

ORIGINAL TO GENERAL FILES

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

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

FILE P.I. #0000311
STP00-0000-00(311)
GDOT District 4 - Tifton
Turner County
SR 107/112 From CR 250 To
I-75 in Ashburn
Reconstruction/Rehabilitation

OFFICE Design Policy & Support

DATE 3/19/2012

FROM  for 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:

Genetha Rice-Singleton, Program Control Administrator
Bobby Hilliard, State Program Delivery Engineer
Cindy VanDyke, State Transportation Planning Administrator
Angela Robinson, Financial Management Administrator
Glenn Bowman, State Environmental Administrator
Kathy Zahul, State Traffic Engineer
Ben Rabun, State Bridge Design Engineer
Georgene Geary, State Materials & Research Engineer
Lisa Myers, Acting State Project Review Engineer
Jeff Baker, State Utilities Engineer
Ken Thompson, Statewide Location Bureau Chief
Joe Sheffield, District Engineer
Brent Thomas, District Preconstruction Engineer
Tim Warren, District Utilities Engineer
Peter Emmanuel, Project Manager
BOARD MEMBER - 8th Congressional District

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

REVISED PROJECT CONCEPT REPORT

Project Type: Widening P.I. Number: 0000311
GDOT District: 4 County: Turner
Federal Route Number: N/A State Route Number: S.R. 107/112

To reduce the construction costs, right of way limits and environmental impacts, the following is proposed from the Value Engineering Study: 1) Use type B median openings in lieu of type A. 2) Shorten left turn lanes to minimum allowable deceleration length. 3) Modifications to the typical sections by means of A) Reducing the median width from 44' to 32' in the rural section and 24' to 18' in the urban B) Changing rural paved shoulder from 6.5' to 4' C) Using 24" curb & gutter in lieu of 30" D) using 11' inside lane in lieu of 12'.

Submitted for approval:

David D Vincent for Jacobs Engineering Group 1/27/12
Consultant Designer and Firm DATE
Bobby Hillbrand 1-31-2012
Office Head DATE
R. B. Emmanuel 1/31/12
GDOT Project Manager DATE

Recommendation for approval:

Glenn Bowman * 2-9-2012
State Environmental Administrator DATE

State Traffic Engineer DATE
Ben Rabun * 2-13-2012
State Bridge Design Engineer 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).

Cindy Van Dyke * 2-3-2012
State Transportation Planning Administrator DATE

* Recommendation on file.

PLANNING, APPROVED CONCEPT, & BACKGROUND DATA

Project Justification Statement:

This is an economic development project to enhance goods movement and promote area economic development on the SR 107 corridor in Turner, Irwin and Ben Hill Counties. To assist in the accomplishment of this goal, the proposed project would widen SR 107 from two-lane to four-lane highway and increase the posted speed to 65 mph in the non-urban area. Widening SR 107 would provide the benefits of upgrading the substandard features on the existing two-lane roadway. SR 107 does not meet current GDOT standards for horizontal clearances at the existing posted speed of 55 mph. Approximately 34% of this eight mile stretch of roadway has either vertical or horizontal design deficiencies. The existing clear zone is between 16 to 22 feet with a 3:1 to 4:1 slopes. The required clear zone for 55 MPH with 1500 to 6000 ADT is 30 feet for 4:1 slopes, and 24' for 5:1 slopes. The upgrade will bring the corridor up to current GDOT standards for the existing posted speed of 55 mph.

Background Data: In 1998, the Office of Planning completed a study that evaluated the benefits of widening SR 107 in Ben Hill, Irwin and Turner Counties. This study concluded that no improvements were required for SR 107 in Turner, Irwin or Ben Hill Counties based upon existing or forecast traffic and accident rates. The current traffic and accident data supports the findings of the study conducted in 1998.

However, the SR 107 corridor is heavily lined with agricultural fields. During the early cultivation and harvesting seasons, significant number of farm equipment crosses the two-lane highway. The large number of heavy vehicles and the seasonal farm traffic appears to contribute to both spot congestion and roadway crash frequency and severity. This is of concern even though the overall crash rates for the years 2006, 2007 and 2008 are below the statewide average for roadway facilities similarly classified as Rural Minor Arterials.

Although the overall number of vehicles currently using SR 107 can be accommodated by the two-lane infrastructure in place, the percentage of heavy vehicles using the roadway is significantly larger than normal. The percentage of heavy vehicles along this section of roadway is 30 percent, which equates to between 510 and 900 trucks on SR 107 on a daily basis. The majority of the heavy vehicles are farm harvesting equipment, tandem trailer trucks carrying agriculture goods, trucks carrying wide loads and timber trucks, and logging vehicles greater than the standard 18 wheeled freight trucks. These vehicles have difficulty maneuvering on the two-lane SR 107 highway. The provision of the 4-lane roadway would allow the heavy vehicles to transport goods freely within the three counties

Economic development is a goal of the region. As one of the major forces in this region, the City of Fitzgerald is focused on providing a healthy atmosphere for promoting business development. The City of Fitzgerald has approximately 50 major industries that include food processing, clothing manufacturing, carpet yarn manufacturing, housing manufacturing and cargo trailer manufacturing. These industries provide employment for the populations of Ben Hill, Coffee, Dodge, Irwin, Telfair, Turner and Wilcox Counties. SR 107 is the most direct route to the City of Fitzgerald from Interstate 75 and therefore the most utilized route for the manufacturing facilities to receive and ship goods. Improving SR 107 to a four lane facility from I-75 to Fitzgerald would help stimulate growth in these counties.

Description of the approved concept: The approved typical section for the rural location is two 12-foot travel lanes in each direction separated by a 44-foot depressed median, with a 6.5 paved / 3.5 foot graded / grassed shoulder. The approved typical section for the urban area is two 12-foot travel lanes in each direction separated by a 24-foot raised median, with a 10-foot rural shoulder consisting of 6.5 foot paved and 3.5-foot-graded / grassed. The typical right of way for the new highway is 200 feet. The intersection with SR 112 is proposed to be reconstructed so that SR 107 will become the through movement, and SR 112 will tie into SR 107 as a T-intersection. This project in conjunction with other projects (PI# 0000313 & 0000314) will provide four-lane access between Interstate 75 and the City of Fitzgerald. SR 107/112 is not a bike route within these project limits.

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

Projected Traffic as shown in the approved Concept Report:
 Open Year (2012): 4950 Design Year (2032): 7400

Updated Traffic:
 Open Year (2016): 3400 Design Year (2036): 4400

Functional Classification (Mainline): Rural Major Collector

VE Study anticipated: No Yes Completed – Date: 8/21/2009

PROPOSED REVISIONS

Approved Features:	Proposed Features:
<ul style="list-style-type: none"> • Typical Section(s), Rural – 44’ depressed median with two 12-foot lanes and 6.5’/3.5’ paved/graded shoulder and 200’ of right of way. Urban – 24’ raised median two 12-foot lanes with 10’ foot rural shoulder (6.5’ paved & 3.5’ graded) and 200’ of right-of-way. • Intersection of S.R. 107 and S.R. 112 revised with S.R. 107 becoming the major through road. 	<ul style="list-style-type: none"> • Typical Section(s), Rural – 32’ depressed median with one 12’ lane and one 11’ inside lane and 4.0’paved/6.0’ graded/grassed shoulder and 190’ of right of way. Urban – 18’ raised median with two 12’ lanes, 24” curb & gutter and 4.0’paved /6.0’ graded/grassed shoulder and 190’ of right-of-way.
<p>Reason for change: The above changes are part of the implementation of the Value Engineering Study for this project which reduce right of way limits and environmental impacts as well as reduce construction costs for paving, concrete, earthwork, and pipes.</p>	

ENVIRONMENTAL

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

Potential environmental impacts of proposed revision: This revision proposes narrower typical sections; therefore, the potential environmental impacts are reduced. It is anticipated that this revision will have a minor effect on the environment/project schedule.

Have proposed revisions been reviewed by environmental staff? No Yes

Environmental responsibilities (Studies/Documents/Permits): The environmental consultant will be performing the additional studies, and will be revising the EA document.

Environmental impacts by section:

NEPA: The draft EA will need to be updated to reflect the revised special studies.

Ecology: It is anticipated that there will be reduced impacts to ecological resources.

Archeology: It is anticipated that there will be no additional effects on the archeological resources. The new aligned section shall be surveyed and included in the archeological report.

History: It is anticipated that there will be no additional effects on the historic resources. The existing history survey will expire in February 2012 and will need to be updated.

Air & Noise: Air/Noise analyses will need to be updated to reflect new standards and traffic data.

Public Involvement: There will be no additional public outreach required

PROJECT COST & ADDITIONAL INFORMATION

Updated Cost Estimate		Date of Estimate
Base Construction Cost:	\$17,422,912.52	2-14-2012
Engineering and Inspection:	\$871,145.63	2-14-2012
Liquid AC Adjustment:	\$2,095,481.61	Jan. 2012
Total Construction Cost:	\$20,389,539.76	
Right-of-Way:	\$ 3,500,000.00	1-4-2012
Utilities (reimbursable costs):	\$ 675,000.00	12-21-2011
Environmental Mitigation:	\$ 965,950.00	1-13-2012
TOTAL PROJECT COST:	\$25,530,489.76	

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

Comments: A design exception is required for the 11-foot lane. A design variance is required for the 18-foot raised median. A design variance is required for the 32-foot depressed median.

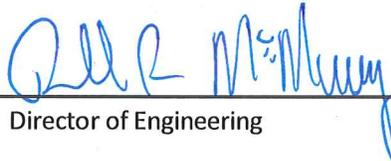
Attachments:

1. Location Map
2. Cost Estimates:
 - a. Construction including E&I
 - b. Liquid AC Adjustment
 - c. Right of Way Cost Estimate
 - d. Utility Cost Estimate
 - e. Environmental Mitigation Cost Estimate
3. Typical Sections
4. Revised Traffic Memo
5. Concept Layout
6. VE Study Implementation Report

APPROVALS

Exempt Projects

Concur:



Director of Engineering

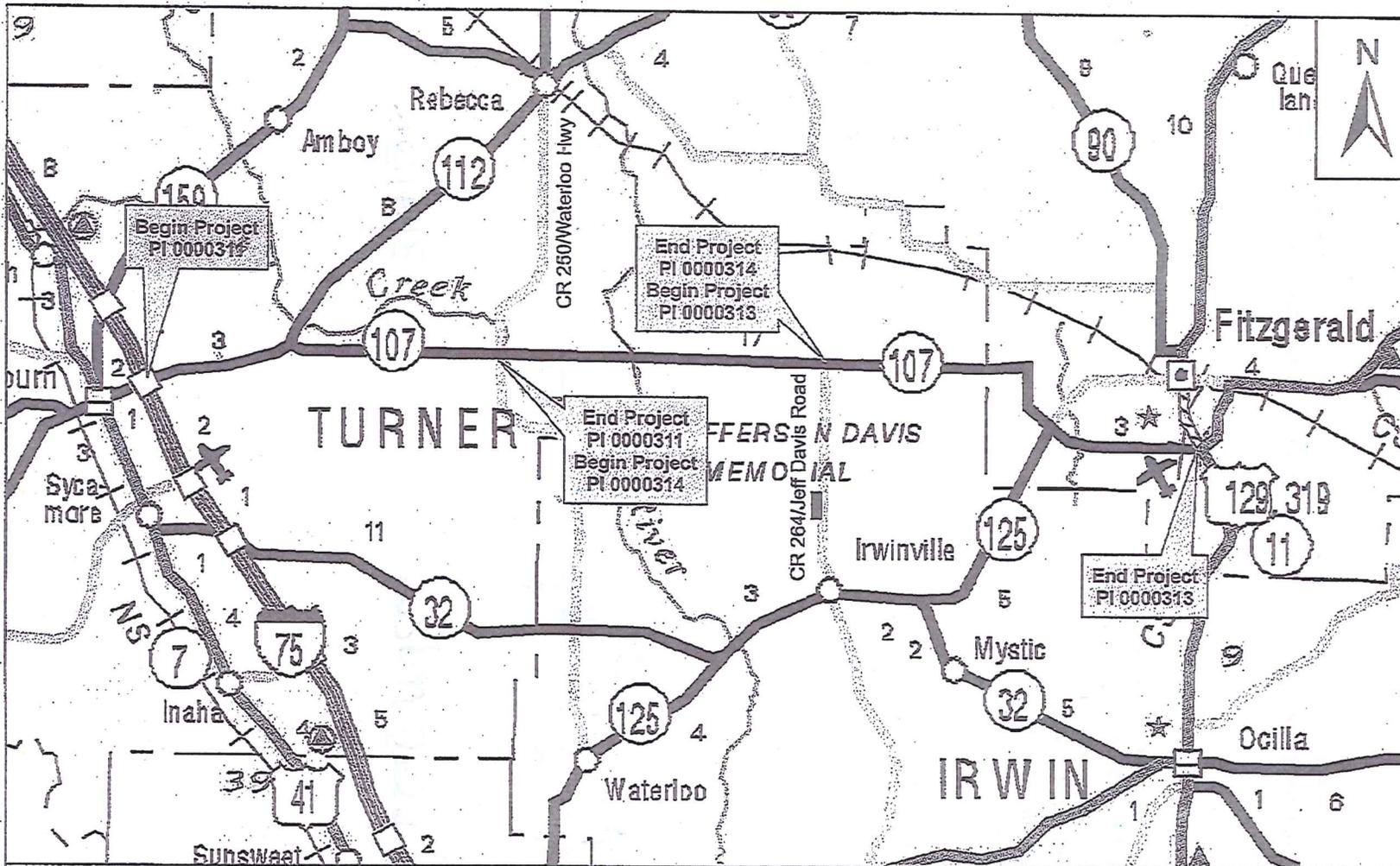
Approve:



Chief Engineer

3/14/2012

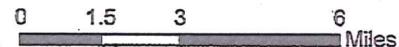
Date



Project Location Map

STP-0000-00(311), PI 0000311, Turner County
 STP-0000-00(314), PI 0000314, Turner and Irwin Counties
 STP-0000-00(313), PI 0000313, Irwin and Ben Hill Counties

