

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**OFFICE OF DESIGN POLICY & SUPPORT  
INTERDEPARTMENTAL CORRESPONDENCE**

**FILE** P.I. # 0003948 **OFFICE** Design Policy & Support  
STP00-0003-00(948)  
Catoosa County  
GDOT District 6 - Cartersville **DATE** 9/11/2013  
SR 3 @ CR 381/Graysville Road  
Roundabout

**FROM**  Brent Story, State Design Policy Engineer

**TO** SEE DISTRIBUTION

**SUBJECT** APPROVED REVISED CONCEPT REPORT

Attached is the approved Revised Concept Report for the above subject project.

Attachment

**DISTRIBUTION:**

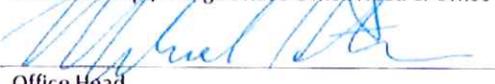
Bobby Hilliard, Program Control Administrator  
Genetha Rice-Singleton, State Program Delivery Engineer  
Glenn Bowman, State Environmental Administrator  
Cindy VanDyke, State Transportation Planning Administrator  
Ben Rabun, State Bridge Engineer  
Kathy Zahul, State Traffic Engineer  
Angela Robinson, Financial Management Administrator  
Lisa Myers, State Project Review Engineer  
Charles "Chuck" Hasty, State Materials Engineer  
Mike Bolden, State Utilities Engineer  
Paul Tanner, Asst. State Transportation Data Administrator  
Attn: Systems & Classification Branch  
Jeff Fletcher, Statewide Location Bureau Chief  
Andy Casey, State Roadway Design Engineer  
Attn: David Ray, District Design Engineer  
Emmanuella Myrthil, State Safety Program Coordinator  
DeWayne Comer, District Engineer  
Michael Haithcock, District Preconstruction Engineer  
Kerry Bonner, District Utilities Engineer  
Lenora Leigh, Project Manager  
BOARD MEMBER - 14th Congressional District

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
REVISED PROJECT CONCEPT REPORT**

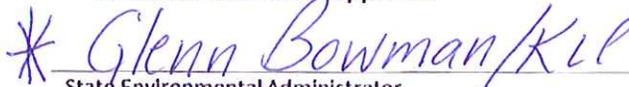
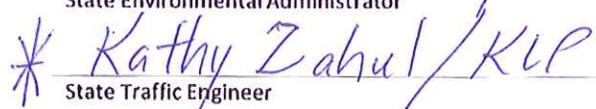
Project Type:	<u>Safety/Roundabout</u>	P.I. Number:	<u>0003948</u>
GDOT District:	<u>6</u>	County:	<u>Catoosa</u>
Federal Route Number:	<u>41</u>	State Route Number:	<u>3</u>
Project Number:	<u>STP00-0003-00(948)</u>		

*Recent Benefit-Cost analysis has shown that the project is not viable in its current form. This revision proposes to change the concept of the project from adding a traffic signal and turning lanes at multiple intersections to a single roundabout. The new design will reduce the number of parcels affected, including several Historical Resources*

**Submitted for approval:**

 GDOT Concept/Design Phase Office Head & Office	<u>12/14/2012</u> DATE
 Office Head	<u>12/14/12</u> DATE
 GDOT Project Manager	<u>12/19/12</u> DATE

**Recommendation for approval:**

*  State Environmental Administrator	<u>1-25-2013</u> DATE
*  State Traffic Engineer	<u>1-24-2013</u> DATE

*Recommendations on file*

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).

 State Transportation Planning Administrator	<u>1-3-13</u> DATE
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## **PLANNING, APPROVED CONCEPT, & BACKGROUND DATA**

### **Project Justification Statement:**

The proposed project will reduce crash frequency and severity as well as improve operational efficiency at the T-intersection of SR 3/US 41 and CR 381/Graysville Road in Catoosa County, GA. In Georgia, nearly a third of fatal crashes occur at intersections making intersection safety a focus area for the Georgia Department of Transportation. Nationally intersection crashes account for 40% of all reported crashes and approximately 20% of traffic fatalities. Of those fatalities, nearly 50% are the result of angle collisions. Angle collisions are often high speed, high impact crashes which often result in serious injuries or fatalities.

Roundabouts have been identified as one of nine proven countermeasures by the Federal Highway Administration (FHWA). The installation of roundabouts in comparison to traditional safety countermeasures such as traffic signals have resulted in a greater reduction in crash frequency and in many instances better operational efficiency. Roundabouts are generally navigated at slower speeds which correlate with lower impact, less severe crashes. A roundabout also presents fewer conflict points than a traditional intersections resulting in fewer collisions.

SR 3/US 41 is a two lane urban minor arterial with a posted speed limit of 45 mph and an AADT of 5,890 vehicles per day. CR 381/Graysville Road is a two lane urban minor arterial with a posted speed limit of 35 mph and an AADT of 4620 vehicles per day. Currently, the T-intersection is stop controlled on CR 381/Graysville Road with no turn lanes on any approach.

Crash data from 2006-2010 indicated that 13 crashes occurred at this intersection resulting in 10 total injuries. Of those crashes 54% were angle collisions accounting for 60% of the injuries. Studies have shown that the installation of a roundabout results in nearly 80% reduction in fatal and serious injury crashes and nearly 40% reduction in property damage crashes.

### **Description of the approved concept:**

The intersection of SR 3 at CR 381 is approximately 4 miles northwest of the city of Ringgold and 6 miles southeast of the Tennessee state line in Catoosa County.

SR 3 will be realigned north of the intersection to meet design speed. SR 3 will be widened 6 ft. symmetrically to provide left turn lanes at Judith Rd, CR 381 and Indian Springs Rd in the southbound direction and an additional 12 ft. to provide right-turn lanes at Indian Springs Road and CR 381 in the northbound direction. CR 381 will be widened 6 ft. symmetrically to provide a left turn lane. A stop and go traffic signal will be installed.

The project runs along SR 3 from MP 10.72 to 11.03 for a length of 0.31 miles. The project runs along CR 381 from MP 0.00 to 0.10 for a length of 0.10 miles.

**PDP Classification:**     Major                       Minor  
**Federal Oversight:**     Full Oversight     Exempt     State Funded     Other

**Current Traffic ADT as shown in the approved Concept Report:**  
 SR 3 (1999): 8100                                      CR 381 (1999): 3500

**Updated Traffic ADT:**  
 Open Year SR 3 (2015): 11050                      Design Year SR 3 (2035): 13450  
 Open Year CR 381(2015): 5200                      Design Year CR 381 (2035): 6400

**Functional Classification (Mainline):** Urban Minor Arterial Street

**VE Study anticipated:**     No                       Yes                       Completed – Date:

**PROPOSED REVISIONS**

<b>Approved Features:</b>	<b>Proposed Features:</b>
<p><b>Approved Typical Section:</b> SR 3: 3-12 ft travel lanes, one in each direction with a 12 ft left turn lane southbound and a 12 ft right turn lane northbound. Shoulders will be 10.5 ft; 6.5 ft paved and 4 ft grassed.                      CR 381: 3 12 ft travel lanes, one in each direction with a 12 ft left turn lane. Shoulder will be 10 ft, 4 ft paved and 6 ft grassed.                      Turning lanes and paved shoulders are not needed for roundabouts.</p> <p><b>Approved Project Termini:</b>                      SR 3: MP 10.72 to 11.03                      CR 381: MP 0.00 to 0.10                      Eliminating the turning lanes allows for less widening (due mostly to the removal of storage length) on the approaches compared with a roundabout.</p> <p><b>Approved Right of Way Requirement:</b>                      Catoosa County shall be responsible for the acquisition of all required Right of Way for this project.</p>	<p><b>Typical Section:</b> Each approach will consist of 2-12 ft. lanes with curb and gutter. Sidewalk will be set back 2 feet from the back of curb.</p> <p><b>Project Termini:</b> Project will begin at MP 10.76 on SR 3/US 41 and end at MP 10.89 for a total project length of 0.13 miles.</p> <p><b>Approved Right of Way Requirement:</b>                      Acquisition of Right of Way will now be handled by GDOT. The revised design will also reduce impacts to historic resources in the area.</p>
<p><b>Reason(s) for change:</b> All of the above changes are results from altering the project from a traffic signal with multiple turn lanes to a single lane roundabout.</p>	

**ENVIRONMENTAL**

**Air Quality:**

Is the project located in a PM 2.5 Non-attainment area?  
 Is the project located in an Ozone Non-attainment area?  
 Is a Carbon Monoxide hotspot analysis required?

