Value Engineering Study Report

Project CSSTP-0006-00(869)
P.I. No. – 0006869
Big Shanty Road Connector
Cobb County

Value Management Team

Design Team

October 30, 2008

October 30, 2008

Ms. Lisa Myers
Design Review Engineer Manager/VE Coordinator
Georgia Department of Transportation-Engineering Services
One Georgia Center
600 W. Peachtree Street NW
Atlanta, GA 30308

RE: Submittal of the final Value Engineering Report
Project No.: CSSTP-0006-00(869)
P.I. No.: 0006869
Big Shanty Road Connector
PBS&J Project Task Order No. 31

Dear Ms. Myers:

Please find enclosed two (2) hard copies and one (1) CD of our final Value Engineering Report for the Big Shanty Road connector between George Busbee Parkway and Barrett Lakes Blvd.

This Value Engineering Study, which was performed during the period October 14 through October 17, 2008, identified **8** ***Alternative Ideas*** which **are recommended for implementation**. The VE team also identified **2** ***Design*** **Suggestions** which are recommended for the engineer to consider in his final design. We believe that the ***Alternative Ideas*** recommended may have a significant positive affect on the project.

We trust that you will find this report to be in proper order. It should be noted that the results of this workshop are volatile in that they can be overcome by the events that accompany the expeditious continuance of the design process. Accordingly, we encourage an equally expeditious implementation meeting to design the disposition of the contents of this report.

On behalf of our VE Team, we thank you very much for this opportunity to work with you and the hard working staff of the Georgia Department of Transportation.

Yours truly,
PBS&J

Les M. Thomas, P.E., CVS-Life
VE Team Leader

Randy S. Thomas, CVS
Assistant Team Leader

Value Engineering Study Report

Project – CSSTP-0006-00(869)
P.I. No. 0006869
Big Shanty Road Connector
Cobb County

Table of Contents

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

This report summarizes the analysis and conclusions by the PBS&J Value Engineering workshop team as they performed a VE study during the period of October 14 – October 17, 2008 in Atlanta, at the offices of the Georgia Department of Transportation. The subject of the Value Engineering study was the Big Shanty Road Connector in Cobb County Project: CSSTP-0006-00(869) – P.I. No.: 0006869. The concept design for the project has been prepared by Croy Engineering. At the time of the workshop the plans are ready for final field review.

PROJECT DESCRIPTION & PHOTOS

This project begins at Barrett Lakes Blvd., crosses under I-75 and ends at the George Busby Parkway connecting to the existing Big Shanty Road. The proposed roadway consists of 4 lanes; 2 in each direction separated by a 20' raised median, bike lanes, curb and gutters, and sidewalks on both sides. Major structures on the project are two new grade separation bridges under I-75. The purpose of the project is to improve east-west traffic in this corridor.

The main traffic generators are Kennesaw State College and the Town Center Mall. The estimated construction cost is $7,980,582, right-of-way is $5,145,485, and $2,168,770 reimbursable utilities, for a total project cost estimated to be $15,295,107.

Photos taken by the VE Team on their site inspection can be found on the next page.

This project is rather fully described in the documentation that is located in Tabbed section of this report, entitled ***Project Description.***

PROJECT CONCERNS AND OBJECTIVES

Some of the information from the concept report and the designer's presentation indicated the following important points about the project:

- Project design is ready for a final field review and due to be let in April of 2009
- A children's day care center (Kids R Kids) is slated for displacement
- A children's medical center will lose property slated for parking and future expansion
- Provide increased east-west traffic capacity in project corridor
- Routing existing stormwater across the project
- Accommodate probable new HOV or HOT intersection with Big Shanty Connector

VALUE ENGINEERING PROCESS

The Value Engineering team followed the seven step Value Engineering job plan as promulgated by the Georgia Department of Transportation. This seven step job plan includes the following:

- Investigative
- Analysis
- Speculation
- Evaluation
- Development
- Recommendation
- Presentation

This report is a component of the Presentation Phase. As part of the VE workshop in Atlanta, the team made an informal presentation of their results on the last morning of the workshop. This report is intended to formalize the workshop results and set the stage for a formal implementation meeting in which alternatives and design suggestions will typically be accepted, accepted with modifications, or rejected for cause. The worksheet that follows, along with the formally developed alternatives and design suggestions can be used as a "score sheet" for the implementation meeting. It is also included in this report to identify, on a summary basis, the results of the workshop. The reader is encouraged to visit the third tabbed section of this report entitled ***Study Results*** for a review of the details of the developed alternatives. The tabbed section ***Project Description*** includes information about the project itself and the tabbed section ***Value Engineering Process*** presents the detail process of the Value Engineering Study.

CONCLUSIONS AND RECOMMENDATIONS

During the speculation phase the VE Team identified ***28 Alternative Ideas*** and ***2 Design Suggestions*** that appeared to hold potential for reducing the construction cost, improving the end product and/or reducing the difficulty and time of project construction.

After the evaluation phase was completed, ***8 Alternative Ideas*** remained for further consideration. These Alternative Ideas and the 2 Design Suggestions may be found, in their documented form, in the section of this report entitled ***Study Results***.

The following ***Summary of Alternatives and Design Suggestions*** coupled with the documentation of the developed alternatives should provide the reader with the information required to fully evaluate the merits of each of the alternatives.

Summary of Alternatives & Design Suggestions

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869)
Big Shanty Road Connector - Cobb County

SHEET NO.: **1** of **1**

ALTERNATIVE NUMBER	DESCRIPTION OF ALTERNATIVE	INITIAL COST SAVINGS
	BRIDGE (BR)	
BR-1	Use MSE wall abutments	$304,642
BR-2	Change the vertical clearance from 17'6" to 17'0""	DS
BR-7	Reduce number of beams	$34,844
	ROADWAY (RD)	
RD-5	Use a multi-use trail on one side only	$282,137
RD-8	Delete the bike lanes	$282,137
RD-9	Use two-way left turn lane	$422,758
RD-10	Reduce shoulders to 12'	$96,800
RD-11	Increase clear span under both bridges by 12' to provide for future HOT access	$3,284,959
	RIGHT-OF-WAY (ROW)	
ROW-3	Allow for the construction of basin #2 in the most southerly corner of the site	DS
	DRAINGAGE (DR)	
DR-5	Modify drainage structures at Sta. 60+88 +/-	$38,544

Study Results

Study Results

Introduction

This section includes the study results presented in the form of fully developed value engineering alternatives that include descriptions of the original design, description of the alternative design configurations, comments on the technical justifications, opportunities and risks associated with the alternatives, sketches, calculations and technical justification for these alternatives. For the most part, these fully developed alternatives represent an array of choices that clearly could have an impact on the eventual cost and performance of the finished project.

Also included here are photographs of the project site taken by the VE Team.

This introductory sheet is followed by a ***Summary of Alternatives and Design Suggestions***. It should be noted that the alternatives that are included, which have cost estimates attached are not necessarily representative of the final cost outcome for each alternative. Some of these alternatives have components that are mutually exclusive so they may not be added together.

The users of this report are asked to consider these alternatives and design suggestions as a smorgasbord of choices for selection and use as the project moves forward. The enclosed ***Summary of Alternatives & Design Suggestions*** may also be used as a "score sheet" within the bounds of an implementation meeting.

Cost Calculations

The cost calculations are intended only as a guide to the approximate results that might be expected from implementation of the alternatives. They should be helpful in making clear choices as to the pursuit of individual alternatives.

The composite mark-up of 10% for the construction cost comparisons was derived from the cost estimate for the project. This estimate can be found in the section of this report entitled ***Project Description.***

Big Shanty Road Connector

Project: CSSTP-0006-00(869)

P.I. No. 0006869

- Big Shanty Road looking towards George Busbee Parkway

- Barrett Lakes Blvd. looking across to where Big Shanty Rd. will cross under I-75

Big Shanty Road Connector

Project: CSSTP-0006-00(869)

P.I. No. 0006869

- Parking lot at the Children's Health Center that will be impacted

- Current intersection of George Busbee Parkway and Big Shanty Road

Summary of Alternatives & Design Suggestions

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869)
Big Shanty Road Connector - Cobb County

SHEET NO.: **1** of **1**

ALTERNATIVE NUMBER	DESCRIPTION OF ALTERNATIVE	INITIAL COST SAVINGS
	BRIDGE (BR)	
BR-1	Use MSE wall abutments	$304,642
BR-2	Change the vertical clearance from 17'6" to 17'0""	DS
BR-7	Reduce number of beams	$34,844
	ROADWAY (RD)	
RD-5	Use a multi-use trail on one side only	$282,137
RD-8	Delete the bike lanes	$282,137
RD-9	Use two-way left turn lane	$422,758
RD-10	Reduce shoulders to 12'	$96,800
RD-11	Increase clear span under both bridges by 12' to provide for future HOT access	$3,284,959
	RIGHT-OF-WAY (ROW)	
ROW-3	Allow for the construction of basin #2 in the most southerly corner of the site	DS
	DRAINGAGE (DR)	
DR-5	Modify drainage structures at Sta. 60+88 +/-	$38,544

Value Analysis Design Alternative

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **BR-1**

DESCRIPTION: **Use MSE wall abutments**

SHEET NO.: **1** of **5**

Original Design:

The original design is a pair of 3 span bridges with the end rolls on each end

Alternative:

The alternative design is to use MSE wall abutments with two, single span bridges without intermediate bents

Opportunities:

- Reduce area of bridge construction
- Reduce Construction Time
- Cost Savings

Risks:

- Requires slightly more shoring
- May require Bulb Tee 72 IN

Technical Discussion:

The square foot bridge cost is approximately 60% higher than the cost of the MSE walls. Using MSE walls will require that the span over Big Shanty Road (Span 2 in current design) be increased to accommodate the offset of 6 feet behind the wall. With the current geometry this will increase the span approximately 8 feet and may require a Bulb Tee 72, PSC beam. MSE wall construction will likely take less time than the intermediate bent construction and less superstructure reduces overall construction time.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN (shoring included)	$ 3,057,123	$ 0	$ 3,057,123
ALTERNATIVE (shoring included)	$ 2,752,481	$ 0	$ 2,752,481
SAVINGS	$ 304,642	$ 0	$ 304,642

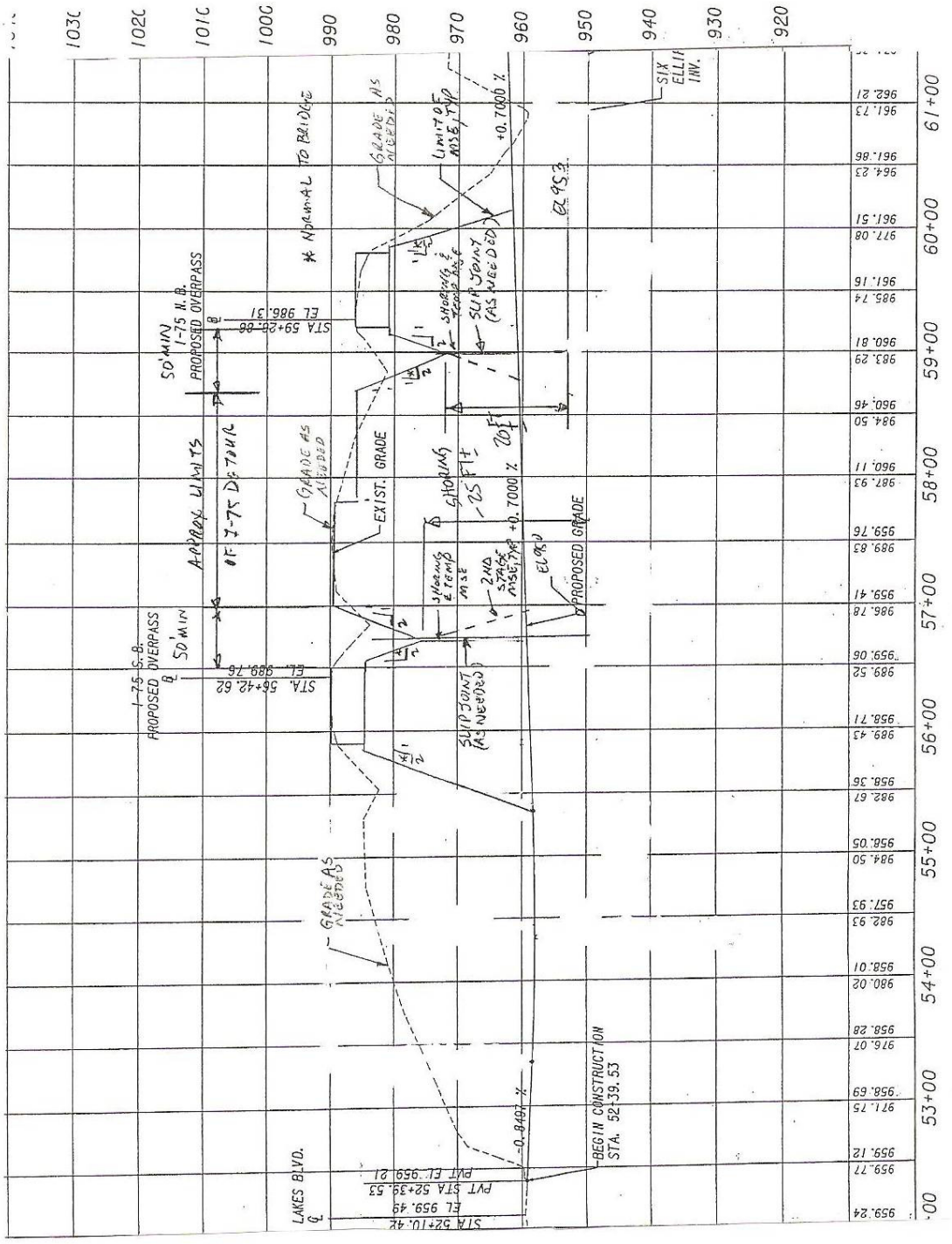
Illustration

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **BR-1**

DESCRIPTION: **Use MSE Walled Abutments**

SHEET NO.: **2** of **5**



PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **BR-1**

DESCRIPTION: **Use MSE Walled Abutments**

SHEET NO.: **3** of **5**

Area of Shoring

Assumptions: 1) Temporary slopes are 2:1
2) Shoring runs full length of bridge

Bridge 1 Max Ht 25

with MSE walls	Bridge Length	238	
	MSE wall area	60	
	2:1 Backslope	100	
	Length	398	
		995	
	Area	0	
w/o MSE walls	Bridge Length	238	
	MSE wall area	0	
	2:1 Backslope	100	
	Length	338	
		845	
	Area	0	

Bridge 2 Max Ht 20

with MSE walls	Bridge Length	200	
	MSE wall area	48	
	2:1 Backslope	80	
	Length	328	
		656	
	Area	0	
w/o MSE walls	Bridge Length	200	
	MSE wall area	0	
	2:1 Backslope	80	
	Length	280	
		560	
	Area	0	

Area of MSE Wall

Bridge 1

Skew Angle	77.609		Bridge Width (includes side berms)	75.25
Wall Height	30		Skewed Width	77
		231		
Area of Under Bridge		1	Temp MSE wall	
		184		
Wings		3		
		415		
Total		4	1800	
		x		
		2	% of Perm	0.22
		830		
		9		

Bridge 2

Skew Angle	77.555		Bridge Width (includes side berms)	75.25
Wall Height	24		Skewed Width	77
		184		
Area of Under Bridge		9	Temp MSE wall	
		118		
Wings		0		
		302		
Total		9	1152	
		x		
		2	% of Perm	0.19
		605		
		8		

Add 10% to wall cost to account for temp walls

Cost Worksheet

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTTP-0006-00(869) P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **BR-1**

DESCRIPTION: **Use MSE Abutments - Bridge 1**

SHEET NO.: 4 of 5

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
IITEM	UNIT	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
Found Bkfill Matl, Tp II	CY	27	50	$ 1,352	0	50	$ -
Bridge Excavation, Grade Sep	CY	272	37	$ 9,966	0	37	$ -
Conc Slope Pav 4 IN	SF	820	46	$ 37,490	0	46	$ -
Grooved Concrete	SY	1,534	5	$ 7,394	870	5	$ 4,193
Superstr Concrete, Class AA	CY	464	771	$ 357,688	245	771	$ 188,866
Concrete Barrier	LF	464	41	$ 19,200	264	41	$ 10,924
Class AA Concrete	CY	309	515	$ 159,024	48	515	$ 24,703
PSC Beams, AASHTO Type I	LF	341	98	$ 33,398	0	98	$ -
PSC Beams, AASHTO Type II	LF	446	114	$ 50,710	0	114	$ -
PSC Beams, AASHTO Bulb Tee, 63	LF	1,326	181	$ 240,298	0	181	$ -
PSC Beams, ASSHTO Bulb Tee, 72	LF	0	194	$ -	1,202	194	$ 233,428
Bar Reinf Steel	LB	44,721	1	$ 38,013	7,531	1	$ 6,401
Superstr Reinf Steel	LB	54,329	1	$ 48,353	26,911	1	$ 23,951
Epoxy Coated Superstr Reinf Steel	LB	52,561	1	$ 55,189	27,000	1	$ 28,350
Piling In Place, Steel H, HP 12 x 53	LF	1,110	52	$ 57,764	0	52	$ -
Piling in Place, Steel H, HP 14 x 73	LF	690	64	$ 44,326	1,110	64	$ 71,306
Load Test, Steel H, HP 12 x 53	EA	1	1	$ 1	0	1	$ -
Load Test, Steel H, HP 14 x 73	EA	1	1	$ 1	1	1	$ 1
MSE Wall Face 20 - 30 ft ht	SF	0	50	$ -	8,309	50	$ 418,275
Coping, Type A	LF	0	71	$ -	400	71	$ 28,316
Shoring	SF	8,450	35	$ 295,750	9,950	35	$ 348,250
Sub-total				$ 1,455,917			$ 1,386,965
Mark-up at 10.00%				$ 145,592			$ 138,696
TOTAL				$ 1,601,509			$ 1,525,661
Estimated Savings:							$ 75,847

Cost Worksheet

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTTP-0006-00(869) P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **BR-1**

DESCRIPTION: **Use MSE Wall Abutments - Bridge 2**

SHEET NO.: **5** of **5**

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
IITEM	UNIT	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
Found Bkfill Matl, Tp II	CY	50	$ 50.09	$ 2,505	0	$ 50.09	$ -
Bridge Excavation, Grade Sep	CY	512	$ 36.64	$ 18,760	0	$ 36.64	$ -
Conc Slope Pav 4 IN	SF	688	$ 45.72	$ 31,455	0	$ 45.72	$ -
Grooved Concrete	SY	1,306	$ 4.82	$ 6,295	767	$ 4.82	$ 3,697
Superstr Concrete, Class AA	CY	392	$ 770.88	$ 302,185	222	$ 770.88	$ 171,135
Concrete Barrier	LF	393	$ 41.38	$ 16,262	238	$ 41.38	$ 9,848
Class AA Concrete	CY	375	$ 514.64	$ 192,990	60	$ 514.64	$ 30,878
PSC Beams, AASHTO Type I	LF	627	$ 97.94	$ 61,408	0	$ 97.94	$ -
PSC Beams, AASHTO Type II	LF	0	$ 113.70	$ -	0	$ 113.70	$ -
PSC Beams, AASHTO Bulb Tee, 63	LF	1,169	$ 181.22	$ 211,846	0	$ 181.22	$ -
PSC Beams, ASSHTO Bulb Tee, 72	LF	0	$ 194.20	$ -	1,056	$ 194.20	$ 205,075
Bar Reinf Steel	LB	46,989	$ 0.85	$ 39,941	9,413	$ 0.85	$ 8,001
Superstr Reinf Steel	LB	47,424	$ 0.89	$ 42,207	24,700	$ 0.89	$ 21,983
Epoxy Coated Superstr Reinf Steel	LB	44,727	$ 1.05	$ 46,963	24,185	$ 1.05	$ 25,394
Piling In Place, Steel H, HP 12 x 53	LF	1,240	$ 52.04	$ 64,530	0	$ 52.04	$ -
Piling in Place, Steel H, HP 14 x 73	LF	1,400	$ 64.24	$ 89,936	1,240	$ 64.24	$ 79,658
MSE Wall Face 20 - 30 ft ht	SF	0	$ 50.34	$ -	6,058	$ 50.34	$ 304,960
Coping, Type A	LF	0	$ 70.79	$ -	354	$ 70.79	$ 25,060
Shoring	SF	5,600	$ 35.00	$ 196,000	6,560	$ 35.00	$ 229,600
Sub-total				$ 1,323,283			$ 1,115,290
Mark-up at 10.00%				$ 132,328			$ 111,529
TOTAL				**$ 1,455,612**			**$ 1,226,819**
TOTALS FROM PAGE 4 OF 5				**$ 1,601,509**			**$ 1,525,661**
TOTAL BR-1				**$ 3,057,121**			**$ 2,752,480**
Estimated Savings:							$ 304,641

Value Analysis Design Suggestion

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.:	**BR-2**
DESCRIPTION:	**Reduce Minimum Vertical Clearance to 17'-0"**	SHEET NO.:	**1** of **1**

Original Design:

The original design calls for a minimum vertical clearance of 17'- 6", which occurs at Bridge 2.