Source: DOT State Highway Map



STATE HIGHWAY AGENCY

JOB ESTIMATE REPORT

JOB NUMBER : SR 107 SPEC YEAR: 01
 DESCRIPTION: PI 0000311 TURNER COUNTY

***** This job contains obsolete items *****

ITEMS FOR JOB SR 107

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0005	150-1000		LS	TRAFFIC CONTROL - AS DIRECTED	1.000	500000.00	500000.00
0015	210-0100		LS	GRADING COMPLETE - AS DIRECTED	1.000	3000000.00	3000000.00
0020	310-1101		TN	GR AGGR BASE CRS, INCL MATT	166000.000	14.37	2386606.90
0030	318-3000		TN	AGGR SURF CRS	5000.000	15.96	79812.90
0035	402-1812		TN	RECYL AC LEVELING, INC BM&HL	1800.000	68.32	122991.73
0040	402-3121		TN	RECYL AC 25MM SP, GP1/2, BM&HL	59000.000	78.54	4634184.50
0045	402-3130		TN	RECYL AC 12.5MM SP, GP2, BM&HL	26200.000	61.68	1616072.59
0050	402-3190		TN	RECYL AC 19 MM SP, GP 1 OR 2 , INC BM&HL	33700.000	59.37	2000913.24
0055	413-1000		GL	BITUM TACK COAT	29000.000	1.89	55028.37
0060	441-0014		SY	DRIVEWAY CONCRETE, 4 IN TK	200.000	21.54	4308.97
0065	441-0748		SY	CONC MEDIAN, 6 IN	4700.000	28.59	134412.20
0070	441-6740		LF	CONC CURB & GUTTER/ 8"X30" TP7	7800.000	11.27	87947.26
0075	446-1100		LF	PVMT REF FAB STRIPS, TP2, 18 INCH WIDTH	2500.000	3.87	9698.83
0080	500-9999		CY	CL B CONC, BASE OR PVMT WIDEN	800.000	139.09	111276.49
0085	634-1200		EA	RIGHT OF WAY MARKERS	50.000	96.73	4836.71
0090	641-1200		LF	GUARDRAIL, TP W	2560.000	14.92	38214.20
0095	641-5001		EA	GUARDRAIL ANCHORAGE, TP 1	8.000	630.92	5047.39
0100	641-5012		EA	GUARDRAIL ANCHORAGE, TP 12	8.000	1832.64	14661.15
0105	500-3101		CY	CLASS A CONCRETE	500.000	360.99	180497.43
0110	500-3800		CY	CL A CONC, INCL REINF STEEL	46.000	947.16	43569.67
0115	511-1000		LB	BAR REINF STEEL	41500.000	0.68	28430.41
0120	550-1180		LF	STM DR PIPE 18", H 1-10	7391.000	26.72	197537.48
0125	550-1240		LF	STM DR PIPE 24", H 1-10	1685.000	35.96	60593.38
0130	550-1300		LF	STM DR PIPE 30", H 1-10	1062.000	42.01	44623.57
0135	550-1360		LF	STM DR PIPE 36", H 1-10	354.000	57.22	20256.35
0140	550-1420		LF	STM DR PIPE 42", H 1-10	354.000	69.97	24770.58
0144	550-1600		LF	STM DR PIPE 60", H 1-10	240.000	109.59	26303.18
0145	550-2180		LF	SIDE DR PIPE 18", H 1-10	2520.000	20.81	52456.87
0150	550-2240		LF	SIDE DR PIPE 24", H 1-10	390.000	25.68	10016.58
0155	550-2300		LF	SIDE DR PIPE 30", H 1-10	60.000	37.98	2279.27
0160	550-4118		EA	FLARED END SECT 18 IN, SIDE DR	168.000	407.50	68460.44
0165	550-4124		EA	FLARED END SECT 24 IN, SIDE DR	26.000	466.46	12128.00
0170	550-4130		EA	FLARED END SECT 30 IN, SIDE DR	4.000	808.32	3233.29
0175	550-4218		EA	FLARED END SECT 18 IN, ST DR	8.000	487.67	3901.37
0180	550-4224		EA	FLARED END SECT 24 IN, ST DR	14.000	561.38	7859.42
0185	550-4230		EA	FLARED END SECT 30 IN, ST DR	10.000	668.22	6682.25
0190	550-4236		EA	FLARED END SECT 36 IN, ST DR	2.000	893.08	1786.16
0195	550-4242		EA	FLARED END SECT 42 IN, ST DR	2.000	1194.33	2388.66
0200	668-1100		EA	CATCH BASIN, GP 1	6.000	2280.49	13682.99
0205	668-2100		EA	DROP INLET, GP 1	80.000	1670.66	133653.12

STATE HIGHWAY AGENCY

DATE : 02/14/2012
PAGE : 2

JOB ESTIMATE REPORT

0210	603-2180	SY	STN DUMPED RIP RAP, TP 3, 12"	3500.000	32.73	114587.87
0215	603-7000	SY	PLASTIC FILTER FABRIC	3500.000	3.37	11809.63
0220	700-6910	AC	PERMANENT GRASSING	90.000	485.02	43652.17
0225	700-7000	TN	AGRICULTURAL LIME	180.000	13.54	2438.70
0230	700-7010	GL	LIQUID LIME	225.000	15.15	3410.87
0235	700-8000	TN	FERTILIZER MIXED GRADE	90.000	414.19	37277.44
0240	700-8100	LB	FERTILIZER NITROGEN CONTENT	4500.000	2.09	9438.53
0245	716-1000	SY	EROSION CONTROL MATS, WATERWAYS	54000.000	1.68	91149.84
0250	716-2000	SY	EROSION CONTROL MATS, SLOPES	240000.000	1.00	240000.00
0255	163-0232	AC	TEMPORARY GRASSING	240.000	404.39	97054.09
0260	163-0240	TN	MULCH	2800.000	146.23	409451.45
0265	163-0503	EA	CONSTR AND REMOVE SILT CONTROL GATE, TP 3	115.000	369.10	42446.80
0270	163-0522	EA	CONSTR AND REM TEMP DCH CK - TP A SLT FN	1200.000	105.00	126000.00
0274	163-0531	EA	CONSTR & REM SEDIMENT BASIN, TP 1, STA NO- AS DIRECTED	1.000	7467.97	7467.97
0275	163-0531	EA	CONSTR & REM SEDIMENT BASIN, TP 1, STA NO- AS DIRECTED	1.000	7467.97	7467.97
0280	163-0550	EA	CONS & REM INLET SEDIMENT TRAP	86.000	163.43	14055.07
0285	165-0010	LF	MAINT OF TEMP SILT FENCE, TP A	41000.000	0.41	16888.31
0290	165-0040	EA	MAINT OF EROSION CTRL CHKDAMS/DITCH CHKS	1200.000	57.40	68880.00
0295	165-0060	EA	MAINT OF TEMP SEDIMENT BASIN, STA NO -	2.000	1027.81	2055.63
0300	165-0087	EA	MAINT OF SILT CONTROL GATE, TP 3	115.000	107.86	12404.15
0305	165-0105	EA	MAINT OF INLET SEDIMENT TRAP	86.000	53.83	4629.41
0310	171-0010	LF	TEMPORARY SILT FENCE, TYPE A	82000.000	1.51	124513.72
0315	636-1020	SF	HWY SGN, TPLMAT, REFL SH TP3	1000.000	11.92	11929.09
0320	636-1029	SF	HWY SGN, TP2 MATL, REFL SH TP 3	1000.000	12.56	12565.96
0325	636-1033	SF	HWY SIGNS, TPLMAT, REFL SH TP 9	1000.000	15.76	15765.68
0330	636-2070	LF	GALV STEEL POSTS, TP 7	4000.000	5.76	23066.40
0335	639-2002	LF	STEEL WIRE STRAND CABLE, 3/8"	300.000	2.82	847.04
0340	639-4002	EA	STRAIN POLE, TP II	2.000	5517.77	11035.56
0345	653-0120	EA	THERM PVMT MARK, ARROW, TP 2	60.000	69.49	4169.67
0350	653-0210	EA	THERM PVMT MARK, WORD, TP 1	24.000	96.92	2326.10
0355	653-1501	LF	THERMO SOLID TRAF ST 5 IN, WHI	82000.000	0.32	26584.40
0360	653-1502	LF	THERMO SOLID TRAF ST, 5 IN YEL	82000.000	0.27	22526.22
0365	653-1704	LF	THERM SOLID TRAF STRIPE, 24", WH	480.000	3.76	1806.05
0370	653-3501	GLE	THERMO SKIP TRAF ST, 5 IN, WHI	82000.000	0.21	17932.58
0375	653-6004	SY	THERM TRAF STRIPING, WHITE	12000.000	2.56	30758.52
0380	653-6006	SY	THERM TRAF STRIPING, YELLOW	100.000	3.20	320.73
0385	654-1003	EA	RAISED PVMT MARKERS TP 3	1025.000	3.00	3075.00

ITEM TOTAL
INFLATED ITEM TOTAL17422912.51
17422912.52

TOTALS FOR JOB SR 107

ESTIMATED COST:
CONTINGENCY PERCENT (0.0):
ESTIMATED TOTAL:17422912.52
0.00
17422912.52

PROJ. NO.
P.I. NO.
DATE

SR 107 Turner County
0000311
1/5/2012

CALL NO.

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	Dec-11	\$ 3.209
DIESEL		\$ 3.863
LIQUID AC		\$ 567.00

Link to Fuel and AC Index:
<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

LIQUID AC ADJUSTMENTS

$PA = \left[\frac{APM - APL}{APL} \right] \times TMT \times APL$

Asphalt

Price Adjustment (PA)				2053107	\$	2,053,107.00
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	907.20		
Monthly Asphalt Cement Price month project let (APL)			\$	567.00		
Total Monthly Tonnage of asphalt cement (TMT)				6035		

ASPHALT	Tons	%AC	AC ton
Leveling	1800	5.0%	90
12.5 OGFC	0	5.0%	0
12.5 mm SP	26200	5.0%	1310
9.5 mm SP	0	5.0%	0
25 mm SP	59000	5.0%	2950
19 mm SP	33700	5.0%	1685
	120700		6035

BITUMINOUS TACK COAT

Price Adjustment (PA)			\$	42,374.61	\$	42,374.61
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	907.20		
Monthly Asphalt Cement Price month project let (APL)			\$	567.00		
Total Monthly Tonnage of asphalt cement (TMT)				124.5579267		

Bitum Tack

Gals	gals/ton	tons
29000	232.8234	124.557927

PROJ. NO.

SR 107 Turner County

CALL NO.

P.I. NO.

0000311

DATE

1/5/2012

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)

0

\$

Monthly Asphalt Cement Price month placed (APM)

Max. Cap

60%

\$

907.20

Monthly Asphalt Cement Price month project let (APL)

\$

567.00

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

TOTAL LIQUID AC ADJUSTMENT

\$

2,095,481.61

**GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY**

Date: 1/4/2012 Project: STP-0000-00(314)
 Revised: County: Turner/Irwin
 PI: 0000311

Description: SR 107 Widening Project
 Project Termini: SR 107 Widening Project

Existing ROW: Varles
 Required ROW: Varles
 Parcels: 56

Land and Improvements \$2,259,750.00

Proximity Damage	\$0.00
Consequential Damage	\$0.00
Cost to Cures	\$0.00
Trade Fixtures	\$0.00
Improvements	\$550,000.00

Valuation Services \$70,000.00

Legal Services \$375,300.00

Relocation \$192,000.00

Demolition \$125,000.00

Administrative \$477,000.00

TOTAL ESTIMATED COSTS \$3,499,050.00

TOTAL ESTIMATED COSTS (ROUNDED) \$3,500,000.00

Preparation Credits	Hours	Signature

Prepared By: Lashone Alexander CG#: 2810999 (D/1/24/2012)
 Approved By: Jadron Alexander CG#: 2810999 (D/1/24/2012)

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

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI STP-0000-00(314) Turner/Irwin 0000311

	A	B	C	D
Land and Improvements	Agriculture	Residential	Commercial	Industrial
1 Estimate Low (ac)	\$0.00	\$0.00	\$0.00	\$0.00
2 Estimate High (ac)	\$0.00	\$0.00	\$0.00	\$0.00
3 Estimate Used (ac)	\$10,000.00	\$0.00	\$0.00	\$0.00
4 Fee Simple Area (ac)	83.90	0.00	0.00	0.00
5 Fee Simple Estimate	\$839,000.00	\$0.00	\$0.00	\$0.00
6 Perm Esmt Area (ac)	23.50	0.00	0.00	0.00
7 Perm Esmt Factor	50%	0%	0%	0%
8 Perm Esmt Estimate	\$117,500.00	\$0.00	\$0.00	\$0.00
9 Temp Esmt Area (ac)	0.00	0.00	0.00	0.00
10 Temp East Factor	0%	0%	0%	0%
11 Temp Esmt Estimate	\$0.00	\$0.00	\$0.00	\$0.00
12 Proximity Damages	\$0.00	\$0.00	\$0.00	\$0.00
13 Consequential Damages	\$0.00	\$0.00	\$0.00	\$0.00
14 Cost to Cures	\$0.00	\$0.00	\$0.00	\$0.00
15 Improvements	\$550,000.00	\$0.00	\$0.00	\$0.00
16 Trade Fixtures	\$0.00	\$0.00	\$0.00	\$0.00
17				
18 PROPERTY TYPE TOTALS	\$1,506,500.00	\$0.00	\$0.00	\$0.00
19	SUB TOTAL PROPERTY TYPES			\$1,506,500.00
20	Counter Offers and Condemnation Increases			\$753,250.00
21				
22	GRAND TOTAL LANDS AND IMPROVEMENTS			\$2,259,750.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI STP-0000-00(314) Turner/Irwin 0000311

	A	B	C	D
Valuation Services	Agriculture	Residential	Commercial	Industrial
1 Appraisals (# of Parcels)	56	0	0	0
2 Estimated Fees (per Parcel)	\$1,000.00	\$0.00	\$0.00	\$0.00
3 TOTAL APPRAISALS	\$56,000.00	\$0.00	\$0.00	\$0.00
4 Sign Estimates	0	0	0	0
5 Estimated Fees	\$0.00	\$0.00	\$0.00	\$0.00
6 TOTAL SIGN ESTIMATES	\$0.00	\$0.00	\$0.00	\$0.00
7 Specialty Reports	0	0	0	0
8 Estimated Fees	\$0.00	\$0.00	\$0.00	\$0.00
9 TOTAL SPECIALTY REPORTS	\$0.00	\$0.00	\$0.00	\$0.00
10 Septic/Well Reports	0	0	0	0
11 Estimated Fees	\$0.00	\$0.00	\$0.00	\$0.00
12 TOTAL SEPTIC/WELL REPORTS	\$0.00	\$0.00	\$0.00	\$0.00
13				
14				
15				
16 TOTAL VALUATION FEES	\$56,000.00	\$0.00	\$0.00	\$0.00
17	SUB TOTAL VALUATION SERVICES			\$56,000.00
18	Updates and Incidentals (Min \$2,500 or 25%)			\$14,000.00
19	GRAND TOTAL VALUATION SERVICES			\$70,000.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI STP-0000-00(314) Turner/Irwin 0000311

