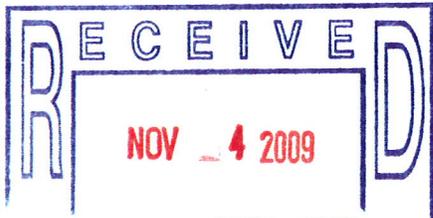




DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

DISTRICT SEVEN PRECONSTRUCTION  
SR 154/Cascade-Palmetto Hwy @ CR 1376/Cedar Grove Rd  
& CR 1374/Ridge Rd Intersection Relocation



PROJECT CONCEPT REPORT

Project Number: CSSTP-0006-00(864)

County: Fulton

P. I. Number: 0006864

State Route Number: 154

County Route Number: 1376 & 1374

See Project Location Sketch on Page 2

Recommendation for approval:

DATE 10/26/09

[Signature]  
Project Manager

DATE 10/26/09

[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 the State Transportation Improvement Program (STIP).

DATE 11/2/09

[Signature] w/comment\*  
State Transportation Planning Administrator

DATE \_\_\_\_\_

Office of Financial Management Administrator

DATE 01/07/2010

[Signature]\*\*  
State Environmental Administrator

DATE \_\_\_\_\_

State Traffic Operations Engineer

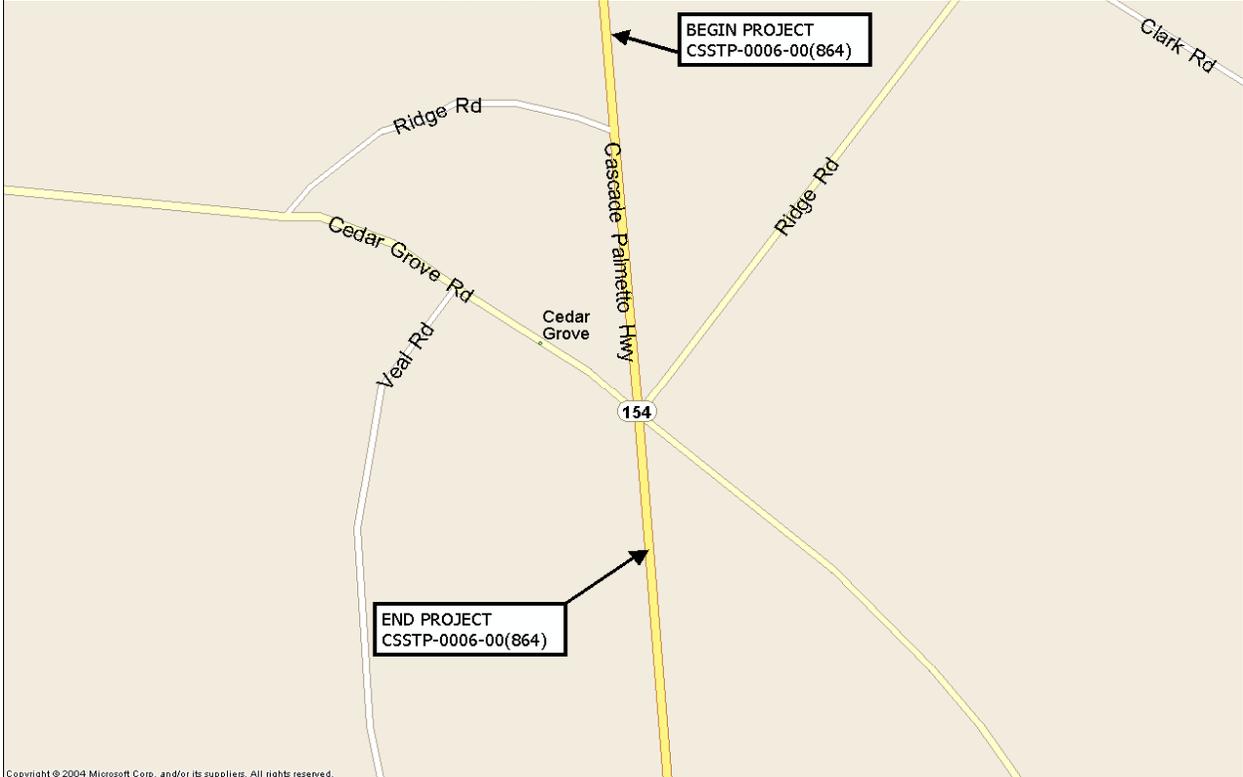
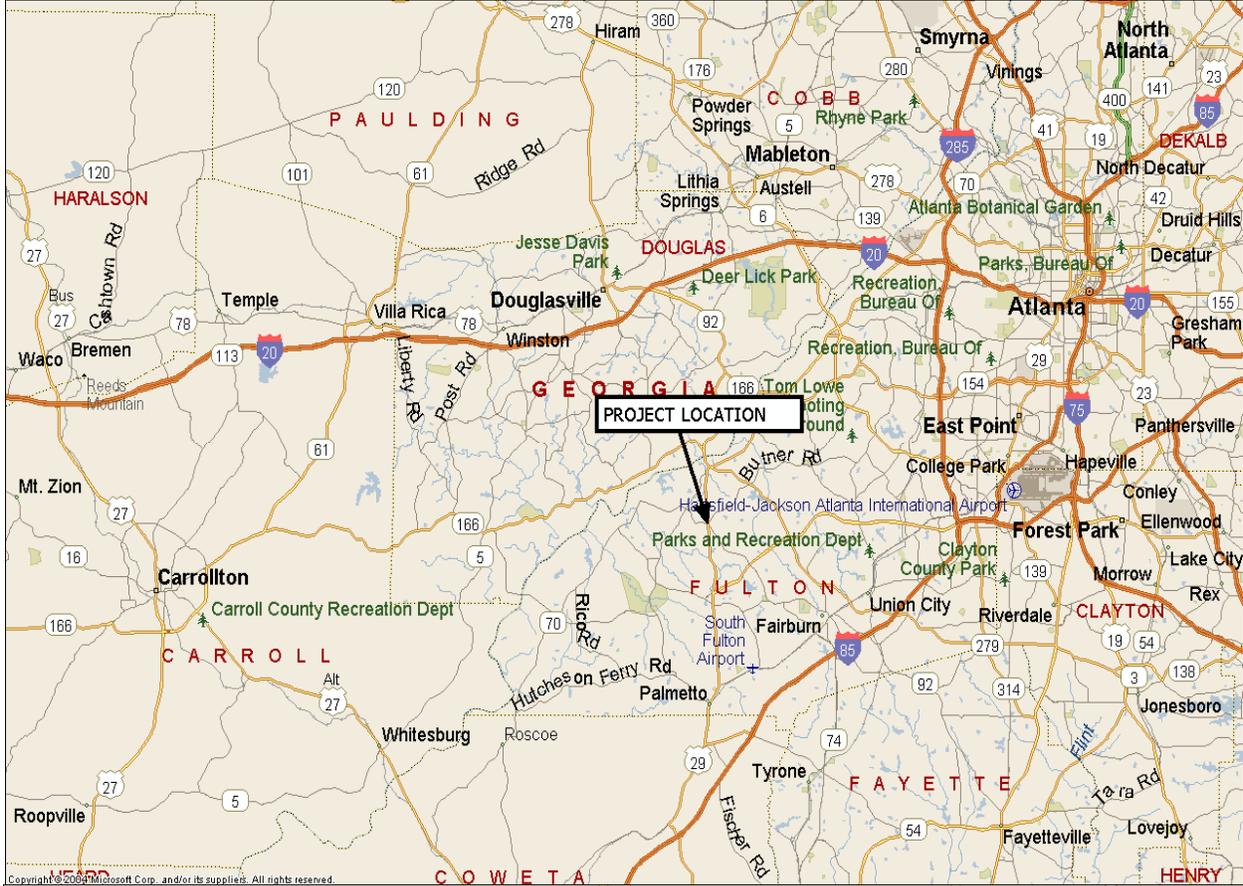
DATE \_\_\_\_\_

Project Review Engineer

\*\* Approval on file

- PI 0006864 is a Lump Sum project (Safety - FY2008) and is not identified separately in the TIP document.

**SR 154/ CASCADE-PALMETTO HWY @ CR1376/ CEDAR GROVE ROAD AND CR 1374/ RIDGE ROAD**



## **Background**

The Atlanta Regional Commission (ARC) adopted the 2030 Regional Transportation Plan (RTP) for the 13-County Atlanta Metropolitan area and portions of 5 additional counties in December 2004. The Plan addresses travel needs through the year 2030. The RTP is the direct result of a comprehensive, cooperative, and continuous planning process conducted by ARC, local governments, Georgia Regional Transportation Authority (GRTA), air quality planning partners and the Georgia Department of Transportation in cooperation with the Federal Highway and Federal Transit Administrations. SR 154 in Fulton County is a major north/south route that runs from SR 14 north to SR 70/Fulton Industrial Boulevard and Campbellton Road.

