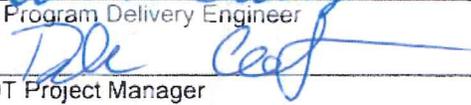


**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
LIMITED SCOPE PROJECT CONCEPT REPORT**

Project Type:	<u>Intersection</u>	P.I. Number:	<u>0009948</u>
GDOT District:	<u>1</u>	County:	<u>Lumpkin</u>
Federal Route Number:	<u>N/A</u>	State Route Number:	<u>52 and 115</u>
	Project Number:		<u>N/A</u>

SR 52@SR 115/ CR41 /Copper Mines Road

Submitted for approval:

<u></u> Eric J. Rickert, P.E. - Gresham, Smith and Partners	<u>10/15/14</u> DATE
<u></u> State Program Delivery Engineer	<u>10/21/14</u> DATE
<u></u> GDOT Project Manager	<u>10/15/14</u> DATE

Recommendation for approval:

* <u>HIRAL PATEL</u> State Environmental Administrator	<u>11/18/2014</u> DATE
* <u>KATHY ZAHUL</u> State Traffic Engineer	<u>11/21/2014</u> DATE

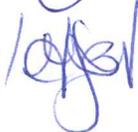
The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).

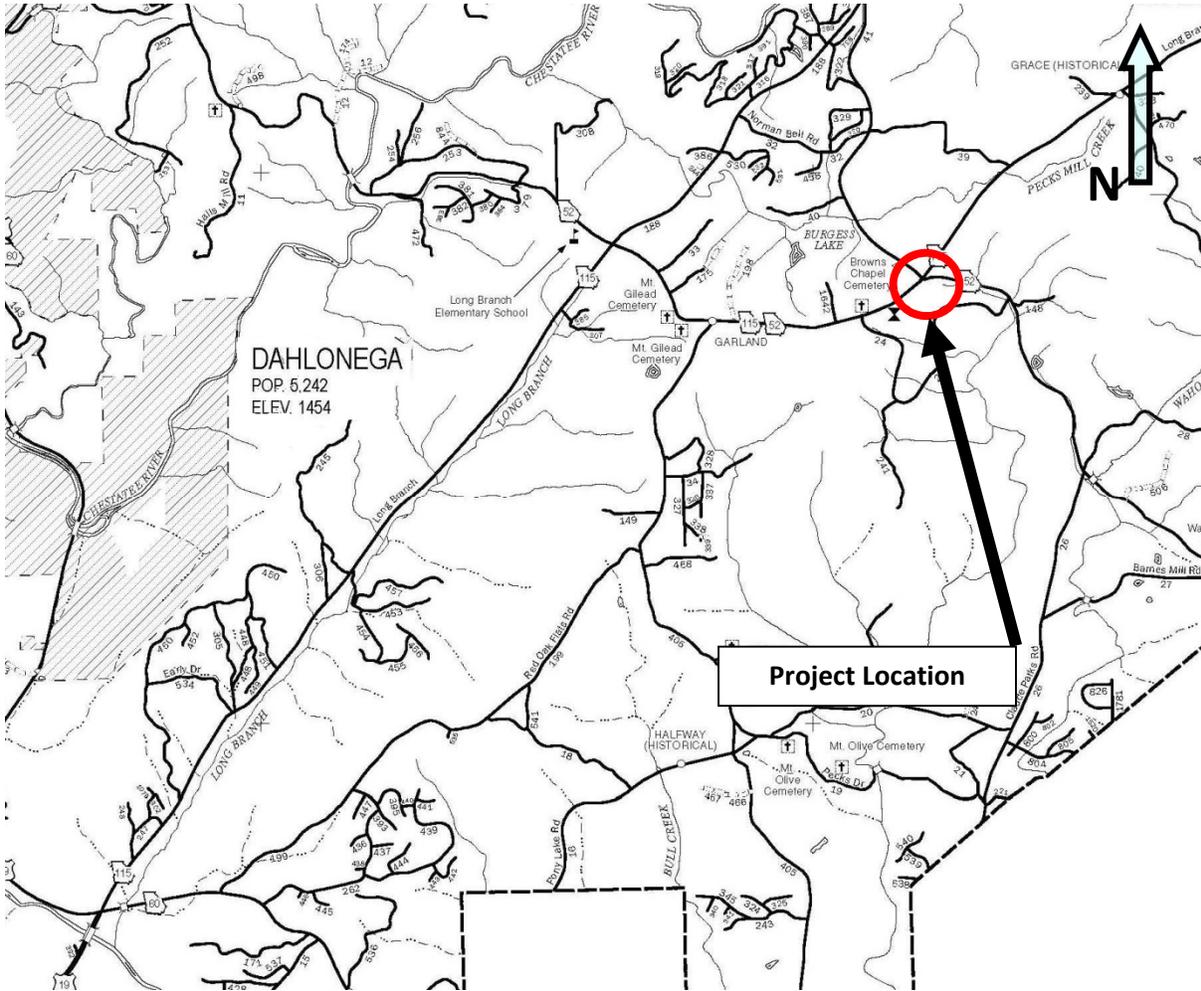
* <u>CYNTHIA L. VANSIKE</u> State Transportation Planning Administrator	<u>10/28/2014</u> DATE
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Approval:

Concur: <u></u> GDOT Director of Engineering	<u>11/30/14</u> DATE
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Approve: <u></u> GDOT Chief Engineer	<u>12/7/14</u> DATE
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* RECOMMENDATION ON FILE / 



PI #0009948, Lumpkin County
Location Map

PLANNING & BACKGROUND DATA

Project Justification Statement: The proposed project is intended to reduce the crash frequency and severity at the intersection of SR 52 at SR 115/CR 41/Copper Mines Rd. in Lumpkin 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.

Operational issues that will be addressed by the project are as follows:

- This intersection of SR 52 with SR 115 and Copper Mines Road/CR41 has had seven angle crashes, one head-on, and two rear end crashes over the latest three year period where complete data was available (2010-2013). Approximately ten percent of the crashes at this intersection were injury crashes.
- The existing right turn bypass lane from SR 52/115 NB to SR 52 EB is on an obtuse angle allowing motorists to traverse it at a high rate of speed. Further, this right turn bypass lane rejoins the SR 52 eastbound travel lanes with a yield control just 42 feet away from the existing four way stop. This creates potential operational problems at the yield intersection since the right turning motorists would be traveling at a higher rate of speed and may not yield to the slower through eastbound movement of SR 52. There is also a commercial driveway entrance present at this yield intersection that creates additional potential conflicts.
- Left turn lanes are present on the SR 115 and SR 52/115 legs of the existing four-way stop controlled intersection. The presence of left turn lanes in conjunction with the through lanes on these approaches often creates driver confusion as it isn't apparent which order vehicles queued at these left turn lanes should enter the intersection.
- SR 52 between the existing four-way stop controlled intersection and the intersection with the eastbound right turn bypass lane is on a very sharp horizontal curve. This tight curvature causes the WB-67 design vehicle to off-track outside of the existing travel lanes and the right turn bypass from westbound SR 52 to northbound SR 115.
- The existing intersection does not accommodate pedestrians well as there are no crosswalks, sidewalks or other pedestrian facilities present on any of the roadway legs.

Existing conditions: SR 52/115, SR 52, SR 115 and Copper Mines Road/CR 41 all have a single travel lane in each direction through the intersection. This intersection is presently four legged with stop control on all sides with left turn lanes on the SR 115 and SR 52/115 legs of the intersection. Additionally, right turn bypasses are present in the intersection's southeast and northeast quadrants. An outside passing lane begins immediately north of the intersection on SR 115 and a right turn deceleration lane into a convenience store is just west of the intersection on SR 52/115.

There are no pedestrian facilities present in the vicinity of the intersections and all of the above roadways have rural outside shoulders. The land use in the vicinity of the intersection is predominately rural and residential, though there are several smaller commercial businesses present along SR 52/115 immediately at and west of the intersection. There are no significant utility facilities in the vicinity of the intersection.

Other projects in the area:

GDOT Project STP-2576(2)/PI #132290 proposes to widen SR 115/Long Branch Road to four travel lanes for 4.72 miles in Lumpkin County. The project limits extend along SR 115 from the SR 60 and SR 400 intersection to the intersection with SR 52 (approximately 1.7 miles west from PI #0009948). It is presently in long range plans.

GDOT Project MSL00-0004-00(302)/PI #0004302 proposes to upgrade Westmoreland Road for 2.5 miles in White County. The project limits extend from the SR 115 and SR 284 intersection to the intersection with SR 11. It is presently in long range plans.

GDOT Project M004996 entails rehabilitation to four existing bridges with GDOT District 1 including SR 52 over the Chestatee River in Lumpkin County (approximately 2.7 miles west from PI #0009948). The project is presently in Maintenance Preliminary Engineering Design.

MPO: N/A

TIP #: N/A

TIA Regional Commission: Georgia Mountains RC

Congressional District(s): 9

Federal Oversight: Exempt State Funded Other

Projected Traffic: AADT

Roadway	Current Year (2013)	Open Year (2018)	Design Year (2038)
SR 52/ SR115	7,000	7,300	10,700
SR 52	2,500	2,600	3,800
SR 115	5,600	5,900	8,600
Copper Mines Road/ CR 41	1,100	1,200	1,700

Traffic Projections Performed by: GDOT-Office of Planning

Functional Classification:

SR 52/115 and SR 115: Rural Minor Arterial
 SR 52: Rural Major Collector
 Copper Mines Road: Rural Minor Collector

Complete Streets - Bicycle, Pedestrian, and/or Transit Warrants:

Warrants met: None Bicycle Pedestrian Transit

DESIGN AND STRUCTURAL

Description of Proposed Project: The project begins on SR52/115 950 ft. south of the intersection with SR 52, SR 115 and Copper Mines Road/CR 41 at MP 6.65 and ends 1110 ft. north of the intersection on SR 115 at MP 7.04 for a total project length of 0.39 miles. The project limits along SR 52 are located approximately 970 ft. east of the intersection and 780 ft. west of the intersection for Copper Mines Road/CR 41. The entire project is located within Lumpkin County and project limits were set based on the placement of advance warning signage for the roundabout as well as removal of the existing signage and striping for the four-way stop intersection.

The project proposes improving the intersection of SR52/115, SR 52, SR 115 and Copper Mines Road/CR 41 as follows:

- The existing, four-way stop controlled, intersection will be replaced by a single lane roundabout with an elliptical 196 ft. x 136 ft. inscribed diameter. A roundabout intersection at this location will provide overall improved operations and level of service (LOS), has fewer conflicting turn movements, and less complicated laneage. The intersection's sight distance is

also improved by negating the intersection skew angle. A roundabout is anticipated to reduce the number of angle and rear end crashes as well as their severity.

- A right turn bypass lane within the acute intersection angle of SR 52 WB with SR 115 NB will be realigned to have a larger radii and a wider lane width. These improvements will allow the right turn bypass to accommodate a WB-67 design vehicle and be a free flow lane that is received exclusively into the SR 115 NB passing lane.
- The right turn bypass lane between the obtuse intersection angle of SR 52/115 northbound and SR 52 eastbound will be removed as it will be displaced by the roundabout, is not necessary to provide an adequate design year level of service does not provide exclusive access to any parcels, and allows vehicles to travel at a high rate of speed creating potential conflicts with SR 52 motorists and pedestrians. Access to the commercial property at the intersection’s southeast corner will be maintained and improved by a two-way driveway that will be located 190 ft. south of the roundabout that will have full directional access from SR 52/115.
- Access to the convenience store commercial property at the intersection’s southwest corner will be maintained by a two-way, full directional access driveway that will be located directly across from the aforementioned driveway on the intersection’s southeast corner on SR 52/115. Additional access to the convenience store will be maintained by a two-way, right in/right out access driveway on Copper Mines Road 50 ft. west of the roundabout.
- Crosswalks will be placed on all four legs of the roundabout with refuges located within the splitter islands and the right turn bypass lane to improve the conveyance of pedestrians. Sidewalks will also be placed on all four legs of the roundabout and within the right turn bypass island (but not the roundabout’s center island) to enhance pedestrian accessibility.

Major Structures:

Structure ID	Existing	Proposed
N/A	N/A	180.0 ft. long x 8.3 ft. high (maximum) Type 2-B side barrier reinforced concrete retaining wall, GDOT Std. 4948B on SR 52 immediately east of roundabout circular roadway.