Alternative:

The alternative would reduce the minimum vertical clearance to 17' – 0".

Opportunities:

- Improves condition at drain line C2-C1
- Reduction in unclassified excavation

Risks:

- Slightly less clearance for future overlay of Big Shanty
- Slight increase in excavation for bridge foundations
- No benefit unless it helps improve the project drainage

Technical Discussion:

At this site, with the interstate over a minor arterial, a 17'- 0" minimum vertical clearance appears reasonable. Reducing the clearance allows the grade of Big Shanty to be raised thus providing more cover at drainage line C2-C1 allowing more options for transporting the storm water, such as circular pipes or box culverts. Other design alternatives in this report present possible improvements to this drain line.

There is no advantage to raising the elevation of the bridge foundations, as the cost of longer piles offsets any reduction in column cost.

In addition to improvements at drain line C2-C1, raising the grade of Big Shanty results in cost savings by reducing unclassified excavation.

.

Value Analysis Design Alternative

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **BR-7**

DESCRIPTION: **Reduce Number of Beams**

SHEET NO.: **1** of **5**

Original Design:

The original design uses 9 beams at 7'-1 ½", in all spans on both bridges, with 3'-1 ½" overhangs.

Alternative:

The alternative reduces the number of beams in Span 2 on both bridges to 8 by increasing to 8'-0" and increasing the overhangs to 3'-7 ½".

Opportunities:

- Reduce number of beams
- Cost Savings

Risks:

- Thicker slab with slightly more reinf. steel
- Overhang in Spans 1 & 3 slightly greater than ½ the beams spacing

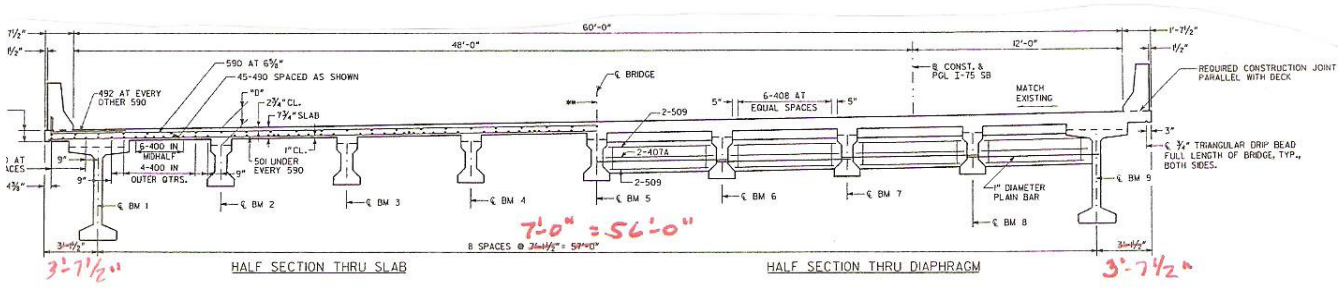
Technical Discussion:

The number of beams in Span 2 on both bridges can be reduced to 8 by increasing the spacing to 8'-0" and 3'-7 ½" overhangs. Based on GDOT PSC beam design charts the Bulb Tee 63 will span the required distance at 8'-0" spacing. In Spans 1 & 3 the wider beam spacing may not work without increasing the beam size but the same number of beams can be utilized at a spacing of 7'-0". The overhangs of 3'-7 ½" in these spans is slightly greater than the typical half of the beam spacing but with Bulb Tee 63 fascia beams this is acceptable.

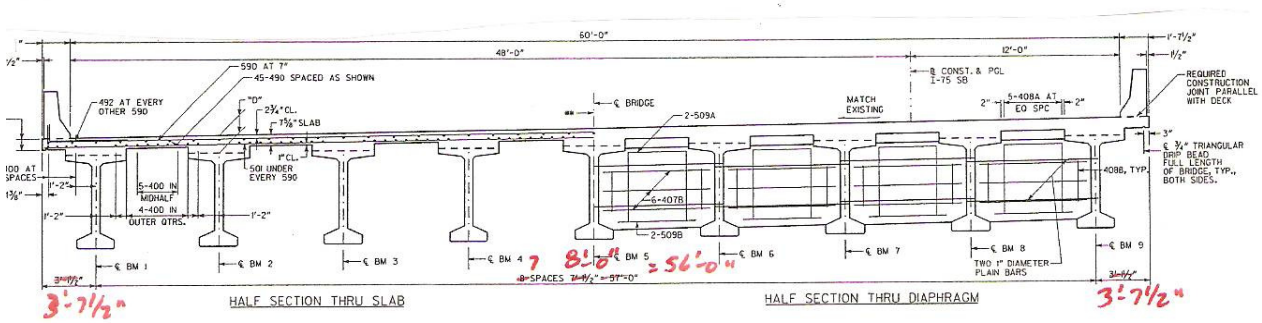
COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN (w/o shoring)	$ 2,516,198	$ 0	$ 2,516,198
ALTERNATIVE (w/o shoring)	$ 2,481,354	$ 0	$ 2,481,354
SAVINGS	$ 34,844	$ 0	$ 34,844

Illustration

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.:	**BR-7**
DESCRIPTION	**Reduce Number of Beams**	SHEET NO.:	**2** of **5**



SPAN 1 OR 3



SPAN 2

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **BR-7**

DESCRIPTION: **Reduce Number of Beams**

SHEET NO.: **3** of **5**

Bridge No. 1 Reduce No. Beams in Span 2; decrease spacing in Spans 1 & 3

Span 2

Bridge Width	63.25	Span Length	123	Add'l Conc.		6
Oh Width	3.625	Slab Thick	7.875	Rebar ratio		
					Plain	110
No. Beams	8	Original Thick	7.625		Epoxy	122
Spacing	8	Change	0.25	Add'l Rebar	P	660
					E	729
Orig. No. Beams	9	Change in No of beams	-1			
				Change in Beam LF		-122
		Beam Length	122.28			

Insignificant change in concrete and rebar in Spans 1 & 3.
No change is number of beams in these spans

Bridge No. 2 Reduce No. Beams in Span 2; decrease spacing in Spans 1 & 3

Span 2

Bridge Width	63.25	Span Length	110.67	Addl Conc		5
Oh Width	3.625	Slab Thick	7.875	Rebar ratio		
					Plain	110
No. Beams	8	Original Thick	7.625		Epoxy	122
Spacing	8	Change	0.25	Addl Rebar	P	594
					E	656
Orig. No. Beams	9	Change in No of beams	-1			
				Change in Beam LF		-110
		Beam Length	109.95			

Insignificant change in concrete and rebar in Spans 1 & 3.
No change is number of beams in these spans

Cost Worksheet

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTTP-0006-00(869) P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **BR-7**

DESCRIPTION: **Reduce Number of Beams - Bridge 1**

SHEET NO.: **4** of **5**

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
IITEM	UNIT	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
Found Bkfill Matl, Tp II	CY	27	$ 50.09	$ 1,352	27	$ 50.09	$ 1,352
Bridge Excavation, Grade Sep	CY	272	$ 36.64	$ 9,966	272	$ 36.64	$ 9,966
Conc Slope Pav 4 IN	SF	820	$ 45.72	$ 37,490	820	$ 45.72	$ 37,490
Grooved Concrete	SY	1534	$ 4.82	$ 7,394	1534	$ 4.82	$ 7,394
Superstr Concrete, Class AA	CY	464	$ 770.88	$ 357,688	470	$ 770.88	$ 362,314
Concrete Barrier	LF	464	$ 41.38	$ 19,200	464	$ 41.38	$ 19,200
Class AA Concrete	CY	309	$ 514.64	$ 159,024	309	$ 514.64	$ 159,024
PSC Beams, AASHTO Type I	LF	341	$ 97.94	$ 33,398	341	$ 97.94	$ 33,398
PSC Beams, AASHTO Type II	LF	446	$ 113.70	$ 50,710	446	$ 113.70	$ 50,710
PSC Beams, AASHTO Bulb Tee, 63	LF	1326	$ 181.22	$ 240,298	1204	$ 181.22	$ 218,189
Bar Reinf Steel	LB	44721	$ 0.85	$ 38,013	44721	$ 0.85	$ 38,013
Superstr Reinf Steel	LB	54329	$ 0.89	$ 48,353	54989	$ 0.89	$ 48,940
Epoxy Coated Superstr Reinf Steel	LB	52561	$ 1.05	$ 55,189	52640	$ 1.05	$ 55,272
Piling In Place, Steel H, HP 12 x 53	LF	1110	$ 52.04	$ 57,764	1110	$ 52.04	$ 57,764
Piling in Place, Steel H, HP 14 x 73	LF	690	$ 64.24	$ 44,326	690	$ 64.24	$ 44,326
Sub-total				$ 1,160,165			$ 1,143,352
Mark-up at 10.00%				$ 116,017			$ 114,335
TOTAL				**$ 1,276,182**			**$ 1,257,687**
Estimated Savings:							$18,495

Cost Worksheet

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **BR-7**

DESCRIPTION: **Reduce Number of Beams - Bridge 2**

SHEET NO.: **5** of **5**

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
IITEM	UNIT	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
Found Bkfill Matl, Tp II	CY	50	$ 50.09	$ 2,505	50	$ 50.09	$ 2,505
Bridge Excavation, Grade Sep	CY	512	$ 36.64	$ 18,760	512	$ 36.64	$ 18,760
Conc Slope Pav 4 IN	SF	688	$ 45.72	$ 31,455	688	$ 45.72	$ 31,455
Grooved Concrete	SY	1,306	$ 4.82	$ 6,295	1,306	$ 4.82	$ 6,295
Superstr Concrete, Class AA	CY	392	$770.88	$ 302,185	397	$ 770.88	$ 306,039
Concrete Barrier	LF	393	$ 41.38	$ 16,262	393	$ 41.38	$ 16,262
Class AA Concrete	CY	375	$514.64	$ 192,990	375	$ 514.64	$ 192,990
PSC Beams, AASHTO Type I	LF	627	$ 97.94	$ 61,408	627	$ 97.94	$ 61,408
PSC Beams, AASHTO Type II	LF	0	$113.70	$ -	0	$ 113.70	$ -
PSC Beams, AASHTO Bulb Tee, 63	LF	1,169	$181.22	$ 211,846	1,059	$ 181.22	$ 191,912
Bar Reinf Steel	LB	46,989	$ 0.85	$ 39,941	46,989	$ 0.85	$ 39,941
Superstr Reinf Steel	LB	47,424	$ 0.89	$ 42,207	48,018	$ 0.89	$ 42,736
Epoxy Coated Superstr Reinf Steel	LB	44,727	$ 1.05	$ 46,963	45,383	$ 1.05	$ 47,652
Piling In Place, Steel H, HP 12 x 53	LF	1,240	$ 52.04	$ 64,530	1,240	$ 52.04	$ 64,530
Piling in Place, Steel H, HP 14 x 73	LF	1,400	$ 64.24	$ 89,936	1,400	$ 64.24	$ 89,936
Sub-total				$ 1,127,283			$ 1,112,421
Mark-up at 10.00%				$ 112,728			$ 111,242
TOTAL				**$ 1,240,012**			**$ 1,223,663**
Bridge No. 2 Estimated Savings:							$ 16,348.57
Bridge No. 1 Estimated Savings:							$ 18,495.00
Total Estimated Savings:							$ 34,843.57

Value Analysis Design Alternative

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **DR-5**

DESCRIPTION: **Modify drainage structures at STA. 60+88 +/-**

SHEET NO.: **1** of **4**

Original Design:

The original design proposes using 6 runs of 24" x 38" elliptical pipe to convey drainage from an intermittent stream at approximate STA. 60+88.

Alternative:

The alternative proposes raising the grade of Big Shanty and using 30" RCP in fewer runs to convey the drainage underneath Big Shanty Connector.

Opportunities:

- Reduced construction time.
- Reduced costs for pipe.
- Reduces future maintenance risks.

Risks:

- Moderate design impacts.

Technical Discussion:

The alternative proposal seeks to use a larger diameter RCP with fewer runs than the original design. The use of elliptical pipe was necessitated by the need for vertical clearance, with the top of the drainage structure having one foot of cover to the bottom of the GAB base layer. The alternative seeks to raise the profile grade of the Big Shanty Connector by approximately 8 inches by flattening the vertical curve on Big Shanty over the proposed drainage structure. The clearance to the bottom beam of the NB I-75 bridge could be reduced to 17' from 17.5'. Thus, the elevation of the bridge would remain unchanged, and the profile grade of Big Shanty would be revised upward to allow for greater vertical clearance, opening the possibility of using RCP in lieu of elliptical pipe. For estimating purposes, 4 runs of 30"RCP were proposed in the alternative. A single 30"RCP @ 0.2% will carry+/- 17 CFS, giving the four runs a combined total capacity of 68 CFS. A more detailed hydrologic analysis will be required to verify the sufficiency of the alternative. The intent of the alternative is to use fewer runs of RCP pipe at a slightly steeper grade to allow for proper drainage of the basin, reducing future maintenance problems by reducing probability of increasing siltation, as well as reducing the prospects for a tailwater condition.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	$ 73,062	$ 0	$ 73,062
ALTERNATIVE	$ 34,518	$ 0	$ 34,518
SAVINGS	$ 38,544	$ 0	$ 38,544

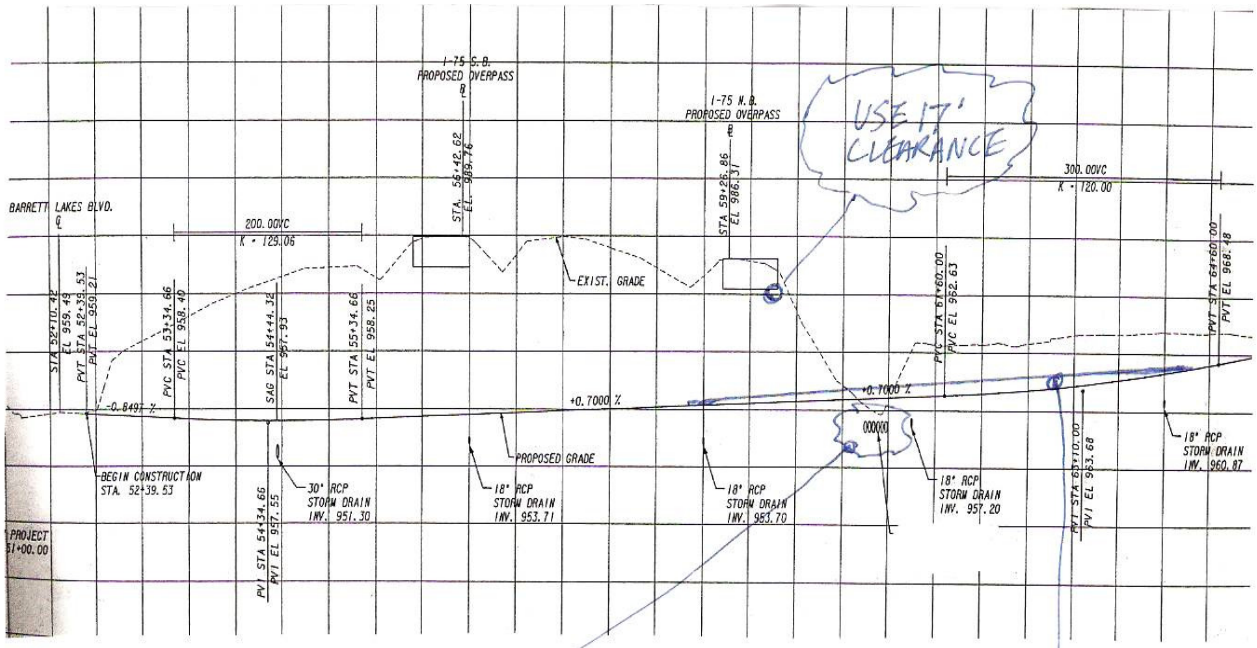
Illustration

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **DR-5**

DESCRIPTION: **Modify drainage structures at STA 60+88 +/-**

SHEET NO.: **2** of **4**



- USE 30" RCP EQUIVALENTS @ ± 0.2%.

- 30" R.C.P. @ 0.2% ≈ 17CFS CAPACITY /EACH.

- RAISE GRADE OF BIG SHANTY BY FLATTENING VERTICAL CURVE.