## **Existing Conditions**

The existing roadway on SR 154 has two 12-ft travel lanes, one in each direction with variable width grassed shoulders and the posted speed limit is 55 mph. The existing roadway on Cedar Grove Road and Ridge Road has two 10.5-ft travel lanes on each roadway, one in each direction with variable width grassed shoulders. The posted speed limit for both roadways is 45 mph.

## **Projects in the area in the 6 year Construction Work Program**

- TIP/RTP # FS-140, BRZLB-121(22), PI # 771275-, ATMS/I-675 Cochran Mill Road at Pea Creek in Fulton County. This project includes the reconstruction of an existing bridge on Cochran Mill Road over Pea Creek. This project is a safety improvement and will not add capacity.
- TIP/RTP # FS-191A&B, BRST-1044(7), PI # 742985-, SR 154/Cascade Palmetto Road at Bear Creek Road in Fulton County. This project includes the replacement of an existing bridge on SR 154 over Bear Creek, three miles north of Palmetto. This project is a safety improvement and will not increase capacity.

## **Travel Demand and Operational Characteristics**

The projected AADT for SR 154 is 3,575 vpd in 2013. It is anticipated that the AADT will increase to 6,250 vpd in design year of 2033. This is an increase of approximately 43% for this section of roadway. SR 154 is classified an Urban Arterial Collector. The projected AADT for Cedar Grove Road is 975 vpd in 2013. It is anticipated that the AADT will increase to 1,450 vpd in design year 2033. This is an increase of approximately 33% for this section of roadway. Cedar Grove Road is classified as an Urban Collector Street. The projected AADT for Ridge Road is 500 vpd in 2013. It is anticipated that the AADT will increase to 900 vpd in design year 2033. This is an increase of approximately 44% for this section of roadway. Ridge Road is classified as an Urban Minor Arterial.

## **Community Issues**

Fulton County is part of the Atlanta metropolitan area and is a rapidly growing residential area. The 2000 Census listed the population in Fulton County as 816,006. During the 1990 Census year, Fulton County had a population of 648,951. Between 1990 and 2000, Fulton County gained 167,055 residents, a 25.7 percent increase which ranked second in the region in net population increase. Fulton County is the largest county in Georgia in both land area and

population and is the region's most densely populated area. The 2010 population projection for Fulton County is 860,797. This project is in the South Fulton County area which is relatively undeveloped compared to rest of the Atlanta region. Wholesale Trade and Manufacturing are the leading job sectors in the southern part of Fulton County. Residential development in this area is almost entirely single family development.

### **Safety**

The attached accident data indicates SR 154, for the proposed project, experiences accidents at a rate that is above statewide average rates (MVMT) for five of the six years of data that was available. In the years of 2002 thru 2007, there were a total of 41 accidents reported along SR 154 within the project limits. There also has been a total of two fatalities over the past six years at this intersection. (majority of the accidents were classified as "angle intersecting" and "not a collision" type accidents)

### **Logical Termini**

The project termini are logical in that the project is the improvement of an existing intersection between three roads.

### **Need and Purpose**

The purpose of this project is to improve the safety and operation of SR 154 in Fulton County. Future traffic projections reveal that traffic will continue to increase on already congested roadways. This project will mitigate the limited sight distance at the intersection and eliminate the complicated operation of a five-leg intersection. Crash data also reveals that at the intersection of SR 154, Cedar Grove Road and Ridge Road, safety rates exceed the statewide average. The proposed changes will enhance both pedestrian and vehicular traffic operation from surrounding neighborhoods.

### **Description of the proposed project**

The existing intersection will be shifted north of its current location with the east approach of CR 1376/Cedar Grove Road teeing into SR 154, just south of the proposed roundabout. CR 1374/Ridge Road and CR 1376/Cedar Grove Road (west approach) will intersect SR 154 at the proposed roundabout. SR 154 will consist of 2 – 12-ft lanes with 6.5-ft paved shoulders and a 14-ft left turn lane south of the roundabout for the east approach of CR 1376/Cedar Grove Road. CR 1376/Cedar Grove Road and CR 1374/Ridge Road will both consist of 2 – 11-ft lanes with 2 ft paved shoulders. The east approach of CR 1376/Cedar Grove Road will also have a 12-ft channelized right turn lane.

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

The referenced project is contained within the RTP/TIP/STIP. The proposed project consists of an operational and safety improvement and does not add capacity.

**PDP Classification:** Major   X        Minor \_\_\_\_\_

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



**Proposed Design Features:**

- Proposed typical section(s):
  - SR 154/Cascade Palmetto Road
    - Two 12-ft travel lanes
    - 14-ft flushed median South of the roundabout
    - Rural shoulder (6.5-ft paved, 4-ft grassed)
  - Cedar Grove Road
    - Two 11-ft travel lanes
    - Rural shoulder (2-ft paved, 4-ft grassed)
    - 12-ft channelized right turn lane for the east approach
  - Ridge Road
    - Two 11-ft travel lanes
    - Rural shoulder (2-ft paved, 4-ft grassed)

<b>PROPOSED</b>	SR 154/Cascade Palmetto Road	CR 1376/Cedar Grove Road Relocation	CR 1374/Ridge Road Relocation
Design Speed:	55 mph	45 mph	45 mph
Maximum grade:	8%	8%	8%
Minimum radius for curve:	1190-ft	711-ft	711-ft
Maximum super-elevation rate:	4%	4%	4%

- Proposed Maximum grade driveway 11 % commercial
- Right of way
  - Width Varies (50' – 150') .
  - Easements: Temporary ( ), Permanent (X), Utility ( ), Other ( ).
  - Type of access control: Full ( ), Partial ( ), By Permit (X), Other ( ).
  - Number of parcels: 16                      Number of displacements:
    - Business: 0
    - Residences: 0
    - Mobile homes: 0
    - Other: 0
- Structures: N/A
- Major intersections and interchanges. SR 154 @ Cedar Grove Rd and Ridge Rd
- Traffic control during construction: Traffic will be detoured during the construction of SR 154/Cascade-Palmetto Highway.

- Design Exceptions to controlling criteria anticipated:

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

- Design Variances: 11 ft lane design variance.
- Environmental concerns:
  - The Rainwater House located at 8650 Ridge Road has been identified as an eligible historic property and should be delineated with the proper boundary line in the right-of-way and construction plans.
  - A determination must be made if suitable habitat for protected species is located within the area of potential effect. If so, and if the project has the potential to affect the species, then Section 7 consultation will be required which could affect the proposed project schedule.
- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes ( ), No (X),
  - Categorical exclusion (X),
  - Environmental Assessment/Finding of No Significant Impact (FONSI) ( ), or
  - Environmental Impact Statement (EIS) ( ).
- Utility involvements:
  - Georgia Power Company
  - City of Atlanta, Water
  - Fulton County Public Works, Sewer
  - Greystone
  - Comcast

**Project responsibilities:**

- Design, GDOT
- Right of Way Acquisition, GDOT
- Relocation of Utilities, GDOT
- Letting to contract, GDOT
- Supervision of construction, GDOT
- Providing material pits, Contractor
- Providing detours, GDOT

### Coordination

- Initial Concept Meeting held January 17, 2008.
- Concept meeting date held March 24, 2009.
- P. A. R. meetings, dates and results.
- Public involvement. PIOH was held on July 10, 2008 from 5:00pm until 7:00pm at Arlington Christian School, 4500 Ridge Road, Fairburn, GA 30213
  - Another PIOH may be held due to the Roundabout Concept.
  - A Detour PIOH may be required.
- Local government comments. *None to date*
- Other projects in the area
  - TIP/RTP # FS-140, BRZLB-121(22), PI # 771275, ATMS/I-675 Cochran Mill Road at Pea Creek in Fulton County, Preliminary Engineering (PE) is Authorized, ROW is scheduled for 2011 and Construction is scheduled for 2012. This project includes the reconstruction of an existing bridge on Cochran Mill Road over Pea Creek. This project is a safety improvement and will not add capacity.
  - TIP/RTP # FS-191A&B, BRST-1044(7), PI # 742985, SR 154/Cascade Palmetto Road at Bear Creek Road in Fulton County, Preliminary Engineering (PE) is Authorized, ROW is scheduled for 2012 and Construction is scheduled for 2014. This project includes the replacement of an existing bridge on SR 154 over Bear Creek, three miles north of Palmetto. This project is a safety improvement and will not increase capacity.
- Other coordination to date.
- Railroads None
- VE Study required? ( ) Yes (X) No

### Scheduling – Responsible Parties' Estimate

- Time to complete the environmental process: 8 Months.
- Time to complete preliminary construction plans: 6 Months.
- Time to complete right of way plans: 6 Months.
- Time to complete the Section 404 Permit: N/A Months.
- Time to complete final construction plans: 3 Months.
- Time to complete to purchase of right of way: 18 Months.

