ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. # 0006879
CSSTP-0006-00(879)
DeKalb County
GDOT District 7 - Metro Atlanta
CR 5150/Panola Road Improvements

OFFICE Design Policy & Support

DATE 4/18/2016

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:

Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3/Program Delivery
Genetha Rice-Singleton, Assistant Director of P3/Program Delivery
Albert Shelby, State Program Delivery Engineer
Darryl VanMeter, State Innovative Delivery Engineer
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
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Bill DuVall, State Bridge Engineer
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Lee Upkins, State Utilities Engineer
Richard Cobb, Statewide Location Bureau Chief
Kathy Zahul, District Engineer
Scott Lee, District Preconstruction Engineer
Nicholas Fields, District Utilities Engineer
Vinesha Pegram , Project Manager
BOARD MEMBER - 4th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

REVISED PROJECT CONCEPT REPORT

Project Type: Operational Improvements
P.I. Number: 0006879
GDOT District: District 7 Metro
County: DeKalb
Federal Route Number: N/A
State Route Number: N/A
Project Number: CSSTP-0006-00(879)

P.I. No. 0006879 along Panola Road is being extended to the north to include the limits of the adjacent project P.I. No. 0005905. The revised project limits begin just south of Browns Mill Road and extend to Fairington Road where it will tie into the Panola Road at I-20 Interchange project, P.I. No. 0002868. In addition, the scope of this project (P.I. No. 0006879) is being revised; instead of adding an additional through lane in each direction for capacity, the project now consists of operational improvements, safety improvements, bicycle lanes and improved pedestrian facilities.

Submitted for approval:

Matt McDow – ARCADIS US Inc. Consultant Designer & Firm — Date: 10/2/2015

David Pelton, DeKalb County, Local Government Sponsor — Date: 10/2/15

State Program Delivery Engineer — Date: 10/30/15

GDOT Project Manager — Date: 11/2/15

Recommendation for approval:

State Environmental Administrator — Date: 11/23/2015

FOR State Traffic Engineer — Date: 11/19/2015

State Bridge Engineer — Date: 3/15/2016

X MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

State Transportation Planning Administrator — Date: 11/19/2015

* - RECOMMENDATION ON FILE

PLANNING, APPROVED CONCEPT, AND BACKGROUND

Project Justification Statement from Approved Concept Report
(revised to combine Segments 2 & 3 and update traffic and accident data):

The Panola Road Corridor Improvement project area is located in DeKalb County between Covington Highway and SR 155 (Snapfinger Road). The whole corridor is divided into five project segments. Segment 1 includes Panola Road from SR 155 (Snapfinger Road) to SR 212 (Browns Mill Road); Segment 2 includes Panola Road from SR 212 (Browns Mill Road) to Thompson Mill Road; Segment 3 includes Panola Road from Thompson Mill Road to Fairington Road; Segment 4 includes Panola Road from Fairington Road to Snapfinger Woods Drive; Segment 5 includes Panola Road from Snapfinger Woods Drive to SR 12 (Covington Highway). This concept report is prepared for Segments 2 & 3: Panola Road from SR 212 (Browns Mill Road) to Fairington Road.

Panola Road from SR 212 (Browns Mill Road) to Fairington Road is an urban minor arterial, which provides access to both residential and commercial properties. Along Panola Road from SR 212 (Browns Mill Road) to Thompson Mill Road, the projected 2020 average daily traffic (ADT) is 28,560 vpd and the projected 2040 ADT is 38,400; and along Panola Road from Thompson Mill Road to Fairington Road, the projected 2020 ADT is 34,100 vpd and the projected 2040 ADT is 45,880.

The traffic volumes above indicate that the project corridor is experiencing traffic volume increases that will result in a reduction in vehicular safety and increased congestion. The 2014 LOS for the 3 existing signalized intersections within Segment 2 are operating between LOS B and D in the a.m. peak hour and between LOS B and C in the p.m. peak hour. The 2014 LOS for the 2 existing signalized intersections within Segment 3 are operating at LOS A in the a.m. peak hour and between LOS A and B in the p.m. peak hour. The 2040 no-build LOS is projected to be LOS F for all 3 Segment 2 signalized intersections. The 2030 no-build scenario would operate at LOS F for both the a.m. and p.m. peak hours. The 2040 no-build LOS is projected to be between LOS A and B in the a.m. peak hour and between LOS C and E in the p.m. peak hour for the 2 Segment 3 signalized intersections.

Table 1 provides the historical accident data for Panola Road from SR 212 (Browns Mill Road) to Fairington Road. The table shows that at several of the intersections the frequency of total crashes and frequency of injury crashes were higher than the statewide average for comparable intersections. Crashes that involved property damage only were more than double the statewide average amount at two of the study intersections. One fatality occurred at Cedar Rock Drive intersection.

Table 1: Summary of Panola Road Project Study Area Intersection Crash Rates and Statewide Average Crash Rates (2009-2013)

Panola Road		Statewide Average Crashes	2009-2013 Average Crashes
Browns Mill Rd./Hwy 212	Total	5.924	21.2
	Fatality	0.006	0.0
	Injury	1.408	6.4
	PDO	4.509	14.8
Salem Road	Total	7.12	6.0
	Fatality	0.006	0.0
	Injury	1.627	1.8
	PDO	5.486	4.2

Panola Road		Statewide Average Crashes	2009-2013 Average Crashes
Oak Tree Trail/ Big Miller Grove Way	Total	8.755	7.4
	Fatality	0.008	0.0
	Injury	1.967	3.3
	PDO	6.779	4.1
Cedar Rock Dr.	Total	8.755	3.8
	Fatality	0.008	0.2
	Injury	1.967	1.6
	PDO	6.779	2.0
Rock Springs Road	Total	8.755	10.2
	Fatality	0.008	0.0
	Injury	1.967	3.2
	PDO	6.779	7.0
Blackfoot Drive	Total	8.755	3.2
	Fatality	0.008	0.0
	Injury	1.967	1.2
	PDO	6.779	2.0
Panola Mill Drive	Total	8.755	2.0
	Fatality	0.008	0.0
	Injury	1.967	0.2
	PDO	6.779	1.8
Winslow Crossing N	Total	8.755	0.8
	Fatality	0.008	0.0
	Injury	1.967	0.2
	PDO	6.779	0.6
Thompson Mill Road	Total	9.836	10.8
	Fatality	0.010	0
	Injury	2.213	4.0
	PDO	7.613	6.8
W Fairington Parkway	Total	9.836	16.4
	Fatality	0.010	0.0
	Injury	2.213	6.0
	PDO	7.613	10.4
Minola Drive/ Fairington Road	Total	9.836	28.6
	Fatality	0.010	0.0
	Injury	2.213	6.4
	PDO	7.613	22.2

Table 1: Summary of Panola Road project Study Area Intersection Crash Rates and Statewide Average Crash Rates (2009-2013) – Continued.

*Red cells indicate intersections that exceed statewide average total, injury, or fatal crash rates

Panola Road from SR 212 (Browns Mill Road) to Thompson Mill Road currently consists of two 12-foot-wide travel lanes (one in either direction). The current approved concept typical section for this segment along Panola Road is four 12-foot-wide travel lanes (two in each direction) with a 20-foot flush/raised center median.

Panola Road from Thompson Mill Road to Fairington Road currently consists of four 12-foot-wide travel lanes (two in either direction) and a flush center median. The current approved concept typical section for this segment along Panola Road is six 12-foot-wide travel lanes (two in each direction) with a 20-foot raised center median.

Table 2 Panola Road Corridor Summary of No-build Capacity Analysis

Panola Road Intersections	Peak Hour	Existing Year 2014	Design Year 2040 No-Build
Browns Mill Road	AM	D (39.3)	F (160.0)
	PM	C (32.9)	F (160.3)
Salem Road	AM	B (18.8)	F (110.1)
	PM	B (20.0)	F (137.6)
Oaktree Trail/Big Miller Grove Way*[2]	AM	F (82.9)*	F (-)*
	PM	F (269.2)*	F (-)*
Cedar Rock Drive*[1]	AM	C (22.9)*	F (71.1)*
	PM	F (951.0)*	F (-)*
Rock Springs Road	AM	C (20.6)	F (143.6)
	PM	B (17.6)	F (129.3)
Blackfoot Drive*[1]	AM	F (613.8)*	F (-)*
	PM	C (15.1)*	E (49.0)*
Panola Mill Road*[1]	AM	F (244.0)*	F (-)*
	PM	F (-)*	F (-)*
Winslow Crossing Drive*[1,4]	AM	E (38.8)*	F (295.4)*
	PM	C (21.9)*	F (73.5)*
Thompson Mill Road	AM	A (9.7)	B (18.4)
	PM	B (13.6)	E (68.6)
W. Fairington Parkway*[1]	AM	D (26.0)*	F (216.3)*
	PM	D (26.6)*	F (327.0)*
Publix/Lowes Drive	AM	A (5.7)	A (8.0)
	PM	A (9.8)	C (22.8)

Note: (1) Maximum sidestreet delay reported for unsignalized intersections
(2) HCM methodology does not develop delays for Right-in/Right-out driveways
(3) * Represents unsignalized Intersection

Existing conditions:

Currently, Panola Road is a two-lane road from the beginning of the proposed project just south of Browns Mill Road proceeding north to Winslow Crossing Dr. where Panola Road becomes a four-lane divided road with a center two-way left-turn lane. This typical section continues to the end of the project at Fairington Road. The existing two-lane typical section is two 12' lanes and varies with both rural (4' to 5' grass shoulders) and urban shoulders (curb & gutter). Existing sidewalks along

the project limits are not consistent and occur mostly on the right shoulder or both shoulders. Presently there are turn lanes at the following intersections with Panola Road:

- Browns Mill Road and Panola both have left turn lanes only
- Salem Road has only right turn lanes. Panola Road has both right and left turn lanes.
- Rock Springs Road and Panola Road have both right and left turn lanes.
- Winslow Crossing Dr. is a "T" intersection. Panola Road has only a left turn lane and Winslow Crossing Dr. has no turn lanes.
- Thompson Mill Road is a "T" intersection. Panola Road has only a left turn lane and Thompson Mill Road has no turn lanes.
- W Fairington Parkway is a "T" intersection. Panola Road has both right and left turn lanes and W Fairington Parkway has a left and right turn lane.
- Fairington Road / Minola Drive and Panola Road all have left and right turn lanes. Panola Road in the southbound direction has double-left turn lanes onto Fairington Road eastbound.

Utility involvements: The following have utilities located within the project limits:
Atlanta Gas Light Company; AT&T; Georgia Power; M.E.A.G.; DeKalb Watershed Management; Comcast.

Description of the approved concept:

Presently there are two approved concept reports for this section of Panola Road. The first project (CSSTP-0006-00(879); P.I. No. 0006879), located in DeKalb County, is referred to as Segment 2 and begins at Browns Mill Road and ends at Thompson Mill Road. This project is 1.70 miles in length. The current approved typical section is for a divided four-lane (12') facility and 20' raised or flush median with 4' bike lanes. The current proposed shoulders are to be urban (curb & gutter) with 5' sidewalks on both sides. This project is 1.70 miles in length.

The second project (CSSTP-0005-00(905); P.I. No. 0005905), located in DeKalb County, is referred to as Segment 3 and begins at Thompson Mill Road and ends at the intersection with Fairington Road/Minola Drive. The current approved typical section is for a divided six-lane (12') facility and 20' raised or flush median with 4' bike lanes. The current proposed shoulders are to be urban (curb & gutter) with 5' sidewalks on both sides. This project is 0.40 miles in length.

Description of the revised concept: *

The proposed project would widen and improve intersections along Panola Road from Browns Mill Road/SR 212 to Fairington Road/Minola Drive, for a total distance of approximately 2.1 miles. From Browns Mill Road/SR 212 to Thompson Mill Road (Segment 2, P.I. No. 0006879, about 1.7 miles in length), Panola Road would be widened to add a center two-way turn lane / flush median and 4-foot bike lanes, 5-foot sidewalks, and a 6-foot grassed buffer strip on each side of the road. A few small raised islands are proposed within the median. These raised islands are not intended to block access, but to act a traffic calming measure and/or pedestrian refuge. The proposed ROW along this segment would vary from 60 to 120 feet. Proposed intersection improvements along this section are as follows, and include the addition of 5-foot sidewalks within the project limits on the cross-street where none currently exist:

* The project is being substantially reduced in scope. However, the proposed improvements are still anticipated to make substantial improvements to LOS within the project limits. See Attachment 6 - Traffic Analysis Summary. DRP

- Panola Road at Browns Mill Road/SR 212: The proposed project would add right-turn lanes to all intersection approaches, add a second through lane on the Browns Mill Road approaches (eastbound and westbound), add a second left-turn lane along the southbound (Panola Road) approach, and extend the left-turn lanes on the northbound (Panola Road), eastbound (Browns Mill Road/SR 212), and westbound (Browns Mill Road/SR 212) approaches.
- Panola Road at Salem Road: The proposed project would realign the Panola Road approach to this intersection between Salem Road and Oaktree Trail/Big Miller Grove Way to straighten the existing curve in this area. The project would also add left- and right-turn lanes on the eastbound (Salem Road) approach, and add a left-turn lane on the westbound (Salem Road) approach.
- Panola Road at Oaktree Trail/Big Miller Grove Way: The proposed project would add a right-turn lane on the northbound and southbound (Panola Road) approaches to this intersection, a left turn lane on the northbound approach into Oaktree Trail, and would add a continuous right-turn lane along Panola Road northbound from Big Miller Grove Way to the next intersection, Cedar Rock Drive, to the north). Big Miller Grove Way would remain right-in, right-out and Oaktree Trail would be remain a right/left-in, right-out intersection at Panola Road as part of the project.
- Panola Road at Cedar Rock Drive: The proposed project would add a right-turn lane on the northbound (Panola Road) approach to this intersection.
- Panola Road at Rock Springs Road: The proposed project would add a second left-turn lane on the northbound (Panola Road) approach to this intersection and add a second through lane for approximately 850 feet along Rock Springs Road westbound to receive traffic from right turns from Panola Road southbound.
- Panola Road at Panola Mill Drive/Winslow Crossing: Winslow Crossing at this intersection would be realigned to line up with the existing location of the Panola Mill Drive intersection (currently, these two intersections are offset by approximately 210 feet). The new intersection would be signalized. The additional through lanes that are currently added just north of this intersection will be added just south of the intersection with the proposed project. Right- and left-turn lanes would also be added on the northbound and southbound (Panola Road) approaches to this realigned intersection.
- Panola Road at Thompson Mill Road: The proposed project would add a continuous right-turn lane on Panola Road southbound from Thompson Mill Road to the next intersection to the south (Panola Mill Drive), for a total length of approximately 740 feet.

From Thompson Mill Road to Fairington Road/Minola Drive (Segment 3, P.I. No. 0005905, approximately 0.4 mile in length), Panola Road would be widened to add 4-foot bike lanes, 5-foot sidewalks, and a 6-foot grassed buffer strip on each side of the road. Continuous right-turn lanes would be added along both sides of Panola Road between the adjacent retail/commercial entrances along this segment. In addition, the existing center flush median/two-way turn lane would be converted to a raised median with designated left-turn lanes at the approaches to retail entrances along this segment. The proposed ROW along this segment would vary from 110 to 120 feet. A traffic signal would be installed at the intersections of Panola Road with West Fairington Parkway as part of the proposed project.

Several walls are proposed along the project corridor to reduce ROW requirements and impacts to adjacent properties.

Federal Oversight: ☐ PoDI ☒ Exempt ☐ State Funded ☐ Other

Projected Traffic as shown in the approved Concept Report: ADT

P.I. No. 0006879: Open Year (2010): 23,480 vpd Design Year (2030): 40,800 vpd
P.I. No. 0005905: Open Year (2010): 27,000 vpd Design Year (2030): 48,000 vpd

Updated Traffic: ADT (Approved March 3, 2015)

P.I. No. 0006879: Open Year (2020): 34,100 vpd Design Year (2040): 45,880 vpd

24 HR T: 4 %

Functional Classification (Mainline): Urban Minor Arterial

VE Study held: No Yes X Date: July 28, 2009

Approved Features:	**Proposed Features:**
The current approved concept reports for this section of Panola Road are referred to as Segment 2 (Project CSSTP-0006-00(879); P.I. No. 0006879) and Segment 3 (Project CSSTP-0005-00(905); P.I. No. 0005905). Current Project termini: • Project CSSTP-0006-00(879); P.I. No. 0006879: from Browns Mill Road north to Thompson Mill Road • Project CSSTP-0005-00(905); P.I. No. 0005905: from Thompson Mill Road to Fairington Road Current Approved Typical Sections: • Project CSSTP-0006-00(879); P.I. No. 0006879: consists of widening the existing road from two 12' lanes to four 12' travel lanes with bike lanes, sidewalk, and a 20' flush/raised median. • Project CSSTP-0005-00(905); P.I. No. 0005905: consists of widening the existing road from a five 12' lane section with a center turn lane to a six 12' lane section with bike lanes, sidewalks, and a variable 20' to 32' raised median.	It is proposed to combine the present Segment 2 and Segment 3 into one project. This new project will keep the project number and P.I. Number of the current segment 2 (CSSTP-0006-00(879); P.I. No. 0006879). Revised Project termini: • The new P.I. No. 0006879 project limits will begin just south of Browns Mill Road and end at Fairington Road where it will tie into the Panola Road at I-20 Interchange project, P.I. No. 0002868. Revised Typical Sections: • From Browns Mill Road to Winslow Crossing Dr., the existing two lane roadway will be widened to a three-lane roadway (one lane in each direction and a center two-way left turn lane) with bike lanes and sidewalk. Turn lane improvements will be made at intersections as described in the revised project description on pages 4 and 5. • From Winslow Crossing Dr. to Farrington Road, the existing five-lane roadway will be widened to provide for bike lanes, sidewalks and turn lanes as needed. The existing center flush median/two-way turn lane would be converted to a raised median with designated left-turn lanes.
Reason(s) for change: The proposed revisions are for a reduced typical section and impacts to properties. The extension of the project limits will allow the two segments to be constructed at one time, and allow for better coordination with the adjacent Panola Road at I-20 Interchange project, P.I. No. 0002868.	

