

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** CSSTP-0006-00(869), Cobb County      **OFFICE:** Engineering Services  
P.I. No.: 0006869  
Big Shanty Connector      **DATE:** January 30, 2009

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

**TO:** Bryant Poole, Metro District Engineer  
Attention: Kevin Cowan, Assistant Squad Leader, District 7

**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 No.	Description	Savings PW & LCC	Implement	Comments
<b>BRIDGE (B)</b>				
BR-1	Use MSE wall abutments with two, single span bridges without intermediate bents in lieu of the originally designed pair of 3 span bridges with end rolls on each end.	\$304,642	No	Would result in a cost increase based on an updated cost estimate.
BR-2	Reduce the minimum vertical clearance from 17'6" to 17'0" for Bridge 2.	Design Suggestion	Yes	This should be done.
BR-7	Reduce the number of beams in Span 2 on both bridges from 9 beams to 8 beams by increasing the beams from 7'-11/2" to 8'-0" and increasing the overhangs from 3'-11/2" to 3'-7 1/2".	\$34,844	No	Would result in a cost increase due to redesign, high strength concrete and more complex construction staging.

ALT No.	Description	Savings PW & LCC	Implement	Comments
<b>ROADWAY (RD)</b>				
RD-5	Delete the bike lanes from the mainline and construct a single multi-use trail on one side only.	Proposed = \$282,137 Actual = \$236,497	Yes	This should be done.
RD-8	Delete the bike lanes from the project entirety.	\$282,137	No	Savings are already included in RD-5 above.
RD-9	Use a 12 foot two-way left turn lane in lieu of the originally designed 20 foot raised median.	Proposed= \$422,758 Actual= \$53,826	No	County is purchasing ROW, most of savings is ROW. Redesign costs are not included.
RD-10	Reduce the shoulder width to 12 feet on both sides.	\$96,800	No	County is purchasing ROW and prefers 14' shoulder. All savings are in ROW.
RD-11	Increase clear span under both bridges by 12' to provide for future HOT access OR reduce proposed typical section.	\$3,284,959	No	Already enough room to accommodate HOT lanes. Recommendation would increase costs on current project.
RW-3	Allow for the construction of basin #2 in the most southerly corner of the site.	Design Suggestion	No	If it is moved, it would result in additional impacts.
DR-5	Modify drainage structures at Sta. 60+88+/-.	Proposed= \$38,544 Actual= \$21,285	Yes	This should be done.

CSSTP-0006-00(869), Cobb County  
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Implementation of Value Engineering Study Alternatives  
Page 3.

A meeting was held on January 30, 2009 and Kevin Cowan, Mike Lobdell, Merishia Robinson with District 7 Design and Erica Appleby, Rebecca Collins, Sam Deeb, Theodore Deligianniois, Gregory Teague, with the Design Consultants and Ron Wishon, and Douglas Fadool with Engineering Services were in attendance.

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

Approved:  Date: 2/7/09  
Gerald M. Ross, P. E., Chief Engineer

Approved:  Date: 2/12/2009  
for Rodney Barry, P.E., FHWA Division Administrator

REW / DMF

Attachments

- c: R. Wayne Fedora – FHWA
- Mindy Roberson - “
- Genetha Rice Singleton
- Mike Lobdell – District 7 Design
- Merishia Robinson – “ “
- Kevin Cowan - “ “
- Paul Liles – Bridge Design
- Bill Ingalsbe - “ “
- Bill Duvall - “ “
- Jenny Harris-Dunham – Bridge Design
- Melanie Nable - OEL
- James Magnus – Construction
- James Harry- “
- Mickey McGee – District 7 Construction
- Ken Werho – Traffic Safety and Design
- Willie Boatman – Bridge Design-OGC
- Bassem Tannir – Bridge Design
- Justin Banks – Bridge Design
- Lisa Myers – Engineering Services

# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

## INTERDEPARTMENTAL CORRESPONDENCE

**FILE:** CSSTP-0006-00(869), Cobb County  
Big shanty Connector- Phase I  
PI 0006869

**OFFICE:** Preconstruction, District 7 Chamblee

**DATE:** December 29, 2008

**FROM:** Bryant Poole, Metro District Engineer

**TO:** Ron Wishon, Assistant State Project Review Engineer

**SUBJECT: VE Responses**

Please find attached the VE responses for PI 0006869, Big Shanty Connector- Phase 1 project in Cobb County. The proposed project would consist of the construction of a Big Shanty Road connector from Chastain Road westerly, across Town Point Drive, Barrett Lakes Boulevard and Interstate 75, to the existing Big Shanty Road terminus at George Busbee Parkway. The proposed project would widen existing Big Shanty Road from George Busbee Parkway to Chastain Meadows Parkway. The total project length would be approximately 1.98 miles with approximately 3,600 feet of the project being constructed on new location.