	A	B	C	D
	Parcels	Estimated Fees		TOTALS
1	Meeting with Attorney	56	\$125.00	\$7,000.00
2	Preliminary Titles	56	\$200.00	\$11,200.00
3	Closing and Final Title	56	\$300.00	\$16,800.00
4	Recording Fees	56	\$50.00	\$2,800.00
5	Condemnation Filing	9	\$5,000.00	\$45,000.00
6	Litigation Costs	9	\$25,000.00	\$225,000.00
7	Updates and Incidentals	9	\$7,500.00	\$67,500.00
8				
9				
10				
11				
12				
13				
14				
15				
16				
17	GRAND TOTAL LEGAL SERVICES			\$375,300.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI STP-0000-00(314) Turner/Irwin 0000311

	A	B	C	D
	Displacements	Estimated Costs		TOTALS
1	Business Displacement	\$15,000.00		\$0.00
2	Residential Tenant	\$20,000.00		\$0.00
3	Residential Owner	2	\$40,000.00	\$80,000.00
4	Pro-Rata Taxes	56	\$1,000.00	\$56,000.00
5	Property Pin Replacement	56	\$1,000.00	\$56,000.00
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17			GRAND TOTAL RELOCATION	\$192,000.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI STP-0000-00(314) Turner/Irwin 0000311

	A	B	C	D
	Demolition	Items/Improvements	Estimated Costs	TOTALS
1	Residential Structures		\$15,000.00	\$0.00
2	Commercial Structures	5	\$25,000.00	\$125,000.00
3	Hotels/Apartments		\$60,000.00	\$0.00
4	UST's - Dispensers		\$50,000.00	\$0.00
5	Billboards		\$8,000.00	\$0.00
6	Signs - Light Standards		\$1,500.00	\$0.00
7	Water Vaults		\$15,000.00	\$0.00
8	Gas/Water Service Separation		\$2,500.00	\$0.00
9				
10				
11				
12				
13				
14				
15				
16				
17	GRAND TOTAL DEMOLITION			\$125,000.00

Georgia Department of Transportation
Preliminary ROW Cost Estimate Worksheet

Project/County/PI STP-0000-00(314) Turner/Irwin 0000311

	A	B	C	D	
	Parcels	Man hours per Parcel		TOTALS	
1	Administrative	Pre-Acquisition	56	40	\$112,000.00
2	Acquisition	56	100	\$280,000.00	
3	Relocation	2	50	\$5,000.00	
4	Administrative Appeals	14	50	\$35,000.00	
5	Post-Acquisition	9	100	\$45,000.00	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17	GRAND TOTAL INHOUSE			\$477,000.00	

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE

Project No: STP00-0000-00(311)
County TURNER
P.I. # 0000311

OFFICE: Tifton
DATE: December 21, 2011

Description: *SR 107/112 FROM CR 250 TO I-75 IN ASHBURN*

TW
FROM Tim Warren, P.E., District Utilities Engineer

TO Peter B. Emmanuel , Project Manager (VIA-EMAIL)

SUBJECT UPDATED-UTILITY COST ESTIMATE

A review of utilities located on the above referenced project has been conducted based on the latest available plans.. Listed below is a breakdown of the anticipated reimbursable and non-reimbursable cost.

<u>Utility Owner</u>	<u>Reimbursable</u>	<u>Non-Reimbursable</u>	<u>Estimate Based on</u>
City Of Ashburn **	\$0.00	\$21,500.00	Site Visit / Available Drawings
Georgia Power Company (Transmission) -	\$0.00	\$0.00	Preliminary info from Utility
Irwin Emc	\$675,000.00	\$715,000.00	Site Visit / Available Drawings
Mediacom	\$0.00	\$157,500.00	Site Visit / Available Drawings
Windstream	\$0.00	\$315,000.00	Site Visit / Available Drawings
Total	\$675,000.00	\$1,209,000.00	

** Indicates Potential Utility Aid Request from Local Gov't

Estimate is based on the best available information at the current stage, unforeseen prior rights information may be provided by the Utility Company at a later date that could cause some non-reimbursable costs to shift to the reimbursable cost column.

If additional information is needed, please contact me or Bill Cooper, Assistant District Utilities Engineer at (229) 386-3288.

BE
TW:BC:KC

c: Jeff Baker, P.E., State Utilities Engineer
Brent Thomas, District Preconstruction Engineer
Angela Robinson, State Financial Management Administrator

Project No.: STP00-0000-00(311)

County: Turner

P.I. No.: 0000311

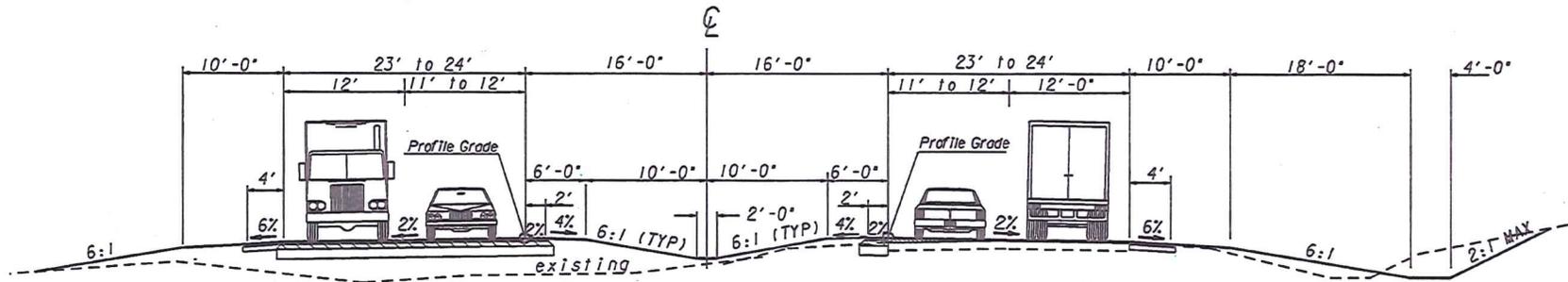
Description: SR 107 From I-75 to CR250/Waterloo-Rebecca Hwy

Date: January 13, 2012

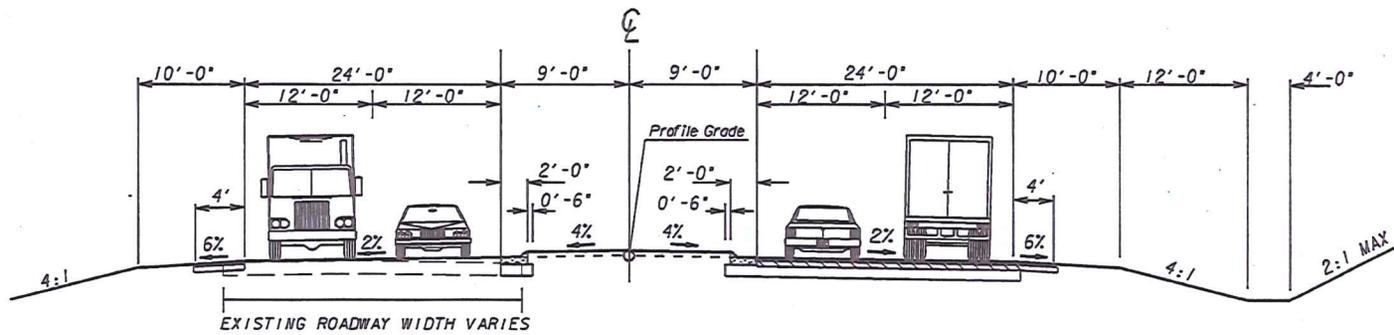
Subject: Environmental Mitigation Cost Estimate

Type	Required Credits	Estimated Cost per Credit-	Total Cost-
Wetland	35.5	\$7000	\$248,500.00
Stream	7174.5	\$100	\$717,450.00

Total Estimated Mitigation Cost: \$965,950.00



4 Lanes With a 32' Median



4 Lanes With an 18' Median

N. T. S.

CONCEPTUAL TYPICAL SECTIONS
 SR 107
 STP-0000-00(311)
 P. I. No. 0000311
 Turner County, Georgia

TECHNICAL MEMORANDUM

SR 107 Widening Project

Turner and Irwin Counties, Georgia

STP-0000-00(311) Turner County, P.I. No. 0000311, I-75 to Waterloo & Rebecca Hwy.

STP-0000-00(314) Turner/Irwin Counties, P.I. No. 0000314, Waterloo & Rebecca Hwy. to CR 264/Jeff Davis Rd.

Prepared for:

Georgia Department of Transportation



Prepared by:

JACOBS™

1201 Peachtree Street NE
400 Colony Square, Suite 1905
Atlanta, GA 30361
Phone: (770) 455-8555
Fax: (404) 541-9262
www.jacobs.com

October 2011



INTRODUCTION

Jacob Engineering Group, Inc. (JEG) has been retained by the Georgia Department of Transportation (GDOT) to prepare roadway construction plans for the proposed widening of State Route (SR) 107 in Turner and Irwin Counties. As part of the design process, JEG conducted an analysis of the anticipated future traffic conditions and transportation needs along the SR 107 study corridor. This technical memorandum summarizes the results of the analysis and recommended improvements.

The location of the overall SR 107 widening project is shown in Figure 1. Project STP-0000-00(311) is located on SR 107 in Turner County, Georgia. The proposed project is approximately 7.9 miles in length and is located between I-75 and Waterloo & Rebecca Highway (County Road 250), as shown in Figure 2. Project STP-0000-00(314) is located on SR 107 in Turner and Irwin Counties, Georgia. The proposed project is approximately 7.1 miles in length and is located between Waterloo & Rebecca Highway and Jeff Davis Rd (County Road 264), as shown in Figure 3. Both projects consist of widening SR 107 from two travel lanes with five-foot shoulders to a rural four-lane divided highway with a 32-foot depressed grass median from Thompson Road to Jeff Davis Road. Because of historical property concerns, the project proposes an 18-foot raised median and four travel lanes with rural shoulders (four foot paved, six foot unpaved, no curb and gutter on outside right) between I-75 and Thompson Road. This project, in conjunction with Project STP-0000-00(313), will provide four-lane access between Interstate 75 and the City of Fitzgerald. SR 107 is functionally classified as a Rural Major Collector. For the purposes of this study, SR 107 is referenced as having an east/west orientation.

Projects STP-0000-00(311) and STP-0000-00(314) were programmed to promote economic development in Ben Hill, Coffee, Dodge, Irwin, Telfair, Turner, and Wilcox Counties. SR 107 is the most direct route to the City of Fitzgerald from Interstate 75 and therefore is the most utilized route for manufacturing facilities to receive and ship goods. The existing right-of-way varies between 100 to 130 feet in width.

Peak hour traffic projections were analyzed based on the methodologies contained in the 2000 Highway Capacity Manual (HCM 2000). Based on the design year traffic projections for the corridor and the results from the capacity analysis, recommended lane geometry and traffic control needs were developed for the study area. The following paragraphs summarize the results of the analysis.

EXISTING ROADWAY CONDITIONS

SR 107 is currently a two-lane undivided roadway with five-foot shoulders and a posted speed limit of 55 miles per hour. From I-75, SR 107 and SR 112 run concurrently to the east for 3.2 miles before SR 112 splits northeast towards Rebecca and SR 107 continues east towards Fitzgerald. Figure 4 shows the southbound approach of the SR 107 at SR 112 intersection. SR 112 continues to the right of the photo (westbound direction) and merges with SR 107, shown on the left with a westbound truck. To continue east on SR 107, drivers must turn right at this intersection.