Design Variances and/or Exceptions needed: Two sag vertical curves will require a Design Exception. Street lighting is proposed in these areas to mitigate this condition.

ENVIRONMENTAL AND PERMITS

Potential environmental impacts of proposed revision: The proposed revision reduces the footprint and environmental impacts of the project.

Have proposed revisions been reviewed by environmental staff? ☐ No ☒ Yes

Environmental responsibilities (Studies/Documents/Permits): All environmental studies, documents and permits are being prepared by a DeKalb County consultant.

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

This project along Panola Road is programmed as two segments in the Atlanta Regional Commission's (ARC) Plan 2040 Update. Panola Road: Segment 2, spanning between SR 212 (Browns Mill Road) and Thompson Mill Road, is programmed at DK-065B. Panola Road: Segment 3, spanning between Thompson Mill Road and Fairington Road, is programmed at DK-065C. Panola Road: Segment 2 calls for a four-lane (two lanes in each direction) facility, while Segment 3 calls for a six-lane (three lanes in each direction) facility, with both segments having an expected opening year of 2020.

DeKalb County is in the process of coordinating with ARC to have these project descriptions and travel demand model revised to be consistent with the revisions proposed in this Revised Concept Report. Attachment 6 shows the current travel demand model coding for these projects based on the current ARC demand model.

Environmental Comments and Information:

No additional environmental comments or information

PROJECT COST AND ADDITIONAL INFORMATION

Item	Estimated Cost	Date of Estimate	Funded By
Base Construction Cost:	$15,812,474	8/26/2015	
Engineering and Inspection:	$790,624	8/26/2015	
Contingencies:	$790,624	8/26/2015	
Liquid AC Adjustment:	$1,006,674	7/2/2015	
Total Construction Cost:	$18,400,396		Federal/Local
Right-of-Way:	$ 5,030,000	7/2/2015	Local
Utilities (reimbursable costs):	$ 3,800,000	7/2/2015	Local
Environmental Mitigation:	N/A	N/A	Local
TOTAL PROJECT COST:	$27,230,396		

Recommendation: It is recommended that this revision to the project limits and typical sections be approved for implementation.

Comments:
No additional comments

Attachments:

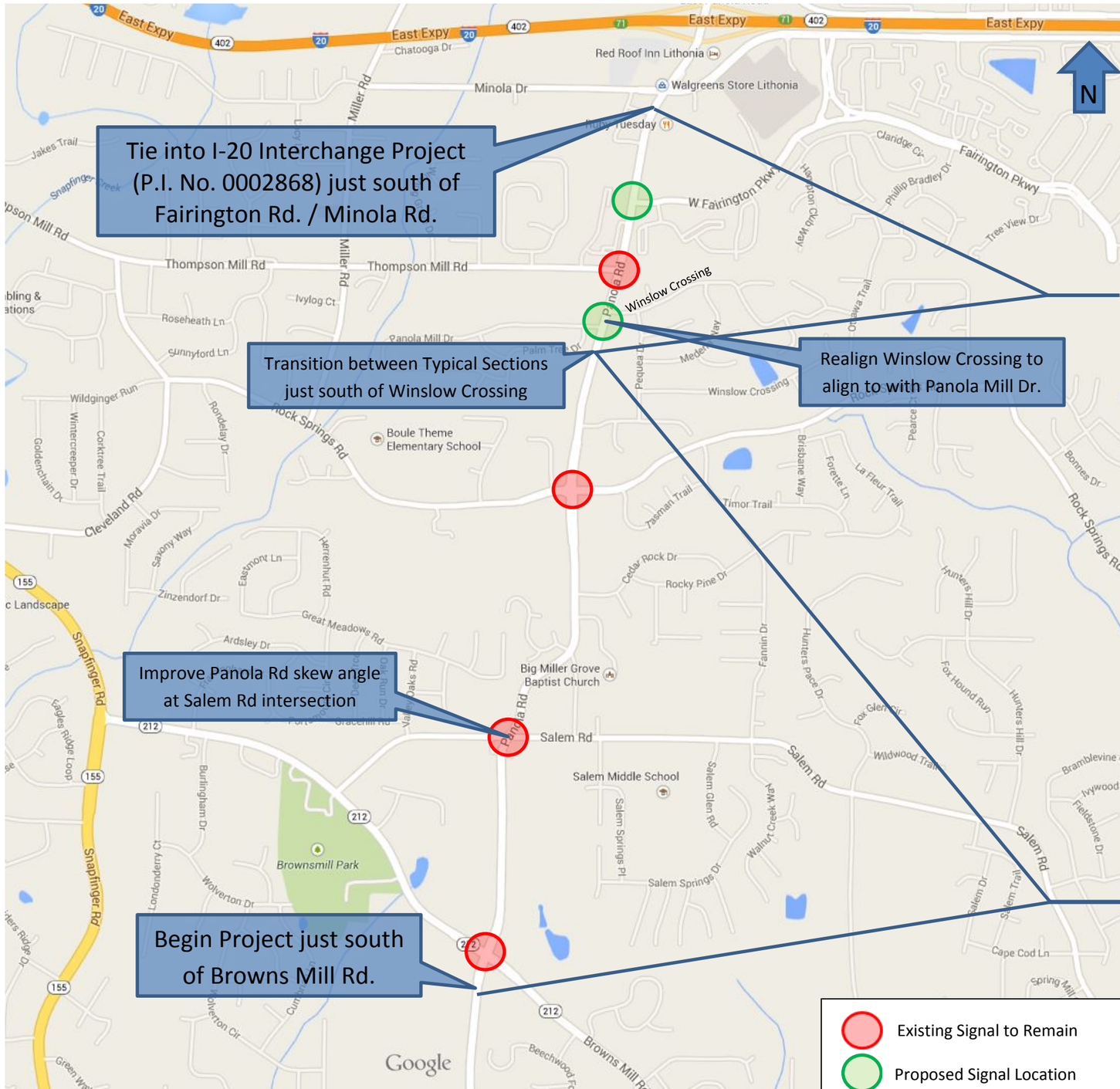
1. Sketch Map with revised Typical Sections
2. Intersection Lane Configuration Sketches
3. Cost Estimates and Liquid AC spreadsheet
4. Traffic Diagrams
5. Crash History and Analysis
6. Traffic Analysis Summary
7. Roundabout Analysis
8. Conforming plan's network schematics showing through lanes

APPROVALS

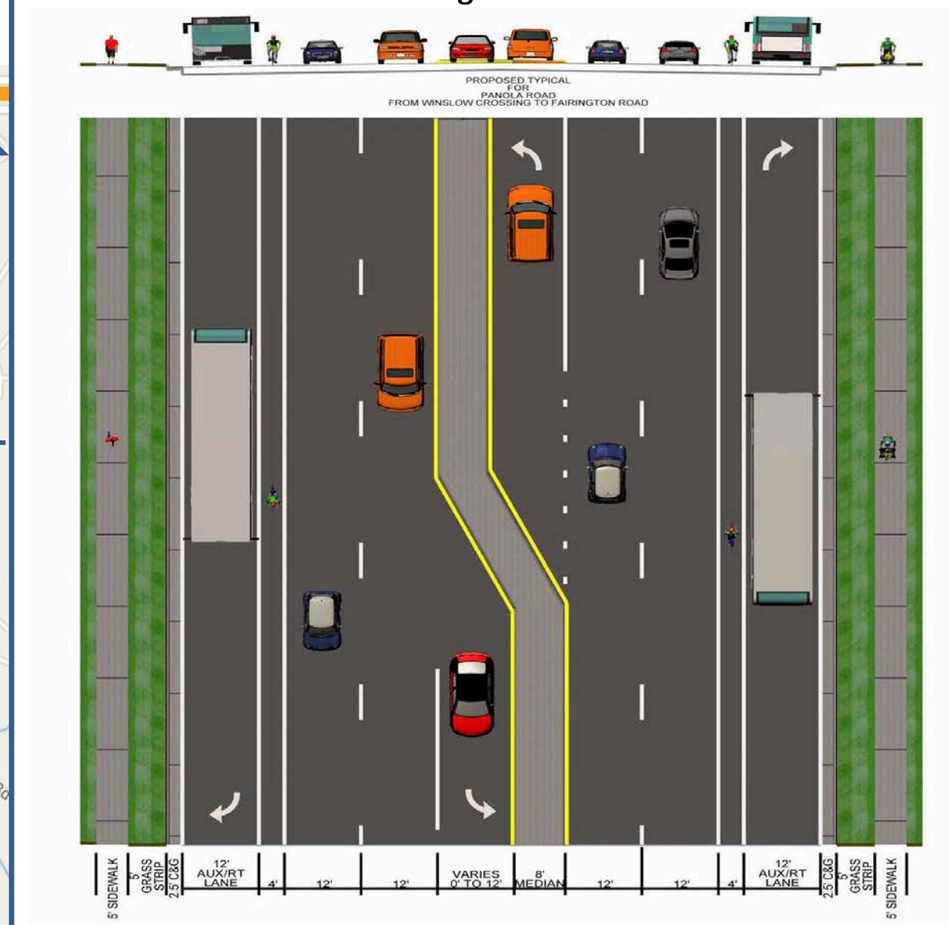
Concur: Hiral Patel
Director of Engineering

Approve: Margaret B. Pinto 4.12.16
Chief Engineer Date

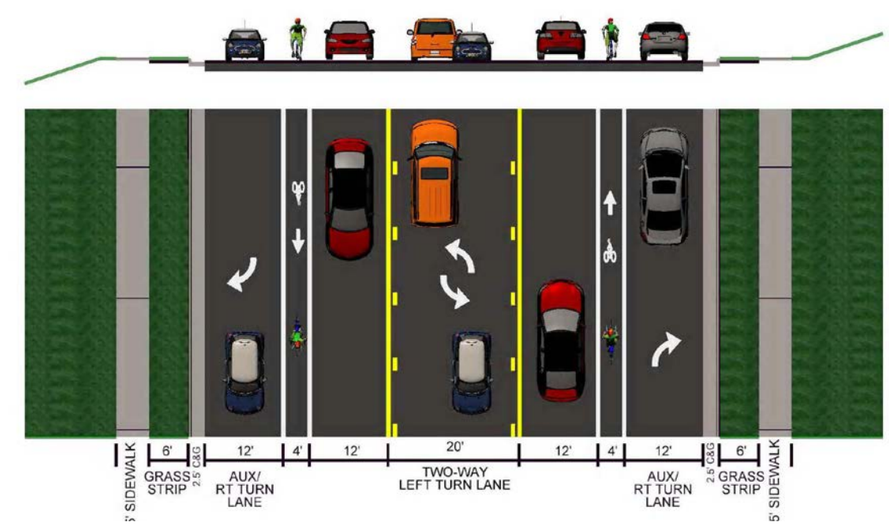
Revised Panola Road Segment 2 Project (PI 0006879)

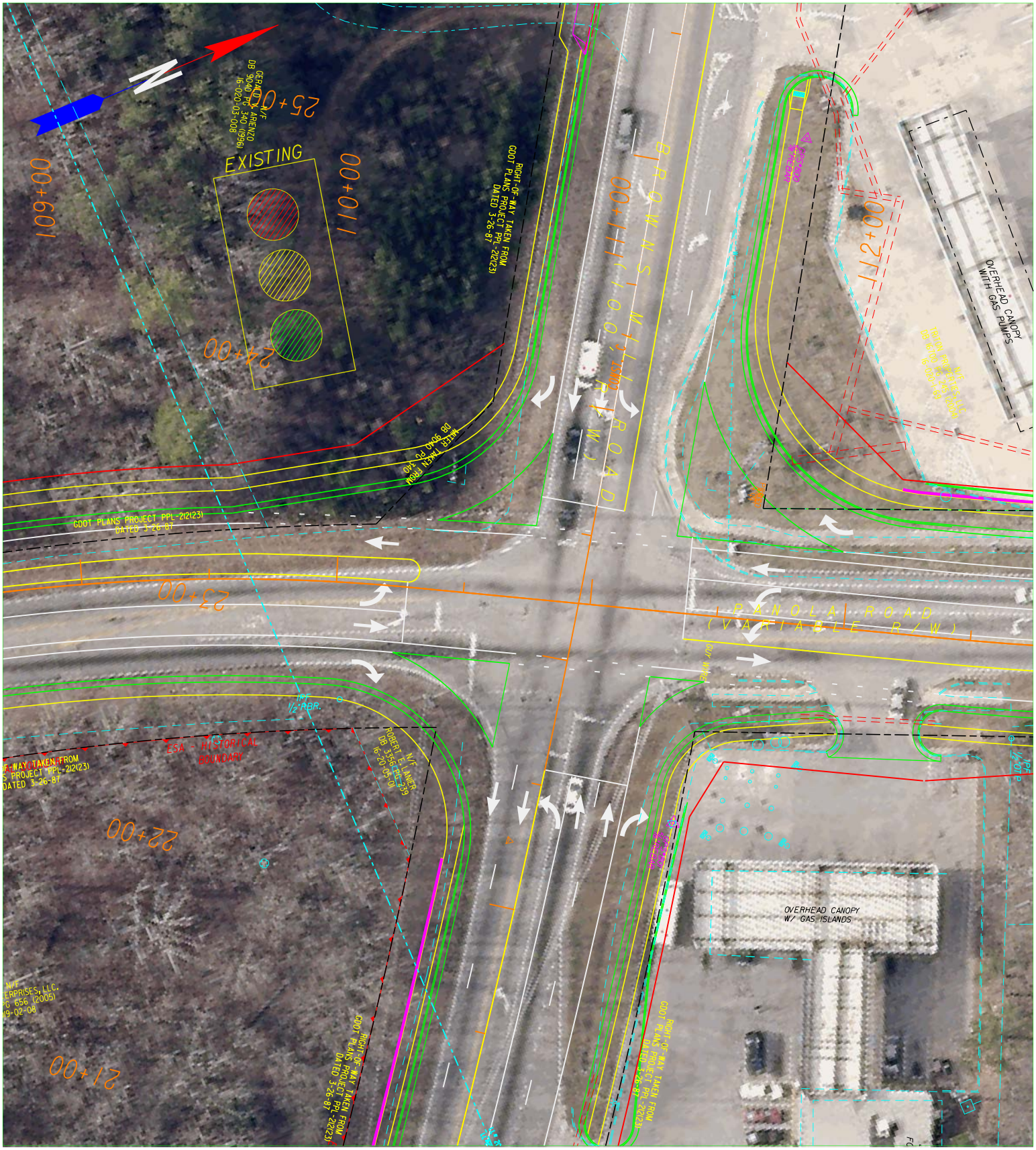


Revise Existing 5-lane Section to:

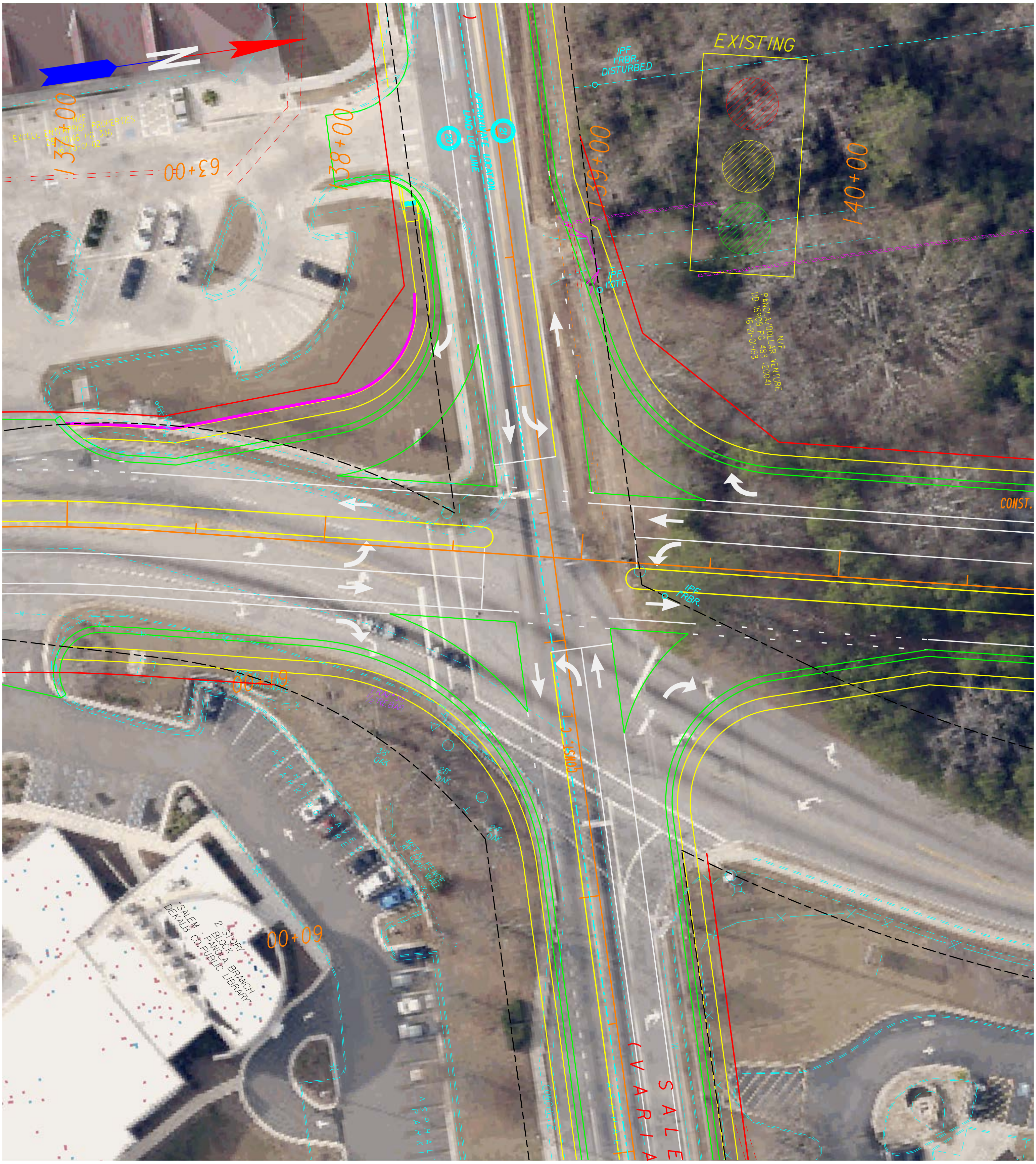


Revise Existing 2-lane Section to:

