

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** NHS-0000-00(764), (765), (803)(804)(805) **OFFICE:** Engineering Services  
CSNHS-0008-00(458) Cook/Tift/Turner/Crisp  
P.I. Nos.: 0000764, 0000765, 0000803, 0000804, 000805 & 0008458  
I-75 Interchange Reconstruction

**DATE:** August 29, 2007

**FROM:**  Brian K. Summers, PE, Project Review Engineer

**TO:** Babs Abubakari, P.E., State Consultant Design and Program Delivery Engineer

**SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES**

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

ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000805</b>				
805-1	Leave the Alberson Road Overpass as is	\$1,372,985	No	Does not correct the substandard Horizontal Clearance.
805-2	Shorten bridge to accommodate only three lanes in each direction on I-75 at Alberson Road	\$96,137	No	Would require a Design Exception or bridge replacement once the fourth lane is added.
805-3	Eliminate the Alberson Road Overpass	\$1,201,642	No	Would eliminate the current connectivity and would force local residents to travel further to cross I-75.
805-5	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Alberson Road	\$109,640	No	The cost savings associated with this would be minimized by re-design costs.
805-7	Leave the Wardlow Road Overpass as is	\$1,360,182	No	Does not correct the substandard Horizontal Clearance.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000805 - continued</b>				
805-8	Shorten bridge to accommodate only three lanes in each direction on I-75 at Wardlow Road	\$90,251	No	Would require a Design Exception or bridge replacement once the fourth lane is added.
805-11	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Wardlow Road	\$37,089	No	The cost savings associated with this would be minimized by re-design costs.
805-13	Leave the Musselwhite Road Overpass as is	\$1,769,997	No	Does not correct the substandard Horizontal Clearance.
805-14	Shorten bridge to accommodate only three lanes in each direction on I-75 at Musselwhite Road	\$114,994	No	Would require a Design Exception or bridge replacement once the fourth lane is added.
805-17	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Musselwhite Road	\$13,500	No	The cost savings associated with this would be minimized by re-design costs.
805-19	Reduce alignment of Arms Road at the Musselwhite Road Interchange	\$151,992	No	This is dependent on VE Alt. 805-17 being implemented. Would also compromise the intersection sight distance.
805-21	Leave the Bedgood Road Overpass as is	Design Suggestion	No	Does not correct the substandard Horizontal Clearance.
805-22	Shorten bridge to accommodate only three lanes in each direction on I-75 at Bedgood Road	\$83,929	No	Would require a Design Exception or bridge replacement once the fourth lane is added.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
P.I. No. 0000805 - continued				
805-25	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Bedgood Road	-\$59,013 (cost increase)	No	This VE Alternate does not provide any cost savings.
805-26	Do not relocate Rock Road	\$96,975	No	Would compromise the intersection and stopping sight distance at the existing intersection.
805-27	Compress the diamond at Hawpond Road	Design Suggestion	No	This would require a revaluation of the Environmental Document. Right of Way funds have been authorized for this project.
805-28A	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Hawpond Road	-\$23,620 (cost increase)	No	This VE Alternate does not provide any cost savings.
805-29	At Hawpond Road, eliminate Olivia Drive Improvements	Design Suggestion	No	This would require a revaluation of the Environmental Document. Right of Way funds have been authorized for this project.
805-29A	Reduce bridge width at Hawpond Road to match Bridge Policy Manual	\$190,966	No	The wider bridge shoulders are to be used to facilitate staging.
805-30	Leave the Old Hatley Road Overpass as is	\$1,306,817	No	Does not correct the substandard Horizontal Clearance.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
P.I. No. 0000805 - continued				
805-31	Shorten bridge to accommodate only three lanes in each direction on I-75 at Old Hatley Road	\$98,862	No	Would require a Design Exception or bridge replacement once the fourth lane is added.
805-33	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Old Hatley Road	\$70,517	No	The cost savings associated with this would be minimized by re-design costs.
805-35	Reduce bridge width at S.R 133 CONN/Rockhouse Road to match Bridge Policy Manual	\$131,997	No	The wider bridge shoulders are to be used to facilitate staging.
805-36	Eliminate the Floyd Road Realignment at S.R. 133 CONN/Rockhouse Road	\$1,079,561	No	Would eliminate the current connectivity and would force local residents to travel an additional 6 miles to make this movement.
805-38	Relocate the S.R. 133 CONN/Rockhouse Road Northbound Loop Off Ramp to the Northeast quadrant of the interchange	\$716,085	No	This would require a revaluation of the Environmental Document. Right of Way funds have been authorized for this project.
805-39	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at S.R. 133 CONN/Rockhouse Road	\$345,750	Yes	This should be done.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000804</b>				
804-1	Compress the diamond at Inaha Road	Design Suggestion	No	This would require a reevaluation of the Environmental Document. Right of Way funds have been authorized for this project.
804-2	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Inaha Road	\$154,180	No	The cost savings associated with this would be minimized by re-design costs.
804-3	Do not relocate Sumner Road	\$248,200	No	Violates minimum access rights distance between the ramp terminal and the intersecting street.
804-5	Realign Goose Creek Road to avoid the pond	Design Suggestion	No	Violates minimum access rights distance between the ramp terminal and the intersecting street.
804-6	Realign Goose Creek Road closer to SB On Ramp	Design Suggestion	No	Violates minimum access rights distance between the ramp terminal and the intersecting street.
804-7	Reduce bridge width at S.R. 32/Jefferson Davis Highway over Hat Creek to match Bridge Policy Manual	\$88,543	No	This bridge is in close proximity to the bridge over I-75 and a consistent shoulder width was used to keep from introducing a transition through the interchange ramp tie-ins.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000804 - continued</b>				
804-8	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at S.R. 32/Jefferson Davis Highway	\$570,836	Yes	This should be done.
804-11	Compress the diamond at S.R. 32/Jefferson Davis Highway	Design Suggestion	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.
804-13	Eliminate the access drive at S.R. 32/Jefferson Davis Highway	Design Suggestion	No	This still could be investigated further during Right of Way negotiations.
804-14A	Eliminate the bicycle shoulders	Design Suggestion	No	This is on the Statewide Bicycle Plan as part of "The Wiregrass Trail".
804-15	Compress the diamond at the Bussey Road Interchange	Design Suggestion	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.
804-16	Leave the Bussey Road Interchange as is	\$4,862,105	No	Does not correct the substandard Horizontal Clearance.
804-17	Leave the S.R. 112/East Washington Avenue Interchange as is	\$6,084,698	No	Does not correct the substandard Horizontal Clearance.
804-18	Compress the diamond on the east side at S.R. 112/East Washington Avenue	Design Suggestion	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000804 - continued</b>				
804-19	Reduce the relocation of Peacock Road	Design Suggestion	No	Would result in more impacts to wetlands. This would also compromise the access rights distance between the ramp terminal and the intersecting street.
804-21	At S.R. 159/North Street, shorten Ewing Farm Road Realignment	Design Suggestion	No	This would compromise the access rights distance between the ramp terminal and the intersecting street.
804-22	Cul-de-sac Ewing Farm Road at S.R. 159/North Street	\$590,831	No	Would eliminate the current connectivity and would force local residents to travel further to access an I-75 Interchange.
804-24	Do not take properties within the new Loop Ramp (Ramp R)	Design Suggestion	No	Access rights need to be obtained from the new Loop Ramp intersection back to the Interstate.
804-25	Use Mechanically Stabilized Embankment Walls to eliminate the end spans at S.R. 159/North Street	Design Suggestion	No	The cost savings associated with this would be minimized by re-design costs.
<b>P.I. No. 0000803</b>				
803-1	Eliminate the Noise Walls at the Brighton Road Interchange	Design Suggestion	Yes	This should be done.
803-2	Compress the diamond on the east side of the Brighton Road Interchange	Design Suggestion	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
P.I. No. 0000803 - continued				
803-3	Cul-de-sac Carrington Drexler Road	\$904,729	No	The connection of this road to Brighton Road has already been presented at several Public Information Meetings. Would eliminate the current connectivity.
803-5	Use reinforced slopes to minimize the use of Mechanically Stabilized Embankment Walls on Brighton Road	Design Suggestion	No	Cost of the slope reinforcing would offset the cost savings for the MSE Walls on Brighton Road.
803-6	Eliminate the Loop Ramps in the Southwest Quadrant of the Brighton Road Interchange and extend to the east	Design Suggestion	No	Would result in significant Wetland impacts as well as Right of Way impacts to the UGA Veterinary Diagnostic and Investigational Laboratory.
803-7	Leave the Wesley Rigdon Road Overpass as is	\$3,247,020	No	Does not correct the substandard Horizontal Clearance.
803-9	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Wesley Rigdon Road	\$304,511	Yes	This should be done.
803-10	Eliminate the Wesley Rigdon Road Overpass	\$2,784,125	No	Would eliminate the current connectivity and would force local residents to travel further to cross I-75. This is used primarily by farm vehicles.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
P.I. No. 0000803 - continued				
803-12	Compress the diamond at Chula Brookfield Road Interchange	Design Suggestion	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.
803-13	Expand the Chula Brookfield Road Interchange to the east side of I-75 only	\$2,302,762	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.
803-15	Shorten the limits of construction of Chula Brookfield Road	\$237,865	No	Would result in a substandard speed design
803-16	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Chula Brookfield Road	\$563,130	Yes	This should be done.
803-17	Cul-de-sac Academy Drive	\$491,350	No	The design was changed from a Cul-de-sac to the current design based on comments received at the Public Information Meeting.
803-18	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Willis Still Road	\$715,138	Yes	This should be done.
803-19	Compress the diamond at the Willis Still Road Interchange	Design Suggestion	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000803 - continued</b>				
803-21	Remove CR 114 south of Willis Still Road at the Willis Still Road/I-75 Interchange	\$480,798	Yes	Pending Right of Way negotiations involving the parcels affected.
803-22	Cul-de-sac CR 114 in the Northeast Quadrant of the Willis Still Road/I-75 Interchange	\$1,055,743	No	The connection of this road has already been presented at several Public Information Meetings. Would eliminate the current connectivity.
803-24	Reduce bridge width at Willis Still Road to match Bridge Policy Manual	\$109,417	No	Would not accommodate future conversion of Willis Still Road to an urban section.
<b>P.I. No. 0000765</b>				
765-1	Compress the width of the diamond at the Omega-Eldorado Road Interchange	Design Suggestion	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.
765-2	Eliminate the Interchange work associated with the High Occupancy Vehicle (HOV)/Truck Only Lane (TOL) concept	Design Suggestion	No	The Department wants to accommodate this future concept on the design of this project.
765-3	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Omega-Eldorado Road	\$306,629	Yes	This should be done.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000765 - continued</b>				
765-4	Reduce bridge width at Omega-Eldorado Road to match Bridge Policy Manual	\$73,171	No	The cost savings associated with this would be minimized by re-design costs.
765-5	Reduce the departure tangent on ramps at the Omega-Eldorado Road/I-75 Interchange	\$188,008	No	The longer tangents are needed to run out the SE form NC to approximately 6% and vice versa to match the grade of Omega-Eldorado Road.
<b>P.I. No. 0000764</b>				
764-1	Compress the diamond at the Barneyville Road Interchange	Design Suggestion	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.
764-2	Minimize ramp doglegs at the Barneyville Road Interchange	Design Suggestion	No	The alignment of the ramps was dictated by the location of the ramp terminals and the desire to have the ramps intersect the crossing road at 90 degree angles to maximize intersection sight distance.
764-3	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Barneyville Road	\$259,457	Yes	This should be done.