Calculations

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.:	**DR-5**
DESCRIPTION:	**Modify drainage structures at STA 60+88 +/-**	SHEET NO.:	**3** of **4**

Assumptions:

-Price of 24" x 38" elliptical pipe is estimated at $90.00/LF

-6 runs of pipe @123LF ea.=738LF pipe in original design (24"x 38" elliptical)

-4 runs of pipe @123LF ea.=492LF of 30" RCP in alternative design

Original Design:

738LF x $90.00/lf = $66,420

Alternative Design:

492LF x $63.78/LF = $31,380

Cost Worksheet

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **DR-5**

DESCRIPTION: **Modify drainage structures at STA 60+88 +/-**

SHEET NO.: **4** of **4**

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
550-1310-Storm Drain Pipe, 24"x 38" elliptical	LF	738	$ 90.00	$ 66,420	0	$ 90.00	
				$ -			$ -
550-1300-Storm Drain Pipe, 30"	LF	0	$ 63.78	$ -	492	$ 63.78	$ 31,380
Sub-total				$ 66,420			$ 31,380
Mark-up at 10.00%				$ 6,642			$ 3,138
TOTAL				**$ 73,062**			**$ 34,518**
Estimated Savings:							$38,544

Value Analysis Design Alternative

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-5**

DESCRIPTION: **Use multi-use trail on one side only.**

SHEET NO.: **1** of **4**

Original Design:

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.

Alternative:

The alternative would 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. Cost savings are calculated assuming removal of 4' bike lanes full build-up pavement costs only.

Opportunities:

- Reduced pavement costs.
- Reduced ROW costs.
- Reduced construction time.

Risks:

- Moderate design impacts.
- Creates need for crosswalks for logical access throughout the project.

Technical Discussion:

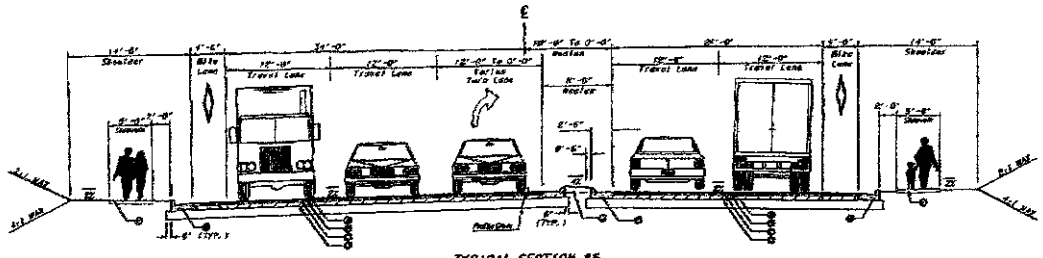
Construct multi-use trail on single side of Big Shanty Connector, incorporating sidewalks and bike lanes. Cost savings shown are for removal of the bike lanes from the mainline only. Additional costs will be incorporated by utilizing a single-side multi-use trail by having a wider footprint, and having to provide crosswalk access at two or more points throughout the project. These additional costs will be offset by the overall reduction in usage of concrete by providing a single path that is 9' wide as opposed to the original design, which calls for two 5' sidewalks and two 4' bike lanes.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	$ 3,809,714	$ 0	$ 3,809,714
ALTERNATIVE	$ 3,527,577	$ 0	$ 3,527,577
SAVINGS	$ 282,137	$ 0	$ 282,137

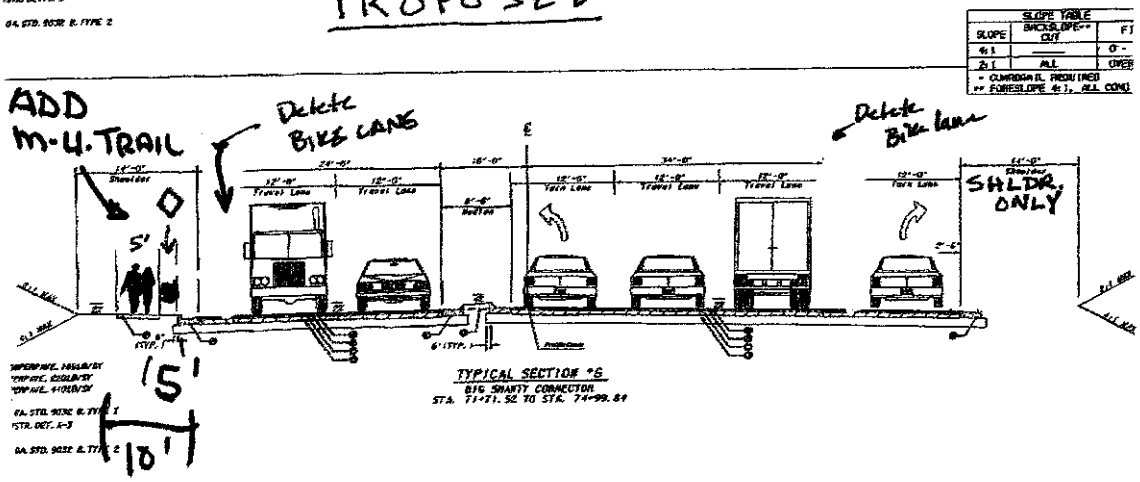
Illustration

PBS&J

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.: **RD-5**
DESCRIPTION:	**Use multi-use trail on one side only.**	SHEET NO.: **2** of **4**



PROPOSED



ALTERNATIVE

The alternative proposes to remove the 2-4' bike lanes and one side of sidewalk and replace with a single Multi-use trail which combines pedestrian and bike traffic. on a 10' MULTI-USE TRAIL

Assumptions- Remove bike lanes in entirety from project limits, STA 76+00-STA 51+00= 2,500 LF.

2,500 LF x 8'w/9=2,222.22 SY

-Unit costs derived from Cost Estimate report dated 8/26/2008. 12.5mm Superpave cost estimated at $85.00/ton.

- Construct multi-use trail on single side of Big Shanty Connector, incorporating sidewalks and bike lanes. Cost savings shown are for removal of the bike lanes from the mainline only. Additional costs will be incorporated by utilizing a single-side multi-use trail by having a wider footprint, and having to provide crosswalk access at two or more points throughout the project. These additional costs will be offset by the overall reduction in usage of concrete by providing a single path that is 10' wide as opposed to the original design, which calls for two 5' sidewalks and two 4' bike lanes.

GAB- 2,222.22 SY @ $15.39 SYCIP= **$34,199.97**

25mm Superpave- 2,222.22 SY @ 400lb/SY/2,000=444.44 Tons @ $60.74/ton= **$29,995.29**

19mm Superpave- 2,222.22 SY @ 250lb/SY/2,000=277.78 Tons @ $76.00/ton= **$21,111.28**

12.5mm Superpave- 2,222.22 SY @ 150lb/SY/2,000=166.67 Tons @ $85.00/ton= **$14,166.95**

R.O.W.-

STA 51+00-STA 55+00= 400LF x 8'w=3,200SF

STA 55+00-STA 60+00= Existing I-75 ROW

STA 60+00-STA 76+00= 1,600LF x 8'w=12,800SF

Total ROW= 16,000SF @ $10.00/SF per preliminary ROW estimate= **$160,000**

Cost Worksheet

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-5**

DESCRIPTION: **Use multi-use trail on one side only.**

SHEET NO.: **4** of **4**

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	$ 10.00	$ 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
12.5mm Superpave	TN	2,163	$ 85.00	$ 183,855	1,996	$ 85.00	$ 169,660
Sub-total				$ 3,463,377			$ 3,206,888
Mark-up at 10.00%				$ 346,338			$ 320,689
TOTAL				**$ 3,809,714**			**$ 3,527,577**
Estimated Savings:							$282,137

Value Analysis Design Alternative

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-8**

DESCRIPTION: **Delete bike lanes throughout project.**

SHEET NO.: **1** of **4**

Original Design:

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.

Alternative:

The alternative would delete the bike lanes from the project in its entirety.

Opportunities:

- Reduced pavement costs.
- Reduced R.O.W.

Risks:

- Moderate design impacts.
- No corridor for bike lanes for future tie-ins.

Technical Discussion:

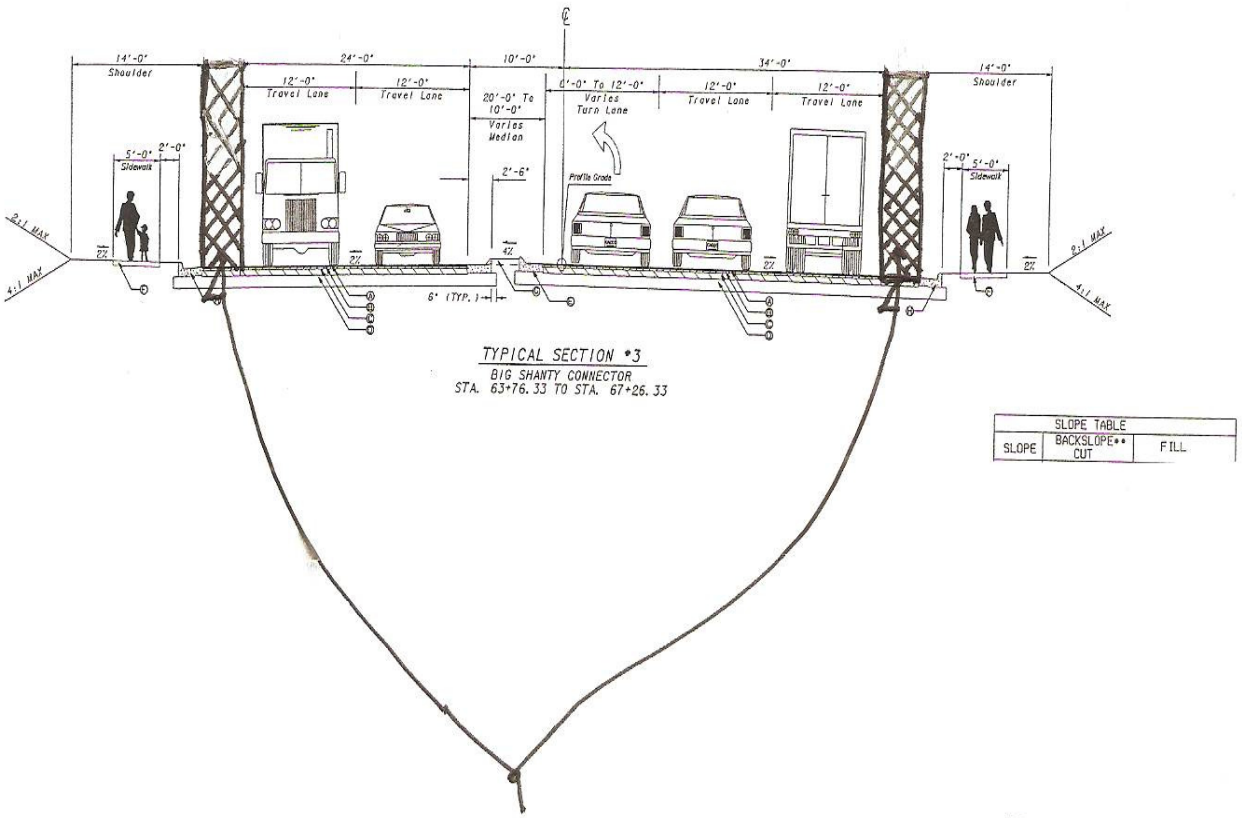
The alternative proposes to remove the bike lanes from the project entirely. There are no reciprocal bike lanes at either end of the logical termini on the east and west limits of the project, thus no continuous route will be constructed for thru bike traffic. The benefits of deleting bike lanes would include cost savings for pavement build-up, and less R.O.W. would be required. The identified risks of deleting the bike lanes would include the possibility of future widening on connecting routes to include a bike lane, leaving the present project without that alternative.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	$ 3,809,714	$ 0	$ 3,809,714
ALTERNATIVE	$ 3,527,577	$ 0	$ 3,527,577
SAVINGS	$ 282,137	$ 0	$ 282,137

Illustration

PBS&J

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.: **RD-8**
DESCRIPTION:	**Delete bike lanes throughout project.**	SHEET NO.: **2** of **4**



- DELETE BIKE LANES THROUGHOUT PROJECT.

Calculations

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.: **RD-8**
DESCRIPTION:	**DELETE BIKE LANES THROUGHOUT PROJECT.**	SHEET NO.: **3** of **4**

Assumptions- Remove bike lanes in entirety from project limits, STA 76+00-STA 51+00= 2,500 LF.

2,500 LF x 8'w/9=2,222.22 SY

-Unit costs derived from Cost Estimate report dated 8/26/2008. 12.5mm Superpave cost estimated at $85.00/ton.

GAB- 2,222.22 SY @ $15.39 SYCIP= **$34,199.97**

25mm Superpave- 2,222.22 SY @ 400lb/SY/2,000=444.44 Tons @ $60.74/ton= **$29,995.29**

19mm Superpave- 2,222.22 SY @ 250lb/SY/2,000=277.78 Tons @ $76.00/ton= **$21,111.28**

12.5mm Superpave- 2,222.22 SY @ 150lb/SY/2,000=166.67 Tons @ $85.00/ton= **$14,166.95**

R.O.W.-

STA 51+00-STA 55+00= 400LF x 8'w=3,200SF

STA 55+00-STA 60+00= Existing I-75 ROW

STA 60+00-STA 76+00= 1,600LF x 8'w=12,800SF

Total ROW= 16,000SF @ $10.00/SF per preliminary ROW estimate= **$160,000**

Cost Worksheet

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-8**

DESCRIPTION: **Delete bike lanes throughout project.**

SHEET NO.: **4** of **4**

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	$ 10.00	$ 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
12.5mm Superpave	TN	2,163	$ 85.00	$ 183,855	1,996	$ 85.00	$ 169,660
Sub-total				$ 3,463,377			$ 3,206,888
Mark-up at 10.00%				$ 346,338			$ 320,689
TOTAL				**$ 3,809,714**			**$ 3,527,577**
Estimated Savings:							$282,137

Value Analysis Design Alternative

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-9**

DESCRIPTION: **Use two-way left turn lane**

SHEET NO.: **1** of **4**

Original Design:

The original design calls for a 20-ft raised median.

Alternative:

The alternative is to use a 12-ft two-way left turn lane.

Opportunities:

- Reduce R/W width
- Reduce pavement costs
- Enhance access to abutting properties

Risks:

- Requires change of design and revision of plans

Technical Discussion:

This section of Big Shanty Road is only 2,100-ft long. The current design has one median opening. A second median opening will be created when the I-75 HOT ramp terminal intersection is constructed. The average spacing for median openings would be 700-ft at that time, which is relatively short. The benefits of using medians to smoothen traffic flows would gradually diminish when spacing of median openings reduces.

A two-way left turn lane would still provide a separation of opposing traffic. It would also enhance the access to adjoining properties.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	$ 2,001,436	$ 0	$ 2,001,436
ALTERNATIVE	$ 1,578,677	$ 0	$ 1,578,677
SAVINGS	$ 422,758	$ 0	$ 422,758

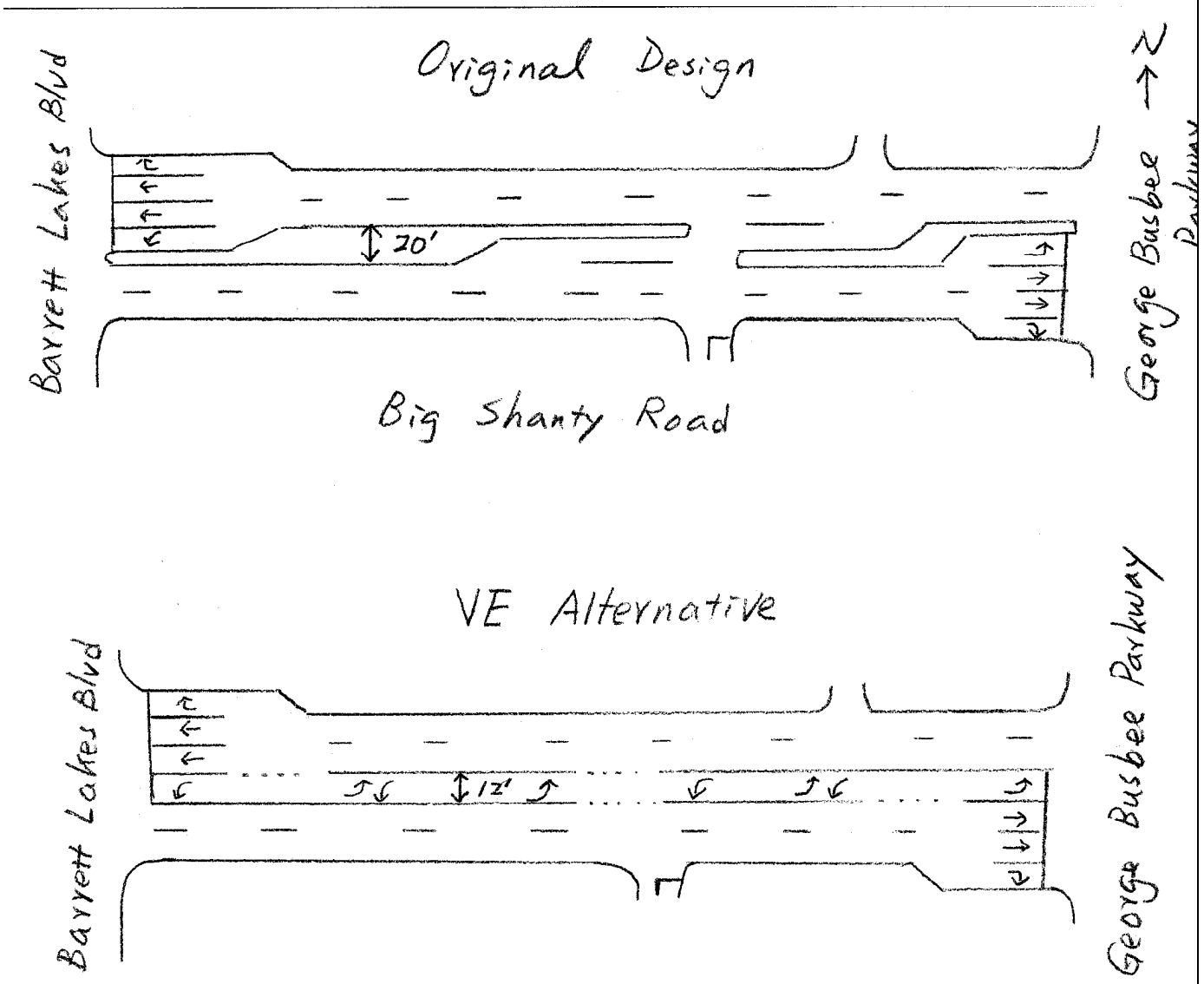
Illustration

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-9**

DESCRIPTION: **Use two-way left turn lane**

SHEET NO.: **2** of **4**



PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-9**

DESCRIPTION: **Use two-way left turn lane**

SHEET NO.: **3** of **4**

Original Design:

R/W space for the 20-ft median = 2,200-ft long x 20-ft wide = 44,000 SF

Concrete median area : Sta 53+00 to Sta 57+48 (448-ft x 3-ft = 1,344 SF)

Sta 63+76 to Sta 67+26 (350-ft x 3-ft = 1,050 SF)

Sta 68+21 to Sta 74 +25 (604-ft x 3-ft = 1,812 SF) total = 4,206 SF

Grass median area: Sta 57+48 to Sta 63+76 (628-ft x 15-ft = 9,420 SF)

Type 7 curb & gutter: Sta 53+00 to Sta 67+26 (1,426-ft x 2 sides = 2,852-ft)

Sta 68+21 to Sta 74+25 (604-ft x 2 sides = 1,208-ft) total = 4,060-ft

Type 7 curb and gutter area = 4,060-ft x 2.5-ft = 10,150 SF

Pavement area = 44,000 SF – 4,206 SF – 9,420 SF – 10,150 SF = 20,224 SF

VE Alternative:

R/W space for the 12-ft two-way left turn lane = 2,200-ft long x 12-ft wide = 26,400 SF

Pavement area for the 12-ft two-way left turn lane = 2,200-ft long x 12-ft wide = 26,400 SF

Cost Worksheet

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-9**

DESCRIPTION: **Use two-way left turn lane**

SHEET NO.: **4** of **4**

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	$ 16,184	0	$ 34.63	$ -
Type 7 Curb and Gutter	LF	4,060	$ 15.95	$ 64,757	0	$ 15.95	$ -
GAB -10" Inc. Mat'l	SY	16,899	$ 15.39	$ 260,076	13,966	$ 15.39	$ 214,937
12.5mm Superpave	TN	2,163	$ 85.00	$ 183,855	1,943	$ 85.00	$ 165,155
19.mm Superpave	TN	4,510	$ 76.00	$ 342,760	4,143	$ 76.00	$ 314,868
25.0mm Superpave	TN	8,427	$ 60.74	$ 511,856	7,840	$ 60.74	$ 476,202
ROW-Commercial	SF	44,000	$ 10.00	$ 440,000	26,400	$ 10.00	$ 264,000
Sub-total				$ 1,819,487			$ 1,435,161
Mark-up at 10.00%				$ 181,949			$ 143,516
TOTAL				**$ 2,001,436**			**$ 1,578,677**
Estimated Savings:							$422,758

Value Analysis Design Alternative

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-10**

DESCRIPTION: **Reduce shoulders to 12-ft.**

SHEET NO.: **1** of **4**

Original Design:

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.

