

GEORGIA DEPARTMENT OF TRANSPORTATION

TRAFFIC STUDY

**SR 92 Widening From Nebo Road/Hiram to SR 120
Including Powder Springs Creek Bridge**

Project No. STP00-0186-01(025)

P. I. No. 621720-

Paulding County

September 2017

Prepared by

PARSONS

TRAFFIC STUDY

SR 92 Widening from Nebo
Rd/Hiram to SR 120 Including
Powder Springs Creek Bridge

Project No. STP00-0186-01(025)

P. I. No. 621720-

Paulding County

September 2017

Prepared for:

Georgia Department of Transportation

Prepared by:

PARSONS

3577 Parkway Lane

Building V, Suite 100

Peachtree Corners, GA 30092

Tel: 770-446-4900

Fax: 770-446-4910

TABLE OF CONTENTS

1. INTRODUCTION.....	4
2. EXISTING CONDITIONS	4
3. PROJECTS IN AREA	4
4. CRASH ANALYSIS	5
4.1. NON-INTERSECTION CRASH ANALYSIS	7
4.2. SIGNALIZED INTERSECTIONS CRASH ANALYSIS	8
4.3. UNSIGNALIZED INTERSECTIONS CRASH ANALYSIS	10
4.4. CONCLUSION.....	14
5. TRAFFIC FORECAST	15
5.1. EXISTING TRAFFIC DATA	15
5.2. TRAFFIC GROWTH RATE AND FORECAST	15
6. CAPACITY ANALYSIS	16
6.1. EXISTING CONDITION.....	17
6.2. NO-BUILD CONDITION	20
6.3. BUILD CONDITION.....	23
6.3.1. ROUNDABOUT ANALYSIS	24
6.3.2. SIGNAL WARRANT ANALYSIS	24
6.3.3. ALTERNATIVE INTERSECTION – RESTRICTED CROSSING U-TURN (RCUT) ANALYSIS	25
7. FURTHER RECOMMENDATIONS.....	32
8. CONCLUSION	33

APPENDICES

A	Volume Diagrams
B	Intersection Lane Configurations
C	Synchro Reports
D	Roundabout Analysis
E	Signal Warrant Analysis

LIST OF TABLES

TABLE 1: CRASH HISTORY BY RATE & COMPARISON WITH STATEWIDE AVERAGE	5
TABLE 2: CRASHES BY FIRST HARMFUL EVENT.....	6
TABLE 3: CRASH HISTORY BY CRASH TYPE.....	7
TABLE 4: CRASH HISTORY BY LIGHTING CONDITIONS.....	7
TABLE 5: CRASH HISTORY BY CRASH TYPE - NON-INTERSECTION DATA.....	8
TABLE 6: CRASH HISTORY BY LIGHTING CONDITIONS – NON-INTERSECTION DATA	8
TABLE 7: CRASH HISTORY – SIGNALIZED INTERSECTIONS	9
TABLE 8: CRASHES INVOLVING INJURIES AND FATALITIES – SIGNALIZED INTERSECTIONS .	9
TABLE 9: CRASH HISTORY BY CRASH TYPE – SIGNALIZED INTERSECTIONS	10
TABLE 10: CRASH HISTORY BY LIGHTING CONDITIONS– SIGNALIZED INTERSECTIONS	10
TABLE 11: CRASH HISTORY – UNSIGNALIZED INTERSECTIONS.....	11
TABLE 12: CRASHES BY CRASH TYPE – UNSIGNALIZED INTERSECTIONS.....	12
TABLE 13: CRASH HISTORY BY INJURY CRASHES – UNSIGNALIZED INTERSECTIONS.....	13
TABLE 14: CRASHES BY LIGHTING CONDITIONS – UNSIGNALIZED INTERSECTIONS	14
TABLE 15: TRAFFIC GROWTH RATE.....	15
TABLE 16: LOS CRITERIA FOR SIGNALIZED INTERSECTIONS	16
TABLE 17: LOS CRITERIA FOR UNSIGNALIZED INTERSECTIONS	16
TABLE 18: URBAN STREET LOS	16
TABLE 19: CAPACITY ANALYSIS RESULTS FOR INTERSECTIONS (EXISTING 2016).....	17
TABLE 20: SR 92 NB ROADWAY CAPACITY ANALYSIS RESULTS (EXISTING 2016).....	19
TABLE 21: SR 92 SB ROADWAY CAPACITY ANALYSIS RESULTS (EXISTING 2016)	19
TABLE 22: CAPACITY ANALYSIS RESULTS FOR INTERSECTIONS (NO-BUILD)	20

TABLE 23: SR 92 NB ROADWAY CAPACITY ANALYSIS RESULTS (NO-BUILD).....	22
TABLE 24: SR 92 SB ROADWAY CAPACITY ANALYSIS RESULTS (NO-BUILD)	23
TABLE 25: SUMMARY OF INTERSECTION IMPROVEMENTS.....	25
TABLE 26: CAPACITY ANALYSIS RESULTS FOR INTERSECTIONS (BUILD)	28
TABLE 27: SR 92 NB ROADWAY CAPACITY ANALYSIS RESULTS (BUILD)	31
TABLE 28: SR 92 SB ROADWAY CAPACITY ANALYSIS RESULTS (BUILD).....	31

1. Introduction

The purpose of this study is to facilitate the concept development for the widening of SR 92. The project is located in Paulding County, Georgia. The study area is SR 92 from Nebo Road to East Paulding Middle School (north of East Paulding Road/SR 120), which is approximately 5.1 miles. Traffic data was collected and safety and capacity analyses were performed for the project to identify the deficiencies of the existing conditions and recommend appropriate future improvements.

2. Existing Conditions

SR 92 is a two-lane urban principal arterial with turning lanes at some individual intersections and a two-way left-turn lane, with four lanes at the southern end of the project limits. This project includes a total of 36 intersections, including 6 signalized and 30 unsignalized intersections. The unsignalized intersections have stop controls at the minor approaches. For the purposes of this report, SR 92 is considered a north-south highway and all cross roads are considered east-west roads. The posted speed limit for SR 92 varies from 40 miles per hour (mph) to 50 mph. The annual average daily traffic (AADT) along SR 92 ranges from 13,500 to 19,100 vehicles per day (vpd). The AADT and daily hourly volumes (DHV) are shown in the volume diagrams enclosed in Appendix A. Existing intersection lane configurations are also attached in Appendix B.

3. Projects in Area

The following completed and planned projects were identified within or near the project study limits:

- P.I. 0007691 – Douglas, Paulding County – SR 92 FM CS 611/Malone Rd to CS 519/Nebo Rd-Segment 1-PH IV.
- P.I. 0007692 – Cobb, Paulding County – SR 92 from SR 120 to CR 473/Cedarcrest Road.
- P.I. M005562 – Carroll, Paulding County– Maintenance Preservation @ 2 Locs in District 6 Area 3.
- P.I. M005645 – Cobb, Paulding County – SR 92 from SR 6 to CR 894/Cedarcrest Road.
- P.I. S014546 – Paulding County – Left Turn Lane SR 92 @ CR 597/Powder Creek Way.
- P.I. 0011736 – Paulding County – SR 6 @ SR 61; @ SR 92; & @ SR 120. Quick response project (District 6) operational improvements.
- P.I. 0007826 – Cobb, Douglas, Paulding County– SR 6/Thornton Road from SR 120/Paulding to I-20/Douglas.
- P.I. M04905 – Paulding County – SR 92 from Douglas County Line to 0.08 MI S of SR 6.
- P.I. M004458 – Paulding County – SR 6 @ SR 92. Quick response project (District 6) extension of left turn lane, grading and drainage improvements.

4. Crash Analysis

Historical crash data was obtained from Georgia Electronic Accident Reporting System (GEARS) for the four-year period of 2013-2016 for SR 92 within the project limits. Crash data was collected on SR 92 from Nebo Road to East Paulding Middle School North Driveway, which is approximately 5.1 miles.

A total of 1,012 crashes occurred during the analysis period. The crashes per year dropped from 372 crashes in 2013 to 146 crashes in 2016. A complete review of the projects that have been completed in the study area was conducted to investigate the possible changes affecting the frequency of crashes over time. No geometric design changes have been found at the locations where the number of crashes dropped in the year 2016. This reduction might be due to any changes in the crash reporting system.

Table 1 shows the crash history by crash rate in each year. The crash rates are calculated for total crashes, crashes involving injuries, and crashes involving fatalities along the segments. These are then compared to the statewide average for urban principal arterial (not including freeways or National Highway System). The crash rate information showed that the overall crash rates for SR 92 were higher than the statewide average during the study period in 2013 and 2014, and nearly matched the statewide average in 2015. The crashes rates involving injuries and fatalities were consistently higher than the statewide average between 2013 and 2015. Note that the statewide average rates are not available for 2016.

Table 1: Crash History by Rate & Comparison with Statewide Average

Year	No. of Crashes			Total Crashes		Crashes Involving Injuries		Crashes Involving Fatalities	
	Count	Involving Injuries	Involving Fatalities	Rate (100MV M)	Statewide Ave. Rate (100MV M)	Rate (100MVM)	Statewide Ave. Rate (100MVM)	Rate (100MV M)	Statewide Ave. Rate (100MVM)
2013	372	81	1	1302	608	283	141	3.50	1.18
2014	318	78	1	1109	589	272	134	3.49	1.15
2015	173	45	1	582	583	149	138	3.31	1.24
2016	146	41	2	468	-	131	-	6.41	-

Table 2 shows the number of crashes by their first harmful event and where they occurred: gore, on roadway, off roadway, or on shoulder. Out of the 1,012 crashes occurring in the four-year analysis, 959 (95 percent) involved motor vehicles in motion, with all other harmful events each accounting for less than 1 percent each.

There were four crashes involving a pedestrian on SR 92: one at the intersection of Main St, one at the intersection of Seaboard St, and two others with the same pedestrian at the intersection of Nebo Rd. All pedestrian crashes were fatal crashes, occurring during the dark-not lighted conditions.

Six crashes involved an animal, each near the intersections of Quail Ridge Rd, Macland Rd, Hiram Sudie Rd, Mt Vernon Church Rd, Paulding Pavilion and Darby’s Crossing Drive. Four of these six crashes occurred during dark-not lighted conditions.