No       Yes  
 No       Yes *KLP*  
 No       Yes

The revised concept will retain the number of through lanes (two) as the original concept while reducing the limits of the project. Furthermore, when compared to traffic signals roundabouts reduce vehicle emissions and fuel consumption. For these reasons as well as this being a safety project, it should be exempt from a "Hot Spot" analysis.

This project is anticipated to be a type 3 project for noise, meaning noise readings and/or a barrier analysis shouldn't be required.

**Potential environmental impacts of proposed revision:**

Due to its smaller footprint, the revised project will eliminate impacts to two historical resources (the Dixie Motel and Indian Springs Motor Company), and all stream buffers (Stream #1). An adverse effect determination is still expected for the remaining resource (Dixie Highway/SR 3/US 41), which will require a 4f review and document.

Have proposed revisions been reviewed by environmental staff?       No       Yes

Environmental responsibilities (Studies/Documents/Permits):      GDOT

**PROJECT COST & ADDITIONAL INFORMATION**

Updated Cost Estimate		Date of Estimate
Base Construction Cost:	\$385,000.00	08/02/2013
Engineering and Inspection:	\$19,250(@ 5%)	
Liquid AC Adjustment:	\$13,500.00	08/02/2013
<u>Total Construction Cost:</u>	\$417,750.00	08/02/2013
Right-of-Way:	\$425,000.00	08/26/2011-13 <i>KLP</i>
Utilities (reimbursable costs):	\$395,000.00	8/13/2012-13 <i>KLP</i>
Environmental Mitigation:	<i>undetermined</i>	<i>undetermined</i> <i>KLP</i>
<b>TOTAL PROJECT COST:</b>	<b>\$1,2371,750.00</b>	

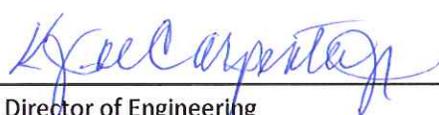
**Recommendation:** Recommend that the proposed revision to the concept be approved for implementation.

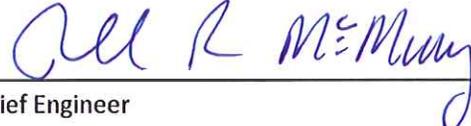
**Attachments:**

1. Sketch map
2. Layout
3. Typical Sections
4. Roundabout Analysis
5. Roundabout Checklist
6. Preliminary R/W Cost Estimate
7. Preliminary Utilities Cost Estimate
8. Preliminary Construction Cost Estimate
9. Traffic
10. Lighting Agreement

**APPROVALS**

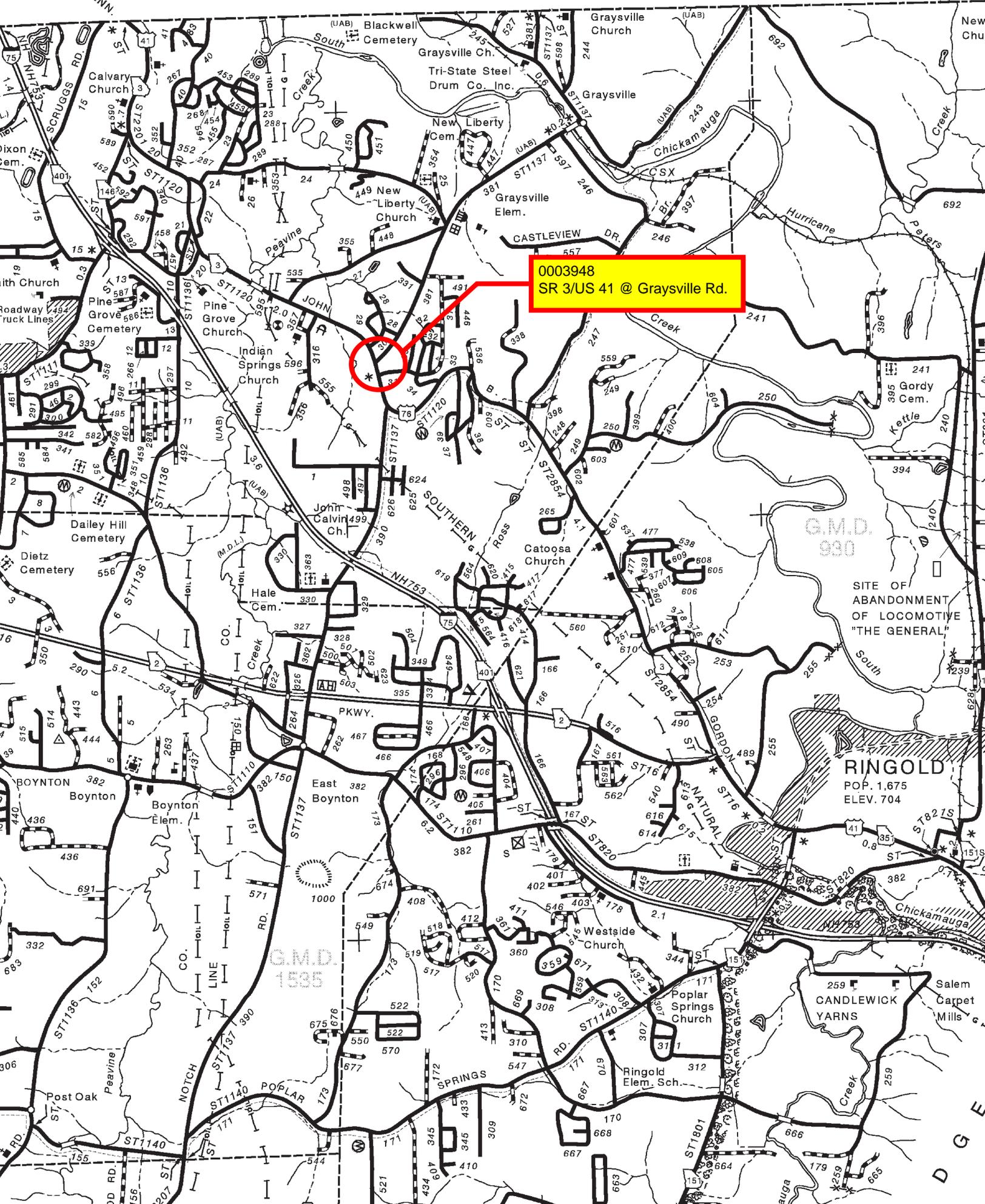
*Exempt Projects*

Concur:  9/3/2013  
Director of Engineering

Approve:   
Chief Engineer

9/9/13  
Date

MATTANOGA, TENN.