Alternative:

The alternative is to use a 12-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 2.5-ft from back of sidewalk to R/W limit. The will save R/W space by 2-ft.

Opportunities:

- Reduce R/W acquisition

Risks:

- Reduced space for placing utility poles or larger signs.

Technical Discussion:

The space from the back of sidewalk to the R/W limit is normally used for placement of utility poles or larger highway signs. Where placements require additional space to tie the final grade to the existing ground, additional space beyond the 14-ft shoulder has been provided in the original design. The cost comparison below, simply assumed a reduction of 2-ft R/W space on both sides of Big Shanty Road across the board.

.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	$ 677,600	$ 0	$ 677,600
ALTERNATIVE	$ 580,800	$ 0	$ 580,800
SAVINGS	$ 96,800	$ 0	$ 96,800

Illustration

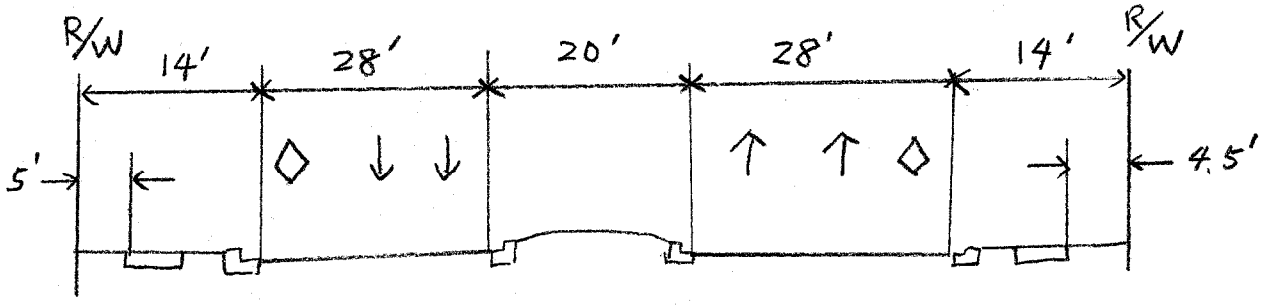
PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-10**

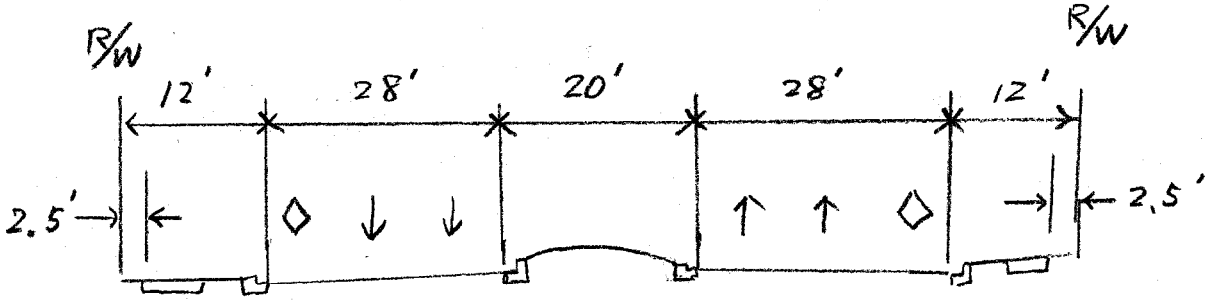
DESCRIPTION: **Reduce shoulders to 12-ft.**

SHEET NO.: **2** of **4**

Original Design



VE Alternative



Calculations

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.:	**RD-10**
DESCRIPTION:	**Reduce shoulders to 12-ft.**	SHEET NO.:	**3** of **4**

Original Design:

R/W space for the 14-ft shoulder = 2,200-ft long x 14-ft wide x 2 sides = 61,600 SF

VE Alternative:

R/W space for the 12-ft shoulder = 2,200-ft long x 12-ft wide x 2 sides = 52,800 SF

Cost Worksheet

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-10**

DESCRIPTION: **Reduce shoulders to 12-ft.**

SHEET NO.: **4** of **4**

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
R/W Acquisition	SF	61,600	$ 10	$ 616,000	52,800	$ 10	$ 528,000
Sub-total				$ 616,000			$ 528,000
Mark-up at 10.00%				$ 61,600			$ 52,800
TOTAL				**$ 677,600**			**$ 580,800**
Estimated Savings:							$96,800

Value Analysis Design Alternative

PBS&J

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.:	**RD-11**
DESCRIPTION:	**Increase clear span under both bridges by 12-ft to provide future HOT access**	SHEET NO.:	**1** of **5**

Original Design:

As shown in Figure 1, the original design uses the median on Big Shanty Road to provide a westbound left turn bay at the Barrett Lakes Boulevard intersection. The problem is that the beginning of the westbound left turn bay almost reaches the future HOT ramp terminal access intersection for the I-75 PPI project. There is no room in the median to provide an eastbound left turn bay at the HOT ramp terminal access intersection.

Alternative:

As illustrated in Figure 2, the 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.*

Opportunities:

- Minimize "throw away" of the I-75 bridges

Risks:

- Increase construction costs for the I-75 bridges

Technical Discussion:

As stated in the Project Concept Report, close coordination should be maintained between this project and the I-75 northwest corridor project (I-75 PPI) to minimize the "throw-away" work on the new I-75 bridges. When the I-75 PPI is constructed, the HOT ramp terminal access intersection on Big Shanty Road will be located at approximately 600-ft (center to center) from the Barrett Lakes Boulevard intersection. As the westbound left turn bay at the Barrett Lakes Boulevard intersection is already 450-ft long, there is no room in the median to provide an eastbound left turn bay at the HOT ramp terminal access intersection. Additional width on Big Shanty Road will be needed to provide the space for the eastbound left turn bay, which will trigger the reconstruction of the I-75 bridges. The VE alternative would increase the initial construction cost of the two bridges but would save the demolition and reconstruction of the two bridges.After the I-75 bridges are lengthened to provide the additional space underneath, Big Shanty Road could be constructed initially as currently designed. When the I-75 PPI project kicks in, they would have to acquire additional R/W and modify Big Shanty Road to provide the required left turn bays.

COST SUMMARY	INITIAL COST	PRESENT WORTH RECURRING COSTS	PRESENT WORTH LIFE-CYCLE COST
ORIGINAL DESIGN	$ 5,940,703	$ 0	$ 5,940,703
ALTERNATIVE	$ 2,655,744	$ 0	$ 2,655,744
SAVINGS	$ 3,284,959	$ 0	$ 3,284,959

Illustration

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.: **RD-11**
DESCRIPTION:	**Increase clear span under both bridges by 12-ft to provide future HOT access**	SHEET NO.: **2** of **5**

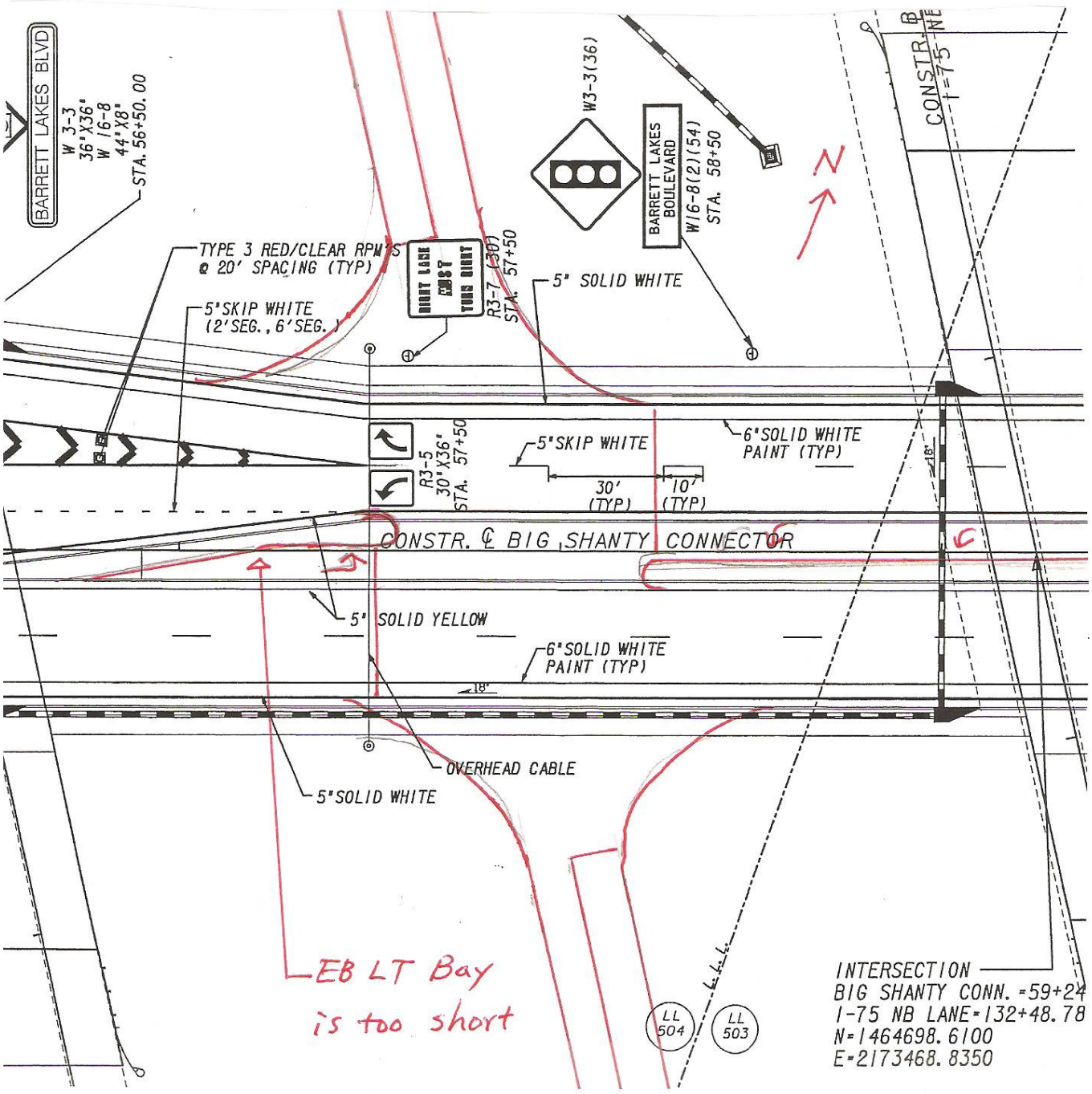


Figure 1. Original Design with Future HOT Intersectio

Illustration

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) – P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-11**

DESCRIPTION: **Increase clear span under both bridges by 12-ft to provide future HOT access**

SHEET NO.: **3** of **5**

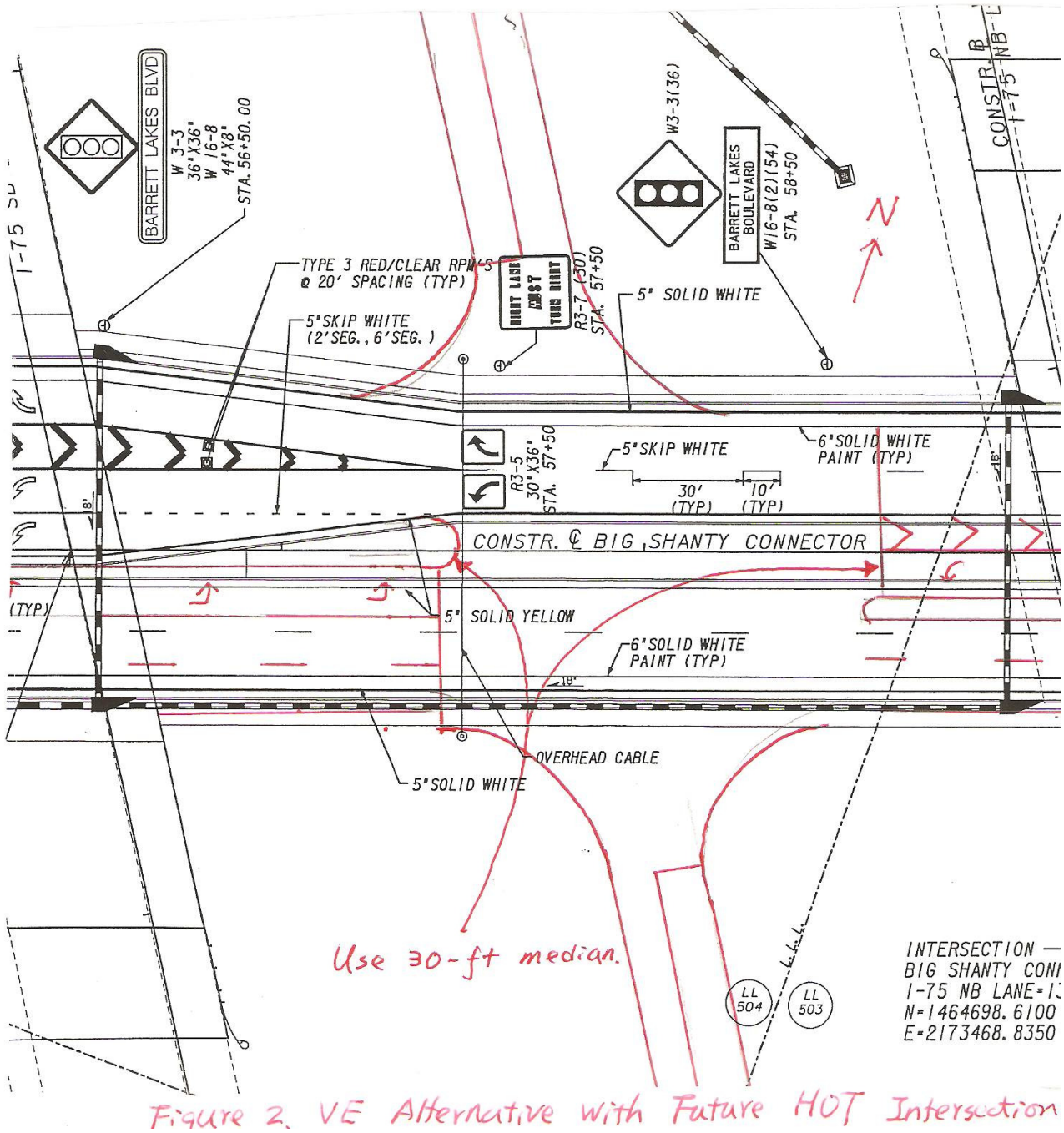


Figure 2. VE Alternative with Future HOT Intersection

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.: **RD-11**
DESCRIPTION:	**Increase clear span under both bridges by 12-ft to provide future HOT access**	SHEET NO.: **4** of **5**

Original Design

Bridge One: 238-ft long x 63.25-ft wide = 15,053 SF

Bridge Two: 203-ft long x 63.25-ft wide = 12,840 SF

Total = 27,893 SF

VE Alternative

Bridge One: 250-ft long x 63.25-ft wide = 15,813 SF

Bridge Two: 215-ft long x 63.25-ft wide = 13,599 SF

Total = 29,412 SF

Cost Worksheet

PBS&J

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) P.I. 0006869
Big Shanty Road Connector - Cobb County

ALTERNATIVE NO.: **RD-11**

DESCRIPTION: **Increase clear span under both bridges by 12-ft to provide future HOT access**

SHEET NO.: **5** of **5**

CONSTRUCTION ITEM		ORIGINAL ESTIMATE			PROPOSED ESTIMATE		
ITEM	UNITS	NO. OF UNITS	COST/ UNIT	TOTAL	NO. OF UNITS	COST/ UNIT	TOTAL
Bridge 1	SF	15,053	$ 77.00	$ 1,159,081	15,813	$ 77.00	$ 1,217,601
Bridge 2	SF	12,840	$ 88.00	$ 1,129,920	13,599	$ 88.00	$ 1,196,712
demolish of both bridges	SF	27,893	$ 25.00	$ 697,325	0	$ 25.00	$ -
Rebuild Bridge 1	SF	15,813	$ 77.00	$ 1,217,601	0	$ 77.00	$ -
Rebuild Bridge 2	SF	13,599	$ 88.00	$ 1,196,712	0	$ 88.00	$ -
Sub-total				$ 5,400,639			$ 2,414,313
Mark-up at 10.00%				$ 540,064			$ 241,431
TOTAL				**$ 5,940,703**			**$ 2,655,744**
Estimated Savings:							$3,284,959

Value Analysis Design Suggestion

PROJECT:	**Georgia Department of Transportation** **CSSTP-0006-00(869) – P.I. 0006869** **Big Shanty Road Connector - Cobb County**	ALTERNATIVE NO.:	**ROW-3**
DESCRIPTION:	**Allow for the construction of basin #2 in the most southerly corner of the site**	SHEET NO.:	**1** of **1**

Original Design:

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.

Alternative:

The alternative would be to construct the basin at the most southwesterly portion of that property.

Opportunities:

- Reduces the impact to the land usage
- May simplify storm water management

Risks:

- Increase design costs

Technical Discussion:

The present location takes a significant portion of usable land. By relocating the pond to the south into a odd shaped corner, its impact on the land use would be minimized.

.