The attached report is for your review and use in scheduling the VE Implementation Meeting. Should you deem it necessary to meet with the District 7 office to discuss any concerns that you may have with the attached report prior to scheduling the Implementation Meeting, feel free to contact Kevin Cowan by phone at 770-986-1786 or by email at [kcowan@dot.ga.gov](mailto:kcowan@dot.ga.gov).

cc: Lisa Myers  
Mike Lobdell  
Merishia Robinson

## Value Engineering Study Report RESPONSE

### BIG SHANTY ROAD CONNECTOR

Project No. CSSTP-006-00(869) PI#0006869

Cobb County

#### BRIDGE (BR)

##### Alternative BR-1

**Description:** Use MSE wall abutments with two, single span bridges without intermediate bents in lieu of the originally designed pair of 3 span bridges with end rolls on each end.

**Cost Savings:** \$304,642

**Response:** Revised Cost Estimates have been provided at the end of this document for the I-75 NB Bridge as designed and with the proposed modifications, as well as for the I-75 SB Bridge as designed and with the proposed changes. We have also included a sheet representing the extents of the required wall abutments. The I-75 NB Bridge was estimated at \$1,211,606 as originally designed and was estimated at \$1,544,031 with the proposed changes. The I-75 SB Bridge was estimated at \$1,328,803 as originally designed and was estimated at \$1,652,532 with the proposed changes. As calculated in our revised estimates, the proposed alternative would actually result in a cost increase of \$656,154.

Also, with the addition of MSE walls, the future HOT access will require shoring and tearing down a portion of the wall as well as constructing additional walls to bring the lanes down to grade.

**The recommendation of District Seven Preconstruction is: Not to implement this request.**

##### Alternative BR-2

**Description:** Reduce the minimum vertical clearance from 17'-6" to 17'-0" for Bridge 2.

**Cost Savings:** N/A. This was a design suggestion.

**Response:** GDOT Office of Bridge design has stated that they will allow a 17'-0" vertical clearance for this bridge. By changing the profile of Big Shanty Road to accommodate this 6" reduction in vertical clearance, the cover over drainage line C2-C1 would be increased by 7.2" due to the change in slope on the roadway profile. (Also see response to Alternative DR-1). We agree that this change will improve the condition at drain line C1-C2 and recommend raising the profile of Big Shanty Road six (6) inches under the I-75 NB Bridge.

This alternative will likely result in a cost increase due to additional fees for re-design.

**The recommendation of District Seven Preconstruction is: To reduce the minimum vertical clearance from 17'-6" to 17'-0" for Bridge 2.**

### Alternative BR-7

- Description:** Reduce the number of beams in Span 2 on both bridges from 9 beams to 8 beams by increasing the beams from 7'-1 ½" to 8'-0" and increasing the overhangs from 3'-1 ½" to 3'-7 ½".
- Cost Savings:** \$34,844
- Response:** The beams are designed with a minimum initial strength of 6000 psi and 40 strands to keep the price of the beam low. Anything above 6500 psi will require additional cost added due to higher cost of fabrication in this case. i.e. The beam will remain in casting form longer prior to stressing, more hold down devices which is more expensive, more strands, etc. For the VE recommendation, all other factors holding true, and by applying a 10% (very conservative) increase in the fabrication cost of the proposed alternative beams due to the larger spacing and larger stresses, the cost difference is:  
 $1326 \times 181.22 - 1204 \times 181.22 \times 110\% = \$289.95$  per bridge which is insignificant.
- Moreover, the pier design will be affected since the beams do not line up from one span to another, therefore further complicating the constructability of the bridge.
- Lastly, the redesign cost of both bridges which could amount to \$50K would eclipse the benefits of a VE study and what it is trying to accomplish.