FIGURE 1: OVERALL LOCATION MAP

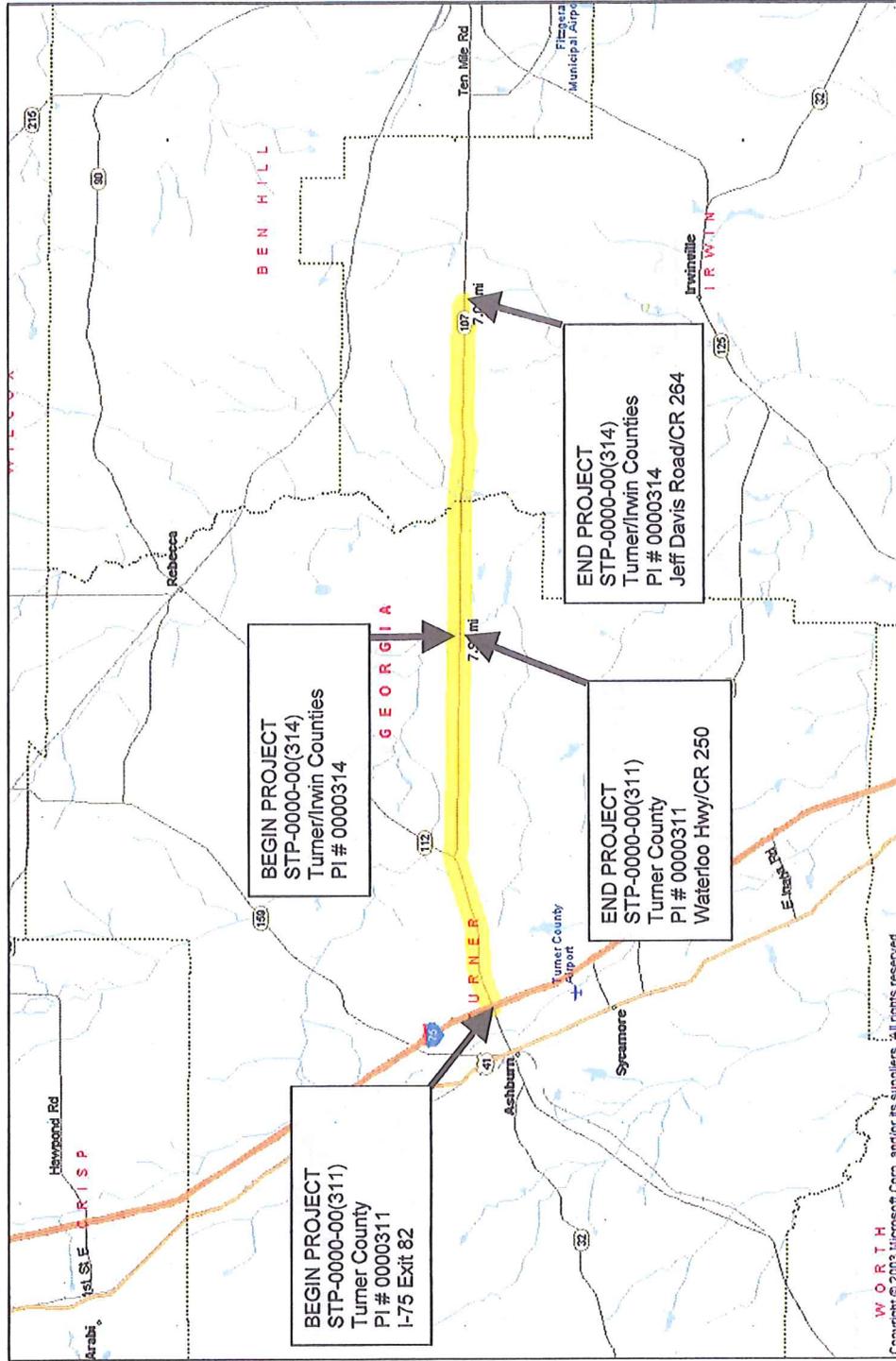


FIGURE 2: STP-0000-00(311) LOCATION MAP

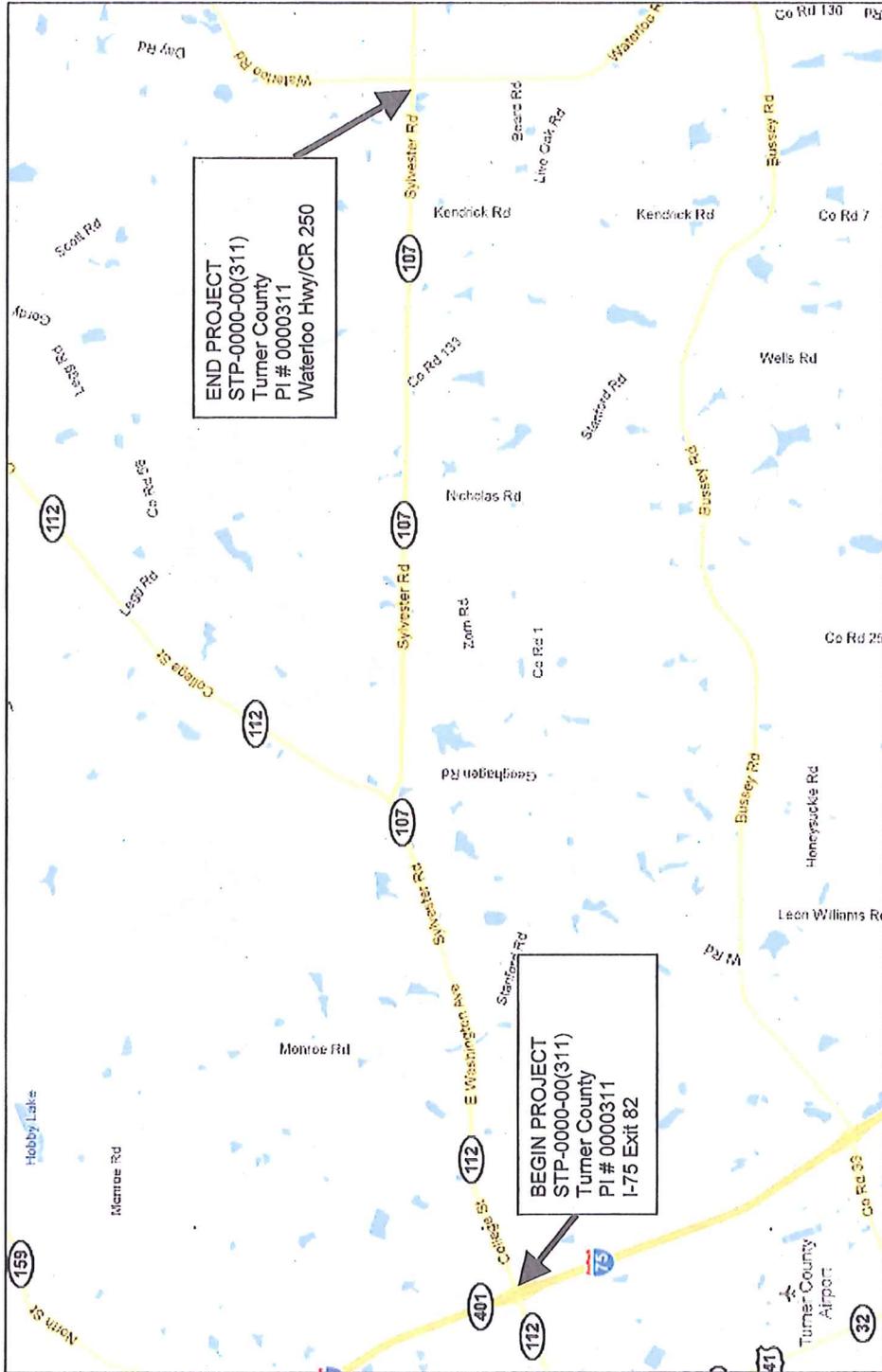
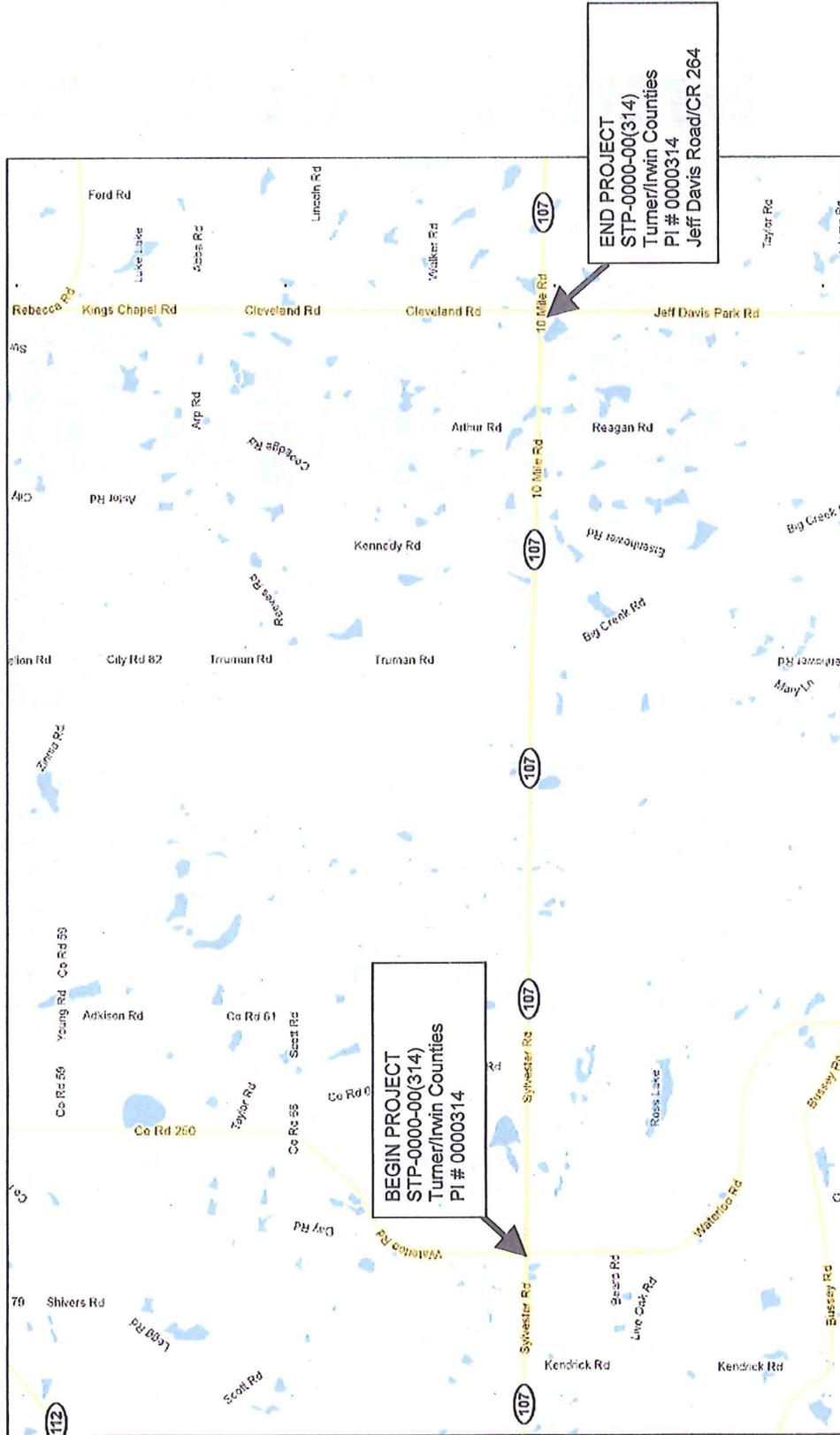


FIGURE 3: STP-000-00(314) LOCATION MAP



BEGIN PROJECT
STP-000-00(314)
Turner/Inwin Counties
PI # 0000314

END PROJECT
STP-000-00(314)
Turner/Inwin Counties
PI # 0000314
Jeff Davis Road/CR 264



Figure 4
Intersection of SR 107 and SR 112
(Looking Southbound)



The following are three paved roads intersecting SR 107 within the limits of Project STP-0000-00(311): County Road (CR) 54/CR 1 (Monroe Road/Stanford Road), CR 243 (Jeanette Avenue), and CR 250 (Waterloo Highway). Jeff Davis Rd (CR 264) within the limits of Project STP-0000-00(314) is also paved. Additional non-paved roadways intersect SR 107 along the study corridor. The side street approaches along SR 107 are under stop sign control, except at the SR 112 intersection where the westbound SR 107 approach is stop-controlled.

Development along SR 107 within the study area is primarily rural and agricultural, though the roadway is also used by through commercial traffic heading to and from I-75. Existing 2010 traffic counts show very strong (27%) peak hour truck percentages on SR 107 and these percentages are projected to reach 30% for 2016 and 2036 future peak hour conditions.

TRAFFIC VOLUMES

Peak hour balanced traffic flow diagrams were projected for the build year (2016) and the design year (2036) by GDOT and were used for future analysis. These traffic flow diagrams are attached to this technical memorandum.

CRASH HISTORY

Crash data was compiled from the most recent three years of milepoint-specific crash data (2006, 2007 and 2008) for the SR 107 corridor from I-75 to Waterloo Highway and from Waterloo Highway to Jeff Davis Road. Table 1 shows the number of crashes recorded for each of these years, Table 2 shows the average crash rate per 100 million vehicle miles (100 MVM)



SR 107 Corridor Study, Turner and Irwin Counties

for each segment, Table 3 shows the number of crashes that resulted in injuries or fatalities, and Table 4 shows the average injury and fatality rates per 100 MVM for each segment.

**Table 1
Summary of Historic Crash Data (Number of Crashes)**

Project	SR 107 Segment	2006	2007	2008
STP-0000-00(311)	I-75 to Waterloo Highway	9	6	7
STP-0000-00(314)	Waterloo Highway to Jeff Davis Road	2	2	3

**Table 2
Summary of Average Crash Rate**

Project	SR 107 Segment	2006	2007	2008
STP-0000-00(311)	I-75 to Waterloo Highway	110	72	84
STP-0000-00(314)	Waterloo Highway to Jeff Davis Road	34	35	56
Statewide Average (Rural Major Collector)		203	203	194

**Table 3
Crashes Resulting in Injuries and Fatalities**

Project	SR 107 Segment	2006		2007		2008	
		INJ	FAT	INJ	FAT	INJ	FAT
STP-0000-00(311)	I-75 to Waterloo Highway	4	0	2	0	3	0
STP-0000-00(314)	Waterloo Highway to Jeff Davis Road	1	0	0	0	0	0

INJ = Injury, FAT = Fatality

**Table 4
Summary of Average Injury and Fatality Rates**

Project	SR 107 Segment	2006		2007		2008	
		INJ	FAT	INJ	FAT	INJ	FAT
STP-0000-00(311)	I-75 to Waterloo Highway	49	0	24	0	36	0
STP-0000-00(314)	Waterloo Highway to Jeff Davis Road	17	0	0	0	0	0
Statewide Average (Rural Major Collector)		73	3.28	72	3.24	68	3.03

INJ = Injury, FAT = Fatality

As shown in Tables 2 and 4, the average crash rates for all recorded crashes, injuries or fatalities were below the statewide average for 2006, 2007, and 2008.



EXISTING YEAR (2010) CORRIDOR LEVEL OF SERVICE

The most recent year of historical data available (2010) was collected for SR 107 from GDOT count stations along the study corridor. Table 5 summarizes the 2010 annualized average daily traffic (AADT) volume collected at each location in vehicles per day (vpd).

Table 5
2010 SR 107 AADT Volumes

TC Station	County	Description	2010 Volumes (vpd)
167	Turner	SR 107/112 west of Monroe Rd	2,800
154	Turner	SR 107, west of Kendrick Rd	1,470
145	Irwin	SR 107 west of Jeff Davis Road	1,830

The tables used by the Georgia Regional Transportation Authority (GRTA) for reviewing Developments of Regional Impacts (DRI) provide a range of AADT volumes and their associated generalized level of service (LOS). These tables were used to compare the historical daily traffic volumes summarized in Table 5 with an expected LOS condition for the existing roadway. Each LOS definition spans from minimal delay (LOS A) to high delay (LOS F). LOS F is considered unacceptable for most drivers.

Based on the high point AADT volume of 2,800 vehicles for 2010, SR 107 currently operates acceptably (LOS B or better conditions). The light amount of traffic and minimal number of intersections provides for a good level of service based on the average daily traffic volumes along the corridor.

OPENING YEAR (2016) AND DESIGN YEAR (2036) CORRIDOR LEVEL OF SERVICE

The GRTA AADT tables were also used to evaluate the opening year (2016) and design year (2036) projected average daily traffic (ADT) volumes. The traffic flow diagrams for this project are included in Attachment A. Based on these flow diagrams, the segment with the highest ADT volume for Project STP-0000-00(311) is located between I-75 and Monroe Road and has ADT volumes of 3,400 vpd for 2016 and 4,400 vpd for 2036. For Project STP-0000-00(314), the highest ADT location is between Reagan Road and Jeff Davis Road and has ADT volumes of 2,300 vpd for 2016 and 2,900 vpd for 2036. These volumes indicate acceptable (LOS B or better conditions) operations for all widened SR 107 segments included within the study area for both 2016 and 2036 traffic conditions.