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ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000764 - continued</b>				
764-4	Do not take the property where the telecommunication pole is currently located and allow access at the Barneyville Road Interchange	Design Suggestion		The alignment of the northbound entrance ramp to I-75 at Barneyville Road cannot circumvent the telecommunication pole at the required design speed. Further, FHWA policy dictates that access control will be established a minimum of 300 ft outside of the ramp terminals.
764-6	Reduce bridge width at Barneyville Road to match Bridge Policy Manual	\$446,772	Yes	This should be done.
764-7	Relocate the temporary barriers at the Rountree Bridge Road Interchange	Design Suggestion	Yes	This should be done.
764-8	Compress diamond at the Rountree Bridge Road Interchange	\$1,531,716	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.
764-9	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Rountree Bridge Road	\$316,383	Yes	This should be done.
764-10	Reduce bridge width at Rountree Bridge Road to match Bridge Policy Manual	\$218,759	Yes	This should be done.

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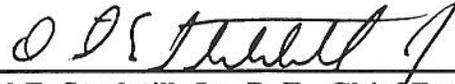
ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000764 - continued</b>				
764-11	Reduce the approach/departure tangents on the ramps of the Rountree Bridge Road Interchange	Design Suggestion	No	As per GDOT policy, the ramp curves adjacent to I-75 and the ramp terminals were designed for 60 mph and 45 mph design speeds, respectively. The tangent lengths were necessary to have the sufficient configuration and amount of superelevation runoff and tangent runout as per GDOT and AASHTO policies.
<b>P.I. No. 0008458</b>				
8458-2	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Kinard Bridge Road	\$381,062	Yes	This should be done.
8458-3	Reduce bridge width at Kinard Bridge Road to match Bridge Policy Manual	\$251,715	Yes	This should be done.
8458-4	Relocate the Kinard Bridge Road Interchange	Design Suggestion		Relocating the Kinard Bridge Road interchange would greatly lengthen the project along Kinard Bridge Road, increase environmental impacts, and would be harmful to the existing businesses along Kinard Bridge Road.

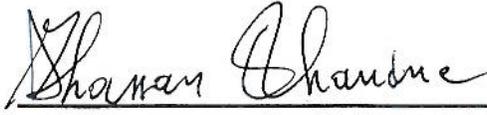
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ALT #	Description	Potential Savings/LCC	Implement	Comments
P.I. No. 0008458 - continued				
8458-5	Compress the Kinard Bridge Road Interchange	Design Suggestion	No	Would compromise the 1000' of ramp separation desired for sight distance and deceleration/storage lengths.
8458-7	Use a Single-Point Urban Interchange (SPUI) at the Kinard Bridge Road Interchange	Design Suggestion	No	As the name suggests, SPUI's are most appropriate for urban areas. The use of a SPUI would also entail a much wider bridge and a traffic signal. Further, construction of a SPUI interchange at this location would be very difficult to stage under traffic.

A meeting was held on August 15, 2007 and Floyd Moore with FHWA, Allen Krivsky with Heath and Lineback, Rick Hartline with Greenhorne and O'Mara, Aykut Urgan and Saurabb Bhattacharya with Parsons, Nick Castronova with URS, Stanley Hill, Nicoe Alexander, Vinesha Pegram and Steve Adewale with Consultant Design, and Brian Summers, Ron Wishon and Lisa Myers with Engineering Services were in attendance.

The results above reflect the consensus of those in attendance and those who provided input.

