

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** P. I. No. 0006910, Fulton County  
CSSTP-0008-00(910)  
Jones Bridge Road at Buice Road-  
Intersection Improvements

**OFFICE** Preconstruction

**DATE** March 25, 2009

**FROM**  Genetha Rice-Singleton, Assistant Director of Preconstruction

**TO** SEE DISTRIBUTION

**SUBJECT APPROVED PROJECT CONCEPT REPORT**

Attached for your files is the approval for subject project.

Attachment

**DISTRIBUTION:**

Ron Wishon  
Glenn Bowman  
Ken Thompson  
Michael Henry  
Keith Golden  
Rachel Brown  
Paul Liles  
Mike Lobdell  
Scott Lee  
BOARD MEMBER

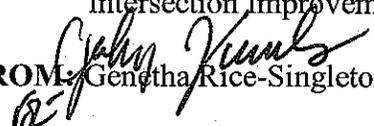
**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENTAL CORRESPONDENCE**

**FILE:** P.I. No. 0006910, Fulton County  
CSSTP-0006-00(910)  
Jones Bridge Road at Buice Road-  
Intersection Improvements

**OFFICE:** Preconstruction

**DATE:** March 4, 2009

**FROM:**  Genetha Rice-Singleton, Assistant Director of Preconstruction

**TO:** Gerald M. Ross, P.E., Chief Engineer

**SUBJECT: PROJECT CONCEPT REPORT**

This project is the intersection improvements to Jones Bridge Road at Buice Road in the city of Johns Creek, Georgia. Jones Bridge Road is currently a two lane road with a posted speed of 45 MPH. Jones Bridge Road runs in a north-south direction from McGinnis Ferry Road to the north to Old Alabama Road to the south. Buice Road is a two lane road with a posted speed of 25 MPH. The intersection is signalized and Buice Road runs in a north-south direction and is used as an alternative route between Kimball Bridge Road and Old Alabama Road. Jones Bridge Road serves residential developments in the vicinity of the intersection. The proposed project will improve the intersection by adding turn lanes and addressing the intersection site distance deficiencies. The projected volumes are 23,020 VPD on this section of Jones Bridge Road for the year 2011 and 38,870 VPD for the design year 2031. The existing two lane roadway would be inadequate to handle such volumes. Intersection analyses as well as the accident history and accident rates indicate that additional turn lanes are needed to handle the increased traffic volumes and improve safety.

The proposed project consists of adding a 175' right turn lanes on the Jones Bridge Road approaches to Buice Road, and a 100' southbound left turn lane on Buice Road, replacing the existing 5' sidewalks on Jones Bridge Road and Buice Road, a 10' multi-use trail will be added on the south side of Jones Bridge Road as per the City of Johns Creek's Multi-Use Plan. The existing 67 degree skew angle of Waters Road will be improved to meet the minimum skew angle of 70 degrees as part of this project.

Environmental concerns include requiring a Categorical Exclusion be prepared; a Public hearing is not required; Time saving procedures are appropriate.

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C)	\$ 816,000	\$ 850,000	L230	2010
Right-of-way & Utilities*	Local	Local		

\*Johns Creek signed PFA on 6-21-2007 for PE, Utilities, ROW and 20% CST.

P.I. No. 0006910, Fulton County

Page 2

March 4, 2009

I recommend this project concept be approved.

GRS: JDQ  
Attachment

CONCUR

*Yvette Rice-Spitzer for Director*  
\_\_\_\_\_  
Director of Preconstruction

APPROVED

*Gerald M. Ross*  
\_\_\_\_\_  
Gerald M. Ross, P.E., Chief Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**DISTRICT SEVEN PRECONSTRUCTION**

**PROJECT CONCEPT REPORT**

Project Number: CSSTP-0006-00(910)

County: Fulton

P. I. Number: 0006910

Federal Route Number: N/A

State Route Number: N/A

Intersection Improvement Project: Jones Bridge Road at Buice Road

See Sheets 2 & 3 for Location Map

Recommendation for approval:

DATE 12/19/08

[Signature]  
Project Manager

DATE 12/19/08

[Signature]  
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 12-31-08

[Signature]  
Financial Management Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environment/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Review Engineer

[Signature]

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

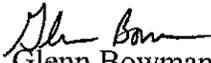
**INTERDEPARTMENT CORRESPONDENCE**

**FILE: P.I. No. 0006910**

**OFFICE: Environment/Location**

**PROJECT No. CSSTP-0006-00(910) / FULTON County DATE: 1/21/09**

**Intersection Improvement Project: Jones Bridge Rd. at Buice Rd.**

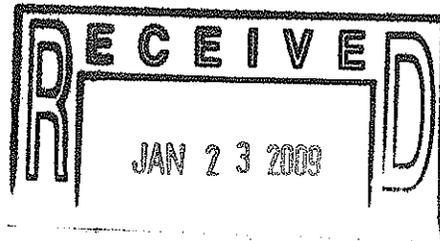
**FROM:**   
Glenn Bowman, P.E., State Environmental/Location Engineer  
**TO:** Genetha Rice-Singleton, Assistant Director of Preconstruction  
**SUBJECT: PROJECT CONCEPT REPORT REVIEW**

The Concept Report for the above project has been reviewed and appears satisfactory for approval. It is noted that the project does not have any management directed right of way or construction dates in TPRO, but construction funding is proposed for FY 2011.

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

GB:lc

cc: Ron Wishon  
Angela Whitworth  
Keith Golden  
Angela Alexander  
Bryant Poole



**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**DISTRICT SEVEN PRECONSTRUCTION**

**PROJECT CONCEPT REPORT**  
Project Number: CSSTP-0006-00(910)  
County: Fulton  
P. I. Number: 0006910

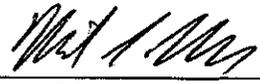
Federal Route Number: N/A  
State Route Number: N/A

Intersection Improvement Project: Jones Bridge Road at Buice Road

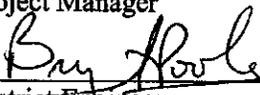
See Sheets 2 & 3 for Location Map

Recommendation for approval:

DATE 12/19/08

  
Project Manager

DATE 12/19/08

  
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).

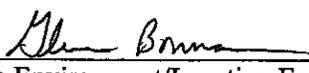
DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

DATE 1/21/09

  
State Environment/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Review Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**DISTRICT SEVEN PRECONSTRUCTION**

**PROJECT CONCEPT REPORT**

Project Number: CSSTP-0006-00(910)

County: Fulton

P. I. Number: 0006910

Federal Route Number: N/A

State Route Number: N/A

Intersection Improvement Project: Jones Bridge Road at Buice Road

See Sheets 2 & 3 for Location Map

Recommendation for approval:

DATE 12/19/08

  
\_\_\_\_\_  
Project Manager

DATE 12/19/08

  
\_\_\_\_\_  
District Engineer

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DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

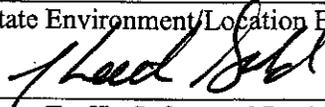
DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environment/Location Engineer

DATE 12-22-08

  
\_\_\_\_\_  
State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Review Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**DISTRICT SEVEN PRECONSTRUCTION**

**PROJECT CONCEPT REPORT**  
Project Number: CSSTP-0006-00(910)  
County: Fulton  
P. I. Number: 0006910

Federal Route Number: N/A  
State Route Number: N/A

Intersection Improvement Project: Jones Bridge Road at Buice Road

See Sheets 2 & 3 for Location Map

Recommendation for approval:

DATE 12/19/08

[Signature]  
Project Manager

DATE 12/19/08

[Signature]  
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 12-31-08

[Signature]  
Financial Management Administrator

DATE \_\_\_\_\_

State Environment/Location Engineer

DATE \_\_\_\_\_

State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

Project Review Engineer

[Signature]

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**DISTRICT SEVEN PRECONSTRUCTION**

**PROJECT CONCEPT REPORT**

Project Number: CSSTP-0006-00(910)

County: Fulton

P. I. Number: 0006910

Federal Route Number: N/A

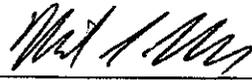
State Route Number: N/A

Intersection Improvement Project: Jones Bridge Road at Buice Road

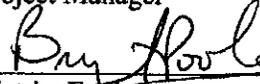
See Sheets 2 & 3 for Location Map

Recommendation for approval:

DATE 12/19/08

  
Project Manager

DATE 12/19/08

  
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 \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environment/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Review Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

DISTRICT SEVEN PRECONSTRUCTION

**PROJECT CONCEPT REPORT**

Project Number: CSSTP-0006-00(910)

County: Fulton

P. I. Number: 0006910

Federal Route Number: N/A

State Route Number: N/A

Intersection Improvement Project: Jones Bridge Road at Buice Road

See Sheets 2 & 3 for Location Map

Recommendation for approval:

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Manager

DATE \_\_\_\_\_

\_\_\_\_\_  
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 1-8-09

*Angela J. Alexander*  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environment/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Safety and Design Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
Project Review Engineer

**NOTICE OF LOCATION AND DESIGN APPROVAL**

**PROJECT CSSTP-0006-00(910), Fulton County**

**P. I. NUMBER 0006910**

Notice is hereby given in compliance with Georgia Code 22-2-109 that the Georgia Department of Transportation has approved the Location and Design of this project.

The date of location approval is MARCH 25, 2009

Project CSSTP-0006-00(910) located in the City of Johns Creek, Fulton County, GA is proposed to improve the existing intersection at Jones Bridge Road and Buice Road. This project includes adding right turn lanes on the Jones Bridge Road approaches to Buice Road, adding a southbound left turn lane on Buice Road, replacing the existing 5' sidewalks on Jones Bridge Road and Buice Road, and adding a 10' multi-use trail on the south side of Jones Bridge Road as per the City of Johns Creek's Multi-Use Trail Plan.

The project is located entirely within Fulton County, in Land District 11, Land Lot 290. The project is also 100 percent within Congressional District 13.