Project Description

PROJECT INTRODUCTION

This Project Number is CSSTP-0006-00(869) for Cobb County. This project begins at Barrett Lakes Blvd., crosses under I-75 and ends at the George Busby Parkway where it connects to the existing Big Shanty Road. This is Phase I of a three phase project. The proposed roadway consists of 4 lanes; 2 in each direction separated by a 20' raised median, bike lanes, curb and gutters, and sidewalks on both sides. Major structures on the project are two new grade separation bridges under I-75. The purpose of the project is to improve east-west traffic congestion in this corridor.

The design speed is 45 mph. The proposed project will have significant impacts to the parking of the Children's Health Center and will result in the displacement of the Kids R Kids Childcare Center. The reported travel time improvement is estimated at 2.4 minutes. Traffic control and staging will be key elements for the new bridges over I-75. Coordination with the I-75 northwest corridor will be vitally important.

The projected construction cost is estimated to be $7,980,582 which includes a 10% E & C rate. Right of Way acquisition is estimated at $5,145,485 not including scheduling contingency and administrative and court costs. Costs for reimbursable utilities are estimated to be $2,168,770 for a total project budget of $15,295,107.

REPRESENTATIVE DOCUMENTS

- Georgia Department of Transportation
- Croy Engineering Documents
    - The Concept Validation Report and Plans
    - Construction Cost Estimates
    - Preliminary Right-of-Way Cost Estimate

The VE Team utilized the supplied project materials noted above and the current standard drawings, details and specifications provided by Croy Engineering.

CROY-MSE

Engineers * Planners * Surveyors

CROY–MSE, LLC
200 North Cobb Parkway
Building 400, Suite 413
Marietta, GA 30062
770-971-5407 fax: 770-971-0620

July 20, 2006

Mr. Mike Lobdell, Project Manager
District 7, Georgia Department of Transportation
5025 New Peachtree Road, N.E.
Chamblee, Georgia 30341
Attention: Merishia Robinson

RE: GDOT Project CSSTP-0006-00(869)(870) & (861), Cobb County, P. I. Nos. 0006869, 0006870, & 0006861 – The Proposed Construction of a Big Shanty Road Connector and the Proposed Widening of Big Shanty Road from George Busbee Parkway to Chastain Meadows Parkway

Dear Mr. Lobdell:

CROY-MSE, LLC, on behalf of the Cobb County Department of Transportation, is pleased to submit nine copies of the Concept Report for the subject project. Comments received from the Federal Highway Administration (FHWA) dated July 12, 2006 have been addressed as follows:

1. The report indicates no design exceptions anticipated; however, one curve on Big Shanty Road, east of Chastain Road, is proposed to have a 35 mph design speed rather than the 45 mph design speed for the rest of Big Shanty Road. It is not usually appropriate to pull out a small section of roadway and use a lower design speed for that section. A design exception may actually be necessary for this curve.

   In order to meet a 45 mph design speed at this location, the proposed project would result in significant impacts to the parking of two office complex buildings. The impacts to parking are substantial enough that they may produce uneconomic remnants and result in the displacement of the two buildings. Also, the posted speed limit on Big Shanty Road immediately north of Chastain Road and the subject curve is 35 mph. The Concept Report has been revised to indicate that a design exception is required.

2. The report includes accident data for Big Shanty Road. It should include statewide rates for comparison. It should also include data and statewide comparison for Chastain Road, since Chastain would benefit from the Big Shanty Road connector.

   The information has been added to the Concept Report as requested.

3. The report should include benefit cost analysis for the project. The LOS recorded are typically only one LOS letter of improvement, and the reported travel time improvement is only 2.4 minutes; therefore, the approximately $33 million estimated cost (right-of-way and construction) seems high for relatively little benefit. Benefit/cost analysis may help show the benefits in more detail and better help to justify this cost.

   The benefit cost analysis has been added to the appendices of the report as requested. A paragraph has been added to the need and purpose statement summarizing the analysis and referencing it in the appendices.

4. Please maintain close coordination between this project and the I-75 northwest corridor project to minimize the disruption to the public that occurs from both projects, the potential "throw-away" work on the new I-75 bridges for this project when impacted by the northwest corridor reconstruction and expansion.

   This comment has been added to the comment section of the Concept Report and the Commitment Table of the Environmental Assessment.

5. Traffic control and staging are key elements for the new bridges over [sic] I-75 and should be addressed early in design. The details provided in the Concept Report are not sufficient to fully convey the proposed traffic control and staging and do not reflect other alternatives discussed at the project concept meeting (such as routing some traffic on I-575, etc.). Therefore these items should be thoroughly examined during design, including being addressed during PFPR. Once again coordination with the I-75 northwest corridor project will be of the utmost importance.

   A brief paragraph has been added to the project description providing a conceptual description of the proposed staging and detour plans. "Alternatives Considered to Reduce Impacts to Traffic during Construction" has been added to the Other Alternatives Considered section of the Concept Report. This comment has also been added to the comment section of the Concept Report and Commitment Table of the Environmental Assessment.

All comments from the FHWA have been addressed. Consequently, the Concept Report is being forwarded to you for your approval. If you have any questions or need additional information, please do not hesitate to call Ron Cooper at (770) 971-5407.

Sincerely,

CROY-MSE, LLC

Ron Cooper
Project Manager

BRC/mbm
Enclosures

CC: Bob Galante, Cobb DOT; Mike Wright, Cobb DOT; Joel F. Stone, Town Center CID; Jim Croy, CROY-MSE

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: **P.I. No. 0006869, 0006870 & 0006861** **OFFICE:** Environment/Location

DATE: January 18, 2006

FROM: Harvey D. Keepler, State Environmental/Location Engineer

TO: Margaret B. Pirkle, Assistant Director of Preconstruction

SUBJECT: **PROJECT CONCEPT REPORT**
CSSTP-0006-00(869) (870) & (861) / Cobb County
Big Shanty Rd. Connector and the Proposed Widening of Big Shanty Rd. from George Busbee Pkwy to Chastain Meadows Pkwy.

The above subject concept report has been reviewed. Page 9 – Coordination should reflect that a Public Hearing Open House will be required after the draft EA is signed by FHWA.

If you have any questions, please contact me at (404) 699-4401.

HDK/lc

Attachment

cc: Brian Summers
Bryant Poole
Keith Golden
Joe Palladi
Jamie Simpson
Paul Liles

U.S. Department
of Transportation
Federal Highway Administration

61 Forsyth Street, S.W.
Suite 17T100
Atlanta, Georgia 30303

In Reply Refer To:
HTM-GA

Georgia Division
July 12, 2006

Mr. Harold E. Linnenkohl, Commissioner
Georgia Department of Transportation
No. 2 Capitol Square, S. W.
Atlanta, GA 30334-1002

Attention: Mr. Buddy Gratton, P.E., Director Preconstruction

Subject: Project Concept for CSSTP-0006-00(870)(869)(861), Big Shanty Road Connector and Widening, Cobb County

Dear Mr. Linnenkohl:

We have reviewed your May 11, 2006 subject Project Concept Report and offer the following comments.

- The report indicates no design exceptions anticipated; however, one curve on Big Shanty Road, east of Chastain Road, is proposed to have a 35 mph design speed rather than the 45 mph design speed for the rest of Big Shanty Road. It is not usually appropriate to pull out a small section of roadway and use a lower design speed for that section. A design exception may actually be necessary for this curve.
- The report includes accident data for Big Shanty Road. It should include statewide rates for comparison. It should also include data and statewide comparison for Chastain Road, since Chastain should benefit from the Big Shanty Road connector.
- The report should include benefit cost analysis for the project. The LOS improvements recorded are typically only one LOS letter of improvement, and the reported travel time improvement is only 2.4 minutes; therefore, the approximately $33 million estimated cost (right of way and construction) seems high for relatively little benefit. Benefit/cost analysis may help show the benefits in more detail and better help to justify this cost.
- Please maintain close coordination between this project and the I-75 northwest corridor project to minimize the disruption to the public that occurs from both projects, the potential conflicts between contractors working in the same areas, and the amount of potential "throw-away" work on the new I-75 bridges for this project when impacted by the northwest corridor reconstruction and expansion.

- Traffic control and staging are key elements for the new bridges over I-75 and should be addressed early in design. The details provided in the concept report are not sufficient to fully convey the proposed traffic control and staging and do not reflect other alternatives discussed at the project concept meeting (such as routing some traffic on I-575, etc.). Therefore these items should be thoroughly examined during design, including being addressed during PFPR. Once again, coordination with the I-75 northwest corridor project will be of the utmost importance

Your cooperation in addressing the above comments will be highly appreciated. Please re-submit the revised Project Concept Report for our action. If you have any questions, or you would like to discuss this further, please contact Mr. Wayne Fedora, P.E. at (404) 562-3651.

Sincerely,

Khassan Shandur.

FX: Robert M. Callan, P.E.
Division Administrator

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. Nos. 0006870, 0006869, and 0006861
Cobb County
CSSTP-0006-00(870), (869), and (861)
Big Shanty Connector and Widening of
Big Shanty Road

OFFICE Preconstruction

DATE May 11, 2006

FROM Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

TO David E. Studstill, Jr., P.E., Chief Engineer

SUBJECT PROJECT CONCEPT REPORT

These combined projects comprise the construction of the Big Shanty Road Connector from Chastain Road easterly across Town Point Drive, Barrett Lakes Boulevard, and I-75 to existing Big Shanty Road terminus at George Busbee Parkway. The proposed project will then widen existing Big Shanty Road from George Busbee Parkway to Chastain Meadows Parkway. The total project length is 1.98 miles and will consist of three phases: Phase 1 - Project CSSTP-0006-00-(869) will extend from Barrett Lakes Boulevard to George Busbee Parkway; Phase 2 - Project CSSTP-0006-00(870) will extend from Chastain Road to Barrett Lakes Boulevard; and Phase 3 - Project CSSTP-0006-00(861) will extend from George Busbee Parkway to Chastain Meadows Parkway.

Big Shanty Road was separated into two segments during the original interstate construction of I-75 over 30 years ago. Since that time, Cobb County has experienced significant growth. Cobb County is one of the fastest growing counties in the nation with a population increase of approximately 127.5% between 1970 and 1990. A capacity analysis within the project limits indicates that future travel demands through the project corridor will exceed the capacity of several key intersections in the corridor by the year 2028. Traffic volumes on Barrett Parkway and Chastain Road are constrained by the capacity of intersections at Barrett Lakes Boulevard, Busbee Drive, Georgia Busbee Parkway and Cobb Place Boulevard. This analysis assumes that traffic volumes on the extension of Big Shanty Road will also be partially constrained by the capacity of adjacent intersections, namely Barrett Lakes Boulevard and George Busbee Parkway. Much of the capacity of these intersections will be consumed by significant growth in traffic crossing Big Shanty Road at Chastain Road and Chastain Meadows Parkway, as well as intersections between these two.

The proposed project and other associated improvements will improve connectivity by reconnecting the existing segments of Big Shanty Road, providing additional east-west capacity and relieving traffic congestion on Barrett Parkway and Chastain Road. These two corridors are two of Cobb County's most heavily congested arterials. Based on historical growth trends and continued area development, future traffic growth without improvement will only continue to

overburden these existing roadways. The Big Shanty Road extension under I-75 is not a panacea for all the traffic congestion in the Town Center area, but the project will help alleviate traffic congestion on Barrett Parkway and Chastain Road and will help balance travel demand between Barrett Parkway and Chastain Road and will help balance travel demand between Barrett Parkway and Chastain Road.

The project will begin at the western intersection of Town Point Drive/Big Shanty Road and Chastain Road and will roughly follow existing Town Point Drive southward. At the approximate southernmost point of Town Point Drive, the proposed roadway will continue easterly on new location, intersect Barrett Lakes Boulevard at grade, underpass I-75, and connect with the existing Big Shanty Road at its current intersection with George Busbee Parkway, forming a four-way intersection. From George Busbee Parkway to Hidden Forest Court, Big Shanty Road will be widened and realigned approximately 100' to the north side of the existing roadway to improve an existing horizontal curve and minimize impacts to a church, the Department of Labor, and residences located on the south side of the existing roadway. From Hidden Forest Court to the eastern terminus of the proposed project, just east of Chastain Meadows Parkway, Big Shanty Road will be widened symmetrically. Where Big Shanty Road underpasses I-575, the profile of Big Shanty Road will be lowered to accommodate, if possible, the I-575 HOV project's proposed improvements at the I-575 overpass.

The proposed roadway will primarily consist of four lanes, two in each direction, separated by a 20' raised median, with curb and gutter, sidewalk and 4' bike lanes on both sides. The proposed median at the I-575 underpass will be variable between 17'6" and 18'. Approximately 150' of right-of-way will be required for the majority of the project. Additional right-of-way will be required for drainage treatment areas at logically determined locations along the proposed project.

The Georgia Department of Transportation (GDOT) and Georgia Regional Transportation Authority (GRTA) are in the process of studying HOV lanes along I-75 and I-575 in Cobb and Cherokee Counties. Projects NH-73-3(242), NHS-0002-00(39), NHS-000-001(919), and NH-575-1(28) will extend HOV lanes from the Kennedy Parkway interchange up I-75 and I-575 and will provide Bus Rapid Transit (BRT) stations at various locations along I-75. The I-575 bridge over Big shanty Road has been identified as a possible location for an HOV interchange. Also, a possible location for a Town Center BRT station has been identified just north of the proposed Big Shanty Road Extension. However, the final locations of HOV access to the surface street system and locations for the BRT stations are under study and will not be finalized for some time.

Environmental concerns include requiring a COE 404 Permit; an Environmental Assessment is anticipated; a public hearing open house will be held; time saving procedures are not appropriate.

The estimated costs for these projects are:

Phase 1 - P.I. No. 0006869

	PROPOSED	APPROVED	FUNDING	PROG DATE
Construction (includes E&C and inflation)	$7,757,000	$6,032,000	L230	2008
Right-of-Way & Utilities*	Local	Local	Local	

*PMA sent requesting Cobb County do PE and utilities; right-of-way and construction to be done by future agreements.

Phase 2 - P.I. No. 0006870

	PROPOSED	APPROVED	FUNDING	PROG DATE
Construction (includes E&C and inflation)	$10,530,000	$1,759,000	L230	2009
Right-of-Way & Utilities*	Local	Local	Local	

*PMA requesting Cobb County do PE and utilities; right-of-way and construction to be done by future agreements.

Phase 3 - P.I. No. 0006861

	PROPOSED	APPROVED	FUNDING	PROG DATE
Construction (includes E&C and inflation)	$7,952,000	$9,800,000	Local	Local
Right-of-Way & Utilities*	Local	Local	Local	Local

*LGPA to be determined.

I recommend this project concept be approved.

Recommended for Approval

Richard Wayne Tedora

DATE 8/24/2006

MBP:JDQ/cj

Attachment

CONCUR _____
Buddy Gratton, P.E., Director of Preconstruction

APPROVE _____
FOR Robert M. Callan, Administrator, FHWA

APPROVE _____
David E. Studstill, Jr., P.E., Chief Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
DISTRICT SEVEN PRECONSTRUCTION

PROJECT CONCEPT REPORT

The Construction of a Big Shanty Connector and Widening of Big Shanty Road

GDOT Project Number: CSSTP-0006-00(870)(869) & (861), Cobb County
P.I. Numbers 0006870, 0006869 & 0006861

Federal Route Number: N/A
State Route Number: 401 & 417

See Page 2 for Location Sketch

Recommendation for approval:

DATE: 4/17/06 _____ Project Manager

DATE: 4/19/06 _____ District Engineer

The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

DATE: _____ State Transportation Planning Administrator

DATE: _____ State Environmental/Location Engineer

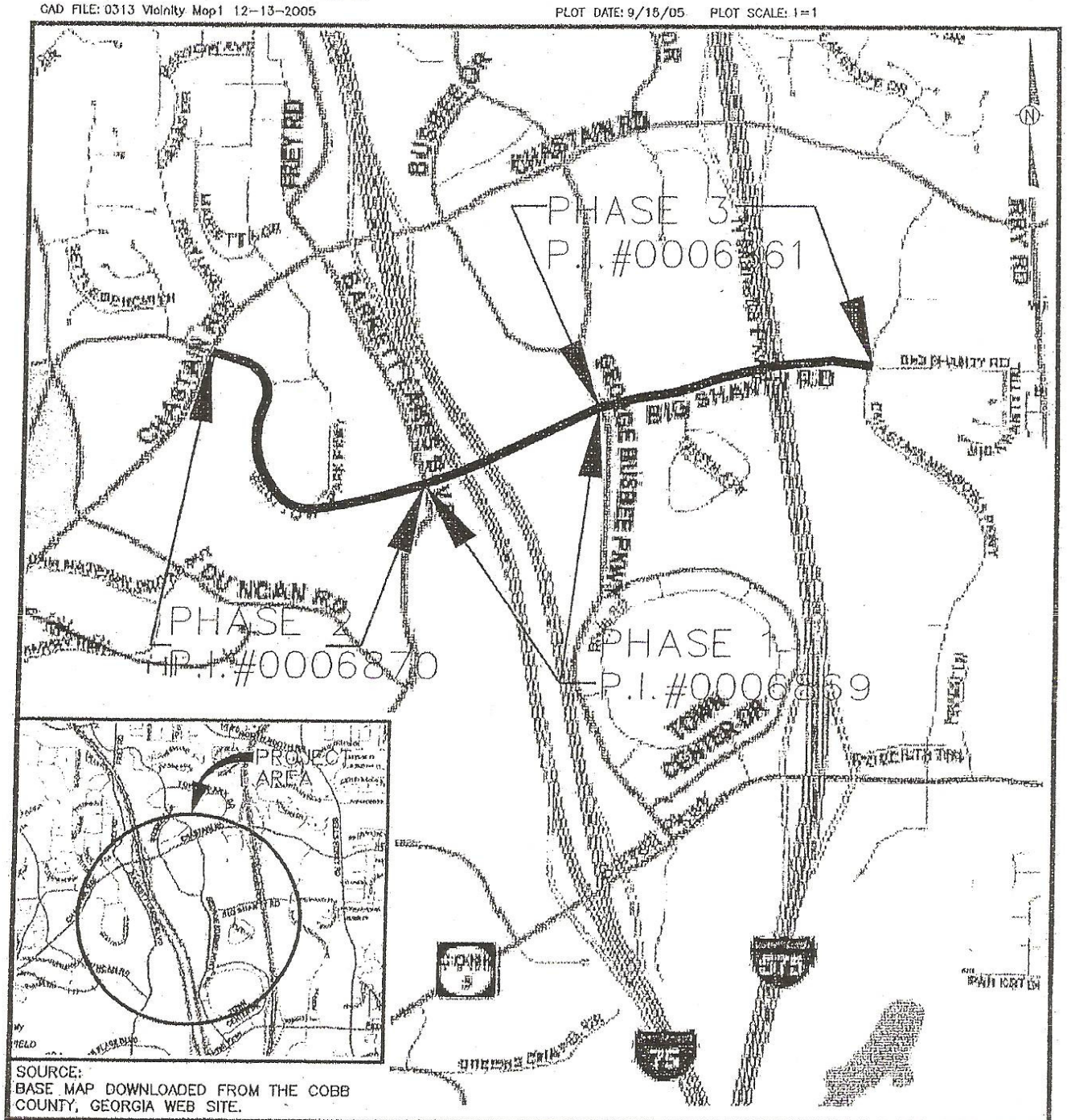
DATE: _____ State Traffic Safety and Design Engineer

DATE: 4/25/06 _____ State Transportation Financial Management Administrator

DATE: _____ Project Review Engineer

DATE: _____ State Bridge and Structural Design Engineer

CAD FILE: 0313 Vicinity Map1 12-13-2005 PLOT DATE: 9/16/05 PLOT SCALE: 1=1



CROY-MSE

CROY-MSE, LLC
200 NORTH COBB PARKWAY, BUILDING 400, SUITE 413
MARIETTA, GEORGIA 30062
PHONE: (770) 971-5407 FAX: (770) 971-0620

SCALE: N.T.S.	DATE: DEC. 13, 2005
JOB NO.: 04-000313	DRAWN BY: DCF

BIG SHANTY CONNECTOR
COBB COUNTY, GEORGIA

VICINITY MAP

FIGURE 1

Need and Purpose:

The purpose of the project is to improve east-west mobility and help alleviate the congested conditions on Chastain Road and Barrett Parkway across I-75 and I-575 in Cobb County. Future traffic projections along these corridors show increased levels of traffic congestion. To help relieve this congestion and improve local area traffic circulation, it is proposed to extend Big Shanty Road west on new location under I-75 to Chastain Road and re-connect the existing segments of Big Shanty Road. In addition, the proposed project would widen existing Big Shanty Road from George Busbee Parkway to Chastain Meadows Parkway. These improvements would help to reduce traffic congestion by providing an alternate, multi-laned, east-west corridor for local traffic.