One over-turn crash occurred at the intersection of Indian Lake Drive. The crash report indicates that there is a steep embankment and an insufficient shoulder width on SR 92 northbound.

Table 2: Crashes by First Harmful Event

First Harmful Event	Gore	Off Roadway	On Roadway	On Shoulder	No Data	Total
Animal	0	0	6	0	0	6
Culvert	0	1	0	1	0	2
Ditch	0	1	0	3	0	4
Embankment	0	1	0	0	0	1
Guard Rail Face	0	0	0	1	0	1
Immersion	0	0	1	0	0	1
Impact Attenuate	1	0	0	0	0	1
Mail Box	0	1	0	1	0	2
Motor Vehicle in Motion	1	4	942	8	4	959
Motor Vehicle in Motion - In Other Roadway	0	0	3	0	0	3
Other - Fixed Object	0	1	1	4	0	6
Other Non-Collision	0	0	1	0	0	1
Other Object (Not Fixed)	0	0	2	0	0	2
Over Turn	0	0	2	1	0	3
Parked Motor Vehicle	0	1	3	0	0	4
Pedestrian	0	0	4	0	0	4
Tree	0	0	0	3	0	3
Utility Pole	0	1	0	1	0	2
Unknown	0	0	0	0	7	7
Grand Total	2	11	965	23	11	1012

The crash history by crash type within the project limits is summarized in Table 3. Rear-end crashes occurred the most (63 percent of the total crashes), followed by angle crashes (25 percent). The remaining crash types each accounted for 5 percent or less of the total crashes. The high percentage of rear-end crashes and angle crashes is an indication of congestion and high turning movements at intersections.

Table 3: Crash History by Crash Type

Year	Angle	Head On	Rear End	Sideswipe – Opposite Direction	Sideswipe – Same Direction	Not a Collision With motor vehicle	No Data	Total
2013	93	7	235	4	17	12	4	372
2014	69	9	203	6	17	9	5	318
2015	45	5	104	3	10	9	0	176
2016	41	0	92	0	2	11	0	146
Total	248	21	634	13	46	41	9	1012
Percentage	25%	2%	63%	1%	5%	4%	1%	100%

The crash history for SR 92 by lighting condition is summarized in Table 4. Most crashes occurred in daylight conditions, followed by dark – not lighted. In total, 14 percent of the crashes occurred in dark-not lighted conditions.

Table 4: Crash History by Lighting Conditions

Condition	2013	2014	2015	2016	Total
Daylight	290	250	136	118	794
Dusk	3	2	1	3	9
Dawn	3	5	3	2	13
Dark - lighted	18	12	7	7	44
Dark – not lighted	54	45	29	16	144
Not Reported	4	4	0	0	8
Total	372	318	176	0	146
% Dark – not lighted	15%	14%	16%	11%	14%

The following sections characterize crashes occurring on segments or at intersections along SR 92. Out of 1,012 crashes on the SR 92 corridor during the four-year study period, 106 crashes occurred on segments, 615 crashes at signalized intersections, and 291 crashes at unsignalized intersections.

4.1. Non-Intersection Crash Analysis

Table 5 and Table 6 show the crash data along SR 92 that did not occur at intersections, i.e. crashes occurring on roadway segments. A total of 106 non-intersection crashes occurred during the analysis period. The total number of crashes dropped from 37 crashes in 2013 to 15 crashes in 2014, and again to 12 crashes in 2015, but increased to 42 crashes in 2016.

Table 5 summarizes the crash history by crash type for all non-intersection crashes. Rear-end crashes accounted for 58 percent of the total crashes, followed by angle crashes (23 percent). The high percentage of rear-end crashes is an indication of congestion along the SR 92 mainline.

Table 5: Crash History by Crash Type - Non-Intersection Data

Year	Angle	Head On	Rear End	Sideswipe-Same Direction	Not a Collision with a Motor Vehicle	No Data	Total
2013	11	1	19	2	2	2	37
2014	2	1	8	2	1	1	15
2015	3	1	6	1	1	0	12
2016	8	0	28	1	5	0	42
Total	24	3	61	6	9	3	106
Percentage	23%	3%	58%	6%	8%	3%	100%

Table 6 displays the non-intersection crash history by lighting condition. Most of the crashes occurred during the daytime, followed by dark – not lighted conditions. Overall, 9 percent of the non-intersection crashes occurred in dark-not lighted conditions.

Table 6: Crash History by Lighting Conditions – Non-Intersection Data

Condition	2013	2014	2015	2016	Total
Daylight	31	11	11	37	90
Dusk	0	0	0	0	0
Dawn	0	0	0	2	2
Dark - lighted	1	0	0	0	1
Dark – not lighted	3	3	1	3	10
Not reported	2	1	0	0	3
Total	37	15	12	42	106
% Dark – not lighted	8%	20%	8%	7%	9%

4.2. Signalized Intersections Crash Analysis

Table 7 through Table 10 show the crash data along SR 92 occurring at signalized intersections. A total of 615 signalized intersection crashes occurred during the analysis period. The total number of crashes decreased from 214 crashes in 2013 to 89 crashes in 2016.

Table 7 shows the total crashes occurring at each signalized intersection. The six signalized intersections within the study limits are shown in the columns. During 2013-2016, the greatest number of crashes occurred at Jimmy Lee Smith Parkway (208 crashes), followed by Dallas Rd (204 crashes) and Macland Road (125 crashes).

Table 7: Crash History – Signalized Intersections

Year	Hiram Sudie Rd	Nebo Rd	Oak St	Macland Rd	Jimmy Lee Smith Pkwy	Dallas Rd	Total
2013	14	6	11	33	97	53	214
2014	15	7	9	26	88	53	198
2015	4	3	0	37	20	50	114
2016	6	2	1	29	3	48	89
Total	39	18	21	125	208	204	615

During the four-year period, 148 injury crashes and 3 fatal crashes were recorded at signalized intersections (see Table 8). The greatest number of injury crashes occurred at Dallas Rd (60 crashes), followed by Macland Road (44 crashes) and Jimmy Lee Smith Parkway (29 crashes).

One fatal crash was recorded at the intersection of Jimmy Lee Smith Parkway and SR 92. This crash caused three injuries and one fatality, and occurred during the dark-lighted condition. A left-turning vehicle on west bound of the Jimmy Lee Smith Pkwy failed to yield right of way and collided with another vehicle travelling east. The manner of crash was right angled. Installing backplates and relocating signal heads over the travel lanes can help to improve visibility and prevent such crashes.

Two other fatal crashes involved the same pedestrian and occurred during the dark-not lighted condition at the intersection of Nebo Rd and SR 92. Crashes happened when the pedestrian was crossing SR 92 south bound. Pedestrian was hit by first vehicle which left the crash scene. Next, a second vehicle hit the pedestrian, who was still on the scene.

Table 8: Crashes Involving Injuries and Fatalities – Signalized Intersections

Year	Hiram Sudie Rd		Nebo Rd		Oak St		Macland Rd		Jimmy Lee Smith Pkwy		Dallas Rd		Total	
	Injury	Fatality	Injury	Fatality	Injury	Fatality	Injury	Fatality	Injury	Fatality	Injury	Fatality	Injury	Fatality
2013	3	0	1	0	1	0	11	0	11	1	18	0	45	1
2014	3	0	2	0	3	0	12	0	14	0	14	0	48	0
2015	1	0	0	0	0	0	13	0	3	0	14	0	31	0
2016	1	0	0	2	0	0	8	0	1	0	14	0	23	2
Total	8	0	3	2	4	0	44	0	29	1	60	0	148	3

The crash history by crash type for signalized intersections along SR 92 are summarized in Table 9. Rear-end crashes were the most frequent crash type, followed by angle crashes. The highest number of angle crashes was recorded at Dallas Rd (51 crashes), followed by Jimmy Lee Smith Parkway (41 crashes).

Table 9: Crash History by Crash Type – Signalized Intersections

Crash Type	Hiram Sudie Rd		Nebo Rd		Oak St		Macland Rd		Jimmy Lee Smith Pkwy		Dallas Rd		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Angle	8	20%	4	22%	0	0%	30	24%	41	19%	51	25%	134	22%
Head On	0	0%	1	6%	0	0%	5	4%	2	1%	5	2%	13	2%
Rear End	21	54%	9	50%	20	95%	83	66%	148	71%	135	66%	414	68%
Sideswipe – Opposite Direction	2	6%	0	0%	1	5%	0	0%	1	0%	2	1%	6	1%
Sideswipe – Same Direction	4	10%	1	6%	0	0%	1	1%	13	6%	8	4%	27	5%
Not a Collision with a Motor Vehicle	4	10%	3	17%	0	0%	5	4%	2	1%	3	1%	17	3%
No Data	0	0%	0	0%	0	0%	1	1%	1	1%	0	0%	2	0%
Total	39	100%	18	100%	21	100%	125	100%	208	100%	204	100%	615	100%

16 percent of the total crashes at the signalized intersections occurred during dark-not lighted conditions (Table 10). Many of these crashes occurred at the intersection with Dallas Rd, indicating that poor lighting could be a contributory factor in the crash occurrences at this intersection.

Table 10: Crash History by Lighting Conditions– Signalized Intersections

Condition	Hiram Sudie Rd	Nebo Rd	Oak St	Macland Rd	Jimmy Lee Smith Pkwy	Dallas Rd	Total
Daylight	29	14	12	103	162	144	464
Dusk	1	0	0	1	1	5	8
Dawn	0	0	0	0	7	3	10
Dark - lighted	3	0	5	3	17	6	34
Dark – not lighted	6	4	4	17	21	46	98
Not reported	0	0	0	1	0	0	1
Total	39	18	21	125	208	204	615
% Dark – not lighted	15%	22%	19%	14%	10%	23%	16%

4.3. Unsignalized Intersections Crash Analysis

A total of 291 crashes occurred at unsignalized intersections and private driveways, which are listed in Table 11. 19 crashes occurred at driveway locations distributed throughout the SR 92 corridor.