Drawings or maps or plats of the proposed project, as approved, are on file and are available for public inspection at the Georgia Department of Transportation:

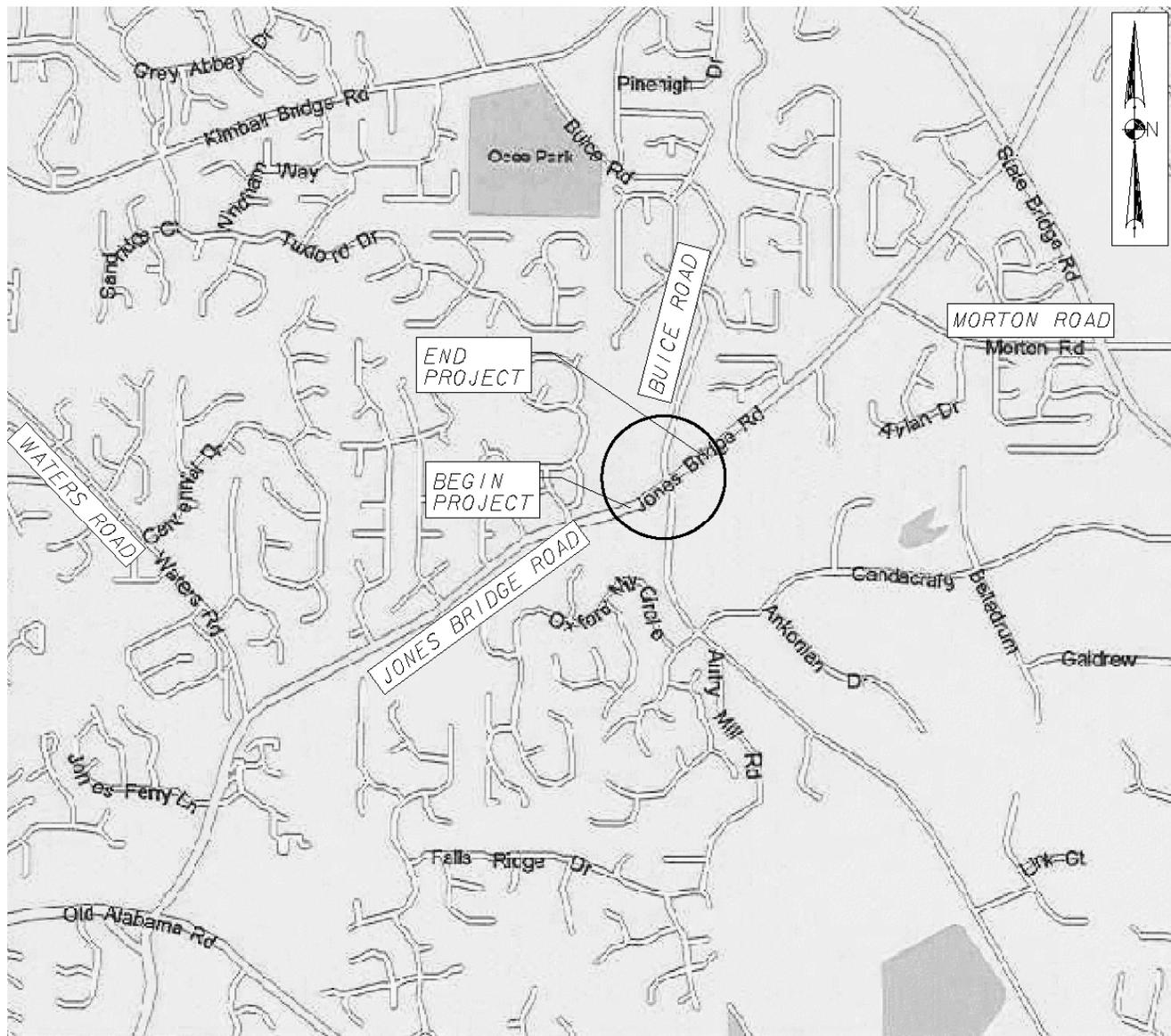
Sebastian Nesbitt  
District 7 Area 2 Engineer  
1269 Kennestone Circle  
Marietta, GA 30066  
(770) 528-3238  
snesbitt@dot.ga.gov

Any interested party may obtain a copy of the drawings or maps or plats or portions thereof by paying a nominal fee and requesting in writing to:

Mike Lobdell, PE  
District 7 Preconstruction Office  
5025 New Peachtree Road  
Chamblee, GA 30341  
(770) 986-1257  
mlobdell@dot.ga.gov

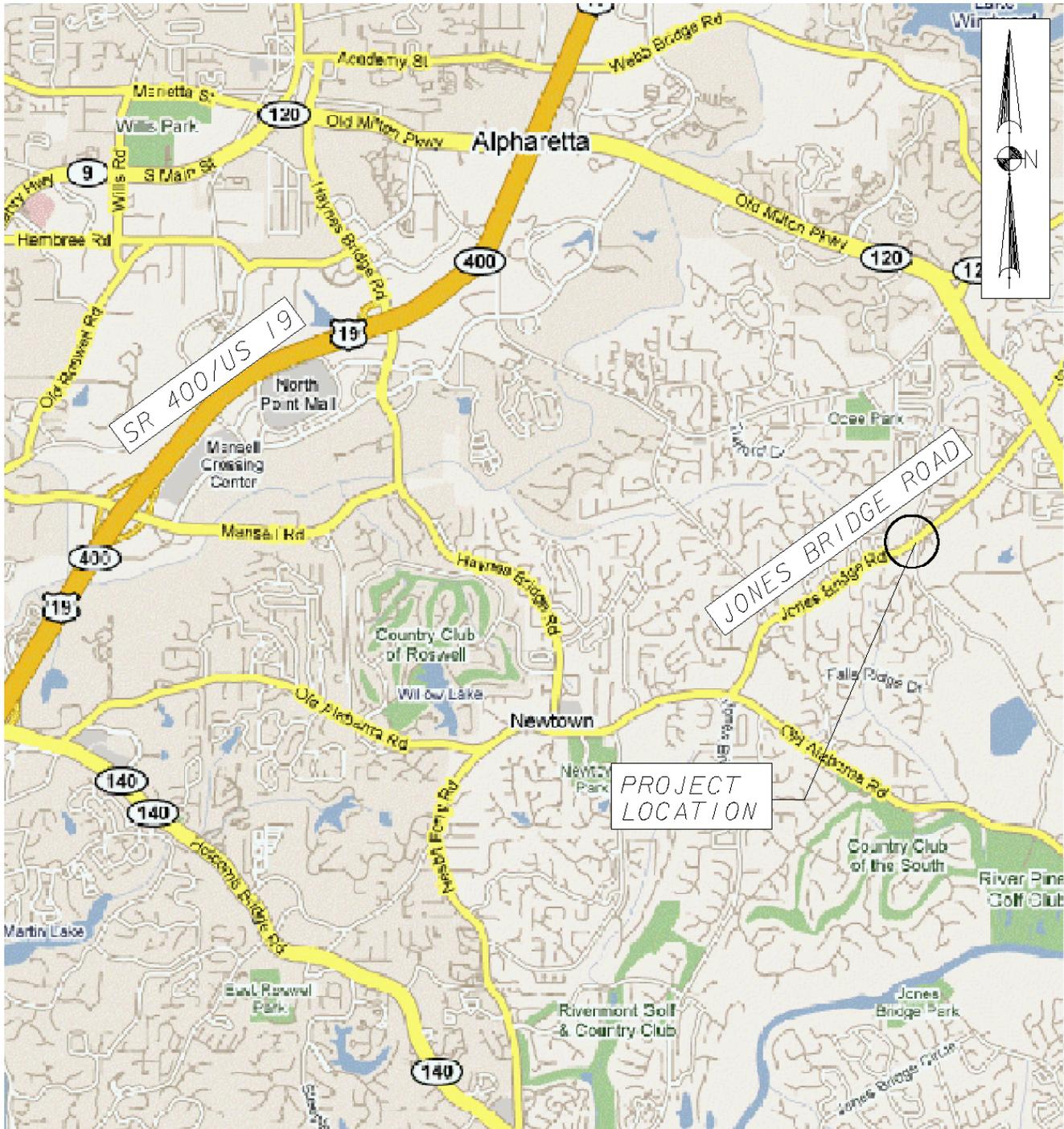
Any written request or communication in reference to this project or notice SHOULD include the Project and P. I. Numbers as noted at the top of this notice.

### PROJECT LOCATION MAP



**Project:** CSSTP-0006-00(910) Fulton County      **PI Number:** 0006910  
**Project Description:** Jones Bridge Road at Buice Road  
Intersection Improvement

### PROJECT LOCATION MAP



**Project:** CSSTP-0006-00(910) Fulton County      **PI Number:** 0006910  
**Project Description:** Jones Bridge Road at Buice Road  
Intersection Improvement

**Need and Purpose:**

Jones Bridge Road is a two-lane road with a posted speed limit of 45 mph. Jones Bridge Road generally runs in a north-south direction from McGinnis Ferry Road on the north to Old Alabama Road on the south. However, at the intersection of Jones Bridge Road and Buice Road, Jones Bridge Road runs in an east-west direction. The area is residential in the vicinity of the intersection.

Buice Road is a two-lane road with a posted speed limit of 25 mph north of Jones Bridge Road and 35 mph south of Jones Bridge Road. The intersection is signalized and Buice Road runs in a north-south direction and is used as an alternative route between Kimball Bridge Road and Old Alabama Road.

- Jones Bridge Road is an Urban Minor Arterial
- Buice Road is a Collector

This intersection was originally evaluated by Fulton County due to its poor level of service and increasing delays. With its establishment, The City of Johns Creek decided to continue the project by conducting a traffic study and preparing concept layouts for this intersection in order to determine the best course of action. The purpose of the proposed project is to improve the operation of the Jones Bridge Road and Buice Road intersection in the City of Johns Creek, Fulton County, Georgia.

The Average Daily Traffic (ADT) on Jones Bridge Road at this intersection is approximately 23,020 vehicles in the build year (2011) and is projected to increase to approximately 33,870 vehicles by the design year (2031).

The study intersection was initially evaluated with a no build option. This analysis demonstrated what level of service the intersection would operate at in the Build Year (2011) and Design Year (2031) if the existing facility were to remain unchanged. The table below contains the results of capacity analysis of projected volumes for the intersection in the Build and Design Years.

**Table 1 – Capacity Analysis Results, No-Build**

Intersection	2011		2031	
	AM Peak	PM Peak	AM Peak	PM Peak
Jones Bridge Road @ Buice Road	D (36.8)	D (45.5)	F (117.8)	F (144.2)

As shown in Table 1 above, the intersection operates at an unacceptable LOS in the Design Year during both AM and PM Peak hours.

**Table 2 – Capacity Analysis Results, Build**

Intersection	2011 Basic		Failure (>LOS D)		2031 Basic		2031 Ultimate	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Jones Bridge Road @ Buice Road	C (22.3)	C (31.2)	2027	2023	E (72.9)	F (86.8)	C (28.1)	C (31.9)

The critical movements at the intersection are the right turn movements off of Jones Bridge Road and the southbound left turn movement from Buice Road. The proposed project will add turn lanes to improve these movements and the operation of the intersection in order to maintain a LOS D for the intersection until the year 2023. The improvements required to maintain a LOS D through the design year (2031) would include providing a four lane divided section on Jones Bridge Road which is outside the scope of this project. As part of the improvements at this intersection the substandard skew angle of 67 degrees will be improved.

Accident data for this intersection for the years 2004 through 2007 are shown in Table 3.

<b>Table 3 – Accident Data</b>									
<b>Year</b>	<b>Accident</b>			<b>Injuries</b>			<b>Fatalities</b>		
	<b>Total</b>	<b>Project Rate</b>	<b>Statewide Avg.</b>	<b>Total</b>	<b>Project Rate</b>	<b>Statewide Avg.</b>	<b>Total</b>	<b>Project Rate</b>	<b>Statewide Avg.</b>
2004	9	641	490	7	499	123	0	0	1.41
2005	9	594	534	1	66	135	0	0	1.56
2006	14	1065	531	4	304	132	0	0	1.51
2007	6	N/A	N/A	1	N/A	N/A	0	N/A	N/A

It is anticipated that, without the proposed operational improvements, accident rates at this intersection could increase due to increased traffic volumes.