Mainline Design Features: SR 52/115-south of intersection and SR 115-north of intersection

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	2	2	2
- Lane Width(s)	12 ft.	11-12 ft.	12-21 ft.
- Median Width & Type	N/A	N/A	Splitter islands vary, 8 ft. min.
- Outside Shoulder or Border Area Width	2-5 ft. rural shoulder/0-2 ft. paved	16 ft. urban border area	10-16 ft. urban border area
- Outside Shoulder Slope	2:1 to 4:1	4:1 to 2:1	4:1 to 2:1
- Inside Shoulder Width	N/A	N/A	N/A
- Sidewalks	N/A	5 ft.	5 ft.
- Auxiliary Lanes	NB right turn lane at intersection, NB passing lane beginning past intersection, NB and SB left turn lanes at intersection, and SB right turn lane at conv. store	N/A	NB passing lane east of roundabout dropped from WB SR 52 right turn bypass lane
- Bike Lanes	N/A	N/A	N/A

Posted Speed	55 mph		55 mph
Design Speed	55 mph	55 mph	20 mph within splitter islands, 30 mph elsewhere
Min Horizontal Curve Radius	3185 ft.	1190 ft.	**600 ft.
Maximum Superelevation Rate	3.5%	4.0%	4.0%
Maximum Grade	6.2%	6.0%	5.7%
Access Control	None	None	None
Design Vehicle	N/A	WB-62	WB-67

*According to current GDOT design policy if applicable

**Minimum curve within the roundabout's reduced speed location

Sideroad Design Features: SR 52-east of intersection

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	2	2	2
- Lane Width(s)	11 ft.	11-12 ft.	12-20.2 ft.
- Median Width & Type	N/A	N/A	Splitter islands vary, 6 ft. min.
- Outside Shoulder or Border Area Width	5 ft. rural shoulder/ 0 ft. paved	10-16 ft. urban border area	10-16 ft. urban border area
- Outside Shoulder Slope	2:1 to 3:1	4:1 to 2:1	4:1 to 2:1
- Inside Shoulder Width	N/A	N/A	N/A
- Sidewalks	N/A	5 ft.	5 ft.
- Auxiliary Lanes	N/A	WB right turn lane at intersection	WB SR 52 right turn bypass lane at roundabout that drops into SR 115 NB passing lane
- Bike Lanes	N/A	N/A	N/A
Posted Speed	55 mph		55 mph
Design Speed	55 mph	55 mph	20 mph within splitter islands, 30 mph elsewhere
Min Horizontal Curve Radius	1025 ft.	1190 ft.	**880 ft.
Maximum Superelevation Rate	6.6%	4.0%	4.0%
Maximum Grade	4.0%	9.0%	5.0%
Access Control	None	None	None
Design Vehicle	N/A	SU	WB-67

*According to current GDOT design policy if applicable

**Minimum curve within the roundabout's reduced speed location

Sideroad Design Features: Copper Mines Road/CR 41 -west of intersection

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	2	2	2
- Lane Width(s)	10 ft.	11-12 ft.	Urban section at roundabout: 11-19.1 ft. Rural section: 11 ft.
- Median Width & Type	N/A	N/A	Urban section at roundabout: Splitter islands vary, 6 ft. min. Rural section: N/A

- Outside Shoulder or Border Area Width	4 ft. rural shoulder/0 ft. paved	Urban section: 10-16 ft. urban border area	Urban section at roundabout: 16 ft. urban border area
		Rural section: 8 ft. shoulders/ 4 ft. paved	Rural section: 8 ft. shoulders/ 4 ft. paved
- Outside Shoulder Slope	3:1 to 4:1	Urban section: 4:1 to 2:1	Urban section: 4:1 to 2:1
		Rural section:4:1	Rural section:4:1
- Inside Shoulder Width	N/A	N/A	N/A
- Sidewalks	N/A	5 ft.(urban only)	5 ft.(urban only)
- Auxiliary Lanes	N/A	N/A	N/A
- Bike Lanes	N/A	N/A	N/A
Posted Speed	40 mph		40 mph
Design Speed	40 mph	50 mph	20 mph within splitter islands, 30 mph elsewhere
Min Horizontal Curve Radius	2275 ft.	533 ft.	N/A
Maximum Superelevation Rate	2.6%	4.0%	4.0%
Maximum Grade	3.6%	9.0%	5.0%
Access Control	None	None	None
Design Vehicle	N/A	SU	WB-50

*According to current GDOT design policy if applicable

Sideroad Design Features: Roundabout Circular Roadway

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	N/A	N/A	2
- Lane Width(s)	N/A	18-20 ft.	18 ft.
- Median Width & Type	N/A	N/A	Urban section at roundabout: Splitter islands vary, 6 ft. min.
- Outside Shoulder or Border Area Width	N/A	10-16 ft. urban border area	10-16 ft. urban border area
- Outside Shoulder Slope	3:1 to 4:1	4:1 to 2:1	4:1 to 2:1
- Inside Shoulder Width	N/A	N/A	13'-0"truck apron with type 9 header curb and type 7 header curb within roundabout
- Sidewalks	N/A	5 ft.	5 ft.
- Auxiliary Lanes	N/A	N/A	N/A
- Bike Lanes	N/A	N/A	N/A
Posted Speed	55 mph		55 mph/20 mph advisory
Design Speed	40 mph	<25 mph	20 mph
Min Horizontal Curve Radius	N/A	N/A	N/A
Maximum Superelevation Rate	N/A	N/A	4.0%
Maximum Grade	N/A	N/A	4.0%
Access Control	None	None	None
Design Vehicle	N/A	WB-67	WB-67

*According to current GDOT design policy if applicable

Major Interchanges/Intersections: SR 52/115 intersection with SR 52, SR 115 and Copper Mines Road/CR 41

Lighting required: No Yes
A lighting agreement/support letter from Lumpkin County is included in the attachments

Transportation Management Plan [TMP] Required: No Yes

Will Context Sensitive Solutions procedures be utilized? No Yes

Design Exceptions to FHWA/AASHTO controlling criteria anticipated: None

Design Variances to GDOT Standard Criteria anticipated: None

UTILITY AND PROPERTY

Temporary State Route Needed: No Yes Undetermined

Railroad Involvement: N/A

Utility Involvements:

- Jackson EMC- Electric Distribution
- Windstream- Communications

SUE Required: No Yes

Public Interest Determination Policy and Procedure recommended? No Yes

Right-of-Way: Existing width: 80-100 ft. Proposed width: 100-160 ft.
Required Right-of-Way anticipated: No Yes Undetermined
Easements anticipated: None Temporary Permanent Utility Other

Anticipated number of impacted parcels: 5
Displacements anticipated: Total: 0

ENVIRONMENTAL AND PERMITS

Anticipated Environmental Document:
GEPA: NEPA: CE PCE

MS4 Compliance – Is the project located in an MS4 area? No Yes

Environmental Permits, Variances, Commitments, and Coordination anticipated:

Air Quality:

Is the project located in a PM 2.5 Non-attainment area? No Yes
Is the project located in an Ozone Non-attainment area? No Yes
Is a Carbon Monoxide hotspot analysis required? No Yes

NEPA/GEPA Comments & Information: A NEPA Categorical Exclusion is anticipated for this project. Section 4(f) impacts are not anticipated.

Ecology: An Ecology Assessment will be conducted after the concept team meeting. A desktop screening identified two streams and a freshwater pond located along the south side of SR 52. One stream crosses underneath SR 52 approximately 1,550 feet east of the intersection. These Waters of the US would require a 25-foot buffer and any impacts would require a Nationwide Permit through the US Army Corps of Engineers.

History: A field survey has been conducted to identify eligible historic structures. There are several properties 50 years of age or older within the project corridor. However, none of these properties are being recommended as eligible for the NRHP. SHPO concurrence on these determinations has not been obtained. At this time, it is anticipated that the project will require a Historic Resources Survey Report and No Historic Properties Affected document.

Archeology: An archeology survey has not been conducted at this time. The area is developed and the potential for archeology sites is low. However, a survey will be conducted.

Air & Noise:

Air: The project will require an air assessment. No CO model is anticipated.

Noise: The project requires no analysis for highway traffic noise impacts. Therefore, a Noise Screening Assessment for Type III projects will be prepared.

Public Involvement: A Public Involvement Open House was held on December 2, 2014. See the attachments for a Summary of Comments and Responses. **(TBD)**

Major stakeholders: Traveling public.

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Project Meetings:

Concept Team Meeting: A concept team meeting was held on September 17, 2014. (See the attachments for meeting minutes).

Project Activity	Party Responsible for Performing Task(s)
Concept Development	GDOT/Consultant (GS&P)
Design	GDOT/Consultant (GS&P)
Right-of-Way Acquisition	GDOT
Utility Relocation	GDOT
Letting to Contract	GDOT
Construction Supervision	GDOT
Providing Material Pits	Contractor
Providing Detours	Contractor
Environmental Studies, Documents, & Permits	GDOT/Consultant (EPEI)
Environmental Mitigation	GDOT
Construction Inspection & Materials Testing	GDOT

Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
Funded By	GDOT	GDOT	GDOT	GDOT	N/A	
\$ Amount	\$415,381.00	\$762,000.00	\$0.00	\$2,110,004.85	\$0.00	\$3,287,385.85
Date of Estimate	9/9/2014	9/12/2014	9/10/2014	9/9/2014	9/9/2014	

*CST Cost includes: Construction, Engineering and Inspection, and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION

Preferred Alternative: Placement of a single lane roundabout on SR 52/115 intersection with SR 52, SR 115 and Copper Mines Road/CR 41. The right turn bypass lane from SR 52 WB to SR 115 NB would be improved for a WB-67 design vehicle and to be free-flow received into the passing lane of SR 115. All other turn lanes at the intersection will be removed.

Estimated Property Impacts:	5 parcels, no displacements	Estimated Total Cost:	\$3,270,385.85
Estimated ROW Cost:	\$745,000.00	Estimated CST Time:	18 months

Rationale: This alternative potentially reduces future angle crashes at the intersection as the number of conflicting turning movements will be reduced by the roundabout. It also improves the intersection’s operation and LOS which would decrease the potential for rear end crashes, provides traffic calming on all movement and accommodates a WB-67 design vehicle on all state route movements as per the GDOT Design Policy Manual.

No-Build Alternative: No improvements to the SR 52/115 intersection with SR 52, SR 115 and Copper Mines Road/CR 41.

Estimated Property Impacts:	None	Estimated Total Cost:	\$0.00
Estimated ROW Cost:	\$0.00	Estimated CST Time:	None

Rationale: This alternative does not potentially reduce the number or severity of future angle or rear-end crashes at the intersection nor improve the existing intersection’s operation and LOS. It also retains the confusing left turn lanes for the four-way stop control, has greater conflicting turn movements, and provides no traffic calming benefits. Further, it does not improve accommodations for a WB-67 design vehicle on the state route legs as per the GDOT design policy manual or improve pedestrian access. Therefore, this alternative is not recommended.

Alternative 1: This alternative entails retaining the intersection’s existing four-way stop traffic control, but realigning the SR 52 east leg to have a larger horizontal curve adjacent to the intersection for improved operations. Copper Mines Road would also be realigned to tie directly across from SR 52. The left turn lanes on SR 52/115 NB and SR 115 would be removed to simply the laneage, but still providing an acceptable design year LOS of D. The right turn bypass between SR 52 WB and SR 115 NB would be realigned to have a larger radius to better accommodate a WB-67 design vehicle and be received into the SR 115 NB passing lane as a free flow movement. The right turn bypass between SR 52/115 NB and SR 52 WB would be realigned at a perpendicular angle to provide traffic calming, improve intersection sight distance and be separated from the commercial driveway turning movements. Rural shoulder typical sections would be used on all four legs of the intersection, but crosswalks would be placed to accommodate crossing pedestrians.

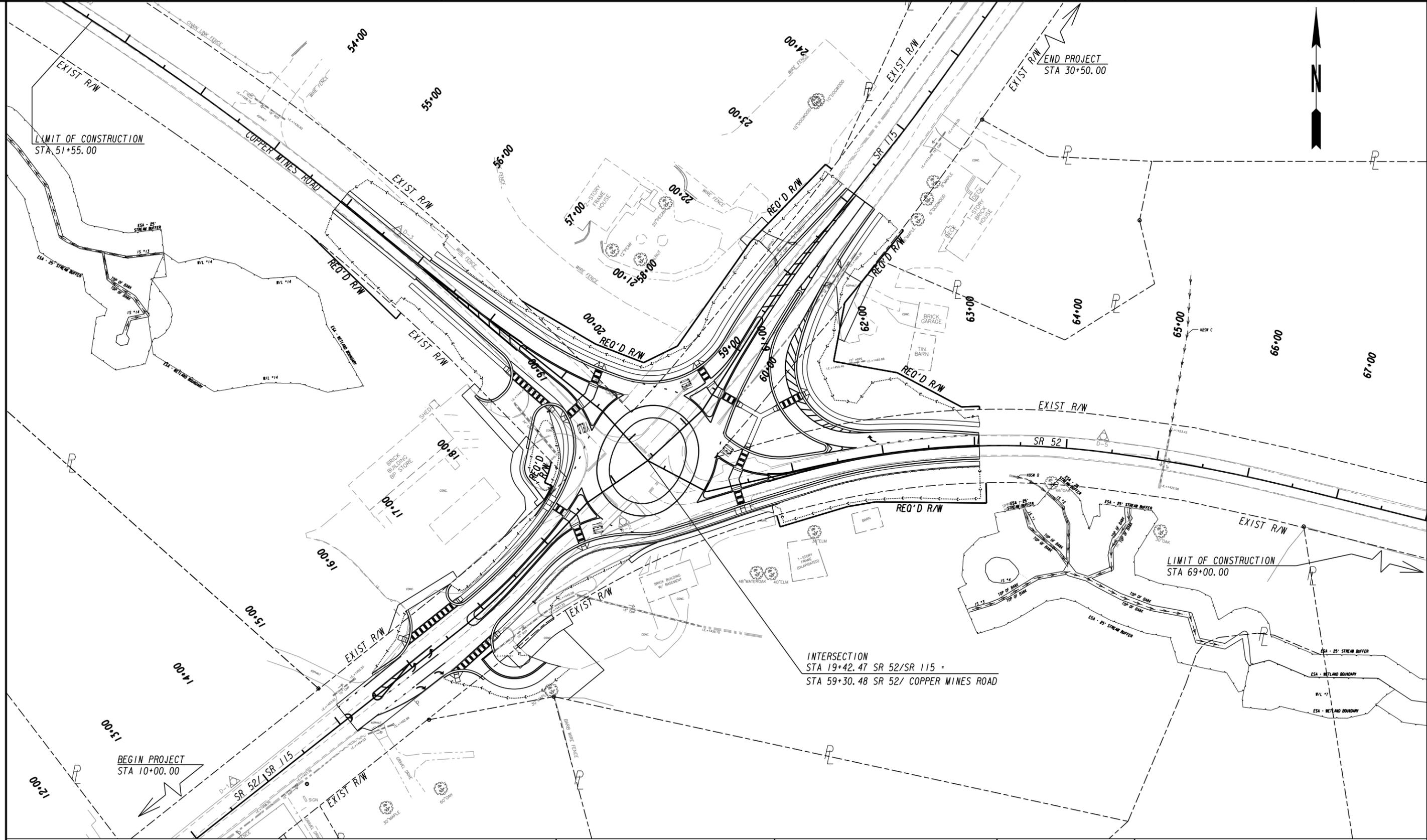
Estimated Property Impacts:	5 parcels, no displacements	Estimated Total Cost:	\$1,388,862.95
Estimated ROW Cost:	\$300,000.00	Estimated CST Time:	12 months

Rationale: The retention of the four-way stop traffic control (necessary since a traffic signal is not warranted based on the eighth-highest hourly volume) does not improve the intersection’s LOS. It would also not potentially reduce the severity of future angle crashes or reduce the number or severity of future rear end crashes. It has greater conflicting turn movements and provides less traffic calming benefits than the preferred alternative. Therefore, this alternative is not recommended.