Multi-lane roadway analysis was also performed for the 2036 peak hour conditions using Highway Capacity Software (HCS), which utilizes the HCM 2000 methodology for determining expected LOS for a roadway segment. The analysis results are shown in Table 6.



Table 6
Corridor Level of Service

Project	SR 107 Location (Highest Volume)	2036	
		AM	PM
STP-0000-00(311)	Between I-75 and Monroe Road	A	A
STP-0000-00(314)	Between Reagan Road and Jeff Davis Road	A	A

BUILD ROADWAY GEOMETRY

The proposed typical section for SR 107/SR 112 consists of a rural four-lane divided highway with a 32-foot depressed grass median from Thompson Road to Jeff Davis Road. Because of historical property concerns, the project proposes an 18-foot raised median and four travel lanes with rural shoulders (four foot paved, six foot unpaved, no curb and gutter on outside right) between I-75 and Thompson Road. The proposed right-of-way will range from 170 to 220 feet in width.

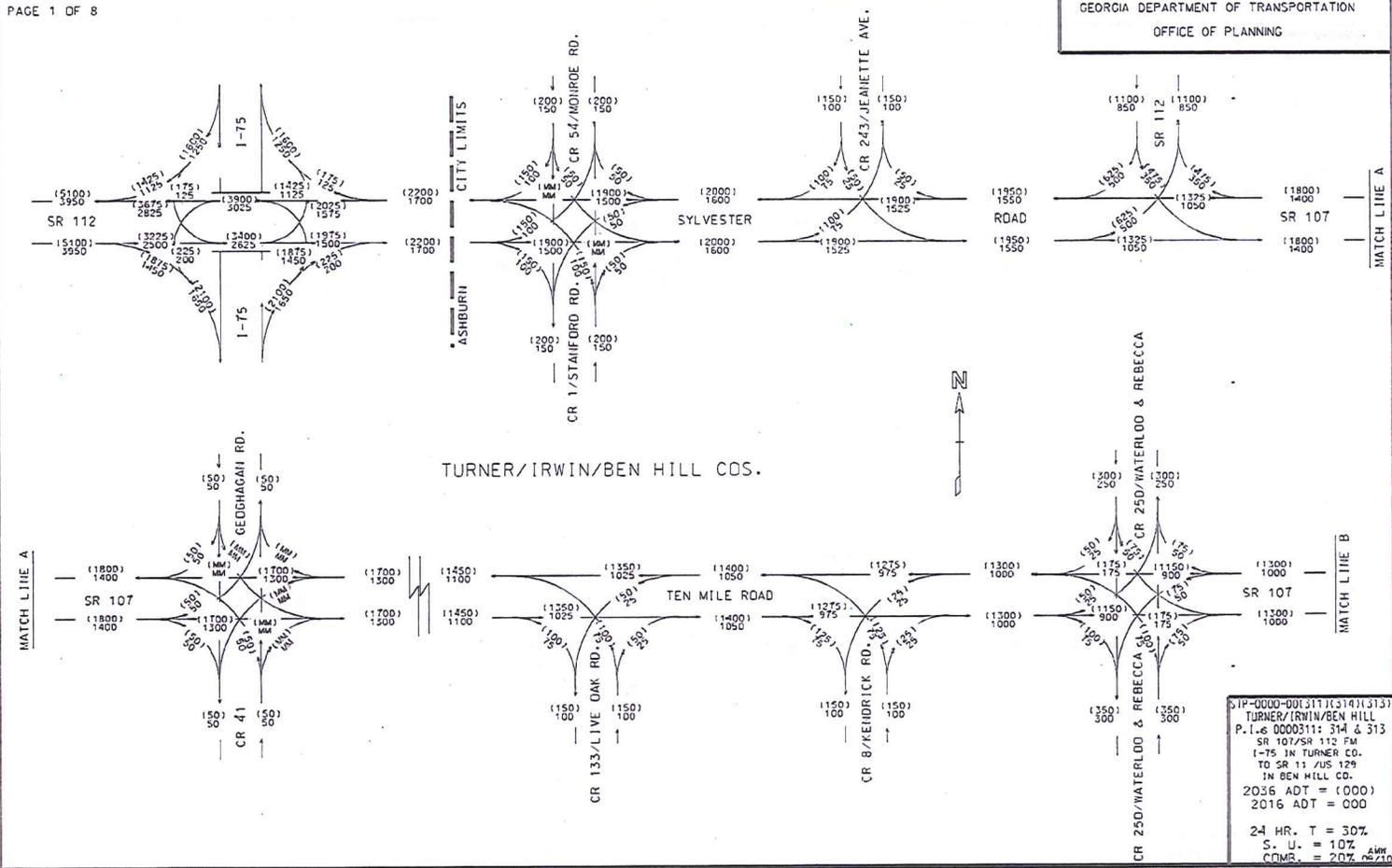
The intersection of SR 107 and SR 112 currently has SR 112 as the main movement with minor street stop control on the westbound SR 107 approach. Because the higher volumes show the predominate movement is east-west along SR 107, Jacobs recommends realigning the intersection to reflect this precedence. The southbound SR 112 approach would therefore be under side street stop control if this recommendation is implemented.

SUMMARY

In order to encourage economic growth, SR 107 through Turner and Irwin Counties will be widened to a four-lane divided highway with a 32-foot depressed grass median from Thompson Road to Jeff Davis Road and an 18-foot raised median with rural shoulders (four foot paved, six foot unpaved, no curb and gutter on outside right) between I-75 and Thompson Road. Left and right turn deceleration lanes and median openings are recommended as per GDOT policy. The level of service for the corridor is expected to remain acceptable (LOS A) through the 2036 design year.

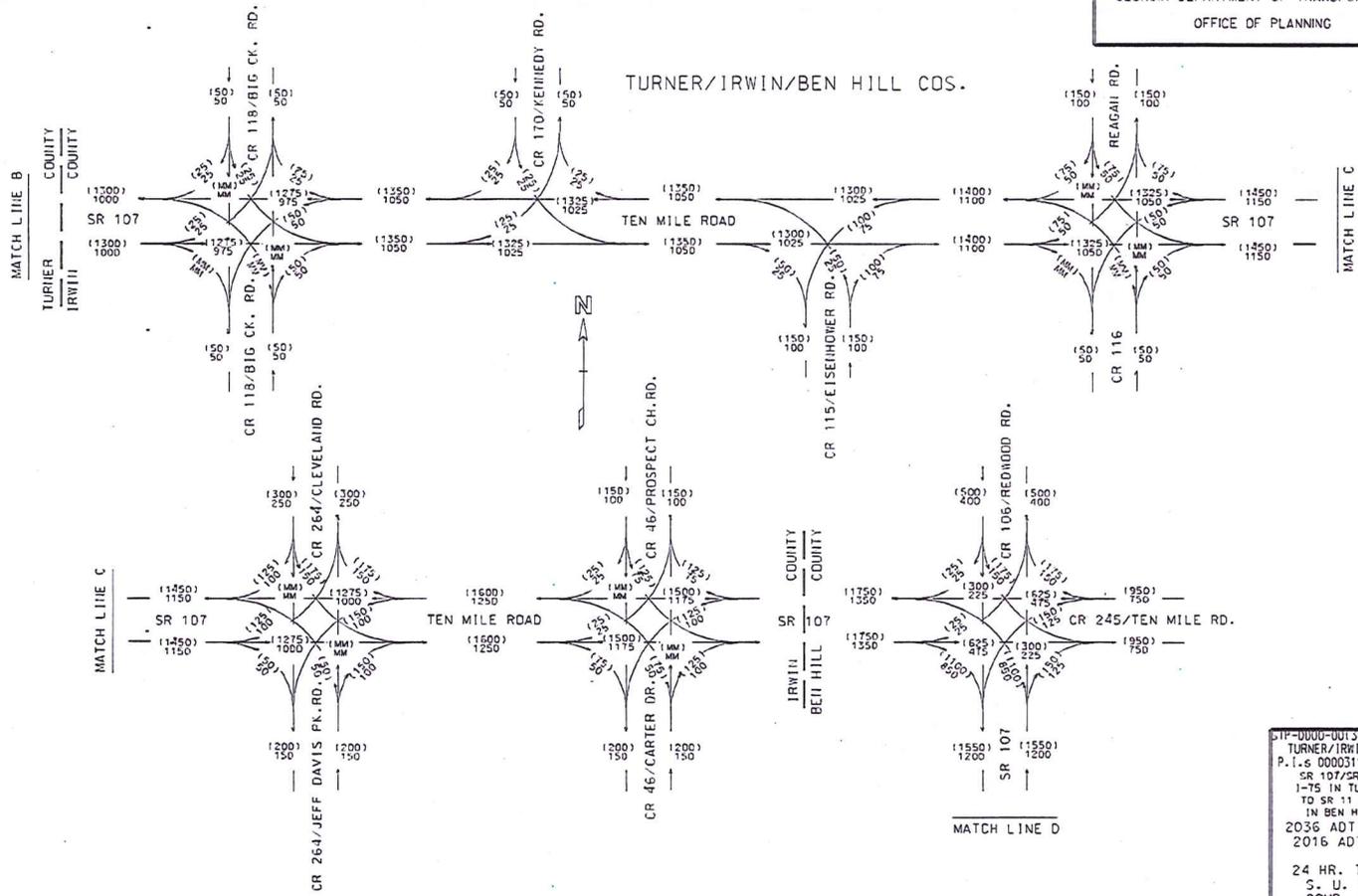


**Attachment A
GDOT 2016 and 2036
Balanced Flow Diagrams**

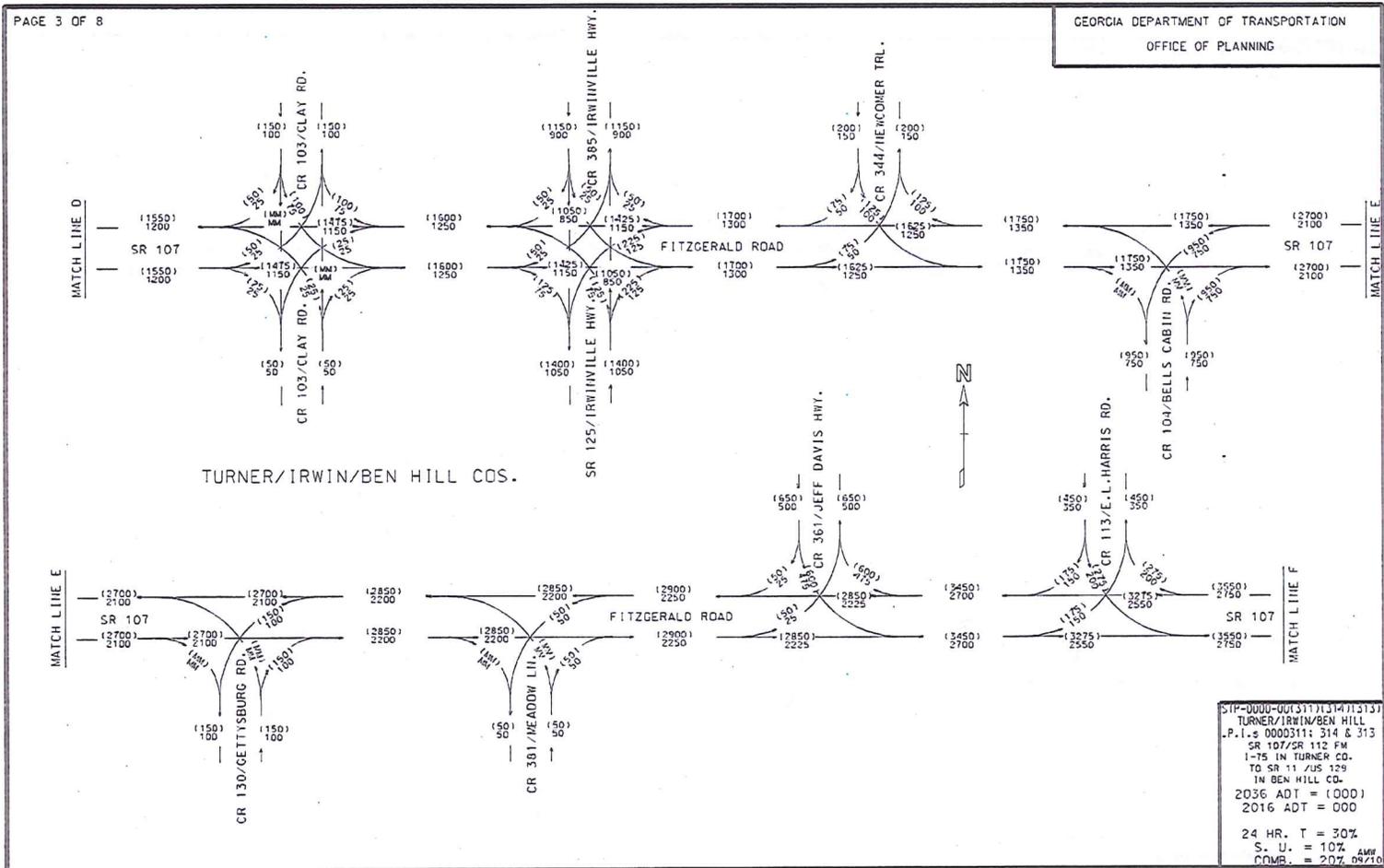


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 P.I.# 0000311: 314 & 313
 SR 107/SR 112 FM
 I-75 IN TURNER CO.
 TO SR 11 /JUS 129
 IN BEN HILL CO.
 2036 ADT = (000)
 2016 ADT = 000
 24 HR. T = 30%
 S. U. = 10%
 COMB. = 20%