**Description of the proposed project:**

Project CSSTP-0006-00(910) located in the City of Johns Creek, Fulton County, GA is proposed to improve the existing intersection at Jones Bridge Road and Buice Road. This project includes adding 175’ right turn lanes on the Jones Bridge Road approaches to Buice Road, adding a 100’ southbound left turn lane on Buice Road, replacing the existing 5’ sidewalks on Jones Bridge Road and Buice Road, and adding a 10’ multi-use trail on the south side of Jones Bridge Road as per the City of Johns Creek’s Multi-Use Trail Plan. The existing 67 degree skew angle of Buice Road will be improved to meet a minimum skew angle of 70 degrees as part of this project.

**Project Length:** 0.14 miles (Jones Bridge Road)  
 0.09 miles (Buice Road)

**Is the project located in a Non-attainment area?**  X  Yes   No

The project includes adding left and right turn lanes and the modification of the existing traffic signal. This project will improve the operation at the intersection and will not add capacity.

This project conforms to the ARC’s TIP (FN-223)

**PDP Classification:** Major   Minor  X

**Federal Oversight:** Full Oversight ( ), Exempt(X), State Funded( ), or Other ( )

**Functional Classification:**

Jones Bridge Road: Urban Minor Arterial  
Buice Road: Collector

**U. S. Route Number(s):** N/A

**State Route Number(s):** N/A

**Traffic (AADT):** Current Year: (2011) 23,020

Design Year: (2031) 33,870

**Existing Design Features:**

- Typical Section:

Jones Bridge Road – 2-12’ lanes with a left turn lane and 10’ shoulders with curb and gutter and 5’ sidewalks

- Posted speed 45 mph Minimum radius for curve: 1,367 ft
- Maximum super-elevation rate for curve: 4 %
- Maximum grade: 5 %
- Width of right-of-way: 60’ - 86’
- Major structures: N/A
- Major interchanges or intersections along the project: Jones Bridge Road at Buice Road
- Existing length of roadway segment: Jones Bridge Road (0.14 miles)

Buice Road - 2-12’ lanes and 10’ shoulders with curb and gutter and 5’ sidewalks

- Posted speed 25/35 mph Minimum radius for curve: 342 ft
- Maximum super-elevation rate for curve: 4 %
- Maximum grade: 6 %
- Width of right-of-way: 50’ - 80’
- Major structures: N/A
- Major interchanges or intersections along the project: Buice Road at Jones Bridge Road
- Existing length of roadway segment: Buice Road (0.09 miles)

**Proposed Design Features:**

- Proposed typical section(s):  
Jones Bridge Road – Urban Section consisting of 2-12’ lanes and left and right turn lanes with 16’ to 20’ shoulders consisting of curb and gutter and a 5’ sidewalk with a 2’ grass strip on the north side of the road and a 10’ sidewalk/multi-use trail with a 2.5’ grass strip on the south side of the road.

Buice Road – Urban Section consisting of 2-12’ lanes and a left turn lane with 10’ shoulders consisting of curb and gutter and 5’ sidewalks with a 2’ grass strip.



- Level of environmental analysis: CE
  - Are Time Savings Procedures appropriate? Yes ( X ), No ( )
  - Categorical Exclusion ( X )
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ( )
  - Environmental Impact Statement (EIS) ( ) .
  
- Utility involvements:
  - Atlanta Gas/Light
  - at&t
  - Suwanee EMC
  - Georgia Power
  - Comcast
  - Fulton County Water & Sewer

**VE Study Required**      Yes( )      No( X )

**Project responsibilities:**

- Design: City of Johns Creek/Wolverton & Associates
- Right of Way Acquisition: City of Johns Creek
- Relocation of Utilities: City of Johns Creek/utility companies
- Letting to contract: City of Johns Creek
- Supervision of construction: City of Johns Creek
- Providing material pits: Contractor
- Providing detours: N/A (no offsite detours required)

**Coordination**

- Initial concept meeting: 5/28/08 (minutes attached)
- Concept Meeting: 9/24/08 (minutes attached)
- P. A. R.: N/A
- FEMA, USCG, and/or TVA: N/A
- Public Involvement: PIOH required (Date and location to be determined)
- Agency Coordination: N/A
- Railroads: N/A
- Local government comments: none
- Other projects in the area:
  - Jones Bridge Road at Morton Road Intersection Improvement, Project # CSSTP-0006-00(907)
  - Jones Bridge Road at Waters Road Intersection Improvement, Project # CSSTP-0006-00(908)
  - Fulton County Waterline relocation project

**Scheduling – Responsible Parties’ Estimate:**

- Time to complete the environmental process: 9 months
- Time to complete preliminary construction plans: 6 months
- Time to complete right of way plans: 4 months
- Time to complete the Section 404 Permit: N/A
- Time to complete final construction plans: 4 months
- Time to complete the purchase of right of way: 12 months
- Time to complete the EIS reevaluation: N/A

**Other alternates considered:**

- Alternative 1 – No Build - This alternative was not chosen because it did not meet the projects need and purpose.
- Alternative 2 – Roundabout – Based on the guidance provided by GDOT in TOPPS 4A-2, a one lane roundabout should not be considered when the ADT of the roadway is greater than 20,000 veh/day. Jones Bridge Road will have an ADT of 23,020 veh/day in the build year. A roundabout was also studied based on research from the USDOT study; Roundabouts: An Informational Guide (FHA Publication No.FHWA-RD-00-067) and based on this information a one lane roundabout can be analyzed using its volume to capacity ratio. According to this study, roundabouts should not be designed to handle any more than 85% of its capacity. As shown in the Traffic Report for this project the alternative was not chosen because the projected volumes exceeded a single lane roundabouts capacity.
- Alternative 3 – Four Lane Jones Bridge Road - This alternative would require two through lanes in each direction on Jones Bridge Road through the intersection with Buice Road. This alternative was not chosen because these improvements were outside the scope of this project.

**Attachments:**

1. Cost Estimates
  - a. Construction (including E&C)
  - b. Right of Way
  - c. Utilities
2. Typical sections
3. Traffic Study
4. Location and Design Notice
5. Concept drawing
6. Meeting minutes
7. B/C Ratio

Page 10  
Project Concept Report  
Project Number: CSSTP-0006-00(910)  
P. I. Number: 0006910  
County: Fulton

## **ATTACHMENTS**

# Summary of Costs

Project P.I. No.0006910

**Subtotal Construction Cost** **\$700,621.72**

- Engineering & Inspection 5% \$35,031.85
- Construction Contingency 5% \$36,782.63
- Total Fuel Adjustment \$11,990.88
- Total Liquid AC Adjustment \$31,513.87

**Total Construction Cost** **\$815,940.95**

- Right-of-Way -- LOCAL \$267,329.29
- Reimbursable Utilities -- LOCAL \$5,000.00

**Total Project Cost** **\$1,088,270.20**

**Estimate Report for file "0006910"**

<b>Section Roadway</b>					
<b>Item Number</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Price</b>	<b>Item Description</b>	<b>Cost</b>
150-1000	1	LS	75000.00	TRAFFIC CONTROL -	75000.00
210-0100	1	LS	60000.00	GRADING COMPLETE -	60000.00
310-1101	1060	TN	19.18	GR AGGR BASE CRS, INCL MATL	20330.80
318-3000	100	TN	22.93	AGGR SURF CRS	2293.00
402-1812	300	TN	67.28	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	20184.00
402-3121	340	TN	61.08	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	20767.20
402-3130	340	TN	62.19	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	21144.60
402-3190	170	TN	58.76	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	9989.20
413-1000	200	GL	1.99	BITUM TACK COAT	398.00
441-0104	1680	SY	34.43	CONC SIDEWALK, 4 IN	57842.40
441-0740	80	SY	34.63	CONCRETE MEDIAN, 4 IN	2770.40
441-6216	2290	LF	11.46	CONC CURB & GUTTER, 8 IN X 24 IN, TP 2	26243.40
446-1100	1500	LF	1.99	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	2985.00
500-3200	300	CY	493.26	CLASS B CONCRETE	147978.00
500-9999	50	CY	221.45	CLASS B CONC, BASE OR PVMT WIDENING	11072.50
550-1180	300	LF	39.94	STORM DRAIN PIPE, 18 IN, H 1-10	11982.00
550-1240	200	LF	43.48	STORM DRAIN PIPE, 24 IN, H 1-10	8696.00
603-2181	50	SY	33.11	STN DUMPED RIP RAP, TP 3, 18 IN	1655.50
603-7000	50	SY	5.31	PLASTIC FILTER FABRIC	265.50
634-1200	10	EA	105.16	RIGHT OF WAY MARKERS	1051.60
668-1110	6	LF	290.58	CATCH BASIN, GP 1, ADDL DEPTH	1743.48
668-2100	1	EA	2461.40	DROP INLET, GP 1	2461.40
668-4300	1	EA	2394.06	STORM SEWER MANHOLE, TP 1	2394.06
<b>Section Sub Total:</b>					<b>\$509,248.04</b>

<b>Section Erosion Control</b>					
<b>Item Number</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Price</b>	<b>Item Description</b>	<b>Cost</b>
1	1	Lump Sum	30000.00	Erosion Control	30000.00
<b>Section Sub Total:</b>					<b>\$30,000.00</b>

<b>Section Signing and Marking and Signals</b>					
<b>Item Number</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Price</b>	<b>Item Description</b>	<b>Cost</b>
2	1	Lump Sum	31300.00	Signing and Marking	31300.00
639-4014	4	EA	7518.42	STRAIN POLE, TP IV, INCL LUMINAIRE ARM	30073.68
647-1000	1	LS	100000.00	TRAFFIC SIGNAL INSTALLATION NO -	100000.00
<b>Section Sub Total:</b>					<b>\$161,373.68</b>

**Total Estimated Cost: \$700,621.72**



To: Clyde Cunningham, District Seven Utilities

From: Kevin Dye, Right-of-way/Utility Coordinator 

Date: October 6, 2008

Subject: Jones Bridge at Buice Rd., P.I. # 0006910, CSSTP-0006-00(910)  
Preliminary Utility Cost Estimates

This is an intersection improvement project located within the City of Johns Creek, Fulton County. The design includes adding 175' right turn lanes on the Jones Bridge approaches to Buice Rd. and adding a 100' southbound left turn lane on Buice Rd. Utilities in the immediate area along with their estimated cost for relocations are as follows:

AGL	\$0.00 (franchise agreement)
AT&T	\$0.00 (franchise agreement)
Comcast	\$0.00 (franchise agreement)
Fulton Water and Sewer	\$5,000.00
MCI/Verizon	\$0.00
Sawnee EMC	\$0.00 (franchise agreement)
<b>TOTAL</b>	<b>\$5,000.00</b>

Please contact me at 678-512-3254 if you have any questions concerning this estimate

Cc: Project File  
Mac Cranford, GDOT District 7  
Chris Haggard, Wolverton and Assoc.