### Other alternates considered:

- Alternate 1 - No Build does not improve safety nor operation of the existing conditions.
- Alternate 2 - The existing two lane section of SR 154 would be widened to include a 14-ft flushed median. The intersection of Cedar Grove Road and Ridge Road approaches to SR 154 would be relocated. The eastern leg of Cedar Grove Road would be relocated approximately 350-ft south of the existing intersection. This location of Cedar Grove Road would consist of two-12-ft lanes with a designated right turn lane and function under stop control. The western leg of Cedar Grove Road and Ridge Road will be relocated approximately 400-ft north of the existing intersection. This intersection will consist of two-12-ft lane approaches to SR 154 with designated right turn lanes and function under stop control. This alternative does not correct the sight distance problem which does not improve the safety of the intersection.

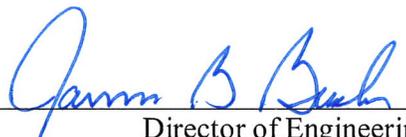
- Alternate3- The intersection of Cedar Grove Road will be relocated approximately 400-ft north of its current location. This intersection of Cedar Grove Road will consist of two-11-ft lanes (one through and one left turn lane) and an 11-ft designated right turn lane on both approaches. Ridge Road will be relocated to tie into the relocated Cedar Grove Road at a T-intersection, which will also consist of two-11-ft lanes (one right and one left turn lane) and an 11-ft designated right turn lane. All proposed intersections will function under stop control for the side roads. All approaches to SR 154 at the existing five-leg intersection will be closed and the pavement will be removed. This option was not chosen because it did not have a greater benefit to cost ratio and the safety improvement features did not provided the more desirable design to reduce the occurrence of crashes at the intersection.

**Comments:**

None

**Attachments:**

1. Cost Estimates:
  - a. Construction including E&C,
  - b. Right of Way,
  - c. Utilities, and
  - d. Fuel Index Adjustments
2. Project Layout,
3. Roadway typical sections,
4. Accident/Crash Data Tables,
5. Benefit-Cost Ratio,
6. Roundabout Analysis,
7. Minutes of Concept Team Meeting.

Concur:   
Director of Engineering

Approve:   
Chief Engineer

Date: 3/1/2010

Project Number: CSSTP-0006-00(864)

P. I. Number: 0006864

County: FULTON

### SCORING RESULTS AS PER TOPPS 2440-2

<b>Project Number:</b> CSSTP-0006-00(864)		<b>County:</b> FULTON		<b>PI No.:</b> 0006864	
<b>Report Date:</b>		<b>Concept By:</b> DOT Office: GDOT D7 DESIGN			
<input type="checkbox"/> CONCEPT		Consultant: IN-HOUSE DESIGN/ NO CONSULTANT			
<b>Project Type:</b> Choose One From Each Column		<input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural	<input type="checkbox"/> ATMS <input type="checkbox"/> Bridge <input type="checkbox"/> Building <input type="checkbox"/> Interchange <input checked="" type="checkbox"/> Intersection <input type="checkbox"/> Interstate <input type="checkbox"/> New Location <input type="checkbox"/> Widening & Reconstruction <input type="checkbox"/> Miscellaneous	
<b>FOCUS AREAS</b>	<b>SCORE</b>	<b>RESULTS</b>			
<b>Presentation</b>					
<b>Judgement</b>					
<b>Environmental</b>					
<b>Right of Way</b>					
<b>Utility</b>					
<b>Constructability</b>					
<b>Schedule</b>					

## Estimate Report for file "0006864 Roundabout"

Section Lump Sum Items					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
109-0100	1	Lump Sum	20970.32	PRICE ADJUSTMENT-UNLEADED FUEL	20970.32
109-0200	1	Lump Sum	72718.91	PRICE ADJUSTMENT-DIESEL FUEL	72718.91
109-0300	1	Lump Sum	180588.9	PRICE ADJUSTMENT-ASPHALT CEMENT	180588.9
150-1000	1	LS	250000.0	TRAFFIC CONTROL - CSSTP-0006-00(864)	250000.0
210-0100	1	LS	350000.0	GRADING COMPLETE - CSSTP-0006-00(864)	350000.0
<b>Section Sub Total:</b>					<b>\$874,278.13</b>

Section Roadway Items					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
310-1101	11180	TN	17.04	GR AGGR BASE CRS, INCL MATL	190507.19
318-3000	100	TN	21.39	AGGR SURF CRS	2139.0
402-1812	1000	TN	66.7	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	66700.0
402-3121	2985	TN	59.47	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	177517.94
402-3130	1190	TN	64.13	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	76314.7
402-3190	2370	TN	67.77	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	160614.9
413-1000	1322	GL	2.0	BITUM TACK COAT	2644.0
441-0014	150	SY	37.24	DRIVEWAY CONCRETE, 4 IN TK	5586.0
441-0740	680	SY	32.91	CONCRETE MEDIAN, 4 IN	22378.8
441-0748	285	SY	55.09	CONCRETE MEDIAN, 6 IN	15700.65
441-0756	200	SY	40.0	CONCRETE MEDIAN, 8 IN	8000.0
446-1100	500	LF	4.57	PVMT REINF FABRIC STRIPS, TP 2, 18 INCH WIDTH	2285.0
550-1180	400	LF	36.27	STORM DRAIN PIPE, 18 IN, H 1-10	14508.00
<b>Section Sub Total:</b>					<b>\$744,896.20</b>

Section Signing and Marking Items					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
634-1200	29	EA	93.93	RIGHT OF WAY MARKERS	2723.97
636-1033	128	SF	20.24	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	2590.72
636-2070	96	LF	8.71	GALV STEEL POSTS, TP 7	836.16
652-0110	2	EA	36.87	PAVEMENT MARKING, ARROW, TP 1	73.74
652-0120	5	EA	45.83	PAVEMENT MARKING, ARROW, TP 2	229.14
652-6501	300	GLF	0.12	SKIP TRAFFIC STRIPE, 5 IN, WHITE	36.0
653-1501	6000	LF	0.44	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	2640.0
653-1502	8000	LF	0.45	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	3600.0
653-1704	40	LF	3.47	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	138.8
653-1804	100	LF	1.68	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	168.0
653-3501	1200	GLF	0.33	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	396.0
654-1001	210	EA	3.04	RAISED PVMT MARKERS TP 1	638.4
654-1003	105	EA	3.2	RAISED PVMT MARKERS TP 3	336.0
<b>Section Sub Total:</b>					<b>\$14,406.94</b>

Section Erosion Control Items					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	3	AC	283.37	TEMPORARY GRASSING	850.11
163-0240	101	TN	129.9	MULCH	13119.90
163-0300	5	EA	1148.7	CONSTRUCTION EXIT	5743.5
				CONSTRUCT AND REMOVE BALED STRAW	

163-0530	7250	LF	2.42	EROSION CHECK	17545.0
165-0010	6850	LF	0.53	MAINTENANCE OF TEMPORARY SILT FENCE, TP A	3630.5
165-0101	3	EA	481.34	MAINTENANCE OF CONSTRUCTION EXIT	1444.02
167-1000	2	EA	460.3	WATER QUALITY MONITORING AND SAMPLING	920.6
167-1500	18	MO	685.8	WATER QUALITY INSPECTIONS	12344.4
171-0010	3425	LF	1.84	TEMPORARY SILT FENCE, TYPE A	6302.0
700-6910	5	AC	674.07	PERMANENT GRASSING	3370.35
700-7000	14	TN	60.51	AGRICULTURAL LIME	847.14
700-7010	12	GL	20.53	LIQUID LIME	246.36
700-8000	1	TN	409.57	FERTILIZER MIXED GRADE	409.57
700-8100	238	LB	2.3	FERTILIZER NITROGEN CONTENT	547.4
<b>Section Sub Total:</b>					<b>\$67,320.85</b>

**Total Estimated Cost: \$1,700,902.12**

**Subtotal Construction Cost     \$1,700,902.12**

E&C Rate 8.0 %                     \$136,072.17

Inflation Rate 0.0 % @ 0 Years                     \$0.00

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**Total Construction Cost     \$1,836,974.29**

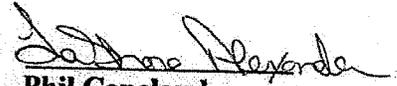
Right Of Way                     890500.00

ReImb. Utilities                     35000.00

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**Grand Total Project Cost     \$2,762,474.29**