Approved:  Date: 8/31/07  
David E. Studstill, Jr., P. E., Chief Engineer

Approved:  Date: 9/12/07  
for Rodney Barry, P. E., FHWA Division Administrator

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BKS/REW

Attachments

c: Gus Shanine, FHWA  
Todd Long  
James Magnus  
Stanley Hill  
Vinesha Pegram  
Nicoe Alexander  
Vince Wilson  
Joe Cowan  
Scott Chambers  
Melanie Nable  
Ken Werho  
Lisa Myers

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA



INTERDEPARTMENTAL CORRESPONDENCE

FILE: NHS-0000-00(803), Tift OFFICE: Consultant Design  
PI No.: 0000803  
I-75 Improvements, Phase II DATE: July 6, 2007  
FROM: Mohammed (Babs) Abubakari, P.E. (Signature)  
State Program Delivery and Consultant Design Engineer  
TO: Brian Summers, P.E., State Project Review Engineer  
SUBJECT: Value Engineering Study-Responses

Reference is made to the recommendations that were contained in the Value Engineering Study –Final Report dated April 11, 2007 for the above referenced project. Our responses and recommendations are as follows:

- Value Engineering Alternative No. 803-1** – Eliminate the noise walls at the Brighton Road Interchange.  
*Approval of the VE Alternative No. 803-1 is recommended.*
  - Detailed Noise study does not justify noise walls at this location.*
- Value Engineering Alternative No. 803-2** – Compress the diamond on the east side of the Brighton Road interchange.  
*Approval of the VE Alternative No. 803-2 is not recommended.*
  - Compressing the diamond ramps on the east side will reduce the intersection sight distance at the Brighton Road/I-75 northbound ramps intersection. This will compromise driver safety at this intersection.*
- Value Engineering Alternative No. 803-3** – Cul-de-sac Carrington Drexler Road.  
*Approval of the VE Alternative No. 803-3 is not recommended.*
  - The alignment has been coordinated through concept development, concept validation and two public information open houses dated April 11, 2006 & October 12, 2006.*
  - Property owners in this area have planned development schemes to be implemented in the near future that will increase traffic volumes on Carrington Drexler Road. Therefore its connection with Brighton Road is essential.*
  - Providing a connection to Brighton Road maintains current access patterns.*

- *Tift County will run public utilities along Carrington Drexler Road's proposed right of way.*
4. **Value Engineering Alternative No. 803-5** – Use reinforced slopes to minimize the use of mechanically stabilized embankment walls on Brighton Road.  
*Approval of VE Study Alternative No. 803-5 is not recommended.*
- *Use of reinforced earth will not offer any cost advantage to MSE wall for this location.*
5. **Value Engineering Alternative No. 803-6** – Eliminate the loop ramps on the southwest quadrant of Brighton Road interchange and extend to east.  
*Approval of VE Study Alternative No. 803-6 is not recommended.*
- *Alignments for this interchange have been coordinated through concept development, concept validation and two public information open houses dated April 11, 2006 & October 12, 2006.*
  - *Elimination of loop ramp in the southwest quadrant will require a diamond ramp to be placed in the northwest quadrant. This will result in significant impacts to the University of Georgia Veterinary Diagnostics and Investigational Laboratory. This facility is one of only five such labs in the country and houses sensitive research equipment that will be affected by vibrations due to traffic in close proximity.*
  - *Providing a diamond ramp in the southwest quadrant will result in significant wetland impacts.*
  - *Extension of the interchange to the east will result in increased impacts to Northgate Lakes Subdivision such as increased relocations and additional right of way.*
6. **Value Engineering Alternative No. 803-7** – Leave the Wesley Rigdon Road Overpass as is.  
*Approval of VE Study Alternative No. 803-7 is not recommended.*
- *Improvements on Wesley Rigdon Road overpass have been coordinated through concept validation and two public information open houses dated April 11, 2006 & October 12, 2006.*
  - *Existing horizontal clearance on I-75 under this overpass is 12 feet. A design exception for substandard clearance was acquired during the widening of I-75 from 4 lanes to 6 lanes. Lengthening of the Wesley Rigdon Road overpass is essential to provide standard horizontal clearance on I-75.*
7. **Value Engineering Alternative No. 803-9** – Use mechanically stabilized embankment walls to eliminate bridge end-spans at Wesley Rigdon Road.  
*Approval of VE Study Alternative No. 803-9 is not recommended.*
- *Use of MSE wall will offer a minimal saving which is not enough to upset ease of construction and the ability for future modification that sloped embankment offers.*

8. **Value Engineering Alternative No. 803-10** – Eliminate the Wesley Rigdon Road Overpass.  
*Approval of VE Study Alternative No. 803-10 is not recommended.*
  - *Land use around the Wesley Rigdon Road overpass is agricultural in nature. Farm vehicles use this overpass extensively and elimination of this overpass will alter existing traffic patterns on adjacent interchanges.*
  
9. **Value Engineering Alternative No. 803-12** – Compress the diamond at Chula Brookfield Road Interchange.  
*Approval of VE Study Alternative No. 803-12 is not recommended.*
  - *The Department's guidelines require that interchange ramp intersections be spaced minimum 1000' feet apart as measured along the intersecting cross street.*
  - *Compressing the diamond will result in reduced intersection sight distance and compromise driver safety.*
  
10. **Value Engineering Alternative No. 803-13** – Expand the Chula Brookfield Road interchange to the east side of I-75 only.  
*Approval of VE Study Alternative No. 803-13 is not recommended.*
  - *The proposed bridge limit on west side of I-75 extends up to the existing intersection of Chula Brookfield Road and southbound I-75 ramps.*
  - *In order to provide adequate intersection sight distance and ensure driver safety, southbound I-75 ramps must be relocated further west of the proposed bridge.*
  
11. **Value Engineering Alternative No. 803-15** – Shorten the limits of construction of Chula Brookfield Road.  
*Approval of VE Study Alternative No. 803-158 is not recommended.*
  - *Limit of construction along Chula Brookfield Road on the west side of I-75 are extended to provide a standard vertical curve for 45 mph design speed and a smooth tie-in with the existing profile.*
  - *Shortening the project limits will require a design exception for insufficient K-value.*
  
12. **Value Engineering Alternative No. 803-16** – Use mechanically stabilized embankment walls to eliminate bridge end-spans at Chula Brookfield Road.  
*Approval of VE Study Alternative No. 803-16 is not recommended.*
  - *Use of MSE wall will offer a saving of only \$3,276 which is not enough to upset ease of construction and the ability for future modification that sloped embankment offers.*
  
13. **Value Engineering Alternative No. 803-17** – Cul-de-sac Academy Drive.  
*Approval of VE Study Alternative No. 803-17 is not recommended.*
  - *The alignment has been coordinated through concept development, concept validation and two public information open houses dated April 11, 2006 & October 12, 2006.*
  - *A cul-de-sac alternate was proposed at the first public information meeting open house and the alternate received strong opposition.*
  
14. **Value Engineering Alternative No. 803-18** – Use mechanically stabilized embankment walls to eliminate bridge end-spans at Willis Still Road.  
*Approval of VE Study Alternative No. 803-18 is not recommended.*
  - *Use of MSE wall will offer a minimal saving which is not enough to upset ease of construction and the ability for future modification that sloped embankment offers.*

**15. Value Engineering Alternative No. 803-19** – Compress the diamond at Willis Still Road Interchange.

*Approval of VE Study Alternative No. 803-19 is not recommended.*

- *The Department's guidelines require that interchange ramp intersections be spaced minimum 1000' feet apart as measured along the intersecting cross street.*
- *Compressing the diamond will result in reduced intersection sight distance and compromise driver safety.*

**16. Value Engineering Alternative No. 803-21** – Remove CR 114 south of Willis Still Road at the Willis Still Road/I-75 Interchange.

*Approval of VE Study Alternative No. 803-21 is not recommended.*

- *CR 114 serves three properties for access to agricultural land and a utility tower. Eliminating County Road access and providing access in the form of a driveway transfers the burden of access maintenance to three property owners.*
- *The alternate requires further consideration if agreement can be achieved between the County and the three property owners.*

**17. Value Engineering Alternative No. 803-22** – Cul-de-sac CR 114 in the north east quadrant of Willis Still Road/I-75 interchange.

*Approval of VE Study Alternative No. 22 is not recommended.*

- *The alignment has been coordinated through concept development, concept validation and two public information open houses dated April 11, 2006 & October 12, 2006.*
- *This alternate would disconnect the frontage road network and modify local access between County Roads.*

**18. Value Engineering Alternative No. 803-24** – Reduce bridge width at Willis Still Road to match Bridge Policy Manual.