Comments/Additional Information:

LIST OF ATTACHMENTS/SUPPORTING DATA

1. Concept Layout
2. Typical sections
3. Cost Estimates
4. Crash summaries
5. Traffic diagrams
6. Capacity analysis summary
7. Summary of signal warrant analysis
8. Roundabout Data
 - a. Roundabout design vehicle turning paths
 - b. Roundabout fastest path analyses
 - c. Peer Review letter
 - d. Roundabout Support/Lighting/Maintenance Agreement from Lumpkin County
9. Concept Team Meeting Minutes
10. PIOH Summary of Comments and Responses-**TBD**



GEORGIA
DEPARTMENT
OF
TRANSPORTATION



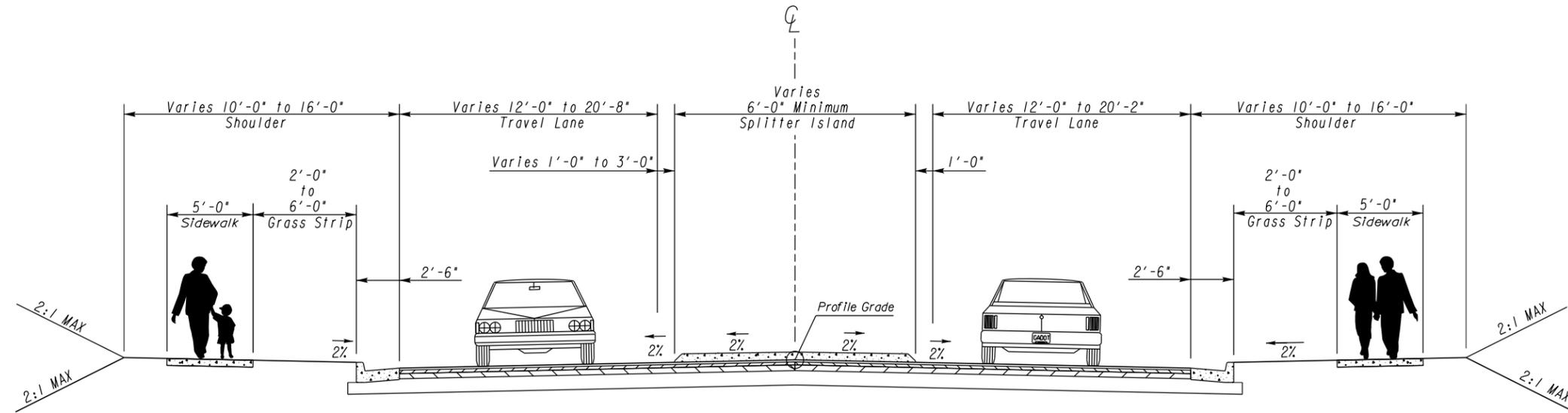
GRESHAM
SMITH AND
PARTNERS



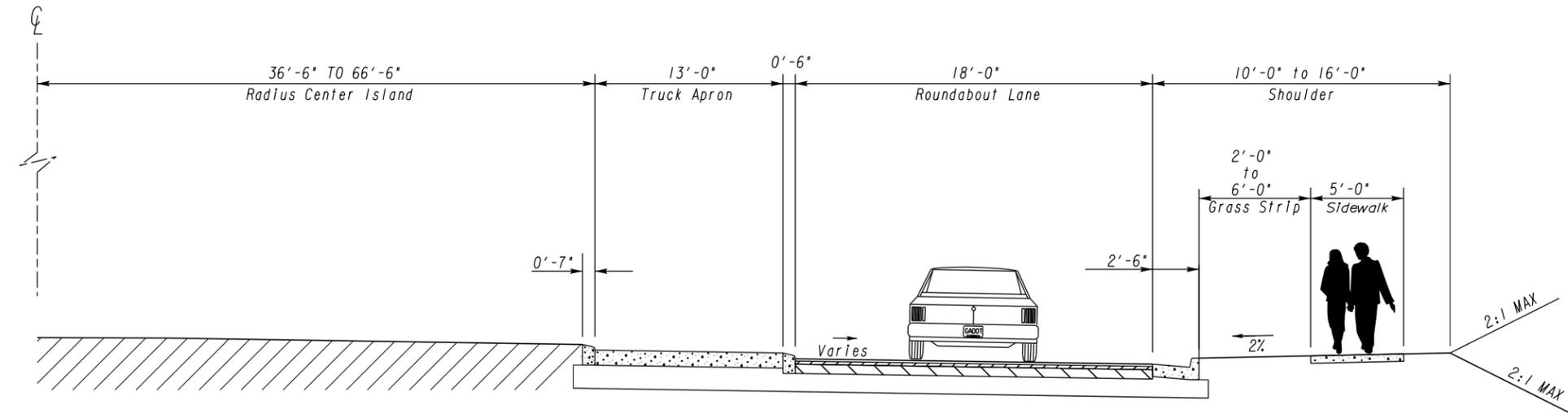
REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
CONCEPT DISPLAY
SR 52 @ SR 115/CR 41/COPPER MINES ROAD
PROJECT: PI * 0009948
COUNTY: LUMPKIN

DRAWING No.
01-001

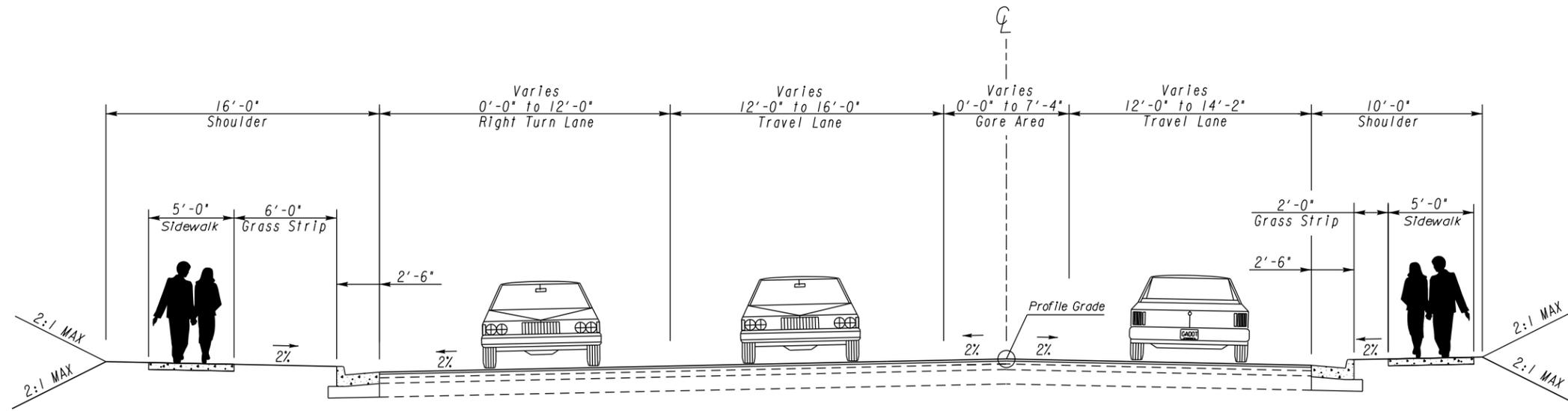


Typical Section No. 1
Roundabout Splitter Islands
SR 52/SR 115, SR 52, SR 115 & Copper Mines Road

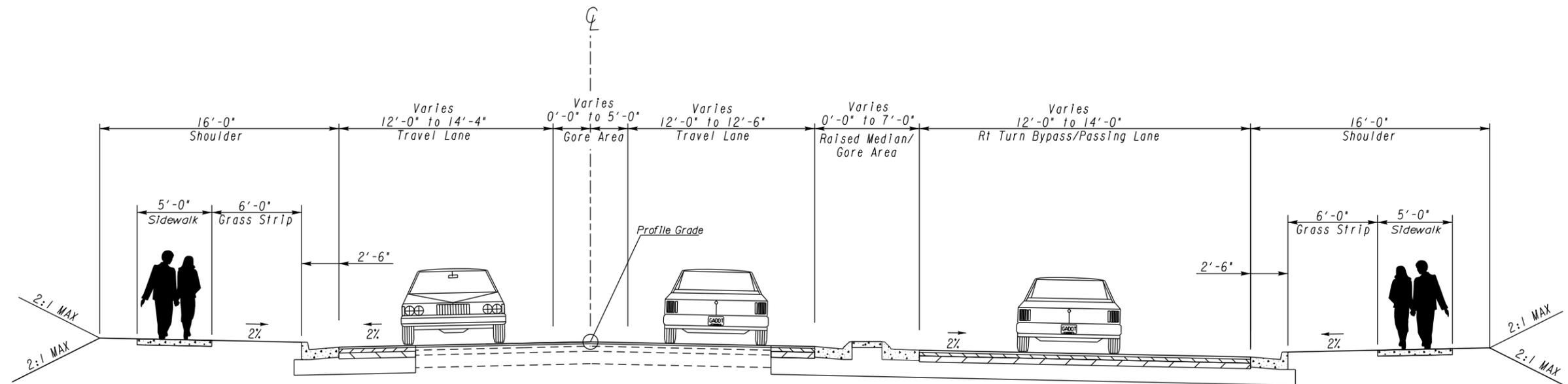


Typical Section No. 2
Roundabout Circular Roadway
at SR 52/SR 115, SR 52, SR 115 & Copper Mines Road

REVISION DATES	



Typical Section No. 3
SR 52 (East of Intersection)



Typical Section No. 4
SR 115 (North of Intersection)