# Preliminary Right of Way Cost Estimate



**Phil Copeland**  
 Right of Way Administrator  
 By: LaShone Alexander

**Date:** October 6, 2009

**Project:** CSSTP-0006-00(864) Fulton County

**Existing/Required R/W:** Varies/Varies

**Project Termini:** SR 154 @ CR 1376 / Cedar Grove Rd. & CR 1374/Ridge Rd

**Project Description:** SR 154 @ Cedar Grove Ridge Rd. Intersection Improvement

**P.I. Number:** 0006864

**No. Parcels:** 16

**Land:**

Residential/Commercial R/W: 1.09 acres @ \$ 100,000/acre \$ 109,000

**Improvements:** misc. site improvements 50,000

**Relocation:** Commercial (0)  
 Residential (0) 0

**Damage:** Cost to Cure (0) \$ 0  
 Uneconomic Remnant (5) 125,000  
 Proximity (3) 75,000  
 Net Cost \$ 200,000

**Net Cost** \$ 359,000  
**Scheduling Contingency** 55 % 197,450  
**Adm/Court Cost** 60 % 333,870  
 \$ 890,320

**Total Cost \$890,500**

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

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE CSSTP-0006-00(864), Fulton OFFICE District Seven  
SR 70/SR 154 @ CR 1376/ CEDAR Chamblee, GA  
GROVE RD & CR 1374/RIDGE ROAD  
P. I. 0006864 DATE May 12, 2008

FROM Bryant R. Poole, District Engineer

TO Mr. Mike Lobdell, Preconstruction Office  
**Attention: Merishia Robinson**

SUBJECT **PRELIMINARY UTILITY COST ESTIMATE**

A field inspection was conducted on the above referenced project. The following companies have facilities that occupy the public right-of-way and should be relocated at **no cost** to the Department of Transportation or the local government:

Georgia Power Company  
City of Atlanta  
Fulton County Public Works

The companies who may be on private easements or publicly owned facilities on State right-of-way are:

Georgia Power \$ 35,000.00

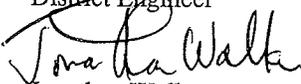
Total Cost \$ 35,000.00

Please note that this estimate was prepared with limited information and could change when more detailed information is made available. If you have any questions, please contact Ms. Yulonda Pride-Foster at (770) 986-1117.

Sincerely,

Bryant R. Poole  
District Engineer

By:

  
Jonathan Walker  
District Utilities Engineer

BRP:JW:YPF:  
cc: Jeff Baker, P.E./Utilities (G.O.)  
File

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

ENTER FPL DIESEL	2.517
ENTER FPM DIESEL	5.663

ENTER FPL UNLEADED	2.268
ENTER FPM UNLEADED	5.103

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

<b>INCREASE ADJUSTMENT</b>
<b>125.00%</b>

<b>INCREASE ADJUSTMENT</b>
<b>125.00%</b>

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)	11180.000	0.29	3242.20	0.24	2683.20	
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)	7545.000	2.90	21880.50	0.71	5356.95	
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 Plan Quantity (LB) Section 501				8.00		1.50		
Stru Steel Plan Quantity (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 Plan Quantity(LB) Section 511				8.00		1.50		
Stru Reinf Plan Quantity(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>25122.70</b>	<b>SUM QF UNLEADED=</b>	<b>8040.15</b>
-----------------------	-----------------	-------------------------	----------------

<b>DIESEL PRICE ADJUSTMENT(\$)</b>	<b>\$72,718.91</b>
<b>UNLEADED PRICE ADJUSTMENT(\$)</b>	<b>\$20,970.32</b>



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

**BITUMINOUS**

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

**Use this side for Asphalt Emulsion Only**

L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)
TMT = <input type="text"/>		
REMARKS: <input type="text"/>		

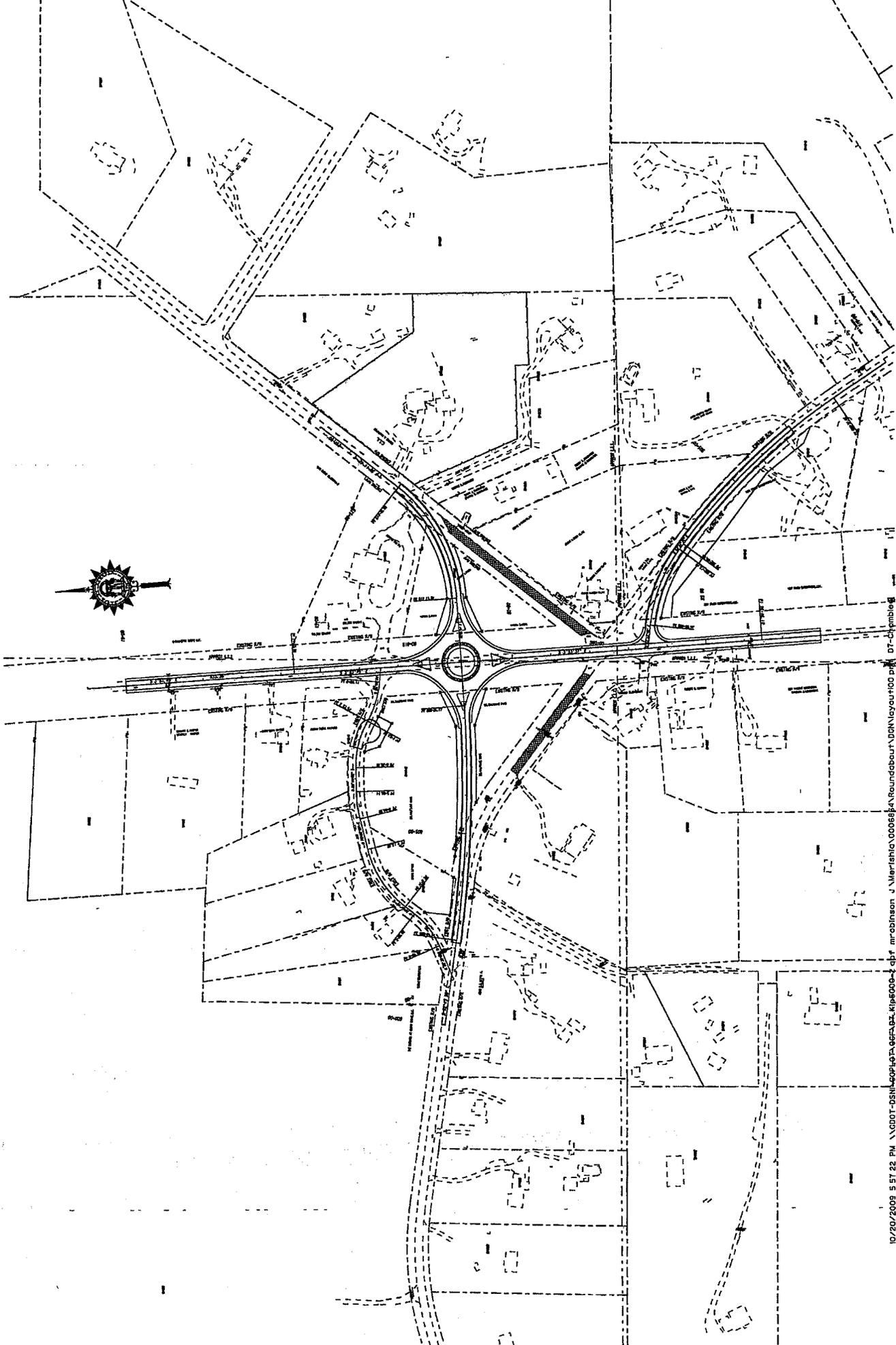
**Use this side for Asphalt Cement Only**

L.I.N.	TYPE	TACK (GALLONS)
TMT = <input type="text"/>		
REMARKS: <input type="text"/>		

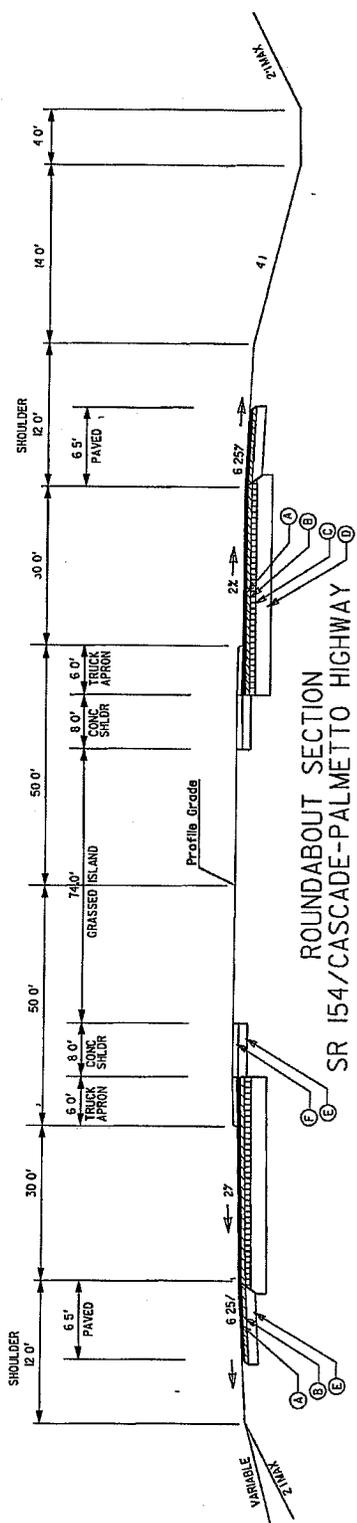
**ADJUSTMENT SUMMARY**

FUEL PRICE ADJUSTMENT (ENGLISH 125% MAX)	
DIESEL PRICE ADJUSTMENT(\$)	<u>\$72,718.91</u>
UNLEADED PRICE ADJUSTMENT(\$)	<u>\$20,970.32</u>
ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX)	<u>\$2,677.80</u>
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX	<u>\$177,911.10</u>
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)	