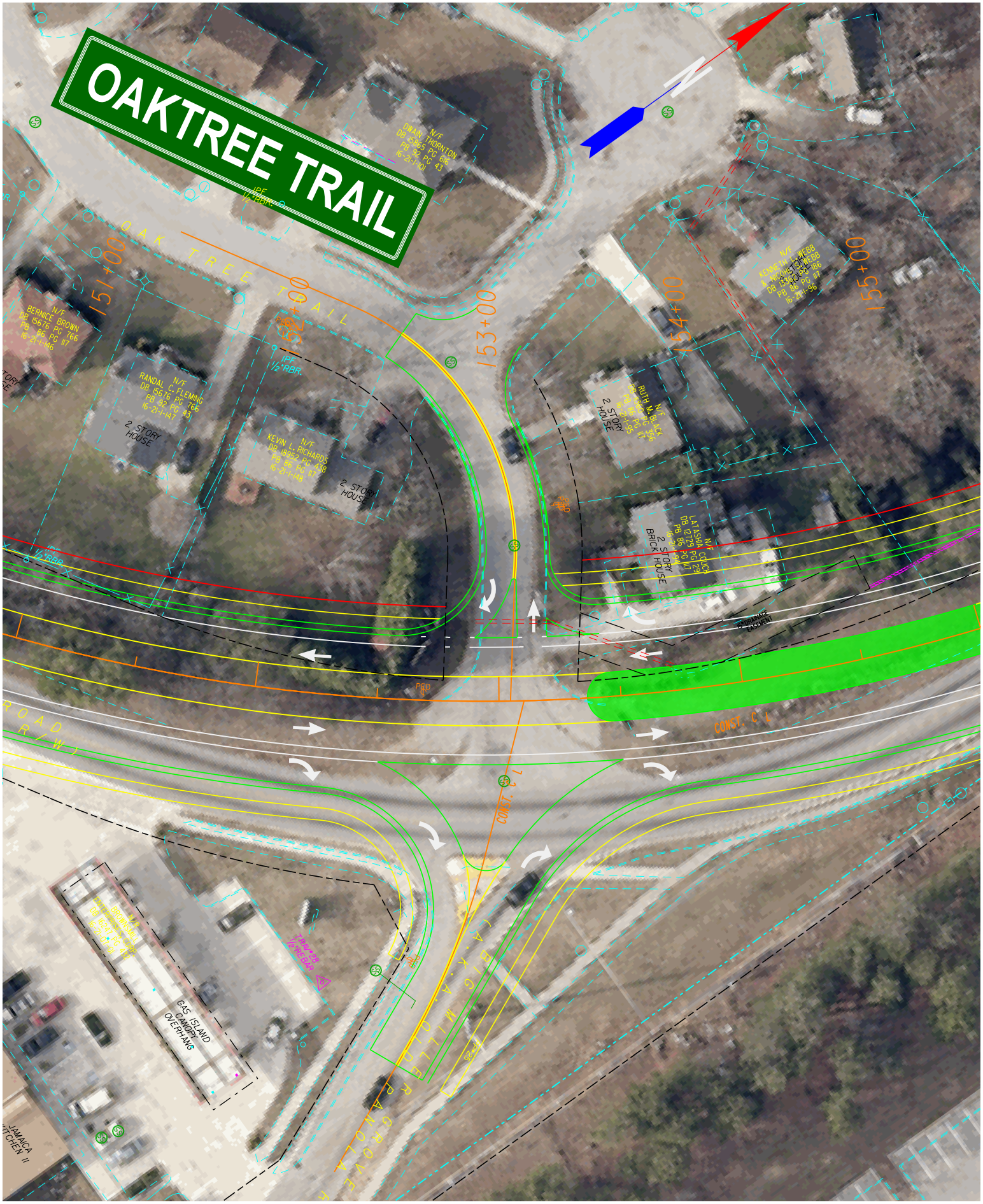




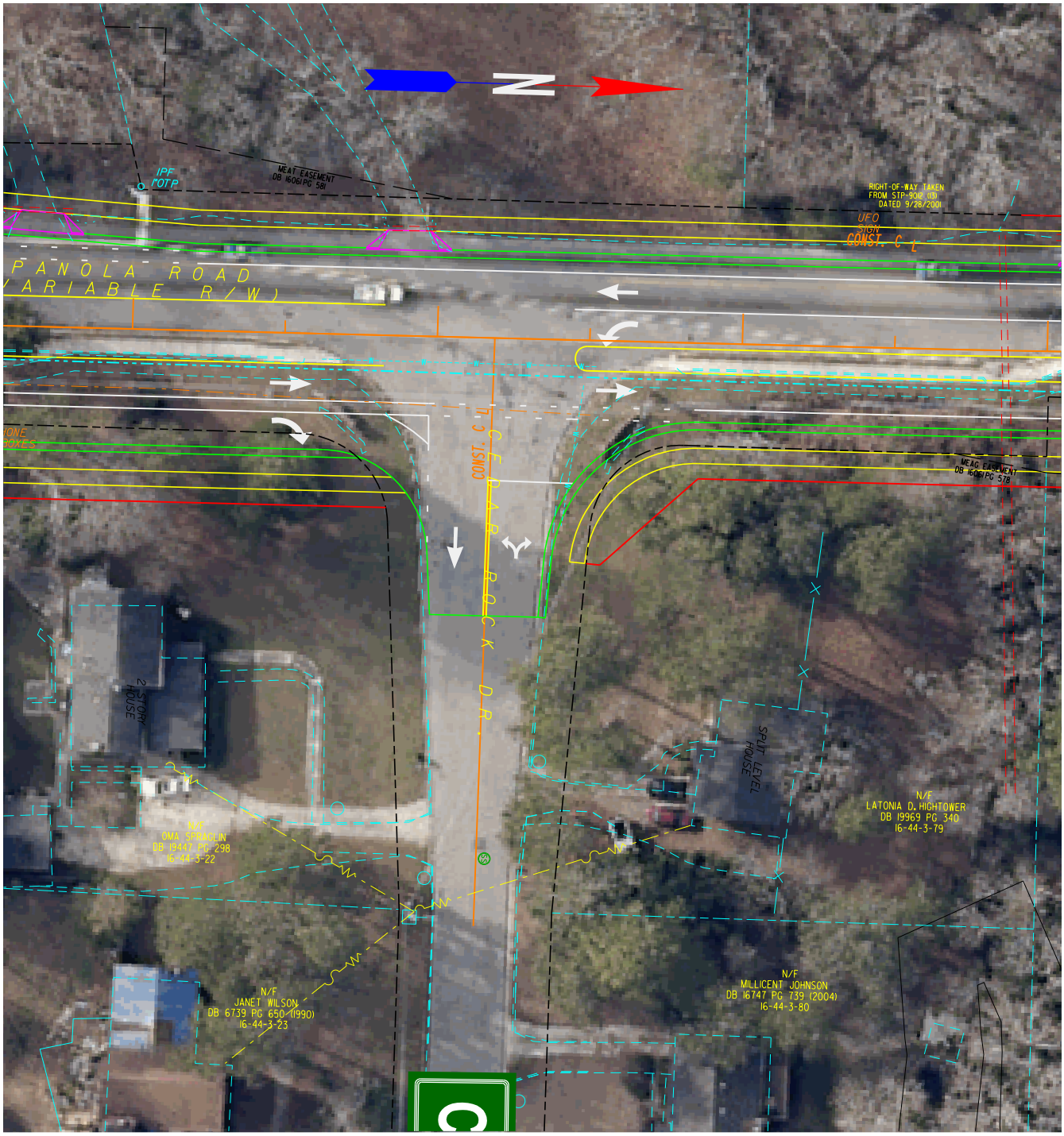
@ Browns Mill Road



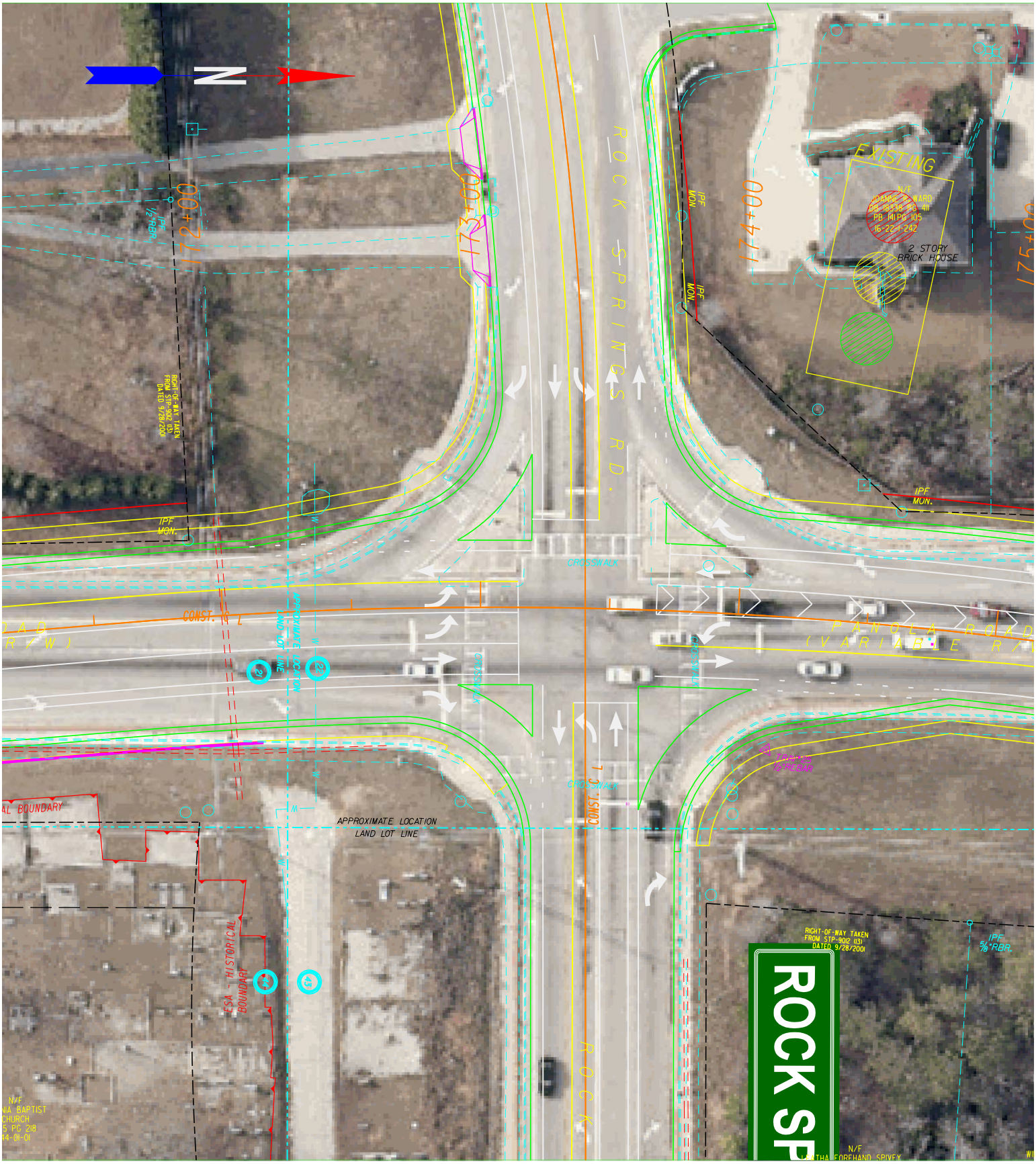
@ Salem Road



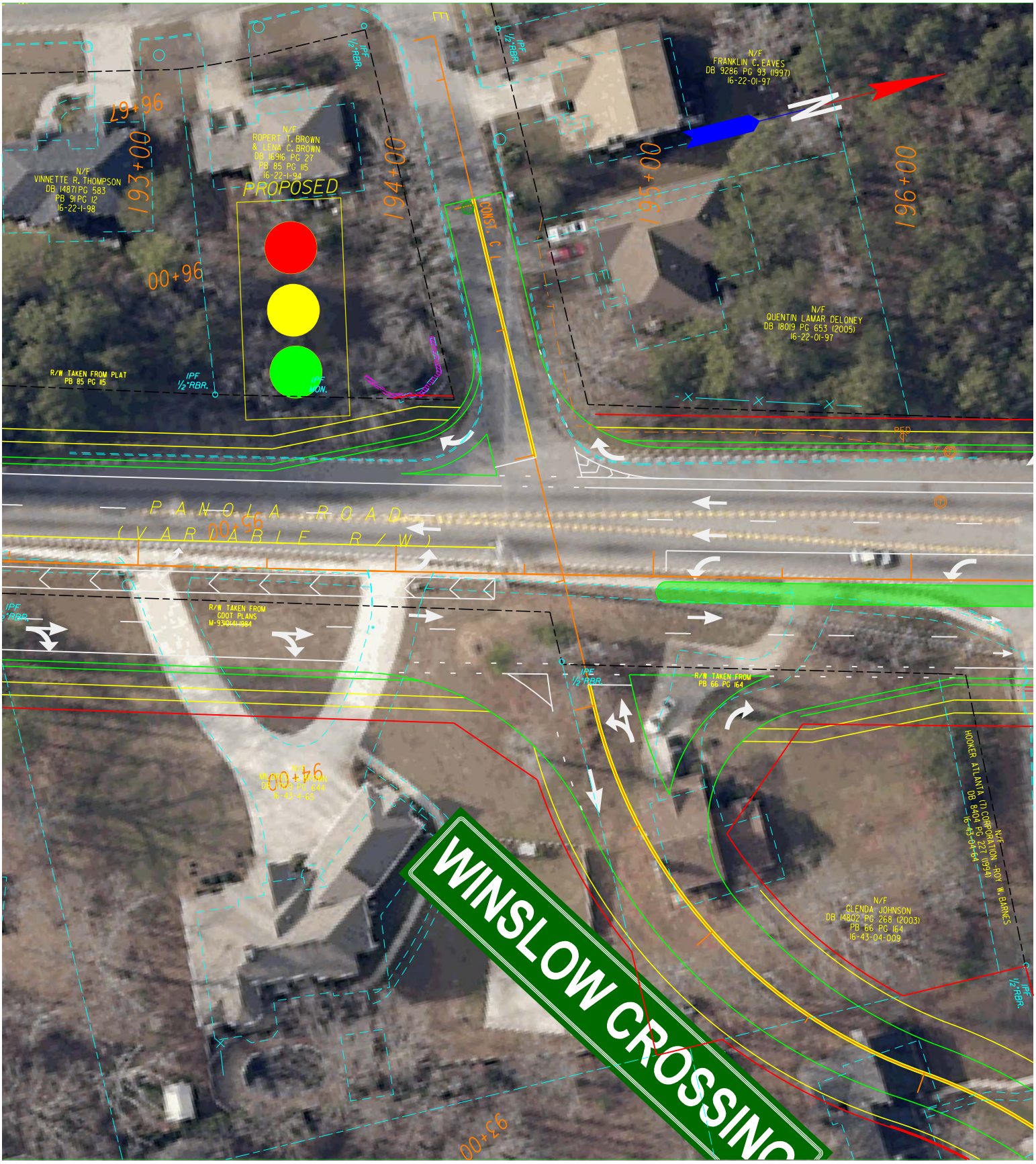
@ Oaktree Trail



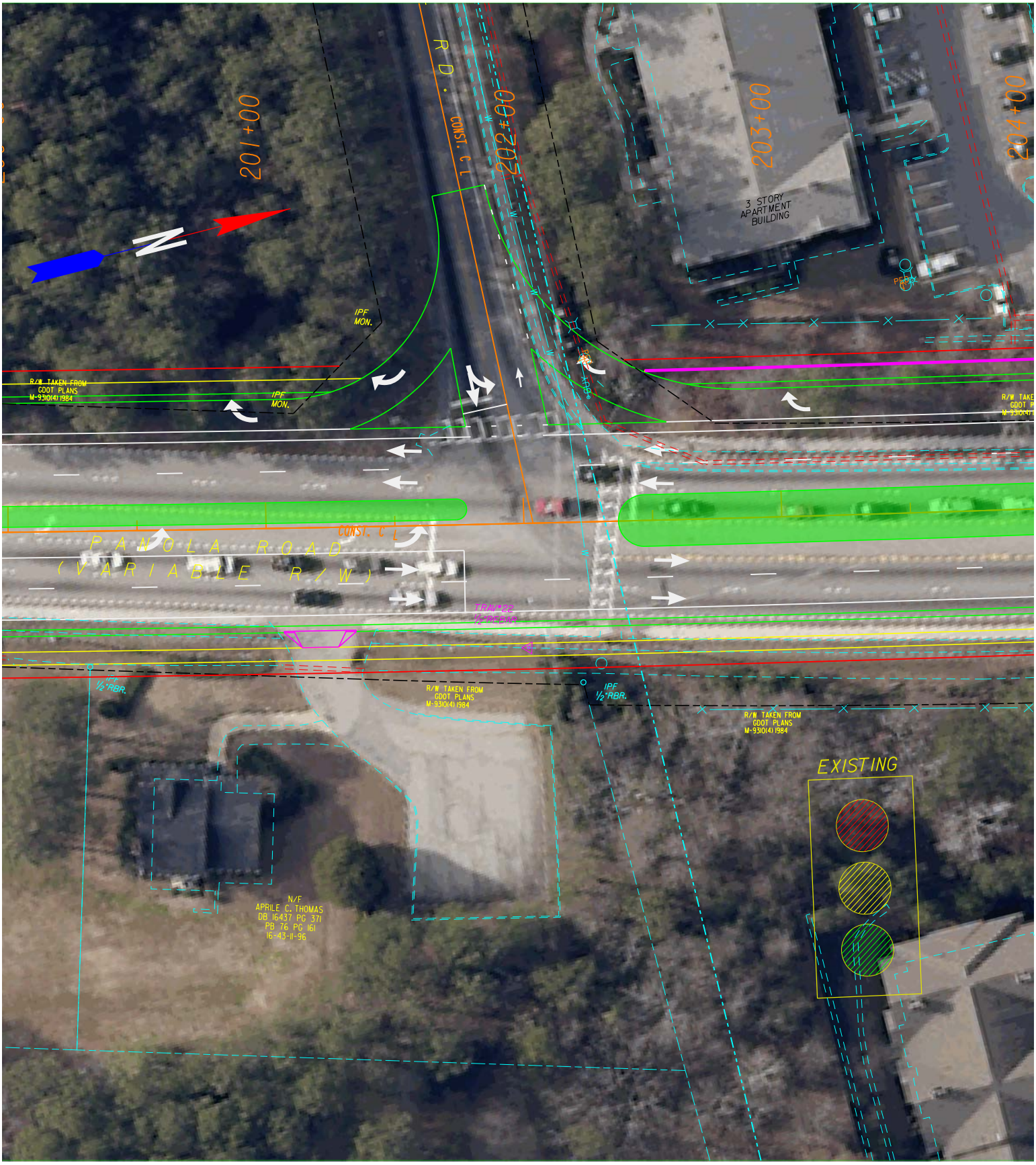
@ CEDAR ROCK DRIVE



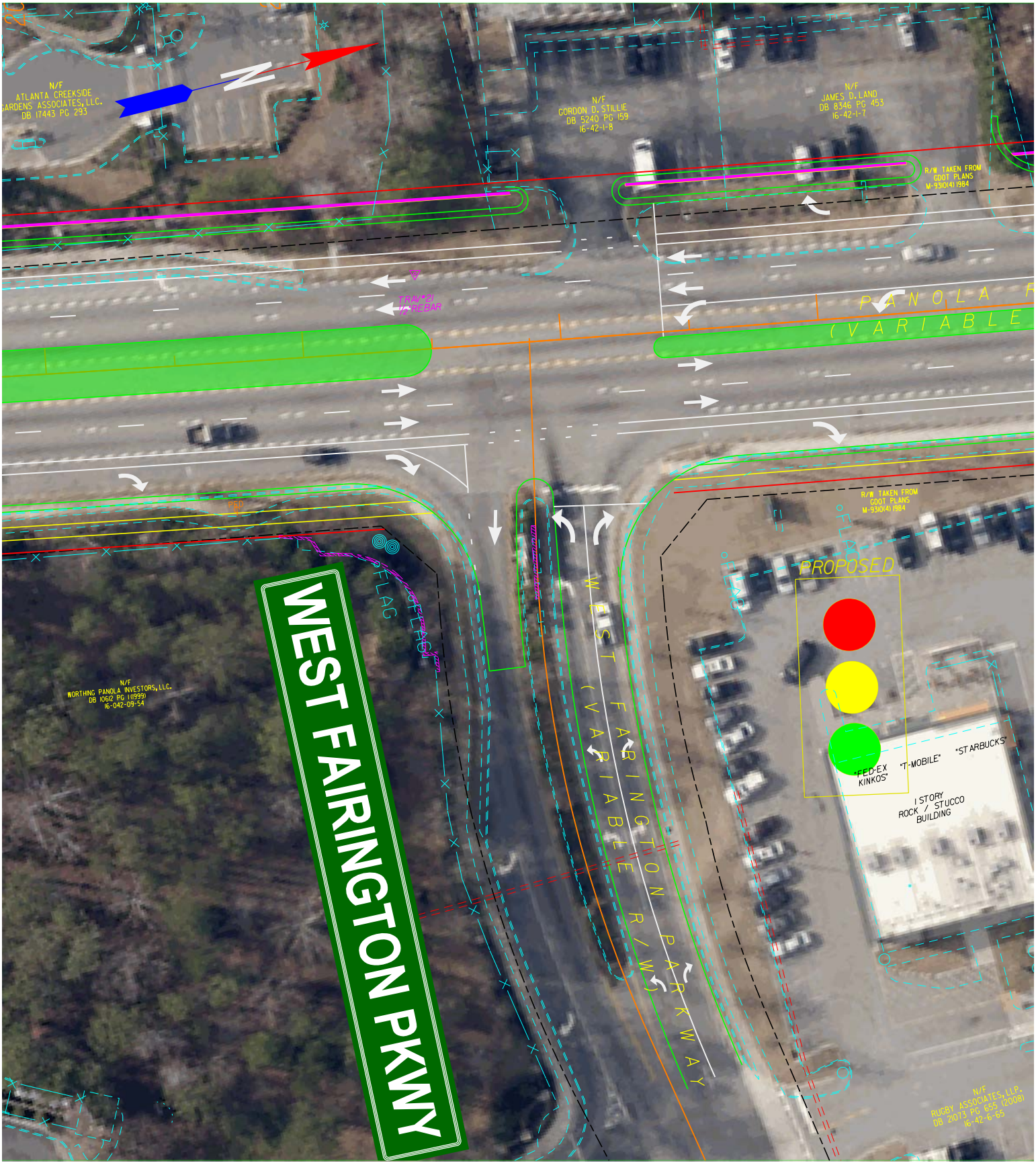
@ Rock Springs Road



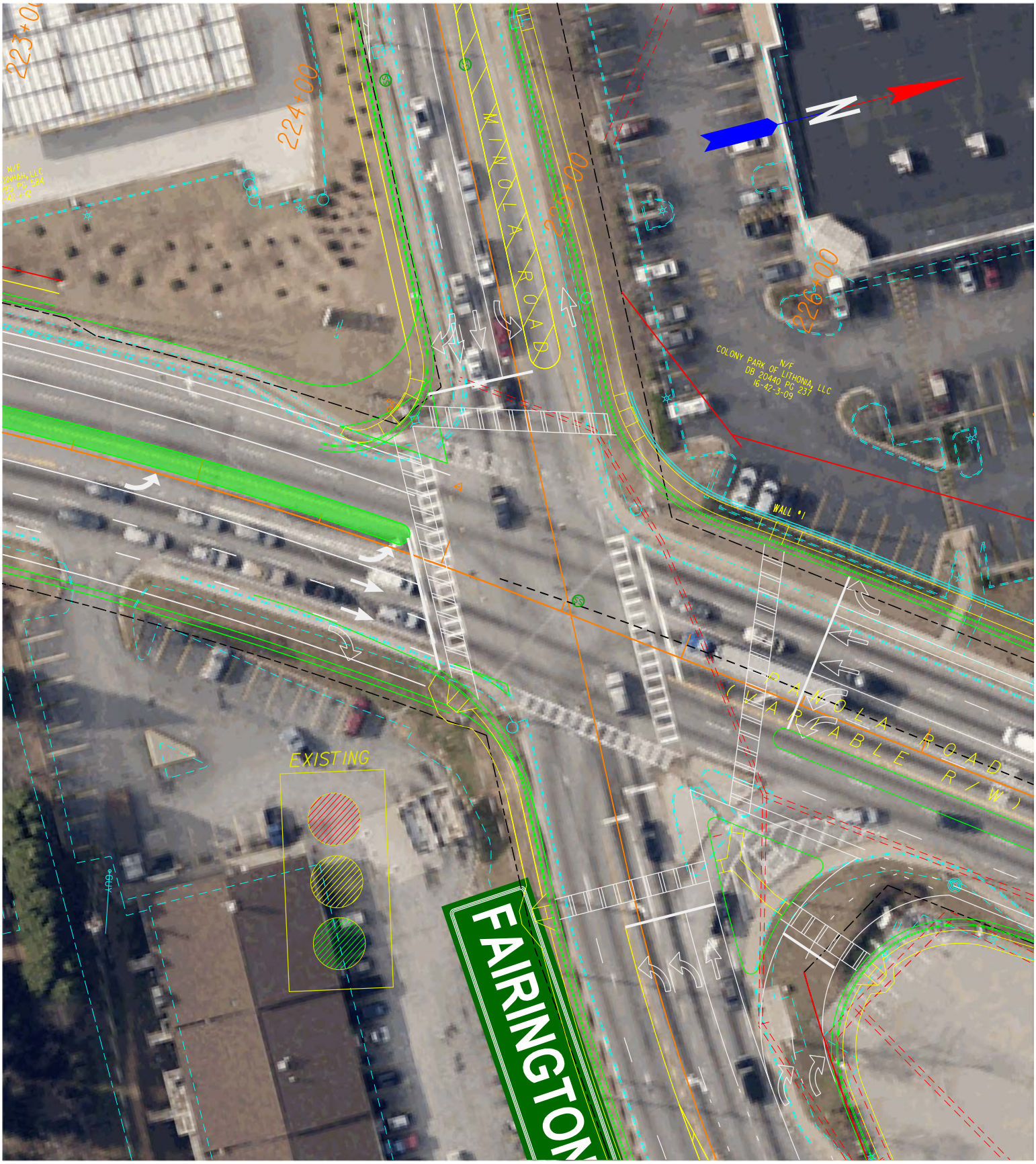
@ Winslow Crossing



@ Thompson Mill Road



@ West Farirington Pkwy



@ Fairington Road

STATE HIGHWAY AGENCY

DATE : 08/26/2015
PAGE : 1

JOB ESTIMATE REPORT

JOB NUMBER : 6879 SPEC YEAR: 01
DESCRIPTION: PANOLA RD-SEGMENT 2 & 3
FROM SR 212/BROWNS MILL RD TO FAIRINGTON RD

COST GROUPS FOR JOB 6879

COST GROUP	DESCRIPTION	QUANTITY	PRICE	AMOUNT	ACTIVE?
UDEF	FIBEROPTIC	1.000	288000.00000	288000.00	Y
ACTIVE COST GROUP TOTAL				288000.00	
INFLATED COST GROUP TOTAL				305280.00	

ITEMS FOR JOB 6879

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0010	150-1000		LS	TRAFFIC CONTROL - CSSTP-0006-00(879)	1.000	1000000.00	1000000.00
0015	210-0100		LS	GRADING COMPLETE - CSSTP-0006-00(879)	1.000	2500000.00	2500000.00
0020	310-1101		TN	GR AGGR BASE CRS, INCL MATL	126300.000	16.21	2047999.97
0024	318-3000		TN	AGGR SURF CRS	44.000	23.34	1027.07
0025	402-1812		TN	RECYL AC LEVELING,INC BM&HL	16300.000	72.12	1175652.33
0030	402-3121		TN	RECYL AC 25MM SP,GP1/2,BM&HL	34600.000	61.08	2113644.11
0035	402-3130		TN	RECYL AC 12.5MM SP,GP2,BM&HL	11300.000	68.68	776177.68
0040	402-3190		TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	8700.000	67.39	586347.72
0050	413-1000		GL	BITUM TACK COAT	12900.000	2.51	32439.63
0051	432-0206		SY	MILL ASPH CONC PVMT/ 1.50" DEP	330.000	6.48	2141.24
0057	441-0014		SY	DRIVEWAY CONCRETE, 4 IN TK	590.000	30.00	17700.00
0058	441-0016		SY	DRIVEWAY CONCRETE, 6 IN TK	330.000	35.09	11582.72
0059	441-0050		SY	CONC SLOPE DRAIN	200.000	55.30	11060.54
0060	441-0104		SY	CONC SIDEWALK, 4 IN	20600.000	24.12	496896.10
0064	441-0108		SY	CONC SIDEWALK, 8 IN	750.000	61.62	46217.82
0065	441-0303		EA	CONC SPILLWAY, TP 3	4.000	1661.50	6646.02
0069	441-0740		SY	CONC MEDIAN, 4 IN	1900.000	24.60	46741.41
0073	441-4020		SY	CONC VALLEY GUTTER, 6 IN	190.000	37.92	7205.86
0074	441-4030		SY	CONC VALLEY GUTTER, 8 IN	71.000	52.81	3749.55

JOB ESTIMATE REPORT

0079	441-5004	LF	CONC HEADER CURB, 10", TP 4	1200.000	15.87	19049.94
0080	441-6222	LF	CONC CURB & GUTTER/ 8"X30"TP2	39200.000	12.18	477695.51