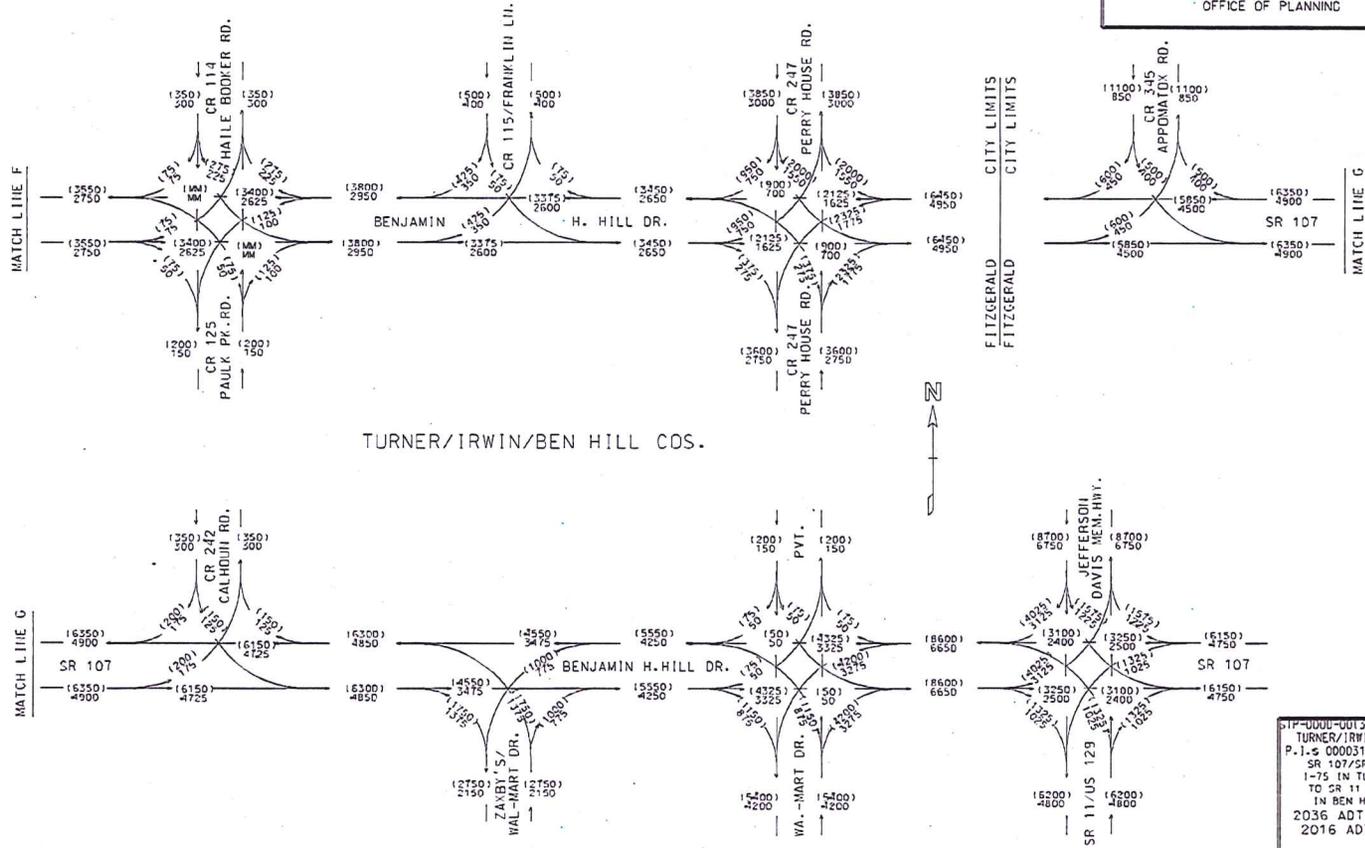
TURNER/IRWIN/BEN HILL COS.



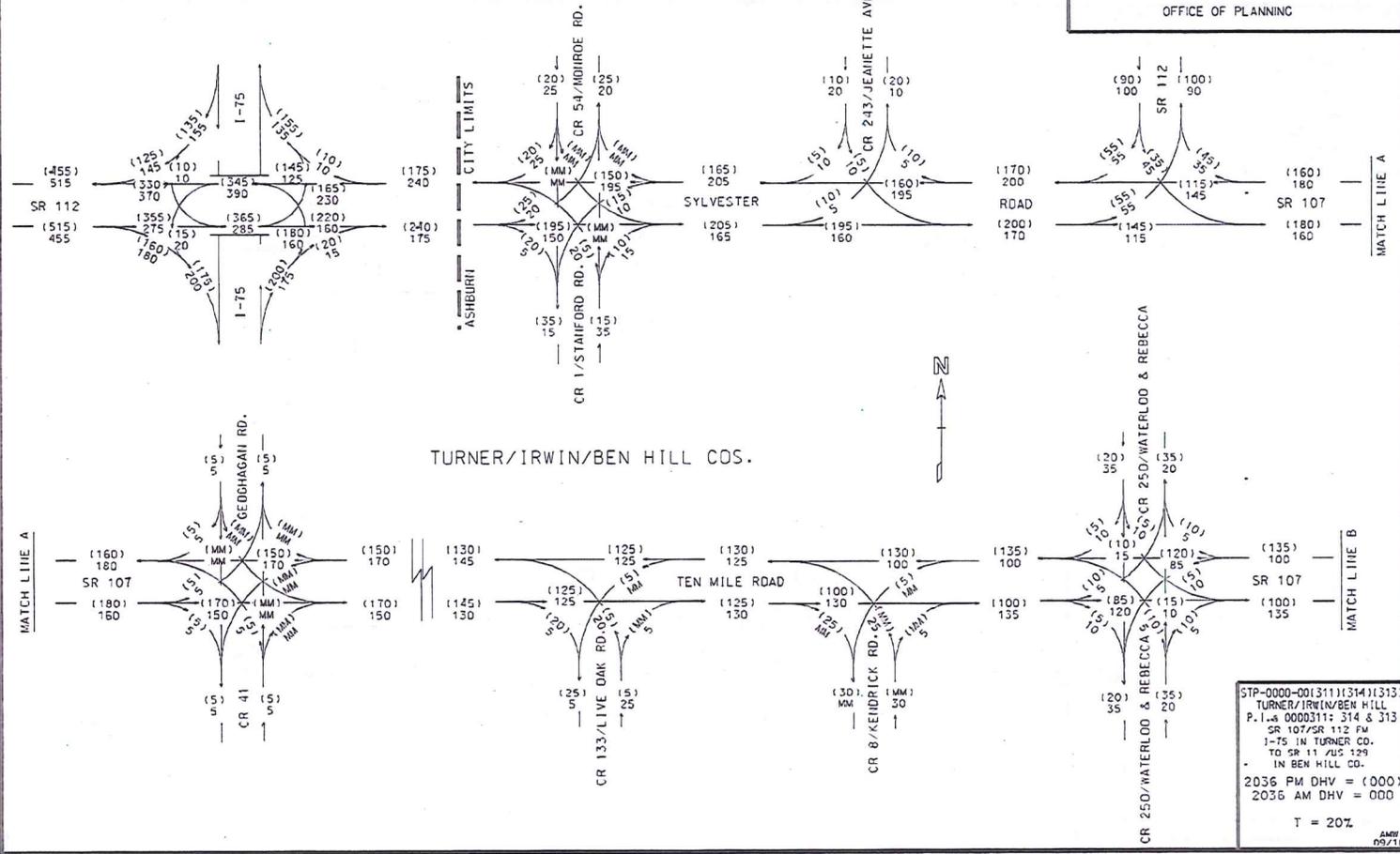
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 TURNER/IRWIN/BEN HILL
 P.L. 6 0000311: 314 & 313
 SR 107/SR 112 FM
 I-75 IN TURNER CO.
 TO SR 11 /US 129
 IN BEN HILL CO.
 2036 ADT = 1000
 2016 ADT = 000
 24 HR. T = 30%
 S. U. = 10%
 COMB. = 20% 02/10



SIF-0000-00031110314113131
TURNER/IRWIN/BEN HILL
P.L.S 0000311: 314 & 313
SR 107/SR 112 FM
1-75 IN TURNER CO.
TO SR 11, 7US 129
IN BEN HILL CO.
2036 ADT = 1000
2016 ADT = 000
24 HR. T = 30%
S. U. = 10%
COMB. = 20% AMW 08/10

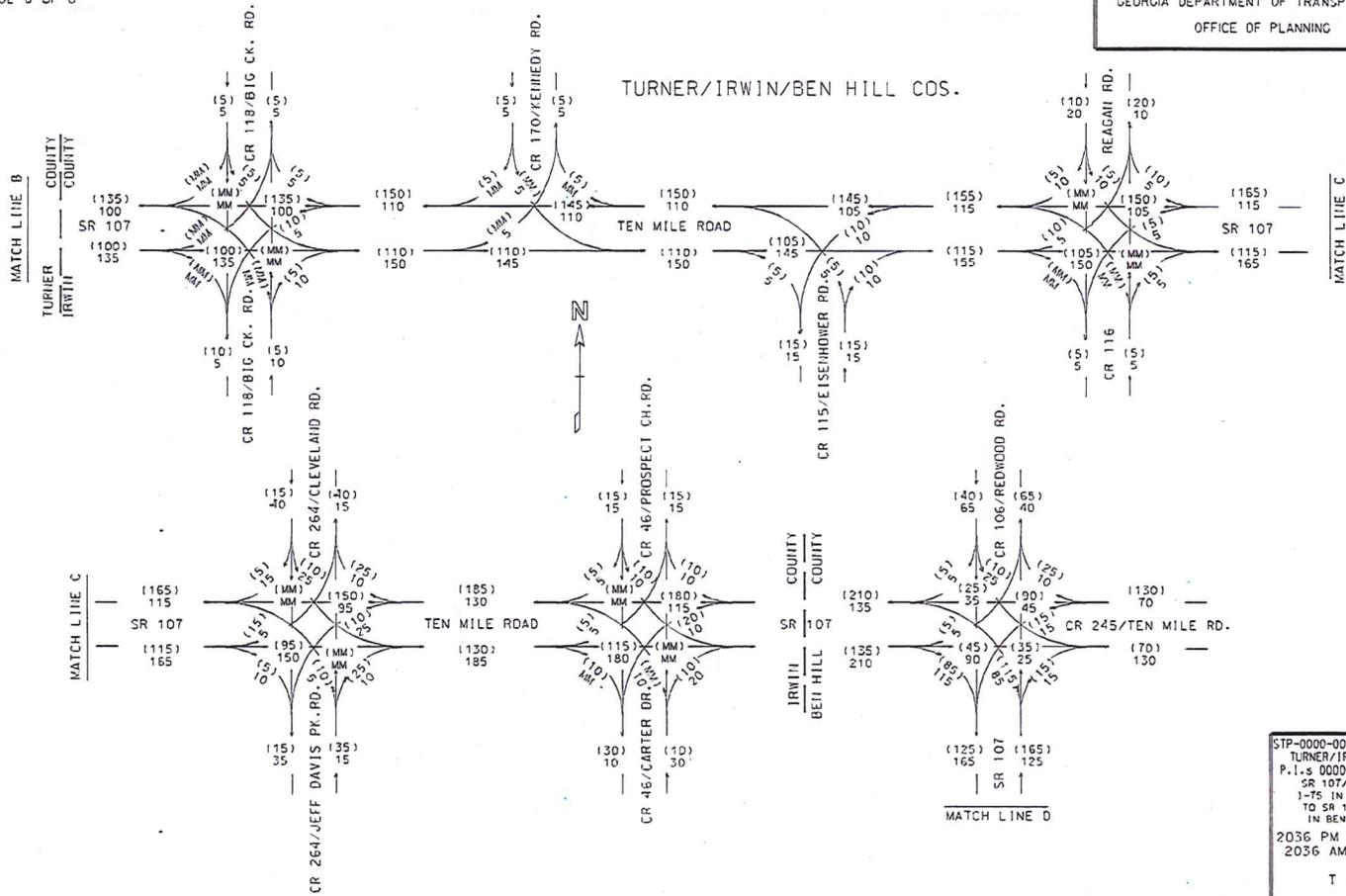


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 TURNER/IRWIN/BEN HILL
 P.I.S 0000311: 314 & 313
 SR 107/SR 112 FM
 1-75 IN TURNER CO.
 TO SR 117 US 129
 IN BEN HILL CO.
 2036 ADT = 1000
 2016 ADT = 000
 24 HR. T = 30%
 S. U. = 10%
 COMB. = 20% AMF 09/10

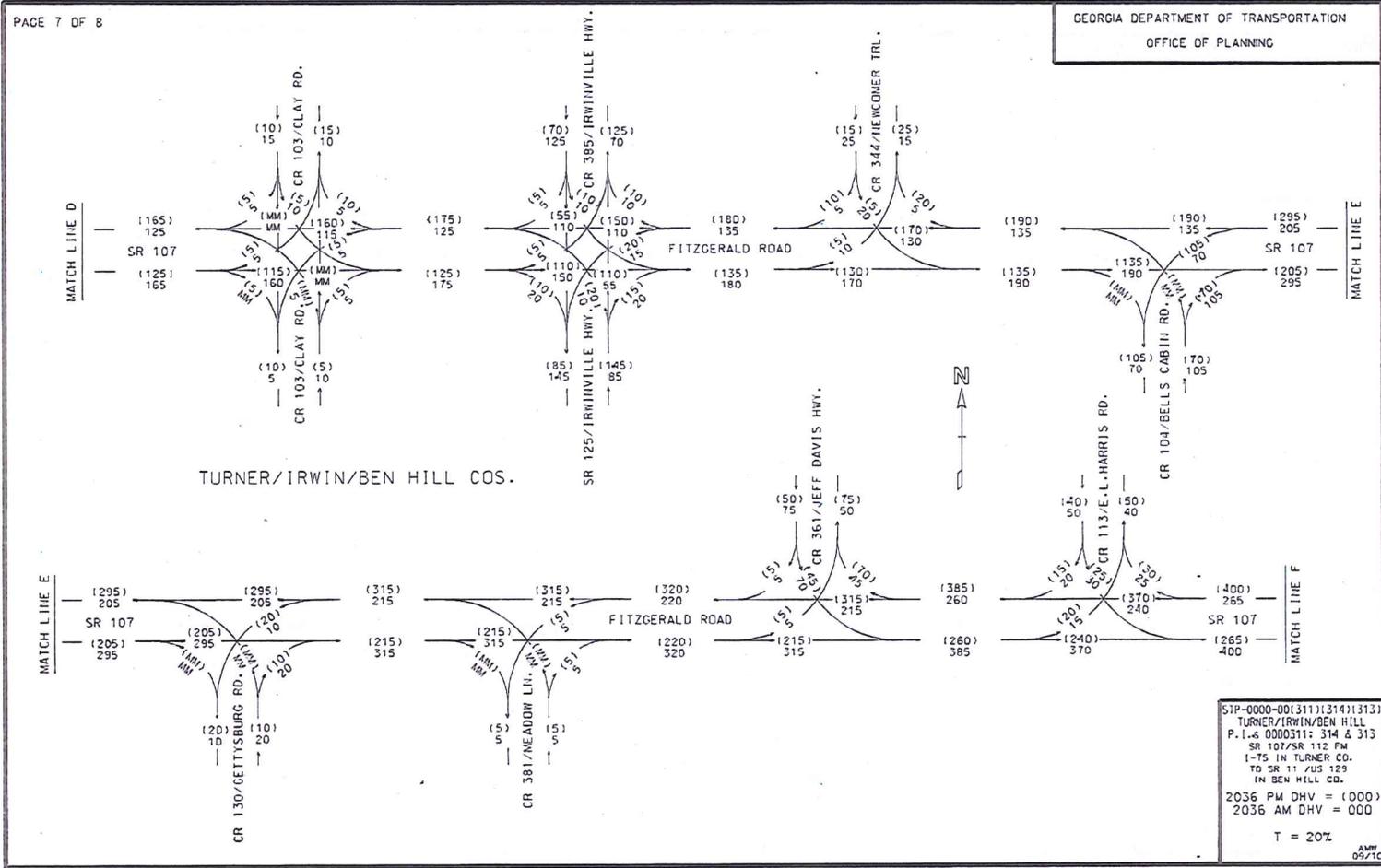


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TURNER/IRWIN/BEN HILL
P.L.# 0000311: 314 & 313
SR 107/SR 112 FW
I-75 IN TURNER CO.
TO SR 112/US 129
IN BEN HILL CO.
2036 PM DHV = (000)
2036 AM DHV = 000
T = 20%
AMW
09/10

TURNER/IRWIN/BEN HILL COS.