*Approval of VE Study Alternative No. 24 is not recommended.*

- *The Bridge Policy Manual sets the bridge width at 32 feet. Including the 14 foot median, the width is set to 46 feet. This width allows for two 4 foot shoulders. The approach roadway contains 6'-6" paved shoulders to accommodate bicycles on a 10 foot total shoulder width. For this reason, the bridge shoulder width is set to 8 feet.*
- *The disadvantage of the alternate 7 foot shoulder is that future conversion to an urban shoulder with a 2 foot gutter and 6 foot sidewalk would be prohibitive. The original design 8 foot shoulder on the bridge allows for future conversion to an 8 foot urban shoulder.*

MBA:SH:VCP

Cc: Lisa Myers

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA



INTERDEPARTMENTAL CORRESPONDENCE

FILE: NHS-0000-00(804) Turner Co. OFFICE: Consultant Design  
PI No: 0000804  
I-75 Phase 2 from Tift Line to SR159 DATE: July 6, 2007  
FROM: Mohammed (Babs) Abubakari, P.E. State Program Delivery and Consultant Design Engineer  
TO: Brian Summers, P.E., State Project Review Engineer  
SUBJECT: Value Engineering Study-Responses

Reference is made to the recommendations that were contained in the Value Engineering Study –Final Report dated April 11, 2007 for the above referenced project. Our responses and recommendations are as follows:

**1. Value Engineering Alternative No. 1 –Compress diamond at Inaha Road.**  
*Approval of the VE Alternative No. 1 is not recommended.*

- *Compressed diamond interchanges are generally used in urban and suburban areas where the cost of right of way acquisition is very high and the operating speed of the interstate that they serve is lower. In this situation, the general cost of acquiring right of way is small compared to the benefits of longer deceleration lengths and greater sight distance gained from the use of a standard diamond interchange. The safety benefit of the interchange would far outweigh the cost of the extra right of way needed to construct a standard diamond interchange.*
- *The displacements and subsequent right of way and environmental costs at these interchanges caused by the ramp relocations would occur whether a standard diamond interchange is constructed or a compressed diamond due to the close proximity of the improved parcels to the ramp terminals.*
- *Use of the compressed diamond would also make staging this construction impossible and the interchanges would need to be closed during construction.*

**2. Value Engineering Alternative No. 2-Use mechanically stabilized embankment walls to eliminate bridge end spans at Inaha Road.**  
*Approval of VE Study Alternative No. 2 is not recommended.*

- *The use of mechanically stabilized earth walls may be a cost-effective alternative at these bridges (especially at SR 32- the widest bridge). However, we used the end slopes primarily to be consistent aesthetically with the Phase I bridge replacements. The end*

*slopes provide an open section and also provide flexibility for any future outside widening/grading that may occur. At Inaha Road, there may also be some subsurface geotechnical issues (settlements due to very soft soils/potential voids) associated with placing large volumes of select backfill. Regarding the comparison costs included in the VE study, we noted that the cost of wall coping was not included which will reduce the cost savings somewhat.*

**3. Value Engineering Alternative No. 3-Do not relocate Sumner Road.**

*Approval of VE Study Alternative No. 3 is not recommended.*

- *Sumner Road's proximity to the ramp terminals on the east side of I-75 would violate the AASHTO minimum of 300 feet of access rights between the proposed ramp terminal and this intersecting street. This is spelled out in AASHTO's Policy on Design Standards- Interstate System dated January 2005.*
- *Sumner Road was relocated to approximately 660 feet away from the eastern ramp terminals to provide for separation between this side street and the ramps as well as avoid acquisition of a structure that would be displaced had the relocation been any further west.*

**5. Value Engineering Alternative No. 5-Realign Goose Creek Road to avoid pond.**

*Approval of VE Study Alternative No. 5 is not recommended.*

- *Goose Creek Road's proximity to the ramp terminals on the west side of I-75 would violate the AASHTO minimum of 300 feet of access rights between the proposed ramp terminal and this intersecting street. This is spelled out in AASHTO's Policy on Design Standards- Interstate System dated January 2005. While it is not desirable to fill a small portion of this pond to relocate this side street, it is necessary to meet the federal minimum access policy.*

**6. Value Engineering Alternative No. 6- Realign Goose Creek Road closer to SB on ramp.**

*Approval of VE Study Alternative No. 6 is not recommended.*

- *Goose Creek Road's proximity to the ramp terminals on the west side of I-75 would violate the AASHTO minimum of 300 feet of access rights between the proposed ramp terminal and this intersecting street. This is spelled out in AASHTO's Policy on Design Standards- Interstate System dated January 2005. While it is not desirable to fill a small portion of this pond to relocate this side street, it is necessary to meet the federal minimum access policy.*

**7. Value Engineering Alternative No. 7-Reduce bridge width at SR32 over Hat Creek to match Bridge Policy Manual.**

*Approval of VE Study Alternative No. 7 is not recommended.*

- *SR 32 is part of the Governor's Road Improvement Plan (GRIP) for the state of Georgia, which connects medium-size cities to the interstate to stimulate economic growth in these communities. This route is also on the statewide bicycle plan. Given these designations*

*the width of the bridge would need to contain the for lanes of traffic with the raised median and have a six-foot six-inch bicycle shoulder on the road and on the bridge.*

- *Ten foot shoulders were used in lieu of eight foot shoulders to match the typical section of the bridge over I-75. Because of the proximity of these two bridges, we opted to maintain the width instead of introducing a transition through the interchange ramp tie-ins.*

**8. Value Engineering Alternative No. 8-** Use mechanically stabilized embankment walls to eliminate bridge end spans at Jefferson Davis Highway.

*Approval of VE Study Alternative No. 8 is not recommended.*

- *The use of mechanically stabilized earth walls may be a cost-effective alternative at these bridges (especially at SR 32- the widest bridge). However, we used the end slopes primarily to be consistent aesthetically with the Phase I bridge replacements. The end slopes provide an open section and also provide flexibility for any future outside widening/grading that may occur. Regarding the comparison costs included in the VE study, we noted that the cost of wall coping was not included which will reduce the cost savings somewhat.*

**11. Value Engineering Alternative No. 11-**Compress the diamond at Jefferson Davis Highway (SR32).

*Approval of VE Study Alternative No. 11 is not recommended.*

- *Compressed diamond interchanges are generally used in urban and suburban areas where the cost of right of way acquisition is very high and the operating speed of the interstate that they serve is lower. In this situation, the general cost of acquiring right of way is small compared to the benefits of longer deceleration lengths and greater sight distance gained from the use of a standard diamond interchange. The safety benefit of the interchange would far outweigh the cost of the extra right of way needed to construct a standard diamond interchange.*
- *The displacements and subsequent right of way and environmental costs at these interchanges caused by the ramp relocations would occur whether a standard diamond interchange is constructed or a compressed diamond due to the close proximity of the improved parcels to the ramp terminals.*
- *Use of the compressed diamond would also make staging this construction impossible and the interchanges would need to be closed during construction.*

**13. Value Engineering Alternative No. 13-** Eliminate the access drive at Jefferson Davis Highway (SR32).

*Approval of VE Study Alternative No. 13 is not recommended.*

- *The access drive to the west of the SR32 interchange serves as access to a very large tract of land that is bisected by Hat Creek. While there are other accesses to this parcel, they do not provide access to this section of the parcel as this drive does. If this driveway is removed, the parcel will be damaged and either some kind of access will need to be provided across Hat Creek from another entrance or damages will need to be paid so that*

*the owner can provide this access himself. It is possible that during the Right of Way negotiation an alternate agreement can be reached to eliminate this access.*

**14A. Value Engineering Alternative No. 14A-** Eliminate the bicycle shoulders.

*Approval of VE Study Alternative No. 14A is not recommended.*

- *The bicycle shoulders are proposed for the SR 32 corridor because this is a part of the statewide bicycle plan. The corridor that SR 32 belongs to is known as The Wiregrass Trail that will connect the Chattahoochee Trace Trail in far western Georgia to the city of Brunswick on the coast. All roadway projects that contain portions of these designated "State Bicycle Routes" are to design for its inclusion.*