0085	441-6740	LF	CONC CURB & GUTTER/ 8"X30" TP7	2100.000	15.05	31606.20
0088	500-3110	LF	CLASS A CONCRETE, TYPE P1, RETAINING WAL	200.000	448.07	89615.49
0089	500-3115	LF	CLASS A CONCRETE, TYPE P2, RETAINING WAL	150.000	533.60	80040.38
0090	500-3201	CY	CL B CONC, RET WALL	80.000	539.98	43198.40
0100	500-9999	CY	CL B CONC,BASE OR PVMT WIDEN	100.000	173.77	17377.96
0104	515-2020	LF	GALV STEEL PIPE HDRAIL,2",ROUD	400.000	46.87	18751.64
0105	550-1180	LF	STM DR PIPE 18",H 1-10	10400.000	34.71	361043.80
0110	550-1240	LF	STM DR PIPE 24",H 1-10	4900.000	42.00	205800.59
0112	550-1300	LF	STM DR PIPE 30",H 1-10	600.000	54.83	32899.42
0113	550-1360	LF	STM DR PIPE 36",H 1-10	400.000	59.00	23601.15
0114	550-1420	LF	STM DR PIPE 42",H 1-10	460.000	69.84	32127.89
0119	550-1480	LF	STM DR PIPE 48",H 1-10	240.000	89.69	21527.38
0120	550-4218	EA	FLARED END SECT 18 IN, ST DR	4.000	531.59	2126.39
0125	550-4224	EA	FLARED END SECT 24 IN, ST DR	8.000	631.41	5051.33
0129	550-4230	EA	FLARED END SECT 30 IN, ST DR	6.000	711.17	4267.07
0130	550-4236	EA	FLARED END SECT 36 IN, ST DR	4.000	1103.29	4413.17
0131	550-4242	EA	FLARED END SECT 42 IN, ST DR	4.000	1501.77	6007.08
0134	576-1018	LF	SLOPE DRAIN PIPE, 18 IN	100.000	46.42	4642.72
0135	603-2182	SY	STN DUMPED RIP RAP, TP 3, 24"	600.000	43.25	25951.99
0140	603-7000	SY	PLASTIC FILTER FABRIC	600.000	3.55	2135.78
0148	607-1000	CY	MORTAR RUBBLE MASONRY	80.000	540.00	43200.00
0149	620-0200	LF	TEMP BARRIER, METHOD NO. 2	500.000	80.85	40425.89
0150	634-1200	EA	RIGHT OF WAY MARKERS	600.000	98.80	59284.60
0154	635-1000	LF	BARRICADES	2000.000	44.00	88011.42
0155	641-1100	LF	GUARDRAIL, TP T	350.000	50.63	17720.94
0165	641-5001	EA	GUARDRAIL ANCHORAGE, TP 1	3.000	829.58	2488.76
0170	641-5012	EA	GUARDRAIL ANCHORAGE, TP 12	3.000	2048.30	6144.92
0175	668-1100	EA	CATCH BASIN, GP 1	130.000	2196.15	285500.01
0180	668-1110	LF	CATCH BASIN, GP 1, ADDL DEPTH	150.000	174.26	26140.34
0182	668-1200	EA	CATCH BASIN, GP 2	5.000	2553.11	12765.60
0183	668-1210	LF	CATCH BASIN, GP 2, ADDL DEPTH	24.000	232.02	5568.68
0185	668-2100	EA	DROP INLET, GP 1	30.000	1750.88	52526.51
0189	668-2110	LF	DROP INLET, GP 1, ADDL DEPTH	10.000	180.32	1803.20
0190	668-4300	EA	STORM SEW MANHOLE, TP 1	5.000	1879.65	9398.28
0194	668-4311	LF	ST SEW MANHOLE,TP 1,A DEP,CL 1	10.000	184.40	1844.06
0196	700-9300	SY	SOD	11400.000	4.95	56513.68
0197	163-0232	AC	TEMPORARY GRASSING	10.000	243.76	2437.69