# Department of Transportation State of Georgia

-----  
Interdepartmental Correspondence

**FILE** Preliminary R/W Cost Estimate                      **OFFICE** R/W  
**DATE** October 17, 2008

**FROM** Phil Copeland, Right of Way Administrator

**TO** City of Johns Creek  
Attention: Kevin Dye

**SUBJECT** **Preliminary Right of Way Cost Estimate**  
**Project:CSSTP-0006-00(910)**  
**P.I. No.:006910**  
**Description: Jones Bridge Road @ Brookdale Rd. Intersection Improvement**

Per your request, we have reviewed the Preliminary Right of Way Cost Estimate on the above referenced project.

Please note the Cost Estimate does conform to our current guidelines.

If you have any questions, please contact Jerry Milligan at District 7 Right of Way Office at (770) 986-1541.

PC:GAM  
Attachments  
Cc: File

# Preliminary Right of Way Cost Estimate

Date: 10-16-08

Project: CSSTP-0006-00(910)

P.I. Number: 006910

Existing/Required R/W: Variable/Variable

No. Parcels: 8

Project Termini: 335' SW of Jones Bridge Rd. at Buice Rd. to Jones Bridge Rd. at Brookdale Rd. Project Description: Jones Bridge Rd. at Buice Rd. Intersection Improvements

Land:

Commercial	3,874	s.f	@ \$10.33	/s.f. =	\$40,018.42	
Residential	6,169	s.f	@ \$5.74	/s.f. =	\$35,410.06	
Commercial Easements (temporary)	7,511	s.f	@ \$1.03	/s.f. =	\$7,736.33	
Residential Easements	5,896	s.f	@ \$0.57	/s.f. =	\$3,384.30	
<b>TOTAL</b>						<b><u>\$86,549.11</u></b>

Improvements: signs, fencing, landscaping **\$21,245.00**

Relocation:

Commercial @ \$25,000/parcel	=	\$ N/A	
Residential @ \$40,000/parcel	=	\$ N/A	
<b>TOTAL</b>			<b><u>\$0.00</u></b>

Damages: Proximity

\$ N/A

Consequential

\$ N/A

Cost to Cure

\$ N/A

**TOTAL** **\$0.00**

**SUB-TOTAL: \$107,794.11**

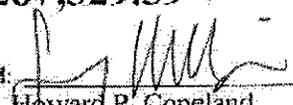
Net Cost		\$284,955.29
Scheduling Contingency	55 %	\$59,286.76
Adm/Court Cost	60 %	\$100,248.52
<b>TOTAL</b>		<b><u>\$267,329.39</u></b>

**Total Cost \$267,329.39**

Prepared By:

  
Kevin Dye  
R/W Coordinator(City of Johns Creek)

Reviewed / Approved:

  
Howard P. Copeland  
R/W Administrator

Note: Accuracy of estimate is the sole responsibility of the Preparer.

Note: The Market Appreciation(40%) is not included in this Preliminary Cost Estimate.

REVISED: 2-8-08

P.I. Number \*0006910

County Fulton

Project Number CSSTP-0006-00(910)

**Special Provision, Section 109-Measurement and Payment  
FUEL PRICE ADJUSTMENT (ENGLISH 125% MAX)**

ENTER FPL DIESEL	2.373
ENTER FPM DIESEL	5.339

ENTER FPL UNLEADED	1.566
ENTER FPM UNLEADED	3.5235

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

<b>INCREASE ADJUSTMENT</b>
125.00%

<b>INCREASE ADJUSTMENT</b>
125.00%

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 (CUBIC YARD)		0.29		0.15		
Excavations paid as specified by Sections 206 (CUBIC YARD)		0.29		0.15		
GAB paid as specified by the ton under Section 310 (TON)	1160.000	0.29	336.40	0.24	278.40	
Hot Mix Asphalt paid as specified by the ton under Sections 400 (TON)		2.90		0.71		
Hot Mix Asphalt paid as specified by the ton under Sections 402 (TON)	1150.000	2.90	3335.00	0.71	816.50	
PCC Pavement paid as specified by the square yard under Section 430 (SY)		0.25		0.20		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Superstru Con Class __ (CY) Section 500				8.00		1.50		
Superstru Con Class __ (CY) Section 500				8.00		1.50		
Superstru Con Class __ (CY) Section 500				8.00		1.50		
Concrete Handrail (LF) Section 500				8.00		1.50		
Concrete Barrier (LF) Section 500				8.00		1.50		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50		
Stru Steel <u>Plan Quantity</u> (LB) Section 501				8.00		1.50		
PSC Beams _____ (LF) Section 507				8.00		1.50		
PSC Beams _____ (LF) Section 507				8.00		1.50		
PSC Beams _____ (LF) Section 507				8.00		1.50		
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50		
Stru Reinf <u>Plan Quantity</u> (LB) Section 511				8.00		1.50		
Bar Reinf Steel (LB) Section 511				8.00		1.50		
Piling _____ inch (LF) Section 520				8.00		1.50		
Piling _____ inch (LF) Section 520				8.00		1.50		
Piling _____ inch (LF) Section 520				8.00		1.50		
Piling _____ inch (LF) Section 520				8.00		1.50		
Piling _____ inch (LF) Section 520				8.00		1.50		
Piling _____ inch (LF) Section 520				8.00		1.50		
Drilled Caisson, _____ (LF) Section 524				8.00		1.50		
Drilled Caisson, _____ (LF) Section 524				8.00		1.50		
Drilled Caisson, _____ (LF) Section 524				8.00		1.50		
Pile Encasement, _____ (LF) Section 547				8.00		1.50		
Pile Encasement, _____ (LF) Section 547				8.00		1.50		

<b>SUM QF DIESEL=</b>	<b>3671.40</b>	<b>SUM QF UNLEADED=</b>	<b>1094.90</b>
-----------------------	----------------	-------------------------	----------------

<b>DIESEL PRICE ADJUSTMENT(\$)</b>	<b>\$10,019.07</b>
<b>UNLEADED PRICE ADJUSTMENT(\$)</b>	<b>\$1,971.81</b>



## ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

ENTER APL

ENTER APM

**MISSING APL OR APM**                      **MISSING APL OR APM**

Use this side for Asphalt Emulsion Only		
L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)
TMT =		<input style="width: 150px;" type="text"/>
REMARKS:		

Use this side for Asphalt Cement Only		
L.I.N.	TYPE	TACK (GALLONS)
TMT =		<input style="width: 150px;" type="text"/>
REMARKS:		

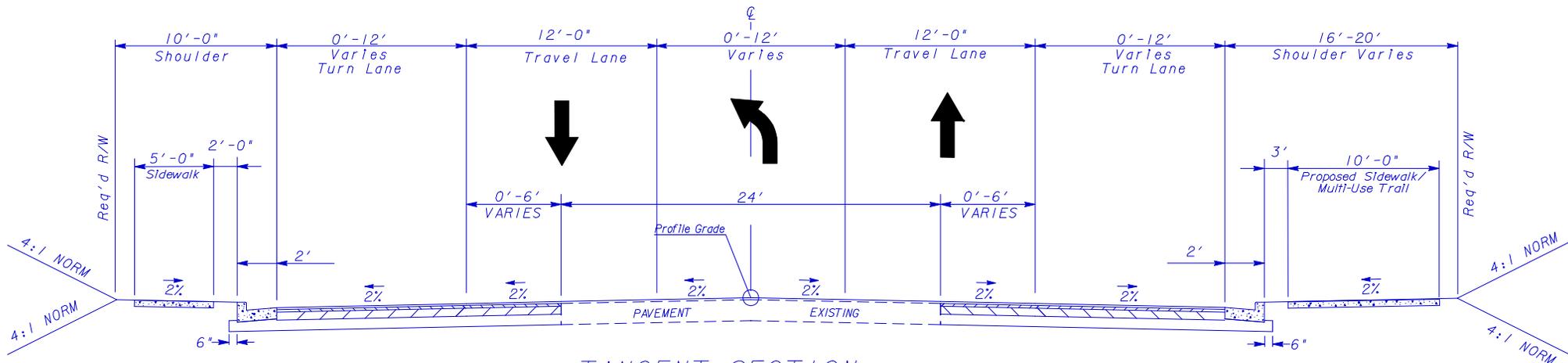
**MONTHLY PRICE ADJUSTMENT(\$)**                      **MISSING APL OR APM**

### ADJUSTMENT SUMMARY

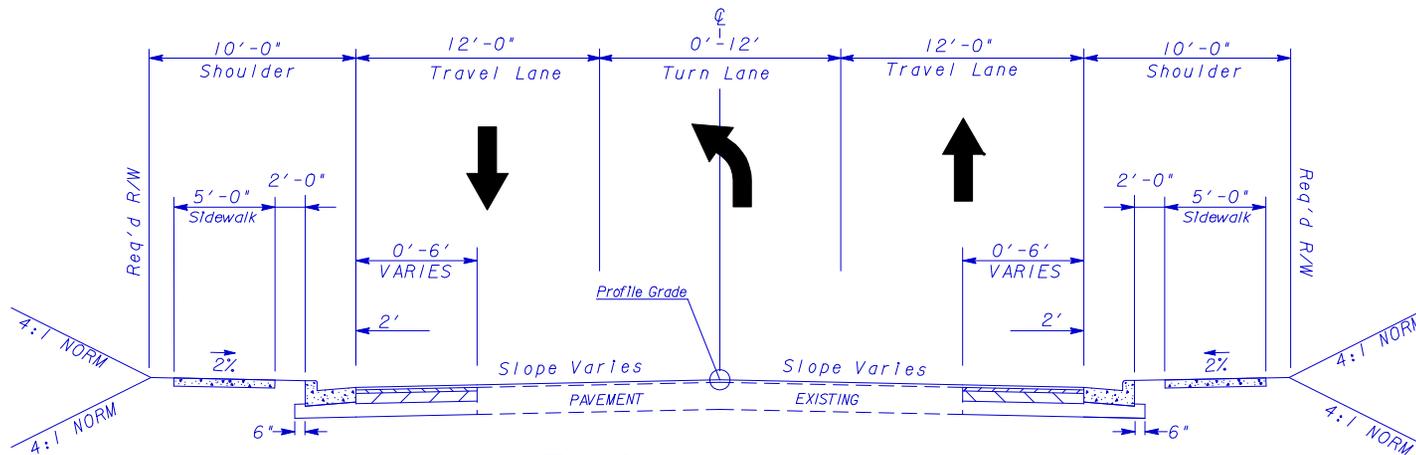
FUEL PRICE ADJUSTMENT ( <i>ENGLISH 125% MAX</i> )	
DIESEL PRICE ADJUSTMENT(\$)	<u>\$10,019.07</u>
UNLEADED PRICE ADJUSTMENT(\$)	<u>\$1,971.81</u>
ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX)	<u>\$463.87</u>
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX	<u>\$31,050.00</u>
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)	<u>MISSING APL OR APM</u>