Table 11: Crash History – Unsignalized Intersections

Intersection	2013	2014	2015	2016	Total
Beatty St	3	2	1	0	6
Center St	3	3	1	0	7
Church St	5	4	1	0	10
Creekwood Pass	0	2	1	0	3
Dallas St	6	7	1	0	14
Fitzgerald St	4	0	1	0	5
Indian Lake Dr	8	1	3	2	14
Main St	17	12	3	0	32
Mt Vernon Church Rd	8	2	2	2	14
Powder Creek Dr	2	0	1	0	3
Powder Creek Way	1	1	1	0	3
Seaboard St	1	8	4	1	14
Sims Rd	4	2	0	0	6
Paulding Pavilion	10	14	5	0	29
Stars & Strike Driveway	3	2	1	1	7
Private Driveway	7	7	5	0	19
Hiram Crossing	4	4	1	0	9
Quail Ridge Road	1	0	2	1	4
CW Sims Rd	23	21	9	1	54
Alexander St	5	8	0	0	13
Allen Road	1	2	5	1	9
Hiram Park Dr	2	1	0	0	3
Indian Lake Court	1	0	0	0	1
Hiram United Methodist Church	1	0	0	0	1
Hardy Circle	1	1	0	2	4
Middle School South	0	1	0	1	2
Maxwell Rd	0	0	0	1	1
Darby's Crossing Drive	0	0	2	1	3
Middle School North	0	0	0	1	1
Total	121	105	50	15	291

Per Table 12, 54 percent of crashes that occurred at unsignalized intersection for the four-year period were rear-end crashes and 31 percent were angle crashes. The highest number of crashes at unsignalized intersections was recorded at CW Sims Rd (54 crashes). Most of these crashes were angle crashes. One possible contributing factor could be the faded stop bars on CW Sims Rd and Rosedale Rd, which cause drivers disregard stopping. In 2016, this section of SR 92 has been resurfaced due to deterioration of existing pavement markings (P.I. No. M004905). The number of crashes decreased from 23 in 2013 to only one in 2016.

22 rear-end crashes occurred at Main St, accounting for 69 percent of the total crashes at this intersection. 19 out of 29 crashes occurred at Paulding Pavilion Driveway are reported as angle crashes, accounting for 66 percent of crashes at that location.

The vehicle maneuver and direction of travel recorded on the crash report show that 80 crashes out of 90 angle crashes (89 percent) are either between a vehicle on minor road and the other on major road and/or involves a vehicle turning left. Possible solutions to prevent this type of crashes

are turn restriction (by converting the full access intersection into a right-in/right-out (RI/RO) intersection), installation of traffic signals, and installation of roundabouts if a traffic study determines they are warranted.

Table 12: Crashes by Crash Type – Unsignalized Intersections

Intersection	Angle	Head On	Rear End	Sideswipe-Opposite Direction	Sideswipe-Same Direction	Other	Total
Beatty St	0	0	4	0	1	1	6
Center St	0	0	6	1	0	0	7
Church St	1	0	7	1	1	0	10
Creekwood Pass	0	0	2	0	0	1	3
Dallas St	0	0	13	0	0	1	14
Fitzgerald St	1	1	2	0	0	1	5
Indian Lake Dr	1	0	11	0	1	1	14
Main St	4	0	22	2	2	2	32
Mt Vernon Church Rd	5	1	5	1	0	2	14
Powder Creek Dr	1	0	2	0	0	0	3
Powder Creek Way	0	0	2	0	0	1	3
Seaboard St	1	0	12	0	0	1	14
Sims Rd	1	0	4	0	0	1	6
Paulding Pavilion	19	2	5	0	2	1	29
Stars & Strike Driveway	5	0	1	0	1	0	7
CW Sims Rd	30	1	18	1	3	1	54
Private Driveway*	7	0	11	0	1	0	19
Hiram Crossing	6	0	0	1	0	2	9
Quail Ridge Road	0	0	3	0	0	1	4
Alexander St	0	0	12	0	0	1	13
Allen Road	2	0	7	0	0	0	9
Hiram Park Dr	0	0	2	0	0	1	3
Indian Lake Court	0	0	1	0	0	0	1
Hiram United Methodist Church	1	0	0	0	0	0	1
Darby's Crossing Drive	1	0	1	0	1	0	3
Hardy Circle	1	0	3	0	0	0	4
Middle School South	1	0	1	0	0	0	2
Maxwell Rd	1	0	0	0	0	0	1
Middle School North	1	0	0	0	0	0	1
Total	90	5	157	7	13	19	291
Percentage	31%	2%	54%	2%	4%	6%	100%

* crashes occurring at all private driveways

Table 13 indicates that 71 out of 291 crashes (24 percent) occurred at unsignalized intersections resulted in injuries and two crashes resulted in fatalities. Both crashes were pedestrian involved, occurred during the dark-not lighted time. One fatal crash was recorded on SR 92 south bound at the intersections of Seaboard St. There is no roadside attraction at this location for pedestrians. Moreover, guiderails are installed on both sides of SR 92 at this intersection. Crash narrative indicates that “there was no visible lighting in the area of roadway where the crash occurred.”

The other fatal crash was recorded along SR 92 southbound at Main St. There are residential buildings in the proximity of the intersection, but no crosswalk has been provided at this location.

Table 13: Crash History by Injury Crashes – Unsignalized Intersections

Intersection	2013	2014	2015	2016	Total
Beatty St	1	0	0	0	1
Center St	0	2	0	0	2
Church St	2	2	0	0	4
Creekwood Pass	0	1	0	0	1
Dallas St	3	1	0	0	4
Fitzgerald St	2	0	0	0	2
Main St	1	3 (1)*	0	0	4
Mt Vernon Church Rd	1	1	1	1	4
Powder Creek Dr	1	0	0	0	1
Powder Creek Way	0	0	1	0	1
Seaboard St	0	4	2 (1)*	0	6
Sims Rd	2	0	0	0	2
Paulding Pavilion	2	4	1	0	7
Stars & Strike Driveway	1	1	0	0	2
Private Driveway	2	2	0	0	4
Hiram Crossing	1	1	0	0	2
CW Sims Rd	3	2	2	0	7
Alexander St	1	3	0	0	4
Allen Road	0	0	3	1	4
Hiram United Methodist Church	1	0	0	0	1
Hardy Circle	0	1	0	1	2
Middle School South	0	1	0	0	1
Indian Lake Dr	2	0	2	0	4
Maxwell Rd	0	0	0	1	1
Total	26	29	12	4	71

* Fatality crash

Thirty-six (36) out of 291 crashes at unsignalized intersections (12 percent) occurred during dark-not lighted conditions. The highest number of crashes occurring during dark-not lighted conditions was recorded at CW Sims Rd (Table 14).

Table 14: Crashes by Lighting Conditions – Unsignalized Intersections

Intersection	Daylight	Dusk	Dawn	Dark-Lighted	Dark-Not Lighted	Total
Beatty St	5	0	0	0	1	6
Center St	6	0	0	0	1	7
Church St	8	0	0	0	2	10
Creekwood Pass	2	0	0	1	0	3
Dallas St	14	0	0	0	0	14
Fitzgerald St	3	0	0	0	2	5
Indian Lake Dr	12	0	0	0	2	14
Main St	28	0	0	1	3	32
Mt Vernon Church Rd	10	1	0	1	2	14
Powder Creek Dr	3	0	0	0	0	3
Powder Creek Way	3	0	0	0	0	3
Seaboard St	10	0	0	0	4	14
Sims Rd	6	0	0	0	0	6
Paulding Pavilion	27	0	0	0	2	29
Stars & Strike Driveway	5	0	0	0	2	7
Private Driveways	17	0	0	0	2	19
Hiram Crossing	7	0	1	1	0	9
Quail Ridge Road	2	0	0	0	2	4
CW Sims Rd	46	0	0	3	5	54
Alexander St	9	0	0	1	3	13
Allen Road	8	0	0	0	1	9
Hiram Park Dr	3	0	0	0	0	3
Indian Lake Court	0	0	0	0	1	1
Hiram United Methodist Church	0	0	0	0	1	1
Hardy Circle	3	0	0	1	0	4
Middle School South	2	0	0	0	0	2
Maxwell Rd	1	0	0	0	0	1
Darby's Crossing Drive	3	0	0	0	0	3
Middle School North	1	0	0	0	0	1
Total	244	1	1	9	36	291

Table 11 through Table 14 show that three crashes occurred at the East Paulding Middle School driveways during daylight condition from 2013-2016. Two of these crashes were angle type, one occurred at south driveway and the other at north driveway. In both angle crashes, one vehicle turning left from driveways crashed into another vehicle travelling south on SR 92. It should be noted that left-turn movements are prohibited at the north driveway. However, the at-fault driver made a left from the exit lane. The third crash was a rear-end type, occurring on the north driveway, when two vehicles were stopped at the yield sign to turn right.

4.4. Conclusion

A total of 1,012 crashes occurred during the analysis period. The total number of crashes dropped from 372 crashes in 2013 to 146 crashes in 2016. Among all the crashes, five fatal crashes occurred, four of which involved a pedestrian crossing SR 92. All pedestrian crashes occurred

during the dark-not lighted condition, meaning that lightning could be a contributing factor in fatal crashes, which occurred at the intersections Main St, Seaboard St, and Nebo Rd.

The overall crash rates for SR 92 varied over the study period, but were generally higher than the statewide average, and the injury and fatality crash rates were consistently higher than the statewide average.

The widening of SR 92 from a two-lane undivided to a four-lane divided cross-section is expected to provide safety benefits due to improved access management. Safety improvements are especially expected where there is a higher concentration of driveways and access points. By providing a physical median along the corridor, cross-median collisions are expected to decrease.

Converting the unsignalized intersections with a high number of angle crashes to a RI/RO intersection will prevent the turning maneuvers and decrease the total number of crashes. It is also important that the turn restrictions be clearly signed, so motorists do not make illegal turns.

The selection of appropriate intersection traffic control (signalized or roundabouts), where applicable, will help minimize crash frequency and severity.

5. Traffic Forecast

Traffic forecast was performed for opening year (2025) and design year (2045) for SR 92 within the project extents. Existing traffic count data was collected over several days from August to November 2016 and used as the basis for traffic forecast.

5.1. Existing Traffic Data

Twenty-four (24) hours traffic count data for SR 92 and peak hour turning movement count data for selected intersections were collected. The 24-hour truck percentage is approximately 11 percent with 9 percent of single-unit trucks and 2 percent of combination trucks. The peak hour truck percentage is approximately 12 percent and 9 percent for the AM and PM peak hours, respectively.