**15. Value Engineering Alternative No. 15-** Compress the diamond at Bussey Road Interchange.

*Approval of VE Study Alternative No. 15 is not recommended.*

- *Compressed diamond interchanges are generally used in urban and suburban areas where the cost of right of way acquisition is very high and the operating speed of the interstate that they serve is lower. In this situation, the general cost of acquiring right of way is small compared to the benefits of longer deceleration lengths and greater sight distance gained from the use of a standard diamond interchange. The safety benefit of the interchange would far outweigh the cost of the extra right of way needed to construct a standard diamond interchange.*
- *The displacements and subsequent right of way and environmental costs at these interchanges caused by the ramp relocations would occur whether a standard diamond interchange is constructed or a compressed diamond due to the close proximity of the improved parcels to the ramp terminals.*
- *Use of the compressed diamond would also make staging this construction impossible and the interchanges would need to be closed during construction.*

**16. Value Engineering Alternative No. 16-** Leave the Bussey Road Interchange as is

*Approval of VE Study Alternative No. 16 is not recommended.*

- *Included in the Need and Purpose statement for this project is to improve the ramps to tie in to the already programmed project that will add a fourth lane to I-75. By not accommodating the 4<sup>th</sup> lane would be not designing for this need.*
- *This project will make the ramps safer for the traveling public by providing the necessary taper and acceleration/deceleration lengths to make the ramps function safely. Currently, these ramps do not meet design criteria and this project will correct these deficiencies.*
- *The cost of improving these ramps in the future would be greatly increased not only because of inflation but because the cost of the right of way and potential development that may occur at these interchanges.*

**17. Value Engineering Alternative No. 17-**Leave the East Washington Avenue Interchange as is  
*Approval of VE Study Alternative No. 17 is not recommended.*

- *Included in the Need and Purpose statement for this project is to improve the ramps to tie in to the already programmed project that will add a fourth lane to I-75. By not accommodating the 4<sup>th</sup> lane would be not designing for this need.*
- *This project will make the ramps safer for the traveling public by providing the necessary taper and acceleration/deceleration lengths to make the ramps function safely. Currently, these ramps do not meet design criteria and this project will correct these deficiencies.*
- *The cost of improving these ramps in the future would be greatly increased not only because of inflation but because the cost of the right of way and potential development that may occur at these interchanges.*

**18. Value Engineering Alternative No. 18-** Compress the diamond on the East Side of Washington Avenue.

*Approval of VE Study Alternative No. 18 is not recommended.*

- *Compressed diamond interchanges are generally used in urban and suburban areas where the cost of right of way acquisition is very high and the operating speed of the interstate that they serve is lower. In this situation, the general cost of acquiring right of way is small compared to the benefits of longer deceleration lengths and greater sight distance gained from the use of a standard diamond interchange. The safety benefit of the interchange would far outweigh the cost of the extra right of way needed to construct a standard diamond interchange.*
- *The displacements and subsequent right of way and environmental costs at these interchanges caused by the ramp relocations would occur whether a standard diamond interchange is constructed or a compressed diamond due to the close proximity of the improved parcels to the ramp terminals.*
- *Use of the compressed diamond would also make staging this construction impossible and the interchanges would need to be closed during construction.*

**19. Value Engineering Alternative No. 19-**Reduce the relocation of Peacock Road.

*Approval of VE Study Alternative No. 19 is not recommended.*

- *Based on the Department's Policy 4A-3.6 the preferred distance for the relocation of sideroads in establishing access control in rural areas is 1000 feet.*
- *A large area of wetlands is located between the northbound ramps and the relocation of Peacock Road. If the relocation were closer to the ramp, significant amounts of wetlands would be impacted.*

**21. Value Engineering Alternative No. 21-**At North Street, shorten the Ewing Farm Road Relocation.

*Approval of VE Study Alternative No. 21 is not recommended.*

- *Based on the Department's Policy 4A-3.6 the preferred distance for the relocation of sideroads in establishing access control in rural areas is 1000 feet.*
- *It is best to have the relocation further from the ramp terminals, especially in this situation, because a loop ramp and northbound on ramp intersections are at the same location. There is not a loop ramp close to this interchange and the presence of multiple accesses in one location will confuse motorists.*

**22. Value Engineering Alternative No. 22-**Cul-de-sac Ewing Farm Road at North Street.

*Approval of VE Study Alternative No. 22 is not recommended.*

- *If Ewing Farm Road is cut off from North Street, it would not have access to an interchange as it currently does. This would cause property owners to travel a circuitous route to access their properties and would devalue these properties due to the change in access.*
- *The condition of this road from where the proposed relocation ties in is not in good condition and may need to be improved for the residents that are accustomed to using a wider and better maintained section of road.*
- *Ewing Farm Road will be cut off from North Street by the loop ramp and the northbound on ramp in the proposed plan. If this road was to be cul-de-saced it would not be in the same location as shown in the study. There is a driveway access to the Pinnacle Towers property that would need their access maintained, so the cost benefit would not be as significant.*

**23. Value Engineering Alternative No. 24-**Do not take properties from within the new loop ramp (Ramp R).

*Approval of VE Study Alternative No. 24 is not recommended.*

- *DOT will need to acquire the right of way from within the loop ramp for traffic operations as well as safety concerns. Having accesses too close to the combined northbound off-ramp and on-ramp terminals will cause confusion and lead to accidents or wrong way drivers.*
- *It would be possible if this area is allowed to develop to have high traffic businesses, like truck stops, build in this area and would cause congestion and cause the ramps to function poorly.*

**24. Value Engineering Alternative No. 25-** Use mechanically stabilized embankment walls to eliminate bridge end spans at North Street.

*Approval of VE Study Alternative No. 25 is not recommended.*

- *The use of mechanically stabilized earth walls may be a cost-effective alternative at these bridges (especially at SR 32- the widest bridge). However, we used the end slopes primarily to be consistent aesthetically with the Phase I bridge replacements. The end*

*slopes provide an open section and also provide flexibility for any future outside widening/grading that may occur. Regarding the comparison costs included in the VE study, we noted that the cost of wall coping was not included which will reduce the cost savings somewhat.*

MBA:SH:vcp

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE



FILE: NHS-0000-00(805), Turner & Crisp  
PI No.: 0000805

OFFICE: Consultant Design

I-75 Interchange Improvements

DATE: June 19, 2007

FROM:   
Mohammed (Babs) Abubakari, P.E.  
State Program Delivery and Consultant Design Engineer



TO: Brian Summers, P.E., State Project Review Engineer

SUBJECT: Value Engineering Study-Responses

Reference is made to the recommendations that were contained in the Value Engineering Study –Final Report dated April 11, 2007 for the above referenced project. Our responses and recommendations are as follows:

- Value Engineering Alternative No. 805-1** –Leave the Alberson Road overpass bridge as is.  
*Approval of the VE Alternative No. 805-1 is not recommended.*
  - The purpose of replacing this bridge as part of this project is to eliminate the current substandard horizontal clearances from travel way to bridge piers which were created by the Phase 1 widening project just completed. This alternative would leave those substandard horizontal clearances.*
- Value Engineering Alternative No. 805-2**-Shorten the bridge to accommodate only three lanes in each direction on I-75 at Alberson Road.  
*Approval of VE Study Alternative No. 805-2 is not recommended.*
  - If a fourth lane is added to I-75 in the future, another replacement of the bridge would be necessary to avoid leaving substandard horizontal clearances from travel way to the bridge piers.*
  - Concerning the current project, this alternative would require a complete redesign of the bridge and the roadway approaches to the bridge.*
- Value Engineering Alternative No. 805-3**-Eliminate the Alberson Road overpass.  
*Approval of VE Study Alternative No. 805-3 is not recommended.*
  - This seems an extreme alternative which would probably not be popular among local residents who would be forced to travel farther to cross I-75.*
  - This alternative would require removal of the existing bridge as well as adding cul-de-sacs on each side of I-75. Concerning the current project, the bridge design to this point would be wasted and it would require redesign of roadway approaches with cul-de-sacs.*