REMARKS:	
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**TOTAL ADJUSTMENTS**                      **\$43,504.74**



TANGENT SECTION  
OVERLAY & WIDENING  
JONES BRIDGE ROAD



TANGENT SECTION  
OVERLAY & WIDENING  
BUICE ROAD



**TRAFFIC ENGINEERING REPORT  
FOR  
PROPOSED ROADWAY IMPROVEMENTS**

JONES BRIDGE ROAD @ BUICE ROAD  
CITY OF JOHNS CREEK, FULTON COUNTY, GA

Prepared for the  
City of Johns Creek

W&A Project No. 08-908  
May 13, 2008

WOLVERTON & ASSOCIATES, INC.  
6745 SUGARLOAF PARKWAY  
SUITE 100  
DULUTH, GA 30097  
(770) 447-8999 PHONE  
(770) 447-9070 FAX  
[www.wolverton-assoc.com](http://www.wolverton-assoc.com)

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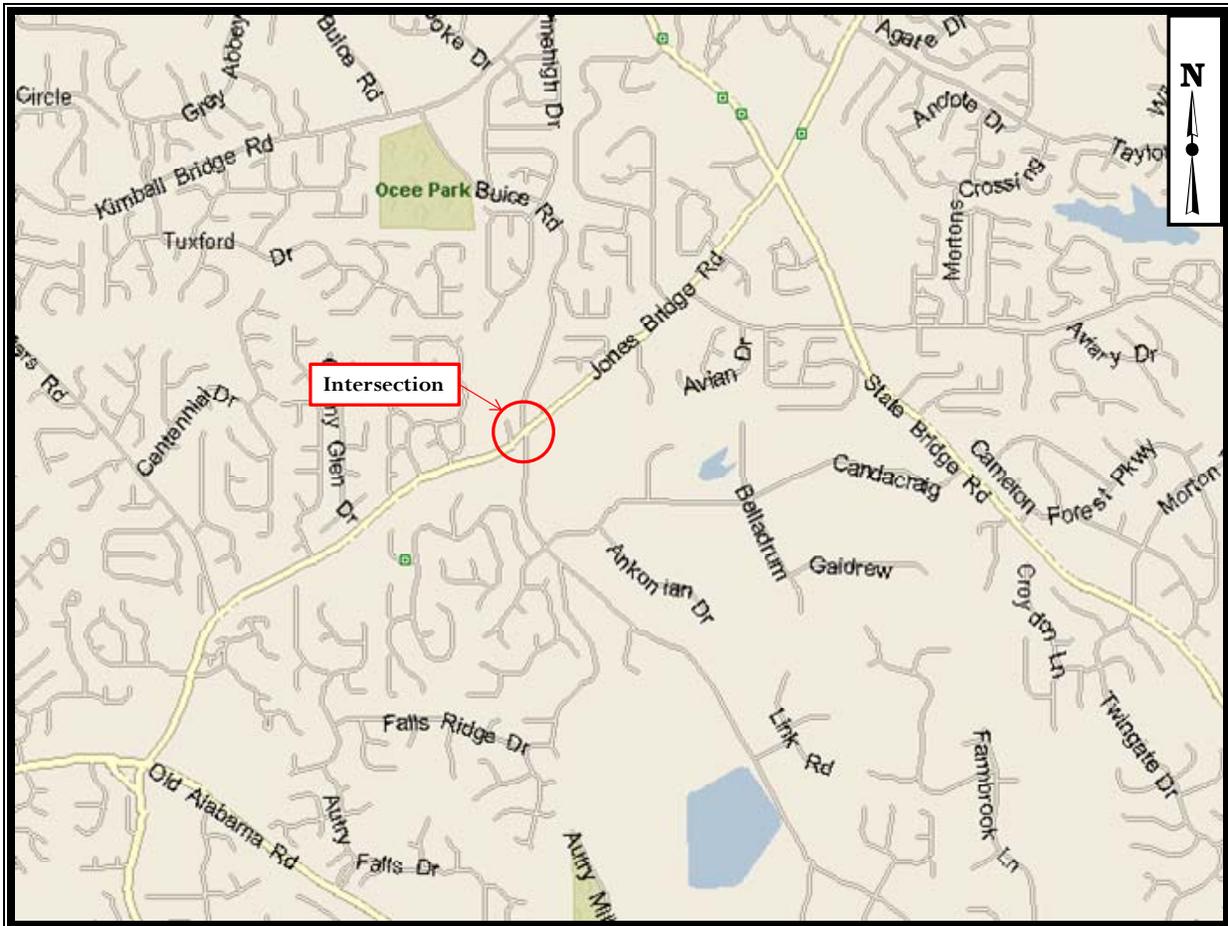
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# 1. INTRODUCTION

## JONES BRIDGE @ BUICE TRAFFIC ENGINEERING REPORT

The purpose of this report is to analyze the intersection of Jones Bridge Road @ Buice Road in the City of Johns Creek, Fulton County, GA. A capacity analysis and accident analysis will be done for this intersection. Figure 1 illustrates the project location.

Figure 1 – Project Location Map



### Methodology

A growth rate was established to project traffic from existing conditions out to Build (2011) and Design (2031) Year volumes. Then capacity analysis was conducted to show how the intersection will function in the Build and Design Years.

## 2. EXISTING CONDITIONS

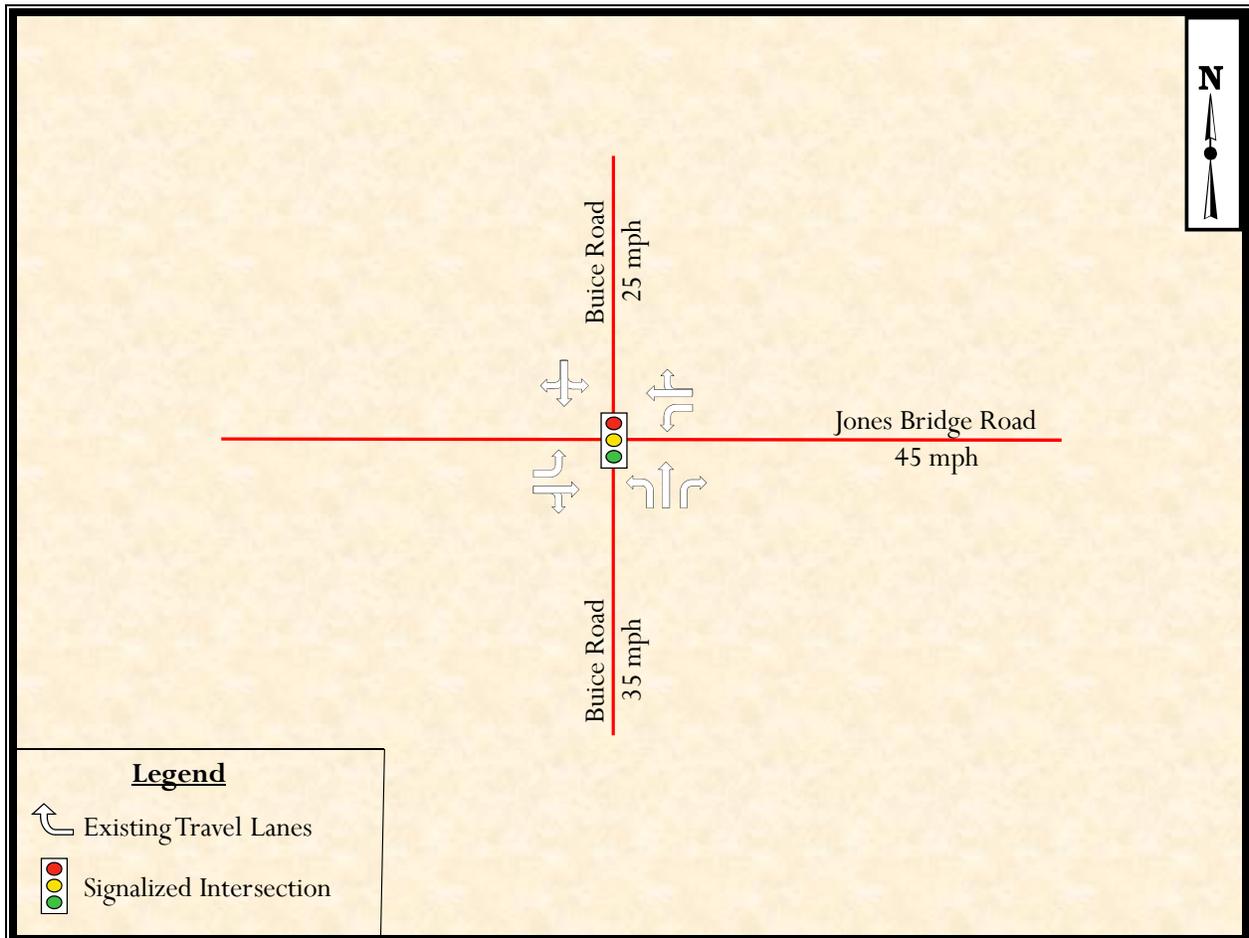
### JONES BRIDGE @ BUICE TRAFFIC ENGINEERING REPORT

Jones Bridge Road is a two-lane road with a posted speed limit of 45 mph. Jones Bridge Road generally runs in a north-south direction from Old Alabama Road on the south to McGinnis Ferry Road on the North. However, at the intersection of Jones Bridge Road and Buice Road, Jones Bridge Road runs in an east-west direction. In the vicinity of the intersection, the area is residential.

Buice Road is a two-lane road with a posted speed limit of 25 mph north of Jones Bridge Road and 35 mph south of Jones Bridge Road. Buice Road is signalized at the intersection of Jones Bridge Road. Buice Road is used as a cut-through to travel from Kimball Bridge Road to Old Alabama Road.

Figure 2 shows the existing intersection geometry and traffic control. Pictures of the project vicinity are contained in Appendix A on the CD.

*Figure 2 – Existing Lane Geometry*



### 3. TRAFFIC DATA

#### JONES BRIDGE @ BUICE TRAFFIC ENGINEERING REPORT

Turning movement counts (TMCs) were collected on March 26, 2008, at the study intersection. The existing peak volumes are illustrated in Figure 3. The TMCs are provided in Appendix B on the CD.

#### Projected Traffic Volumes

The build and design years for this project are 2011 and 2031, respectively. A growth rate of 1.95% was determined utilizing an average of 10 years of historical traffic data on Jones Bridge Road in the project vicinity from the Georgia Department of Transportation website. Historical traffic data can be found in Appendix C on the CD. The standard GDOT Office of Environment and Location (OEL) volume method was used to calculate the 2011 and 2031 volumes. Figures 4 and 5 show the projected traffic volumes for the Build (2011) and Design (2031) years, respectively.