**The recommendation of District Seven Preconstruction is: Not to implement this request.**

### ROADWAY (RD)

#### Alternative RD-5

- Description:** Use a multi-use trail on one side only. Delete the bike lanes from the mainline, and have a single multi-use trail which combines pedestrian and bike traffic. The alternative multi-use lane could be constructed at a 9' width, which allows for a 5' pedestrian sidewalk as well as a 4' bike lane. The original design calls for the construction of 2-4' bike lanes adjacent to traffic as well as 5' sidewalks on each side of the Big Shanty Connector.
- Cost Savings:** \$282,137
- Response:** This request can be implemented with the exception of removing pedestrian facilities on one side of the road. We recommend maintaining a 5' sidewalk on the other side of the road in addition to the multi-use trail proposed on one side. Pedestrian and bike facilities are extremely important in this area due to its close proximity with Kennesaw State University, Office/Retail areas, as well as a proposed GRTA Park and Ride (Future BRT) facility on Big Shanty Connector. Cobb County has expressed a desire to maintain pedestrian facilities on both sides of the road, but has no issue with the elimination of bike lanes in lieu of the multi-use trail. The total cost savings with the additional 5' sidewalk is \$236,497. A revised cost savings spreadsheet has been added to the calculations section of this document.

**The recommendation of District Seven Preconstruction is: To remove the 4' bike lanes on both sides, add a 10' multi-use trail to one side and keep the 5' sidewalk on the other side.**

### **Alternative RD-8**

**Description:** Delete the bike lanes from the project in its entirety. The original design calls for the construction of two-4' bike lanes on the Big Shanty alignment from Barrett Lakes Boulevard to George Busbee Parkway.

**Cost Savings:** \$282,137

**Response:** We recommend implementing this alternative with the addition of a multi-use trail in lieu of the bike lanes for bike traffic. See response to Alternative RD-5.

**The recommendation of District Seven Preconstruction is: To remove the 4' bike lanes on both sides, add a 10' multi-use trail to one side and keep the 5' sidewalk on the other side.**

### **Alternative RD-9**

**Description:** Use a 12-ft two-way left turn lane in lieu of the originally designed 20-ft raised median.

**Cost Savings:** \$422,758

**Response:** After review of the detailed cost savings that were calculated for this alternative. By implementing this alternative the paving quantity would actually go up due to the removal of median and replacement with asphalt, in spite of its reduced width. A revised cost spreadsheet has been provided in the Calculations Section at the end of this report. The re-calculated cost savings are \$247,426.

Cobb County is also purchasing all required Right of Way for this project and would prefer not to change the Right of Way corridor width. GDOT is not responsible for any Right of Way Costs; therefore, cost savings due to Right of Way will be eliminated resulting in the actual cost savings being further reduced to \$53,826. A revised cost spreadsheet has been provided in the Calculations Section at the end of this report. Additional engineering fees for re-design would also need to be taken into account.

Big Shanty Phases 2 and 3, to the west and east of Phase 1 respectively, are both designed with a 20-ft raised median. We recommend keeping the originally designed 20-ft raised median, thereby maintaining a consistent typical section throughout the corridor.

**The recommendation of District Seven Preconstruction is: Not to implement this request.**

### **Alternative RD-10**

**Description:** Reduce shoulder width to 12-ft on both sides, consisting of a 2.5-ft curb and gutter, a 2-ft utility strip, a 5-ft sidewalk, and 2.5-ft from back of sidewalk to R/W limit. The original design calls for a 14-ft shoulder on both sides, which consists of a 2.5-ft curb and gutter, a 2-ft utility strip, a 5-ft sidewalk, and 4.5-ft from back of sidewalk to R/W limit.

**Cost Savings:** \$96,800

**Response:** The cost savings for this alternative is made up entirely of savings in Right of Way costs. Cobb County is purchasing all required Right of Way for this project and prefers to acquire the full 14-ft shoulder width. GDOT is not responsible for any Right of Way Costs.

**The recommendation of District Seven Preconstruction is: Not to implement this request.**

**Alternative RD-11**

**Description:** Increase clear span under both bridges by 12' to provide for future HOT access. This alternative is to use a wider median on the section of Big Shanty Road under the I-75 bridges so that a pair of parallel left turn bays (westbound left turn for Barrett Lakes Blvd and eastbound left turn for HOT ramp terminal access) could be provided in the median; or reduce the current plan by removing bike lanes, removing one sidewalk, reducing R/W, using MSE wall abutments which would reduce the obligated space and allow for the additional lane without significant impact to the project.

**Cost Savings:** \$3,284,959

**Response:** Future HOT access for Big Shanty Road has been considered and coordinated for this project. The clear span proposed under the I-75 SB Bridge is currently 116-ft, with 14-ft shoulders on Big Shanty in its current configuration. The clear span proposed under the I-75 NB Bridge is currently 104-ft, with 14-ft shoulders on Big Shanty in its current configuration. With the future addition of a 12-ft Turn lane, shoulders would be reduced to 8-ft under each bridge. Typical sections have been provided in the Calculations Section at the end of this report.