GEORGIA
DEPARTMENT
OF
TRANSPORTATION



GRESHAM
SMITH AND
PARTNERS

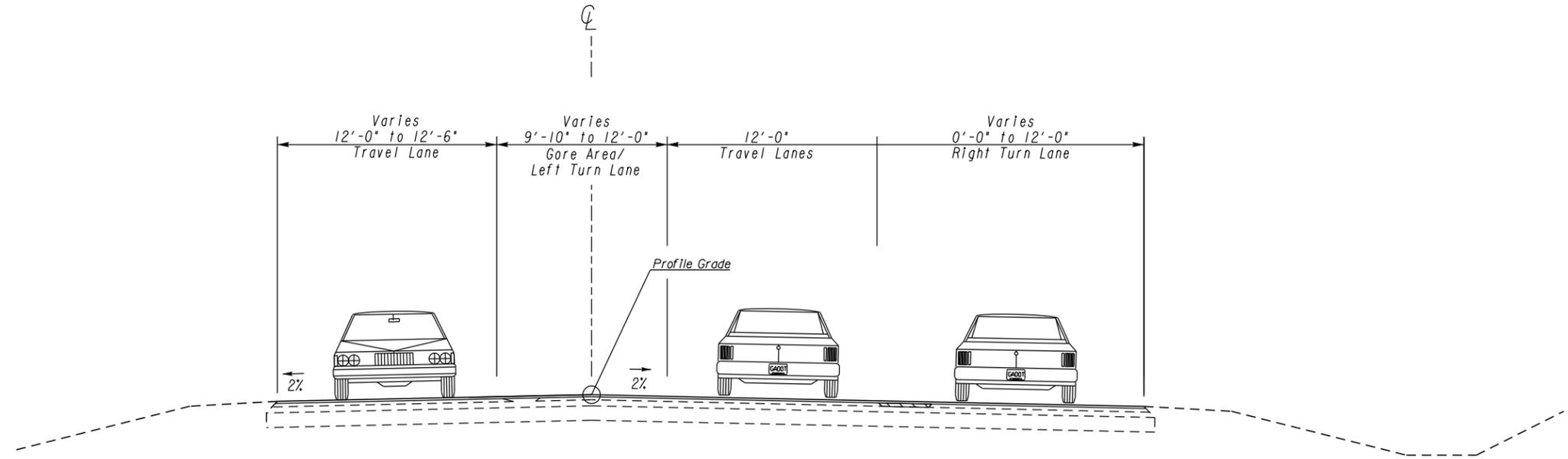
NOT TO SCALE

REVISION DATES

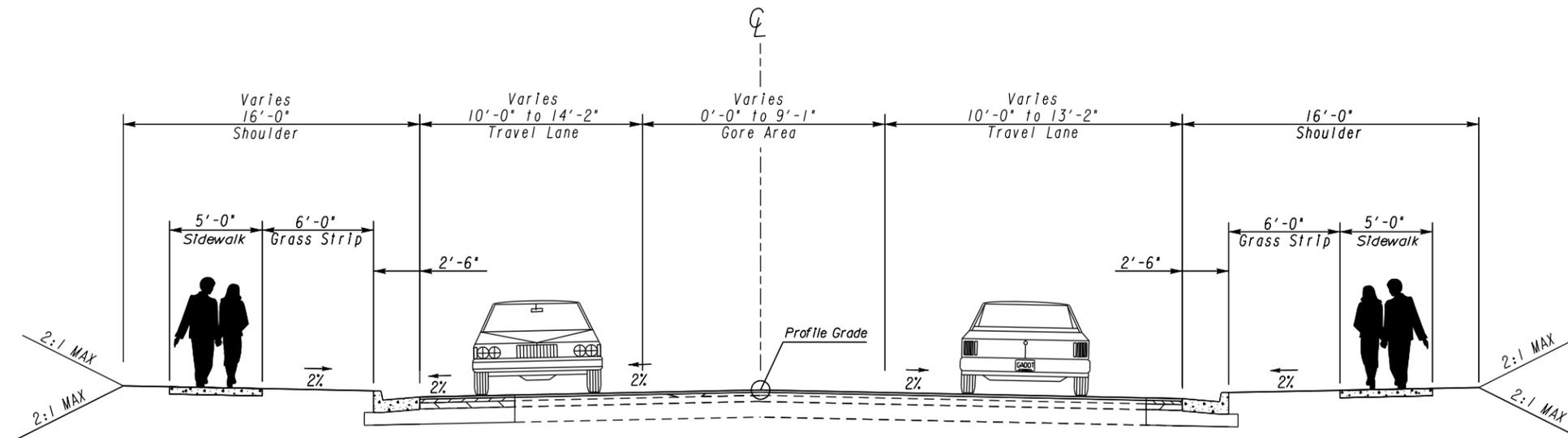
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
TYPICAL SECTIONS

PROJECT: 0009948
COUNTY: LUMPKIN

DRAWING No.
05-002



Typical Section No. 5
SR 52/ SR 115
(South of Intersection)



Typical Section No. 6
Copper Mines Road (West of Intersection)

GEORGIA
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TRANSPORTATION



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PARTNERS

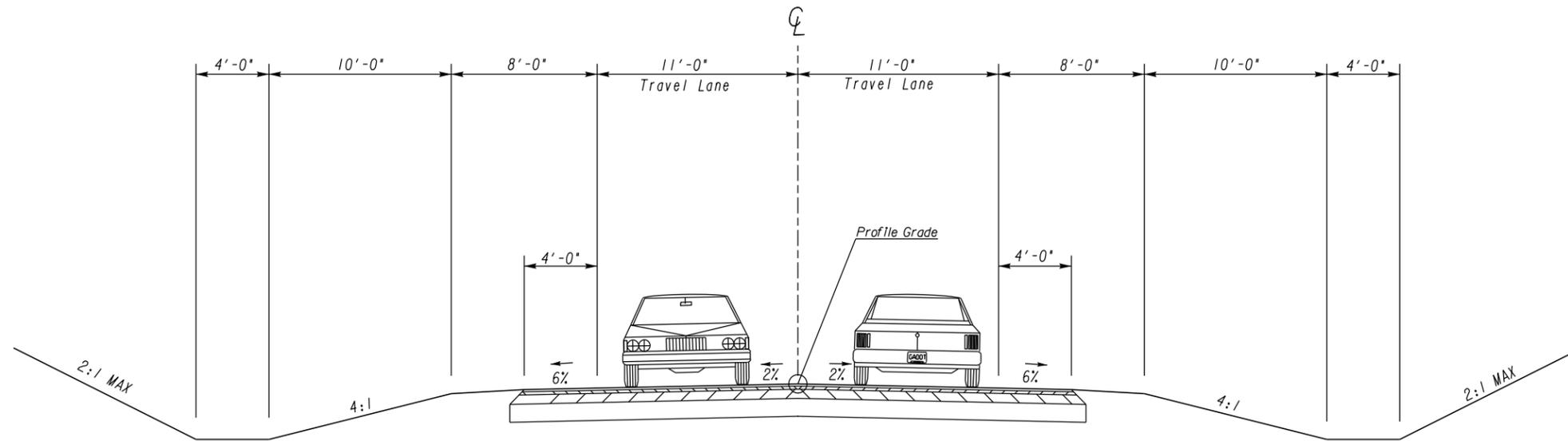
NOT TO SCALE

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
TYPICAL SECTIONS

PROJECT: 0009948
COUNTY: LUMPKIN

DRAWING No.
05-003



Typical Section No.7
Copper Mines Road (West of Intersection)

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. #0009948

OFFICE Program Delivery

PROJECT DESCRIPTION

SR 52@SR 115/ CR41 /Copper Mines Road

DATE October 1, 2014

From: Albert Shelby, State Program Delivery Engineer

To: Lisa L. Myers, State Project Review Engineer

Subject: **REVISIONS TO PROGRAMMED COSTS**

PROJECT MANAGER Dylan Curtis

MGMT LET DATE 6/17/2017

MGMT ROW DATE 3/15/2016

PROGRAMMED COSTS (TPro W/OUT INFLATION)

LAST ESTIMATE UPDATE

CONSTRUCTION \$ 850,000.00

DATE 3/4/2010

RIGHT OF WAY \$ 745,000.00

DATE 8/5/2013

UTILITIES \$ N/A

DATE N/A

REVISED COST ESTIMATES

CONSTRUCTION* \$ 2,110,004.85

RIGHT OF WAY \$ 762,000.00

UTILITIES \$ -

*Cost Contains 10 % Contingency

REASONS FOR COST INCREASE AND CONTINGENCY JUSTIFICATION:

Development of initial concept that reflects the challenges of constructing a roundabout within the project site's topography and constraints such as additional grading costs and retaining walls. The construction estimate has also been updated to include additional pay items that are included for GDOT roundabout projects, such as diagrammatic signage for approaching motorists and lighting fixtures.

CONTINGENCY SUMMARY

A. CONSTRUCTION COST ESTIMATE:	\$	1,747,904.75	Base Estimate From CES	
B. ENGINEERING AND INSPECTION (E & I):	\$	87,395.24	Base Estimate (A) x	5 %
C. CONTINGENCY:	\$	183,530.00	Base Estimate (A) + E & I (B) x	10 %
			See % Table in "Risk Based Cost Estimation" Memo	
D. TOTAL LIQUID AC ADJUSTMENT:	\$	91,174.86	Total From Liquid AC Spreadsheet	
E. CONSTRUCTION TOTAL:	\$	2,110,004.85	(A + B + C + D = E)	

REIMBURSABLE UTILITY COSTS

UTILITY OWNER	REIMBURSABLE COST
Jackson EMC	\$0.00
Windstream Telephone	\$0.00
TOTAL	\$ -

ATTACHMENTS:

Liquid AC Cost Estimate CES Cost Estimate Right of Way Cost Estimate Utility Cost Estimate

PROJ. NO. [REDACTED]
P.I. NO. 0009948
DATE 9/9/2014

CALL NO. 9/29/2009

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	Sep-14	\$ 3.335
DIESEL		\$ 3.765
LIQUID AC		\$ 601.00

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)				85642.5	\$	85,642.50
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	961.60		
Monthly Asphalt Cement Price month project let (APL)			\$	601.00		
Total Monthly Tonnage of asphalt cement (TMT)				237.5		

ASPHALT	Tons	%AC	AC ton
Leveling	1250	5.0%	62.5
12.5 OGFC	0	5.0%	0
12.5 mm	900	5.0%	45
9.5 mm SP	0	5.0%	0
25 mm SP	1900	5.0%	95
19 mm SP	700	5.0%	35
	4750		237.5

BITUMINOUS TACK COAT

Price Adjustment (PA)				\$	1,239.05	\$	1,239.05
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	961.60			
Monthly Asphalt Cement Price month project let (APL)			\$	601.00			
Total Monthly Tonnage of asphalt cement (TMT)				3.436080738			

Bitum Tack

Gals	gals/ton	tons
800	232.8234	3.43608074

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)				4293.310724	\$	4,293.31
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	961.60		
Monthly Asphalt Cement Price month project let (APL)			\$	601.00		
Total Monthly Tonnage of asphalt cement (TMT)				11.90601976		

Bitum Tack

	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.	4400	0.20	880	232.8234	3.779688811
Double Surf.Trmt.	4300	0.44	1892	232.8234	8.126330944
Triple Surf. Trmt		0.71	0	232.8234	0
					11.90601976

TOTAL LIQUID AC ADJUSTMENT \$ 91,174.86

STATE HIGHWAY AGENCY

DATE : 09/09/2014

PAGE : 1

JOB ESTIMATE REPORT

JOB NUMBER : 0009948

SPEC YEAR: 01

DESCRIPTION: SR 115 AT SR 52

ITEMS FOR JOB 0009948

ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
150-1000		LS	TRAFFIC CONTROL - PI 0009948	1	\$100,000.00	\$100,000.00
210-0100		LS	GRADING COMPLETE - PI 0009948	1	\$500,000.00	\$500,000.00
310-1101		TN	GR AGGR BASE CRS, INCL MATL	50	\$32.88	\$1,644.06
402-3129		TN	RECYL AC 12.5 MM MIX,GP2,BM&HL	900	\$75.00	\$67,500.00
402-3190		TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	700	\$83.25	\$58,280.61
402-3121		TN	RECYL AC 25MM SP,GP1/2,BM&HL	1900	\$75.64	\$143,725.03
310-1101		TN	GR AGGR BASE CRS, INCL MATL	3830	\$22.38	\$85,723.40
413-1000		GL	BITUM TACK COAT	800	\$3.67	\$2,936.50
402-1812		TN	RECYL AC LEVELING,INC BM&HL	1250	\$79.71	\$99,647.19
432-0206		SY	MILL ASPH CONC PVMT/ 1.50" DEP	4700	\$3.06	\$14,402.16
446-1100		LF	PVMT REF FAB STRIPS, TP2,18 INCH WIDTH	1700	\$5.02	\$8,535.39
441-0104		SY	CONC SIDEWALK, 4 IN	1300	\$31.70	\$41,221.05
441-5008		LF	CONC HEADER CURB, 6 IN, TP 7	340	\$12.68	\$4,313.44
441-5025		LF	CONC HEADER CURB, 4", TP 9	370	\$12.00	\$4,440.00
441-6222		LF	CONC CURB & GUTTER/ 8"X30"TP2	2600	\$16.18	\$42,081.94
441-6740		LF	CONC CURB & GUTTER/ 8"X30" TP7	520	\$15.41	\$8,015.75
441-0754		SY	CONC MEDIAN, 7 1/2 IN	710	\$46.98	\$33,362.18
621-4020		LF	CONCRETE SIDE BARRIER, TY 2	40	\$380.00	\$15,200.00
621-4022		LF	CONCRETE SIDE BARRIER, TY 2B	190	\$493.14	\$93,697.18
641-1200		LF	GUARDRAIL, TP W	195	\$20.09	\$3,919.09
641-5012		EA	GUARDRAIL ANCHORAGE, TP 12	2	\$2,020.68	\$4,041.36
430-0200		SY	PLN PC CONC PVMT/CL1C/ 10" TK	470	\$35.00	\$16,450.00
441-4020		SY	CONC VALLEY GUTTER, 6 IN	60	\$37.78	\$2,267.31
668-2100		EA	DROP INLET, GP 1	17	\$1,759.21	\$29,906.72
668-1100		EA	CATCH BASIN, GP 1	16	\$2,147.90	\$34,366.48
550-4224		EA	FLARED END SECT 24 IN, ST DR	6	\$660.01	\$3,960.11
550-4118		EA	FLARED END SECT 18 IN, SIDE DR	4	\$458.24	\$1,832.96
550-1240		LF	STM DR PIPE 24",H 1-10	2000	\$40.46	\$80,930.50
550-2180		LF	SIDE DR PIPE 18",H 1-10	80	\$33.62	\$2,690.20
165-0030		LF	MAINT OF TEMP SILT FENCE, TP C	900	\$0.82	\$739.94
171-0030		LF	TEMPORARY SILT FENCE, TYPE C	1800	\$2.95	\$5,312.63
163-0527		EA	CNST/REM RIP RAP CKDM,STN P RIPRAP/SN BG	25	\$298.71	\$7,467.79
165-0041		LF	MAINT OF CHECK DAMS - ALL TYPES	300	\$1.72	\$517.03
163-0550		EA	CONS & REM INLET SEDIMENT TRAP	33	\$122.56	\$4,044.74
165-0105		EA	MAINT OF INLET SEDIMENT TRAP	33	\$39.81	\$1,314.02
165-0085		EA	MAINT OF SILT CONTROL GATE, TP 1	5	\$138.38	\$691.93
163-0501		EA	CONSTR AND REMOVE SILT CONTROL GATE,TP 1	5	\$377.86	\$1,889.31
711-0100		SY	TURF REINFORCING MATTING, TP 1	1640	\$3.00	\$4,920.00
716-2000		SY	EROSION CONTROL MATS, SLOPES	4800	\$1.04	\$4,993.63
163-0300		EA	CONSTRUCTION EXIT	8	\$1,207.85	\$9,662.85
165-0101		EA	MAINT OF CONST EXIT	8	\$560.52	\$4,484.22
163-0520		LF	CONSTR AND REMOVE TEMP PIPE SLOPE DRAIN	230	\$15.24	\$3,505.66
700-9300		SY	SOD	1800	\$4.90	\$8,831.30
700-6910		AC	PERMANENT GRASSING	2	\$646.97	\$1,293.95
163-0240		TN	MULCH	47	\$260.43	\$12,240.37