Average Daily Traffic (ADT) values were determined from the 24-hr approach counts for the intersection. Using 24-hr count data taken from the Wolverton & Associates Traffic Study for Jones Bridge Road @ Morton Road, 'K' and 'D' factors were calculated. The 'K' factor is the proportion of daily traffic occurring during the peak hour. The 'D' factor or directional factor is the percentage split of traffic traveling in either direction during a particular time of day. The TMCs were converted to ADT volumes, using a calculated 9.4% 'K' factor and calculated 'D' factor at each movement. The 1.95% per year growth rate was applied to the ADTs in order to estimate the 2011 ADTs. The 1.95% per year growth rate was applied to the 2011 ADTs to estimate the 2031 ADTs.

A diagram illustrating the 2008, 2011, and 2031 ADT's can be found in Appendix D on the CD.

Figure 3 – Existing Traffic Volumes

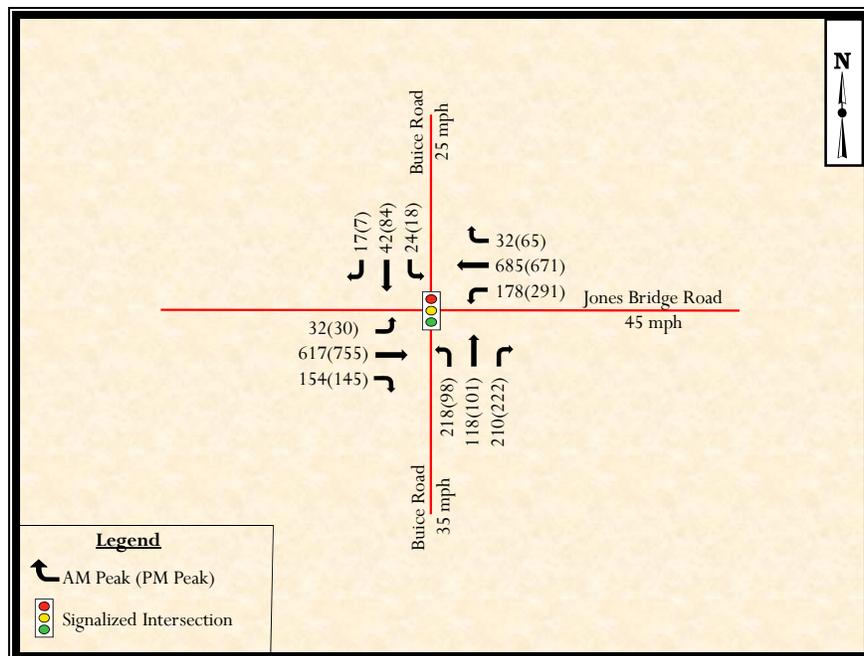


Figure 4 – Build Year (2011) Traffic Volumes

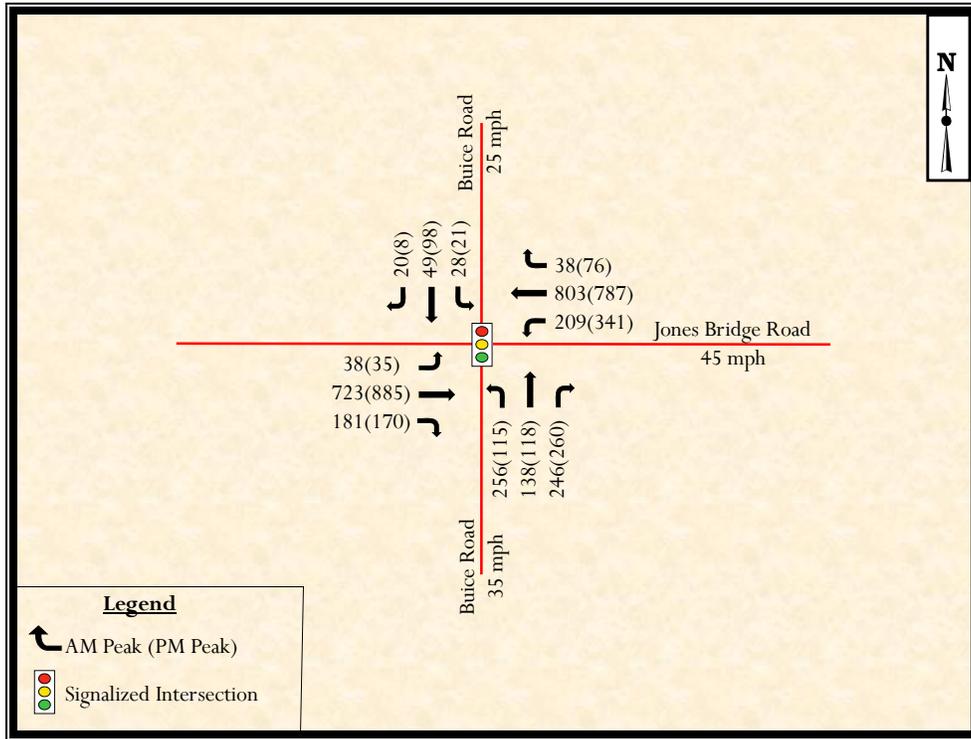
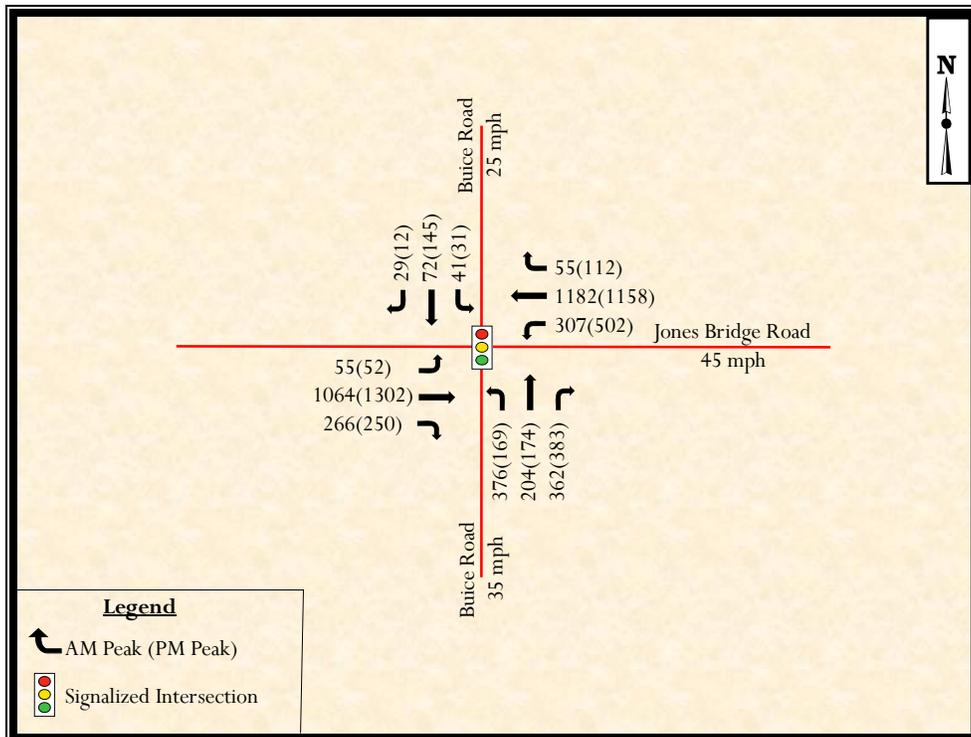


Figure 5 – Design Year (2031) Traffic Volumes



## 4. DATA ANALYSIS

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### JONES BRIDGE @ BUICE TRAFFIC ENGINEERING REPORT

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#### Capacity

Capacity analysis was used to evaluate the projected volumes at the study intersection. This process was used to define geometry and traffic control needed to result in acceptable levels of service for the projected conditions.

The *Synchro Program* was used to conduct capacity analysis. *Synchro* implements the capacity methods of the *Highway Capacity Manual (HCM)*<sup>1</sup> for performing the industry standard evaluation of intersection performance. The delays used in the reports follow the procedure as recommended by the HCM.

The Highway Capacity Manual defines level of service (LOS) in terms of the amount of control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay.

The levels of service definitions for both stop controlled and signal controlled intersections are provided in Table 1.

*Table 1 – Level of Service Criteria*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (SEC)	
	WITH STOP-SIGN CONTROL	WITH SIGNAL CONTROL
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

Source: Highway Capacity Manual

The GDOT has ranges of acceptable Levels of Service based on the area. Rural, sparsely developed areas have a minimum LOS requirement of C. This is due to the expectancy of rural residents for relatively uncongested conditions and design flexibility related to lower right of way costs of impacts. The minimum LOS for urban areas is D. This reflects the greater acceptance of delay and congestion by urban residents. Additionally, the increased density of developments makes right of way costs much higher in urban areas. The project corridor is urban in nature and has a minimum LOS requirement of D.

## Capacity Analysis Results

### No Build

The study intersection was initially evaluated with a no build option. This analysis demonstrates what the level of service the intersection would operate at in the Years 2011 and 2031 if the existing facility were to remain unchanged. This establishes a baseline for comparing improvements.

Table 2 contains the results of capacity analysis of projected volumes for the intersection in the Build and Design Years. The values shown in parenthesis indicate the estimated delay in seconds per vehicle. Synchro printouts for the Build and Design Year no-build options are provided in Appendix E on the CD.

*Table 2 – Capacity Analysis Results, No-Build*

Intersection	2011		2031	
	AM Peak	PM Peak	AM Peak	PM Peak
Jones Bridge Road @ Buice Road	D (36.8)	D (45.5)	F (117.8)	F (144.2)

As shown in the table above, the intersection operates un-acceptably in the Design Year during both AM and PM Peak hours.

## Build

The No-Build model was mitigated to function acceptably in the Design Year 2031. These improvements required Jones Bridge Road to be constructed as a 4-lane section instead of the current 2-lane section. This improvement will need to be completed along the entire corridor of Jones Bridge Road and is well outside the scope of this intersection improvement study. This design is being considered the Ultimate option. At the direction of the City of John’s Creek, a fiscally constrained option was also analyzed. This Basic option mitigates the No-Build model with improvements that the currently appropriated funds for the project can improve the intersection. Table 3 shows the Build and Design Year LOS for the Basic option, along with the Basic option failure year, and the Ultimate option Design Year LOS. Synchro printouts for the Build and Design Year Basic and Ultimate options are provided in Appendix F on the CD.

**Table 3 – Capacity Analysis Results, Build**

Intersection	2011 Basic		Failure (>LOS D)		2031 Basic		2031 Ultimate	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Jones Bridge Road @ Buice Road	C (22.3)	C (31.2)	2027	2023	E (72.9)	F (86.8)	C (28.1)	C (31.9)

Table 3 shows the levels of service on the study intersection of Jones Bridge Road @ Buice Road are acceptable for the Basic option until 2023, and are acceptable in the Design Year 2031 for the Ultimate option. Table 4 shows the queue lengths for the No Build and Build conditions in the Build and Design Years.