4. **Value Engineering Alternative No. 805-5-** Use MSE walls to eliminate the bridge end spans at Alberson Road  
*Approval of VE Study Alternative No. 805-5 is not recommended.*
  - *Abutment walls increase the difficulty of future widening of both the mainline and cross road. For that reason, the bridge office prefers end rolls. With the continuing possibility of future widening, it would seem that end rolls are the better alternative.*
  
5. **Value Engineering Alternative No. 805-7** –Leave the Wardlow Road overpass bridge as is.  
*Approval of the VE Alternative No. 805-7 is not recommended.*
  - *The purpose of replacing this bridge as part of this project is to eliminate the current substandard horizontal clearances from travel way to bridge piers which were created by the Phase 1 widening project just completed. This alternative would leave those substandard horizontal clearances.*
  
6. **Value Engineering Alternative No. 805-8-**Shorten the bridge to accommodate only three lanes in each direction on I-75 at Wardlow Road.  
*Approval of VE Study Alternative No. 805-8 is not recommended.*
  - *If a fourth lane is added to I-75 in the future, another replacement of the bridge would be necessary to avoid leaving substandard horizontal clearances from travel way to the bridge piers.*
  - *Concerning the current project, this alternative would require a complete redesign of the bridge and the roadway approaches to the bridge.*
  
7. **Value Engineering Alternative No. 805-11-** Use MSE walls to eliminate the bridge end spans at Wardlow Road  
*Approval of VE Study Alternative No. 805-11 is not recommended.*
  - *Abutment walls increase the difficulty of future widening of both the mainline and cross road. For that reason, the bridge office prefers end rolls. With the continuing possibility of future widening, it would seem that end rolls are the better alternative.*
  
8. **Value Engineering Alternative No. 805-13** –Leave the Musselwhite Road overpass bridge as is.  
*Approval of the VE Alternative No. 805-13 is not recommended.*
  - *The purpose of replacing this bridge as part of this project is to eliminate the current substandard horizontal clearances from travel way to bridge piers which were created by the Phase 1 widening project just completed. This alternative would leave those substandard horizontal clearances.*
  
9. **Value Engineering Alternative No. 805-14-**Shorten the bridge to accommodate only three lanes in each direction on I-75 at Musselwhite Road.  
*Approval of VE Study Alternative No. 805-14 is not recommended.*
  - *If a fourth lane is added to I-75 in the future, another replacement of the bridge would be necessary to avoid leaving substandard horizontal clearances from travel way to the bridge piers.*
  - *Concerning the current project, this alternative would require a complete redesign of the bridge and the roadway approaches to the bridge.*

10. **Value Engineering Alternative No. 805-17-** Use MSE walls to eliminate the bridge end spans at Musselwhite Road  
*Approval of VE Study Alternative No. 805-17 is not recommended.*
  - *Abutment walls increase the difficulty of future widening of both the mainline and cross road. For that reason, the bridge office prefers end rolls. With the continuing possibility of future widening, it would seem that end rolls are the better alternative.*
  
11. **Value Engineering Alternative No. 805-19-** Reduce the alignment of Arms Road at the Musselwhite Road Interchange.  
*Approval of VE Study Alternative No. 805-19 is not recommended.*
  - *This alternative is dependent on implementing Alternative 805-17. If 805-17 is implemented, then the Arms Road intersection with Musselwhite can be shifted to the west resulting in a reduction of the length of the alignment.*
  
12. **Value Engineering Alternative No. 805-22-** Shorten the bridge to accommodate only three lanes in each direction on I-75 at Bedgood Road.  
*Approval of VE Study Alternative No. 805-22 is not recommended.*
  - *If a fourth lane is added to I-75 in the future, another replacement of the bridge would be necessary to avoid leaving substandard horizontal clearances from travel way to the bridge piers.*
  - *Concerning the current project, this alternative would require a complete redesign of the bridge and the roadway approaches to the bridge.*
  
13. **Value Engineering Alternative No. 805-25-** Use MSE walls to eliminate the bridge end spans at Bedgood Road  
*Approval of VE Study Alternative No. 805-25 is not recommended.*
  - *Abutment walls increase the difficulty of future widening of both the mainline and cross road. For that reason, the bridge office prefers end rolls. With the continuing possibility of future widening, it would seem that end rolls are the better alternative.*
  
14. **Value Engineering Alternative No. 805-26-** Do not relocate Rock Road  
*Approval of VE Study Alternative No. 805-26 is not recommended.*
  - *Our calculations indicate that in existing location, the intersection of Rock Road would not meet either the stopping sight distance requirement for WB vehicles on Bedgood or intersection sight distance requirement for NB vehicles on Rock Road turning left. Rock Road should be relocated.*
  
15. **Value Engineering Alternative No. 805-28A-** Use MSE walls to eliminate the bridge end spans at Hawpond Road  
*Approval of VE Study Alternative No. 805-28A is not recommended.*
  - *Abutment walls increase the difficulty of future widening of both the mainline and cross road. For that reason, the bridge office prefers end rolls. With the continuing possibility of future widening, it would seem that end rolls are the better alternative.*

16. **Value Engineering Alternative No. 805-29A-** Reduce the bridge width at Hawpond Road to match bridge policy manual.  
*Approval of VE Study Alternative No. 805-29A is not recommended.*
- *The wider bridge shoulders are used to facilitate staging.*
17. **Value Engineering Alternative No. 805-30** –Leave the Old Hatley Road overpass bridge as is.  
*Approval of the VE Alternative No. 805-30 is not recommended.*
- *The purpose of replacing this bridge as part of this project is to eliminate the current substandard horizontal clearances from travel way to bridge piers which were created by the Phase 1 widening project just completed. This alternative would leave those substandard horizontal clearances.*
18. **Value Engineering Alternative No. 805-31-**Shorten the bridge to accommodate only three lanes in each direction on I-75 at Old Hatley Road.  
*Approval of VE Study Alternative No. 805-31 is not recommended.*
- *If a fourth lane is added to I-75 in the future, another replacement of the bridge would be necessary to avoid leaving substandard horizontal clearances from travel way to the bridge piers.*
  - *Concerning the current project, this alternative would require a complete redesign of the bridge and the roadway approaches to the bridge.*
19. **Value Engineering Alternative No. 805-33-** Use MSE walls to eliminate the bridge end spans at Old Hatley Road  
*Approval of VE Study Alternative No. 805-33 is not recommended.*
- *Abutment walls increase the difficulty of future widening of both the mainline and cross road. For that reason, the bridge office prefers end rolls. With the continuing possibility of future widening, it would seem that end rolls are the better alternative.*
20. **Value Engineering Alternative No. 805-35-** Reduce the bridge width at Rockhouse Road to match bridge policy manual.  
*Approval of VE Study Alternative No. 805-35 is not recommended.*
- *The wider bridge shoulders are used to facilitate staging.*
21. **Value Engineering Alternative No. 805-36-** Eliminate the Floyd Road realignment at Rockhouse Road.  
*Approval of VE Study Alternative No. 805-36 is not recommended.*
- *As stated as a disadvantage in the VE Study, eliminating the realignment adds approximately 6 miles of travel distance from Rockhouse Road to Floyd Road and loses that connectivity. There is an RV campground located just south of Rockhouse Road on Floyd Road which would be adversely affected and possibly a complete loss by the loss of connectivity to Rockhouse Road.*
22. **Value Engineering Alternative No. 805-38-** Relocate the Rockhouse Road NB loop off ramp to the Northeast quadrant of the Interchange.  
*Approval of VE Study Alternative No. 805-38 is not recommended.*
- *A redesign of the interchange using a loop ramp would allow the existing properties on the southeast corner to remain provided a design variance for limited access can be obtained. Generally, limited access is acquired on both sides of the cross road from ramp terminal to ramp terminal. It would still require complete buyout of the commercial properties in the northeast corner. It would also require that the NB entrance ramp be constructed outside of the loop ramp. This increases the overall amount of Right of Way required in the Northeast corner, much*

