous right turn lane is necessary for staging the project. During construction, a minimum of three 11-foot lanes (one through lane in each direction and a center two-way left turn lane) will be provided at all times to allow vehicles using SR 347 access to the multitude of side roads and driveways within the project limits without impeding drivers desiring to make through movements. Also, due to the high volume of traffic in this area (2032 ADT is 49,850), eliminating the right turn lane would likely increase the number of rear end collisions since vehicles would be exiting and entering driveways and streets directly from the right through lane at a higher rate of speed. This alternative inhibits the main objective of this project in overcoming the anticipated failure of the future LOS and would adversely impact the opening day level of service. The opportunity to reduce the weaving associated with limited spacing between right-in and right-out traffic can be addressed with appropriate pavement markings to indicate to drivers how the auxiliary lane is to be utilized.

6. **Value Engineering Alternative RD-13** – Delete the continuous right-in and right-out lane on the north side of SR 347 from B.U. Bowman Drive (Sta. 33+98 RT) to the driveway at Sta. 42+05 RT. Anticipated Initial Cost Savings are \$230,172.

- *Approval of VE Alternative RD-13 is not recommended.*

The area designated for the proposed continuous right turn lane is necessary for staging the project. During construction, a minimum of three 11-foot lanes (one through lane in each direction and a center two-way left turn lane) will be provided at all times to allow vehicles using SR 347 access to the multitude of side roads and driveways within the project limits without impeding drivers desiring to make through movements. Also, due to the high volume of traffic in this area (2032 ADT is 49,850), eliminating the right turn lane would likely increase the number of rear end collisions. This alternative inhibits the main objective of this project in overcoming the anticipated failure of the future LOS and would adversely impact the opening day level of service (LOS). The opportunity to reduce the weaving associated with limited spacing between right-in and right-out traffic can be addressed with appropriate pavement markings to indicate to drivers how the auxiliary lane is to be utilized.

7. **Value Engineering Alternative No. RD-20** – Use a two-way left turn lane. Anticipated Initial Cost Savings are \$527,964.

- *Approval of the VE Alternative No. RD-20 is not recommended.*

Due to the current and anticipated volume (2012 ADT is 32,550; 2032 is ADT 49,850) along this corridor, substituting a 20-foot raised median with a 14-foot two-way left turn lane would result in not achieving the main objective of this project--improving the LOS by reducing traffic congestion. Keeping the raised median would also be safer for vehicles desiring to make left turns from the multitude of driveways along SR 347. These vehicles would not have to traverse three lanes of heavy volume traffic while simultaneously trying to compete for space in the center turn lane. Vehicles queued behind a lead vehicle attempting to make a left turn from a driveway would also benefit from the raised medians by having reduced delay times. Left turning vehicles would be required to either make a right turn followed by a U-turn at a median opening or access a signalized intersection via interconnected parking areas.

8. **Value Engineering Alternative No. RD-26** – Utilize existing profile grade line; construct no corrections to existing vertically. Anticipated Initial Cost Savings are \$248,783.
 - *Approval of VE Alternative No. RD-26 is not recommended. The proposed profile was designed to improve a less than ideal existing profile and reduce the length of the side road tie-ins. The results of increasing the side road construction limits would likely be additional Right of Way costs and certainly additional material in those areas, therefore offsetting the benefits of this proposal. The current profile design also ensures there is adequate grade to properly drain the roadway within the proposed curb-and-gutter section. Additional redesign would also diminish the proposed cost savings.*

9. **Value Engineering Alternative No. RD-32** – Delete sidewalks on the west portion of the project. Anticipated Initial Cost Savings are \$1,695,714.
 - *Approval of VE Alternative No. RD-32 is not recommended. The proposed shoulders of the alternative do not provide adequate width shoulders for clear zone and does not afford bicyclists and pedestrians a safe passage along the roadway. This project has an approved variance that exempts it from the requirement of building bicycle lanes which has already reduced some of its needs for additional Right of Way. This corridor continues to develop at a rapid pace and has always been the main access to the Lake Lanier resort facilities. With the continual increase in development, bicyclists and pedestrians will be limited in accessing these areas if not provided with a reasonably safe passageway. If the shoulders are not built to accommodate sidewalks now the future costs would be expected to increase significantly. A suggested compromise for this alternative would be the elimination of the actual sidewalks, not the shoulders needed to accommodate sidewalks in the future. This would still result in a cost savings of \$142,944.*

10. **Value Engineering Alternative No. BR -1** – Eliminate widening by reducing median width and no parapet construction. Anticipated Initial Cost Savings are \$570,656.

- *Approval of VE Alternative No. BR-1 is not recommended.
This alternative has it would not have an acceptable side barrier height
once the proposed sidewalks are in place.*

11. Value Engineering Recommendation No. BR-2 – Eliminate widening by reducing median width and parapet construction, Initial Cost Savings are \$475,766.