Another option that the City of John’s Creek requested that we analyze was a roundabout at the intersection. A single lane roundabout is to have an ADT no higher than 20,000 vpd in the Build Year and a circulating flow no higher than 1200 vph in the Peak Hour based on the GDOT Transportation Online Policy & Procedure System (TOPPS) report 4A-2<sup>3</sup>. The intersection in the Build Year has an ADT of 28037 vpd and a peak hour circulating flow of 2914 vph. These volumes exceed the GDOT thresholds for a single lane roundabout. A two-lane roundabout was also analyzed. Two-lane roundabouts require large sections of right-of-way (ROW) so that the radius is large enough to allow weaving between lanes within the roundabout. ROW impacts in this area would have many impacts on the surrounding area. Also, two-lane roundabouts have circulatory flow restrictions found in Exhibit 4-4 of the FHWA Publication Roundabouts: An Informational Guide No. FHWA-RD-00-067<sup>4</sup>. Also, according to this publication, roundabouts should never be designed to operate at more than 85 percent of their estimated capacity. In the Design Year, the highest entering approach is 1772 vph. According to Exhibit 4-4, with an entry flow of 1800 vph, the maximum circulating flow can be approximately no more than 2700 vph. 85 percent of that number is 2295 vph. The Design Year peak circulating flow at this intersection is 4290 vph. A single or two-lane roundabout was not recommended for this intersection because the volumes exceed the accepted thresholds for installing roundabouts.

Table 4 – Queue Lengths

Intersection	Condition	Option	Movement	2011		2031			
				AM Peak	PM Peak	AM Peak	PM Peak		
Jones Bridge Road @ Buice Road	No Build		NBL	228	132	588	300		
			NB	107	133	245	231		
			NBR	53	70	278	287		
			SBL/T/R	81	151	239	321		
			EBL	18	16	49	41		
			EBT/R	740	1071	1874	2236		
			WBL	182	399	505	801		
			WBT/R	622	529	1517	1421		
	Build	Basic		NBL	174	93	539	305	
				NB	92	95	236	235	
				NBR	54	98	243	250	
				SBL	30	29	73	61	
				SBT/R	48	94	140	254	
				EBL	18	18	48	21	
				EB	508	736	1404	1748	
				EBR	33	47	139	122	
				WBL	140	306	469	749	
				WB	561	482	1449	982	
		Ultimate			WBR	15	20	30	30
					NBL	NA	NA	284	138
					NB	NA	NA	147	156
					NBR	NA	NA	136	97
					SBL	NA	NA	30	32
					SBT/R	NA	NA	68	134
					EBL	NA	NA	29	23
					EB	NA	NA	363	513
					EBR	NA	NA	48	62
					WBL	NA	NA	235	420
WB	NA	NA	337	282					
WBR	NA	NA	20	24					

NA = Not analyzed

## 5. RECOMMENDATIONS

---

### JONES BRIDGE @ BUICE TRAFFIC ENGINEERING REPORT

Based on the analysis documented in this report, Wolverton and Associates, Inc. make the following conclusions and recommendations:

#### Basic Option:

1. Construct southbound left turn lane 100' in length
2. Extend eastbound left turn lane to be 250' in length. However, due to geometric constraints, the existing turn bay length is the maximum length possible.
3. Construct eastbound right turn lane 200' in length. However, due to geometric constraints, the turn bay can only be constructed 180' in length.
4. Extend westbound left turn lane to be 250' in length. However, due to geometric constraints, the existing turn bay length is the maximum length possible.
5. Construct westbound right turn lane 200' in length

#### Ultimate Option:

1. Construct an additional eastbound and westbound thru lane
2. Construct southbound left turn lane 100' in length
3. Extend eastbound left turn lane to be 250' in length. However, due to geometric constraints, the existing turn bay length is the maximum length possible.
4. Construct eastbound right turn lane 200' in length. However, due to geometric constraints, the turn bay can only be constructed 180' in length.
5. Extend westbound left turn lane to be 250' in length. However, due to geometric constraints, the existing turn bay length is the maximum length possible.
6. Construct westbound right turn lane 200' in length

Table 5 summarizes the recommended storage bay lengths for the intersection in the Basic and Ultimate options. Figures 6 and 7 represent the recommended geometry for the intersection in the Basic and Ultimate conditions, respectively.

*Table 5 – Recommended Storage Lengths*

Option	Movement	Existing Turn Bay Length	Max Queue	Recommended Turn Bay Length (ft)
Basic	NBL	200	539	200
	NBR	200	236	200
	SBL	N/A	73	<b>100</b>
	EBL	125	48	<b>250</b>
	EBR	N/A	139	<b>200</b>
	WBL	125	749	<b>250</b>
	WBR	N/A	30	<b>200</b>
Ultimate	NBL	200	284	200
	NBR	200	136	200
	SBL	N/A	32	<b>100</b>
	EBL	125	29	<b>250</b>
	EBR	N/A	62	<b>200</b>
	WBL	125	420	<b>250</b>
	WBR	N/A	24	<b>200</b>

Figure 6 – Recommended Geometry (Basic Option)

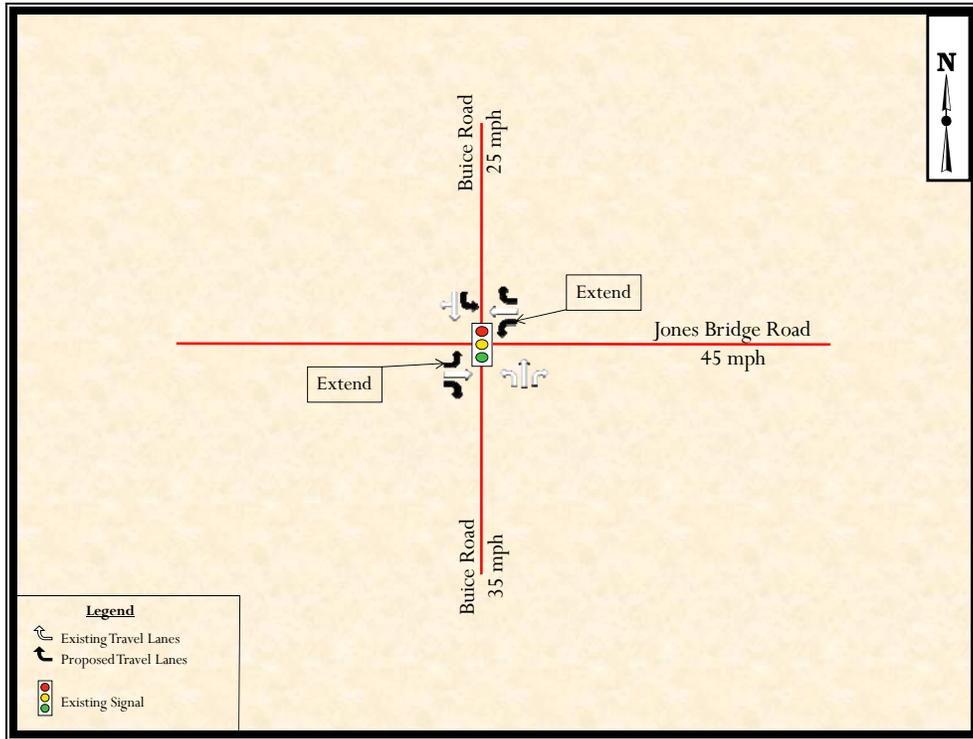
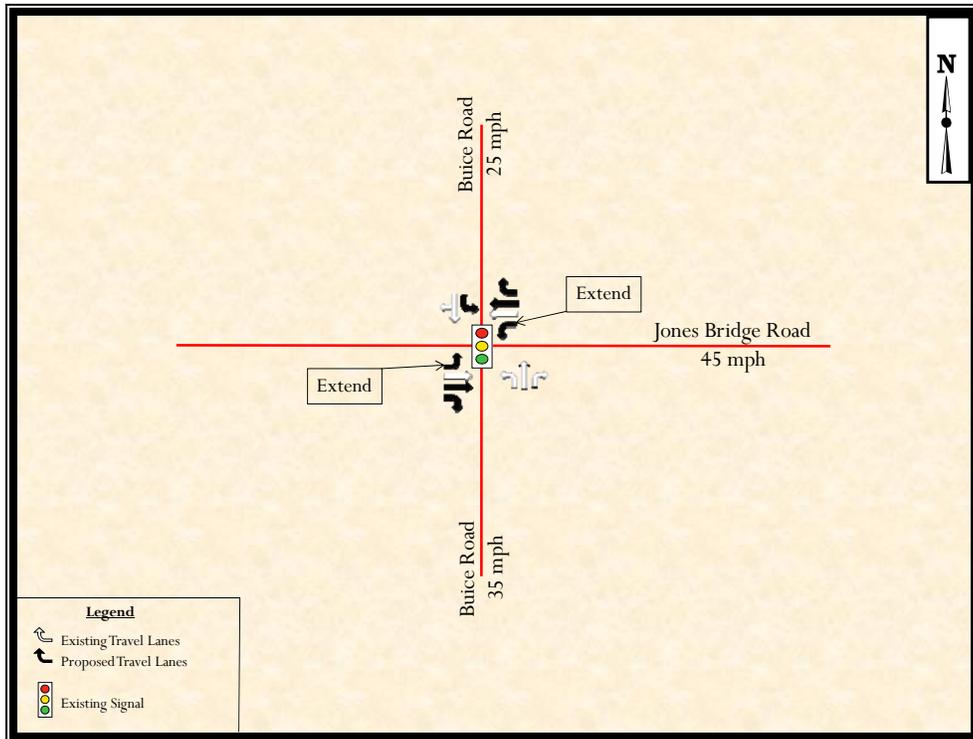


Figure 7 – Recommended Geometry (Ultimate Option)



## REFERENCES

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### JONES BRIDGE @ BUICE TRAFFIC ENGINEERING REPORT

1. Highway Capacity Manual, HCM 2000, Transportation Research Board, Washington, DC, 2000.
2. Regulations for Driveway and Encroachment Control, GDOT, March 8, 2004.
3. GDOT TOPPS Article 4A-2, Georgia Department of Transportation, Atlanta, GA.
4. FHWA Publication No. FHWA-RD-00-067 Roundabouts: An Informational Guide, FHWA, McLean, VA, 2000.
5. Manual on Uniform Traffic Control Devices, 2003 Edition, Federal Highway Administration, Washington, DC, 2003.