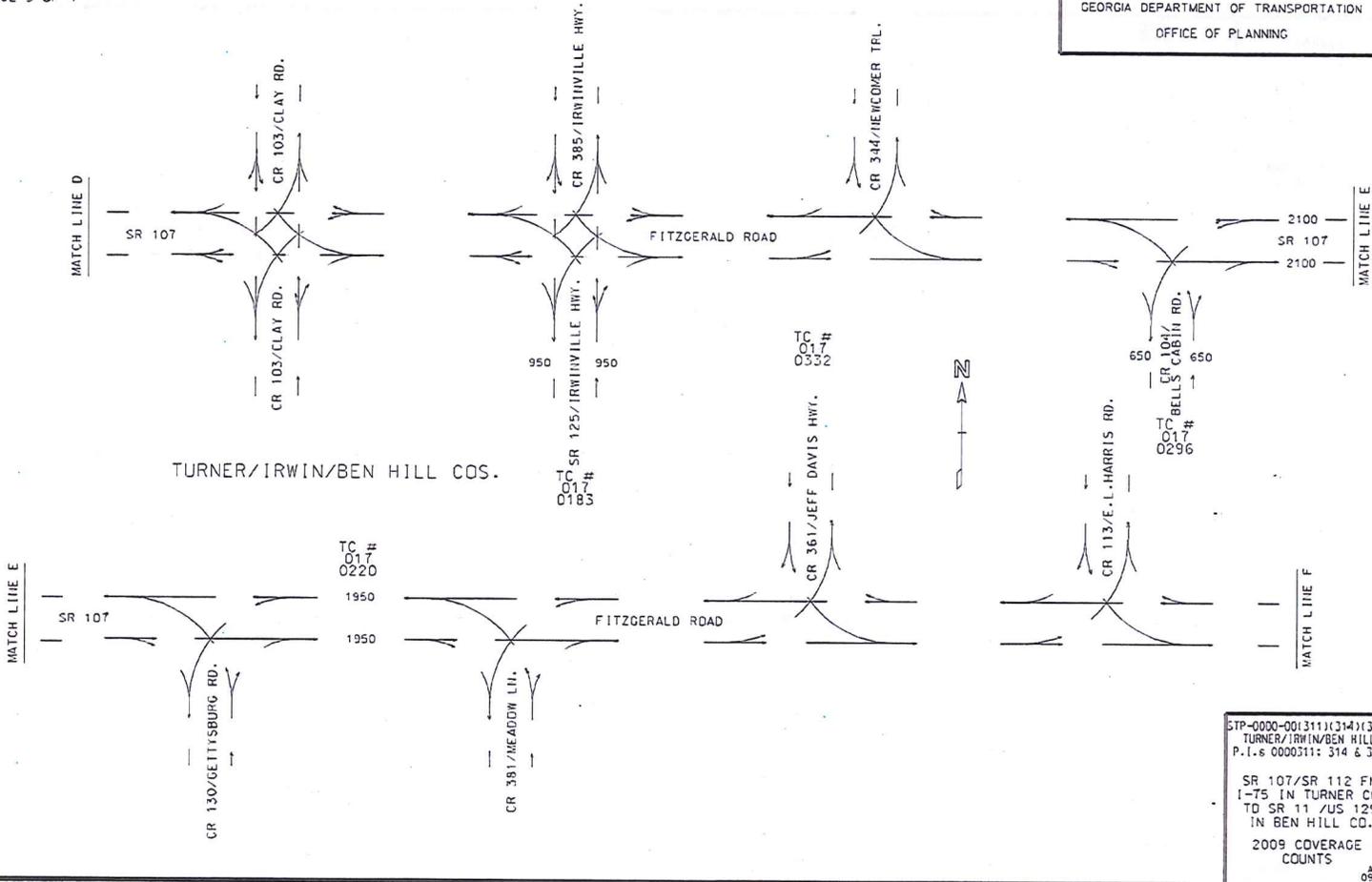
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 TURNER/IRWIN/BEN HILL
 P.I.s 0000311; 314 & 313
 SR 107/SR 112 FM
 1-15 IN TURNER CO.
 TO SR 11 /US 129
 IN BEN HILL CO.
 2036 PM DHV = (000)
 2036 AM DHV = 000
 T = 20%
 AMW
 03/10



STP-0000-00(311)(314)(313)
TURNER/IRWIN/BEN HILL
P.L.# 0000311: 314 & 313
SR 107/SR 112 FM
I-75 IN TURNER CO.
TO SR 11 /US 129
IN BEN HILL CO.
2036 PM DHV = (000)
2036 AM DHV = 000
T = 20%
AMV
09/10

TC
017#
0185

GEORGIA DEPARTMENT OF TRANSPORTATION
OFFICE OF PLANNING



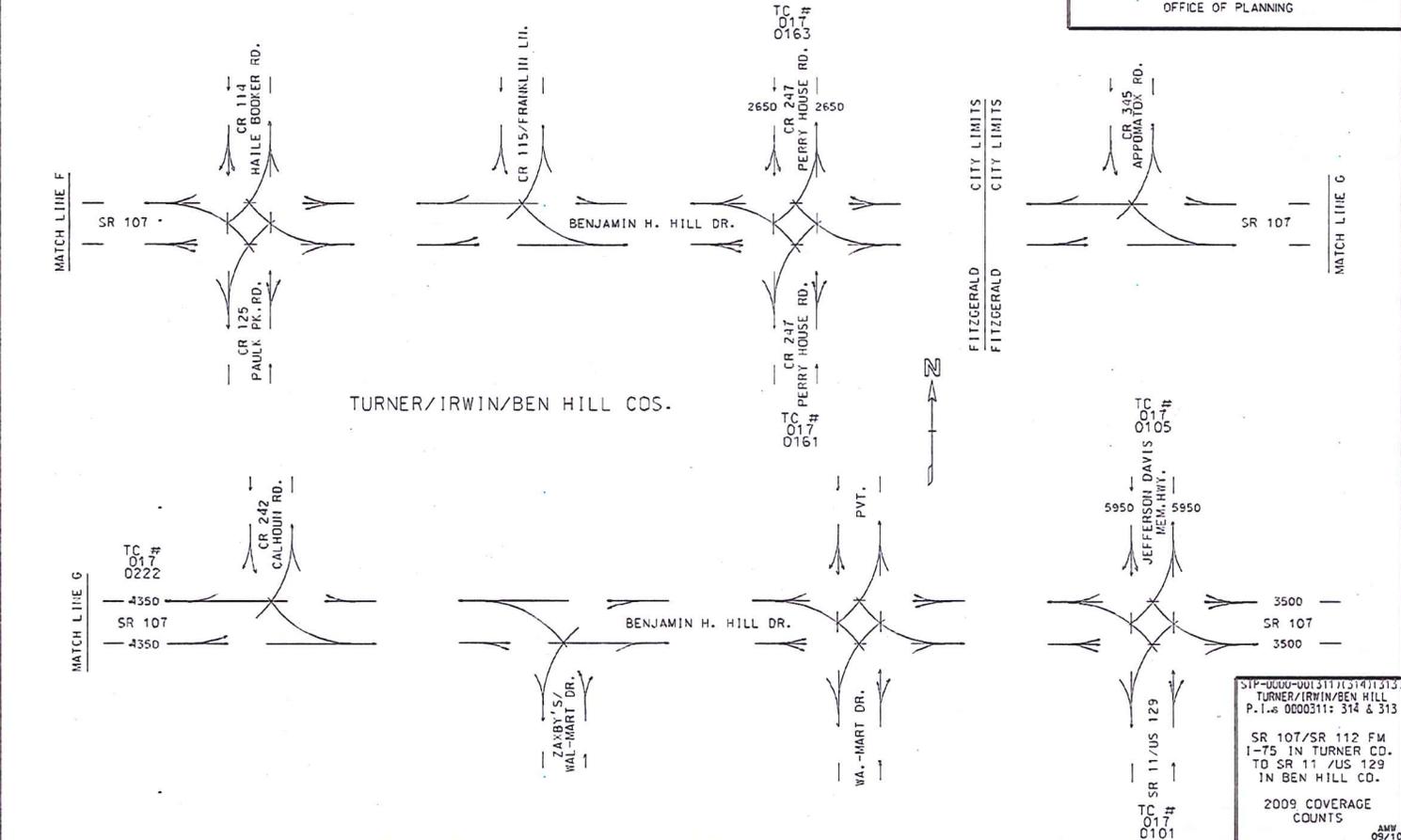
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STP-0000-0013111(314)(313)
TURNER/IRWIN/BEN HILL
P.L. & 0000311: 314 & 313

SR 107/SR 112 FM
1-75 IN TURNER CO.
TO SR 11 /US 129
IN BEN HILL CO.

2009 COVERAGE
COUNTS

AMF
09/10



TURNER/IRWIN/BEN HILL COS.



SIP-0000-001311(1314)1313
 TURNER/IRWIN/BEN HILL
 P. I.-6 0000311: 314 & 313
 SR 107/SR 112 FM
 I-75 IN TURNER CO.
 TO SR 11 /US 129
 IN BEN HILL CO.
 2009 COVERAGE
 COUNTS
 AMV
 08/10

TC #
017
0224

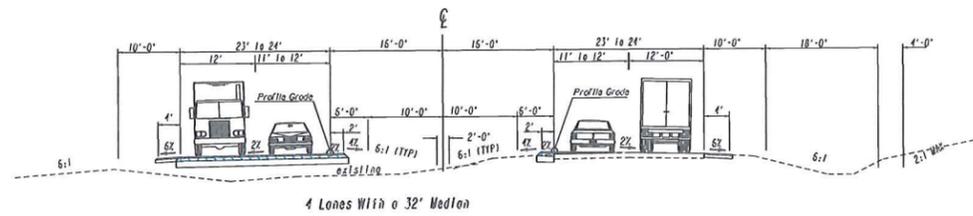
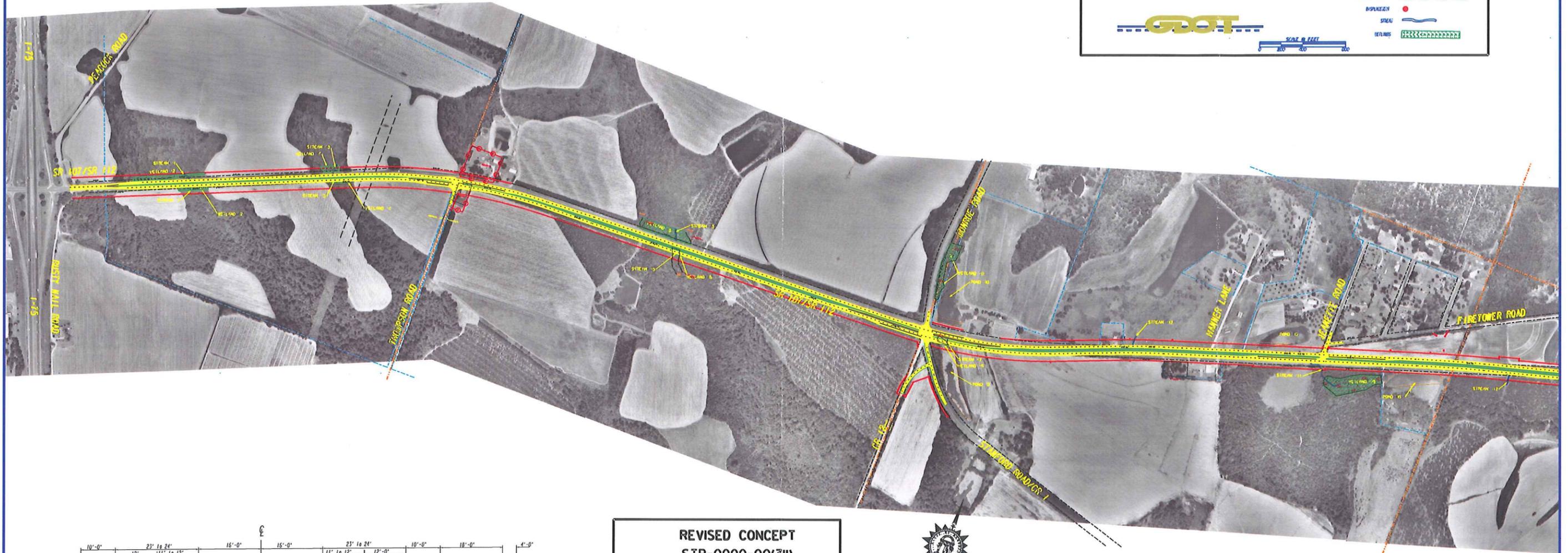
JACOBS