- *Approval of VE Alternative No. BR-2 is recommended.
However, this option to reduce bridge costs would require a variance for
the below minimum shift taper length for the westbound lanes between the
bridge and the intersection of SR 347 and McEver Road.*

PRECONSTRUCTION STATUS REPORT FOR PI:170735-

PROJ ID : 170735- Hall **SR 347/FRIENDSHIP RD FM I-985 TO CR 1293/NICEVER RD - PHASE I** **MGMT LET DATE :** 10/15/2010
COUNTY : 1.70 **MPO:** Gainesville **DOT DIST:** 1 **MGMT ROW DATE :** 10/17/2008
LENGTH (MI): STP00-2688-00(004) **TIP #:** GH-014 **CONG. DIST:** 9 **SCHED LET DATE :** 5/31/2011
PROJ NO.: Walcott, Teressa **MODEL YR :** 2010 **BIKE:** N **WHO LETS?:** Prepare Plans for Shelf
PROJ MGR: District 1 **TYPE WORK:** Widening **MEASURE:** E **LET WITH :**
OFFICE : No Consultant, GDOT In-House Design **CONCEPT:** WIDEN & RECONST
CONSULTANT: GDOT **PROG TYPE:** Reconstruction/Rehabilitation
SPONSOR : GDOT **BOND PROJ :**

DESIGN FIRM:	SCHED START	SCHED FINISH	ACTIVITY	ACTUAL START	ACTUAL FINISH	%	PROGRAMMED FUNDS				Date	Status	Date Auth
							Phase	Approved	Proposed	Cost			
			Concept Development	1/29/1993	1/9/2000	100	PE	1998	1998	1,570,800.00	Q24	AUTHORIZED	9/5/1997
			Concept Meeting	4/13/2000	4/13/2000	100	ROW	2008	2009	6,723,833.00	L200	PRECST	
			PM Submit Concept Report	3/10/2000	4/13/2000	100	CST	2008	2012	21,589,599.30	L200	PRECST	
			Receive Preconstruction Concept Approval	3/31/2000	4/13/2000	100							
			Management Concept Approval Complete	1/29/1993	1/29/1993	100							
			Revise or Re-validate Approved Concept	8/1/2004	3/1/2005	100							
	4/7/2009		Value Engineering Study	10/29/2008		82							
	4/10/2009		Public Information Open House Held			0							
			Environmental Approval	8/31/2005	5/2/2008	100							
			Field Surveys/SDE	7/15/2002	1/17/2003	100							
			Preliminary Plans	10/1/1993	12/15/2007	83							
			Preliminary Bridge Design	8/29/2005	4/13/2006	100							
	3/27/2009		Underground Storage Tanks	4/8/2008	9/18/2008	100							
			404 Permit Obtainment			0							
			PFPR Inspection	12/14/2007	12/14/2007	100							
			R/W Plans Preparation	7/25/2005	3/7/2008	100							
			R/W Plans Final Approval	5/2/2008	6/4/2008	100							
			L & D Approval	5/1/2008	5/7/2008	100							
			R/W Acquisition	3/24/2008		26							
	9/16/2009		Stake R/W			0							
			Soil Survey	6/21/2005	1/12/2009	100							
			Bridge Foundation Investigation	7/7/2006	8/7/2006	100							
			Final Design	1/4/2008		14							
	11/30/2009		Final Bridge Plans Preparation	2/6/2007		75							
	12/1/2009		PFPR Inspection			0							
	12/15/2009		Submit PFPR Responses (OES)			0							

PDD: Dist wants RW sooner. 11/8/04.
Bridge: EJC 08/02/07
Design: Submitted responses for VE Study proposals. 3/4/09 TAW
EIS: CE/APvd05-02-08(Rev12-22-08)(Updated12-30-08)COLEY
LGA: HALL SGN 7-10-89 UTIL, CITIES SGN 6-20-89 UTILITIES
Programming: SPLIT FM 170730 FOR ADDL ACCESS TO LAKES \$1PR2/PE=10-30-97#1 5-01#2 9-04
Traffic Op: SEND PLANS FOR REVIEW 11-20-07#PFPRsent 12/03/07 R/W
Utility: NEED 2ND SUBMISSION PLANS 02/29/08
EMG: RECT/REHAB (WIDENING); FULL FIELD SURVEY

Phase	Approved	Proposed	Cost	Fund
PE	6,723,833.00	1,570,800.00	1,570,800.00	Q24
ROW	15,869,000.00	6,723,833.00	6,696,000.00	L200
CST		21,589,599.30	9,972,000.00	L200

Acquired by: DOT
Acquisition MGR: Whitecotton, Brad
R/W Cert Date:
DEEDS CT: 0