STATE HIGHWAY AGENCY

DATE : 09/09/2014

PAGE : 2

JOB ESTIMATE REPORT

JOB NUMBER : 0009948

SPEC YEAR: 01

DESCRIPTION: SR 115 AT SR 52

ITEMS FOR JOB 0009948

163-0232		AC	TEMPORARY GRASSING	1	\$115.45	\$115.45
700-7000		TN	AGRICULTURAL LIME	6	\$97.69	\$586.14
700-8000		TN	FERTILIZER MIXED GRADE	1	\$593.68	\$593.68
700-8100		LB	FERTILIZER NITROGEN CONTENT	100	\$2.77	\$277.21
603-2018		SY	STN DUMPED RIP RAP, TP 1, 18"	200	\$46.97	\$9,394.90
603-7000		SY	PLASTIC FILTER FABRIC	200	\$3.61	\$723.08
636-1072		SF	HWY SIGNS,ALUM EXTRD PNLS, RS TP 3	480	\$25.35	\$12,168.18
636-3000		LB	GALV STEEL STR SHAPE POST	3500	\$4.83	\$16,911.93
636-1033		SF	HWY SIGNS, TP1MAT,REFL SH TP 9	430	\$17.55	\$7,550.00
636-2070		LF	GALV STEEL POSTS, TP 7	1600	\$6.40	\$10,240.99
653-0296		EA	THERMO PVMT MARKING,WORD,TP 15	4	\$25.00	\$100.00
653-1501		LF	THERMO SOLID TRAF ST 5 IN, WHI	2880	\$0.61	\$1,763.48
653-1502		LF	THERMO SOLID TRAF ST, 5 IN YEL	2520	\$0.59	\$1,498.52
653-3501		GLF	THERMO SKIP TRAF ST, 5 IN, WHI	310	\$0.38	\$120.08
653-1804		LF	THERM SOLID TRAF STRIPE, 8",WH	1610	\$2.10	\$3,389.48
653-1704		LF	THERM SOLID TRAF STRIPE,24",WH	20	\$6.66	\$133.31
653-6004		SY	THERM TRAF STRIPING, WHITE	170	\$3.86	\$657.68
653-6006		SY	THERM TRAF STRIPING, YELLOW	85	\$3.99	\$339.16
654-1001		EA	RAISED PVMT MARKERS TP 1	20	\$5.01	\$100.27
654-1003		EA	RAISED PVMT MARKERS TP 3	4	\$4.60	\$18.44
500-3101		CY	CLASS A CONCRETE	8	\$785.79	\$6,286.40
511-1000		LB	BAR REINF STEEL	1970	\$1.20	\$2,381.06
682-9950		LF	DIRECTIONAL BORE - 3 IN	420	\$8.00	\$3,360.00
681-0525		EA	LTG STD, ST, 25 FT MH	12	\$2,903.75	\$34,845.00
681-5115		EA	LUMIN BRACKET ARM, 15 FT ARM	12	\$835.16	\$10,021.92
681-6900		EA	LUMINAIRE - TP 3, 105W, LED	12	\$1,288.73	\$15,464.76
682-1403		LF	CABLE, TP XHHW, AWG NO 12	7060	\$2.08	\$14,684.80
682-6219		LF	CONDUIT, NONMETL, TP 2, 1 IN	1000	\$5.98	\$5,983.97
682-6230		LF	CONDUIT, NONMETL, TP 3, 1 IN	620	\$2.87	\$1,779.40
682-9000		LS	MAIN SVC PICK UP POINT	1	\$9,415.48	\$9,415.48

ITEM TOTAL	\$1,747,904.75
INFLATED ITEM TOTAL	\$1,747,904.75

TOTALS FOR JOB 0009948

ESTIMATED COST:	\$1,747,904.75
CONTINGENCY PERCENT (10.0)-SEE REPORT	\$0.00
ESTIMATED TOTAL:	\$1,747,904.75

GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date: 9/12/2014 Project: 0009948
 Revised: County: Lumpkin County
 PI: 0009948

Description: SR 52 @ SR 115/CR 41/Cooper Mine Rd
 Project Termini: SR 52 @ SR 115/CR 41/Cooper Mine Rd

Existing ROW:
 Required ROW:
 Parcels: 4

Land and Improvements _____ \$652,500.00

Proximity Damage	\$0.00
Consequential Damage	\$0.00
Cost to Cures	\$0.00
Trade Fixtures	\$0.00
Improvements	\$75,000.00

Valuation Services _____ \$25,000.00

Legal Services _____ \$40,200.00

Relocation _____ \$8,000.00

Demolition _____ \$0.00

Administrative _____ \$35,500.00

TOTAL ESTIMATED COSTS _____ \$761,200.00

TOTAL ESTIMATED COSTS (ROUNDED) _____ \$762,000.00

Preparation Credits	Hours	Signature

Prepared By: Dashone Alexander CG#: 286999 09/12/2014 (DATE)
 Approved By: Dashone Alexander CG#: 286999 09/12/2014 (DATE)

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

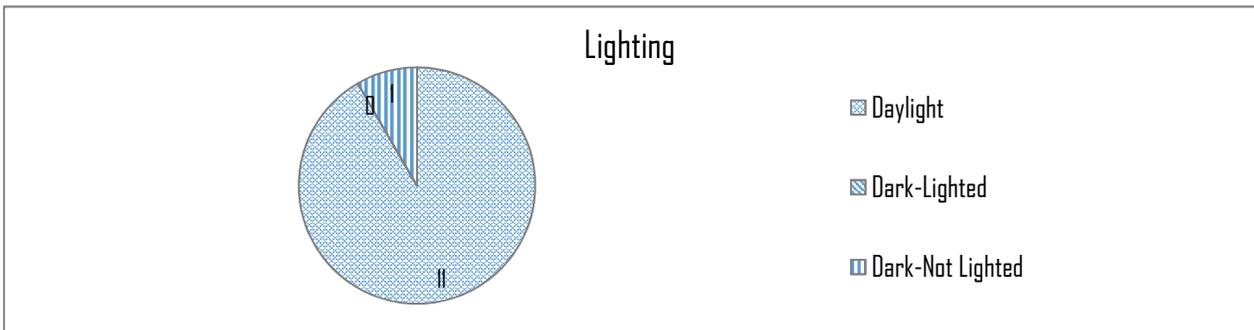
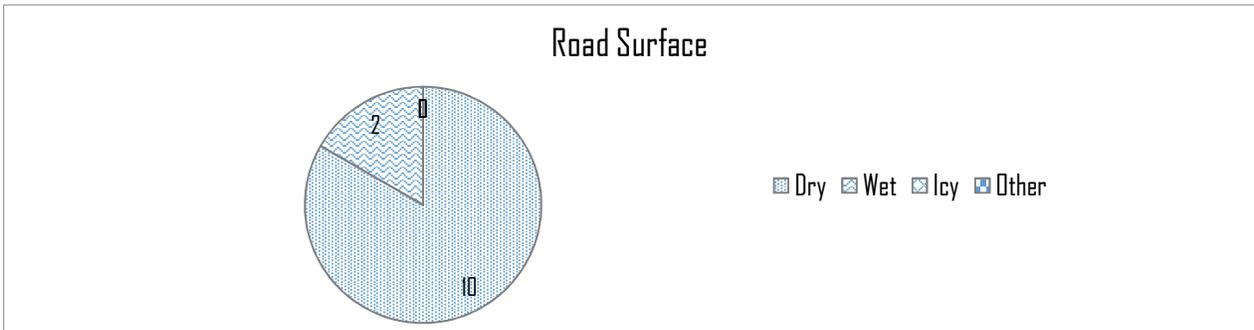
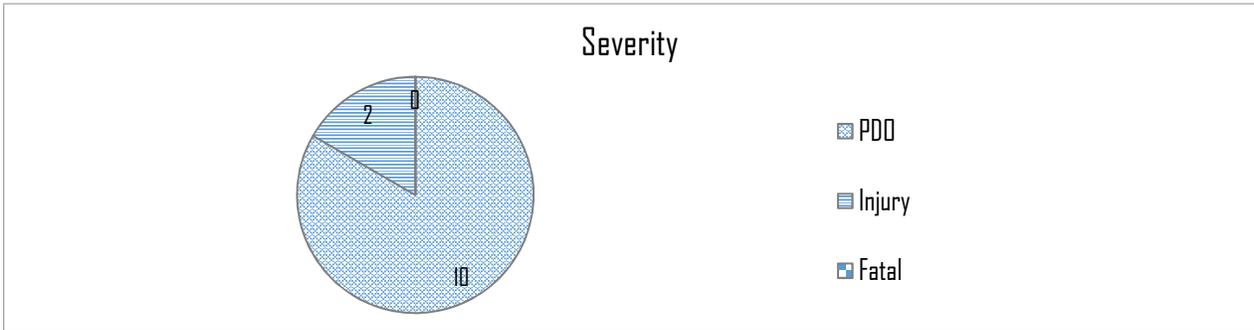
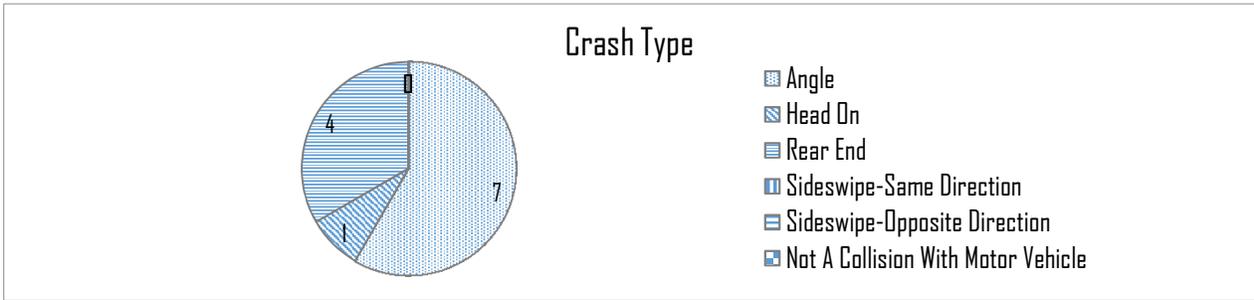
Crash Analysis -- SR 52@SR 115/ CR41 /Copper Mines Road, Lumpkin County -- Years 2007 to 2013

Year	Crash Type						Total Crashes
	Angle	Head On	Rear End	Sideswipe-Same Direction	Sideswipe-Opposite Direction	Not A Collision With Motor Vehicle	
2007	0	0	1	0	0	0	1
2008	0	0	0	0	0	0	0
2009	0	0	1	0	0	0	1
2010	0	0	0	0	0	0	0
2011	2	0	0	0	0	0	2
2012	3	1	0	0	0	0	4
2013	2	0	2	0	0	0	4
Total	7	1	4	0	0	0	12

Year	Severity			Total Crashes
	PDO	Injury	Fatal	
2007	1	0	0	1
2008	0	0	0	0
2009	0	1	0	1
2010	0	0	0	0
2011	2	0	0	2
2012	4	0	0	4
2013	3	1	0	4
Total	10	2	0	12