0003948  
SR 3/US 41 @ Graysville Rd.

G.M.D.  
930

SITE OF  
ABANDONMENT  
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"THE GENERAL"

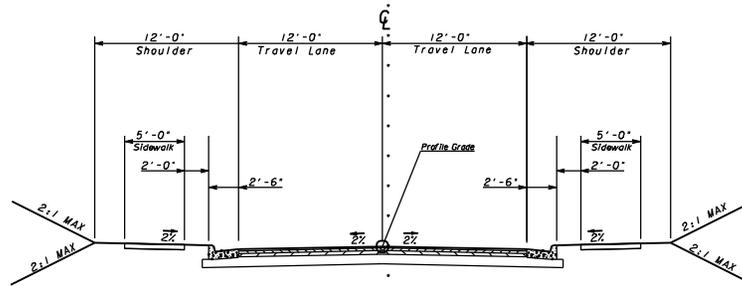
RINGOLD  
POP. 1,675  
ELEV. 704

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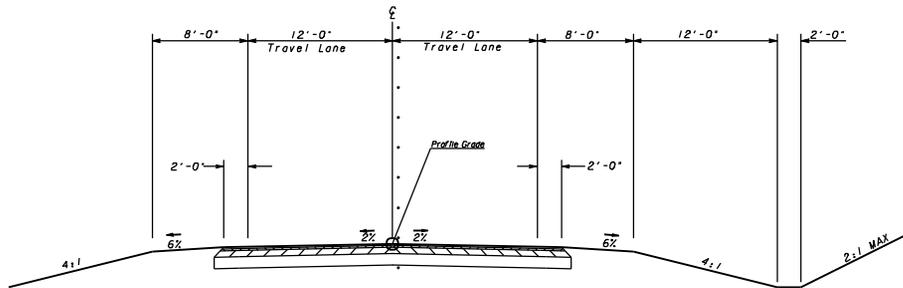
CANDLEWICK  
YARNS

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TANGENT SECTION  
SR 3/US 41 & CR 381 GRAYSVILLE RD WITH CURB

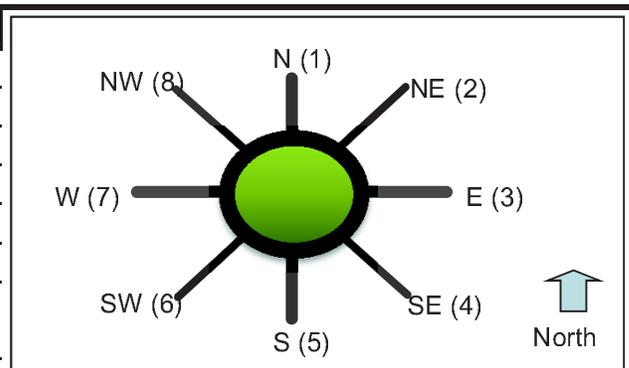


TANGENT SECTION  
SR 3/US 41 & CR 381 GRAYSVILLE RD WITHOUT CURB

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 jciavarro

REVISION DATES			STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE: DISTRICT SIX DESIGN <b>TYPICAL SECTIONS</b>	
			SR 3/US 41 @ GRAYSVILLE RD	
			DRAWING NO. 5-001	

General & Site Information	
Analyst:	PDD
Agency/Company:	GDOT
Date:	8/24/2011
Project Name or PI#:	0003948
Year, Peak Hour:	2015 AM Peak
County/District:	Catoosa/District 6
Intersection:	SR 3/US 41 @ Graysville Rd



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			165				45	
	NE (2), vph								
	E (3), vph	215						330	
	SE (4), vph								
	S (5), vph								
	SW (6), vph								
	W (7), vph	70		355					
	NW (8), vph								
Output	Total Vehicles	285	0	520	0	0	0	375	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	100%	100%	98%	100%
% Heavy Vehicles	2.5%	0%	2.5%	0%	0%	0%	2.5%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
F <sub>HV</sub>	0.976	1.000	0.976	1.000	1.000	1.000	0.976	1.000
F <sub>ped</sub>	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	184	0	0	0	50	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	240	0	0	0	0	0	368	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	0	0	0	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	78	0	396	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	318	0	579	0	0	0	418	0
Conflicting flow, pcu/h	396	0	50	0	0	0	240	0

Roundabout Type	Standard Single Lane or Urban Compact
Enter type here...	Standard Single Lane

<b>Results: Approach Measures of Effectiveness</b>								
<b>HCM 2010 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, veh/h	742	NA	1049	NA	NA	NA	868	NA
Entry Flow Rates, veh/h	310	NA	565	NA	NA	NA	408	NA
<b>V/C ratio</b>	<b>0.42</b>		<b>0.54</b>				<b>0.47</b>	
<b>Control Delay, s/veh</b>	<b>10.4</b>		<b>10.1</b>				<b>10.1</b>	
LOS	B		B				B	
<b>95th % Queue (ft)</b>	<b>53</b>		<b>85</b>				<b>65</b>	
<b>UK 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	997	NA	1185	NA	NA	NA	1082	NA
<b>V/C ratio</b>	<b>0.32</b>		<b>0.49</b>				<b>0.39</b>	
<b>Control Delay, sec/pcu</b>	<b>7</b>		<b>8</b>				<b>7</b>	
LOS	A		A				A	
<b>95th % Queue (ft)</b>	<b>35</b>		<b>71</b>				<b>47</b>	

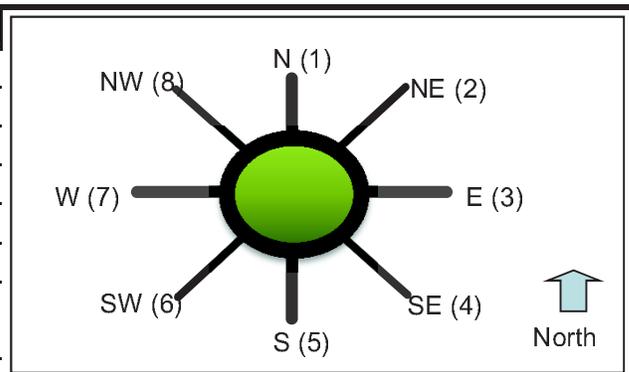
Notes:

Unit Legend:

- vph = vehicles per hour
- PHF = peak hour factor
- F<sub>HV</sub> = heavy vehicle factor
- pcu = passenger car unit

<b>Bypass Lane Merge Point Analysis (if applicable)</b>						
<b>Bypass Characteristics</b>	<b>Bypass #1</b>	<b>Bypass #2</b>	<b>Bypass #3</b>	<b>Bypass #4</b>	<b>Bypass #5</b>	<b>Bypass #6</b>
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
<i>Volumes</i>						
Right Turn Volume removed from Entry Leg						
<i>Volume Characteristics (for entry leg)</i>						
PHF						
F <sub>HV</sub>						
F <sub>ped</sub>						
<b>NOTE: Volume Characteristics for Exit Leg are already taken into account</b>						
<i>Entry/Conflicting Flows</i>						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
<b>Bypass Lane Results (HCM 2010 Model)</b>						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
<b>V/C ratio</b>						
<b>Control Delay, s/veh</b>						
LOS						
<b>95th % Queue (ft)</b>						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

General & Site Information	
Analyst:	PDD
Agency/Company:	GDOT
Date:	8/24/2011
Project Name or PI#:	0003948
Year, Peak Hour:	2015 PM Peak
County/District:	Catoosa/District 6
Intersection:	SR 3/US 41 @ Graysville Rd



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			215				70	
	NE (2), vph								
	E (3), vph	165						355	
	SE (4), vph								
	S (5), vph								
	SW (6), vph								
	W (7), vph	45		330					
	NW (8), vph								
Output	Total Vehicles	210	0	545	0	0	0	425	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	99%	100%	99%	100%	100%	100%	99%	100%
% Heavy Vehicles	1.5%	0%	1.5%	0%	0%	0%	1.5%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
F <sub>HV</sub>	0.985	1.000	0.985	1.000	1.000	1.000	0.985	1.000
F <sub>ped</sub>	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	237	0	0	0	77	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	182	0	0	0	0	0	392	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	0	0	0	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	50	0	364	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	232	0	601	0	0	0	469	0
Conflicting flow, pcu/h	364	0	77	0	0	0	182	0

Roundabout Type	Standard Single Lane or Urban Compact
Enter type here...	Standard Single Lane

<b>Results: Approach Measures of Effectiveness</b>								
<b>HCM 2010 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, veh/h	774	NA	1031	NA	NA	NA	928	NA
Entry Flow Rates, veh/h	228	NA	592	NA	NA	NA	462	NA
<b>V/C ratio</b>	<b>0.30</b>		<b>0.57</b>				<b>0.50</b>	
<b>Control Delay, s/veh</b>	<b>8.1</b>		<b>11.0</b>				<b>10.2</b>	
LOS	A		B				B	
<b>95th % Queue (ft)</b>	<b>31</b>		<b>96</b>				<b>72</b>	
<b>UK 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	1014	NA	1170	NA	NA	NA	1113	NA
<b>V/C ratio</b>	<b>0.23</b>		<b>0.51</b>				<b>0.42</b>	
<b>Control Delay, sec/pcu</b>	<b>6</b>		<b>9</b>				<b>8</b>	
LOS	A		A				A	
<b>95th % Queue (ft)</b>	<b>22</b>		<b>77</b>				<b>54</b>	