JOB ESTIMATE REPORT

0200	163-0240	TN	MULCH	800.000	152.88	122307.09
0205	163-0300	EA	CONSTRUCTION EXIT	20.000	1203.67	24073.42
0209	163-0503	EA	CONSTR AND REMOVE SILT CONTROL GATE,TP 3	20.000	386.04	7720.86
0210	163-0550	EA	CONS & REM INLET SEDIMENT TRAP	300.000	119.89	35967.80
0215	165-0030	LF	MAINT OF TEMP SILT FENCE, TP C	28800.000	0.39	11454.91
0224	165-0087	EA	MAINT OF SILT CONTROL GATE, TP 3	20.000	54.36	1087.22
0225	165-0101	EA	MAINT OF CONST EXIT	20.000	553.64	11072.92
0230	165-0105	EA	MAINT OF INLET SEDIMENT TRAP	300.000	22.78	6834.76
0235	167-1000	EA	WATER QUALITY MONITORING AND SAMPLING	4.000	207.95	831.81
0240	167-1500	MO	WATER QUALITY INSPECTIONS	24.000	402.09	9650.19
0245	171-0030	LF	TEMPORARY SILT FENCE, TYPE C	28800.000	2.83	81645.12
0250	700-6910	AC	PERMANENT GRASSING	4.000	871.73	3486.93
0255	700-7000	TN	AGRICULTURAL LIME	40.000	117.44	4697.84
0265	700-8000	TN	FERTILIZER MIXED GRADE	20.000	597.44	11948.99
0270	700-8100	LB	FERTILIZER NITROGEN CONTENT	1000.000	1.98	1980.93
0275	716-2000	SY	EROSION CONTROL MATS, SLOPES	2000.000	1.13	2274.68
0280	615-1200	LF	DIRECTIONAL BORE - 6 IN	6000.000	12.01	72060.00
0285	615-1200	LF	DIRECTIONAL BORE - 8 IN	2500.000	15.18	37950.00
0290	636-1020	SF	HWY SGN,TP1MAT,REFL SH TP3	320.000	14.38	4604.24
0295	636-1033	SF	HWY SIGNS, TP1MAT,REFL SH TP 9	700.000	16.39	11479.25
0300	636-1041	SF	HWY SIGNS,TP 2MAT,REFL SH TP 9	310.000	33.64	10428.71
0305	636-2070	LF	GALV STEEL POSTS, TP 7	2260.000	6.51	14718.34
0310	636-2090	LF	GALV STEEL POSTS, TP 9	98.000	6.95	681.55
0315	639-3004	EA	STEEL STRAIN POLE, TP IV WITH 35' MAST ARM	16.000	10780.76	172492.25
0350	647-1000	LS	TRAF SIGNAL INSTALLATION NO - 1	1.000	91000.00	91000.00
0355	647-1000	LS	TRAF SIGNAL INSTALLATION NO - 2	1.000	92900.00	92900.00
0360	647-1000	LS	TRAF SIGNAL INSTALLATION NO - 3	1.000	100900.00	100900.00
0365	647-1000	LS	TRAF SIGNAL INSTALLATION NO - 4	1.000	96100.00	96100.00
0370	647-1000	LS	TRAF SIGNAL INSTALLATION NO - 5	1.000	74700.00	74700.00
0373	653-0110	EA	THERM PVMT MARK, ARROW, TP 1	12.000	90.52	1086.29
0375	653-0120	EA	THERM PVMT MARK, ARROW, TP 2	125.000	81.73	10216.37
0409	653-0210	EA	THERM PVMT MARK, WORD , TP 1	12.000	107.52	1290.24
0410	653-1501	LF	THERMO SOLID TRAF ST 5 IN, WHI	46720.000	0.39	18479.63
0415	653-1502	LF	THERMO SOLID TRAF ST, 5 IN YEL	33800.000	0.41	13862.39
0420	653-1704	LF	THERM SOLID TRAF STRIPE,24",WH	980.000	5.97	5853.45
0425	653-1804	LF	THERM SOLID TRAF STRIPE, 8",WH	12500.000	2.23	27896.25
0430	653-3501	GLF	THERMO SKIP TRAF ST, 5 IN, WHI	34000.000	0.32	11108.82
0435	653-3502	GLF	THERMO SKIP TRAF ST, 5 IN, YEL	1200.000	0.40	487.90
0445	653-6006	SY	THERM TRAF STRIPING, YELLOW	366.000	4.09	1498.70

JOB ESTIMATE REPORT

0450	654-1001	EA	RAISED PVMT MARKERS TP 1	90.000	5.93	534.30
0455	654-1003	EA	RAISED PVMT MARKERS TP 3	900.000	5.17	4660.73
0459	682-6222	LF	CONDUIT, NONMETL, TP 2, 2 IN	24000.000	5.65	135687.36
0460	682-6233	LF	CONDUIT, NONMETL, TP 3, 2 IN	12500.000	3.55	44385.50
0465	937-6050	EA	INT VIDEO DET SYS ASMBLY, TP A	16.000	4607.97	73727.56
0469	937-6051	EA	INT VIDEO DET SYS ASMBLY, TP B	4.000	8200.00	32800.00
0470	937-6150	EA	PROGRAMMING MONITOR, TP A	2.000	5058.87	10117.74
0475	939-8000	LS	TESTING	1.000	8000.00	8000.00
0480	939-5010	EA	ELEC PWR SVC ASSEMBLY,AERIAL SVC POINT	2.000	3375.00	6750.00

ITEM TOTAL 14629428.69
INFLATED ITEM TOTAL 15507194.41

TOTALS FOR JOB 6879

ESTIMATED COST: 15812474.39
CONTINGENCY PERCENT (0.0): 0.00
ESTIMATED TOTAL: 15812474.39

PROJ. NO.		CALL NO.
P.I. NO.	0006879	
DATE	7/21/2015	

INDEX (TYPE)	**DATE**	**INDEX**
REG. UNLEADED	Jul-15	$ 2.662
DIESEL		$ 2.826
LIQUID AC		$ 466.00

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)				**991182**	**$**	**991,182.00**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	745.60		
Monthly Asphalt Cement Price month project let (APL)			$	466.00		
Total Monthly Tonnage of asphalt cement (TMT)				3545		

ASPHALT	**Tons**	**%AC**	**AC ton**
Leveling	16300	5.0%	815
12.5 OGFC		5.0%	0
12.5 mm	11300	5.0%	565
9.5 mm SP		5.0%	0
25 mm SP	34600	5.0%	1730
19 mm SP	8700	5.0%	435
	70900		**3545**

BITUMINOUS TACK COAT

Price Adjustment (PA)			**$**	**15,491.74**	**$**	**15,491.74**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	745.60		
Monthly Asphalt Cement Price month project let (APL)			$	466.00		
Total Monthly Tonnage of asphalt cement (TMT)				55.40680189		

Bitum Tack Gals	gals/ton	tons
12900	232.8234	55.4068019

PROJ. NO.		CALL NO.	
P.I. NO.	0006879		
DATE	7/21/2015		

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)				**0**	**$ -**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	745.60	
Monthly Asphalt Cement Price month project let (APL)			$	466.00	
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	**$**	**1,006,673.74**

DETAILED ROW COST ESTIMATE SUMMARY

Date (MM/YYYY): July-15
Revised:

Project: STP-0006-00(879)
County: Dekalb
PI: OOO6879

Description: Panola Rd
Parcels:

R/W Plan Date:

CONTRACT

Land and Improvements	$2,852,207.25
Valuation Services	$199,000.00
Legal Services	$585,750.00
Relocation	$350,000.00
Demolition	$105,000.00
TOTAL CONTRACT	**$4,091,957.25**

INHOUSE

TOTAL INHOUSE	**$932,500.00**
TOTAL ESTIMATED COSTS	$5,024,457.25
TOTAL ESTIMATED COSTS (ROUNDED)	***$5,030,000.00***

Preparation Credits	Hours	Signature

ARCADIS

CG#: 7/2/15 (DATE)

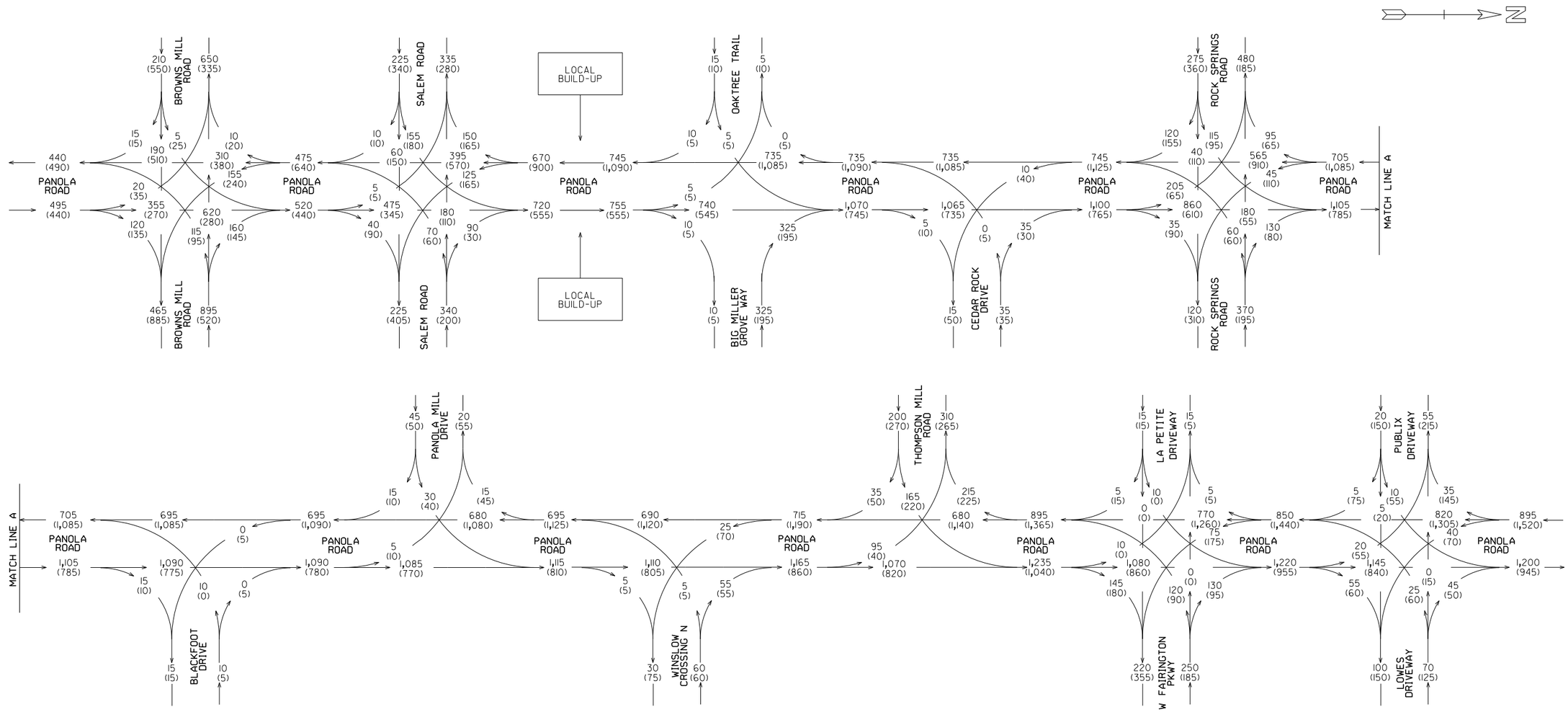
CG#: (DATE)

Attachment(s): **Project Location Map; Subject/Comp Location Map; Comparable Sales Data**

UTILITY COST ESTIMATE FOR PI 0006879		
UTILITY OWNER	**REIMBURSABLE COST**	**NON-REIMBURSABLE COST**
Ga Power	$1,200,000	
M.E.A.G.	$2,600,000	
Atlanta Gas Light Company		$250,000
Comcast		$220,000
DeKalb County Watershed Management		$1,200,000
A T &T		$550,000
Total Cost	**$3,800,000**	**$2,220,000**

SHEET 1 OF 5

EXISTING (2014) DHV



	TRUCK PERCENTAGES:				
PANOLA ROAD SEGMENTS 2 AND 3	LOCATION	PK HR T%	S.U. %	COMB %	AM PEAK HOUR = 000 PM PEAK HOUR = (000)
	PANOLA RD	5%	5%	0%	
PI NOS. 0006879 & 0005905 DEKALB COUNTY	BROWNS MILL RD	4%	3%	1%	COMPLETED BY: KC CHECKED BY: RV DATE: 01/08/2015
	ROCK SPRINGS RD	4%	4%	0%	
	THOMPSON MILL RD	3%	3%	0%	

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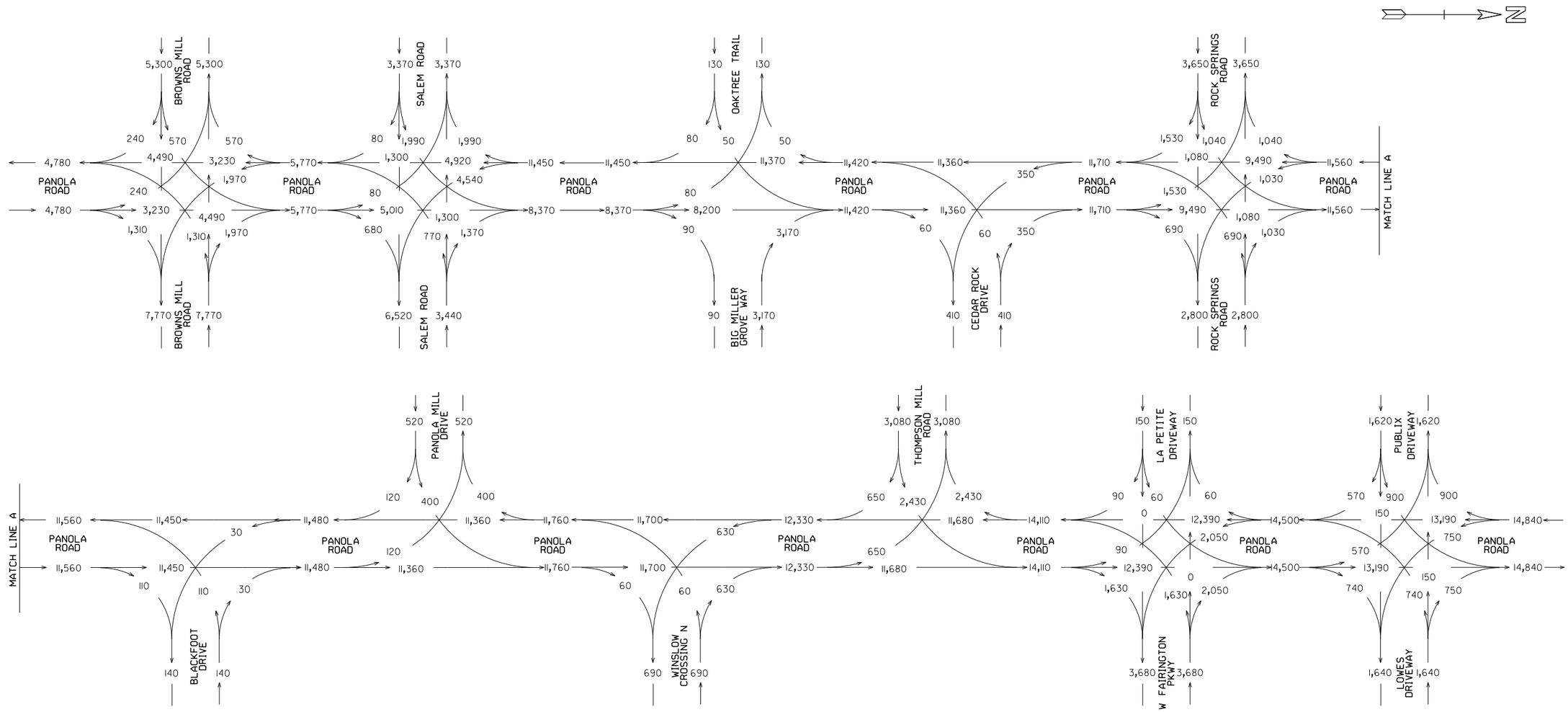
EXISTING (2014) ADT



PANOLA ROAD SEGMENTS 2 AND 3	TRUCK PERCENTAGES:				AM PEAK HOUR = 000 PM PEAK HOUR = (000)
	LOCATION	DAILY T%	S.U. %	COMB %	
	PANOLA RD	4%	4%	0%	
PI NOS. 0006879 & 0005905 DEKALB COUNTY	BROWNS MILL RD	3%	3%	0%	COMPLETED BY: KC CHECKED BY: RV DATE: 01/08/2015
	ROCK SPRINGS RD	3%	3%	0%	
	THOMPSON MILL RD	3%	3%	0%	