*of which is agricultural. It would also require complete redesign of the interchange and a significant revision to the Concept and environmental document as part of the current project.*

23. **Value Engineering Alternative No. 805-39-** Use MSE walls to eliminate the bridge end spans at Rockhouse Road

*Approval of VE Study Alternative No. 805-39 is not recommended.*

- *Abutment walls increase the difficulty of future widening of both the mainline and cross road. For that reason, the bridge office prefers end rolls. With the continuing possibility of future widening, it would seem that end rolls are the better alternative.*

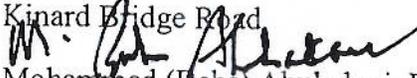
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DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA



INTERDEPARTMENTAL CORRESPONDENCE

FILE: NHS-0000-00(764) & CSNHS-0008-00(458), Cook  
PI Nos.: 0000764 & 0008458  
I-75 from CR251 / Rountree Bridge Road to  
CR253 / Barneyville Road and CR 246 /  
Kinard Bridge Road  
OFFICE: Consultant Design  
DATE: June 19, 2007

FROM:   
Mohammed (Babs) Abubakari, P.E.  
State Program Delivery and Consultant Design Engineer

TO: Brian Summers, P.E., State Project Review Engineer

SUBJECT: **Value Engineering Study-Responses**

Reference is made to the recommendations that were contained in the Value Engineering Study -Final Report dated March 2007 for the above referenced project. Our responses and recommendations are as follows:

- Value Engineering Alternative No. 764-3** -Use Mechanically stabilized embankment walls to eliminate bridge end spans at Barneyville Road.  
*Approval of the VE Alternatives No. 764-3 is not recommended.*
  - The use of mechanically stabilized embankment walls on the bridges' outside bents would prohibit future outside widening of I-75/SR 401*
  - Staging-Additional temporary shoring would be necessary during construction of the bridge*
  - Interferes with the longitudinal drainage along I-75/SR 401. The runoff from the roadside ditches would need to be piped underneath the mechanically stabilized embankment walls.*
- Value Engineering Alternative No. 764-6**-Reduce the bridge width at Barneyville Road to comply with the GDOT Bridge Policy Manual.  
*Approval of VE Study Alternative 764-6 is recommended. In subsequent meetings and conversations with GDOT Bridge Design personnel, it was agreed to reduce the CR 253 bridge over I-75/SR 40, with a 55 mph design speed and design year traffic of 1,900 vpd, would be redesigned to have a 46 ft (two 12' travel lanes, a 14 ft turning lane, and two 4 ft outside shoulders) deck width. This item will be included in the plans.*
- Value Engineering Alternative No. 764-7**-Relocate the temporary barrier at the Rountree Bridge Road Interchange.  
*Approval of VE Study Alternative 764-6 is recommended This item will be included in the plans.*
- Value Engineering Alternative No. 764-8**-Compress the diamond at the Rountree Bridge Road/I-75 Interchange.  
*Approval of VE Study Alternative No. 764-8 is not recommended.*
  - The relocation of Rountree Bridge Road west was based on GDOT Manual of Guidance 4A-3, which dictates that for an interchange reconstruction such as this, access control will be established a minimum of 300 feet along the connecting road from the ramp terminal*

*intersection. In order to comply with MOG 4A-3 and to minimize impacts to the adjacent wetland, Rountree Bridge Road west was relocated as shown on the plans.*

- *The placement of the ramp terminals on Rountree Bridge Road/CR 253 was dictated by intersection sight distance. Since the intersections of the ramps with Rountree Bridge Road will be one-way stop control and not be signalized, a 300 ft offset of the ramp terminals from the proposed bridge was used.*
- *Staging-Unlike the present bridge, the new bridge will be able to span eight travel lanes plus room for future truck only/HOV lanes and have sufficient sight stopping distance for the 45 mph design speed. A consequence of this is that the proposed bridge will have a significantly longer parabolic curve over I-75 than the present bridge, creating substantial grade differences between the old and new profiles in the proximity of the bridge. At the present proposed ramp terminal location, the grades between the present and proposed roadways are comparable and will allow ease in maintenance of traffic. However, moving the ramp terminals closer to the bridge would greatly complicate the staging.*

**5. Value Engineering Alternative No. 764-9** –Use Mechanically stabilized embankment walls to eliminate bridge end spans at Rountree Bridge Road.

*Approval of the VE Alternatives No. 764-9 is not recommended.*

- *The use of mechanically stabilized embankment walls on the bridges' outside bents would prohibit future outside widening of I-75/SR 401*
- *Staging-Additional temporary shoring would be necessary during construction of the bridge*
- *Interferes with the longitudinal drainage along I-75/SR 401. The runoff from the roadside ditches would need to be piped underneath the mechanically stabilized embankment walls.*

**6. Value Engineering Alternatives No. 764-10**–Reduce the bridge width at Rountree Bridge Road to comply with the GDOT Bridge and Structures Manual.

*Approval of VE Study Alternative 764-10 is recommended. In subsequent meetings and conversations with GDOT Bridge Design personnel, it was agreed to reduce the CR 251 bridge over I-75/SR 40, with a 45 mph design speed and design year traffic of 4,000 vpd, would be redesigned to have a 54 ft (two 12' travel lanes, a 14 ft turning lane, and two 8 ft outside shoulders) deck width. This item will be included in the plans.*

**7. Value Engineering Alternative No. 8458-2** –Use Mechanically stabilized embankment walls to eliminate bridge end spans at Kinard Bridge Road.

*Approval of the VE Alternatives No. 8458-2 is not recommended.*

- *The use of mechanically stabilized embankment walls on the bridges' outside bents would prohibit future outside widening of I-75/SR 401*
- *Staging-Additional temporary shoring would be necessary during construction of the bridge*
- *Interferes with the longitudinal drainage along I-75/SR 401. The runoff from the roadside ditches would need to be piped underneath the mechanically stabilized embankment walls.*

**8. Value Engineering Alternatives No. 8458-3** -Reduce the bridge width at Kinard Bridge Road to comply with the GDOT Bridge and Structures Manual.

*Approval of VE Study Alternative 8458-3 is recommended. In subsequent meetings and conversations with GDOT Bridge Design personnel, it was agreed to reduce the CR 246 bridge over I-75/SR 40, with a 45 mph design speed and design year traffic of 5,800 vpd, would be redesigned to have a 54 ft (two 12' travel lanes, a 14 ft turning lane, and two 8 ft outside shoulders) deck width. This item will be included in the plans.*

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA



INTERDEPARTMENT CORRESPONDENCE

FILE: NHS-0000-00(765), Tift County  
I-75 @ CR 418/Omega-Eldorado Rd – Phase II  
PI 0000763  
FROM: Mohammed A. (Babs) Abubakari, P.E.,  
State Consultant Design Engineer

OFFICE: Consultant Design

DATE: July 6, 2007

TO: Brian Summers, P.E., Project Review Engineer

SUBJECT: **Responses to Value Engineering Study**

The VE team's recommendations are noted below in italics and Consultant Design's responses follow:

765-3 *Use MSE walls.* If MSE walls are utilized, it could potentially eliminate future location for additional lanes. For these reasons, Consultant Design does not recommend implementing this alternative.

765-4 *Reduce bridge width at Omega-Eldorado Road to match bridge policy manual.* The bridge has been designed. It will cost nearly the savings to re-design. Consultant Design does not recommend implementing this alternative.