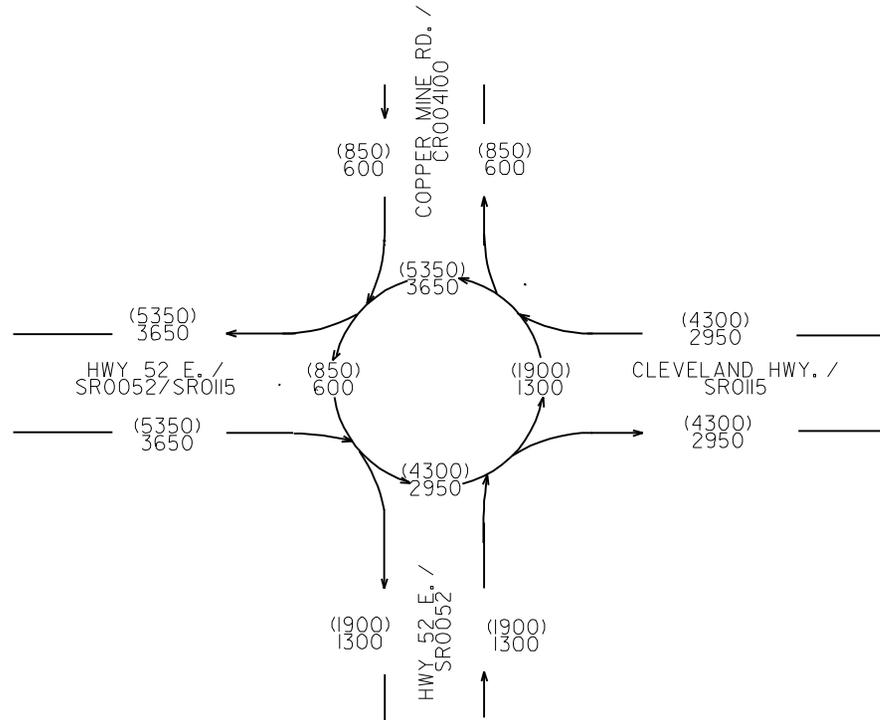
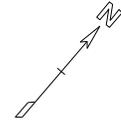
Year	Road Surface				Total Crashes
	Dry	Wet	Icy	Other	
2007	1	0	0	0	1
2008	0	0	0	0	0
2009	0	1	0	0	1
2010	0	0	0	0	0
2011	2	0	0	0	2
2012	3	1	0	0	4
2013	4	0	0	0	4
Total	10	2	0	0	12

Year	Lighting			Total Crashes
	Daylight	Dark-Lighted	Dark-Not Lighted	
2007	1	0	0	1
2008	0	0	0	0
2009	1	0	0	1
2010	0	0	0	0
2011	2	0	0	2
2012	3	0	1	4
2013	4	0	0	4
Total	11	0	1	12



LUMPKIN COUNTY
BUILD

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

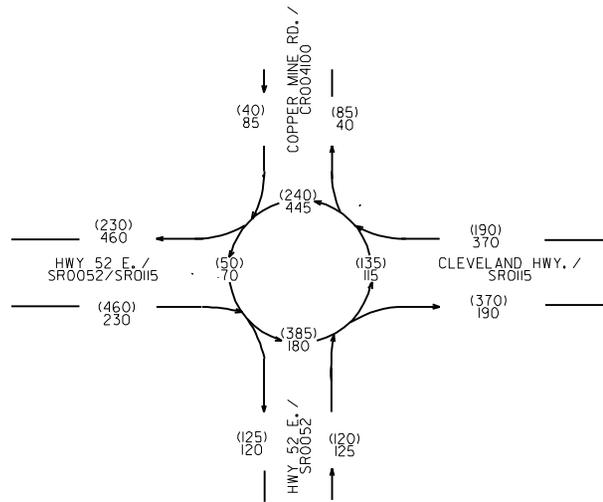


24 HR T = 6.25%
 S.U. = 5.00%
 COMB. = 1.25%

XXXXX-XXXX-XX(XXX)
 P.L.# 0009948
 LUMPKIN
 COUNTY
 SR 52 @ SR 115/CR 41/
 COPPER MINE ROAD
 2038 ADT = (000)
 2018 ADT = 000
 AMW
 06/13

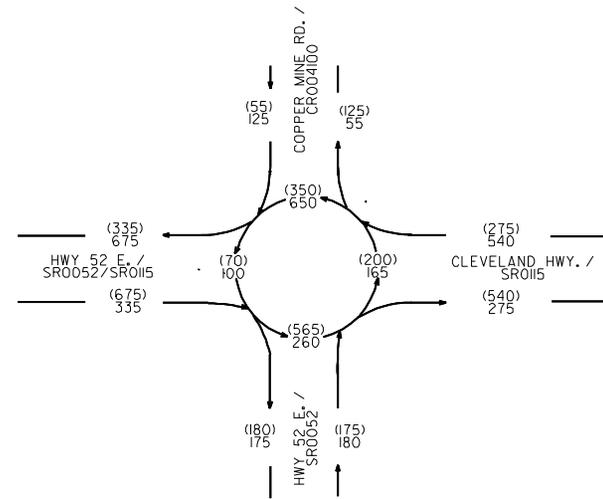
LUMPKIN COUNTY
BUILD

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING



T = 6.75%
S.U. = 5.50%
COMB. = 1.25%

2018 PM DHV = (000)
2018 AM DHV = 000



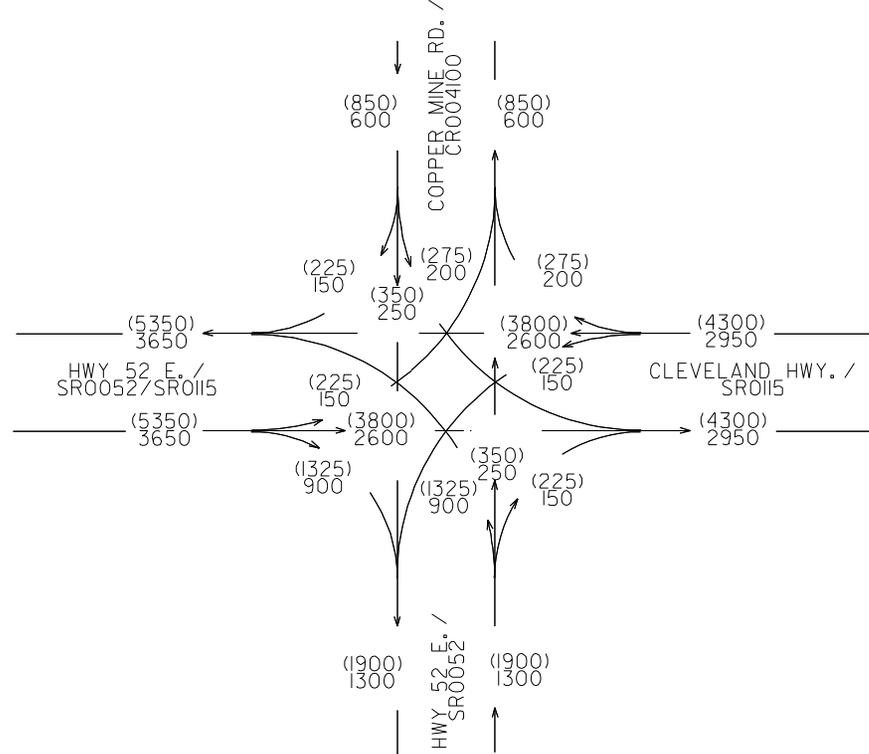
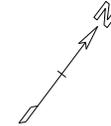
T = 6.75%
S.U. = 5.50%
COMB. = 1.25%

2038 PM DHV = (000)
2038 AM DHV = 000

XXXXX-XXXX-XX(XXX)
P.I.# 0009948
LUMPKIN
COUNTY
SR 52 @ SR 115/CR 41/
COPPER MINE ROAD

LUMPKIN COUNTY
NO BUILD

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING

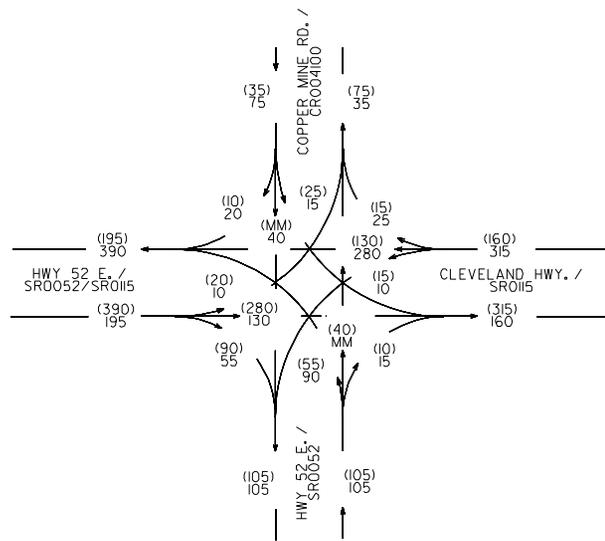
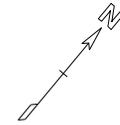


24 HR T = 6.25%
S.U. = 5.00%
COMB. = 1.25%

XXXX-XXXX-XX(XXX)
P.I.# 0009948
LUMPKIN
COUNTY
SR 52 @ SR 115/CR 41/
COPPER MINE ROAD

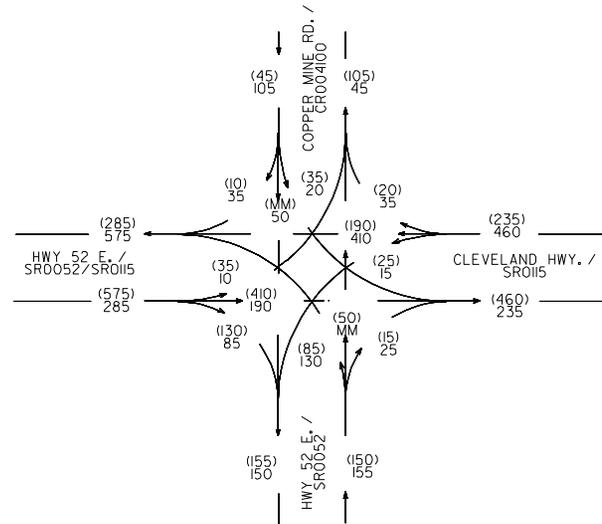
2038 ADT = (000)
2018 ADT = 000

AMW
06/13



T = 6.75%
S.U. = 5.50%
COMB. = 1.25%

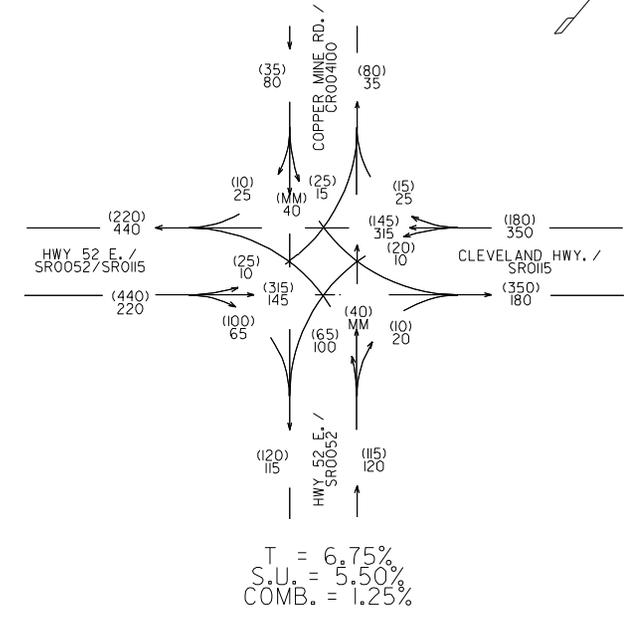
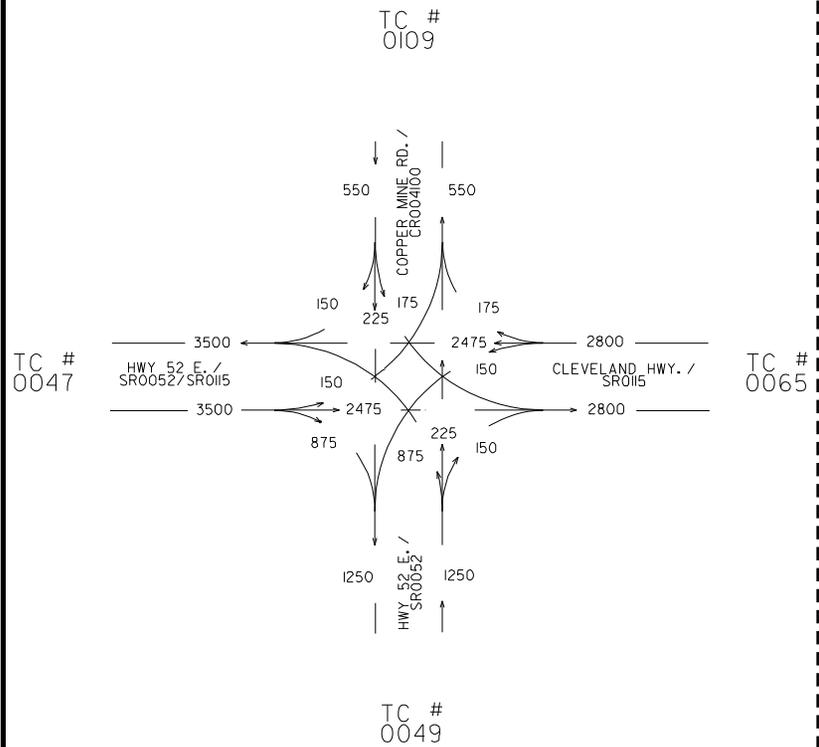
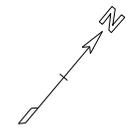
2018 PM DHV = (000)
2018 AM DHV = 000



T = 6.75%
S.U. = 5.50%
COMB. = 1.25%

2038 PM DHV = (000)
2038 AM DHV = 000

XXXX-XXXX-XX(XXX)
P.L.# 0009948
LUMPKIN
COUNTY
SR 52 @ SR 115/CR 41/
COPPER MINE ROAD



XXXX-XXXX-XX(XXX)
P.I.# 0009948
LUMPKIN
COUNTY
SR 52 @ SR 115/CR 41/
COPPER MINE ROAD

Year 2013 Existing Intersection Levels of Service

	AM Peak Hour				PM Peak Hour			
	LOS	Delay (sec/veh)	V/C Ratio	Queue Length (ft)	LOS	Delay (sec/veh)	V/C Ratio	Queue Length (ft)
All-Way-Stop-Controlled Intersection								
SR 52 @ SR 115/ Copper Mines Road	C	15	.65	120	B	13	.58	93