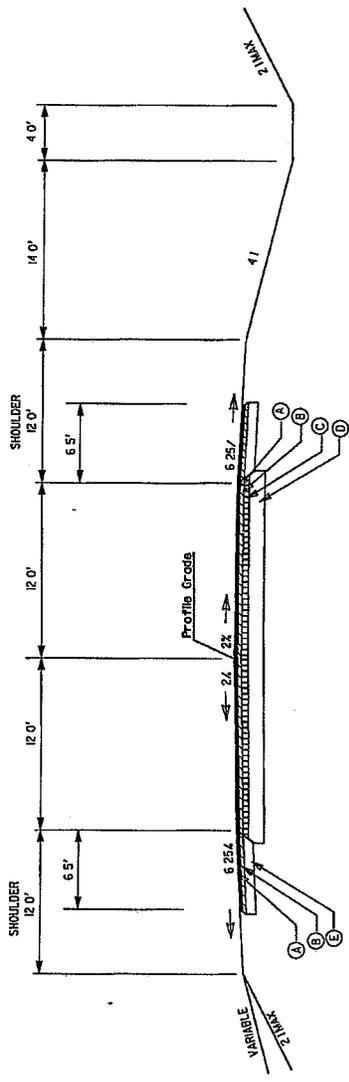
REMARKS:



10/20/2009 5:57:22 PM \\G00T-05M\app\p4\c\er\ba\k\p\6000-3\cfr m\robinson j \Merisic\000684\Roundabout\DN\layou100.plt 07-Clymbie



**ROUNDABOUT SECTION**  
**SR 154/CASCADE-PALMETTO HIGHWAY**  
**STA 17+50 TO 20+00**  
**CEDAR GROVE ROAD (WEST)/RIDGE ROAD**  
**STA 608+63 TO 610+28**



**SR 154/CASCADE-PALMETTO HIGHWAY**  
**STA 10+00 TO 17+50**

- REQUIRED PAVEMENT**
- (A) 12.5 mm SUPERPAVE, 165 LB/SY
  - (B) 19 mm SUPERPAVE, 220 LB/SY
  - (C) 25 mm SUPERPAVE, 440 LB/SY
  - (D) GRADED AGGREGATE BASE, 12 IN
  - (E) GRADED AGGREGATE BASE, 6 IN
  - (F) CONCRETE, 4 IN THICK

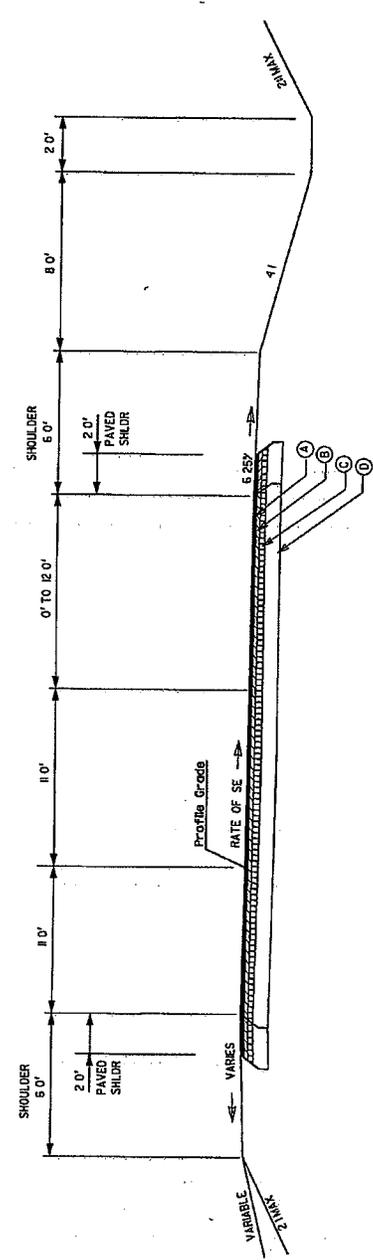
STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE DISTRICT 7 PRECONSTRUCTION <b>TYPICAL SECTIONS</b>	SR 154/CASCADE-PALMETTO HWY ROUNDABOUT
	5-01
REVISION DATES	NOT TO SCALE
<b>GEORGIA</b> DEPARTMENT OF TRANSPORTATION	





# TYPICAL SECTIONS

## OVERLAY AND FULL DEPTH WIDENING



CEDAR GROVE ROAD (EAST)  
 STA 500+12 TO 503+50

- REQUIRED PAVEMENT**
- A 12 5 mm SUPERPAVE, 165 LB/SY
  - B 19 mm SUPERPAVE, 220 LB/SY
  - C 25 mm SUPERPAVE, 440 LB/SY
  - D GRADED AGGREGATE BASE, 12 IN
  - E GRADED AGGREGATE BASE, 6 IN

<b>GEORGIA</b> DEPARTMENT OF TRANSPORTATION	NOT TO SCALE	STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE DISTRICT 7 PRECONSTRUCTION <b>TYPICAL SECTIONS</b>	DRAWING NO <b>5-04</b>
REVISION DATES		CR 1376/CEDAR GROVE ROAD (EAST)	

**CRASH RATE DATA**  
**2002-2007**

**SR 154/Cascade-Palmetto Hwy**

	Angle	Head On	Not a Collision	Rear end	Sideswipes	Injuries	Fatalities
2002	8	0	0	0	0	4	1
2003	4	0	4	1	1	4	1
2004	2	0	0	0	0	0	0
2005	3	0	1	0	1	0	0
2006	4	0	3	1	0	1	0
2007	5	1	0	2	0	0	0
<b>Total</b>	<b>26</b>	<b>1</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>9</b>	<b>2</b>

	Crash rate per 100 MVMT	State wide crash rate per 100 MVMT
<b>SR 154</b>		
2002	2,729	504
2003	3,249	526
2004	598	463
2005	1,379	513
2006	2,125	494
2007	N/A	495

**CR 1376/Cedar Grove Road**

	Angle	Head On	Not a Collision	Rear end	Sideswipes	Injuries	Fatalities
2002	1	0	0	0	0	0	0
2003	0	0	2	0	0	1	0
2004	0	0	2	1	0	2	0
2005	2	0	0	0	0	0	0
2006	1	0	0	0	0	5	0
2007	3	0	3	4	0	1	0
2008	5	1	1	1	0	6	0
<b>Total</b>	<b>12</b>	<b>1</b>	<b>8</b>	<b>6</b>	<b>0</b>	<b>15</b>	<b>0</b>

	Crash rate per 100 MVMT	State wide crash rate per 100 MVMT
<b>CR 1376</b>		
2002	0	504
2003	1000	526
2004	0	463
2005	0	513
2006	0	494
2007	0	495

**FULTON COUNTY, SR 154 milelogs 7.57 – 7.76  
(Urban Minor Arterial)**

ACCIDENT RATE CALCULATION for years 2002,2003,2004,2005,2006,2007

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2002	Fulton	1	015400	7.57	7.73	4,400	0.16	704
2002	Fulton	1	015400	7.73	7.76	3,300	0.03	99

Total Vehicle Miles: 803	Total Accidents: 8	Accident Rate: 2,729
Average ADT: 4,226	Total Injuries: 13	Injury Rate: 4,435
Length in Miles: 0.19	Total Fatalities: 1	Fatality Rate: 341.19

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2003	Fulton	1	015400	7.57	7.69	4,400	0.12	528
2003	Fulton	1	015400	7.69	7.76	3,300	0.07	231

Total Vehicle Miles: 759	Total Accidents: 9	Accident Rate: 3,249
Average ADT: 3,995	Total Injuries: 4	Injury Rate: 1,444
Length in Miles: 0.19	Total Fatalities: 1	Fatality Rate: 360.97

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2004	Fulton	1	015400	7.57	7.69	5,000	0.12	600
2004	Fulton	1	015400	7.69	7.76	4,510	0.07	316