CITY OF JOHNS CREEK  
 DEPARTMENT OF PUBLIC WORKS  
 ALTERNATIVE 2 - ENHANCED BASIC OPTION  
 (70° SKEW)



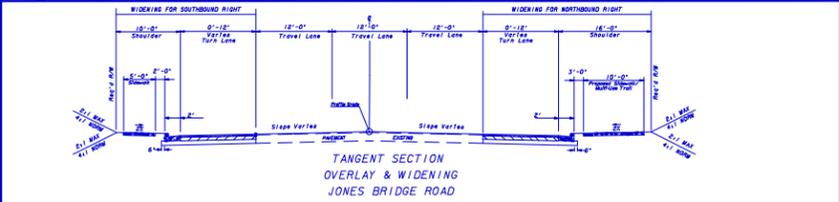
JONES BRIDGE ROAD (45 MPH)  
 AT BUICE ROAD (25/35 MPH)  
 FULTON COUNTY  
 P. I. # 0006910  
 PROJECT # CSSTP-0006-001910

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BEG. N. PROJECT  
 CSSTP-0006-001910

END PROJECT  
 CSSTP-0006-001910



**LEGEND**

-  EXISTING TRAFFIC SIGNAL
-  EXISTING RIGHT-OF-WAY OR PROPERTY LINE
-  APPROXIMATE PROPOSED RIGHT-OF-WAY
-  APPROXIMATE PROPOSED EASEMENT
-  GRAVITY WALL
-  PROPOSED SIDEWALK/MULTI-USE TRAIL



SCALE: 1" = 50'



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## MEETING MINUTES

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**LOCATION:** City of Johns Creek  
**MEETING DATE:** Wednesday, May 28, 2008, 2:00 PM  
**RE:** JONES BRIDGE ROAD AT BUICE ROAD, MORTON ROAD AND WATERS ROAD  
INITIAL CONCEPT TEAM MEETING  
**ATTENDEES:** Joe Macrina – Wolverton & Associates, Inc.  
Chris Haggard – Wolverton & Associates, Inc.  
Mario Macrina – Wolverton & Associates, Inc.  
Todd Devos – Wolverton & Associates, Inc.  
Mac Cranford – GDOT District 7  
Melvin Waldrop – GDOT District 7  
Cindy Jenkins – City of Johns Creek  
Ken Hildebrandt – City of Johns Creek  
Tom Udell – City of Johns Creek

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The meeting started with a welcome from Cindy Jenkins, and meeting attendees introduced themselves.

- Wolverton & Associates (W&A) started by giving an overview of each intersection.
- Mario Macrina explained that W&A investigated three different alternatives for each intersection; a fiscally constrained option, a non-fiscally constrained option, and a roundabout option.
- There was a brief discussion about the roundabout option and it was decided that the traffic volumes were too high to warrant any further consideration for a roundabout.
- W&A then presented the concept layout alternatives with cost estimates for each intersection and there were discussions about which alternative would be preferred.
- The City of Johns Creek asked for W&A to look at an additional alternative for Waters Road with a combination of alternatives 1 & 2. This new alternative would increase the substandard 65 degree skew angle to 90 degrees, add a right turn lane on Jones Bridge Road and add a free flow right turn lane off of Waters Road.
- The City also asked W&A to prepare a handout that would include the pros and cons, the levels of service/delays and the construction cost of each alternative for each intersection so they could present the information at the July 14<sup>th</sup> City Council work session.

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## MEETING MINUTES

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**LOCATION:** GDOT District 7 Conference Room  
**MEETING DATE:** Wednesday, September 24, 2008, 10:00 AM  
**RE:** JONES BRIDGE ROAD AT BUICE ROAD, MORTON ROAD AND WATERS ROAD  
CONCEPT TEAM MEETING  
**ATTENDEES:** Chris Haggard – Wolverton & Associates, Inc.  
Mario Macrina – Wolverton & Associates, Inc.  
Dennis Riles – Wolverton & Associates, Inc.  
Howard Anderson – Wolverton & Associates, Inc.  
Ellie Cargin – Wolverton & Associates, Inc.  
Mike Lobdell – GDOT District 7  
Mac Cranford – GDOT District 7  
Andre Netterville – GDOT District 7  
Scott Lee – GDOT District 7  
Alex Laffey – GDOT District 7  
Pam Black – GDOT District 7  
Cindy Jenkins – City of Johns Creek  
Ken Hildebrandt – City of Johns Creek  
Kevin Dye – City of Johns Creek

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The meeting started with a welcome from Mac Cranford, and meeting attendees introduced themselves.

General:

- Mario Macrina explained that Wolverton & Associates investigated three different alternatives for each intersection; a fiscally constrained option, a non-fiscally constrained option, and a roundabout option. He then explained that the City of Johns Creek had chosen one alternative for each intersection.
- Chris Haggard, Dennis Riles and Howard Anderson then gave an overview of each intersection, highlighting potential issues to be discussed during the meeting.
- GDOT then began to comment on the concept displays and reports.
- Mac Cranford commented that the location maps needed to be revised because they were not up to date and hard to read.
- Scott asked for more information to be included in the need and purpose section. He would like to see more background on the projects and why these intersections were chosen. He would also like to see crash data.
- Mac asked for the description to include more detail about the limits of the projects
- Scott asked to explain why multi-use trails were used. Cindy Jenkins stated the multi-use trails were added as per the City's Multi-Use Trail Plan.
- Scott questioned why the ADT's for all 3 projects were the same. Mario said that Wolverton would verify the ADT values.
- Mac said the ARC TIP numbers needed to be revised to FN-196 for Morton, FN-197 for Waters, and FN-223 for Buice.
- Scott asked that the City verify the classifications of all the sideroads.

- Mac made comments about being consistent with the use of feet vs. the symbol ('). He also commented that the bullets should be consistent and filled in.
- Scott commented that the shoulder widths should be added to the existing typical section description.
- Scott commented that the grass strip should be 2' everywhere with the exception of the multi-use trail which requires a 2.5' strip in order to maintain the 5' offset from the edge of pavement.
- Scott asked that a B/C Ratio be added to the attachments along with minutes of all coordination meetings.
- Scott stated the right of way schedule should be revised to 4 months.
- Kevin Dye also stated that all fence quantities will be included in the right of way cost estimates and should be removed from the construction cost estimates.
- Mac stated the mast arm poles should be separated for each signal cost estimate.
- Mac said the allowable funds for these projects are higher than the current cost estimates. Cindy said she had different numbers than GDOT and would need to verify the allocated funds are accurate.
- Mike Lobdell suggested that these projects be moved to fiscal year 2011 in order to ensure the funds will be there when needed.
- It was decided that these three projects will remain on the same schedule throughout the design process and it is anticipated that they will be let together.
- Pam Black commented that the right of way costs seemed high. Kevin stated that he used GDOT's costs, but would revise the numbers and submit a revised cost for approval.
- Kevin also stated that he will submit the utility cost for approval.

Buice Road:

- Scott Lee asked that the sidewalk on Buice Road be extended on the south side of Jones Bridge Road to the end of the project in order to provide pedestrian access across the front of the elementary school.
- Scott asked that a wall detail be added to the Buice Road typical section. Mario stated that this wall would be a gravity wall which is shown on GDOT standard 9031L, so a detail is not required.

Morton Road:

- Scott asked why Morton Road was not extended to add a left turn lane into Wynbridge Drive to utilize the existing pavement on Jones Bridge Road. He suggested eliminating the right turn lane onto Indian Village Drive to offset the additional costs. Wolverton and the City of Johns Creek will discuss and determine whether or not to make this revision.
- Mac asked for additional information about the proposed signal at Morton Road and to include the improvements at Indian Village Drive.
- Scott questioned the amount of drainage pipe shown for the Morton Road estimate.

Waters Road:

- Scott asked why Waters Road had an additional through lane. Chris explained that Waters Road would have a free flow right turn lane and the additional lane was a receiving lane for this right turn and would become a trap right turn lane into Jones Ferry Lane.
- Mac asked to explain why Waters Road had a free flow right turn lane.
- Scott commented that the Waters cost estimate needed to have curb and gutter added to it.

**Action Items:**

- City of Johns Creek to verify total project funding
- City of Johns Creek to complete right of way and utility cost estimates
- Wolverton & Associates to revise concept reports and resubmit.

Benefit Cost Analysis Work Sheet CONGESTION Projects	
<i>AM Peak</i>	
<i>City of Johns Creek</i> Jones Bridge Road at Buice Road	
<b>Congestion Benefit = Tb + CMb + Fb</b>	
<b>Person Time Savings Benefit (Tb)</b>	
*Db (hrs)	0.0124722
ADT	44,212.00
Tb (\$s)	\$18,955,127.43
<b>Commercial or Truck Time Savings Benefit (CMb)</b>	
Db (hrs)	0.0124722
% Truck Traffic	0.02
ADT	44,212
CMb	\$2,003,040.01
<b>Fuel Savings Benefit (Fb)</b>	
ADT	44,212
Fb (\$s)	\$2,787,518.74
<b>Total Congestion Benefit</b>	<b>\$23,745,686.18</b>
<b>Total Project Cost</b>	<b>\$996,059.00</b>
<b>B/C Ratio</b>	<b>23.84</b>

**Factors Used**

Car Rate	13.75
Truck Rate	86.4
Gas Rate	2.75
Applicable Days/Year	250 (# work days)
Time Period Analyzed (yrs)	20 (Design year - build year)
avg. speed	27
fuel efficiency	18.36
Total Project Cost - E+C+I (mil)	22.685 (C+ROW+Util.)

Travel Time Savings

No Build (Delay - Sec)	117.8
Improvement (Delay- Sec)	72.9
Difference (Sec)	44.9
Difference (Hr)	0.012472

AM Peak Volumes

NB	912.5	725	1100
SB	787.5	835	740
EB	1477.5	1090	1865
WB	1620	1905	1335
Total	4797.5		

\*Reduction in delay or **Delay Benefit (D<sub>b</sub>)** can be defined as the difference between the peak hour travel time through the corridor without the proposed improvement and the peak hour travel time through the corridor with the proposed improvement (both directions).

<b>Benefit Cost Analysis Work Sheet</b>	
<b>CONGESTION Projects</b>	
<i>PM Peak</i>	
<i>City of Johns Creek</i>	
Jones Bridge Road at Buice Road	
<b>Congestion Benefit = Tb + CMb + Fb</b>	
<b>Person Time Savings Benefit (Tb)</b>	
*Db (hrs)	0.0159444
ADT	44,212.00
Tb (\$s)	\$24,232,167.36
<b>Commercial or Truck Time Savings Benefit (CMb)</b>	
Db (hrs)	0.015944444
% Truck Traffic	0.02
ADT	44,212.00
CMb	\$2,560,679.21
<b>Fuel Savings Benefit (Fb)</b>	
ADT	44,212.00
Fb (\$s)	\$2,006,148.93
<b>Total Congestion Benefit</b>	<b>\$28,798,995.51</b>
<b>Total Project Cost</b>	<b>\$996,059.00</b>
<b>B/C Ratio</b>	<b>28.91</b>

**Factors Used**

Car Rate	13.75
Truck Rate	86.4
Gas Rate	2.75
Applicable Days/Year	250 (# work days)
Time Period Analyzed (yrs)	20 (Design year - build year)
Avg corridor speed	15.2
fuel efficiency	18.36
Total Project Cost - E+C+I (mil)	22.685 (C+ROW+Util.)

Travel Time Savings

No Build (Delay - Sec)	144.2
Improvement (Delay- Sec)	86.8
Difference (Sec)	57.4
Difference (Hr)	0.015944

PM Peak Volumes

NB	1117.5	995	1240
SB	1105	1350	860
EB	2095	1705	2485
WB	1942.5	2210	1675
Total	6260		