No Build Intersection Levels of Service

	AM Peak Hour				PM Peak Hour			
	LOS	Delay (sec/veh)	V/C Ratio	Queue Length (ft)	LOS	Delay (sec/veh)	V/C Ratio	Queue Length (ft)
All-Way-Stop-Controlled Intersection								
SR 52 @ SR 115/ Copper Mines Road (Year 2018)	B	13	.57	90	B	12	.50	70
SR 52 @ SR 115/ Copper Mines Road (Year 2038)	D	34	.96	318	C	21	.83	208

Build (Traditional Intersection) Intersection Levels of Service

	AM Peak Hour				PM Peak Hour			
	LOS	Delay (sec/veh)	V/C Ratio	Queue Length (ft)	LOS	Delay (sec/veh)	V/C Ratio	Queue Length (ft)
All-Way-Stop-Controlled Intersection								
SR 52 @ SR 115/ Copper Mines Road (Year 2018)	B	14	.63	110	B	13	.62	105
SR 52 @ SR 115/ Copper Mines Road (Year 2038)	D	31	.94	315	D	27	.92	290

Build (Roundabout) Intersection Levels of Service

	AM Peak Hour				PM Peak Hour			
	LOS	Delay (sec/veh)	V/C Ratio	Queue Length (ft)	LOS	Delay (sec/veh)	V/C Ratio	Queue Length (ft)
HCS 2010 Methodology*								
SR 52 @ SR 115/ Copper Mines Road (Year 2018)	A	10	.46	65	B	10	.52	83
SR 52 @ SR 115/ Copper Mines Road (Year 2038)	B	12	.61	118	B	14	.70	166
SIDRA Methodology								
SR 52 @ SR 115/ Copper Mines Road (Year 2018)	A	7	.35	60	A	7	.39	70
SR 52 @ SR 115/ Copper Mines Road (Year 2038)	B	10	.53	117	B	10	.59	142

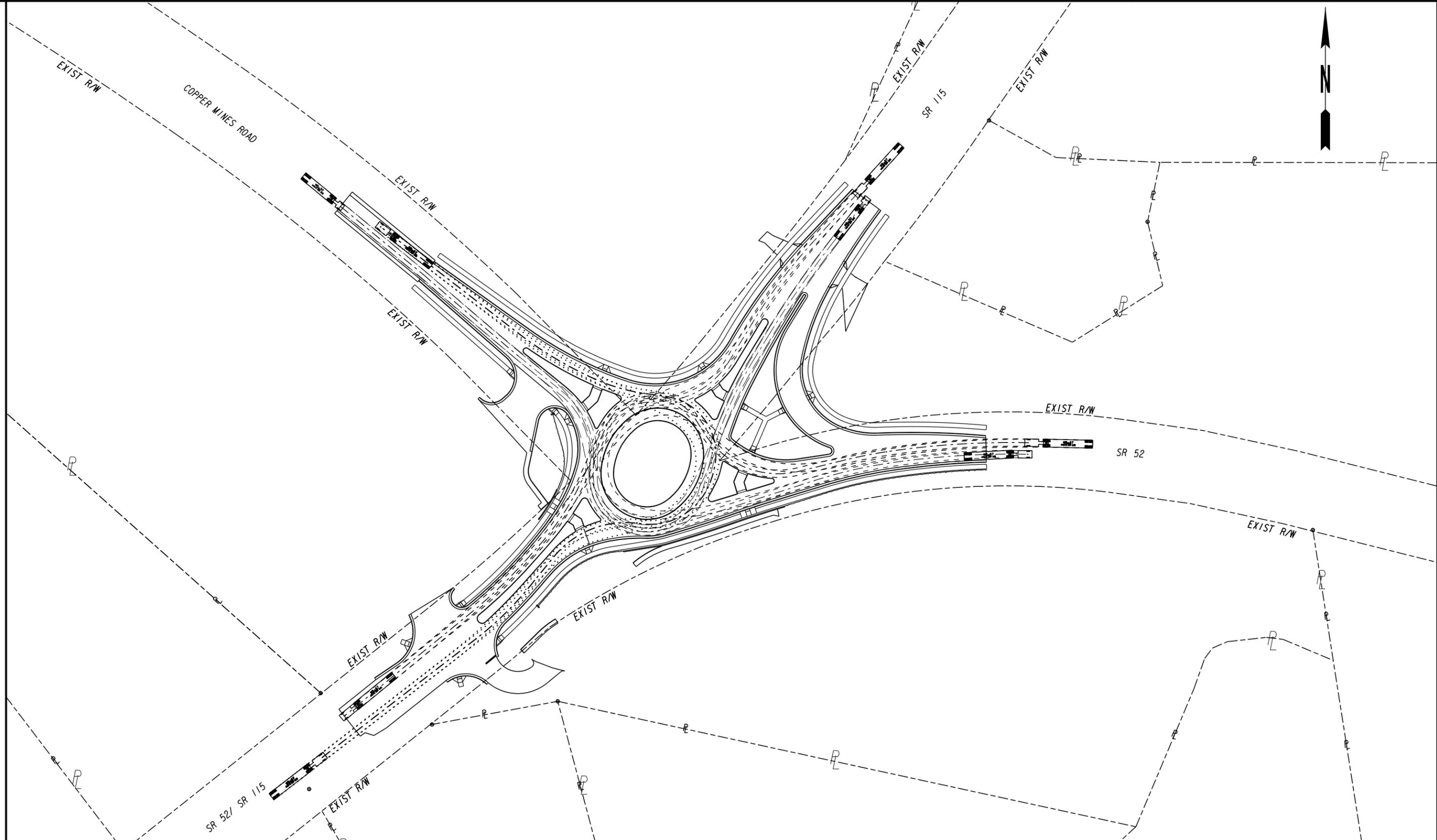
* The HCM 2010 calibrated methodology was used for Year 2038

SR 52 @ SR 115 @ Copper Mines Road Safety Study: :: Signal Warrant Analysis - 70 Percent Warrant

2018 Opening Year Eighth-Highest Volume	Minor Approach Max	Mainline Total	<u>8 Hour Warrants</u>			Condition Met?
			Condition A	Condition B	Condition C	
SR 52 @ SR 115/ Copper Mines Road	51	292	No	No	No	No

SR 52 @ SR 115 @ Copper Mines Road Safety Study: :: Signal Warrant Analysis - 70 Percent Warrant

2038 Opening Year Eighth-Highest Volume	Minor Approach Max	Mainline Total	<u>8 Hour Warrants</u>			Condition Met?
			Condition A	Condition B	Condition C	
SR 52 @ SR 115/ Copper Mines Road	75	426	No	No	No	No



GEORGIA
DEPARTMENT
OF
TRANSPORTATION



GRESHAM
SMITH AND
PARTNERS



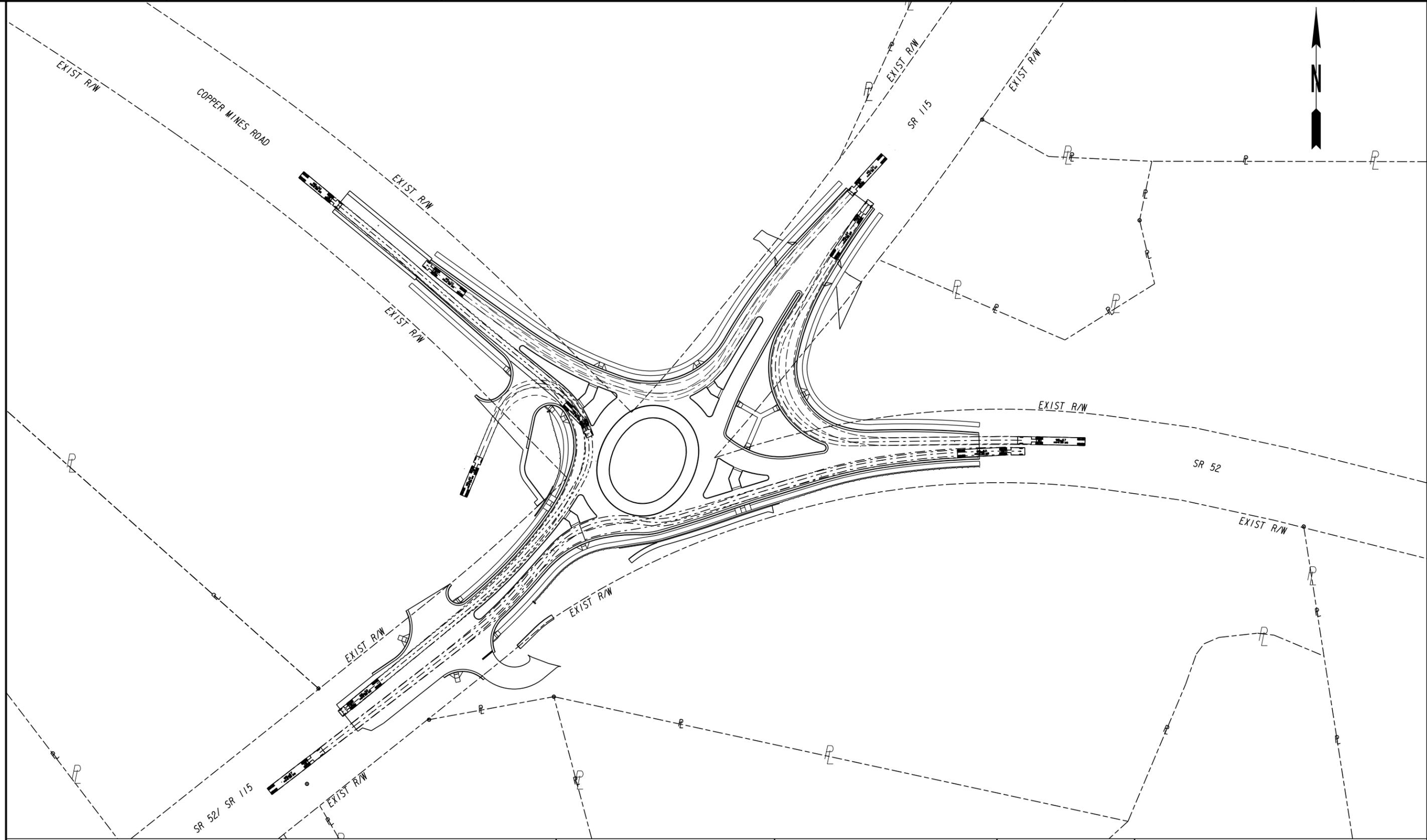
REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY

**ROUNDABOUT
TRUCK TURNING PATHS-LEFT TURNS**

PROJECT: 0009948
COUNTY: LUMPKIN

DRAWING No.



GEORGIA
DEPARTMENT
OF
TRANSPORTATION



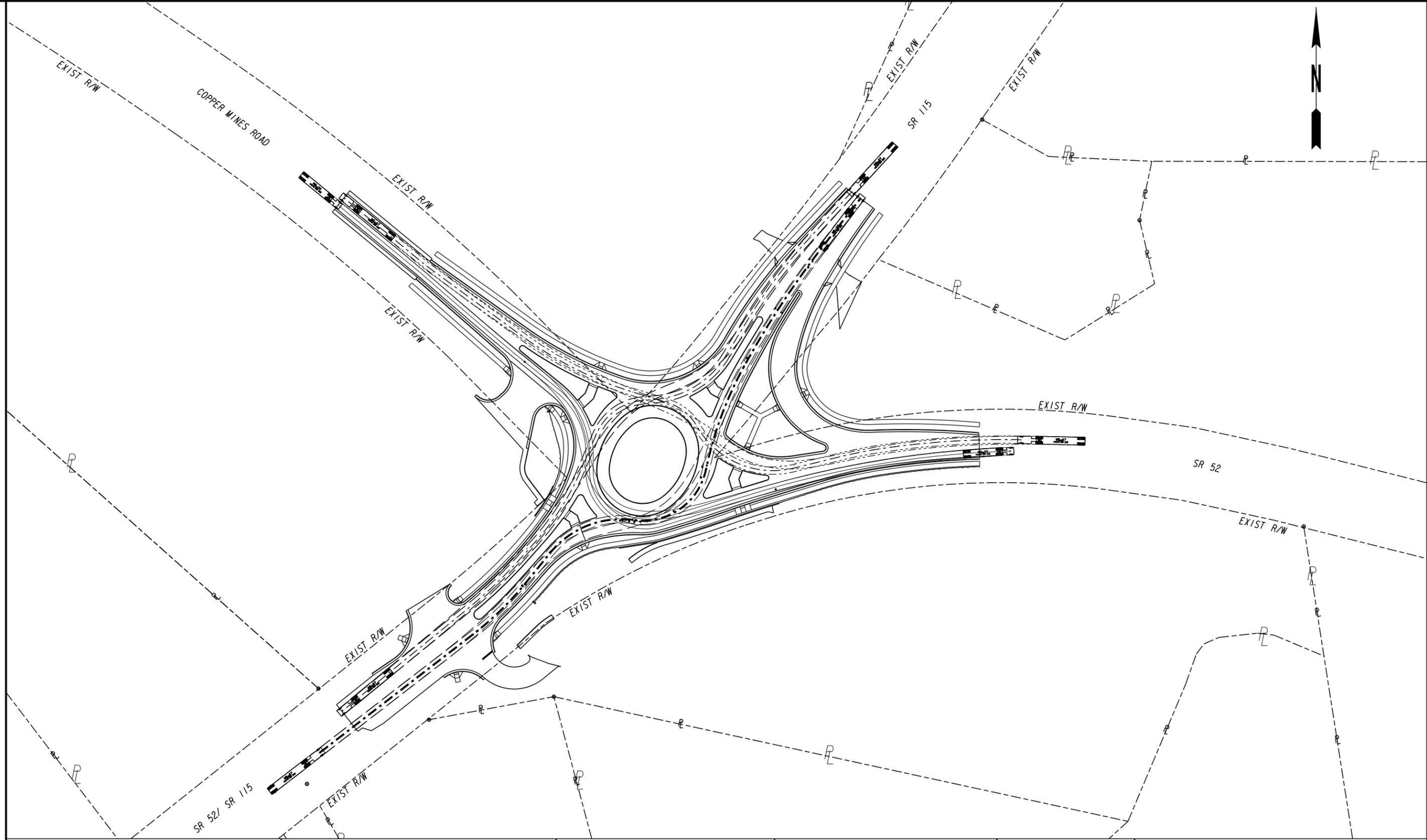
GRESHAM
SMITH AND
PARTNERS



REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
ROUNDABOUT
TRUCK TURNING PATHS-RIGHT TURNS
PROJECT: 0009948
COUNTY: LUMPKIN

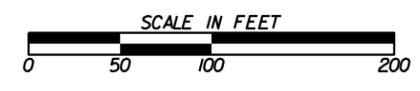
DRAWING No.