765-5 *Reduce the departure tangent ramps.* We will reevaluate, however the longer tangents are needed to runout the SE from NC to approximately 6% and visa versa to match the grade of Omega-Eldorado Rd./CR 418. For these reasons, Consultant Design does not recommend implementing this alternative.

765-1 *Compress the width of the diamond at Omega-Eldorado Rd./CR 418 Interchange.* This goes against GDOT's policy to provide 1000' of separation between the ramp termini. For these reasons, Consultant Design does not recommend implementing this alternative.

765-2 *Eliminate the interchange work associated with the HOV(High Occupancy Vehicle)/TOL(Truck Only Lanes) concept.* The Department wants to accommodate the future 8- lane section of I-75 as well as 2 additional HOV/TOL lanes in each direction on I-75. For these reasons, Consultant Design does not recommend implementing this alternative.

If you have any questions, please call Nicoe Alexander at (404) 463-6135.

MBA:MAH:JNA

cc: Lisa Myers

ALT #	Description	Potential Savings/LCC	Implement	Comments
P.I. No. 0000764				
764-3	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Barneyville Road	\$259,457	No	<i>The use of mechanically stabilized embankment walls on the bridges' outside bents would prohibit future outside widening of I-75/SR 401. During construction, additional temporary shoring would be necessary during construction of the bridge. This would interfere with the longitudinal drainage along I-75/SR 401. The runoff from the roadside ditches would need to be piped underneath the mechanically stabilized embankment walls.</i>
764-6	Reduce bridge width at Barneyville Road to match Bridge Policy Manual	\$446,772	Yes	
764-7	Relocate the temporary barriers at the Rountree Bridge Road Interchange	Design Suggestion	Yes	
764-8	Compress the diamond at the Rountree Bridge Road Interchange	\$1,531,716	No	<i>The relocation of Rountree Bridge Road West was based on GDOT Manual of Guidance 4A-3, which dictates that for an interchange reconstruction such as this, access control will be established a minimum of 300 feet along the connecting road from the ramp terminal intersection. In order to comply with MOG 4A-3 and to minimize impacts to the adjacent wetland, Rountree Bridge Road West was relocated as shown on the plans. The placement of the ramp terminals on Rountree Bridge Road/CR 253 was dictated by intersection sight distance. Since the intersections of the ramps with Rountree Bridge Road will be one-way stop control and not be signalized, a 300 ft offset of the ramp terminals from the proposed bridge was used. Staging- Unlike the present bridge, the new bridge will be able to span eight travel lanes plus room for future truck only/HOV lanes and have sufficient sight stopping distance for the 45 mph design speed. A consequence of this is that the proposed bridge will have a significantly longer parabolic curve over I-75 than the present bridge, creating substantial grade differences between the old and new profiles in the proximity of the bridge. At the present proposed ramp terminal location, the grades between the present and proposed roadways are comparable and will allow ease in maintenance of traffic. However, moving the ramp terminals closer to the bridge would greatly complicate the staging.</i>

ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000764 - continued</b>				
764-9	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Rountree Bridge Road	\$316,383	No	<i>The use of mechanically stabilized embankment walls on the bridges' outside bents would prohibit future outside widening of I-75/SR 401. During construction, additional temporary shoring would be necessary during construction of the bridge. This would interfere with the longitudinal drainage along I-75/SR 401. The runoff from the roadside ditches would need to be piped underneath the mechanically stabilized embankment walls.</i>
764-10	Reduce bridge width at Rountree Bridge Road to match Bridge Policy Manual	\$218,759	Yes	
764-1	Compress the diamond at the Barneyville Road Interchange	Design Suggestion	No	<i>The placement of the ramp terminals on Barneyville Road was dictated by intersection sight distance. Since the intersections of the ramps with Barneyville Road will be one-way stop control and not be signalized, a 300 ft offset of the ramp terminals from the proposed bridge was used. Unlike the present bridge, the new bridge will be able to span eight travel lanes plus room for future truck only/HOV lanes and have sufficient sight stopping distance for the 45 mph design speed. A consequence of this is that the proposed bridge will have a significantly longer parabolic curve over I-75 than the present bridge, creating substantial grade differences between the old and new profiles in the proximity of the bridge. At the present proposed ramp terminal location, the grades between the present and proposed roadways are comparable and will allow ease in maintenance of traffic. However, moving the ramp terminals closer to the bridge would greatly complicate the staging.</i>

ALT #	Description	Potential Savings/LCC	Implement	Comments
<b>P.I. No. 0000764 - continued</b>				
764-2	Minimize ramp doglegs at the Barneyville Road Interchange	Design Suggestion	No	<i>The alignment of the ramps was dictated by the location of the ramp terminals and the desire to have the ramps intersect the crossing road at 90 degree angles to maximize intersection sight distance.</i>
764-4	Do not take the property where the telecommunication pole is currently located and allow access at the Barneyville Road Interchange	Design Suggestion	No	<i>The alignment of the northbound entrance ramp to I-75 at Barneyville Road cannot circumvent the telecommunication pole at the required design speed. Further, FHWA policy dictates that access control will be established a minimum of 300 ft outside of the ramp terminals.</i>
764-11	Reduce the approach / departure tangents on the ramps of the Rountree Bridge Road Interchange	Design Suggestion	No	<i>As per GDOT policy, the ramp curves adjacent to I-75 and the ramp terminals were designed for 60 mph and 45 mph design speeds, respectively. The tangent lengths were necessary to have the sufficient configuration and amount of superelevation runoff and tangent runoff as per GDOT and AASHTO policies.</i>
<b>P.I. No. 0008458</b>				
8458-2	Use Mechanically Stabilized Embankment Walls to eliminate bridge end spans at Rountree Bridge Road	\$381,062	No	<i>The use of mechanically stabilized embankment walls on the bridges' outside bents would prohibit future outside widening of I-75/SR 401. Staging-Additional temporary shoring would be necessary during construction of the bridge. It also interferes with the longitudinal drainage along I-75/SR 401. The runoff from the roadside ditches would need to be piped underneath the mechanically stabilized embankment walls.</i>
8458-3	Reduce bridge width at Kinard Bridge Road to match Bridge Policy Manual	\$251,715	Yes	
8458-4	Relocate the Kinard Bridge Road Interchange	Design Suggestion	No	<i>Relocating the Kinard Bridge Road interchange would greatly lengthen the project along Kinard Bridge Road, increase environmental impacts, and would be harmful to the existing businesses along Kinard Bridge Road.</i>

ALT #	Description	Potential Savings/LCC	Implement	Comments
P.I. No. 0008458 - continued				
8458-5	Compress the diamond at the Kinard Bridge Road Interchange	Design Suggestion	No	<p><i>The placement of the ramp terminal on the west side of Kinard Bridge Road/CR 246 was dictated by intersection sight distance. Since the intersections of the ramps with Kinard Bridge Road will be one-way stop control and not be signalized, a 300 ft offset of the ramp terminals from the proposed bridge was used. An existing cemetery in the southeast quadrant of the interchange necessitated the use of the partial cloverleaf exit ramp as well as the east side ramp terminal location. Unlike the present bridge, the new bridge will be able to span eight travel lanes plus room for future truck only/HOV lanes and have sufficient sight stopping distance for the 45 mph design speed. A consequence of this is that the proposed bridge will have a significantly longer parabolic curve over I-75 than the present bridge, creating substantial grade differences between the old and new profiles in the proximity of the bridge. At the present proposed ramp terminal location, the grades between the present and proposed roadways are comparable and will allow ease in maintenance of traffic. However, moving the ramp terminals closer to the bridge would greatly complicate the staging.</i></p>
8458-7	Use a Single-Point Urban Interchange (SPUI) at the Kinard Bridge Road Intersection	Design Suggestion	No	<p><i>As the name suggests, SPUI's are most appropriate for urban areas. The use of a SPUI would also entail a much wider bridge and a traffic signal. Further, construction of a SPUI interchange at this location would be very difficult to stage under traffic.</i></p>