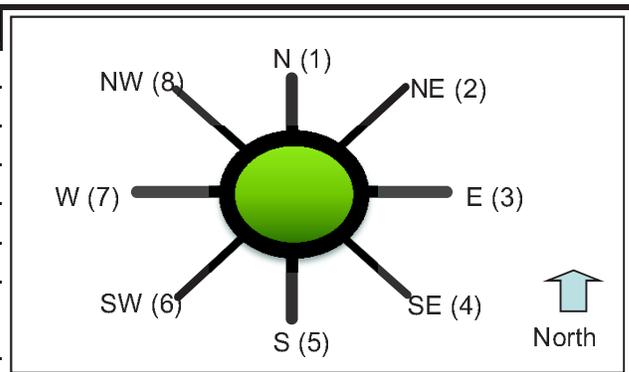
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Unit Legend:

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- pcu = passenger car unit

<b>Bypass Lane Merge Point Analysis (if applicable)</b>						
<b>Bypass Characteristics</b>	<b>Bypass #1</b>	<b>Bypass #2</b>	<b>Bypass #3</b>	<b>Bypass #4</b>	<b>Bypass #5</b>	<b>Bypass #6</b>
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
<i>Volumes</i>						
Right Turn Volume removed from Entry Leg						
<i>Volume Characteristics (for entry leg)</i>						
PHF						
F <sub>HV</sub>						
F <sub>ped</sub>						
<b>NOTE: Volume Characteristics for Exit Leg are already taken into account</b>						
<i>Entry/Conflicting Flows</i>						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
<b>Bypass Lane Results (HCM 2010 Model)</b>						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
<b>V/C ratio</b>						
<b>Control Delay, s/veh</b>						
LOS						
<b>95th % Queue (ft)</b>						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

General & Site Information	
Analyst:	PDD
Agency/Company:	GDOT
Date:	8/24/2011
Project Name or PI#:	0003948
Year, Peak Hour:	2035 AM Peak
County/District:	Catoosa/District 6
Intersection:	SR 3/US 41 @ Graysville Rd



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			205				50	
	NE (2), vph								
	E (3), vph	265						400	
	SE (4), vph								
	S (5), vph								
	SW (6), vph								
	W (7), vph	80		430					
	NW (8), vph								
Output	Total Vehicles	345	0	635	0	0	0	450	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98%	100%	98%	100%	100%	100%	98%	100%
% Heavy Vehicles	2.5%	0%	2.5%	0%	0%	0%	2.5%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
F <sub>HV</sub>	0.976	1.000	0.976	1.000	1.000	1.000	0.976	1.000
F <sub>ped</sub>	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	228	0	0	0	56	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	295	0	0	0	0	0	446	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	0	0	0	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	89	0	479	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	384	0	707	0	0	0	501	0
Conflicting flow, pcu/h	479	0	56	0	0	0	295	0

Roundabout Type	Standard Single Lane or Urban Compact
Enter type here...	Standard Single Lane

<b>Results: Approach Measures of Effectiveness</b>								
<b>HCM 2010 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, veh/h	683	NA	1043	NA	NA	NA	821	NA
Entry Flow Rates, veh/h	375	NA	690	NA	NA	NA	489	NA
<b>V/C ratio</b>	<b>0.55</b>		<b>0.66</b>				<b>0.60</b>	
<b>Control Delay, s/veh</b>	<b>14.3</b>		<b>13.2</b>				<b>13.6</b>	
LOS	B		B				B	
<b>95th % Queue (ft)</b>	<b>86</b>		<b>135</b>				<b>103</b>	
<b>UK 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	951	NA	1182	NA	NA	NA	1051	NA
<b>V/C ratio</b>	<b>0.40</b>		<b>0.60</b>				<b>0.48</b>	
<b>Control Delay, sec/pcu</b>	<b>8</b>		<b>10</b>				<b>9</b>	
LOS	A		B				A	
<b>95th % Queue (ft)</b>	<b>51</b>		<b>107</b>				<b>68</b>	

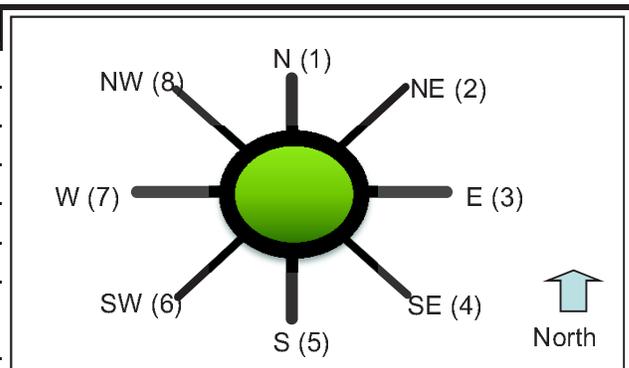
Notes:

Unit Legend:

- vph = vehicles per hour
- PHF = peak hour factor
- F<sub>HV</sub> = heavy vehicle factor
- pcu = passenger car unit

<b>Bypass Lane Merge Point Analysis (if applicable)</b>						
<b>Bypass Characteristics</b>	<b>Bypass #1</b>	<b>Bypass #2</b>	<b>Bypass #3</b>	<b>Bypass #4</b>	<b>Bypass #5</b>	<b>Bypass #6</b>
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
<i>Volumes</i>						
Right Turn Volume removed from Entry Leg						
<i>Volume Characteristics (for entry leg)</i>						
PHF						
F <sub>HV</sub>						
F <sub>ped</sub>						
<b>NOTE: Volume Characteristics for Exit Leg are already taken into account</b>						
<i>Entry/Conflicting Flows</i>						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
<b>Bypass Lane Results (HCM 2010 Model)</b>						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
<b>V/C ratio</b>						
<b>Control Delay, s/veh</b>						
LOS						
<b>95th % Queue (ft)</b>						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

General & Site Information	
Analyst:	PDD
Agency/Company:	GDOT
Date:	8/24/2011
Project Name or PI#:	0003948
Year, Peak Hour:	2035 PM Peak
County/District:	Catoosa/District 6
Intersection:	SR 3/US 41 @ Graysville Rd



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			265				80	
	NE (2), vph								
	E (3), vph	205						430	
	SE (4), vph								
	S (5), vph								
	SW (6), vph								
	W (7), vph	50		400					
	NW (8), vph								
Output	Total Vehicles	255	0	665	0	0	0	510	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	99%	100%	99%	100%	100%	100%	99%	100%
% Heavy Vehicles	1.5%	0%	1.5%	0%	0%	0%	1.5%	0%
% Bicycle	0%	0%	0%	0%	0%	0%	0%	0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
F <sub>HV</sub>	0.985	1.000	0.985	1.000	1.000	1.000	0.985	1.000
F <sub>ped</sub>	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	292	0	0	0	88	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	226	0	0	0	0	0	474	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	0	0	0	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	55	0	441	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	281	0	734	0	0	0	563	0
Conflicting flow, pcu/h	441	0	88	0	0	0	226	0

Roundabout Type	Standard Single Lane or Urban Compact
Enter type here...	Standard Single Lane

<b>Results: Approach Measures of Effectiveness</b>								
<b>HCM 2010 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, veh/h	716	NA	1019	NA	NA	NA	888	NA
Entry Flow Rates, veh/h	277	NA	723	NA	NA	NA	554	NA
<b>V/C ratio</b>	<b>0.39</b>		<b>0.71</b>				<b>0.62</b>	
<b>Control Delay, s/veh</b>	<b>10.1</b>		<b>15.2</b>				<b>13.7</b>	
LOS	B		C				B	
<b>95th % Queue (ft)</b>	<b>47</b>		<b>159</b>				<b>114</b>	
<b>UK 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	972	NA	1164	NA	NA	NA	1089	NA
<b>V/C ratio</b>	<b>0.29</b>		<b>0.63</b>				<b>0.52</b>	
<b>Control Delay, sec/pcu</b>	<b>7</b>		<b>11</b>				<b>9</b>	
LOS	A		B				A	
<b>95th % Queue (ft)</b>	<b>31</b>		<b>119</b>				<b>78</b>	