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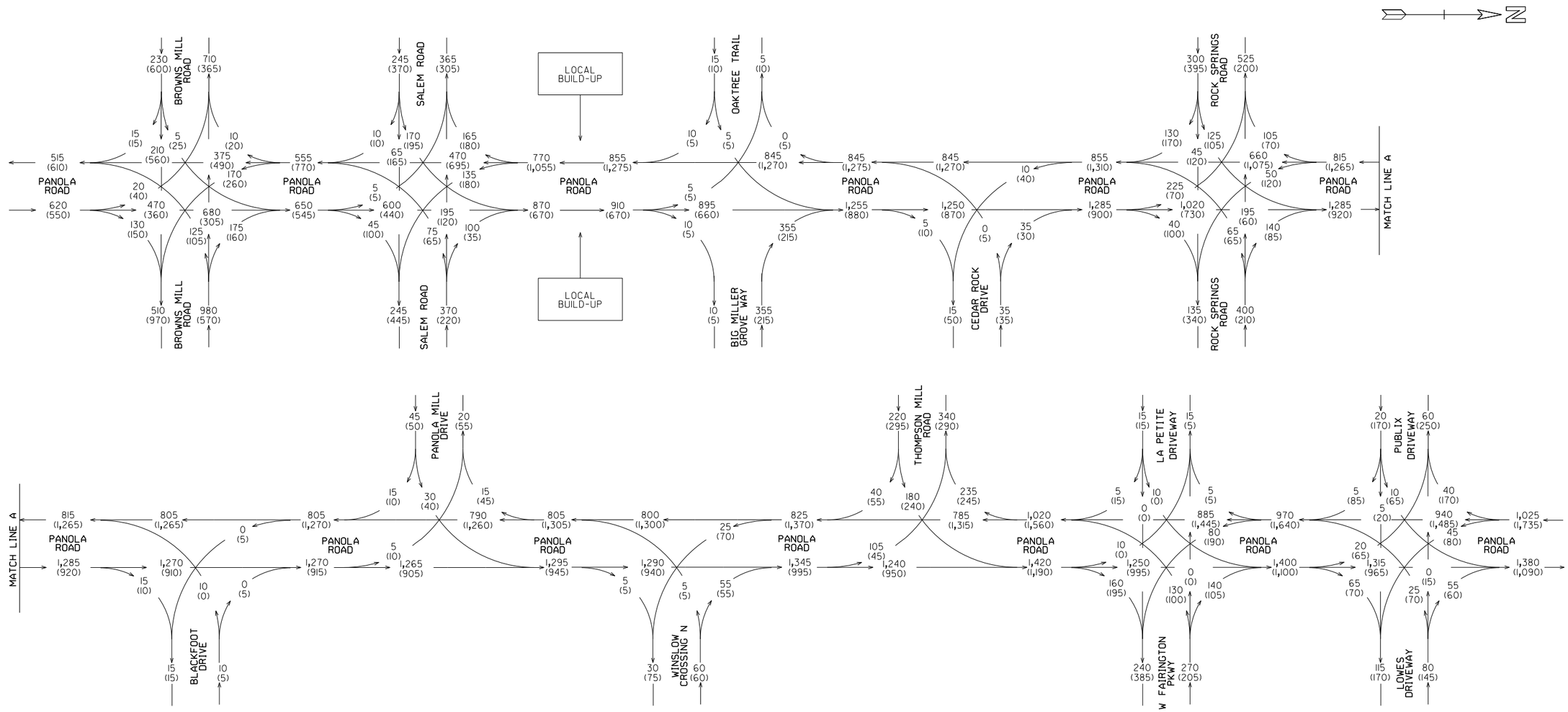
SHEET 3 OF 5

OPEN (2020) DHV



PANOLA ROAD SEGMENTS 2 AND 3	TRUCK PERCENTAGES:				AM PEAK HOUR = 000 PM PEAK HOUR = (000)
	LOCATION	PK HR T%	S.U. %	COMB %	
	PANOLA RD	5%	5%	0%	
PI NOS. 0006879 & 0005905 DEKALB COUNTY	BROWNS MILL RD	4%	3%	1%	COMPLETED BY: MT CHECKED BY: KC DATE: 02/18/2015
	ROCK SPRINGS RD	4%	4%	0%	
	THOMPSON MILL RD	3%	3%	0%	

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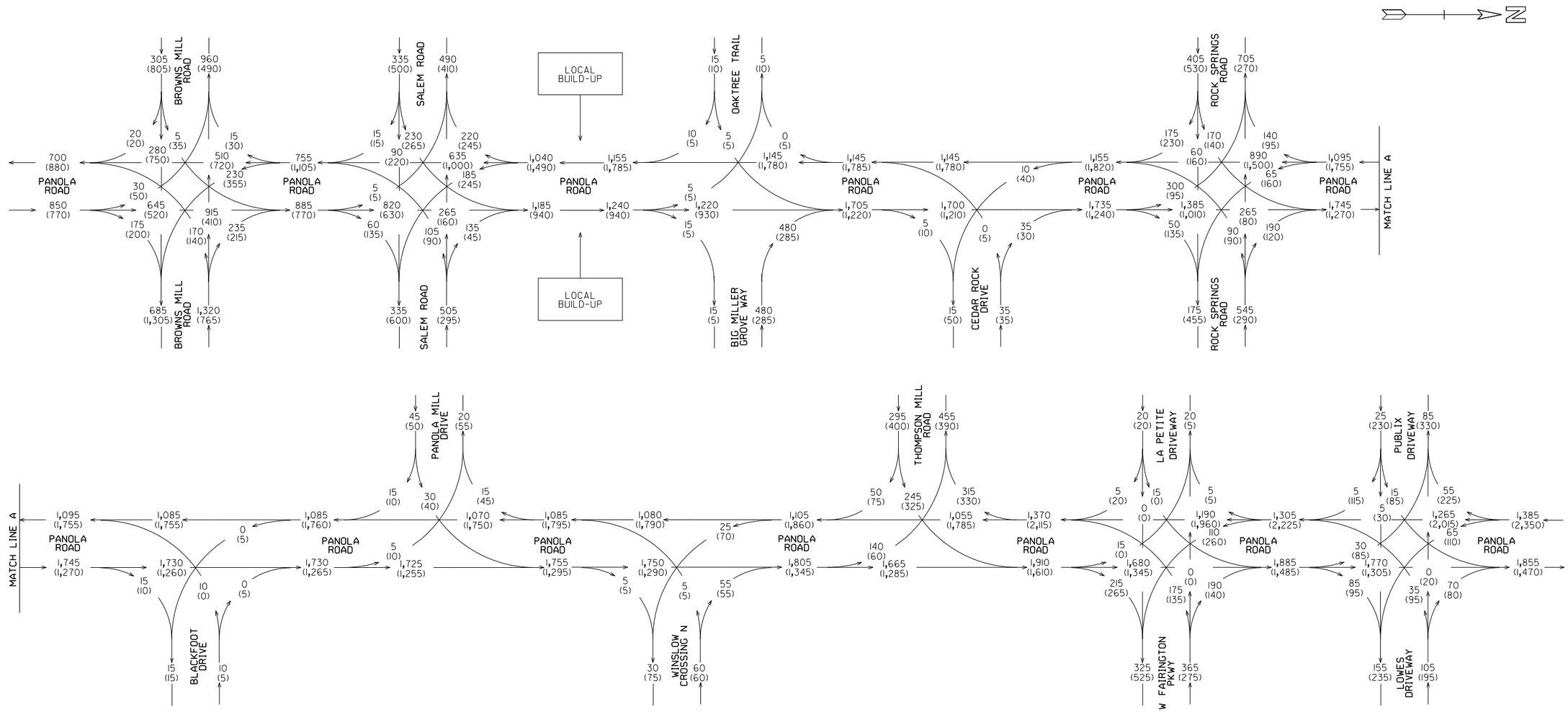
SHEET 4 OF 5

DESIGN (2040) DHV



PANOLA ROAD SEGMENTS 2 AND 3	TRUCK PERCENTAGES:				AM PEAK HOUR = 000 PM PEAK HOUR = (000)
	LOCATION	PK HR T%	S.U. %	COMB %	
	PANOLA RD	5%	5%	0%	
PI NOS. 0006879 & 0005905 DEKALB COUNTY	BROWNS MILL RD	4%	3%	1%	COMPLETED BY: MT CHECKED BY: KC DATE: 02/18/2015
	ROCK SPRINGS RD	4%	4%	0%	
	THOMPSON MILL RD	3%	3%	0%	

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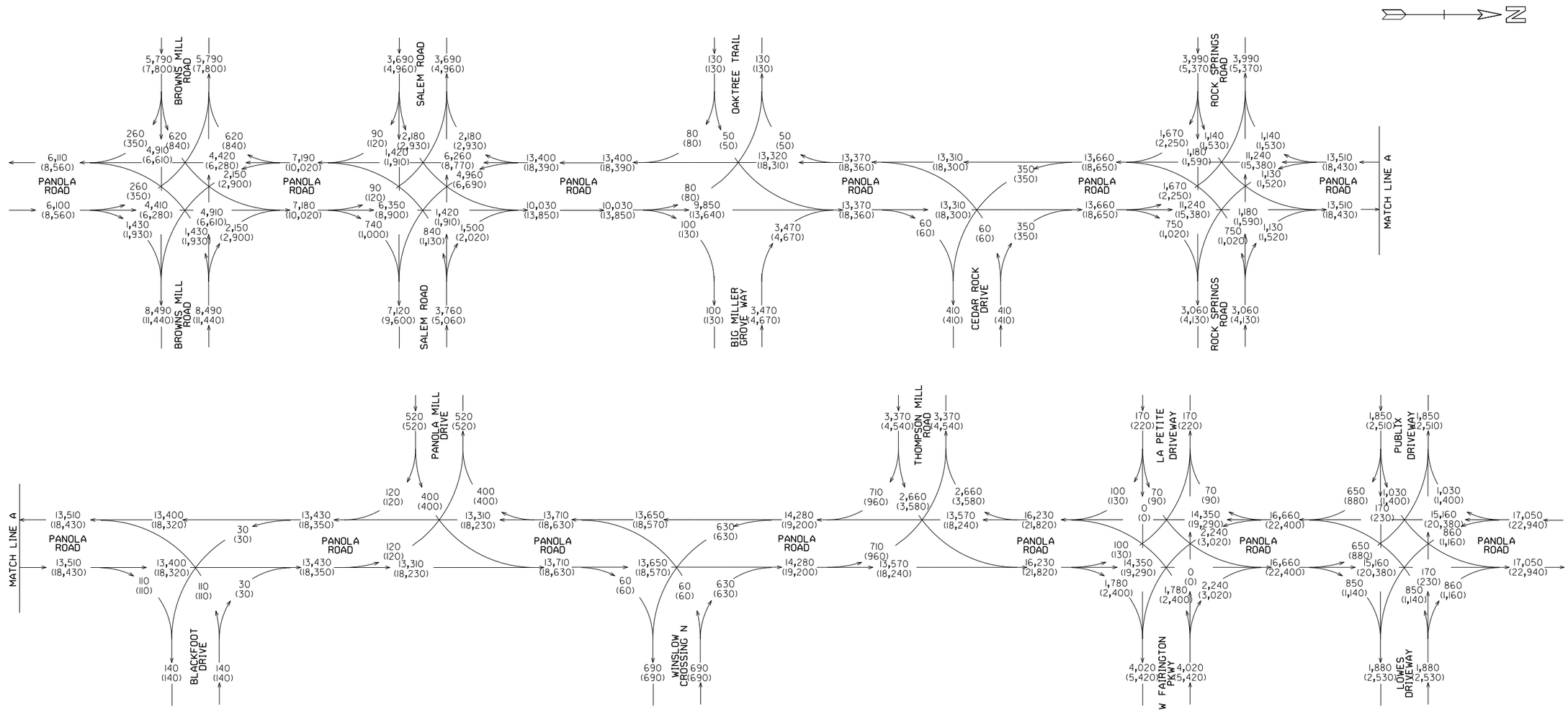
SHEET 5 OF 5

OPEN (2020)/DESIGN (2040) ADT



PANOLA ROAD SEGMENTS 2 AND 3	TRUCK PERCENTAGES:				2020 ADT = 000 2040 ADT = (000)
	LOCATION	DAILY T%	S.U. %	COMB %	
	PANOLA RD	4%	4%	0%	
PI NOS. 0006879 & 0005905 DEKALB COUNTY	BROWNS MILL RD	3%	3%	0%	COMPLETED BY: MT CHECKED BY: KC DATE: 02/18/2015
	ROCK SPRINGS RD	3%	3%	0%	
	THOMPSON MILL RD	3%	3%	0%	

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CRASH HISTORY DATA AND ANALYSIS

Crash Rate Analysis

Table #1: Summary of Panola Road Project Study Area Intersection Crash Rates and Statewide Average Crash Rates (2009-2013)

Panola Road		Statewide Average Crashes	2009-2013 Average Crashes
Browns Mill Rd./Hwy 212	Total	5.924	21.2
	Fatality	0.006	0.0
	Injury	1.408	6.4
	PDO	4.509	14.8
Salem Road	Total	7.12	6.0
	Fatality	0.006	0.0
	Injury	1.627	1.8
	PDO	5.486	4.2
Oak Tree Trail/ Big Miller Grove Way	Total	8.755	7.4
	Fatality	0.008	0.0
	Injury	1.967	3.3
	PDO	6.779	4.1
Cedar Rock Dr.	Total	8.755	3.8
	Fatality	0.008	0.2
	Injury	1.967	1.6
	PDO	6.779	2.0
Rock Springs Road	Total	8.755	10.2
	Fatality	0.008	0.0
	Injury	1.967	3.2
	PDO	6.779	7.0
Blackfoot Drive	Total	8.755	3.2
	Fatality	0.008	0.0
	Injury	1.967	1.2
	PDO	6.779	2.0
Panola Mill Drive	Total	8.755	2.0
	Fatality	0.008	0.0
	Injury	1.967	0.2
	PDO	6.779	1.8
Winslow Crossing N	Total	8.755	0.8
	Fatality	0.008	0.0
	Injury	1.967	0.2
	PDO	6.779	0.6

CRASH HISTORY DATA AND ANALYSIS

Table #1: Summary of Panola Road project Study Area Intersection Crash Rates and Statewide Average Crash Rates (2009-2013) – Continued.

Panola Road		Statewide Average Crashes	2009-2013 Average Crashes
Thompson Mill Road	Total	9.836	10.8
	Fatality	0.010	0
	Injury	2.213	4.0
	PDO	7.613	6.8
W Fairington Parkway	Total	9.836	16.4
	Fatality	0.010	0.0
	Injury	2.213	6.0
	PDO	7.613	10.4
Minola Drive/ Fairington Road	Total	9.836	28.6
	Fatality	0.010	0.0
	Injury	2.213	6.4
	PDO	7.613	22.2

*Red cells indicate intersections that exceed statewide average total, injury, or fatal crash rates

The table shows that at several of the intersections the frequency of total crashes and frequency of injury crashes were higher than the statewide average for comparable intersections. Crashes that involved property damage only were more than double the statewide average amount at two of the study intersections. One fatality occurred at Cedar Rock Drive intersection.

CRASH HISTORY DATA AND ANALYSIS

Crash Type Analysis

Figure #1: Browns Mill Rd/Hwy 212 Intersection Crashes by Collision Type (2009-2013)

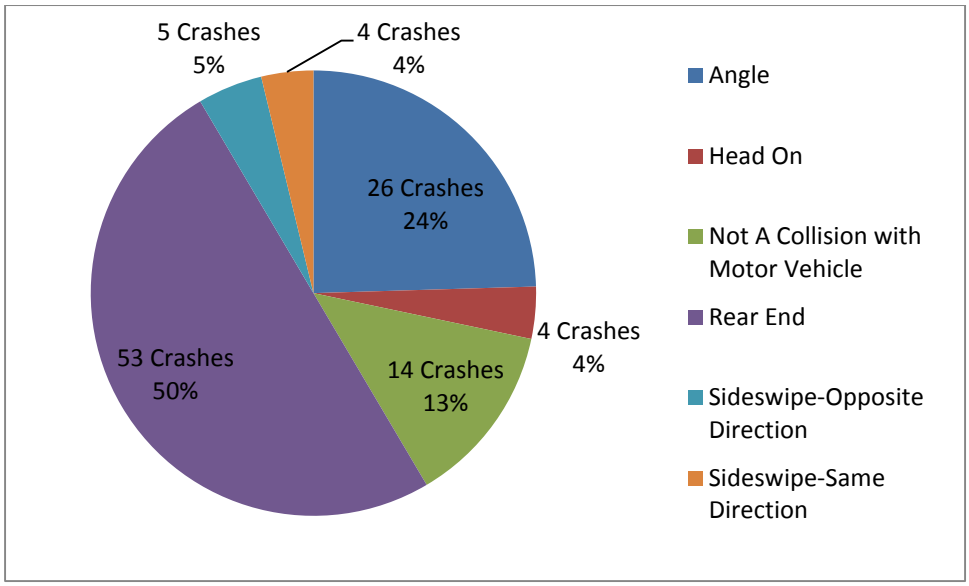
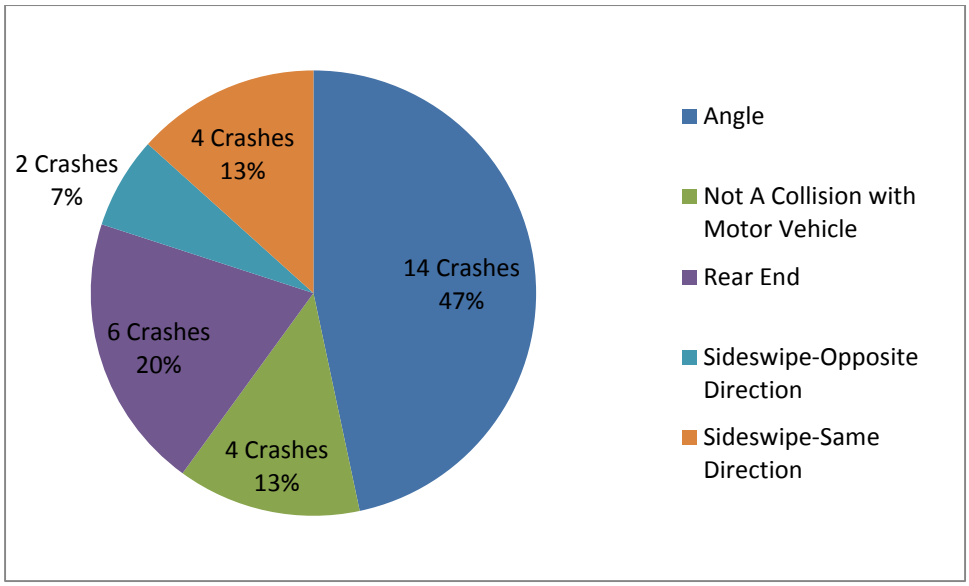