5.2. Traffic Growth Rate and Forecast

The traffic growth rate was determined from a combination of the historical AADT, the Atlanta Regional Council travel demand model, and population growth rates. The GDOT Office of Planning approved the average traffic growth rate using this methodology, which is summarized in Table 15 below. The opening year (2025) and design year (2045) traffic volumes were developed and are included in Appendix A.

Table 15: Traffic Growth Rate

Scenario/ Year	Growth Rate/Year
No-Build (2016-2025)	2.5 %
Build (2016-2025)	2.5 %
No-Build (2025-2045)	2.5 %
Build (2025-2045)	2.5 %

6. Capacity Analysis

Capacity analysis is a set of procedures for estimating traffic-carrying ability of facilities over a range of defined operational conditions. It provides tools to assess facilities and to plan and design improved facilities [Highway Capacity Manual 2010]. Level of service (LOS) is a quality measure describing operational conditions, which is represented by six letters, from A to F, with LOS A representing the best operating conditions and LOS F the worst. For intersection capacity analysis, control delay is the measure of effectiveness (MOE) for determining LOS. The LOS criteria for signalized intersections, unsignalized intersections, and urban arterials as defined in Highway Capacity Manual 2010 are included in Table 16, Table 17, and Table 18, respectively. For these analyses, SR 92 is considered a north-south highway and all cross roads are considered as east-west roads.

Table 16: LOS Criteria for Signalized Intersections

Level of Service	Control Delay Per Vehicle (sec/veh)
A	<=10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80

Table 17: LOS Criteria for Unsignalized Intersections

Level of Service	Control Delay Per Vehicle (sec/veh)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

Table 18: Urban Street LOS

Travel Speed as Percentage of Base Free flow speed (%)	LOS
>85	A
>67-85	B
>50-67	C
>40-50	D
>30-40	E
≤ 30	F

Capacity analysis was performed for AM and PM peak hours for existing (2016) condition, opening year (2025), and design year (2045) no-build and build conditions in this study. *Synchro plus SimTraffic 9* software was used for analyzing intersections and roadway. The Synchro analysis reports are included in Appendix C.

6.1. Existing Condition

A capacity analysis was performed for the existing conditions and the analysis results are included in Table 19 through Table 21.

Table 19: Capacity Analysis Results for Intersections (Existing 2016)

Intersection SR 92 @	Approach / Movement	AM		PM	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
E Paulding MS South Driveway	Northbound	0.9	A	0.3	A
	Southbound	0	A	0	A
	Eastbound	35.6	E	36.8	E
Hardy Circle North	Northbound	0.2	A	0.2	A
	Southbound	0	A	0	A
	Eastbound	35	E	37.5	E
Hardy Circle South/Brenda Ln	Northbound	0.3	A	0.3	A
	Southbound	0	A	0	A
	Eastbound	14.4	B	13.7	B
	Westbound	50.3	F	47.4	E
Dallas Rd*	-	46.6	D	41.4	D
Stars & Strikes South Driveway	Northbound	0	A	0	A
	Southbound	0	A	0.1	A
	Westbound	-	-	23.6	C
Cypress Dr/Old Hiram Rd	Northbound	0.1	A	0.1	A
	Southbound	0	A	0	A
	Eastbound	31.4	D	29.9	D
	Westbound	-	-	-	-
Creekwood Pass	Northbound	0.1	A	0.1	A
	Southbound	0	A	0	A
	Eastbound	24	C	24.4	C
Hanover Ave/Mt Vernon Church Rd	Northbound	0.1	A	0.1	A
	Southbound	0.5	A	0.7	A
	Eastbound	26.4	D	30.2	D
	Westbound	39.9	E	53.5	F
Powder Creek Dr	Northbound	0.1	A	0.1	A
	Southbound	0	A	0	A
	Eastbound	25.8	D	22.9	C
Maxwell Dr	Northbound	0	A	0	A
	Southbound	0	A	0	A
	Westbound	-	-	-	-
Powder Creek Way	Northbound	0.2	A	0.3	A
	Southbound	0	A	0	A
	Eastbound	16	C	13.7	B
Macland Rd*	-	49.4	D	34.3	C
Dailey Rd/Darby's Crossing Dr	Northbound	0	A	0	A
	Southbound	0.2	A	0.3	A
	Eastbound	-	-	-	-

Intersection SR 92 @	Approach / Movement	AM		PM	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Quail Ridge Rd	Westbound	20.7	C	28.9	D
	Northbound	0	A	0	A
	Southbound	0	A	0	A
	Westbound	-	-	-	-
Indian Lake Dr	Northbound	0.1	A	0.1	A
	Southbound	0	A	0	A
	Eastbound	18.9	C	24.4	C
Paulding Pavilion Driveway North	Northbound	0	A	0	A
	Southbound	0	A	0	A
	Westbound	-	-	-	-
Paulding Commons Driveway/Paulding Pavilion Driveway South	Northbound	1.6	A	1.1	A
	Southbound	0.4	A	0.6	A
	Eastbound	45.7	E	95.2	F
	Westbound	22	C	30.4	D
Jimmy Lee Smith Pkwy*	-	45.7	D	34.8	C
Walmart Driveway/Office Max Driveway	Northbound	1.3	A	1.8	A
	Southbound	0	A	0	A
	Eastbound	33.8	D	64.1	F
	Westbound	-	-	-	-
C W Sims Rd/Rosedale Drive	Northbound	0.3	A	0.1	A
	Southbound	2.3	A	1.1	A
	Eastbound	24.5	C	23.3	C
	Westbound	35.6	E	90.2	F
Hiram Park Drive	Northbound	0.1	A	0.1	A
	Southbound	0	A	0	A
	Eastbound	11.1	B	14.2	B
Sims Road	Northbound	0	A	0	A
	Southbound	0	A	0	A
	Eastbound	-	-	-	-
Seaboard Street	Northbound	0	A	0	A
	Southbound	0.9	A	0.5	A
	Westbound	19.8	C	17.4	C
Fitzgerald Street	Northbound	0.1	A	0.1	A
	Southbound	0	A	0	A
	Eastbound	17.8	C	22.3	C
Ragsdale Street/Alexander Street	Northbound	0.1	A	0.1	A
	Southbound	0	A	0	A
	Eastbound	-	-	30.8	D
	Westbound	-	-	-	-
Oak Street*	-	12	B	11.3	B
Center St	Northbound	0	A	0	A
	Southbound	0	A	0	A
	Westbound	-	-	-	-
Dallas Street	Northbound	0.1	A	0.1	A
	Southbound	0.1	A	0.2	A
	Eastbound	11.2	B	14.7	B
	Westbound	25.9	D	33.1	D
Church St	Northbound	0	A	0	A

Intersection SR 92 @	Approach / Movement	AM		PM	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
	Southbound	0.3	A	0.2	A
	Westbound	20.1	C	22.8	C
Beatty St	Northbound	0	A	0	A
	Southbound	0	A	0	A
	Westbound	-	-	-	-
Main St	Northbound	0	A	0	A
	Southbound	0	A	0	A
	Westbound	31.9	D	41	E
Hiram Sudie Road*	-	11.4	B	10.3	B
Nebo Rd*	-	9.6	A	7.3	A

* Signalized intersections

Table 20: SR 92 NB Roadway Capacity Analysis Results (Existing 2016)

Intersection SR 92 @	AM			PM		
	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS
Nebo Rd*	24	52%	D	27	59%	D
Hiram Sudie Road*	30	67%	C	32	70%	C
Oak Street*	32	80%	C	34	84%	C
Jimmy Lee Smith Pkwy*	23	51%	D	28	65%	C
Macland Rd*	33	72%	C	34	75%	C
Dallas Rd*	32	63%	C	30	59%	C

* Signalized intersections

** SR 92 is considered a north-south road and all cross roads are considered east-west roads.

BFFS = Base Free Flow Speed; SR 92 posted speed limit is 50 mph from Dallas Rd to Macland Rd, 45 mph to from Macland Rd to Seaboard St, 40 mph from Seaboard St to Hiram Sudie Rd, and 45 mph from Hiram Sudie Rd to Nebo Rd.

Table 21: SR 92 SB Roadway Capacity Analysis Results (Existing 2016)

Intersection SR 92 @	AM			PM		
	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS
Dallas Rd*	30	61%	C	35	70%	B
Macland Rd*	34	68%	B	36	72%	B
Jimmy Lee Smith Pkwy*	33	74%	C	32	70%	C
Oak Street*	42	95%	B	39	89%	B
Hiram Sudie Road*	34	84%	C	34	86%	B
Nebo Rd*	29	64%	C	30	66%	C

* Signalized intersections

** SR 92 is considered a north-south road and all cross roads are considered east-west roads.

BFFS = Base Free Flow Speed; SR 92 posted speed limit is 50 mph from Dallas Rd to Macland Rd, 45 mph to from Macland Rd to Seaboard St, 40 mph from Seaboard St to Hiram Sudie Rd, and 45 mph from Hiram Sudie Rd to Nebo Rd.

The intersection capacity analysis indicates that in existing conditions, the following eight unsignalized intersections operate at LOS E or F: E Paulding MS South Driveway, Hardy Circle North, Hardy Circle South/Brenda Lane, Hanover Ave/Mt Vernon Church Rd, Paulding Commons Driveway/Paulding Pavilion Driveway South, Walmart Driveway/Office Max Driveway, C W Sims Rd/Rosedale Dr, and Main St. All signalized intersections operate at LOS D or better in the peak periods; delays are highest for Dallas Rd, Macland Rd, and Jimmy Lee Smith Pkwy.

From the roadway capacity analysis results summary in Table 20 and Table 21, it is observed that the northbound and southbound directions operate at LOS D or better at all signalized intersections. In general, the travel speeds tend to increase near Oak Street and decrease at the end points of the corridor.

6.2. No-Build Condition

A capacity analysis with optimized signals was performed for the no-build conditions for the opening year (2025) and design year (2045). The analysis results are included in Table 22 through Table 24.

