

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**



INTERDEPARTMENT CORRESPONDENCE

FILE NH000-0017-01(022) **OFFICE** Program Delivery
Carroll County
SR 1/US 27@ SR166 IN CARROLLTON **DATE** July 28, 2010
P.I. 621990

FROM Bobby Hilliard, P.E., State Program Delivery Engineer *B.H.*

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

SUBJECT Value Engineering Implementation Revision Request

The Office of Program Delivery requests a Value Engineering (VE) Study Implementation Revision for PI 621990. The VE Implementation letter was issued by your office on February 8, 2010.

This office requests to revise the implementation of alternative D-3. This alternative recommended interconnecting the existing signals that are directly adjacent to the project along US 27. This included interconnection for the signals at the entrance to the strip mall north of the project and Central High Road which is south of the project. It was determined that there was existing signal interconnection for the existing signals. Implementation included utilizing the existing signal interconnection which resulted in no additional cost for implementation.

A Preliminary Field Plan Review was held for this project on July 9, 2010. District Signal representatives determined the existing signal equipment will need to be replaced. Lane shifts during staging will require the movement of the equipment, including the existing signal interconnection, which could cause damage. As a result, the anticipated repairs to the signal interconnection fiber optic cable would require supplemental agreements. Therefore, the District 6 Signal Office recommends replacing the signal equipment; installing new fiber optics or a wireless communication system for the signal interconnection.

This office proposes reversing the VE Recommendation D-3 as recommended by the District 6 Signal Office. Therefore, the replacement of the signal interconnection with new fiber optics or a wireless system will be incorporated into the design.

The VE Reversal of recommendation D-3 would have a potential cost increase of \$98,000. The District 6 request for VE Reversal of D-3 is attached.

If you have any questions about this request or need additional information, please contact the Project Manager, Chandria L. Brown, at 404-631-1580 if there are any questions and/or concerns.

Approved: Ronald E. Wishon Date 7/30/10

Ronald E. Wishon, Project Review Engineer

Approved: James B Buchan Date 8/3/2010

Ben Buchan, Director of Engineering

Approved: Gerald M. Ross Date 8/3/10

Gerald M. Ross, P.E., Chief Engineer

Attachments: District 6 VE Reversal Request, VE Implementation

^{SH}
BKH:SH:clb

cc: Dan Bodycomb, AECOM
Doug Layton, AECOM

Brown, Chandria

From: Highfield, Joe
Sent: Monday, July 26, 2010 2:17 PM
To: Brown, Chandria
Subject: RE: 621990 - Draft PFPR Report & VE Study

Ms. Brown,

As discussed in the PFPR, we would request that new signals be installed as part of this project. This equipment has been in the field for some time and being that the project has been pushed back to 2013 it is only becoming more weathered, which could pose a problem. As the project progresses and if staging requires the lanes to be shifted, the signal heads and conductor will have to be moved to retain the proper alignment with said lanes. With that being said the heads and conductor could become damaged due to the age of the equipment and the strain placed on them because of the repositioning. These issues could raise the possibility of having to use supplemental agreements to correct the problems.

With respect to VE Recommendation D-3, the reuse of fiber optic cable is something that could definitely pose an issue and is something that we would not recommend. There is always a treat that the cable will become damaged in the removal and reinstallation process. If the cable becomes damaged at anytime during this process it will become a costly repair and could possibly require the use of a supplemental agreement. An alternative to installing new fiber optics would be to install a wireless communication system. We have found that it is a cost saving method of establishing a communication link between signals.

If these requests cannot be met, then we would like to request that additional funding be added to provide for the cost of repairs that may need to be made to existing equipment.

Thanks,

Joe Highfield
Georgia Department of Transportation
District Signal Engineer
770-387-3632 Office
770-359-9496 Cell

From: Brown, Chandria
Sent: Friday, July 16, 2010 10:39 AM
To: Highfield, Joe
Cc: Wilkie, Chad; Corson, Dee; Hill, Stanley
Subject: 621990 - Draft PFPR Report & VE Study

Mr. Highfield,



Crash data for the years 2006 thru 2008 indicates that the SR1 at SR166 interchange has a higher accident rate than the state wide average. AASHTO notes that the lane width of a roadway greatly influences the safety and comfort of driving. The reduction in lane width on this roadway could increase the potential for traffic accidents.

The design as recommended in the VE Study would separate the twin bridges by approximately 12-feet. Protecting the bridge ends and the gap between them would require a design variance as there is no standard that applies to such narrow medians.

Revising the plans at this time to construct all 11-foot lanes, would require a redesign of all preliminary plans controlled by the mainline footprint, including the bridge plans, the plan sheets, and the roadway cross-sections. The additional design fee would be approximately \$18,500, reducing potential cost savings to \$407,500.

Considering the high traffic volumes, the reduction in LOS, and the safety concerns related to the above average accident rate, the full shoulders and 12-foot lanes should remain.

Approval: Not recommended

Item No. A-3-2

Description: Decrease the ramp lane widths to 11-ft.

Cost Savings: \$67,000

Response: The VE study team noted discrepancies between the original cost estimate and the new estimate created by the VE study team. In order to eliminate that error, a new cost savings estimate was calculated and is attached as part of this document. The actual cost savings of reducing the lane width is \$40,000.

Revising the plans at this time to construct all 11-foot lanes, would require a redesign of all preliminary plans controlled by the ramp alignments, including the plan sheets, the profiles, and the roadway cross-sections. The implementation of the project would be delayed by a minimum of 3 weeks due to these plan changes. The additional design fee is approximately \$10,700, thus reducing the cost savings to \$29,300.

GDOT's Design Policy Manual, Table 6.5, requires 12-ft lanes for Multi Lane Entrance/Exit Ramps. A design variance would be required.

Approval: Recommended

Item No. D-3

Description: Interconnect the existing signals along US27 that are directly adjacent to the project. This would include interconnect for the signals at the entrance to the strip mall north of the project and Central High Road which is south of the project.

Cost Savings: (\$98,000)

Response: Signal interconnect already exists at this location and will be re-used as part of this project. Since it already exists, the additional cost of \$98,000 will not be incurred.

Approval: Recommended

VE-9B