The cost savings calculated by the VE Team was assuming the future demolition and re-construction of the proposed bridges on I-75 due to future HOT access. The originally designed clear span under the bridges should be sufficient to provide for the future HOT access, therefore eliminating the need for future demolition and replacement of the bridges.

We have also agreed with the recommendation to remove bike lanes thereby reducing the obligated space and allowing for reduced impacts due to the future HOT access project.

**The recommendation of District Seven Preconstruction is: Not to implement this request.**

**RIGHT-OF-WAY (ROW)**

**Alternative ROW-3**

**Description:** Allow for construction of basin #2 in the most southerly corner of the site. The original design calls for the construction of a retention basin #2 just south of the extension of Big Shanty Road adjacent to the east R/W line of I-75. The alternative would be to construct the basin at the most southwesterly portion of that property.

**Cost Savings:** N/A. This was a design suggestion.

**Response:** Basin #2 is a temporary sediment basin placed on a Construction Easement. The property that the sediment basin is located on is a currently unused site that will be redeveloped following this project. Relocating construction of this basin to the most southerly corner of the site would increase the required easement area, increase the amount of temporary storm drain to the basin, and increase design fees. Due to this basin being temporary, impacts to this parcel will be minimal.

**The recommendation of District Seven Preconstruction is: Not to implement this request.**



**CALCULATIONS**

**Alternative BR-2**

Holding PVI under Bridge 1 and modifying slope of tangent to tie in at outermost edge of bridge 2 with 0.5' (6 inches) additional clearance gives an additional 0.5974' (7.2 inches) of roadway height over proposed drainage line C2-C1.

**Alternative DR-5**

Holding outlet location (necessary to stay under 300 LF of stream impact) – it is 233 LF from edge of outermost travel lane to paved ditch outlet.

Currently 233 LF @ 0.1% = 0.233'

Proposed 233 LF @ 0.2% = 0.466'

⇒ 0.233' = 2.8 inches Additional Depth

**Alternative RD-5**

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
ITEM	UNITS	NO. OF UNITS	COST/UNIT	TOTAL	NO. OF UNITS	COST/UNIT	TOTAL
ROW - Commercial	SF	216,483	\$10.00	\$2,164,830	200,483	\$85.00	\$2,004,830
GAB-10" Inc. mat'l	SY	16,899	\$15.39	\$260,076	14,677	\$15.39	\$225,879
25mm Superpave	TN	8,427	\$60.74	\$511,856	7,983	\$60.74	\$484,887
19mm Superpave	TN	4,510	\$76.00	\$342,760	4,232	\$76.00	\$321,632
12.5 mm Superpave	TN	2,163	\$85.00	\$183,855	1,996	\$85.00	\$169,660
Concrete Sidewalk, 4"	SY	2,795	\$32.29	\$90,251	4,080	\$32.29	\$131,743
<b>Sub-total</b>				\$3,553,628			\$3,338,631
<b>Mark-up at 10.00%</b>				\$355,363			\$333,863
<b>TOTAL</b>				<b>\$3,908,991</b>			<b>\$3,672,494</b>
Estimated Savings:							\$236,497

Alternative RD-9

Revised Cost Worksheet 1:

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
ITEM	UNITS	NO. OF UNITS	COST/UNIT	TOTAL	NO. OF UNITS	COST/UNIT	TOTAL
Concrete Median-4"	SY	467	\$34.63	\$16,172	0	\$34.63	\$0
Type 7 Curb and Gutter	LF	3,364	\$15.95	\$53,656	0	\$15.95	\$0
GAB-12" Inc. mat'l	SY	16,899	\$15.39	\$260,076	16,763	\$15.39	\$257,983
12.5 mm Superpave	TN	2,163	\$85.00	\$183,855	2,229	\$85.00	\$189,465
19mm Superpave	TN	4,510	\$76.00	\$342,760	4,598	\$76.00	\$349,448
25mm Superpave	TN	8,427	\$60.74	\$511,856	8,603	\$60.74	\$522,546
ROW - Commercial	SF	44,000	\$10.00	\$440,000	26,400	\$10.00	\$264,000
<b>Sub-total</b>				\$1,808,375			\$1,583,442
<b>Mark-up at 10.00%</b>				\$180,837			\$158,344
<b>TOTAL</b>				<b>\$1,989,212</b>			<b>\$1,741,786</b>
<b>Estimated Savings:</b>							<b>\$247,426</b>