Table 22: Capacity Analysis Results for Intersections (No-Build)

Intersection	Approach / Movement	2025				2045			
		AM		PM		AM		PM	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
SR 92 @ E Paulding MS South Driveway	Northbound	1	A	0.4	A	1.5	A	0.5	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	131.3	F	233.4	F	>1000	F	>1000	F
Hardy Circle North	Northbound	0.1	A	0.2	A	0.2	A	0.3	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	84	F	65.6	F	>1000	F	>1000	F
Hardy Circle South/Brenda Ln	Northbound	0.3	A	0.3	A	0.5	A	0.5	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	17.4	C	16.4	C	39.5	E	35.5	E
	Westbound	103.1	F	99.1	F	>1000	F	>1000	F
Dallas Rd*	-	91.3	F	81.6	F	323.5	F	301.5	F
Stars & Strikes South Driveway	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0.1	A	0	A	0.1	A
	Westbound	-	-	36.1	E	-	-	301.8	F
Cypress Dr/Old Hiram Rd	Northbound	0.1	A	0.1	A	0.1	A	0.2	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	56.7	F	52.5	F	>1000	F	>1000	F
	Westbound	-	-	-	-	-	-	-	-
Creekwood Pass	Northbound	0.1	A	0.1	A	0.1	A	0.1	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	37.3	E	38.2	E	490.2	F	751.9	F
Hanover Ave/Mt Vernon Church Rd	Northbound	0.1	A	0.1	A	0.1	A	0.2	A
	Southbound	0.5	A	0.8	A	0.7	A	1.2	A
	Eastbound	47	E	63.6	F	>1000	F	>1000	F

Intersection	Approach / Movement	2025				2045			
		AM		PM		AM		PM	
SR 92 @		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
	Westbound	150.7	F	237	F	>1000	F	>1000	F
Powder Creek Dr	Northbound	0.1	A	0.1	A	0.1	A	0.1	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	41.3	E	34.9	D	728.3	F	490.2	F
Maxwell Dr	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Westbound	-	-	-	-	-	-	-	-
Powder Creek Way	Northbound	0.1	A	0.3	A	0.3	A	0.4	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	20.7	C	16.4	C	71.4	E	35.6	E
Macland Rd*	-	89	F	58.9	E	333.5	F	255.2	F
Dailey Rd/Darby's Crossing Dr	Northbound	0	A	0	A	0	A	0	A
	Southbound	0.1	A	0.3	A	0.2	A	0.4	A
	Eastbound	-	-	-	-	-	-	-	-
	Westbound	32.7	D	58.9	F	452	F	>1000	F
Quail Ridge Rd	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Westbound	-	-	-	-	-	-	-	-
Indian Lake Dr	Northbound	0.1	A	0.1	A	0.1	A	0.1	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	26.1	D	38.2	E	168.9	F	942	F
Paulding Pavilion Driveway North	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Westbound	-	-	-	-	-	-	-	-
Paulding Commons Driveway/Paulding Pavilion Driveway South	Northbound	1.8	A	1.2	A	3	A	1.8	A
	Southbound	0.4	A	0.6	A	0.5	A	0.9	A
	Eastbound	243.2	F	661.1	F	>1000	F	>1000	F
	Westbound	34.3	D	66.2	F	>1000	F	>1000	F
Jimmy Lee Smith Pkwy*	-	88.9	F	67.7	E	304.9	F	286	F
Walmart Driveway/Office Max Driveway	Northbound	1.4	A	2.1	A	2.2	A	4.9	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	79	F	362.6	F	>1000	F	>1000	F
	Westbound	-	-	-	-	-	-	-	-
C W Sims Rd/Rosedale Drive	Northbound	0.3	A	0.1	A	0.3	A	0.2	A
	Southbound	2.6	A	1.2	A	6.7	A	2	A
	Eastbound	47.4	E	36.2	E	>1000	F	>1000	F
	Westbound	198.6	F	633.6	F	>1000	F	>1000	F
Hiram Park Drive	Northbound	0	A	0.1	A	0.1	A	0.1	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	12.1	B	17	C	16.9	C	35.5	E
Sims Road	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	-	-	-	-	-	-	-	-
Seaboard Street	Northbound	0	A	0	A	0	A	0	A
	Southbound	1	A	0.5	A	1.5	A	0.7	A
	Westbound	29.7	D	23.6	C	957.4	F	>1000	F
Fitzgerald Street	Northbound	0	A	0.1	A	0.1	A	0.1	A

Intersection	Approach / Movement	2025				2045			
		AM		PM		AM		PM	
SR 92 @		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	23.8	C	32.9	D	185.6	F	410.7	F
Ragsdale Street/Alexander Street	Northbound	0	A	0.1	A	0.1	A	0.1	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	-	-	51.9	F	-	-	>1000	F
	Westbound	-	-	-	-	-	-	-	-
Oak Street*	-	24.9	C	20.1	C	159.3	F	136.7	F
Center St	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Westbound	-	-	-	-	-	-	-	-
Dallas Street	Northbound	0	A	0.1	A	0.1	A	0.2	A
	Southbound	0.1	A	0.2	A	0.2	A	0.3	A
	Eastbound	12.2	B	17.7	C	17.6	C	38.8	E
	Westbound	40.6	E	63.4	F	>1000	F	>1000	F
Church St	Northbound	0	A	0	A	0	A	0	A
	Southbound	0.4	A	0.3	A	0.6	A	0.3	A
	Westbound	28.3	D	34.1	D	956	F	>1000	F
Beatty St	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Westbound	-	-	-	-	-	-	-	-
Main St	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Westbound	52.5	F	86.5	F	934.7	F	>1000	F
Hiram Sudie Road*	-	13	B	11.6	B	22.6	C	18.2	B
Nebo Rd*	-	10.8	B	8.6	A	17.3	B	14.5	B

* Signalized intersections
Optimized signals for no-build conditions

Table 23: SR 92 NB Roadway Capacity Analysis Results (No-Build)

Intersection	2025						2045					
	AM			PM			AM			PM		
SR 9	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS
Nebo Rd*	22	48%	D	25	56%	D	17	37%	E	22	49%	D
Hiram Sudie Road*	28	63%	C	31	68%	C	22	48%	D	27	60%	D
Oak Street*	27	68%	C	30	75%	C	9	22%	F	12	30%	F
Jimmy Lee Smith Pkwy*	17	38%	E	21	47%	E	8	17%	F	9	21%	F
Macland Rd*	26	57%	D	28	63%	C	11	24%	F	12	27%	F
Dallas Rd*	26	52%	D	21	42%	D	12	25%	F	8	17%	F

* Signalized intersections
** SR 92 is considered a north-south road and all cross roads are considered east-west roads.
BFFS = Base Free Flow Speed; SR 92 posted speed limit is 50 mph from E Paulding Dr to Macland Rd, 45 mph to from Macland Rd to Seaboard St, 40 mph from Seaboard St to Hiram Sudie Rd, and 45 mph from Hiram Sudie Rd to Nebo Rd.

Table 24: SR 92 SB Roadway Capacity Analysis Results (No-Build)

Intersection	2025						2045					
	AM			PM			AM			PM		
SR 9	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS
Dallas Rd*	21	42%	D	30	60%	C	10	19%	F	14	28%	F
Macland Rd*	24	47%	D	28	55%	C	9	17%	F	11	23%	F
Jimmy Lee Smith Pkwy*	29	64%	C	24	54%	D	22	48%	D	12	26%	F
Oak Street*	41	93%	B	37	85%	B	39	90%	B	18	41%	E
Hiram Sudie Road*	33	82%	C	33	83%	C	29	73%	C	29	73%	C
Nebo Rd*	28	61%	C	28	62%	C	22	49%	D	22	48%	D

* Signalized intersections

** SR 92 is considered a north-south road and all cross roads are considered east-west roads.

BFFS = Base Free Flow Speed; SR 92 posted speed limit is 50 mph from E Paulding Dr to Macland Rd, 45 mph to from Macland Rd to Seaboard St, 40 mph from Seaboard St to Hiram Sudie Rd, and 45 mph from Hiram Sudie Rd to Nebo Rd.

The intersection capacity analysis indicates that by the no-build opening (2025) and design (2045) years, more intersections deteriorate to LOS E or F. The 2025 no-build scenario experiences increased delay for many of the unsignalized side streets. This resulted in Cypress Dr/Old Hiram Rd, Creekwood Pass, Dailey Rd/Raby's Crossing Dr, Ragsdale St/Alexander St, and Dallas St operating at LOS E or F, in addition to those listed in the existing condition. By 2045, nearly all intersections with side street volumes operate at LOS E or F, with several eastbound/westbound movements experiencing greater than 1000 seconds of delay. Examples of this can be seen at E Paulding Middle School South Driveway, Hardy Circle South/Brenda Ln, and Hanover Ave/Mt Vernon Church Rd. The major driveways near Jimmy Lee Smith Pkwy also experience very high delay.

From the roadway capacity analysis results summary in Table 23 and Table 24, it is observed that SR 92 roadway deteriorates to LOS E or F by 2045 for its northbound approaches at Nebo Rd, Oak St, Jimmy Lee Smith Pkwy, Macland Rd, and Dallas Rd. In the southbound direction, Dallas Rd, Macland Rd, and Jimmy Lee Smith Pkwy deteriorate to LOS E or F.

6.3. Build Condition

The build condition widens SR 92, making the corridor two lanes in each direction and adding a median. The median width varies between 6 ft and 20 ft within the project limits. Median breaks will be provided at the existing signalized intersections and other intersection locations where left-turns and/or u-turns are necessary.

Supplemental roundabout and signal warrant analyses were also completed for the intersections of SR 92 at E Paulding Middle School South Driveway and Main Street. Summaries of these results are presented in the following sections.

6.3.1. Roundabout Analysis

East Paulding Middle School South Driveway

Roundabout analysis reports are provided in Appendix D for the existing (2016) and build open (2025) and design (2045) year conditions and the summary is provided below:

- Existing AM – all three approaches operate at LOS B or better.
- Existing PM – all four approaches operate at LOS B or better.
- 2025 Build AM - all four approaches operate at LOS A.
- 2025 Build PM - all four approaches operate at LOS A.
- 2045 Build AM - all four approaches operate at LOS D or better.
- 2045 Build PM - all four approaches operate at LOS D or better.