Notes:

Unit Legend:

- vph = vehicles per hour
- PHF = peak hour factor
- F<sub>HV</sub> = heavy vehicle factor
- pcu = passenger car unit

<b>Bypass Lane Merge Point Analysis (if applicable)</b>						
<b>Bypass Characteristics</b>	<b>Bypass #1</b>	<b>Bypass #2</b>	<b>Bypass #3</b>	<b>Bypass #4</b>	<b>Bypass #5</b>	<b>Bypass #6</b>
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
<i>Volumes</i>						
Right Turn Volume removed from Entry Leg						
<i>Volume Characteristics (for entry leg)</i>						
PHF						
F <sub>HV</sub>						
F <sub>ped</sub>						
<b>NOTE: Volume Characteristics for Exit Leg are already taken into account</b>						
<i>Entry/Conflicting Flows</i>						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
<b>Bypass Lane Results (HCM 2010 Model)</b>						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
<b>V/C ratio</b>						
<b>Control Delay, s/veh</b>						
LOS						
<b>95th % Queue (ft)</b>						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

## GDOT ROUNDABOUT DESIGN CHECKLIST - CONCEPT DEVELOPMENT

**Notes:**

- 1) This checklist is specifically written for a standalone intersection project. Some minor adjustments may be needed for a consultant designed roundabout with respect to roles. For linear or interchange reconstruction projects much of the concept development effort can be accomplished during the preliminary design. Additional items should be added as necessary to define/document the design. The preparation of a roundabout design may be terminated at any time during the process, if a decision is made to eliminate a roundabout from further consideration. In this case, documentation should be organized and retained to support this decision.
- 2) This checklist includes work items which are specific to the roundabout project and does not include many items which would be common to all conventional intersection projects. The level of detail and timing of some tasks will vary with the complexities of the roundabout and site constraints.
- 3) The checklist is meant to combine certain categories of information and is not meant to reflect a precise sequence of performance. Any items which do not apply to a specific project can be marked as "N/A" (i.e. not applicable).

PI Number: <u>3948</u>	County: <u>Catoosa</u>
Design Phase Leader: <u>J. Ciavarro</u>	Design Office: <u>District Six</u>
Description: <u>SR 3/US 41 @ Graysville Rd</u>	

No.	Completed	Action By	Item	Commentary <small>(Can modify text to replace with project specific info, will show in <b>bold</b> letters.)</small>
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**1. Operations - Planning Level Assessment - See DPM Section 8.2.1**

1	Dec-12	JMC	Vicinity Map	<i>Map showing roadways within approximately 1 mile +/- of each direction from the roundabout.</i>
2	Dec-12	JMC	Intersection Layout	<i>Show layout of existing intersection including site constraints such as property, access buildings. A recent aerial photo from any source is sufficient.</i>
3	Nov-12	Leo	Letter of support from local government	<i>Letter of support is required from local government for project to proceed as a roundabout - See DPM figure 8.1.</i>
4	Nov-11	Leo	Crash history	<i>Send request to Norm Cressman of GDOT Crash Reporting Unit.</i>
5	Jun-11	JMC	Pedestrian and bike activity	<i>Estimate level of activity. Sources may include site inspection, local GDOT and government offices.</i>
6	May-11	AE	Estimate current traffic volumes	<i>May obtain from GDOT transportation Data Viewer or TPAS.</i>
7	May-11	AE	Estimate design year traffic volumes	<i>Important if significant growth is anticipated.</i>
8	May-11	AE	Percent traffic on major roads	<i>Traffic volume entering roundabout from the major road should be no more than 90% of total volume entering the roundabout.</i>
9	Aug-11	DC	Number of circulatory lanes	<i>Single lane - ADT &lt; 25,000, Two-lane - ADT &lt; 45,000. See exhibit 3-12 of NCHRP.</i>
10	Aug-11	DC	Favorable conditions	<i>See section 8.2.1 Planning Level Assessments for list of conditions where roundabouts tend to be advantageous.</i>
11	Aug-11	DC	Unfavorable conditions	<i>See section 8.2.1 Planning Level Assessments for list of conditions which may be unfavorable for roundabouts.</i>
12	Nov-11	Leo	Purpose of roundabout	<i>Clearly define what "need" the roundabout addresses.</i>
13	Dec-11	JMC	Roundabout sketch	<i>Hand drawn sketch showing location and configuration envisioned.</i>

PI Number:	3948	County:	#VALUE!
Design Phase Leader:	#VALUE!	Design Office:	#VALUE!
Description:	#VALUE!		

No.	Completed	Action By	Item	Commentary <small>(Can modify text to replace with project specific info, will show in bold letters.)</small>
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**2. Design - Gather information for concept - for existing intersection and for base & design years**

1	Dec-12	JMC	Vicinity Map	Map showing roadways within approximately 1 mile +/- of each direction from the roundabout.
2	old plans	JMC	Approach speeds	Identify posted speeds for approach roadways - Obtain from existing speed limit signs or GDOT Transportation Data Viewer. For county and local roads it is recommended to contact the local district traffic operations office to request from local enforcement agency.
3	old plans	JMC	Grades	Generally not desirable to locate roundabouts with grades through the roundabout greater than 4%. Can continue with a roundabout but should consider truck volumes and potential for truck overturning.
4	Nov-11	JMC	Functional classification	Identify for each approach roadway using GDOT Transportation Data Viewer. As a secondary source may use Office of Transportation Data functional classification maps.
5	May-11	AE	Current year traffic volumes	Send email request to Office of Planning (ADT and am/pm DHV), attn Abby Ebodaghe.
6	May-11	AE	Base year traffic projections	Be sure to obtain growth rates for traffic projections where evaluating capacity during interim years may be required.
7	May-11	AE	Design year traffic projections	
8	Dec-12	JMC	Future projects	Identify any planned roadway project in vicinity.
9	Dec-12	JMC	Desirable LOS	Refer to DPM Section 6.14, Summary of Design Criteria for Cross Section Elements.

**3. Design - Roundabout Feasibility Study, Part 1 - Alternate comparison and selection**

1	Jun-11	JMC	Intersection base map	Show layout of existing intersection including site constraints such as right-of-way, access, buildings, and environmental resources. A recent aerial photo from any source is sufficient.
2	Aug-11	DC	Signal Warrant Study	This will define whether or not a signal is a possible alternate and will be prepared by the local District Traffic Operations Office.
3	Dec-11	JMC	Identify/sketch alternative intersection forms	See DPM Section 8.2.2 - bullet for Section 3. Sketch to the level at which alternates can be adequately compared. May include single and multilane roundabout layouts.
4	Aug-11	DC	Safety assessment	See DPM Section 8.2.2 - bullet for Section 2.
5	Aug-11	DC	Number of entry lanes for each approach leg	May use turning movements to estimate of lane requirements at each entry. See exhibits 3-14 and 4-3 of NCHRP 672.
6	Aug-11	DC	Operational Analyses	See DPM Section 8.2.2 - bullet for Section 4.
7			Cost Comparison	See DPM Section 8.2.2 - bullet for Section 5. Not required if roundabout is to address severe crash history.
8			Select most favorable alternate	See DPM Section 8.2.2 - bullet for Section 6. A tabulated comparison of alternates recommended.

PI Number:	3948	County:	#VALUE!
Design Phase Leader:	#VALUE!	Design Office:	#VALUE!
Description:	#VALUE!		