Planning Background and Project History

Big Shanty Road was separated into two segments during the original interstate construction of I-75 over 30 years ago. Since that time, Cobb County has experienced significant growth. Cobb County is one of the fastest growing counties in the nation with a population increase of approximately 127.5% between 1970 and 1990. As a comparison, the State of Georgia only experienced an approximate 41.2% increase during the same time period. In addition to local traffic congestion, Cobb County, and the area between Chastain Road and Barrett Parkway have experienced significant regional traffic growth. Significant regional attractions in the area include the Barrett Industrial Area, Town Point Center Commercial Park, McCollum Field-Cobb County Airport, Kennesaw State University and Town Center Mall.

The proposed improvements are needed to reduce traffic congestion in the area and enhance traffic mobility in this localized area. The proposed project is consistent with the needs defined in the plan.

Average Daily Traffic Volumes and Levels of Service

A capacity analysis within the project area was performed for the existing 2008 and future 2028 build/no-build traffic conditions to determine the impact of the project. This analysis included all intersections and roadway sections directly along the Big Shanty Road project corridor, as well as other roadway sections and intersections that would be impacted by project implementation. The proposed project would reduce travel times by approximately 2.4 minutes for the vehicles that are proposed to use this segment of roadway.

Future traffic volumes were estimated through an analysis of traffic counts, existing turning movement counts, and traffic projections from the ARC travel demand model. The travel demand model for this area was analyzed for two scenarios, the no build alternative assumes no extension and improvement of Big Shanty Road and the build alternative assumes the project is built. By adding the Big Shanty extension, travel patterns predicted by the model would change significantly due to the addition of an additional east-west facility. By connecting an additional east-west route between Chastain Road and Barrett Parkway, the resulting grid system of north-south and east-west roads offers drivers additional travel routes. The model assigns vehicle trips based on a large number of factors including travel time, distance, congestion and land use. Based on these factors, the travel demand model re-directed area traffic onto Big Shanty Road and lowered the amount of traffic using Chastain Road and Barrett Lakes Parkway.

The model indicates that future travel demands through the project corridor exceed the capacity of several key intersections in the corridor by the year 2028. Traffic volumes on Barrett Parkway and Chastain Road are constrained by the capacity of intersections at Barrett Lakes Boulevard, Busbee Drive, George Busbee Parkway and Cobb Place Boulevard. This analysis assumes that traffic volumes on the extension of Big Shanty Road will also be partially constrained by the capacity of adjacent intersections, namely Barrett Lakes Boulevard and George Busbee Parkway. Much of the capacity of these intersections will be consumed by significant growth in traffic crossing Big Shanty Road at Chastain Road and Chastain Meadows Parkway, as well as intersections between these two. The future projected 2028 ADT for the Build and No-build condition and the corresponding projected LOS are shown in Attachment 4, Table 2.

The Benefit Cost Ratio is 1.54 using combined construction and right-of-way costs. The travel time benefit is $43,847,000 using a 20 year period and a $13.45/per hour vehicle cost. The commercial time benefit is $6,948,690 using a 20 year period and a $71.05/per hour truck cost. The total congestion benefit for the project is $48,479,460. The Benefit Cost Analysis worksheet is provided in Appendix 9.

In summary, the proposed project and other associated improvements would improve connectivity by reconnecting the existing segments of Big Shanty Road, providing additional east-west capacity and relieving traffic congestion on Barrett Parkway and Chastain Road. These two corridors are two of Cobb County's most heavily congested arterials. Based on historical growth trends and continued area development, future traffic growth without improvement will only continue to overburden these existing roadways. The Big Shanty Road extension under I-75 is not a panacea for all the traffic congestion in the Town Center area, but the project would help alleviate traffic congestion on Barrett Parkway and Chastain Road and would help balance travel demand between Barrett Parkway and Chastain Road.

The proposed project would also improve safety on existing Big Shanty Road from George Busbee Parkway to Chastain Meadows Parkway. Since the proposed project is expected to draw traffic from Chastain Road, it would also improve safety on that roadway. For more information regarding accident data on this section of Big Shanty Road, as well as Chastain Road, refer to Attachment 3.

The GDOT and the Georgia Regional Transportation Authority is in the process of studying HOV lanes along I-75 and I-575 in Cobb and Cherokee Counties. Projects NH-73-3(242), NHS-0002-00(39), NHS-000-001(919), and NH-575-1(28) will extend HOV lanes from the Kennedy Parkway interchange up I-75 and I-575 and would provide Bus Rapid Transit (BRT) stations at various locations along I-75. The I-575 bridge over Big Shanty Road has been identified as a possible location for an HOV interchange. Also, a possible location for a Town Center BRT station has been identified just north of the proposed Big Shanty Road extension. However, the final locations of HOV access to the surface street system and locations for the BRT stations are under study and will not be finalized for some time. An Environmental Impact Statement (EIS) is currently underway for this HOV/BRT project and the results of that study will determine

HOV interchange and BRT station locations. With the I-75/I-575 HOV and BRT system still under study, this project does not assume an I-575/Big Shanty Road interchange or a Town Center BRT station; however, this project will be designed so as not to preclude an HOV interchange or BRT station at these locations.

Description of the proposed project:
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. Approximately 3,600 feet of the project would be constructed on new location.

The Preferred Alternative would begin at the western intersection of Town Point Drive/Big Shanty Road and Chastain Road and would roughly follow existing Town Point Drive southward. At the approximate southernmost point of Town Point Drive, the proposed roadway would continue easterly on new location, intersect Barrett Lakes Blvd. at grade, underpass I-75, and connect with the existing Big Shanty Road at its current intersection with George Busbee Parkway forming a four-way intersection.

From George Busbee Parkway to Hidden Forest Court, Big Shanty Road would be widened and realigned approximately 100 feet to the north side of the existing roadway to improve an existing horizontal curve and minimize impacts to a church, the Department of Labor and residences located on the south side of the existing roadway. From Hidden Forest Court to the eastern terminus of the proposed project, just east of Chastain Meadows Parkway, Big Shanty Road would be widened symmetrically. Where Big Shanty Road underpasses I-575, the profile of Big Shanty Road would be lowered to accommodate, if possible, the I-575 HOV project's proposed improvements at the I-575 overpass.

The proposed roadway would primarily consist of 4 lanes, 2 in each direction, separated by a 20-foot raised median, with curb, gutter, sidewalks and 4 foot bike lanes on both sides. The proposed median at the I-575 underpass would be variable between 17 feet, 6 inches, and 18 feet.

Approximately 150 feet of right-of-way would be required for the majority of the project. Additional right of way will be required for drainage treatment areas at logically determined locations along the proposed project.

Traffic on the existing roadways would be maintained during construction. Appropriate signage for traffic control and detours will be provided per GDOT and FHWA standards. Traffic on I-75 would be detoured to the median during construction of the proposed underpass bridges at I-75. The median detour will be coordinated with the I-75 HOV improvements so that, if possible, traffic on I-75 would only need to be detoured once for both projects.

Logical Termini:
The logical western terminus of the proposed project would occur at Chastain Road at the western-most intersection of Town Point Drive/Big Shanty Road and Chastain Road. The eastern terminus of ARC project CO-297 will be modified during the next round of revisions to the TIP. The logical eastern terminus of the Preferred Alternative is just east of Chastain Meadows Parkway.

Non-attainment area: Yes (X) No ( )
The proposed project is identified in a conforming plan, the FY 2005-2010 Transportation Improvement Program (TIP), as projects CO-332B, CO-332A and CO-297. Project CO-332B would construct 4 lanes from Chastain Road to Barrett Lakes Boulevard and would open to traffic in 2010. Project CO-332A would construct 4 lanes from Barrett Lakes Boulevard to George Busbee Parkway and would open to traffic in 2010. Project CO-297 would widen existing Big Shanty Road from 2 lanes to 4 lanes from George Busbee Parkway to Bells Ferry Road and is scheduled long range 2011-2020. For purposes of logical termini, the eastern terminus of ARC project CO-297 will be reduced to Chastain Meadows Parkway during the next round of revisions to the TIP.

PDP Classification: Major (X) Minor ( )

Federal Oversight: Full Oversight ( ), Exempt (X), State Funded ( ), or Other ( )
Phase 1 = Full oversight RWJ
8/9/2006
Functional Classification: Urban Minor Arterial

U.S. Route Number(s): N/A **State Route Number(s):** SR 401 and SR 417

Traffic (AADT):
Current Year: 2008 (5150) Design Year: 2028 (8050)

Existing design features:

- **Typical Section:** 2 twelve-foot lanes with 4-foot, unpaved shoulders. Twelve-foot left and right turn lanes are present at the intersections of Big Shanty Road with Chastain Meadows Parkway and George Busbee Parkway and at the intersection of Town Point Drive with Chastain Road. Auxiliary right turn lanes are present at some businesses.
- **Posted speed:** 35 mph
- **Minimum radius for curve:** Town Point – 300 ft., Big Shanty – 550 ft.
- **Maximum super-elevation rate for curve:** 4.2%
- **Maximum grade:** Mainline - 5%, Cross roads - 3.5% (Barrett Lakes), Driveways – 7%
- **Width of right-of-way**: Towne Point - 50 ft., Big Shanty – varies 50-100 ft.
- **Major structures:** Existing 47 ft by 157 ft parallel bridges where I-575 overpasses existing Big Shanty Road.
- **Major interchanges or intersections along the project:** Chastain Road, Barrett Lakes Parkway, George Busbee Parkway and Chastain Meadows Parkway.

- **Existing length of roadway segment and the beginning mile logs for each county segment:** 1.372 miles. Mile logs not applicable.

Proposed Design Features:

- **Proposed typical section(s):** (SEE ATTACHMENT 2, TYPICAL SECTION DIAGRAMS) Four 12-foot travel lanes, two in each direction, separated by a 20-foot raised median with curb, gutter, sidewalks, and 4-foot bike lanes on both sides. Where needed at intersections or for median breaks, a left turn lane will be added within the width of the raised median and dedicated right turn lanes will be added where merited.

- **Proposed Design Speed Mainline:** 45 mph (35 at the curve immediately east of Chastain Road) NOTE: The following proposed design information will be shown for the typical 45 mph design speed, with the 35 mph design critera shown in brackets, i.e. 45 mph (35 mph). The 35mph design criteria applies only to the curve stated above.
- **Proposed Maximum grade Mainline:** 5% **Maximum grade allowable:** 8%
- **Proposed Maximum grade Side Street:** 6% **Maximum grade allowable:** 8%
- **Proposed Maximum grade Driveway:** 15%
- **Proposed Minimum radius for curve:** 700 ft (350 ft)
  Minimum radius allowable: 700 ft (350 ft)
- **Proposed Super-elevation rate for curve:** 6% (8%)
- **Proposed Max. degree of curve:** 8° 11' 06" (16° 22' 13")
  Maximum degree allowable: 8° 11' 06" (16° 22' 13")
- **Right of way**
  - **Width:** Variable 104-300 feet, 150 typical
  - **Easements:** Temporary (X), Permanent (X), Utility ( ), Other ( ).
  - **Type of access control:** Full ( ), Partial ( ), By Permit (X), Other ( ).
  - **Number of parcels:** 31 **Number of displacements:**
    - **Business:** 1
    - **Residences:** 0
    - **Mobile homes:** 0
    - **Other:** 0

- **Structures:**

  Bridges: (SEE ATTACHMENT 6, BRIDGE PLAN & TYPICAL SECTION) I-75 BRIDGES: 2 bridges will be constructed to underpass I-75, one northbound and one southbound, that will accommodate the existing section of I-75. Each proposed bridge will be composed of 3 twelve-foot lanes (one direction), with twelve-foot shoulders and bridge side barrier. The bridges will be a three-span structure approximately with vertical end bents. The northbound and southbound bridges will be approximately 203 and 238 feet in length, respectively.

An approximate 565-foot by 122-foot, five span bridge will be constructed just west of Barrett Lakes Parkway to avoid impacts to the wetland, streams and floodplains located at that location.

- **Major intersections and interchanges:** Chastain Road, Barrett Lakes Boulevard, George Busbee Parkway and Chastain Meadows Parkway.
- **Corridor Management Plan:** Access to Big Shanty Road will be limited in accordance with the Georgia Department of Transportation's Regulations for Driveway and Encroachment Control pursuant to Georgia Code Sections 32-6-51 and 32-6-133.
- **Traffic Control During Construction:** Traffic to be maintained on-site during construction. Construction on existing Big Shanty Road will incorporate construction staging to allow continuous movement. I-75 northbound and southbound will be temporarily detoured to allow for construction of the proposed bridges with no long-term closures expected. Based on the comments in the final Concept Team Meeting, we will closely coordinate with the I-75 HOV/BRT project to minimize impacts to traffic (see Comments section of Concept Report below).
- **Design Exceptions to controlling criteria anticipated:** A 35 mph curve is proposed just south of the proposed Chastain Road/Big Shanty Road intersection. The provision of a 45 mph curve, to avoid the design exception, would result in significant impacts to the parking of two office complex buildings. Impacts to the parking are significant enough that they may result in an uneconomic remnant and result in the displacement of the buildings. Also, the posted speed on Big Shanty Road immediately north of Chastain Road and the subject curve is 35 mph.

	UNDETERMINED	YES	NO
HORIZONTAL ALIGNMENT:	( )	( )	(x)
ROADWAY WIDTH:	( )	( )	(x)
SHOULDER WIDTH:	( )	( )	(x)
VERTICAL GRADES:	( )	( )	(x)
CROSS SLOPES:	( )	( )	(x)
STOPPING SIGHT DISTANCE:	( )	( )	(x)
SUPERELEVATION RATES:	( )	( )	(x)
HORIZONTAL CLEARANCE:	( )	( )	( )
SPEED DESIGN:	( )	(x)	( )
VERTICAL CLEARANCE:	( )	( )	(x)
BRIDGE WIDTH:	( )	( )	(x)
BRIDGE STRUCTURAL CAPACITY:	( )	( )	(x)

- **Design Variances:** None anticipated.
- **Environmental Concerns:** A Nationwide 14 Section 404 USACE permit is anticipated due to impacts of wetlands and streams in the project area.
- **Are Time Saving Procedures appropriate?** Yes ( ), No (X),

- **Level of environmental analysis:**
  - Categorical exclusion ( ),
  - Environmental Assessment/Finding of No Significant Impact (FONSI) (X), or
  - Environmental Impact Statement (EIS) ( ).
- **Utility involvements:** Atlanta Gas and Light Marietta, BellSouth, Cobb County Water, Cobb County Sewer, Cobb County Department of Transportation Telecommunications (west of George Busbee Parkway only), Cobb EMC, Comcast Communications, Georgia Power, City of Marietta Electric, and American Fiber Systems (west of George Busbee Parkway only).

Project responsibilities:

- Design: Cobb County
- Right of way Acquisition: Cobb County
- Relocation of Utilities: Cobb County
- Letting to contract: GDOT
- Supervision of construction: GDOT
- Providing material pits: Contractor
- Providing detours: Contractor

Coordination:

- An Initial Concept Meeting was held on July 6, 2005. See Attachment 7 for Meeting Minutes.
- Concept meeting was held on September 12, 2005. See Attachment 7 for Meeting Minutes.
- P. A. R. meetings, dates and results: N/A
- FEMA, USCG, and/or TVA: N/A
- Public involvement: A Public Information Open House (PIOH) was held on May 5, 2004. For more information regarding the PIOH, see the attached Comment Summary. A community meeting was held on June 7, 2004. For more information regarding the meeting, see the attached Public Involvement Summary.
- Local government comments: None
- Other coordination to date: Cobb County, City of Marietta, Atlanta Regional Commission, Cobb County Historic Preservation Commission, Federal Highway Administration.

Scheduling – Responsible Parties' Estimate:

- Time to complete the environmental process: 18 Months.
- Time to complete preliminary construction plans: 6 Months.
- Time to complete right of way plans: 3 Months.
- Time to complete Section 404 Permit: 6 Months.
- Time to complete final construction plans: 3 Months.
- Time to complete purchase of right of way: 3 Phases, 12 months each, consecutively.
- List other major items that will affect the project schedule: N/A

Other alternatives considered:
Alternative 1 - Town Point Drive is a circular drive that connects with Chastain Road. The northern alternative would begin at the western intersection of Town Point Drive and Chastain Road and would roughly follow existing Town Point Drive until reaching Gutenberg Drive. The proposed alignment would roughly follow Gutenberg Drive, cross the eastern portion of Town Point drive and continue easterly, on new location. The proposed roadway would continue easterly, crossing Barrett Lakes Parkway at-grade then under-passing I-75. The proposed alignment would then veer southeasterly until reaching a point just west of existing Big Shanty Road. The proposed alignment would then veer easterly and to form a four-way intersection with George Busbee Parkway and existing Big Shanty Road. A variation of this alternative would provide an overpass at I-75. This alternative is not preferred because it would affect the interchange of I-75 and Chastain Road, which is currently under reconstruction. Also, this alternative would result in the displacement of an office complex located on Town Point Drive.

Alternative 2 - Alternative 2 is a minor variation of the Preferred Alternative. Alternative 2 is similar to the Preferred Alternative with the exception that the proposed alignment would veer easterly at Town Point Drive approximately 100 feet south of the Preferred Alternative. This alternative is not preferred because it would result in significant impacts to the wetland identified in this area, which is associated with the floodplain of Noonday Creek. In order to avoid or minimize significant impacts to the wetland, Alternative 2 would require extensive bridging at this location.