It is noted that while the operational results for roundabouts in existing and build conditions are satisfactory, the ADT level for roundabouts of less than 90% traffic on the main road is not met at any time. The percent of traffic on the main road (SR 92) is about 94% for existing, open and design years. A roundabout is therefore not recommended at this location.

Main St

Roundabout analysis reports are provided in Appendix D for the existing (2016) and build open (2025) and design (2045) year conditions and the summary is provided below:

- Existing AM – all three approaches operate at LOS C or better.
- Existing PM – all four approaches operate at LOS B or better.
- 2025 Build AM - all four approaches operate at LOS A.
- 2025 Build PM - all four approaches operate at LOS A.
- 2045 Build AM - all four approaches operate at LOS D or better.
- 2045 Build PM - all four approaches operate at LOS C or better.

It is noted that while the operational results for roundabouts in existing and build conditions are satisfactory, the ADT level for roundabouts of less than 90% traffic on the main road is not met at any time. The percent of traffic on the main road (SR 92) is about 95% for existing, open and design years. A roundabout is therefore not recommended at this location.

6.3.2. Signal Warrant Analysis

Main St

Signal warrant analysis summary is provided in Appendix E for the build condition open and design years of 2025 and 2045, respectively. The analysis shows that the intersection does not warrant a signal in existing (2016) and open year (2025) conditions but is warranted in design year (2045) conditions under the applicable Warrants 1 and 2. The intersection meets Warrant 7B and C (Crash Experience) but there is insufficient data to determine if Warrant 7A is met. Per the completed Traffic Engineering (TE) study for the location, although a signal is only warranted for the design year based on the traffic volumes along at this location, it is recommended for the following reasons:

1. Based on the crash analysis, a signal can improve the safety of the study intersection, due to the frequent crashes in recent years, one of which resulted in a fatality.
2. The capacity analysis shows the westbound approach will experience very high levels of delay for motorists in the design year as an unsignalized intersection.
3. In addition, the proximity of Hiram City Hall off Main Street makes the intersection one of interest to local residents, and a signal has been requested by residents and the Georgia Department of Transportation.

It is recommended that a traffic signal be installed at this intersection to improve the operations and safety.

6.3.3. Alternative Intersection – Restricted Crossing U-turn (RCUT) Analysis

Restricted Crossing U-turn (RCUT) also referred to as a superstreet or J-intersection differs from conventional intersections with the prohibition of through and left-turn movements from the side streets. These prohibited movements are required to turn right onto the main road and then complete a U-turn maneuver at a one-way median opening about 400 to 1000 feet after the intersection. Left turn movements from the main road remain unchanged and are executed similar to left turns at conventional intersections.

Based on the capacity and supplemental analysis above, additional proposed improvements include the signalization of Main Street and reconfiguration of eastbound left turns to a RCUT. Removal of the existing two-way left turn lane from Hiram Sudie Road to Nebo Road is also recommended.

The proposed improvements to the intersections are summarized in Table 25 and the proposed intersection lane configuration is shown in Appendix B.

Table 25: Summary of Intersection Improvements

Intersection SR 92 @	Improvement
East Paulding MS North Driveway	Extend southbound right-turn lane to a full width length of 175 feet
East Paulding MS South Driveway	Extend southbound right-turn lane to a full width length of 175 feet
	Extend northbound left-turn lane to a full width length of 235 feet
	Convert eastbound left-turn to a restricted crossing u-turn (RCUT), with a u-turn just south of Diane Court
Hardy Circle North	Extend southbound right-turn lane to a full width length of 175 feet
	Convert the full access intersection into a RI/RO intersection
Diane Court	Provide northbound right-turn lane to a full width length of 175 feet
Hardy Circle South/Brenda Ln	Provide northbound U-turn/left-turn lane to a full width length of 235 feet
	Provide northbound right-turn lane to a full width length of 175 feet
	Provide southbound U-turn/left-turn lane to a full width length of 290 feet
	Extend southbound right-turn lane to a full width length of 175 feet

	Provide eastbound channelized right-turn
	Provide westbound channelized right-turn lane
SR 120/Dallas Rd*	Provide three through lanes in the eastbound and westbound directions
	Provide dual northbound U-turn/left-turn lanes to a full width length of 700 feet
	Provide dual southbound U-turn/left-turn lanes to a full width length of 435 feet
	Extend southbound right-turn lane to a full width length of 380 feet
	Provide dual eastbound U-turn/left-turn lanes to a full width length of 680 feet
	Provide dual westbound U-turn/left-turn lanes to a full width length of 700 feet
Stars and Strikes North Driveway	Add 100 foot taper and provide northbound right-turn lane to a full width length of 175 feet
	Provide four through lanes in the northbound direction
Stars and Strikes South Driveway	Extend northbound right-turn lane to a full width length of 175 feet
Cypress Dr	Provide southbound right-turn lane to a full width length of 175 feet
	Convert the full access intersection into a RI/RO intersection
Old Hiram Rd	Provide northbound right-turn lane to a full width length of 175 feet
Rainwater Heating & A/C Driveway	Provide northbound right-turn lane to a full width length of 135 feet
Creekwood Pass	Provide southbound right-turn lane to a full width length of 175 feet
Mount Vernon Church Rd	Extend southbound left-turn lane to a full width length of 280 feet
	Provide northbound right-turn lane to a full width length of 175 feet
Powder Creek Dr	Extend southbound right-turn lane to a full width length of 175 feet
Powder Creek Way	Extend southbound right-turn lane to a full width length of 175 feet
	Extend northbound left-turn lane to a full width length of 235 feet
The Journey Church Driveway	Extend northbound right-turn lane to a full width length of 175 feet
Electrical Wholesale Supply Driveway	Extend northbound right-turn lane to a full width length of 175 feet
Macland Rd*	Provide two through lanes in the eastbound and westbound directions
	Provide northbound U-turn/left-turn lane to a full width length of 330 feet
	Provide northbound right-turn lane to a full width length of 600 feet
	Provide southbound U-turn/left-turn lane to a full width length of 690 feet
	Provide southbound right-turn lane to a full width length of 280 feet
	Provide eastbound U-turn/left-turn lane to a full width length of 450 feet
	Provide eastbound channelized right-turn lane to a full width length of 730 feet
	Provide westbound channelized right-turn lane to a full width length of 540 feet
	Provide westbound U-turn/left-turn lane to a full width length of 450 feet
Allen Rd South	Provide northbound U-turn/left-turn lane to a full width length of 235 feet
	Provide northbound right-turn lane to a full width length of 175 feet
	Provide southbound U-turn/left-turn lane to a full width length of 235 feet
	Provide southbound right-turn lane to a full width length of 175 feet
Dailey Rd/Darby's Crossing Dr	Provide northbound U-turn/left-turn lane to a full width length of 235 feet
	Provide southbound right-turn lane to a full width length of 175 feet
Quail Ridge Rd	Provide northbound right-turn lane to a full width length of 175 feet
Indian Lake Dr	Provide northbound U-turn/left-turn lane to a full width length of 400 feet

	Provide southbound U-turn lane to a full width length of 420 feet
	Extend southbound right-turn lane to a full width length of 540 feet
Jimmy Lee Smith Pkwy/ SR 6*	Provide three through lanes in the eastbound and westbound directions
	Provide triple northbound U-turn/left-turn lanes to a full width length of 535 feet
	Provide northbound right-turn lane to a full width length of 425 feet
	Provide triple southbound U-turn/left-turn lanes to a full width length of 510 feet
	Provide dual westbound U-turn/left-turn lane to a full width length of 595 feet
	Provide dual eastbound U-turn/left-turn lane to a full width length of 190 feet
Office Max Driveway	Provide northbound continuous right-turn with SR 6
Walmart Driveway	Provide southbound right-turn lane to a full width length of 300 feet
	Prohibit left-turn movements
Rosedale Dr	Provide northbound right-turn lane to a full width length of 175 feet - continuous turn lane with SR 6
	Prohibit left-turn movements
C W Sims Rd	Provide southbound continuous right turn lane with Walmart Driveway
	Prohibit left-turn movements
Noah's Ark Christian Academy	Provide southbound right-turn lane to a full width length of 175 feet
Hiram United Methodist Church Driveway	Provide southbound right-turn lane to a full width length of 175 feet
Hiram Park Drive	Provide southbound U-turn lane to a full width length of 405 feet
	Provide northbound U-turn/left-turn lane to a full width length of 440 feet
Crist Roofing Driveway	Provide driveway with a full width continuous right turn lane
Sims Rd	Convert the full access intersection into a RI/RO intersection
	Provide southbound right-turn lane to a full width length of 175 feet
Seaboard St	Convert the full access intersection into a RI/RO intersection
	Provide northbound right-turn lane to a full width length of 175 feet
Fitzgerald St	Provide northbound U-turn/left-turn lane to a full width length of 235 feet
	Provide southbound U-turn lane to a full width length of 235 feet
	Provide southbound right-turn lane to a full width length of 175 feet
Barnwell St	Convert the full access intersection into a RI/RO intersection
	Provide northbound right-turn lane to a full width length of 175 feet
Alexander St	Provide southbound right-turn lane to a full width length of 250 feet
	Convert the full access intersection into a RI/RO intersection
Oak St*	Provide northbound U-turn/left-turn lane to a full width length of 235 feet
	Provide northbound right-turn lane to a full width length of 75 feet
	Provide southbound U-turn/left-turn lane to a full width length of 235 feet
	Provide southbound right-turn lane to a full width length of 175 feet
	Provide eastbound right-turn lane to a full width length of 175 feet
	Provide westbound right-turn lane to a full width length of 175 feet
Center St	Provide northbound right-turn lane to a full width length of 80 feet
Dallas St	Provide northbound right-turn lane to a full width length of 175 feet
	Provide southbound right-turn lane to a full width length of 175 feet
Church St	Provide northbound U-turn lane to a full width length of 235 feet

	Provide northbound right-turn lane to a full width length of 175 feet
	Provide southbound U-turn/left-turn lane to a full width length of 235 feet
Main St*	Convert stop-controlled intersection to signalized intersection
	Provide fourth leg in the westbound direction
	Provide northbound U-turn/left-turn lane to a full width length of 235 feet
	Provide northbound right-turn lane to a full width length of 175 feet
	Provide southbound U-turn/left-turn lane to a full width length of 235 feet
	Provide southbound right-turn lane to a full width length of 175 feet
	Provide southbound right-turn lane to a full width length of 175 feet
Tractor Trailer Parking Driveway	Provide southbound right-turn lane to a full width length of 175 feet
Hiram Sudie Rd*	Provide northbound U-turn/left-turn to a full width length of 235 feet
	Provide southbound U-turn lane to a full width length of 235 feet
Strip 92 Shopping Center	Provide southbound right-turn lane to a full width length of 175 feet
Nebo Rd*	Provide northbound U-turn/left-turn lane to a full width length of 235 feet
	Provide southbound U-turn lane to a full width length of 235 feet
	Provide southbound right-turn lane to a full width length of 175 feet
	Provide two through lanes in the northbound and southbound directions
	Provide eastbound right-turn lane to a full width length of 175 feet

* Signalized intersections

** SR 92 is considered a north-south road and all cross roads are considered east-west roads.

A capacity analysis with optimized signals was performed for the build conditions for the opening year (2025) and design year (2045). The analysis results are included in Table 26 through Table 28.