6801 GOVERNORS LAKE PKWY
BUILDING 200
NORCROSS, GA 30099

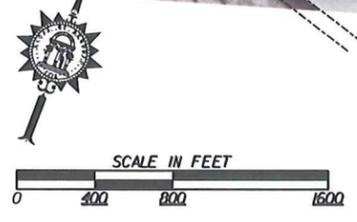


LEGEND

- PROPOSED EDGE OF PAVEMENT
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY AND PROPERTY LINE
- EXISTING PROPERTY
- DISPLACEMENT
- STREAM
- DEEMLAND



REVISED CONCEPT
STP-0000-00(311)
P.I. 0000311
TURNER COUNTY
SR 107 FROM I-75 TO CR 250
JANUARY 2012



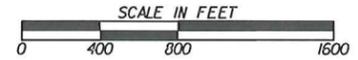
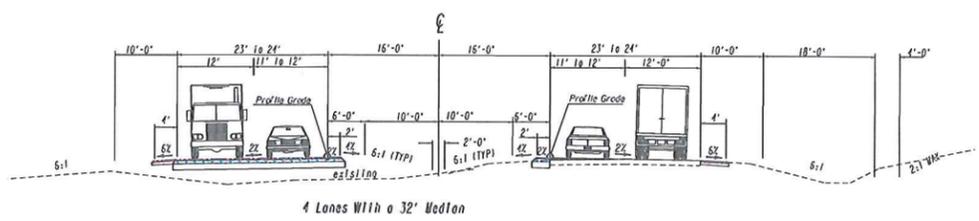
JACOBS

6801 GOVERNORS LAKE PKWY
BUILDING 200
NORCROSS, GA 30099



LEGEND

- PROPOSED LINE OF PROPOSED
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY AND PROPERTY LINE
- EXISTING PROPERTY
- DISPLACEMENT
- STREAM
- WETLAND



REVISED CONCEPT
STP-0000-00(311)
P.I. 0000311
TURNER COUNTY
SR 107 FROM I-75 TO CR 250
JANUARY 2012

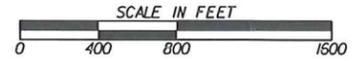
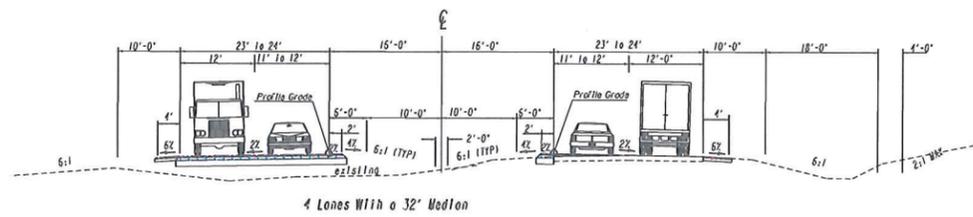
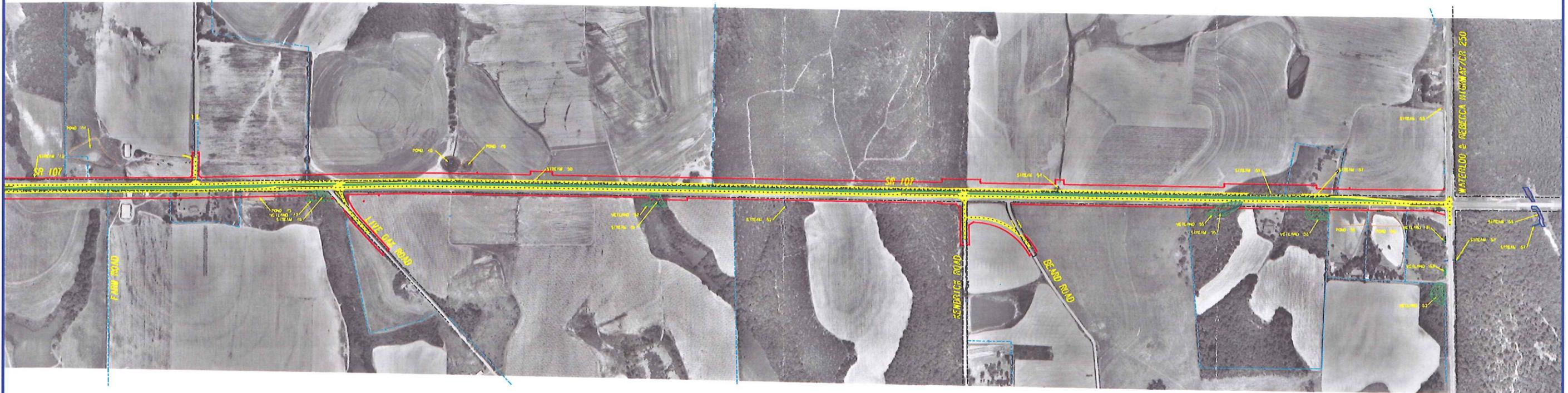
JACOBS

6801 GOVERNOBS LAKE PKWY
BUILDING 200
NORCROSS, GA 30099



LEGEND

- PROPOSED EDGE OF PAVEMENT
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY AND PROPERTY LINE
- WETLAND PROPERTY
- DISPLACEMENT
- STREAM
- SETBACKS



REVISED CONCEPT
STP-0000-00(3II)
P.J. 00003II
TURNER COUNTY
SR 107 FROM I-75 TO CR 250
JANUARY 2012

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: STP00-0000-00(311)(313)(314) **OFFICE:** Engineering Services
 Turner Ben Hill Irwin
 P.I. Nos.: 0000311 0000313 0000314
 SR 107 from I-75 to SR 11/US 129 **DATE:** January 28, 2010

FROM: Ronald E. Wishon, Project Review Engineer *REW*

TO: Bobby K. Hilliard, PE, State Program Delivery Engineer
 Attn.: Peter Emmanuel

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above projects was held August 10-13, 2009. Responses were received on January 7, 2010 and revised responses were received on January 27, 2010. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
STP00-0000-00(311) Turner PI No. 0000311				
T-2	Use intermittent passing lanes in lieu of a four lane rural divided section from I-75 to CR 250	\$24,316,393	No	The use of intermittent passing lanes does not meet the need and purpose of the project. Retaining the proposed four-lane divided typical section would promote economic development and enhance the movement of goods.
T-3	Use a 32 ft rural grassed median in lieu of a 44 ft rural grassed median	\$633,902	Yes	This will be done.
T-4	Use an 18 ft raised median in lieu of a 24 ft raised median in urban sections	\$148,310	Yes	This will be done.
T-6	Use 4 ft paved shoulders in lieu of 6 1/2 ft paved shoulders	\$741,609	Yes	This will be done.
T-8	Use 24 in curb and gutter in lieu of 30 in curb and gutter	\$21,450	Yes	This will be done.

T-9	Use 11 ft inside lanes in lieu of 12 ft lanes	Proposed = \$460,020 Actual = \$253,000	Yes, partially	SR 107 from I-75 to CR 205 has 3 long curves that will require 12 foot lanes due to the high truck percentages. Twelve foot lanes will be used through the last curve. The final four miles of the project, up to CR 250, will use 11 foot inside lanes as proposed by the VE Team.
T-11	Extend the existing three lane section at I-75 to just east of Thompson Road	Design Suggestion	No	The VE Team believed that this design would mitigate an adverse effect on the historic house on the south side of SR 107; however, the existing edge of pavement cannot be held on the north side since a 20 ft clear zone is required for a 55 MPH speed. Using a 3 lanes section in this area would not eliminate the impacts to the historic property.
G-1	Shorten the left turn lanes to the minimum allowable deceleration length	\$219,912	Yes	This will be done.
G-2	Use Type A median openings instead of Type B	\$1,000,263	No	Based on traffic volumes and typical crash types along this corridor, the Office of Traffic Operations recommends the use of Type B openings along this corridor. Type B median openings perform better for both safety and operational reasons, especially at high speeds. This is mainly due to the offset nature of the left turn lane, creating better operational sight distance.
G-3	Eliminate the Firetower Road connector at Sta. 226+63 by reusing the existing intersection at Jeannette Road	\$57,564	Yes	This will be done.
G-5	Block Geoghagen Road (CR 41) just to the north of proposed SR 107	\$25,298	Yes	This will be done.
G-8	Minimize improvements to Live Oak Road and relocate median opening to align with Live Oak Road in its new location	\$90,117	Yes	This will be done.

G-14	Eliminate median openings at Sta. 304+70 and Sta. 334+00 and replace with a single median opening at Sta. 319+35	\$216,322	Yes	The median openings will be closed as proposed by the VE Team. The new median opening will be located between Sta. 315+00 and 316+00 which provides increased sight distance than Sta. 319+35.
STP00-0000-00(313) Irwin Ben Hill PI No. 0000313				
T-1	Use a three lane rural section in lieu of a four lane urban divided section	\$4,059,230	No	The need and purpose for this project is focused on economic development and intermittent passing lanes would not satisfy this need. Based on the projected LOS, a four lane section is recommended for this corridor. The Chief Engineer has given approval for this project as a 4 lane GRIP style corridor.
T-2	Use intermittent passing lanes in lieu of a four lane rural divided section	\$12,741,906	No	The need and purpose for this project is focused on economic development and intermittent passing lanes would not satisfy this need. The Chief Engineer has given approval for this project as a 4 lane GRIP style corridor.
T-3	Use a 32 ft rural grassed median in lieu of a 44 ft rural grassed median	\$615,328	Yes	This will be done.
T-4	Use an 18 ft raised median in lieu of a 24 ft raised median in urban sections	\$160,657	Yes	This will be done.
T-5	Use 12 ft urban shoulders in lieu of 16 ft urban shoulders	\$93,571	Yes	This will be done.
T-6	Use 4 ft paved shoulders in lieu of 6 1/2 ft paved shoulders	\$653,201	Yes	This will be done.
T-7	Eliminate sidewalks from the urban section	\$505,257	No	T-10 will be implemented; therefore, T-7 cannot be done.
T-8	Use 24 in curb and gutter in lieu of 30 in curb and gutter	\$50,262	Yes	This will be done.

T-9	Use 11 ft inside lanes in lieu of 12 ft lanes	\$659,661	No	Several factors preclude the use of 11 foot lanes on this section of the project. AASHTO recommends 12 foot lanes for higher speed designs, roadways with a significant number of curves, and relatively high truck traffic. Portions of the project will utilize a 65 MPH speed design. Truck traffic is projected to be 30%. The proposed geometry of the roadway would require tapering the inside lane from 11 feet to the required 12 feet throughout the curves. This design would be difficult to construct.
T-10	Eliminate the sidewalk from the south side of the urban section	\$265,028	Yes	This will be done.
D-1	Use HDPE pipe in lieu of RCP for longitudinal drainage	\$161,116	No	The contractor is incentivized to use the least expensive of the materials specified in the Pipe Culvert Materials Alternatives Chart.
G-1	Shorten the left turn lanes to the minimum allowable deceleration length	\$459,878	Yes	This will be done.
G-2	Use Type A median openings instead of Type B	\$759,220	No	Based on traffic volumes and typical crash types along this corridor, the Office of Traffic Operations recommends the use of Type B openings along this corridor. Type B median openings perform better for both safety and operational reasons, especially at high speeds. This is mainly due to the offset nature of the left turn lane, creating better operational sight distance.
G-17	Reduce the speed limit to 55 mph at Van Buren/Webster Road and shorten the curve radius at Sta. 364+09	Proposed = \$191,880 Actual = \$124,166	Yes, with modifications	Reduction of the speed design is not required in order to shorten the curve radii. A historic resource is located on the north side of SR 107 in the vicinity of this proposed recommendation. The curve radii can be reduced to a minimum of 2600 ft and still avoid impacts to the property.

STP00-0000-00(314) Turner Irwin PI No. 0000314				
T-2	Use intermittent passing lanes in lieu of a four lane rural divided section	\$32,578,455	No	The use of intermittent passing lanes does not meet the need and purpose of the project. Retaining the proposed four-lane divided typical section would promote economic development and enhance the movement of goods.
T-3	Use a 32 ft rural grassed median in lieu of a 44 ft rural grassed median	\$628,569	Yes	This will be done.
T-6	Use 4 ft paved shoulders in lieu of 6 ½ ft paved shoulders	\$681,424	Yes	This will be done.
T-9	Use 11 ft inside lanes in lieu of 12 ft lanes	\$737,105	Yes	This will be done.
B-2	Use a Type A median crossover and shorten the WB turn lane to Rebecca Waterloo Highway so it does not affect the bridge over Deep Creek	\$417,850	Yes	This will be done to the extent possible. The final length and location of the bridge has not been determined, but a Type A median crossover and shorter turn lane will be implemented as described. Once the final hydraulic study is completed, any possible modifications to the bridge will be determined.
G-1	Shorten the left turn lanes to the minimum allowable deceleration length	\$500,069	Yes	This will be done.
G-2	Use Type A median openings instead of Type B	\$1,061,460	No	Based on traffic volumes and typical crash types along this corridor, the Office of Traffic Operations recommends the use of Type B openings along this corridor. Type B median openings perform better for both safety and operational reasons, especially at high speeds. This is mainly due to the offset nature of the left turn lane, creating better operational sight distance.
G-10	Maintain the existing alignment at Hawkins Road	\$72,164	Yes	This will be done.

G-11	Maintain Eleanor Circle at the existing alignment at Sta. 313+38	\$63,174	Yes	This will be done.
G-12	Maintain the existing alignment at the Big Creek/Truman Road intersection	\$309,762	Yes	This will be done.
G-13	Maintain the existing alignment at Eisenhower Road	\$70,778	Yes	This will be done.
G-14	Eliminate the median openings at Sta. 214+80, 258+40 and 288+00 and replace them with openings at Sta. 233+53 and 273+91	\$208,687	Yes, with modifications	The number of median openings in this area will be reduced from three to two; however, the median openings will be located at Sta. 239+00 and Sta. 284+00 instead of the locations proposed by the VE Team. Sta. 273+91 is located on the bridge over the Alapaha River and shifting the opening to Sta. 284+00 locates it as far west as possible without placing the turn lanes on the bridge. Sta. 239+00 is equidistant between Hawkins Road/CR 62 and Sta. 284+00.

The Office of Engineering Services concurs with the Project Manager's responses.

Approved: Gerald M. Ross Date: 2/1/10
 Gerald M. Ross, PE, Chief Engineer

REW/LLM
 Attachments

- c: Ben Buchan
- Paul Liles/Bill Duvall/Bill Ingalsbe/Shawn Williams
- Bobby Hilliard/Mike Haithcock/Peter Emmanuel/Kimberly Nesbitt
- Amber Phillips
- Joe Cowan
- Nabil Raad
- Lisa Myers
- Matt Sanders