Figure #2: Salem Rd. Intersection Crashes by Collision Type (2009-2013)



CRASH HISTORY DATA AND ANALYSIS

Figure #3: Oaktree Trail/Big Miller Grove Way Intersection Crashes by Collision Type (2009-2013)

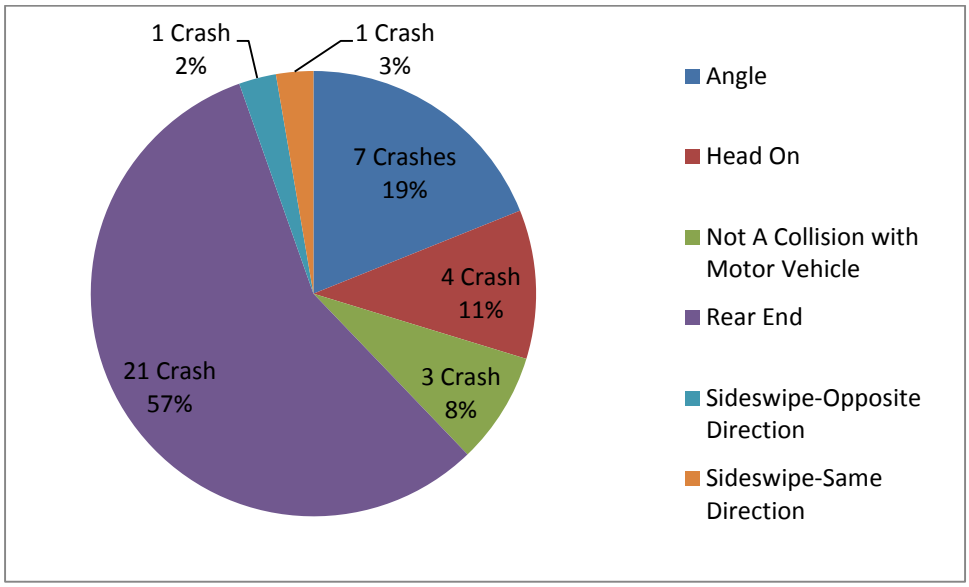
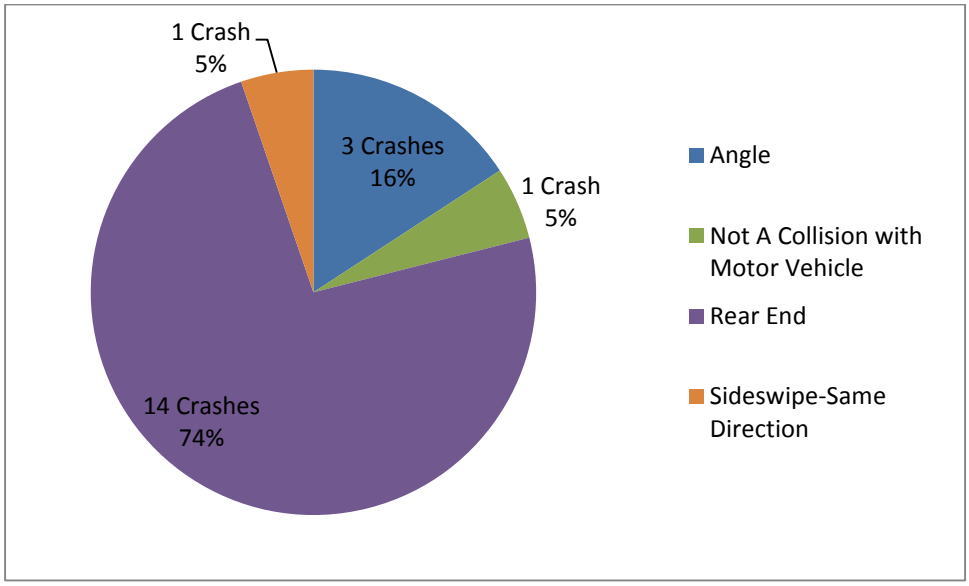


Figure #4: Cedar Rock Dr. Intersection (Unsignalized) Crashes by Collision Type (2009-2013)



CRASH HISTORY DATA AND ANALYSIS

Figure #5: Rock Springs Rd. Intersection Crashes by Collision Type (2009-2013)

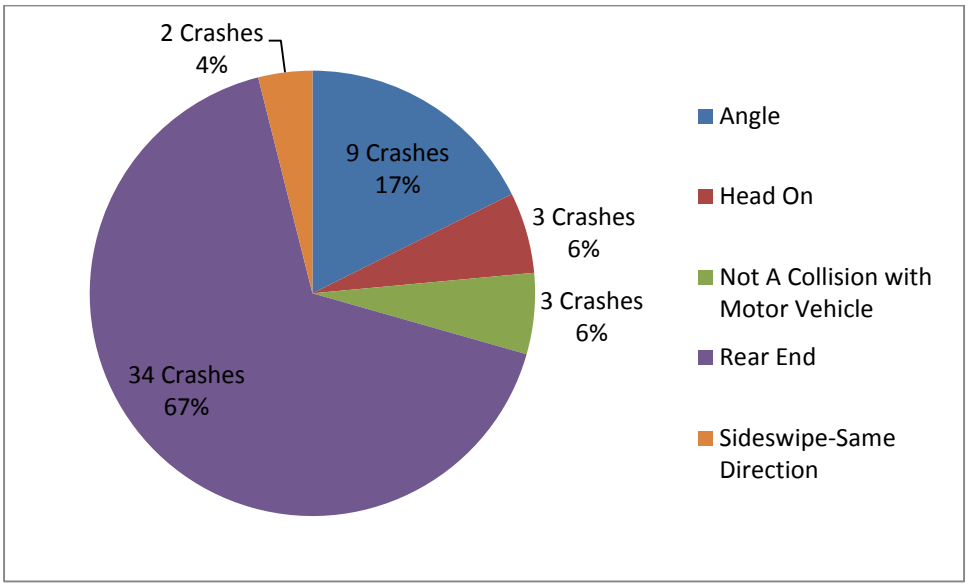
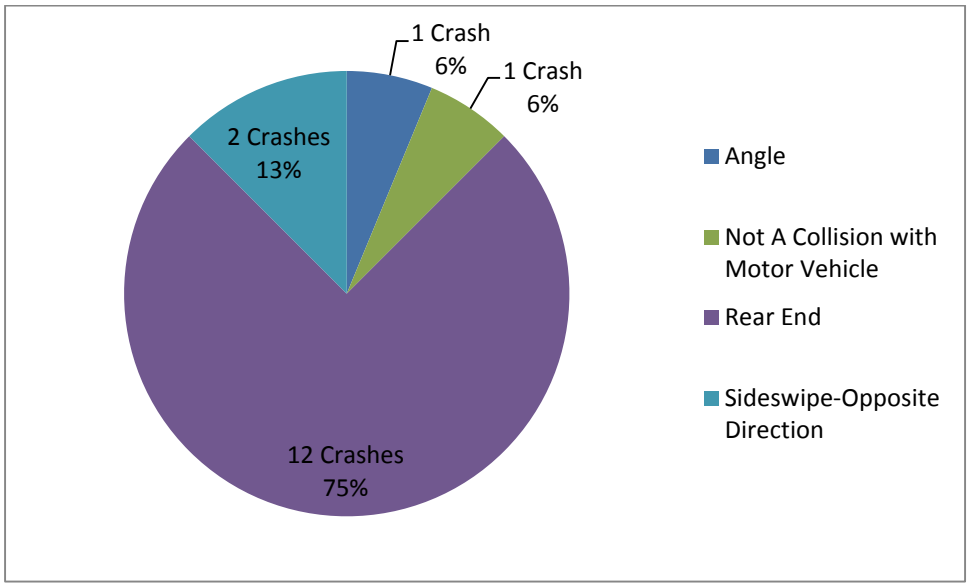


Figure #6: Blackfoot Dr. Intersection Crashes by Collision Type (2009-2013)



CRASH HISTORY DATA AND ANALYSIS

Figure #7: Panola Mill Dr. Intersection Crashes by Collision Type (2009-2013)

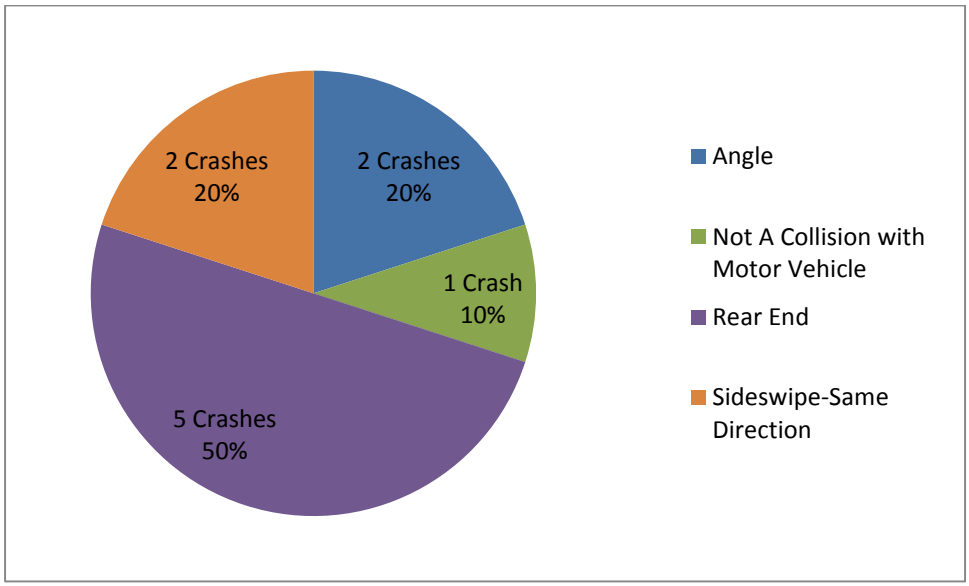
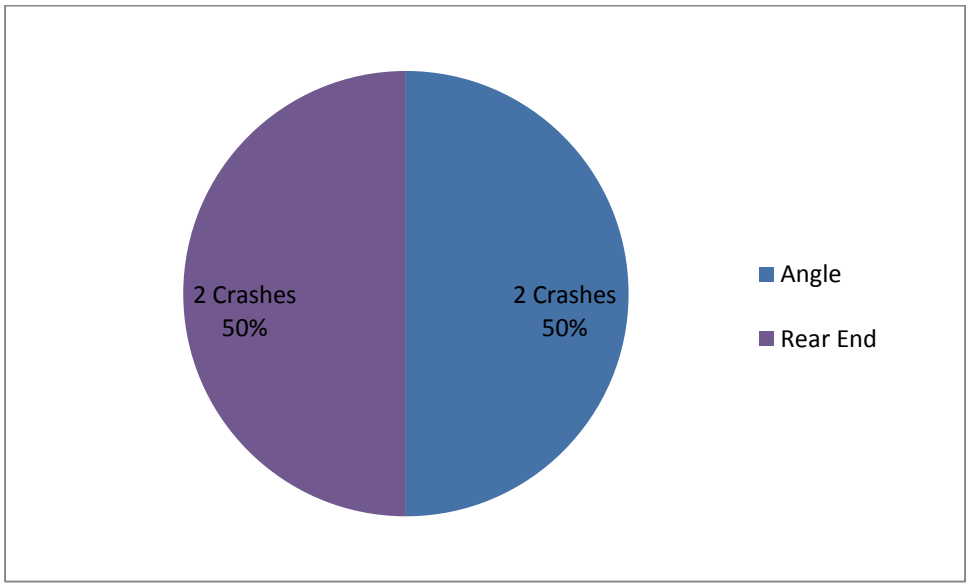


Figure #8: Winslow Crossing Intersection Crashes by Collision Type (2009-2013)



CRASH HISTORY DATA AND ANALYSIS

Figure #9: Thompson Mill Rd. Intersection Crashes by Collision Type (2009-2013)

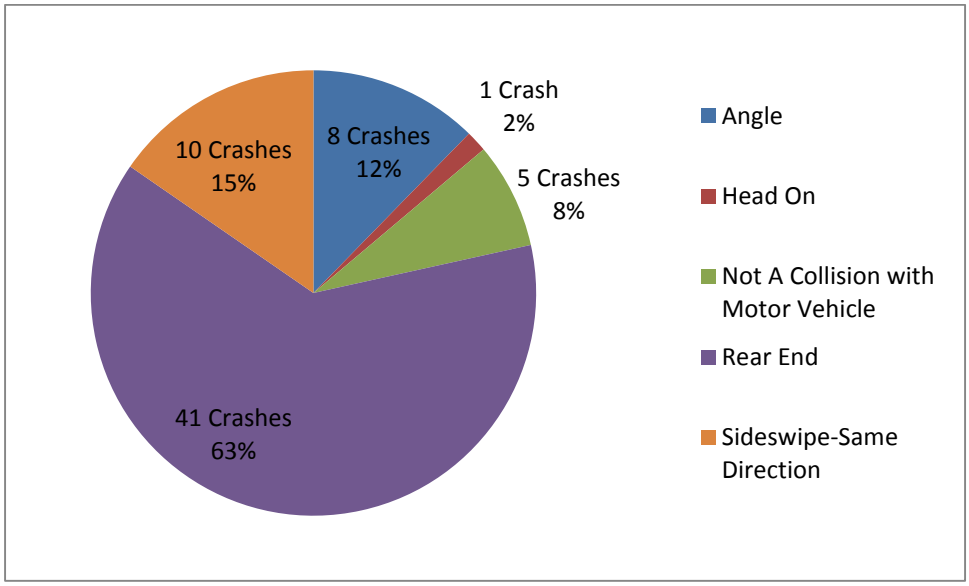
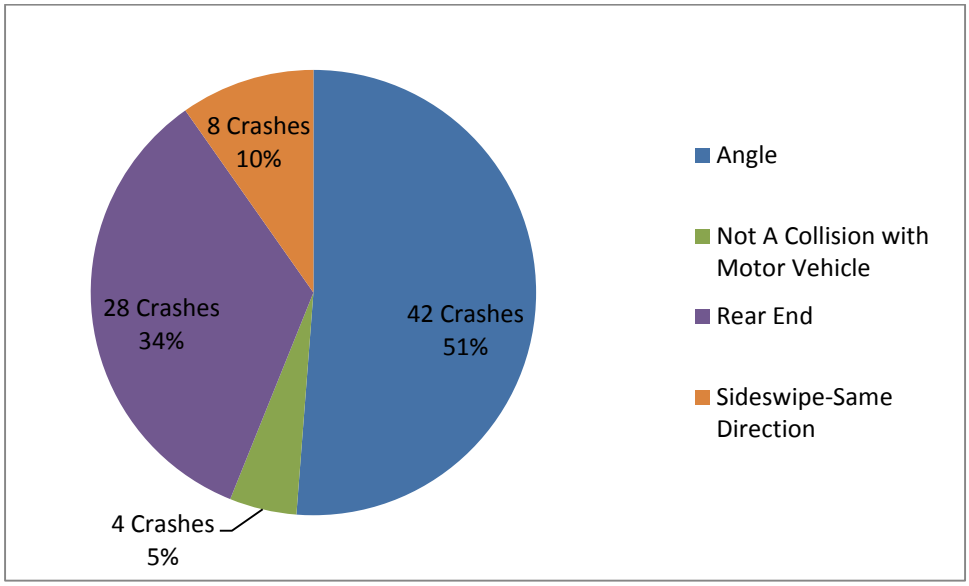
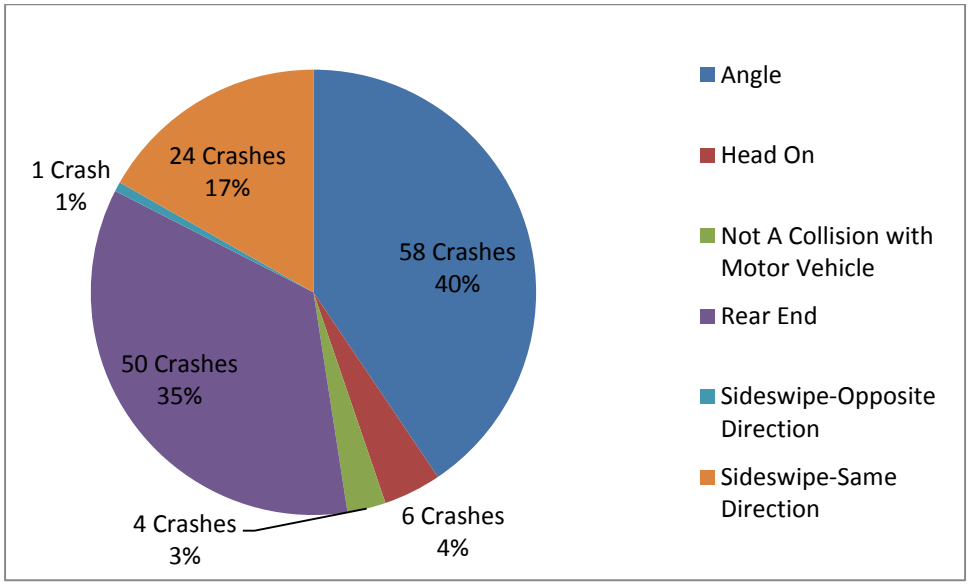


Figure #10: W Fairington Pkwy Intersection Crashes by Collision Type (2009-2013)



CRASH HISTORY DATA AND ANALYSIS

Figure #11: Minola Dr./Fairington Rd. Intersection Crashes by Collision Type (2009-2013)



The crash type analysis shows that angle, rear end, and sideswipe in the same direction crashes were the most prevalent crash types at the eleven study intersections.