Table 26: Capacity Analysis Results for Intersections (Build)

Intersection	Approach / Movement	2025				2045			
		AM		PM		AM		PM	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
SR 92 @									
E Paulding MS South Driveway	Northbound	1.2	A	0.8	A	7.6	A	2.4	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	16.9	C	17	C	127.3	F	120.8	F
Hardy Circle North	Northbound	-	-	-	-	-	-	-	-
	Southbound	-	-	-	-	-	-	-	-
	Eastbound	-	-	-	-	-	-	-	-
RCUT U-turn	Southbound	0.9	A	0.6	A	3	A	1.5	A
Hardy Circle South/Brenda Ln	Northbound	0.3	A	0.3	A	0.5	A	0.5	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	12	B	11.7	B	17	C	16.1	C
	Westbound	54	F	53.6	F	695.3	F	722.8	F
Dallas Rd*	-	31.6	C	30.5	C	103.5	F	96.1	F
Stars & Strikes South Driveway	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Westbound	-	-	12	B	-	-	16.8	C
Cypress Dr/Old	Northbound	-	-	-	-	-	-	-	-

Intersection SR 92 @	Approach / Movement	2025				2045			
		AM		PM		AM		PM	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Hiram Rd	Southbound	-	-	-	-	-	-	-	-
	Eastbound	-	-	-	-	-	-	-	-
	Westbound	-	-	-	-	-	-	-	-
Creekwood Pass	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	13.4	B	12.8	B	19.6	C	17.8	C
Hanover Ave/Mt Vernon Church Rd	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	27.9	D	30.4	D	521.8	F	913.5	F
	Westbound	45.6	E	86	F	963.2	F	>1000	F
Powder Creek Dr	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	12.6	B	11.4	B	18.6	C	15	C
Maxwell Dr	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Westbound	-	-	-	-	-	-	-	-
Powder Creek Way	Northbound	0.1	A	0.3	A	0.3	A	0.4	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	13	B	11.8	B	20.5	C	16.2	C
Macland Rd*	-	27.7	C	26.2	C	77.7	E	57.9	E
Dailey Rd/Darby's Crossing Dr	Northbound	0	A	0	A	0	A	0	A
	Southbound	0.1	A	0.3	A	0.2	A	0.5	A
	Eastbound	-	-	-	-	-	-	-	-
	Westbound	20.2	C	30.4	D	119.5	F	420.1	F
Quail Ridge Rd	Northbound	-	-	-	-	-	-	-	-
	Southbound	-	-	-	-	-	-	-	-
	Westbound	-	-	-	-	-	-	-	-
Indian Lake Dr	Northbound	2.5	A	1.9	A	8.7	A	7.9	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	24.8	C	24.4	C	168.9	F	618.5	F
Paulding Pavilion Driveway North	Northbound	-	-	-	-	-	-	-	-
	Southbound	-	-	-	-	-	-	-	-
	Westbound	-	-	-	-	-	-	-	-
Paulding Commons Driveway/Paulding Pavilion Driveway South	Northbound	-	-	-	-	-	-	-	-
	Southbound	-	-	-	-	-	-	-	-
	Eastbound	-	-	-	-	-	-	-	-
	Westbound	-	-	-	-	-	-	-	-
Jimmy Lee Smith Pkwy*	-	30.4	C	30.2	C	96.5	F	82.8	F
Walmart Driveway/Office Max Driveway	Northbound	-	-	-	-	-	-	-	-
	Southbound	-	-	-	-	-	-	-	-
	Eastbound	-	-	-	-	-	-	-	-
	Westbound	-	-	-	-	-	-	-	-
C W Sims Rd/Rosedale Drive	Northbound	-	-	-	-	-	-	-	-
	Southbound	-	-	-	-	-	-	-	-
	Eastbound	-	-	-	-	-	-	-	-
	Westbound	-	-	-	-	-	-	-	-
Hiram Park Drive	Northbound	0.1	A	0.1	A	0.1	A	0.3	A

Intersection	Approach / Movement	2025				2045			
		AM		PM		AM		PM	
SR 92 @		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
	Southbound	6.2	A	0	A	123.3	F	23.1	C
	Eastbound	10.1	B	11.9	B	11.9	B	16.3	C
Sims Road	Northbound	-	-	-	-	-	-	-	-
	Southbound	-	-	-	-	-	-	-	-
	Eastbound	-	-	-	-	-	-	-	-
Seaboard Street	Northbound	-	-	-	-	-	-	-	-
	Southbound	-	-	-	-	-	-	-	-
	Westbound	-	-	-	-	-	-	-	-
Fitzgerald Street	Northbound	0.1	A	0.1	A	0.1	A	0.3	A
	Southbound	1.2	A	0.6	A	2.3	A	1	A
	Eastbound	17.6	C	24.2	C	53.4	E	292.3	F
Ragsdale Street/Alexander Street	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Eastbound	-	-	11.6	B	-	-	15.5	C
	Westbound	-	-	-	-	-	-	-	-
Oak Street*	-	9.7	A	11.4	B	17.1	B	22	C
Center St	Northbound	0	A	0	A	0	A	0	A
	Southbound	0	A	0	A	0	A	0	A
	Westbound	-	-	-	-	-	-	-	-
Dallas Street	Northbound	-	-	-	-	-	-	-	-
	Southbound	-	-	-	-	-	-	-	-
	Eastbound	-	-	-	-	-	-	-	-
	Westbound	-	-	-	-	-	-	-	-
Church St	Northbound	0	A	0	A	0	A	0	A
	Southbound	0.6	A	0.5	A	1	A	0.8	A
	Westbound	16.9	C	18.9	C	68.2	F	113.8	F
Beatty St	Northbound	-	-	-	-	-	-	-	-
	Southbound	-	-	-	-	-	-	-	-
	Westbound	-	-	-	-	-	-	-	-
Main St*	-	3.4	A	3.7	A	5.1	A	6.1	A
Hiram Sudie Road*	-	13.4	B	11.8	B	22.6	C	18.6	B
Nebo Rd*	-	11.1	B	7.8	A	15.4	B	11	B

* Signalized intersections

Table 27: SR 92 NB Roadway Capacity Analysis Results (Build)

Intersection	2025						2045					
	AM			PM			AM			PM		
SR 9	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS
Nebo Rd*	26	58%	C	28	63%	B	21	47%	D	26	57%	C
Hiram Sudie Road*	28	63%	B	30	68%	B	22	48%	D	27	60%	C
Main Street	32	71%	B	33	72%	B	29	65%	B	31	68%	B
Oak Street*	31	69%	B	30	66%	B	26	58%	C	25	55%	C
Jimmy Lee Smith Pkwy*	30	67%	B	32	71%	B	20	44%	D	21	46%	D
Macland Rd*	35	77%	B	35	78%	A	23	52%	C	26	57%	C
Dallas Rd*	34	76%	B	34	75%	B	28	61%	C	22	48%	D

* Signalized intersections

** SR 92 is considered a north-south road and all cross roads are considered east-west roads.

BFFS = Base Free Flow Speed; SR 92 posted speed limit is 50 mph from Dallas Rd to Macland Rd, 45 mph to from Macland Rd to Seaboard St, 40 mph from Seaboard St to Hiram Sudie Rd, and 45 mph from Hiram Sudie Rd to Nebo Rd.

Table 28: SR 92 SB Roadway Capacity Analysis Results (Build)

Intersection	2025						2045					
	AM			PM			AM			PM		
SR 9	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS	Travel speed (mph)	% of BFFS	LOS
Dallas Rd*	27	60%	C	29	63%	B	15	32%	E	18	41%	D
Macland Rd*	37	83%	A	37	82%	A	35	78%	A	32	72%	B
Jimmy Lee Smith Pkwy*	34	76%	B	34	75%	B	25	56%	C	21	48%	D
Oak Street*	42	94%	A	41	90%	A	42	92%	A	38	84%	A
Main Street	36	79%	A	35	78%	A	35	77%	B	33	72%	B
Hiram Sudie Road*	23	52%	C	24	53%	C	19	42%	D	19	43%	D
Nebo Rd*	29	65%	B	29	65%	B	25	56%	C	27	60%	C

* Signalized intersections

** SR 92 is considered a north-south road and all cross roads are considered east-west roads.

BFFS = Base Free Flow Speed; SR 92 posted speed limit is 50 mph from Dallas Rd to Macland Rd, 45 mph to from Macland Rd to Seaboard St, 40 mph from Seaboard St to Hiram Sudie Rd, and 45 mph from Hiram Sudie Rd to Nebo Rd.

The analysis indicates that by the build opening (2025) and design (2045) years, most intersections operate at LOS D or better. In 2025, there are two unsignalized intersections that operate at LOS F: Hardy Circle South/Brenda Ln and Hanover Ave/Mt Vernon Church Rd. There are no signalized intersections that operate at LOS E or F.