GEORGIA
DEPARTMENT
OF
TRANSPORTATION



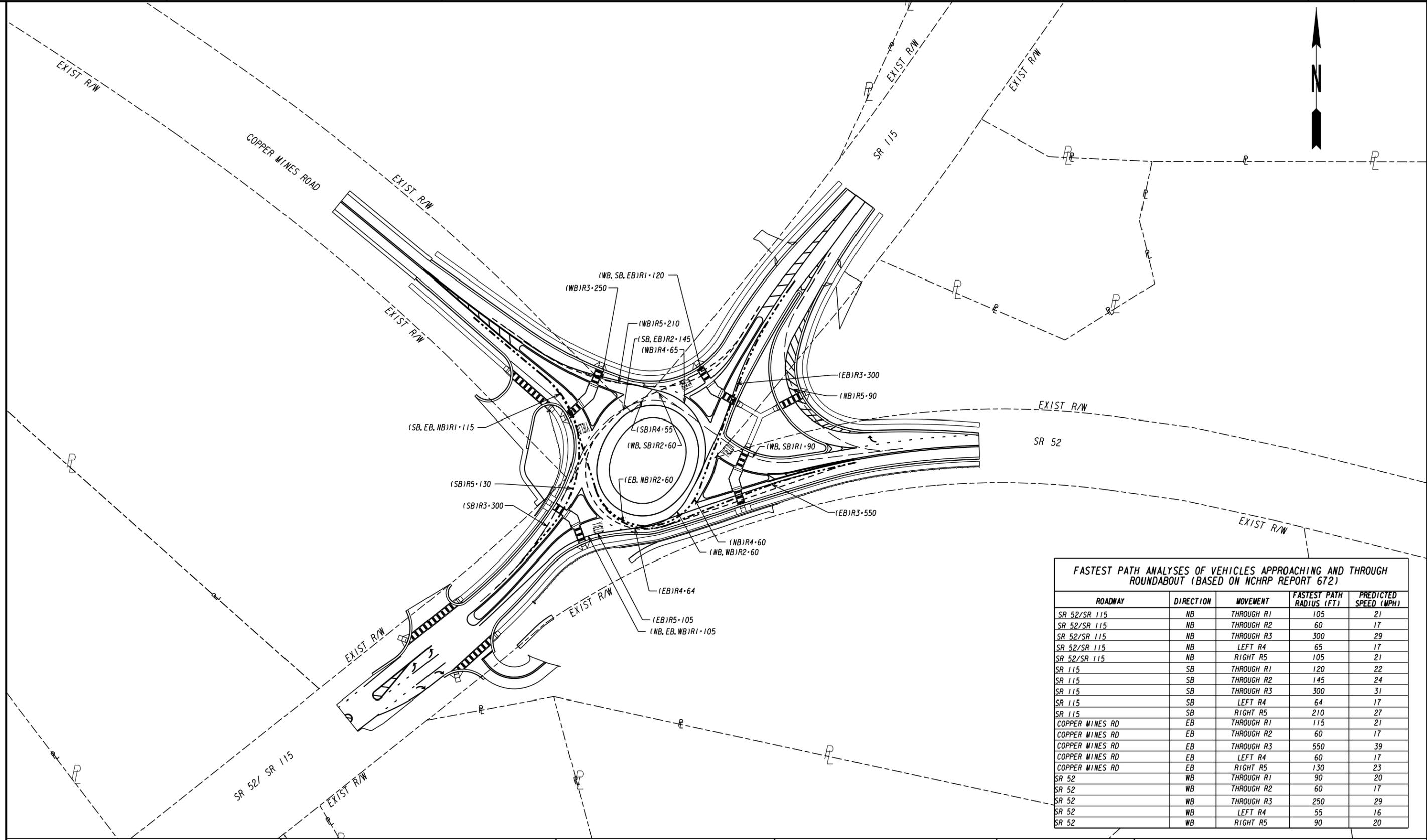
GRESHAM
SMITH AND
PARTNERS



REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
ROUNDABOUT
TRUCK TURNING PATHS-THRU MOVEMENTS
PROJECT: 0009948
COUNTY: LUMPKIN

DRAWING No.



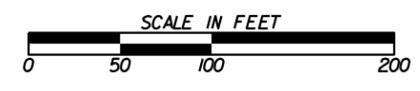
FASTEST PATH ANALYSES OF VEHICLES APPROACHING AND THROUGH ROUNDABOUT (BASED ON NCHRP REPORT 672)

ROADWAY	DIRECTION	MOVEMENT	FASTEST PATH RADIUS (FT)	PREDICTED SPEED (MPH)
SR 52/SR 115	NB	THROUGH R1	105	21
SR 52/SR 115	NB	THROUGH R2	60	17
SR 52/SR 115	NB	THROUGH R3	300	29
SR 52/SR 115	NB	LEFT R4	65	17
SR 52/SR 115	NB	RIGHT R5	105	21
SR 115	SB	THROUGH R1	120	22
SR 115	SB	THROUGH R2	145	24
SR 115	SB	THROUGH R3	300	31
SR 115	SB	LEFT R4	64	17
SR 115	SB	RIGHT R5	210	27
COPPER MINES RD	EB	THROUGH R1	115	21
COPPER MINES RD	EB	THROUGH R2	60	17
COPPER MINES RD	EB	THROUGH R3	550	39
COPPER MINES RD	EB	LEFT R4	60	17
COPPER MINES RD	EB	RIGHT R5	130	23
SR 52	WB	THROUGH R1	90	20
SR 52	WB	THROUGH R2	60	17
SR 52	WB	THROUGH R3	250	29
SR 52	WB	LEFT R4	55	16
SR 52	WB	RIGHT R5	90	20

GEORGIA
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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY

**ROUNDABOUT
FASTEST PATH ANALYSES PLAN**

PROJECT: 0009948
COUNTY: LUMPKIN



29 September 2014

Ms. Dylan Curtis
Georgia Department of Transportation
Office of Program Delivery
One Georgia Center
600 West Peachtree Street
Atlanta GA 30316

Dear Dylan:

Project PI #: 0009948, (Contract MPOPDES140256) Lumpkin County

**TPRO Description: SR 52 @ SR 115/CR 41/Copper Mine Road
Design Review by GHD**

Under contract to Gresham Smith and Partners (GSP), GHD Inc. provided review and oversight of the roundabout design components of the above-captioned intersection conceptual design. This effort provided quality assurance and quality control reviews, pursuant to the GDOT task order, for which GSP was to provide conceptual design services for potential intersection improvements.

Our review effort included developing a functional conceptual design, evaluating its predicted operational performance, review of typical cross-sections and preliminary profiles. Through a series of phone consultation meetings and a site visit, we ensured that the design that we developed for GSP would be functional for the site traffic and local constraints.

The undersigned and Andrew Duerr, also of GHD Inc. are GDOT prequalified roundabout designers. We are satisfied that the conceptual roundabout design is now 100% complete and requires no further adjustment to its horizontal geometry. This design will service the identified needs of the intersection and provide nominal safety performance comparable to roundabouts in a similar context elsewhere.

Under separate cover, by email, we are transmitting the final horizontal design and the preliminary profiles that we approve of to be advanced to the PFPR stage of the project development process. If changes to the horizontal geometry are required, we request a review of those changes to ensure that the operational outcomes intended by this current geometry are not compromised.

Sincerely,
GHD Inc.

A handwritten signature in blue ink that reads "Mark Lenters". The signature is fluid and cursive.

Mark Lenters
Principal

Cc: Andrew Duerr, GHD Inc.
Eric, Rickert, P.E. Gresham Smith and Partners

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

Lumpkin County supports the consideration of a roundabout at the location specified below.

Local Street Names: _____ at Dahlonega Hwy

State/County Route Numbers: SR 52 at SR 115

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 22nd day of March, 2011

Attest:

Ruthless Walker
Clerk

By:

Dr. John Baker

Title:

Chairman



G R E S H A M
S M I T H A N D
P A R T N E R S

September 19, 2014

CONCEPT TEAM MEETING MINUTES

SR 52 AT SR 115 AND COPPER MINES ROAD/CR 41 INTERSECTION IMPROVEMENTS LUMPKIN COUNTY, PI NO. 0009948 GS&P Project No. 40109.01

MEETING DATE: September 17, 2014

PARTICIPANTS: Dylan Curtis — GDOT Program Delivery
 Aaron Burgess — GDOT OES (via videoconference)
 Bobby Dollar — GDOT OES
 William Hunter — GDOT District 1 Traffic Ops
 Corvell Houston — GDOT District 1 Traffic Ops
 David Olson — GDOT District 1 Traffic Ops
 Kim Coley — GDOT Planning
 Justin Lott — GDOT District 1 Preconstruction
 Doug Fadool — GDOT District 1 Utilities
 Vickie Simmons — GDOT District 1 Utilities
 Ken Rainwater — Windstream Communications
 Charles Trammell — Lumpkin County
 Larry Reiter — Lumpkin County
 Drew Pitman — Edwards-Pitman Environmental (EPEI)
 Jeremy Busby — Gresham, Smith and Partners (GS&P)
 Eric Rickert — Gresham, Smith and Partners (GS&P)

DISCUSSION: CONCEPT TEAM MEETING

1. GS&P began the meeting with an overview of the preferred alternative layout and draft concept report. GS&P noted that the number of crashes in the crash analysis was less than what was originally anticipated and that the concept estimated construction costs had increased due to topography and constraint challenges at the existing site.
2. Lumpkin County requested that the name of the CR 41 side road be changed from 'Copper Mill Road' to 'Copper Mines Road' in the report and displays as this is the correct name. The County also stated that they had signed a letter of support for

Design Services For The Built Environment



MEETING MINUTES
**SR 52 AT SR 115 AND COPPER MINES ROAD/CR 41
INTERSECTION IMPROVEMENTS**

GS&P Project No. 40109.01

September 18, 2014

Page 2

- the roundabout and have committed to the roundabout's landscaping maintenance.
3. GDOT stated that Copper Mines Road/CR 41 would need to be a temporary state route as right of way would need to be acquired along this roadway.
 4. GDOT noted that SUE nor a Public Interest Determination was required for this project. Jackson EMC and Windstream are the anticipated impacted utilities.
 5. GDOT OES requested that traffic simulations of the proposed improvements be created and presented at the upcoming PIOH meeting.
 6. GDOT OES inquired whether a UST Phase 1 study was underway for the project. GS&P responded that this was indeed the case.
 7. EPEI noted that the fire station and school would not be impacted as part of this project. They also noted no cultural resources were anticipated to be present.
 8. Windstream Communications noted that AT&T may also have utilities along Copper Mines Road/CR 41 that may be affected by the project.
 9. GDOT District 1 requested that the splitter island nose be adjusted in front of the commercial driveways on SR 52/115 and that pedestrian ramps be used in the large island in the northeast quadrant. GS&P replied that they would make these adjustments.
 10. Lumpkin County noted that the owners of the convenience store in the project's southwest corner are part of a locally prominent family and may be potentially opposed to the project.
 11. They also noted that the existing business in the southeast corner may be a historic resource. EPEI will submit the history survey to GDOT to determine the structure's eligibility, but was not recommending the structure as eligible due to the structure's remodeling.

This represents our understanding of the items discussed at this meeting. If you have any questions or comments concerning any of the information contained herein, please contact me.



MEETING MINUTES
**SR 52 AT SR 115 AND COPPER MINES ROAD/CR 41
INTERSECTION IMPROVEMENTS**

GS&P Project No. 40109.01

September 18, 2014

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Prepared by: Eric Rickert, P.E.
Project Engineer

EJR: cl

Copy Participants
 Jody Braswell – GS&P
 File