Total Vehicle Miles: 916	Total Accidents: 2	Accident Rate: 598
Average ADT: 4,819	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.19	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2005	Fulton	1	015400	7.57	7.69	5,560	0.12	667
2005	Fulton	1	015400	7.69	7.76	4,660	0.07	326

Total Vehicle Miles: 993	Total Accidents: 5	Accident Rate: 1,379
Average ADT: 5,228	Total Injuries: 2	Injury Rate: 552
Length in Miles: 0.19	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2006	Fulton	1	015400	7.57	7.69	5,620	0.12	674
2006	Fulton	1	015400	7.69	7.76	5,100	0.07	357

Total Vehicle Miles: 1,031	Total Accidents: 8	Accident Rate: 2,125
Average ADT: 5,428	Total Injuries: 3	Injury Rate: 797
Length in Miles: 0.19	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2007	Fulton	1	015400	7.57	7.76	0	0.19	0

Total Vehicle Miles: 0	Total Accidents: 8	Accident Rate: 0
Average ADT: 0	Total Injuries: 1	Injury Rate: 0
Length in Miles: 0.19	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

**FULTON COUNTY, CR 1376 milelogs 4.04 – 4.23  
(Urban Collector Street)**

ACCIDENT RATE CALCULATION for years 2002,2003,2004,2005,2006,2007

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2002	Fulton	2	137600	4.04	4.21	1,500	0.17	255
2002	Fulton	2	137600	4.21	4.23	800	0.02	16

Total Vehicle Miles: 271	Total Accidents: 0	Accident Rate: 0
Average ADT: 1,426	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.19	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2003	Fulton	2	137600	4.04	4.21	1,400	0.17	238
2003	Fulton	2	137600	4.21	4.23	1,800	0.02	36

Total Vehicle Miles: 274	Total Accidents: 1	Accident Rate: 1,000
Average ADT: 1,442	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.19	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2004	Fulton	2	137600	4.04	4.21	1,640	0.17	279
2004	Fulton	2	137600	4.21	4.23	1,010	0.02	20

Total Vehicle Miles: 299	Total Accidents: 0	Accident Rate: 0
Average ADT: 1,574	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.19	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2005	Fulton	2	137600	4.04	4.21	1,500	0.17	255
2005	Fulton	2	137600	4.21	4.23	870	0.02	17

Total Vehicle Miles: 272	Total Accidents: 0	Accident Rate: 0
Average ADT: 1,434	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.19	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2006	Fulton	2	137600	4.04	4.21	1,770	0.17	301
2006	Fulton	2	137600	4.21	4.23	800	0.02	16

Total Vehicle Miles: 317	Total Accidents: 0	Accident Rate: 0
Average ADT: 1,668	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.19	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2007	Fulton	2	137600	4.04	4.21	1,580	0.17	269
2007	Fulton	2	137600	4.21	4.23	660	0.02	13

Total Vehicle Miles: 282	Total Accidents: 0	Accident Rate: 0
Average ADT: 1,483	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.19	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

**FULTON COUNTY, CR 1374 milelogs 0.00 – 0.11  
(Urban Minor Arterial)**

ACCIDENT RATE CALCULATION for years 2002,2003,2004,2005,2006,2007

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2002	Fulton	2	137400	0.00	0.11	500	0.11	55

Total Vehicle Miles: 55	Total Accidents: 1	Accident Rate: 4,981
Average ADT: 500	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.11	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2003	Fulton	2	137400	0.00	0.11	900	0.11	99

Total Vehicle Miles: 99	Total Accidents: 1	Accident Rate: 2,767
Average ADT: 900	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.11	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2004	Fulton	2	137400	0.00	0.11	780	0.11	86

Total Vehicle Miles: 86	Total Accidents: 1	Accident Rate: 3,193
Average ADT: 780	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.11	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2005	Fulton	2	137400	0.00	0.11	480	0.11	53

Total Vehicle Miles: 53	Total Accidents: 0	Accident Rate: 0
Average ADT: 480	Total Injuries: 0	Injury Rate: 0
Length in Miles: 0.11	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2006	Fulton	2	137400	0.00	0.11	580	0.11	64

Total Vehicle Miles: 64	Total Accidents: 1	Accident Rate: 4,294
Average ADT: 580	Total Injuries: 1	Injury Rate: 4,294
Length in Miles: 0.11	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

Year	County	Rt Type	Route Num	Low Milelog	High Milelog	ADT	Distance	Vehicle Miles
2007	Fulton	2	137400	0.00	0.11	620	0.11	68

Total Vehicle Miles: 68	Total Accidents: 2	Accident Rate: 8,034
Average ADT: 620	Total Injuries: 1	Injury Rate: 4,017
Length in Miles: 0.11	Total Fatalities: 0	Fatality Rate: 0.00

NOTE: Rates are per 100 Million Vehicle Miles

**BENEFIT COST ANALYSIS WORKSHEET**  
SR 154 @ RIDGE RD  
FULTON 0006864

**ACCIDENT DATA**

Property Damage Accidents (no fatality or injury)	P	3.57
Fatalities	F	0.14
Injuries	I	1.29

**FIXED VALUES**

Fatality Cost	Fc	\$5,800,000
Injury Cost	lc	\$333,500
Property Damage Cost	Pc	\$4,400
Maintenance/Operating Cost	Cm	\$50,000

**TABLE VALUES**

Reduction Factor (fatalities and injuries) (Appendix E)	R	0.35
Reduction Factor (property damage) (Appendix E)	Rp	0.35
Capital Recovery Factor (Appendix E)	Ek	0.087
Initial Improvement Cost (Itemized Cost Estimate)	Ci	\$2,190,773.99

**Q = Weighted cost of fatal and injury collisions**

$$Q = \frac{(Fc \times F) + (lc \times I)}{F + I}$$

Q = 880150

**B = Benefit**

$$B = Q (F + I) (R) + Pc (P) (Rp)$$

B = 445575

**C = Cost**

$$C = Ek (Ci) + Cm$$

C = 240597.3371

**B/C = Benefit/Cost Ratio**

B/C = 1.851953165

**BENEFIT/COST RATIO: 1.85**

## COUNTERMEASURE WORKSHEET

SR 154 @ RIDGE RD  
FULTON 0006864

0

Enter From Appendix E: Table A

Type of Safety Countermeasure	Ek	R	r	Rp	rp
ROUNDBABOUT	0.087	0.35	0.65	0.35	0.65

### F&I Reduction Factor Values

R1	0.35
r1	0.65
R2	0
r2	0
R3	0
r3	0

### PDO Reduction Factor Values

Rp1	0.35
rp1	0.65
Rp2	0
rp2	0
Rp3	0
rp3	0

### F&I Reduction Factor Calculations

R1 =	0.35
R2 X r1 =	0
R3 X r2 X r1 =	0

**TOTAL R = 0.35**

### PDO Reduction Factor Calculations

Rp1 =	0.35
Rp2 X rp1 =	0
Rp3 X rp2 X rp1 =	0

**TOTAL Rp = 0.35**

**Ek = 0.087**

**BENEFIT COST ANALYSIS WORKSHEET**  
SR 154 @ RIDGE RD  
FULTON 0006864

**ACCIDENT DATA**

Description	Symbol	Value
Property Damage Accidents (no fatality or injury)	P	3.57
Fatalities	F	0.14
Injuries	I	1.29

**FIXED VALUES**

Description	Symbol	Value
Fatality Cost	Fc	\$5,800,000
Injury Cost	Ic	\$333,500
Property Damage Cost	Pc	\$4,400
Maintenance/Operating Cost	Cm	\$50,000

**TABLE VALUES**

Description	Symbol	Value
Reduction Factor (fatalities and injuries) (Appendix E)	R	0.683125
Reduction Factor (property damage) (Appendix E)	Rp	0.683125
Capital Recovery Factor (Appendix E)	Ek	0.135
Initial Improvement Cost (Itemized Cost Estimate)	Ci	\$2,570,948.03

**Q = Weighted cost of fatal and injury collisions**

$$Q = \frac{(Fc \times F) + (Ic \times I)}{F + I}$$

$$Q = 880150$$

**B = Benefit**

$$B = Q (F + I) (R) + Pc (P) (Rp)$$

$$B = 869666.9196$$

**C = Cost**

$$C = Ek (Ci) + Cm$$

$$C = 397077.9841$$

**B/C = Benefit/Cost Ratio**

$$B/C = 2.190166553$$

**BENEFIT/COST RATIO: 2.19**

## COUNTERMEASURE WORKSHEET

SR 154 @ RIDGE RD

FULTON 0006864

0

Enter From Appendix E: Table A

Type of Safety Countermeasure	Ek	R	r	Rp	rp
ADD RIGHT TURN LANE	0.135	0.35	0.65	0.35	0.65
ADD LEFT TURN LANE	0.135	0.25	0.75	0.25	0.75
IMPROVE INTERSECTION ALIGNMENT	0.087	0.35	0.65	0.35	0.65