No.	Completed	Action By	Item	Commentary <small>(Can modify text to replace with project specific info, will show in bold letters.)</small>
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**4. Design - Roundabout Feasibility Study, Part 2 - Roundabout layout (as required to define the footprint)**

1	Dec-11	JMC	Design alternate roundabout layouts	<i>The identification of the most favorable layout may require the development and consideration of multiple roundabout layouts/locations.</i>
2	Dec-11	JMC	Identify likely impacts	<i>Identify potential conflicts with underground utilities and likely property and environmental resource impacts, etc.</i>
3			Fastest paths	<i>Document fastest paths on concept layouts, indicate speeds and speed differentials. (May require update during preliminary design for requirements to layout.)</i>
4	Jul-12	JMC	Design vehicle	<i>See DPM Section 8.3.2, Design Vehicle and Section 3.2. Greater consideration should be given to selecting a larger design vehicle - even if roundabout may be infrequently used by that size vehicle.</i>
5	Jul-12	JMC	Design vehicle swept path	<i>Document all movements. (May require update during preliminary design for requirements to layout.)</i>
6			Stopping sight distance	<i>Evaluate stopping sight distance to roundabout yield line, for each approach.</i>
7	Jul-12	JMC	Staging improvements	<i>If multilane is required in the design year evaluate whether or not a single-lane will be adequate through the base plan 10 years. If so, construct as a single lane which allows for future expansion to a multilane footprint without reconstruction.</i>
8			Finalize concept layout	<i>Prepare a concept layout of the proposed roundabout. May be CAD or hand drawn, but should be to scale. Should show central island, splitter islands, sidewalks, crosswalks and truck apron. Note or list dimensions for ICD, circulatory roadway width, truck apron widths, angles between approach centerlines. Will be helpful to include preliminary striping for multilane roundabouts. Show scale and North arrow.</i>

**5. Design - Other information - required for concept report**

1	Dec-11	JMC	Typical section	<i>Required for concept reports.</i>
2			Construction sequencing	<i>Briefly describe expected staging for construction, e.g. built under traffic, off-site detour, new location...</i>
3	Jul-13	JMC	Lighting	<i>Include in cost estimate. Define if need is to address high speeds on approaches, pedestrian activity and if approaches are lighted.</i>
4			Landscaping requirements	<i>Include in cost estimate. Will normally be required. This is particularly the case for high speed approaches to enhance visibility of the roundabout from a distance.</i>
5	Dec-11	JMC	Pavement Type	<i>Will normally match major road pavement. Asphalt commonly provides for easier staging for construction at existing intersections.</i>

**6. Design - Implement program of local government coordination and public involvement**

1			Presentation layouts	<i>Prepare exhibits for meetings.</i>
2	11/2012?	Leo	Meeting with local officials	<i>An initial meeting with local government officials (and their support of the roundabout) will be helpful in gaining support at a PIOH.</i>
3			Public outreach	<i>Required in most cases, often in the form of a PIOH. See DPM Section 8.2.5 Public Involvement for helpful advice regarding visual aids. This should occur after the feasibility study is complete.</i>

PI Number:	3948	County:	#VALUE!
Design Phase Leader:	#VALUE!	Design Office:	#VALUE!
Description:	#VALUE!		

No.	Completed	Action By	Item	Commentary <small>(Can modify text to replace with project specific info, will show in bold letters.)</small>
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**7. Complete quality assurance reviews - occurs at various points in the process**

1	<input type="checkbox"/>	<input type="checkbox"/>	QA review by design process	<i>Feasibility studies should be reviewed within the originating design office, in accordance with the Department's QC/QA manual (located on ROADS).</i>
2	<input type="checkbox"/>	<input type="checkbox"/>	Informal review by GDOT roundabout SME	<i>Upon request, a GDOT SME will, (prior to peer review), perform an informal review of a feasibility study or any in-progress work products. Contact either Scott Zehngraff (szehngraff@dot.ga.gov) of the Office of Traffic Operations or Daniel Pass (dpass@dot.ga.gov) of the Office of Design Policy and Support. See Daniel Pass for a list of approved roundabout peer reviewers and a scope of work for a peer review task order. Peer review can be accomplished either in discrete events or incrementally from start of concept to letting. Should be completed prior to the concept team meeting where a complex roundabout is proposed. See DPM Section 8.2.3. Review of Feasibility Studies.</i>
3	<input type="checkbox"/> Jul-12	<input type="checkbox"/> Ourston	Peer Review by Consultant peer reviewer	

**Notes:**

- 1) Key objectives during concept development includes identifying the best solution that addresses the project need and defining a layout which best considers geometric, operational and other project-specific constraints. Defining an "accurate" footprint is particularly important for projects with significant site constraints and for roundabouts of greater complexity (complex roundabouts). Complex roundabouts include multilane roundabouts and single land roundabouts which addresses difficult conditions such as bad skews or significant geometric or operational constraints.
- 2) It should be recognized that unlike conventional intersection forms (e.g., signalization, stop control, etc.) the configuration and layout of a roundabout can be dramatically affected by the results of capacity, fastest path, and truck turning template studies and thus often requires higher level of engineering during the concept phase.
- 3) Include a completed checklist with the submittal package to the peer reviewer and with submission of the concept report for review and approval. Any peer review recommended changes not implemented must be coordinated with the peer reviewer and/or the Office of Design Policy and Support. The peer review report should also be included in the concept report if any recommended changes are to be made after concept development. At minimum, make all changes which affect impacts, cost, required R/W, basic operation of the roundabout leg, elimination of a bypass lane, etc. prior to submitting the concept report for review and approval.

**List of Acronyms:**

- SME - Subject Matter Expert
- DPM - Design Policy Manual
- ICD - Inscribed Diameter
- TPAS - Traffic Polling and Analysis System



# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

## INTERDEPARTMENT CORRESPONDENCE

FILE: STP00-0003-00(948); Catoosa County  
SR 3/US 41 @ CR 381/Graysville Rd  
P.I. No. 0003948

OFFICE: Cartersville

DATE: August 13, 2013

FROM:  Kerry D. Bonner, District Utilities Engineer

TO: Genetha Rice-Singleton, State Program Delivery Engineer  
ATTN: Leonora Leigh, Project Manager

SUBJECT: UPDATED UTILITY COST ESTIMATE

As requested by your office, we are furnishing you with an Updated Utility Cost estimates for each utility with facilities potentially located within the project limits.

FACILITY OWNER	NON-REIMBURSABLE	REIMBURSABLE
Atlanta Gas Light	\$ 100,000.00	
Catoosa Utility District*	\$ 600,000.00	
North Georgia EMC		\$ 210,000.00
City of Ringgold		\$ 110,000.00
Charter Communications	\$ 30,000.00	
Ringgold Telephone	\$ 75,000.00	\$ 75,000.00
Totals	\$ 805,000.00	\$ 395,000.00

The total preliminary utility cost estimate is \$1,200,000.00.

\*The total reimbursable amount could increase to \$ 995,000.00 if Catoosa Utility District requests and is granted assistance.

If you have any questions, please contact Jennifer Deems at 678-271-5323.

KDB/jd

C: File/Estimating Book

# DETAILED COST ESTIMATE



**Job: 0003948**

**JOB NUMBER** 0003948

**FED/STATE PROJECT NUMBER** STP00-0003-00(948)

**SPEC YEAR:** 01

**DESCRIPTION:** SR 3/US 41@ GRAYSVILLE RD - ROUNDABOUT

**ITEMS FOR JOB 0003948**

**10 - ROADWAY**

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0035	150-1000	1.000	LS	\$20,000.00000	TRAFFIC CONTROL - STP00-0003-00(948)	\$20,000.00
0040	210-0100	1.000	LS	\$35,000.00000	GRADING COMPLETE - STP00-0003-00(948)	\$35,000.00
0020	310-1101	1100.000	TN	\$23.26689	GR AGGR BASE CRS, INCL MATL	\$25,593.58
0045	318-3000	500.000	TN	\$18.12893	AGGR SURF CRS	\$9,064.47
0030	402-1812	70.000	TN	\$79.29243	RECYL AC LEVELING,INC BM&HL	\$5,550.47
0005	402-3103	260.000	TN	\$72.89858	REC AC 9.5 MM SP,TPII,GP2, INCL BM & H L	\$18,953.63
0015	402-3143	260.000	TN	\$70.86000	RECYL AC 25 MM SP,GP 1 OR 2,INCL BM	\$18,423.60
0150	402-3190	180.000	TN	\$80.94580	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	\$14,570.24
0025	413-1000	190.000	GL	\$3.08225	BITUM TACK COAT	\$585.63
0140	441-0016	600.000	SY	\$32.59838	DRIVEWAY CONCRETE, 6 IN TK	\$19,559.03
0055	441-0104	680.000	SY	\$28.21731	CONC SIDEWALK, 4 IN	\$19,187.77
0135	441-5002	360.000	LF	\$16.20413	CONC HEADER CURB, 6", TP 2	\$5,833.49
0130	441-6222	3750.000	LF	\$10.20587	CONC CURB & GUTTER/ 8"X30"TP2	\$38,272.01
<b>SUBTOTAL FOR ROADWAY:</b>						<b>\$230,593.92</b>