Alternative 3 – Originally the Preferred Alternative, as well as Alternatives 1 and 2, would have widened existing Big Shanty Road from George Busbee Parkway to Bells Ferry Road. However, existing Bells Ferry Road consists only of two travel lanes, one in each direction. Consequently, it was determined that this alternative did not have a logical eastern terminus. Alternative 3 would have resulted in an additional 45 feet of stream impacts, one additional residential displacement, and noise impacts to residents in the BellStone Courts subdivision.

Alternative 4 – An alternative was considered to construct the proposed new location roadway on fill, just west of Barrett Lakes Boulevard. This alternative would have resulted in approximately 0.85 acre of additional wetland impact, 240 linear feet of additional stream impacts, increased impacts to the floodplain associated with Noonday Creek, approximately $342,000 in additional project costs including mitigation, and would have extended the project schedule at least one year to obtain the individual U.S. Army Corps of Engineers permit.

The No-build Alternative - Under this alternative, no action would be taken to reconnect the two existing Big Shanty Road segments and no action would be taken to widen existing Big Shanty Road from George Busbee Parkway to Chastain Meadows Parkway. Under this alternative, east-west mobility in the Town Center area would not be improved and efforts would not be made to alleviate congestion across I-75 and I-575 on Chastain Road and Barrett Parkway in Cobb County. Based on the results of for the 2028 No-Build condition, one section of Barrett Parkway (US 41 to I-75) and four sections of Chastain Road (Duncan Road to I-575) are projected to carry over 50,000 vpd and would exceed their capacity. Other adjacent roadways, including Barrett Lakes Boulevard and a section of George Busbee Parkway would also exceed their

respective capacities. Under the 2028 Build condition, it is projected that project implementation would remove up to 19,100 vpd from Barrett Parkway between US 41 and I-75, and would remove up to 13,300 vpd from Chastain Road between Duncan Road and I-75. The proposed extension of Big Shanty Road is expected to reduce traffic levels on Chastain Road and Barrett Parkway to existing 2002 levels. All sections of these two roadways would experience significant percentage reductions in traffic under the Build condition as compared to the No-Build condition, with two sections experiencing a reduction below existing volumes. Big Shanty Road will carry significantly more traffic under the Build scenario since this project will add two lanes as well as provide better connectivity to major area roads.

Widening Barrett Parkway and Chastain Road - Further widening of Barrett Parkway and Chastain Road is not a reasonable solution to relieve existing congestion. Two sections of Chastain Road could be widened to six lanes to match the other six-lane sections; however, widening beyond six lanes for any non-limited access facility in an urban area is not recommended. The additional capacity gained through widening would be negated by the introduction of additional safety concerns associated with weaving maneuvers and access demands for roadside development. Based on the above traffic volumes and Georgia Department of Transportation (GDOT) policy, all new multilane facilities with three or more lanes in each direction would require positive separation of opposing traffic by way of a raised median. Subsequently, appropriately spaced median openings would severely limit roadside access. Based on these factors, a new east-west corridor would be more effective than the widening of an existing corridor.

Alternatives Considered to Reduce Impacts to Traffic during Construction – Alternatives were considered to reduce impacts to traffic on I-75 during construction. Originally, the proposed project would have detoured traffic to the median on I-75 without coordination with the I-75 traffic and the detour to the median would have been constructed twice. However, these two projects will now be closely coordinated to help minimize potential "throw-away" work where possible. An alternative to re-direct traffic to I-575 was considered; however, this would result in more disruptive travel patterns than the proposed detour.

Comments: Close coordination should be maintained between this project and the I-75 northwest corridor project to minimize the disruption to the public that occurs from both projects, the potential conflicts between contractors working in the same areas, and the amount of potential "throw-away" work on the new I-75 bridges for this project when impacted by the northwest corridor reconstruction and expansion. Details of the staging and detour plans in this area should be thoroughly examined during design, including being addressed during the PFPR (comments from FHWA).

Attachments:

1. Cost Estimates
2. Proposed Alignment, Profiles & Typical Sections
3. Accident Summary
4. Traffic Data
5. Bridge Plan & Typical Sections

6. Minutes of Initial Concept & Concept Meetings
7. LGPA's or PMA's
8. Public Involvement Summary
9. Cost/Benefit Analysis

Estimate Report for file "CSSTP-0006-00(869)_2008-06-13_2008-08-25"

Section Mobilization

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-0224	10	LM	0.00	TRAFFIC CONTROL, SOLID TRAFFIC STRIPE, 5 IN, WHITE	0.00
150-0227	1	LM	0.00	TRAFFIC CONTROL,SOLID TRAFFIC STRIPE,5 IN,YELLOW	0.00
150-1000	1	LS	127654.65	TRAFFIC CONTROL -	127654.65
153-1300	1	EA	65839.39	FIELD ENGINEERS OFFICE TP 3	65839.39
				Section Sub Total:	**$193,494.04**

Section Temporary Erosion Control

Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	5	AC	511.15	TEMPORARY GRASSING	2555.75
163-0240	221	TN	221.56	MULCH	48964.76
163-0300	8	EA	1666.56	CONSTRUCTION EXIT	13332.48
163-0520	330	LF	15.81	CONSTRUCT AND REMOVE TEMPORARY PIPE SLOPE DRAIN	5217.30
163-0524	55	EA	251.72	CONSTRUCT AND REMOVE TEMPORARY DITCH CHECKS - STONE PLAIN RIP RAP/SAND BAGS	13844.60
163-0550	106	EA	228.17	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	24186.02
165-0020	1653	LF	1.00	MAINTENANCE OF TEMPORARY SILT FENCE, TP H-B	1653.00
165-0030	6225	LF	1.03	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	6411.75
165-0040	55	EA	125.69	MAINTENANCE OF EROSION CONTROL CHECKDAMS/DITCH CHECKS	6912.95
165-0060	2	EA	1678.43	MAINTENANCE OF TEMPORARY SEDIMENT BASIN, STA NO -	3356.86
165-0105	106	EA	94.73	MAINTENANCE OF INLET SEDIMENT TRAP	10041.38
167-1000	3	EA	922.58	WATER QUALITY MONITORING AND SAMPLING	2767.74
167-1500	24	MO	893.09	WATER QUALITY INSPECTIONS	21434.16
171-0020	3305	LF	3.50	TEMPORARY SILT FENCE, TYPE H-B	11567.50
171-0030	12450	LF	3.94	TEMPORARY SILT FENCE, TYPE C	49053.00
643-8200	483	LF	3.32	BARRIER FENCE (ORANGE), 4 FT	1603.56
				Section Sub Total:	**$222,902.81**

Section Permanent Erosion Control

Item Number	Quantity	Units	Unit Price	Item Description	Cost
603-2182	102	SY	53.37	STN DUMPED RIP RAP, TP 3, 24 IN	5443.74
603-6008	192	SY	0.00	SAND-CEMENT BAG RIP RAP, 8 IN	0.00
603-7000	102	SY	5.32	PLASTIC FILTER FABRIC	542.64
700-6910	9	AC	927.63	PERMANENT GRASSING	8348.67
700-7000	18	TN	63.96	AGRICULTURAL LIME	1151.28
700-8000	6	TN	370.52	FERTILIZER MIXED GRADE	2223.12
700-8100	450	LB	2.37	FERTILIZER NITROGEN CONTENT	1066.50
716-2000	11245	SY	0.92	EROSION CONTROL MATS, SLOPES	10345.40
				Section Sub Total:	**$29,121.35**

Section Drainage

Item Number	Quantity	Units	Unit Price	Item Description	Cost
550-1180	2502	LF	36.48	STORM DRAIN PIPE, 18 IN, H 1-10	91272.96
550-1182	527	LF	35.28	STORM DRAIN PIPE, 18 IN, H 15-20	18592.56
550-1240	1087	LF	43.46	STORM DRAIN PIPE, 24 IN, H 1-10	47241.02
550-1242	117	LF	78.22	STORM DRAIN PIPE, 24 IN, H 15-20	9151.74
550-1300	303	LF	63.78	STORM DRAIN PIPE, 30 IN, H 1-10	19325.34
550-1310	738	LF	0.00	STORM DRAIN PIPE, 24" BY 38" CONC. ELLIPTICAL PIPE	0.00
550-3318	1	EA	635.01	SAFETY END SECTION 18 IN, STORM DRAIN, 4:1 SLOPE	635.01
550-4118	1	EA	434.35	FLARED END SECTION 18 IN, SIDE DRAIN	434.35
550-4236	1	EA	1218.91	FLARED END SECTION 36 IN, STORM DRAIN	1218.91
610-6625	1	EA	500.00	REM INLET	500.00
611-3100	1	EA	0.00	RECONSTR OUTLET CONTROL STRUCTURE	0.00
611-4001	1	EA	2495.78	RECONSTR MINOR DRAINAGE STR	2495.78
615-1000	120	LF	320.28	JACK OR BORE PIPE -	38433.60

660-0830	118	LF	175.00	SAN SEWER PIPE, 30 IN, DUCTILE IRON	20650.00
668-1100	24	EA	2613.36	CATCH BASIN, GP 1	62720.64
668-1110	13	LF	290.58	CATCH BASIN, GP 1, ADDL DEPTH	3777.54
668-2100	6	EA	2304.95	DROP INLET, GP 1	13829.70
668-2105	3	EA	2356.07	DROP INLET, GP 1, SPCL DES	7068.21
668-2110	5	LF	315.67	DROP INLET, GP 1, ADDL DEPTH	1578.35
668-2115	1	LF	0.00	DROP INLET, GP 1, ADDL DEPTH, SPCL DES	0.00
668-4300	7	EA	2319.97	STORM SEWER MANHOLE, TP 1	16239.79
668-4311	20	LF	303.40	STORM SEWER MANHOLE, TP 1, ADDL DEPTH, CL 1	6068.00
668-5000	3	EA	2325.74	JUNCTION BOX	6977.22
				Section Sub Total:	**$368,210.72**

Section concrete

Item Number	Quantity	Units	Unit Price	Item Description	Cost
207-0203	160	CY	50.09	FOUND BKFILL MATL, TP II	8014.40
310-5063	16899	SY	7.50	GR AGGR BASE CRS, 6 INCH, INCL MATL - IP	126742.50
310-5100	16899	SY	15.39	GR AGGR BASE CRS, 10 INCH, INCL MATL	260075.61
433-1300	864	SY	151.82	REINF CONC APPROACH SLAB, INCL BARRIER	131172.48
441-0104	2795	SY	34.37	CONC SIDEWALK, 4 IN	96064.15
441-0204	724	SY	36.46	PLAIN CONC DITCH PAVING, 4 IN	26397.04
441-0740	458	SY	34.63	CONCRETE MEDIAN, 4 IN	15860.54
441-6222	4730	LF	16.26	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	76909.80
441-6720	4100	LF	15.95	CONC CURB & GUTTER, 6 IN X 30 IN, TP 7	65395.00
500-2100	3189	LF	41.38	CONCRETE BARRIER	131960.82
500-3101	24	CY	310.64	CLASS A CONCRETE	7455.36
500-3200	28	CY	438.08	CLASS B CONCRETE	12266.24
511-1000	519	LB	0.85	BAR REINF STEEL	441.15
634-1200	31	EA	105.24	RIGHT OF WAY MARKERS	3262.44
641-1100	66	LF	44.51	GUARDRAIL, TP T	2937.66
641-1200	850	LF	16.18	GUARDRAIL, TP W	13753.00
641-5001	10	EA	643.56	GUARDRAIL ANCHORAGE, TP 1	6435.60
641-5012	10	EA	1809.67	GUARDRAIL ANCHORAGE, TP 12	18096.70
				Section Sub Total:	**$1,003,240.49**

Section Paving

Item Number	Quantity	Units	Unit Price	Item Description	Cost
310-5060	16899	SY	11.87	GR AGGR BASE CRS, 6 INCH, INCL MATL	200591.13
310-5100	16899	SY	15.39	GR AGGR BASE CRS, 10 INCH, INCL MATL	260075.61
310-5120	19669	SY	19.28	GR AGGR BASE CRS, 12 INCH, INCL MATL	379218.32
400-3604	1641	TN	101.76	ASPH CONC 12.5 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	166988.16
402-3121	8427	TN	60.74	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	511855.98
402-3141	2163	TN	0.00	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL	0.00
402-3192	4510	TN	76.00	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL	342760.00
413-1000	2460	GL	1.99	BITUM TACK COAT	4895.40
430-0620	1788	SY	99.50	PLAIN PC CONC PVMT, CL HES CONC, 12 INCH THK	177906.00
432-0206	7887	SY	1.96	MILL ASPH CONC PVMT, 1 1/2 IN DEPTH	15458.52
				Section Sub Total:	**$2,059,749.12**

Section Signing

Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1020	115	SF	14.84	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	1706.60
636-1033	133	SF	19.66	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	2614.78
636-2070	354	LF	8.52	GALV STEEL POSTS, TP 7	3016.08
639-2001	200	LF	2.09	STEEL WIRE STRAND CABLE, 1/4 IN	418.00
639-3004	2	EA	12051.85	STEEL STRAIN POLE, TP IV	24103.70
652-5301	4140	LF	0.16	SOLID TRAF STRIPE, 6 IN, WHITE	662.40
652-5451	52000	LF	0.20	SOLID TRAFFIC STRIPE, 5 IN, WHITE	10400.00
652-5452	500	LF	0.20	SOLID TRAFFIC STRIPE, 5 IN, YELLOW	100.00
653-0110	10	EA	55.67	THERMOPLASTIC PVMT MARKING, ARROW, TP 1	556.70
653-0120	30	EA	73.95	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	2218.50

653-0140	5	EA	76.83	THERMOPLASTIC PVMT MARKING, ARROW, TP 4	384.15
653-0170	7	EA	81.42	THERMOPLASTIC PVMT MARKING, ARROW, TP 7	569.94
653-1501	21000	LF	0.42	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	8820.00
653-1502	5500	LF	0.43	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	2365.00
653-1704	420	LF	3.64	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	1528.80
653-1804	5500	LF	2.12	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	11660.00
653-3501	20000	GLF	0.46	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	9200.00
653-6004	1550	SY	3.14	THERMOPLASTIC TRAF STRIPING, WHITE	4867.00
654-1001	16	EA	3.37	RAISED PVMT MARKERS TP 1	53.92
654-1003	163	EA	3.69	RAISED PVMT MARKERS TP 3	601.47
				Section Sub Total:	**$85,847.04**

Section signal

Item Number	Quantity	Units	Unit Price	Item Description	Cost
615-1200	670	LF	11.82	DIRECTIONAL BORE -	7919.40
636-1041	99	SF	46.74	HIGHWAY SIGNS, TP 2 MATL, REFL SHEETING, TP 9	4627.26
639-3004	8	EA	12051.85	STEEL STRAIN POLE, TP IV	96414.80
647-1000	2	LS	53242.21	TRAFFIC SIGNAL INSTALLATION NO -	106484.42
647-2140	2	EA	1328.26	PULL BOX, PB-4	2656.52
647-2150	2	EA	1760.20	PULL BOX, PB-5	3520.40
682-6233	2720	LF	3.91	CONDUIT, NONMETL, TP 3, 2 IN	10635.20
935-1511	120	LF	2.39	OUTSIDE PLANT FIBER OPTIC CABLE, DROP, SINGLE MODE, 6 FIBER	286.80
935-3203	2	EA	936.66	FIBER OPTIC CLOSURE, AERIAL (SEALED), 24 FIBER	1873.32
935-4010	6	EA	41.49	FIBER OPTIC SPLICE, FUSION	248.94
935-6562	4	EA	1862.19	EXTERNAL TRANSCEIVER, DROP AND REPEAT, 1310 SINGLE MODE, (SIGNAL JOBS)	7448.76
938-1100	8	EA	5999.25	INTERSECTION VIDEO DETECTION SYSTEM ASSEMBLY, TYPE A	47994.00
938-1200	2	EA	1369.73	PROGRAMMING MONITOR, TYPE A	2739.46
938-1210	8	EA	461.95	OUTPUT EXPANSION MODULE, TYPE A	3695.60
938-8000	2	LS	2845.86	TESTING	5691.72
				Section Sub Total:	**$302,236.60**

Section Bridge

Item Number	Quantity	Units	Unit Price	Item Description	Cost
207-0203	77	CY	50.09	FOUND BKFILL MATL, TP II	3856.93
211-0200	784	CY	36.64	BRIDGE EXCAVATION, GRADE SEPARATION	28725.76
441-0004	1508	SY	45.72	CONC SLOPE PAV, 4 IN	68945.76
500-0100	2840	SY	4.82	GROOVED CONCRETE	13688.80
500-1006	855	LS	770.88	SUPERSTR CONCRETE, CL AA, BR NO -	659102.40
500-2100	857	LF	41.38	CONCRETE BARRIER	35462.66
500-3002	684	CY	514.64	CLASS AA CONCRETE	352013.76
507-9001	968	LF	97.94	PSC BEAMS, AASHTO TYPE I, BR NO -	94805.92
507-9002	446	LF	113.70	PSC BEAMS, AASHTO TYPE II, BR NO -	50710.20
507-9031	2495	LF	181.22	PSC BEAMS, AASHTO, BULB TEE, 63 IN, BR NO -	452143.90
511-1000	97355	LB	0.85	BAR REINF STEEL	82751.75
511-3000	101861	LS	0.89	SUPERSTR REINF STEEL, BR NO -	90656.29
514-1000	97288	LS	1.05	EPOXY COATED SUPERSTR REINF STEEL, BR NO -	102152.40
520-1125	2350	LF	52.04	PILING IN PLACE, STEEL H, HP 12 X 53	122294.00
520-1147	2090	LF	64.24	PILING IN PLACE, STEEL H, HP 14 X 73	134261.60
520-4125	2	EA	0.94	LOAD TEST, STEEL H, HP 12 X 53	1.88
520-4147	2	EA	0.86	LOAD TEST, STEEL H, HP 14 X 73	1.72
				Section Sub Total:	**$2,291,575.73**

Section Earthwork

Item Number	Quantity	Units	Unit Price	Item Description	Cost
210-0100	1	LS	698942.39	GRADING COMPLETE -	698942.39
				Section Sub Total:	**$698,942.39**

Subtotal Construction Cost	**$7,255,320.29**
E&C Rate 10.0 %	$725,532.03
Inflation Rate 0.0 % @ 0 Years	$0.00
Total Construction Cost	**$7,980,852.32**
Right Of Way	$3,200,000.00
ReImb. Utilities	$2,168,770.00
Grand Total Project Cost	**$13,349,622.32**

change → 5345,485

15,295,107

PRELIMINARY RIGHT-OF-WAY COST ESTIMATE

Date:	July 16, 2008	
Project:	Big Shanty Connector – Phase I	
Project No.:	CSSTP-0006-00 (869)	P.I. No. 0006869
Existing/Req'd R/W:	120 feet – varies	
Project Termini:	Busbee Parkway to I-75	
Project Description:	New alignment of 0.47 miles	

Commercial Land:

R/W:	216,483.26 s.f.@	$	10.00 /s.f.	=	$ 2,164,830.00
Easements:	77,827.66 s.f. @	$	/ s.f.	=	155,655.00

Improvements:

1 Commercial building, fence, curbing, paving, signs,	$ 2,500,000.00

Relocations:

1 Commercial @ $25,000/ parcel	25,000.00
Damages: **(Parcel 1)**	300,000.00
TOTAL ESTIMATE:	**$ 5,145,485.00**

Prepared By: Janis Killian **Date:** July 17, 2008
Right-of-Way Program Manager

Value Engineering Process

VALUE ENGINEERING PROCESS

Introduction
This report summarizes the analysis and conclusions by the PBS&J Value Engineering team as they performed a VE Study during the period of October 14 through October 17, 2008 in Atlanta, Georgia, for the Georgia Department of Transportation. The workshop agenda is presented herein.