### F&I Reduction Factor Values

R1	0.35
r1	0.65
R2	0.35
r2	0.65
R3	0.25
r3	0.75

### PDO Reduction Factor Values

Rp1	0.35
rp1	0.65
Rp2	0.35
rp2	0.65
Rp3	0.25
rp3	0.75

### F&I Reduction Factor Calculations

R1 =	0.35
R2 X r1 =	0.2275
R3 X r2 X r1 =	0.105625

**TOTAL R = 0.68313**

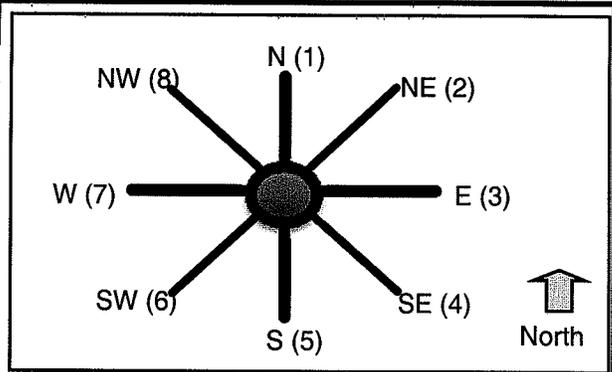
### PDO Reduction Factor Calculations

Rp1 =	0.35
Rp2 X rp1 =	0.2275
Rp3 X rp2 X rp1 =	0.105625

**TOTAL Rp = 0.68313**

**Ek = 0.135**

General & Site Information	
Analyst:	Christopher Lindsey
Agency/Company:	Georgia DOT
Date:	5/21/2009
Project Name or PI#:	0006864
Intersection:	SR 154 @ Cedar Grove Rd.
Analysis Time Period:	AM
Year:	2008
County/District:	Fulton County/ District 7



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph			10		433		15	
	NE (2), vph								
	E (3), vph	13				32		41	
	SE (4), vph								
	S (5), vph	275		15				10	
	SW (6), vph								
	W (7), vph	3		6		8			
	NW (8), vph								
Output	Total Vehicles	291	0	31	0	473	0	66	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	78%	78%	78%	78%	78%	78%	78%	78%
% SU/ Bus	15%	15%	15%	15%	15%	15%	15%	15%
% Trucks	7%	7%	7%	7%	7%	7%	7%	7%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
F <sub>HV</sub>	0.873	1.000	0.873	1.000	0.873	1.000	0.873	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	13	0	563	0	20	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	17	0	0	0	42	0	53	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	358	0	20	0	0	0	13	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	4	0	8	0	10	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	379	0	40	0	615	0	86	0
Conflicting flow, pcu/h	38	0	593	0	90	0	394	0

Roundabout Type	Urban Compact=1	Standard Single Lane =2
Enter type here...	2	

<b>Results</b>								
<b>NCHRP-572 Model</b>	<b>N</b>	<b>NE</b>	<b>E</b>	<b>SE</b>	<b>S</b>	<b>SW</b>	<b>W</b>	<b>NW</b>
Entry Capacity, pcu/h	1088	NA	624	NA	1033	NA	762	NA
Leg v/c ratio	0.35		0.06		0.60		0.11	
Control Delay, s/pcu	5.1		6.2		8.5		5.3	
LOS	A		A		A		A	
LOS (signalized)	A		A		A		A	
95th % Queue (veh)	2		0		4		0	
95th Percentile Queue (ft)	45		6		117		11	
<b>FHWA 2000 Model</b>	<b>N</b>	<b>NE</b>	<b>E</b>	<b>SE</b>	<b>S</b>	<b>SW</b>	<b>W</b>	<b>NW</b>
Entry Capacity, pcu/h	1191	NA	889	NA	1163	NA	997	NA
Leg v/c ratio	0.32		0.05		0.53		0.09	
Delay (s/veh)	4		4		7		4	
LOS	A		A		A		A	
95th % Queue (veh)	1		0		3		0	
95th % Queue (ft)	39		4		92		8	

**Notes:**

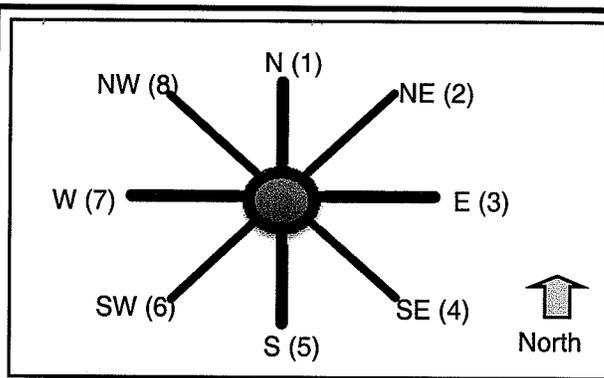
Default Values:

Equivalency Factors:

Car	1
Single-unit truck or bus	1.5
Truck with trailer	2
Bicycle or motorcycle	0.5

Default Car Length (ft) 25

General & Site Information	
Analyst:	Christopher Lindsey
Agency/Company:	Georgia DOT
Date:	5/21/2009
Project Name or PI#:	0006864
Intersection:	SR 154 @ Cedar Grove Rd.
Analysis Time Period:	AM
Year:	2028
County/District:	Fulton County/ District 7



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph			20		765		25	
	NE (2), vph								
	E (3), vph	120				55		55	
	SE (4), vph								
	S (5), vph	350		25				15	
	SW (6), vph								
	W (7), vph	5		10		10			
	NW (8), vph								
Output	Total Vehicles	475	0	55	0	830	0	95	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	78%	78%	78%	78%	78%	78%	78%	78%
% SU/ Bus	15%	15%	15%	15%	15%	15%	15%	15%
% Trucks	7%	7%	7%	7%	7%	7%	7%	7%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
F <sub>HV</sub>	0.873	1.000	0.873	1.000	0.873	1.000	0.873	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	26	0	995	0	33	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	156	0	0	0	72	0	72	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	455	0	33	0	0	0	20	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	7	0	13	0	13	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	618	0	72	0	1080	0	124	0
Conflicting flow, pcu/h	59	0	1041	0	260	0	644	0

Roundabout Type	Urban Compact=1 Standard Single Lane =2
Enter type here...	2

<b>Results</b>								
<b>NCHRP-572 Model</b>	<b>N</b>	<b>NE</b>	<b>E</b>	<b>SE</b>	<b>S</b>	<b>SW</b>	<b>W</b>	<b>NW</b>
Entry Capacity, pcu/h	1066	NA	399	NA	871	NA	593	NA
Leg v/c ratio	<b>0.58</b>		<b>0.18</b>		<b>1.24</b>		<b>0.21</b>	
Control Delay, s/pcu	<b>7.9</b>		<b>11.0</b>		<b>130.3</b>		<b>7.7</b>	
LOS	A		B		F		A	
LOS (signalized)	A		B		F		A	
95th % Queue (veh)	4		1		37		1	
95th Percentile Queue (ft)	<b>111</b>		<b>18</b>		<b>1060</b>		<b>22</b>	
<b>FHWA 2000 Model</b>	<b>N</b>	<b>NE</b>	<b>E</b>	<b>SE</b>	<b>S</b>	<b>SW</b>	<b>W</b>	<b>NW</b>
Entry Capacity, pcu/h	1180	NA	645	NA	1070	NA	861	NA
Leg v/c ratio	<b>0.52</b>		<b>0.11</b>		<b>1.01</b>		<b>0.14</b>	
Delay (s/veh)	<b>6</b>		<b>6</b>		<b>45</b>		<b>5</b>	
LOS	A		A		E		A	
95th % Queue (veh)	3		0		21		1	
95th % Queue (ft)	<b>90</b>		<b>11</b>		<b>594</b>		<b>14</b>	

**Notes:**

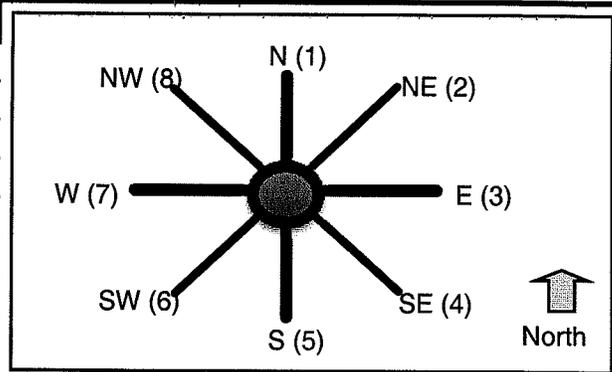
Default Values:

Equivalency Factors:

Car	1
Single-unit truck or bus	1.5
Truck with trailer	2
Bicycle or motorcycle	0.5