Revised Cost Worksheet 2 (Removal of R/W Cost Savings):

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
ITEM	UNITS	NO. OF UNITS	COST/UNIT	TOTAL	NO. OF UNITS	COST/UNIT	TOTAL
Concrete Median-4"	SY	467	\$34.63	\$16,172	0	\$34.63	\$0
Type 7 Curb and Gutter	LF	3,364	\$15.95	\$53,656	0	\$15.95	\$0
GAB-12" Inc. mat'l	SY	16,899	\$15.39	\$260,076	16,763	\$15.39	\$257,983
12.5 mm Superpave	TN	2,163	\$85.00	\$183,855	2,229	\$85.00	\$189,465
19mm Superpave	TN	4,510	\$76.00	\$342,760	4,598	\$76.00	\$349,448
25mm Superpave	TN	8,427	\$60.74	\$511,856	8,603	\$60.74	\$522,546
ROW - Commercial (N/A)	SF	0	\$10.00	\$0	0	\$10.00	\$0
<b>Sub-total</b>				\$1,368,375			\$1,319,442
<b>Mark-up at 10.00%</b>				\$136,837			\$131,944
<b>TOTAL</b>				<b>\$1,505,212</b>			<b>\$1,451,386</b>
<b>Estimated Savings:</b>							<b>\$53,826</b>

Alternative RD-11

Current Section Under I-75 SB Bridge

(Clear Span under current bridge design is 116' Face of Column to Face of Column)

TO FACE OF COLUMN	CURB AND GUTTER	BIKE LANE	TRAVEL LANE	TRAVEL LANE	MEDIAN/ LEFT TURN LANE	TRAVEL LANE	TRAVEL LANE	BIKE LANE	RIGHT TURN LANE	CURB AND GUTTER	TO FACE OF COLUMN
11'-6"	2'-6"	4'-0"	12'-0"	12'-0"	20'-0"	12'-0"	12'-0"	4'-0"	12'-0"	2'-6"	11'-6"

The future addition of a turn lane under this bridge would result in the following section:

TO FACE OF COLUMN	CURB AND GUTTER	BIKE LANE	TRAVEL LANE	TRAVEL LANE	ADDITIONAL TURN LANE	MEDIAN/ LEFT TURN LANE	TRAVEL LANE	TRAVEL LANE	BIKE LANE	RIGHT TURN LANE	CURB AND GUTTER	TO FACE OF COLUMN
5'-6"	2'-6"	4'-0"	12'-0"	12'-0"	12'-0"	20'-0"	12'-0"	12'-0"	4'-0"	12'-0"	2'-6"	5'-6"

Current Section Under I-75 NB Bridge

(Clear Span under current bridge design is 104' Face of Column to Face of Column)

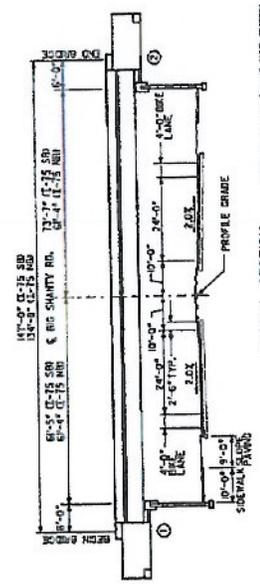
TO FACE OF COLUMN	CURB AND GUTTER	BIKE LANE	TRAVEL LANE	TRAVEL LANE	MEDIAN/ LEFT TURN LANE	TRAVEL LANE	TRAVEL LANE	BIKE LANE	CURB AND GUTTER	TO FACE OF COLUMN
11'-6"	2'-6"	4'-0"	12'-0"	12'-0"	20'-0"	12'-0"	12'-0"	4'-0"	2'-6"	11'-6"

The future addition of a turn lane under this bridge would result in the following section:

TO FACE OF COLUMN	CURB AND GUTTER	BIKE LANE	TRAVEL LANE	TRAVEL LANE	MEDIAN/ LEFT TURN LANE	TRAVEL LANE	TRAVEL LANE	BIKE LANE	ADDITIONAL TURN LANE	CURB AND GUTTER	TO FACE OF COLUMN
5'-6"	2'-6"	4'-0"	12'-0"	12'-0"	20'-0"	12'-0"	12'-0"	4'-0"	12'-0"	2'-6"	5'-6"