**20 - DRAINAGE**

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0050	550-2180	600.000	LF	\$26.06231	SIDE DR PIPE 18",H 1-10	\$15,637.39
0060	550-4218	2.000	EA	\$474.08582	FLARED END SECT 18 IN, ST DR	\$948.17
0065	603-2182	2.000	SY	\$47.41491	STN DUMPED RIP RAP, TP 3, 24"	\$94.83
0064	603-7000	2.000	SY	\$3.95633	PLASTIC FILTER FABRIC	\$7.91
<b>SUBTOTAL FOR DRAINAGE:</b>						<b>\$16,688.30</b>

**30 - TEMPORARY EROSION CONTROL**

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0095	163-0232	2.000	AC	\$437.07995	TEMPORARY GRASSING	\$874.16
0100	163-0240	30.000	TN	\$248.80257	MULCH	\$7,464.08
0105	163-0300	2.000	EA	\$992.10875	CONSTRUCTION EXIT	\$1,984.22
0115	163-0528	400.000	LF	\$3.55059	CONSTR AND REM FAB CK DAM -TP C SLT FN	\$1,420.24
0120	165-0041	200.000	LF	\$1.62360	MAINT OF CHECK DAMS - ALL TYPES	\$324.72
0110	165-0101	2.000	EA	\$571.03556	MAINT OF CONST EXIT	\$1,142.07
0125	171-0030	3000.000	LF	\$2.74831	TEMPORARY SILT FENCE, TYPE C	\$8,244.93
<b>SUBTOTAL FOR TEMPORARY EROSION CONTROL:</b>						<b>\$21,454.42</b>

# DETAILED COST ESTIMATE



**Job: 0003948**

## 40 - PERMANENT EROSION CONTROL

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0070	700-6910	1.000	AC	\$722.64337	PERMANENT GRASSING	\$722.64
0075	700-7000	3.000	TN	\$97.79841	AGRICULTURAL LIME	\$293.40
0085	700-8000	0.100	TN	\$358.03030	FERTILIZER MIXED GRADE	\$35.80
0090	700-8100	50.000	LB	\$2.52593	FERTILIZER NITROGEN CONTENT	\$126.30
<b>SUBTOTAL FOR PERMANENT EROSION CONTROL:</b>						<b>\$1,178.14</b>

## 50 - LIGHTING

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0145	005-0002	1.000	LS	\$100,000.00000	INSTALL/LIGHTING FACILITIES	\$100,000.00
<b>SUBTOTAL FOR LIGHTING:</b>						<b>\$100,000.00</b>

## 60 - SIGNING AND MARKING

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0155	150-1000	1.000	LS	\$15,000.00000	TRAFFIC CONTROL - SIGNING AND MARKING ESTIMATE TOTAL	\$15,000.00
<b>SUBTOTAL FOR SIGNING AND MARKING:</b>						<b>\$15,000.00</b>

### TOTALS FOR JOB 0003948

<b>ITEMS COST:</b>	<b>\$384,914.78</b>
<b>COST GROUP COST:</b>	<b>\$0.00</b>
<b>ESTIMATED COST:</b>	<b>\$384,914.78</b>
<b>CONTINGENCY PERCENT:</b>	<b>0.00</b>
<b>ENGINEERING AND INSPECTION:</b>	<b>0.00</b>
<b>ESTIMATED COST WITH CONTINGENCY AND E&amp;I:</b>	<b>\$384,914.78</b>

PROJ. NO.

ST900-0003-00(948)

CALL NO.

P.I. NO.

0003948

DATE

8/2/2013

INDEX (TYPE)

REG. UNLEADED

Jul-13

\$ 3.352

DIESEL

\$ 3.772

LIQUID AC

\$ 572.00

Link to Fuel and AC Index:

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

LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)]xTMTxAPL

Asphalt

Price Adjustment (PA)

13213.2

\$

13,213.20

Monthly Asphalt Cement Price month placed (APM)

Max. Cap

60%

\$ 915.20

Monthly Asphalt Cement Price month project let (APL)

\$ 572.00

Total Monthly Tonnage of asphalt cement (TMT)

38.5

ASPHALT	Tons	%AC	AC ton
Leveling	70	5.0%	3.5
12.5 OGFC		5.0%	0
12.5 mm		5.0%	0
9.5 mm SP	260	5.0%	13
25 mm SP	260	5.0%	13
19 mm SP	180	5.0%	9
	<b>770</b>		<b>38.5</b>

BITUMINOUS TACK COAT

Price Adjustment (PA)

\$ 280.07

\$

280.07

Monthly Asphalt Cement Price month placed (APM)

Max. Cap

60%

\$ 915.20

Monthly Asphalt Cement Price month project let (APL)

\$ 572.00

Total Monthly Tonnage of asphalt cement (TMT)

0.816069175

Bitum Tack

Gals	gals/ton	tons
190	232.8234	0.81606918

PROJ. NO.

ST900-0003-00(948)

CALL NO.

P.I. NO.

0003948

DATE

8/2/2013

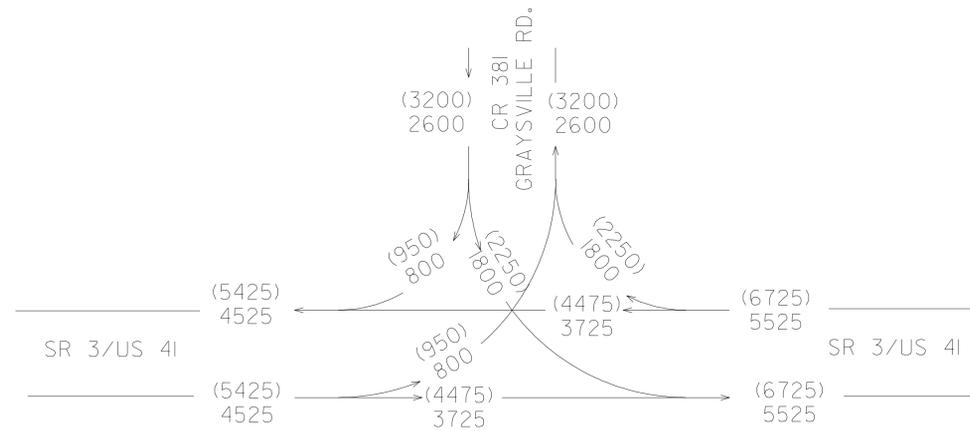
**BITUMINOUS TACK COAT (surface treatment)**

Price Adjustment (PA)						<b>0</b>	\$	-
Monthly Asphalt Cement Price month placed (APM)		Max. Cap	60%	\$	915.20			
Monthly Asphalt Cement Price month project let (APL)				\$	572.00			
Total Monthly Tonnage of asphalt cement (TMT)					0			

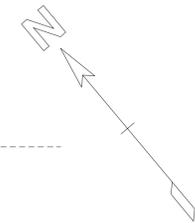
Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf.Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0
					0

<b>TOTAL LIQUID AC ADJUSTMENT</b>							\$	<b>13,493.27</b>
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# NO BUILD ADT = BUILD ADT