CRASH HISTORY DATA AND ANALYSIS

Crash Severity Analysis

The severity of crashes was analyzed by calculating the percentage of each type of crash that involved injuries or fatalities.

Table #3: Browns Mill Rd./Hwy 212 Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	26	9	35%
Head On	4	0	0%
Not A Collision With Vehicle	14	6	43%
Rear End	53	14	26%
Sideswipe – Opposite Direction	5	1	20%
Sideswipe – Same Direction	4	2	50%
Total	**106**	**32**	**30%**

Table #4: Salem Rd. Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	14	6	43%
Not A Collision With Vehicle	4	1	25%
Rear End	6	2	33%
Sideswipe – Opposite Direction	2	0	0%
Sideswipe – Same Direction	4	0	0%
Total	**30**	**9**	**30%**

Table #5: Oaktree Trail/Big Miller Grove Way Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	7	4	57%
Head On	4	2	50%
Not A Collision With Vehicle	3	2	67%
Rear End	21	5	24%
Sideswipe – Opposite Direction	1	0	0%
Sideswipe – Same Direction	1	0	0%
Total	**37**	**13**	**35%**

CRASH HISTORY DATA AND ANALYSIS

Table #: Cedar Rock Dr. Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	3	3	100%
Not A Collision With Vehicle	1	0	0%
Rear End	14	4	29%
Sideswipe – Same Direction	1	1	100%
Total	**19**	**8**	**42%**

Table #: Rock Springs Rd. Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	9	2	22%
Head On	3	1	33%
Not A Collision With Vehicle	3	2	67%
Rear End	34	11	32%
Sideswipe – Same Direction	2	0	0%
Total	**51**	**16**	**31%**

Table #: Blackfoot Dr. Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	1	1	100%
Not A Collision With Vehicle	1	0	0%
Rear End	12	5	42%
Sideswipe – Opposite Direction	2	0	0%
Total	**16**	**6**	**38%**

CRASH HISTORY DATA AND ANALYSIS

Table #: Panola Mill Dr. Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	2	0	0%
Not A Collision With Vehicle	1	0	0%
Rear End	5	1	20%
Sideswipe – Same Direction	2	0	0%
Total	**10**	**1**	**10%**

Table #: Winslow Crossing Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	2	0	0%
Rear End	2	1	50%
Total	**4**	**1**	**25%**

Table #: Thompson Mill Rd Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	8	2	25%
Head On	1	1	100%
Not A Collision With Vehicle	5	1	20%
Rear End	41	16	39%
Sideswipe – Same Direction	10	0	0%
Total	**65**	**20**	**31%**

Table #: Cavalier Crossing Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Rear End	1	0	0%
Total	**1**	**0**	**0%**

CRASH HISTORY DATA AND ANALYSIS

Table #: W Fairington Pkwy Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	42	14	33%
Not A Collision With Vehicle	4	3	75%
Rear End	28	11	39%
Sideswipe – Same Direction	8	2	25%
Total	**82**	**30**	**37%**

Table #: Minola Dr./Fairington Rd. Intersection Crash Severity (2009-2013)

Collision Type	Number of Crashes	Number of Injury Crashes	Percentage of Injury Crashes
Angle	58	11	19%
Head On	6	2	33%
Not A Collision With Vehicle	4	1	25%
Rear End	50	16	32%
Sideswipe – Opposite Direction	1	0	0%
Sideswipe – Same Direction	24	2	8%
Total	**143**	**32**	**22%**

TRAFFIC ANALYSIS SUMMARY

Panola Road Corridor Summary of Intersection Capacity Analysis

Panola Road Intersections	Peak Hour	Existing Year 2014	Open Year 2020		Design Year 2040		
			No-Build	Build	No-Build	Build	
Browns Mill Road	AM	D (39.3)	E (72.6)	C (23.6)	F (160.0)	C (32.3)	
	PM	C (32.9)	E (56.9)	C (26.9)	F (160.3)	E (57.6)	
Salem Road	AM	B (18.8)	C (26.2)	D (45.5)	F (110.1)	F (95.0)	
	PM	B (20.0)	C (31.0)	C (30.3)	F (137.6)	F (90.5)	
Oaktree Trail/Big Miller Grove Way*2	AM	F (82.9)*	E (-)*	RIRO	F (-)*	RIRO	
	PM	F (269.2)*	F (975.4)*	RIRO	F (-)*	RIRO	
Cedar Rock Drive*1	AM	C (22.9)*	D (30.1)*	D (30.1)*	F (71.1)*	F (71.1)*	
	PM	F (951.0)*	F (-)*	F (52.6)*	F (-)*	F (Err)*	
Rock Springs Road	AM	C (20.6)	D (38.0)	D (43.8)	F (143.6)	F (104.6)	
	PM	B (17.6)	D (39.1)	D (44.7)	F (129.3)	F (126.4)	
Blackfoot Drive*1	AM	F (613.8)*	F (-)*	E (48.8)*	F (-)*	F (345.3)*	Int. - A (2.2)*
	PM	C (15.1)*	C (18.0)*	C (18.0)*	E (49.0)*	E (49.1)*	Int. - A (0.2)*
Panola Mill Road*1,4	AM	F (244.0)*	F (802.8)*	B (10.6)	F (-)*	D (43.7)	
	PM	F (-)*	F (-)*	A (4.7)	F (-)*	A (7.2)	
Winslow Crossing Drive*1,4	AM	E (38.8)*	F (62.0)*	B (10.6)	F (295.4)*	D (43.7)	
	PM	C (21.9)*	D (27.9)*	A (4.7)	F (73.5)*	A (7.2)	
Thompson Mill Road	AM	A (9.7)	B (13.6)	A (9.6)	B (18.4)	B (18.3)	
	PM	B (13.6)	B (17.7)	B (14.8)	E (68.6)	C (30.3)	
W. Fairington Parkway*1	AM	D (26.0)*	E (42.5)*	A (9.2)	F (216.3)*	B (14.8)	
	PM	D (26.6)*	E (43.3)*	A (7.8)	F (327.0)*	B (12.7)	
Publix/Lowes Driveways	AM	A (5.7)	A (5.7)	A (5.4)	A (8.0)	A (6.8)	
	PM	A (9.8)	B (12.2)	A (7.4)	C (22.8)	B (13.2)	
Minola Drive/Fairington Road	AM	D (45.2)	D (40.3)	C (28.1)	F (88.6)	E (55.9)	
	PM	D (45.5)	D (36.1)	C (34.8)	F (93.8)	F (80.4)	

Note: (1) Maximum sidestreet delay reported for unsignalized intersections

(2) HCM methodology does not develop delays for Right-in/Right-out driveways

(3) * Represents unsignalized Intersection

(4) The intersections were re-aligned to a new signalized intersection in the build scenario

(5) Err - Synchro analysis cannot compute the delay values because volume greatly exceeds capacity

ROUNDABOUT ANALYSIS SUMMARY

Arcadis completed a preliminary evaluation of implementing roundabouts along the Panola corridor using the 2040 volumes and found that 8 out of the 11 intersections don't meet the criteria for a roundabout because either the ADT is too high or they have more than 90 percent of the total intersection volume on the major road. The other 3 intersections (Browns Mill Rd, Salem Rd, and Oaktree Trl) exceed the threshold for a single lane roundabout but meet the criteria for a multi-lane roundabout. A summary of the results from the GDOT Roundabout Tool capacity analysis is below. The results show the proposed entry lane configurations analyzed as well as the LOS, delay, and V/C results for 2040.

It was determined that an additional through lane would be needed along Panola Road for these roundabouts to preform and an acceptable level of service and was deemed out of scope of this operational improvement project.

Level of Service

Approach Leg & Lane	Panola Rd. @ Browns Mill Rd.		Panola Rd. @ Salem Rd.		Panola Rd. @ Oaktree Trl.*	
	2040 AM	2040 PM	2040 AM	2040 PM	2040 AM	2040 PM
North (1)	LOS E	LOS C	LOS A	LOS B	LOS A	LOS A
North (2)	LOS E	LOS C	LOS B	LOS B	LOS A	LOS B
East (1)	LOSE	LOS B	LOS C	LOS A	LOS D	LOS B
East (2)	LOS E	LOS B	LOS C	LOS A	LOS C	LOS A
South (1)	LOS B	LOS F	LOS B	LOS C	LOS C	LOS B
South (2)	LOS B	LOS F	LOS B	LOS B	N/A	N/A
West (1)	LOS B	LOS F	LOS B	LOS F	LOS A	LOS C
West (2)	LOS A	LOS F	LOS A	LOS D	N/A	N/A
Intersection	**LOS D**	**LOS D**	**LOS B**	**LOS C**	**LOS C**	**LOS A**

Delay (sec/veh)

Approach Leg & Lane	Panola Rd. @ Browns Mill Rd.		Panola Rd. @ Salem Rd.		Panola Rd. @ Oaktree Trl.*	
	2040 AM	2040 PM	2040 AM	2040 PM	2040 AM	2040 PM
North (1)	47.0	18.5	9.9	11.8	5.7	8.7
North (2)	42.2	19.6	10.4	13.6	6.2	10.3
East (1)	41.8	11.4	19.0	10.0	29.8	10.8
East (2)	48.0	11.3	17.2	9.2	21.8	9.4
South (1)	10.7	56.2	10.9	15.1	20.1	10.2
South (2)	10.9	50.0	11.1	14.8	N/A	N/A
West (1)	10.3	89.4	14.2	50.7	7.9	15.7
West (2)	9.5	79.0	8.2	26.7	N/A	N/A
Intersection	**32.6**	**40.1**	**12.1**	**17.4**	**15.4**	**9.8**

Approach Lane Volume/Capacity Ratio

Approach Leg & Lane	Panola Rd. @ Browns Mill Rd.		Panola Rd. @ Salem Rd.		Panola Rd. @ Oaktree Trl.*	
	2040 AM	2040 PM	2040 AM	2040 PM	2040 AM	2040 PM
North (1)	0.87	0.71	0.52	0.65	0.38	0.60
North (2)	0.87	0.75	0.56	0.71	0.43	0.67
East (1)	0.93	0.49	0.54	0.27	0.67	0.29
East (2)	0.97	0.52	0.54	0.27	0.59	0.26
South (1)	0.5	0.92	0.51	0.58	0.88	0.66
South (2)	0.53	0.91	0.55	0.6	N/A	N/A
West (1)	0.28	1.04	0.46	0.84	0.03	0.07
West (2)	0.28	1.02	0.19	0.64	N/A	N/A

Proposed Lane Configuration

Approach Leg & Lane	Panola Rd. @ Browns Mill Rd.	Panola Rd. @ Salem Rd.	Panola Rd. @ Oaktree Trl.*
North (1)	left-thru	left-thru	left-thru
North (2)	right-thru	right-thru	right-thru
East (1)	left-thru	left-thru	left-thru-right
East (2)	right-thru	right-thru	right only
South (1)	left-thru	left-thru	left-thru-right
South (2)	right-thru	right-thru	N/A
West (1)	left-thru	left only	left-thru-right
West (2)	right-thru	right-thru	N/A

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Programmed

PANOLA ROAD: SEGMENT 2

FROM SR 212 (BROWNS MILL ROAD) TO THOMPSON MILL ROAD

Jurisdiction DeKalb County

Sponsor DeKalb County

Existing	Planned	Length (mi.)	Network Year
2	4	1.7	2020

Service Type **Roadway / General Purpose Capacity**

Analysis In the Region's Air Quality Conformity Analysis

	Status	Year	Fund Type	Federal	State	Local	Bonds	Total
PE	AUTH	AUTH	Local Jurisdiction/Municipality Funds	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$0,000~~	**$0,000**
PE-OV	AUTH	2011	STP - Statewide Flexible (GDOT)	~~$40,000~~	~~$10,000~~	~~$0,000~~	~~$0,000~~	**$50,000**
ROW		2014	Local Jurisdiction/Municipality Funds	$0,000	$0,000	$2,967,210	$0,000	**$2,967,210**
UTL		2015	Local Jurisdiction/Municipality Funds	$0,000	$0,000	$4,065,930	$0,000	**$4,065,930**
CST		2015	STP - Urban (>200K) (ARC)	$17,661,600	$0,000	$4,415,400	$0,000	**$22,077,000**
				$17,701,600	**$10,000**	**$11,448,540**	**$0,000**	**$29,160,140**

DK-065C

0005905

Programmed

PANOLA ROAD: SEGMENT 3

FROM THOMPSON MILL ROAD TO FAIRINGTON ROAD - DESIGN PHASE WILL INCLUDE ACCESS MANAGEMENT PLAN

Jurisdiction DeKalb County

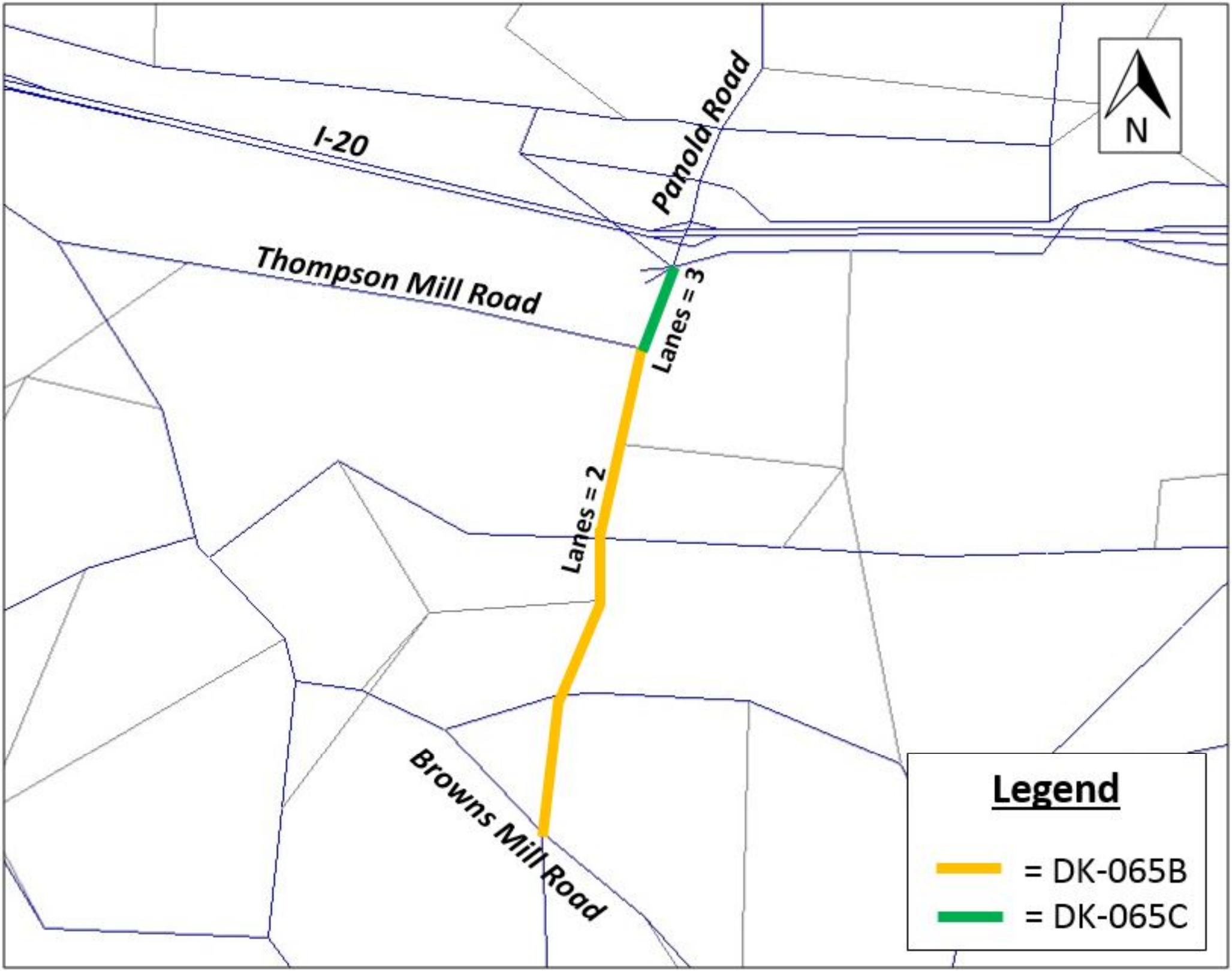
Sponsor DeKalb County

Existing	Planned	Length (mi.)	Network Year
4	6	0.4	2020

Service Type **Roadway / General Purpose Capacity**

Analysis In the Region's Air Quality Conformity Analysis

	Status	Year	Fund Type	Federal	State	Local	Bonds	Total
PE	AUTH	AUTH	Local Jurisdiction/Municipality Funds	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$0,000~~	**$0,000**
PE-OV	AUTH	2011	Local Jurisdiction/Municipality Funds	~~$0,000~~	~~$0,000~~	~~$50,000~~	~~$0,000~~	**$50,000**
ROW		2014	Local Jurisdiction/Municipality Funds	$0,000	$0,000	$7,308,610	$0,000	**$7,308,610**
UTL		2015	Local Jurisdiction/Municipality Funds	$0,000	$0,000	$929,400	$0,000	**$929,400**
CST		2015	STP - Urban (>200K) (ARC)	$5,779,675	$0,000	$1,444,919	$0,000	**$7,224,594**
				$5,779,675	**$0,000**	**$9,732,929**	**$0,000**	**$15,512,604**


I-20
Panola Road
Thompson Mill Road
Lanes = 3
Lanes = 2
Browns Mill Road
N
Legend
= DK-065B
= DK-065C