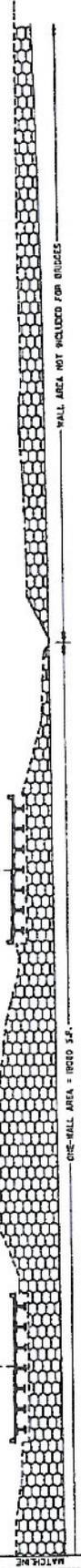
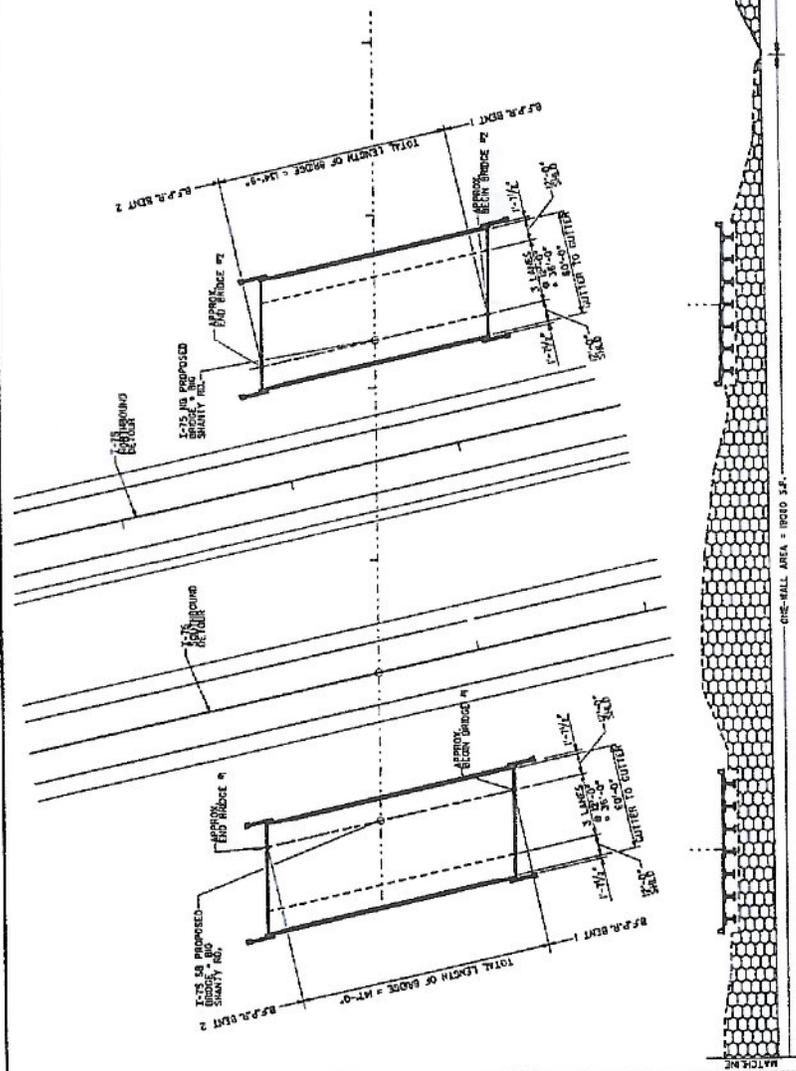
\*If necessary, sidewalks or a multi-use trail could be moved to the outside of the columns with the addition of knee walls in the slope paving.

DATE	PROJECT NUMBER	SCALE
04/11/08	555TP-0006-0006E	



TYPICAL SECTION NOTE: ADD. 12'-0" LANE NOT SHOWN

ONE-WALL AREA FOR EACH BRIDGE = 9540 SF.  
 WALL AREA FOR EACH BRIDGE @ BOTH END BENTS = 1800 SF.  
 WALL AREA FOR BOTH BRIDGES = 3000 SF.  
 TOTAL AREA OF WALLS, INCL. NON-BRIDGE WALLS = 4830 SF.