The Value Engineering Study team and its leadership were provided by PBS&J. This VE Team consisted of the following:

Les M. Thomas, P.E., CVS-Life	Certified Value Specialist
John Luh, Ph.D., P.E., PTOE, AICP, AVS	Highway and Transportation PE
Kevin Martin, Esq. AVS	Highway Construction Specialist
Barry Brown, PE	Senior Bridge Structural Engineer
Randy S. Thomas, CVS	Assistant Team Leader

A Site Visit was performed on October 13 & 14, 2008 (see pictures included).

The Value Engineering Team followed the Seven Step Value Engineering job plan as promulgated by SAVE International. This Seven Step job plan includes the following:

- **Investigation/Information Phase** – during this phase of the VE Team's work, the team received a briefing from the Croy Engineering design team and the Georgia Department of Transportation (GDOT) staff. This briefing included discussions of the design intent behind the project, the cost concerns, and the physical project limitations. In the working session that followed, the VE Team developed cost models from the cost data provided by the designers and familiarized themselves with the construction drawings and other data that was available to the team. Some of the representative project information (concept report, cost estimate, and special provisions) may be found in the tabbed section of this report entitled ***Project Description***. Following this current narrative the reader will also find a cost model done in the Pareto fashion, i.e., identifying the highest costs down to the lowest costs for the larger construction cost elements. This cost model, developed by the VE Team, was used by the VE Team to help focus their week of work. The headings on the Pareto Chart also were used as headings for creative phase activities.

- **Analysis Phase** – during this phase the VE Team determined the "**Functions**" of the project. This was accomplished by reviewing the project from the simplest format in asking the questions of "What is the project suppose to do?", and "How is it suppose to accomplish this purpose? In the Value Engineering vernacular, the answers to these questions are cast in the form of active verbs and measurable nouns.

- These verb/noun pairs form the basis of the function analysis which distinguishes a Value Engineering effort from a potentially damaging cost cutting exercise.

- The important functions of the project were identified as follows:

    - **Project Objective/Goals**
        - **Improve Safety**
        - **Increase Capacity**
        - **Separate Traffic**
        - **Provide for future growth**

    - **Project Basic Functions**
        - **Construct new Bridges**
        - **Additional Traffic Lanes**
        - **Construction Additional Turn Lanes**
        - **Provide Separation of Traffic**
        - **Provide Access to Park**
        - **Provide Traffic Controls**
        - **Provide Bike Lanes and Sidewalks**

- **Speculation Phase -** The VE team performed a brainstorming session to identify ideas that might help meet the project objectives:

    - Improve Safety
    - Increase Capacity
    - Reduce construction and life cycle costs
    - Reduce the time of construction

    This brainstorming session initially identified numerous ideas that were then evaluated in the Judgment phase. The reader will find the creative worksheets enclosed. These same work sheets were also used to record the results of the Judgment/Evaluation Phase.

- **Evaluation Phase –** Once the VE Team identified the creative ideas, it was necessary to decide which alternatives should be carried forward. This is the work of the Evaluation or Judgment Phase. The VE Team reflected back on the project constraints and objectives shared with the team by the owner's representatives, in the kick-off meeting on the first day of the workshop. From that guidance, the team selected ideas that they believed would improve the project by a vote process.

- Following that selection process, the VE Team used the following values as measures of whether or not an alternative had enough merit to be carried forward in the VE process:

    - Construction Cost Savings
    - Maintainability
    - Ability to Implement the Idea
    - General Acceptability of the Alternatives
    - Constructability

    Based on these measurement sticks, the VE Team evaluated the alternatives and graded them from 5 (Excellent) down to 1 (Poor). Other notes about the alternatives are annotated at the bottom of the enclosed creative and evaluation sheets.

- **Development Phase** – During this phase, the VE Team developed each of the selected design alternatives. This effort included a detailed explanation of the idea with sketches as appropriate to clarify the idea from the original concept, advantages and disadvantages, a technical explanation and an estimation of the cost and resultant savings if implemented. (see the tabbed section – Study Results)

- **Recommendation Phase –** During this phase the VE Team reviews the alternative ideas to confirm which ones are appropriate for the project, have an opportunity for success and which will improve the value of the project if implemented.

- **Presentation Phase** – As noted earlier, the team made an informal "out-briefing" on the last day of the workshop, designed to inform the Owners and the Designers of the initial findings of the VE Study. This written report is intended to formalize those findings.

The following **Function – Worth - Cost** Analysis, was utilized to focus the team and stimulate brainstorming; a copy of the **Attendance Sheets** is also attached so that the reader can be informed about who participated in the Study proceedings.

VALUE ENGINEERING STUDY AGENDA

for
Georgia Department of Transportation
Project No. CSSTP-0006-00(869)
P.I. No. 0006869
Big Shanty Road Connector - Cobb County

October 14 - 17, 2008

Pre-Workshop Activities

VE Team Leader organizes study, coordinates with the Owner and Designer the project objectives and materials necessary. The VE Team receives and reviews all project documents. The team develops a Pareto Chart and/or Cost Model for the project. A member of the VE Team visits the project site.

Day One

9:00-10:30 Design Team Presentation (Information Phase)

- Introduction of participants, owner, designer, and VE team members
- Presentation of the project by the design engineer including:
  - History and background
  - Design Criteria and Constraints
  - Special "U" turn requirements
  - Special needs (schools, businesses, etc.)
  - Sidewalk, bicycle lanes, and or multi-use trails
  - Historical Property protection
  - Current Construction Completion Schedule
  - Project Cost Estimate and Budget Constraints
- Owner Presentation – special requirements, definition of life cycle period and interest rate for life cycle costs
- Review VE Pareto Chart/Cost Model
- Discussion, questions and answers
- Overview of the VE Process and Agenda – Workshop goals & project goals

10:30-12:00 VE Team reviews project (Information Phase)

- Review design team's presentation
- Review agenda and goals of the study

1:00-2:30 Function Analysis Phase

- Analyze Cost Model – Pareto
- Identify basic and secondary functions
- Complete Function Matrix/FAST Diagram

2:30-5:00 Creative Phase

- Brainstorming of alternative ideas

Day Two

8:00-10:00 Evaluation Phase

- Establish criteria for evaluation
- Rank ideas
- Identify “best” ideas for development
- Identify those ideas that will become Design Suggestions
- Develop a cost/worth analysis
- Identify a “champion” for each idea to be developed

10:00-5:00 Development Phase

- Develop alternative ideas design suggestions with assessment of original design and write up new alternatives including:
    - Opportunities & risks
    - Illustrations
    - Calculations
    - Cost worksheets
    - Life cycle cost analysis

Day Three

8:00-5:00 Development Phase

- Continue developing Alternative Ideas
- Continue developing Design Suggestions
- Prepare for presentation to Owners and Designers

Day Four

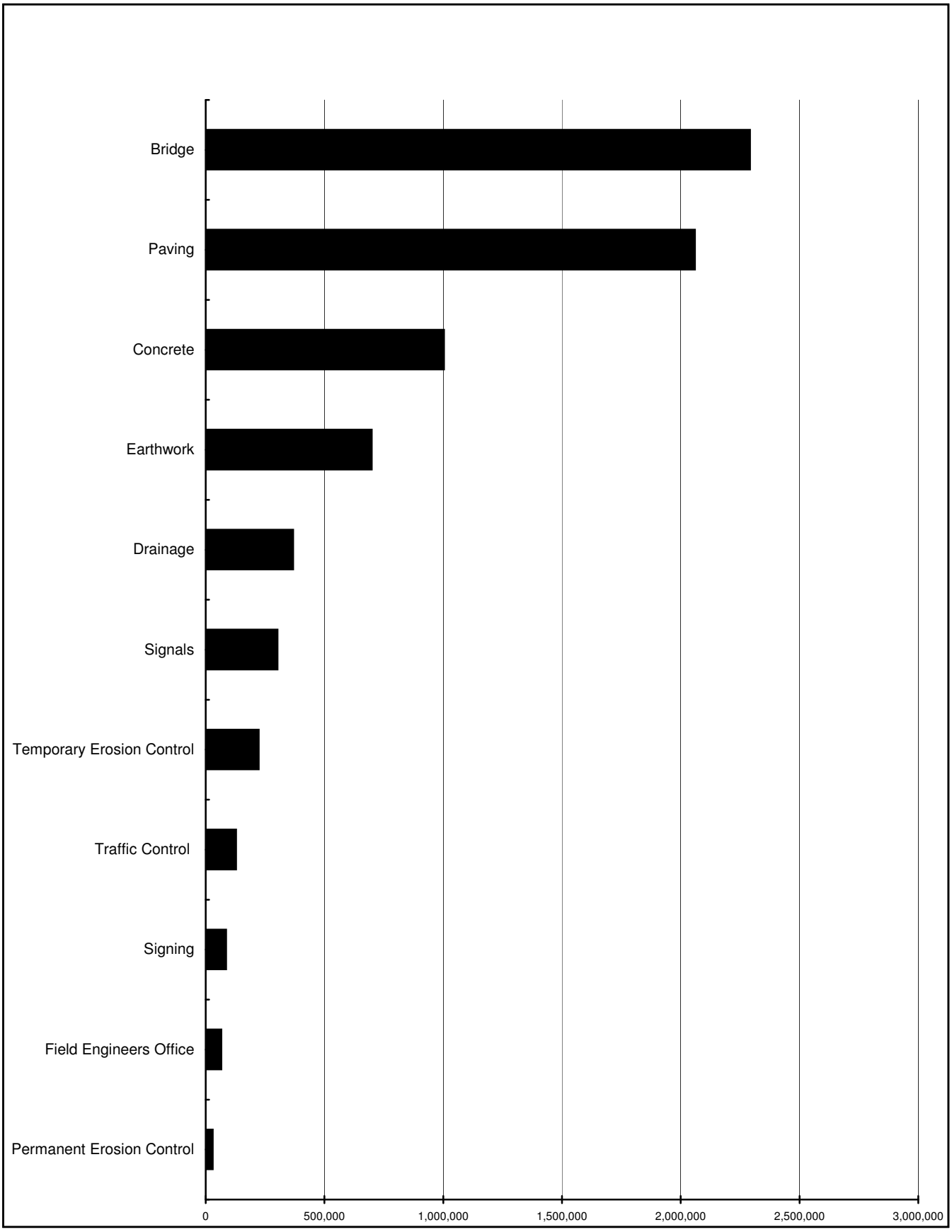
8:00-9:00 Prepare Presentation
9:00-10:00 VE Team Presentation

PARETO CHART - COST HISTOGRAM

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869) - P.I. 0006869
Big Shanty Road Connector - Cobb County

PROJECT ELEMENT	COST	PERCENT	CUM. PERCENT
Bridge	2,291,576	31.58%	31.58%
Paving	2,059,749	28.39%	59.97%
Concrete	1,003,240	13.83%	73.80%
Earthwork	698,942	9.63%	83.44%
Drainage	368,211	5.08%	88.51%
Signals	302,236	4.17%	92.68%
Temporary Erosion Control	222,903	3.07%	95.75%
Traffic Control	127,655	1.76%	97.51%
Signing	85,847	1.18%	98.69%
Field Engineers Office	65,840	0.91%	99.60%
Permanent Erosion Control	29,121	0.40%	100.00%
Subtotal not including ROW costs	**$ 7,255,320**	**100.00%**	
E & C Rate @ 10%	**$ 725,532**		
Subtotal =	**$ 7,980,852**		
Total Construction Cost =	**$ 7,980,852**		
Right-of-Way =	**$ 5,145,485**		
Reimb. Utilities =	**$ 2,168,770**		
TOTAL	**$ 15,295,107**	**Comp Mark-up:**	10%

Project No.CSSTTP=0006=00(869)
P.I. No. 0006869
Cobb County



DESIGNER PRESENTATION

MEETING PARTICIPANTS

Geogia Department of Transportation **October 14, 2008**

CSSTP-0006-00(869) - P.I. 0006869 - Cobb County

NAME		ORGANIZATION & TITLE	E-MAIL	PHONE
Lisa Myers		GDOT - Engineering Services	lisa.myers@dot.state.ga.us	404-631-1770
Ken Werho		GDOT-TMC T.O.	kwerho@dot.ga.gov	404-635-8144
Willie Boatman		GDOT-TEA	wboatman@dot.ga.gov	
Bassem Tannir		GDOT-TEA	btannir@dot.ga.gov	404-936-6522
Justin Banks		GDOT-TEA	jubanks@dot.ga.gov	
Jennifer Harris-Dunham		GDOT-Bridge	jharris-dunham@dot.ga.gov	404-631--1897
James F. Harry		GDOT-District 7	jharry@dot.ga.gov	770-528-3238
Mike Lobdell		GDOT-District 7	mlobdell@dot.ga.gov	770-986-6157
Kevin Cowan		GDOT-District 7	kcowan@dot.ga.gov	770-986-1786
Merishia Robinson		GDOT-District 7	mrobinson@dot.ga.gov	707-986-1114
Melanie Nable		OEL	mnable@dot.ga.gov	404-699-4436
Rebecca Collins		Croy Engineering	rcollins@croyengineering.com	770-971-5407
Greg Teague		Croy Engineering	gteague@croyengineering.com	770-971-5407
Sam Deeb		MAAI	sdeeb@maai.net	770-263-5945
Les Thomas, P.E., CVS-Life		PBS&J	lmthomas@pbsj.com	678-677-6420
Randy S. Thomas, CVS		PBS&J	rsthomas@pbsj.com	678-677-6420
Dr. John Luh, AVS		PBS&J	jzluh@pbsj.com	678-677-6420
Barry Brown, P.E.		PBS&J	blbrown@pbsj.com	678-247-2437
Kevin Martin, Esq., AVS		PBS&J	klmartin@pbsj.com	205-969-3776

VE TEAM PRESENTATION

MEETING PARTICIPANTS

Geogia Department of Transportation			October 17, 2008	
CSSTP-0006-00(869) - P.I. 0006869 - Cobb County				
NAME		ORGANIZATION & TITLE	E-MAIL	PHONE
Lisa Myers		GDOT - Engineering Services	lisa.myers@dot.ga.gov	404-631-1770
Ron Wishon		GDOT-Engineering Services	rwishon@dot.ga.gov	404-631-1753
Mike Wrght		Cobb County	michael.wright@cobbcounty.org	770-528-4375
Bassem Tannir		GDOT-TEA	btannir@dot.ga.gov	404-936-6522
Justin Banks		GDOT-TEA	jubanks@dot.ga.gov	
Jennifer Harris-Dunham		GDOT-Bridge	jharris-dunham@dot.ga.gov	404-631--1897
Rebecca Collins		Croy Engineering	rcollins@croyengineering.com	770-971-5407
Greg Teague		Croy Engineering	gteague@croyengineering.com	770-971-5407
Sam Deeb		MAAI	sdeeb@maai.net	770-263-5945
Les Thomas, P.E., CVS_Life		PBS&J	lmthomas@pbsj.com	678-677-6420
Randy S. Thomas, CVS		PBS&J	rsthomas@pbsj.com	678-677-6420
Dr. John Luh, AVS		PBS&J	jzluh@pbsj.com	678-677-6420
Kevin Martin, Esq., AVS		PBS&J	klmartin@pbsj.com	205-969-3776
Barry Brown, P.E.		PBS&J	blbrown@pbsj.com	678-247-2437

CREATIVE IDEA LISTING

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869)
Big Shanty Road Connector - Cobb County

SHEET NO.: **1** of **2**

NO.	IDEA DESCRIPTION	RATING
	BRIDGE (BR)	
BR-1	Use MSE wall abutments	5
BR-2	Change the vertical clearance from 17'6" to 17'-0"	DS
BR-3	Build bridges on median side of existing roadway (construct new I-75 alignment using asphalt instead of concrete	3
BR-4	Raise bridges to reduce earthwork	1
BR-5	Drill caisson instead of pile footings	1
BR-6	Raise northbound bridge	2
BR-7	Reduce number of beams	4
	EARTHWORK (EW)	
EW-1	Adjust grade north of bridges to reduce earthwork	2
	ROADWAY (RD)	
RD-1	Design temporary by-pass to meet the requirements of a HOV exit	3
RD-2	Incorporate one detour by-pass into future HOV configuration	2
RD-3	Construct single detour instead of two on I-75	3
RD-4	Remove bike lanes and sidewalks reducing the Right-of-Way and construct a multi-use trail somewhere else	2
RD-5	Use a multi-use trail on one side only	5
RD-6	Provide consistent median width on Big Shanty Road	2
RD-7	Use typical section #3 for consistent median width	1

Rating: 1→2 = Not to be Developed; 3 = Varying Degrees of Development Potential;
4→5 = Most likely to be Developed; DS = Design Suggestion; ABD = Already Being Done

CREATIVE IDEA LISTING

PROJECT: **Georgia Department of Transportation**
CSSTP-0006-00(869)
Big Shanty Road Connector - Cobb County

SHEET NO.: **2** of **2**

NO.	IDEA DESCRIPTION	RATING
	ROADWAY (RD)) cont.	
RD-8	Delete the bike lanes	5
RD-9	Use two-way left turn lane	4
RD-10	Reduce shoulders to 12’	4
RD-11	Increase clear span under both bridges by 12’ to provide for future HOT access	4
RD-13	Avoid Penske lot by putting in a S curve	2
	RIGHT-OF-WAY (ROW)	
ROW-1	Adjust the Right-of-Way to keep Kids R Kids	2
ROW-2	Reduce storage lane to lessen the impact on Kids R Kids	1
ROW-3	Allow for the construction of basin #2 in the most southerly corner of the site	DS
	DRAINAGE (DR)	
DR-1	Divert easterly creek to New Big Shanty storm drain to the west	2
DR-2	Replace 24” elliptical pipe with 36” equivalent	2
DR-3	Replace six -24” pipes with fewer equivalent pipe and outfall approximately 400’ south	3
DR-4	Route stormwater from northeast westerly to Barrett Lakes Blvd. via an open channel	2
DR-5	Modify drainage structures at Sta +/- 60+88	5

Rating: 1→2 = Not to be Developed; 3 = Varying Degrees of Development Potential;
4→5 = Most likely to be Developed; DS = Design Suggestion; ABD = Already Being Done