CATOOSA COUNTY

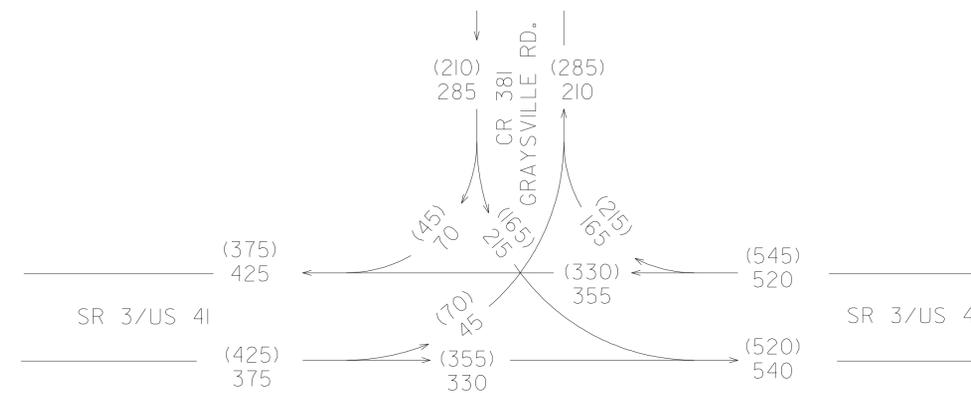
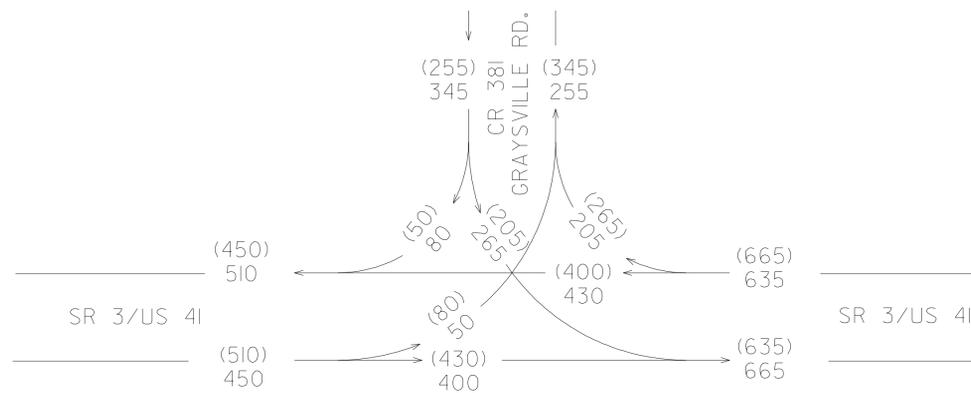


2035 AM DHV = 000  
2035 PM DHV = (000)

2015 AM DHV = 000  
2015 PM DHV = (000)

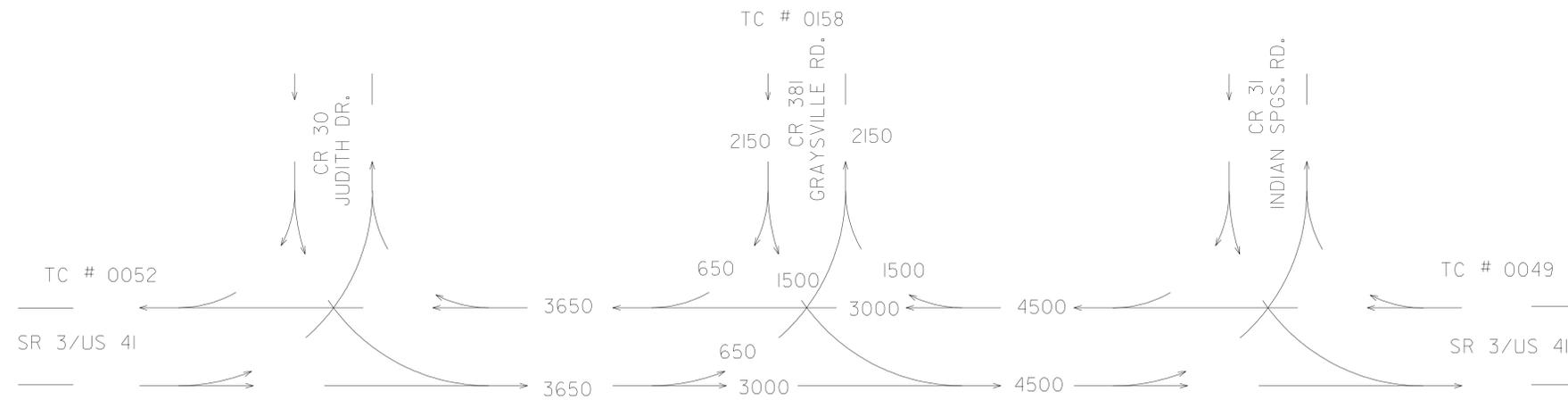
AM  
T = 2.5%  
S.U. = 2%  
COMB. = 0.5%

PM  
T = 1.5%  
S.U. = 1.5%  
COMB. = 0%

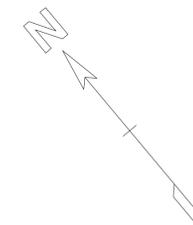


STP00-0003-00(948)  
P.I.# 0003948  
CATOOSA COUNTY  
SR 3/US 41@  
GRAYSVILLE RD.

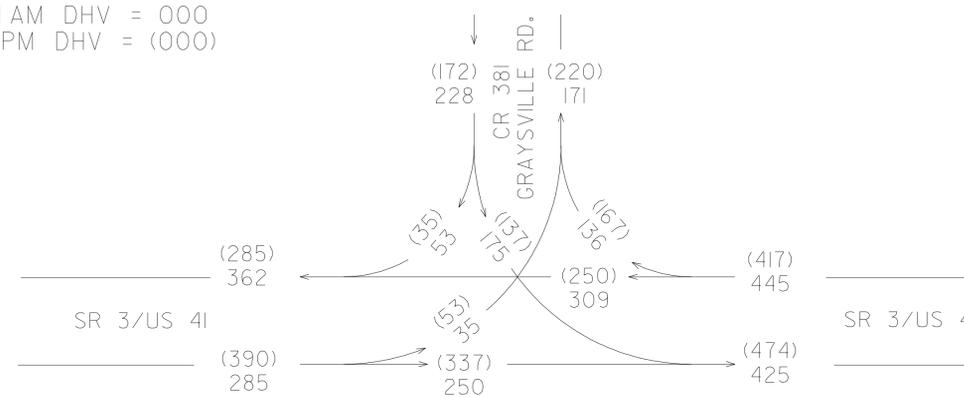
EXISTING 2011 ADT



CATOOSA COUNTY



EXISTING  
2011 AM DHV = 000  
2011 PM DHV = (000)



STP00-0003-00(948)  
P.I.# 0003948  
CATOOSA COUNTY  
SR 3/US 41@  
GRAYSVILLE RD.

EXISTING 2011

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

**INDICATION OF ROUNDABOUT SUPPORT**

To the Georgia Department of Transportation:

Attn: State Traffic Engineer  
935 E. Confederate Ave, Building 24  
Atlanta, GA 30316

**Location**

The Board of Commissioners in Catoosa County support the consideration of a roundabout at the location specified below.

Local Street Names: Dixie Highway @ Graysville Road

State/County Route Numbers: State Route 3 at County Road 381

**Associated Conditions**

The undersigned agrees to participate in the following maintenance of the intersection in the event that the roundabout is selected as the preferred concept alternative:

- The full and entire cost of the ~~electric energy used for~~ any lighting installed and the maintenance thereof (if needed)
- Any maintenance costs associated with the landscaping as approved by the local government and the Georgia Department of Transportation (after construction is complete)

We agree to participate in a formal Local Government Lighting Project Agreement during the preliminary design phase. This indication of support is submitted and all of the conditions are hereby agreed to. The undersigned are duly authorized to execute this agreement.

This is the 6<sup>th</sup> day of November, 2012

Attest:

Melissa D. Hannah  
Clerk

By:

Title:

[Signature]  
Chairman