BRIDGE NO. - 118.2



DEPARTMENT OF TRANSPORTATION  
 PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

VE, I-75 NB & SB  
 OVER BIG SHANTY CONNECTOR

COBB COUNTY CS55TP-0006-0018691



DESIGNED BY	APPROVED	BRIDGE SHEET
REVIEWED BY	DESIGN GROUP	NO. 1
DATE	SCALE	REVISIONS
04/11/08	AS SHOWN	REVISIONS

**Cost Estimate**  
**Bridge NB Over I-75**  
**3 Span**  
**BT 54/PSC I---Endroll**

Project : 05512 I-75 Over Big Shanty Connector  
 Project Number : CSSTP-0006-00(069)  
 Made By : HHD Date : 04-Dec-08  
 Checked By : - Date : -

Tag	Pay Item	Description	Quantity	Unit	Unit Cost	Cost
48	207-0203	FOUND BK FILL MATL, TP II	27	CY	\$50.05	\$1,351
59	211-0200	BRIDGE EXCAVATION, GRADE SEPARATION	288	CY	\$35.76	\$10,299
142	441-0004	CONC SLOPE PAV, 4 IN	600	SY	\$47.62	\$28,572
202	500-0100	GROOVED CONCRETE	1306	SY	\$4.05	\$5,289
203	500-1006	SUPERSTR CONCRETE, CL AA, BR NO -	392	LS	\$833.50	\$326,732
205	500-2100	CONCRETE BARRIER	393	LF	\$40.99	\$16,109
207	500-3002	CLASS AA CONCRETE	299	CY	\$533.26	\$159,445
224	507-9001	PSC BEAMS, AASHTO TYPE I, BR NO -	627	LF	\$98.14	\$61,534
229	507-9031	PSC BEAMS, AASHTO, BULB TEE, 63 IN, BR NO -	1169	LF	\$181.62	\$212,314
232	511-1000	BAR REINF STEEL	42203	LB	\$0.85	\$35,873
233	511-3000	SUPERSTR REINF STEEL, BR NO -	47424	LS	\$0.89	\$42,207
234	514-1000	EPOXY COATED SUPERSTR REINF STEEL, BR NO -	44727	LS	\$1.02	\$45,622
245	520-1125	PILING IN PLACE, STEEL H, HP 12 X 53	1240	LF	\$53.81	\$66,724
247	520-1147	PILING IN PLACE, STEEL H, HP 14 X 73	1220	LF	\$63.64	\$77,641
265	520-4125	LOAD TEST, STEEL H, HP 12 X 53	1	EA	\$0.90	\$1
267	520-4147	LOAD TEST, STEEL H, HP 14 X 73	1	EA	\$0.90	\$1
285	522-1000	SHORING	1	LS	\$121,892.50	\$121,893

Bridge Sub Total = \$1,211,606  
 Deck Area Per Side (sq ft) = BL (BW) = 8518  
 Unit Cost (\$ / sq ft) = \$142

5% Mobilization \$60,580  
 5% MOT \$60,580  
 2% Contingency \$24,232

**Total Bridge Cost = \$1,356,998**

**Cost Estimate**  
 Bridge NB over I-75  
 1 Span  
 BT 72--Wall

Project : 05572 I-75 Over Big Shanty Connector  
 Project Number : CSSTP-0008-00(069)  
 Made By : HHD Date : 04-Dec-08  
 Checked By : - Date : -

Tag	Pay Item	Description	Quantity	Unit	Unit Cost	Cost
202	500-0100	GROOVED CONCRETE	1255	SY	\$4.05	\$5,081
203	500-1006	SUPERSTR CONCRETE, CL AA, BR NO -	227	LS	\$833.50	\$188,930
205	500-2100	CONCRETE BARRIER	269	LF	\$40.99	\$11,040
207	500-3002	CLASS AA CONCRETE	29	CY	\$533.26	\$15,685
230	507-9032	PSC BEAMS, AASHTO, BULB TEE, 72 IN, BR NO -	1212	LF	\$194.20	\$235,370
232	511-1000	BAR REINF STEEL	4324	LB	\$0.85	\$3,675
233	511-3000	SUPERSTR REINF STEEL, BR NO -	61654	LS	\$0.89	\$54,872
247	520-1147	PILING IN PLACE, STEEL H, HP 14 X 73	540	LF	\$63.64	\$34,366
285	522-1000	SHORING	1	LS	\$121,892.50	\$121,893
505	627-1020	MSE WALL FACE, 20 - 30 FT HT, WALL NO -	19080	SF	\$45.76	\$873,101
<b>Bridge Sub Total =</b>						<b>\$1,544,013</b>
Deck Area Per Side (sq ft) = BL (BW) =						8518
Unit Cost (\$ / sq ft) =						\$181
5% Mobilization						\$77,201
5% MOT						\$77,201
2% Contingency						\$30,880
<b>Total Bridge Cost =</b>						<b>\$1,729,296</b>

**Cost Estimate**  
**Bridge SB over I-75**  
**3 Span**  
**BT 63/PSC I & II—Endroll**

Project : 05512 I-75 Over Big Shanty Connector  
 Project Number : CSSTP-0006-00(069)  
 Made By : HHD Date : 04-Dec-08  
 Checked By : - Date : -