*Default Car Length (ft)*      25

General & Site Information	
Analyst:	Christopher Lindsey
Agency/Company:	Georgia DOT
Date:	5/21/2009
Project Name or PI#:	0006864
Intersection:	SR 154 @ Cedar Grove Rd.
Analysis Time Period:	PM
Year:	2008
County/District:	Fulton County/ District 7



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph			13		275		3	
	NE (2), vph								
	E (3), vph	10				15		8	
	SE (4), vph								
	S (5), vph	433		32				0	
	SW (6), vph								
	W (7), vph	15		37		51			
	NW (8), vph								
Output	Total Vehicles	458	0	82	0	341	0	11	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	78%	78%	78%	78%	78%	78%	78%	78%
% SU/ Bus	15%	15%	15%	15%	15%	15%	15%	15%
% Trucks	7%	7%	7%	7%	7%	7%	7%	7%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
F <sub>HV</sub>	0.873	1.000	0.873	1.000	0.873	1.000	0.873	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	17	0	358	0	4	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	13	0	0	0	20	0	10	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	563	0	42	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	20	0	48	0	66	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	596	0	107	0	444	0	14	0
Conflicting flow, pcu/h	156	0	428	0	27	0	618	0

Roundabout Type	Urban Compact=1	Standard Single Lane =2
Enter type here...	2	

<b>Results</b>								
<b>NCHRP-572 Model</b>	<b>N</b>	<b>NE</b>	<b>E</b>	<b>SE</b>	<b>S</b>	<b>SW</b>	<b>W</b>	<b>NW</b>
Entry Capacity, pcu/h	967	NA	736	NA	1100	NA	609	NA
Leg v/c ratio	<b>0.62</b>		<b>0.14</b>		<b>0.40</b>		<b>0.02</b>	
Control Delay, s/pcu	<b>9.5</b>		<b>5.7</b>		<b>5.5</b>		<b>6.1</b>	
LOS	A		A		A		A	
LOS (signalized)	A		A		A		A	
95th % Queue (veh)	4		1		2		0	
95th Percentile Queue (ft)	<b>126</b>		<b>14</b>		<b>57</b>		<b>2</b>	
<b>FHWA 2000 Model</b>	<b>N</b>	<b>NE</b>	<b>E</b>	<b>SE</b>	<b>S</b>	<b>SW</b>	<b>W</b>	<b>NW</b>
Entry Capacity, pcu/h	1127	NA	979	NA	1197	NA	875	NA
Leg v/c ratio	<b>0.53</b>		<b>0.11</b>		<b>0.37</b>		<b>0.02</b>	
Delay (s/veh)	<b>7</b>		<b>4</b>		<b>5</b>		<b>4</b>	
LOS	A		A		A		A	
95th % Queue (veh)	3		0		2		0	
95th % Queue (ft)	<b>92</b>		<b>10</b>		<b>50</b>		<b>1</b>	

**Notes:**

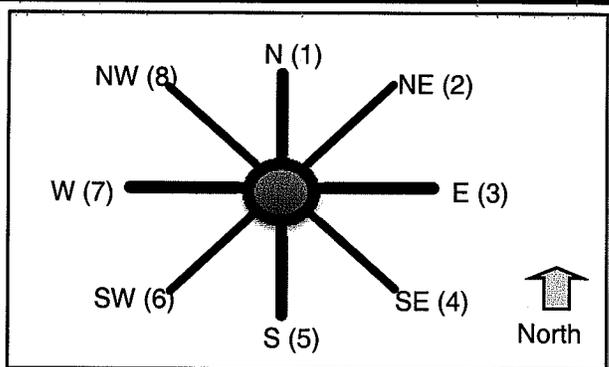
Default Values:

Equivalency Factors:

Car	1
Single-unit truck or bus	1.5
Truck with trailer	2
Bicycle or motorcycle	0.5

Default Car Length (ft) 25

General & Site Information	
Analyst:	Christopher Lindsey
Agency/Company:	Georgia DOT
Date:	5/21/2009
Project Name or PI#:	0006864
Intersection:	SR 154 @ Cedar Grove Rd.
Analysis Time Period:	PM
Year:	2028
County/District:	Fulton County/ District 7



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph			20		470		5	
	NE (2), vph								
	E (3), vph	60				25		10	
	SE (4), vph								
	S (5), vph	705		55				0	
	SW (6), vph								
	W (7), vph	25		10		70			
	NW (8), vph								
Output	Total Vehicles	790	0	85	0	565	0	15	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	78%	78%	78%	78%	78%	78%	78%	78%
% SU/ Bus	15%	15%	15%	15%	15%	15%	15%	15%
% Trucks	7%	7%	7%	7%	7%	7%	7%	7%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
F <sub>HV</sub>	0.873	1.000	0.873	1.000	0.873	1.000	0.873	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	26	0	612	0	7	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	78	0	0	0	33	0	13	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	917	0	72	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	33	0	13	0	91	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	1028	0	111	0	735	0	20	0
Conflicting flow, pcu/h	176	0	709	0	98	0	1067	0

Roundabout Type	Urban Compact=1	Standard Single Lane =2
Enter type here...	2	

<b>Results</b>								
<b>NCHRP-572 Model</b>	<b>N</b>	<b>NE</b>	<b>E</b>	<b>SE</b>	<b>S</b>	<b>SW</b>	<b>W</b>	<b>NW</b>
Entry Capacity, pcu/h	948	NA	556	NA	1025	NA	389	NA
Leg v/c ratio	<b>1.08</b>		<b>0.20</b>		<b>0.72</b>		<b>0.05</b>	
Control Delay, s/pcu	<b>69.8</b>		<b>8.1</b>		<b>11.9</b>		<b>9.7</b>	
LOS	F		A		B		A	
LOS (signalized)	E		A		B		A	
95th % Queue (veh)	25		1		6		0	
95th Percentile Queue (ft)	<b>723</b>		<b>21</b>		<b>185</b>		<b>5</b>	
<b>FHWA 2000 Model</b>	<b>N</b>	<b>NE</b>	<b>E</b>	<b>SE</b>	<b>S</b>	<b>SW</b>	<b>W</b>	<b>NW</b>
Entry Capacity, pcu/h	1116	NA	826	NA	1159	NA	631	NA
Leg v/c ratio	<b>0.92</b>		<b>0.13</b>		<b>0.63</b>		<b>0.03</b>	
Delay (s/veh)	<b>26</b>		<b>5</b>		<b>8</b>		<b>6</b>	
LOS	D		A		A		A	
95th % Queue (veh)	15		0		5		0	
95th % Queue (ft)	<b>426</b>		<b>13</b>		<b>137</b>		<b>3</b>	

**Notes:**

Default Values:

Equivalency Factors:

- Car 1
- Single-unit truck or bus 1.5
- Truck with trailer 2
- Bicycle or motorcycle 0.5

Default Car Length (ft) 25

## Meeting Minutes

To: Files

From: Merishia Robinson

Date: March 24, 2009

RE: CSSTP-0006-00(864), Fulton County, P.I. 0006864 – Concept Team Meeting for the Proposed Intersection Improvement of SR 154/Cascade-Palmetto Highway @ CR 1376/Cedar Grove Road & CR 1374/Ridge Road

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A Concept Team Meeting was held on March 24, 2009 at the District 7 Office in Chamblee. See the attached sign-in sheet for a list of attendees. A brief presentation of the project was provided followed by a page-by-page review of the Concept Report. The following comments were discussed:

- Page 2, Location Sketch – Revise this page by including a vicinity map to include I-285 and I-85.
- Page 3, Safety paragraph – Update the data to include 7 years of traffic data.
- Page 3, Description of the proposed project – Charity Belford, TMC, asked if a roundabout design was considered for this project. Merishia Robinson replied stating that it was looked into but that the impacts would be greater. It was agreed to discuss the roundabout option after the meeting.
- Page 7, Traffic control during construction – Loren Bartlett inquired about the need for a detour and estimated that it would likely be needed for one month of the construction time.
- Page 7, Design Variances – It was stated that a design variance for 11-ft lanes would be needed.
- Page 7, Utility Involvements – Include all potential utilities in the area in this section. Said Abedi attended the meeting for Eric Glover and stated that they may have substantial impacts to the water lines in the area that could amount to almost \$900k.
- Page 8, Scheduling – Responsible Parties' Estimates – It was suggested that a minimum of 18 months be used for the Time to complete the purchase of right of way.
- Page 9, Attachments – Remove the Location and Design Notice, since this is a major project it will be submitted separately.

- Cost Estimate attachment – Scott Lee stated that there were some items missing from the estimate that should be included. The cost estimate will be revised to include these other items as necessary.
- Typical Section attachments – The general comment received concerning the typical sections was to make sure that they match the Description of the proposed project stated earlier in the concept report.

MAL:MKR