Tag	Pay Item	Description	Quantity	Unit	Unit Cost	Cost
48	207-0203	FOUND BK FILL MATL, TP II	27	CY	\$50.05	\$1,351
59	211-0200	BRIDGE EXCAVATION, GRADE SEPARATION	272	CY	\$35.76	\$9,727
142	441-0004	CONC SLOPE PAV, 4 IN	940	SY	\$47.62	\$44,763
202	500-0100	GROOVED CONCRETE	1534	SY	\$4.05	\$6,213
203	500-1006	SUPERSTR CONCRETE, CL AA, BR NO -	464	LS	\$833.50	\$386,744
205	500-2100	CONCRETE BARRIER	464	LF	\$40.99	\$19,019
207	500-3002	CLASS AA CONCRETE	309	CY	\$533.28	\$164,777
224	507-9001	PSC BEAMS, AASHTO TYPE I, BR NO -	342	LF	\$98.14	\$33,564
225	507-9002	PSC BEAMS, AASHTO TYPE II, BR NO -	447	LF	\$123.35	\$55,137
229	507-9031	PSC BEAMS, AASHTO, BULB TEE, 63 IN, BR NO -	1326	LF	\$181.62	\$240,828
232	511-1000	BAR REINF STEEL	45345	LB	\$0.85	\$38,543
233	511-3000	SUPERSTR REINF STEEL, BR NO -	54329	LS	\$0.89	\$48,353
234	514-1000	EPOXY COATED SUPERSTR REINF STEEL, BR NO -	52561	LS	\$1.02	\$53,612
245	520-1125	PILING IN PLACE, STEEL H, HP 12 X 53	1110	LF	\$53.81	\$59,729
247	520-1147	PILING IN PLACE, STEEL H, HP 14 X 73	700	LF	\$63.64	\$44,548
265	520-4125	LOAD TEST, STEEL H, HP 12 X 53	1	EA	\$0.90	\$1
267	520-4147	LOAD TEST, STEEL H, HP 14 X 73	1	EA	\$0.90	\$1
285	522-1000	SHORING	1	LS	\$121,892.50	\$121,893

Bridge Sub Total = \$1,328,803  
 Deck Area Per Side (sq ft) = BL (BW) = 15054  
 Unit Cost (\$ / sq ft) = \$88

5% Mobilization \$66,440  
 5% MOT \$66,440  
 2% Contingency \$26,576

**Total Bridge Cost = \$1,488,259**

**Cost Estimate**  
**Bridge SB over I-75**  
**1 Span**  
**BT 74--Wall**

Project : 05512 I-75 Over Big Shanty Connector  
 Project Number : CSSTP-0006-00(069)  
 Made By : HHD Date : 04-Dec-08  
 Checked By : - Date : -

Tag	Pay Item	Description	Quantity	Unit	Unit Cost	Cost
202	500-0100	GROOVED CONCRETE	1334	SY	\$4.05	\$5,403
203	500-1006	SUPERSTR CONCRETE, CL AA, BR NO -	247	LS	\$833.50	\$206,230
205	500-2100	CONCRETE BARRIER	294	LF	\$40.99	\$12,051
207	500-3002	CLASS AA CONCRETE	29	CY	\$533.28	\$15,685
231	507-9033	PSC BEAMS, AASHTO, BULB TEE, 74 IN, BR NO -	1323	LF	\$242.05	\$320,232
232	511-1000	BAR REINF STEEL	4324	LB	\$0.85	\$3,675
233	511-3000	SUPERSTR REINF STEEL, BR NO -	67300	LS	\$0.89	\$59,897
247	520-1147	PILING IN PLACE, STEEL H, HP 14 X 73	540	LF	\$63.84	\$34,366
285	524-0500	DEMONSTRATION TEST, CAISSON -	1	EA	\$121,892.50	\$121,893
505	627-1020	MSE WALL FACE, 20 - 30 FT HT, WALL NO -	19080	SF	\$45.76	\$873,101
<b>Bridge Sub Total =</b>						<b>\$1,652,532</b>
Deck Area Per Side (sq ft) = BL (BW) =						9298
Unit Cost (\$ / sq ft) =						\$178
5% Mobilization						\$82,627
5% MOT						\$82,627
2% Contingency						\$33,051
<b>Total Bridge Cost =</b>						<b>\$1,850,837</b>