In 2045, several unsignalized intersections have very high delays on cross roads and operate at LOS F: East Paulding Middle School South Driveway, Hardy Circle South/Brenda Ln, Hanover Ave/Mt Vernon Church Rd, Dailey Rd/Darby's Crossing Dr, Indian Lake Dr, Fitzgerald Street and Church Street. However, SR 9 at these unsignalized intersections operates at LOS C or better. Usually, it is common for the unsignalized side street intersections to have higher delay during peak period conditions especially in the future design year condition further improvements are recommended only if a signal is anticipated to these minor side streets based on operational analysis. None of the abovementioned unsignalized intersections warrant a signal in the future.

Only at the unsignalized intersection of Hiram Park Drive, the southbound direction on SR 9 operates at LOS F during the AM peak hours. The reason behind the high delay on this approach is the high u-turn volume. The traffic diagrams show that median closure at the intersection of CW Sims Rd and Walmart driveway may lead drivers to use the u-turn at the Hiram park Drive intersection. However, there are driveways that would provide alternative access rather than the Hiam Park Drive and so eliminate the need for a majority of the u-turns.

The only signalized intersections that operate at LOS F are Dallas Rd and Jimmy Lee Smith Pkwy. From the roadway capacity analysis results summary in Table 27 and Table 28, SR 92 operates at LOS D or better in both the northbound and southbound directions.

7. Further Recommendations

The following possible improvements are recommended for the signalized intersections with undesirable LOS in the design year build condition:

Dallas Road

Possible improvement: RCUT/Superstreet – there is a driveway entrance to Stars & Strikes with a median opening currently east of the intersection. This driveway may have to be converted to a RI/RO. This improvement would reduce delay to 56.8 sec/veh (LOS E) at the main intersection in AM Peak. However, further analysis would be needed on adjacent u-turns to determine overall impact on delay.

Recommendation: Dallas Road crosses the LOS E/F threshold within four years of the design year. In the build scenario, these intersections experience more than 200 sec/veh reduction in the average delays experienced in the no-build scenario. Moreover, due to the very high levels of demand for Dallas Road, achieving LOS D would be very costly. For these reasons, no further improvements are made to the concept design for Dallas Road at this point.

Macland Road

Possible improvement: providing a dual southbound left-turn lane (volume is 440 veh in 2045 AM) would reduce delay to 56.3 sec/veh (LOS E) in AM peak. Note that, it needs to be verified if current ROW allows for the additional lane.

Jimmy Lee Smith Pkwy

Possible improvement: RCUT/Superstreet – similar to Dallas Road, there is a driveway entrance to Walmart with a median opening currently west of the intersection. This intersection reduces the amount of traffic experienced at the main intersection, which would reduce delay to 68.4 sec/veh (LOS E) at the main intersection in AM Peak. Further analysis is needed on adjacent u-turns to determine overall impact on delay.

Recommendation: Jimmy Lee Smith Pkwy crosses the LOS E/F threshold within four years of the design year. In the build scenario, these intersections experience more than 200s/veh reduction in the average delays experienced in the no-build scenario. Note that the number of NB and SB u-turns that are projected is overestimated. The traffic diagrams were made to show that every vehicle in the no-build scenario is accounted for in the build scenario; however, there are

driveways that would eliminate the need for a majority of the u-turns. Moreover, due to the very high levels of demand for Jimmy Lee Smith Pkwy, achieving LOS D would be very costly. For the following reasons, no further improvements are made to the concept design for Jimmy Lee Smith Pkwy.

8. Conclusion

Based on the traffic analysis completed, more of the build scenario's major intersections and minor critical movements would operate at an acceptable LOS D or better, in comparison to the no-build scenario. Certain intersections still operate at LOS E or F in the build condition, however, it is not uncommon for cross streets to experience high delay along major corridors. Therefore, the traffic analysis supports the conceptual improvements described above to operate at an acceptable level in the design year.

APPENDIX A

Volume Diagrams

Department of Transportation State of Georgia

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. # 621720- Paulding County **OFFICE** Planning
DATE 8/11/2017

FROM Cynthia L. VanDyke, State Transportation Planning Administrator

TO Kimberly Nesbitt, State Program Delivery Engineer
Attention: Jeff Simmons

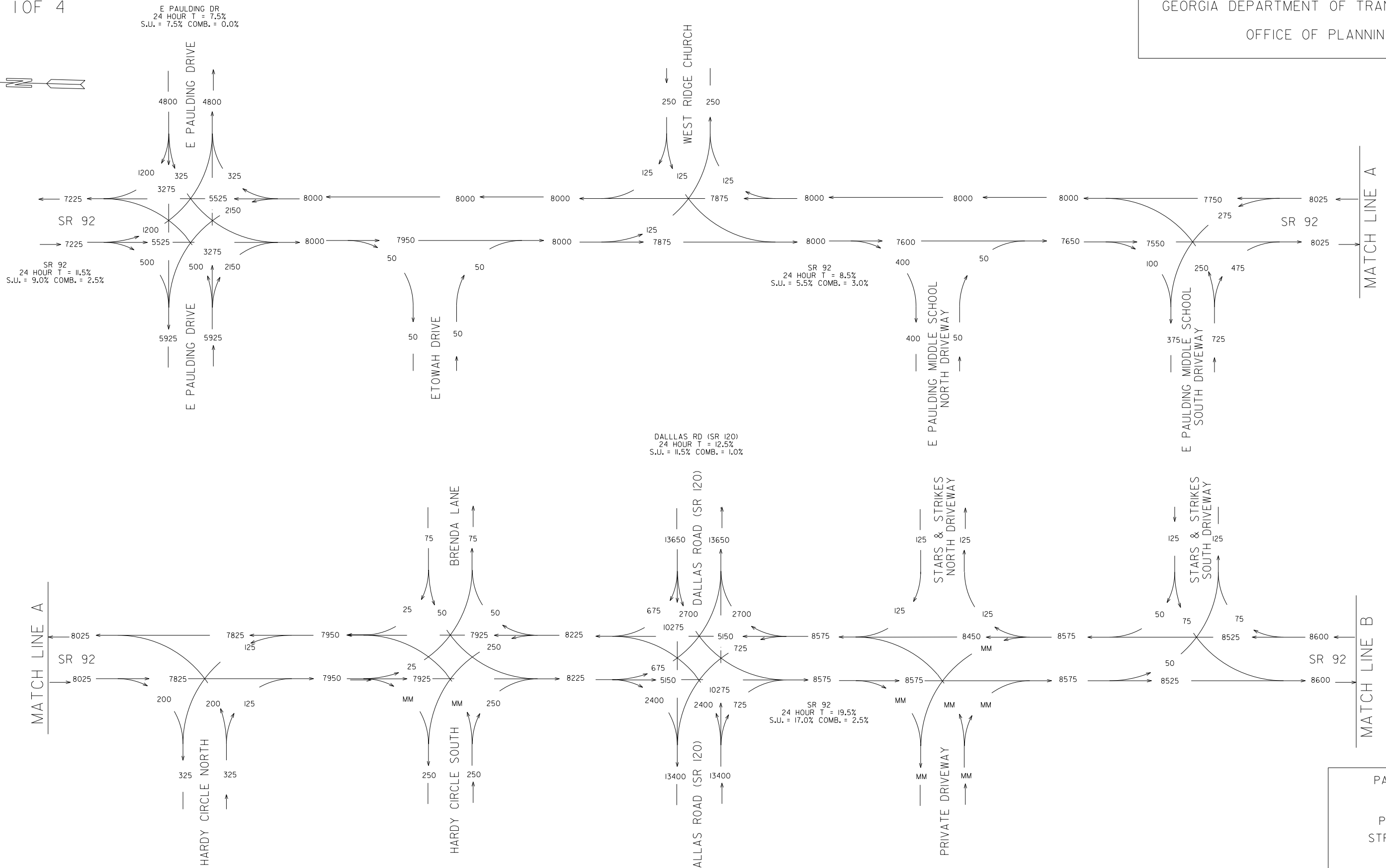
SUBJECT **Design Traffic Forecasts** Design Traffic Diagrams for SR 92 FROM NEBO ROAD/HIRAM TO SR 120, Incl Powder Springs Creek

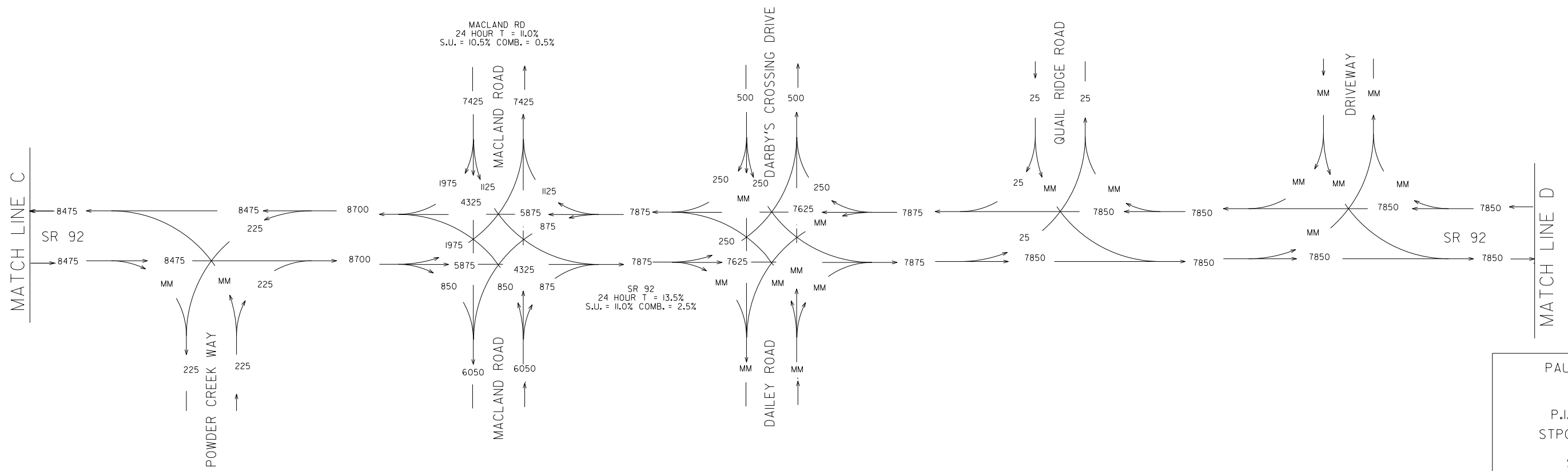
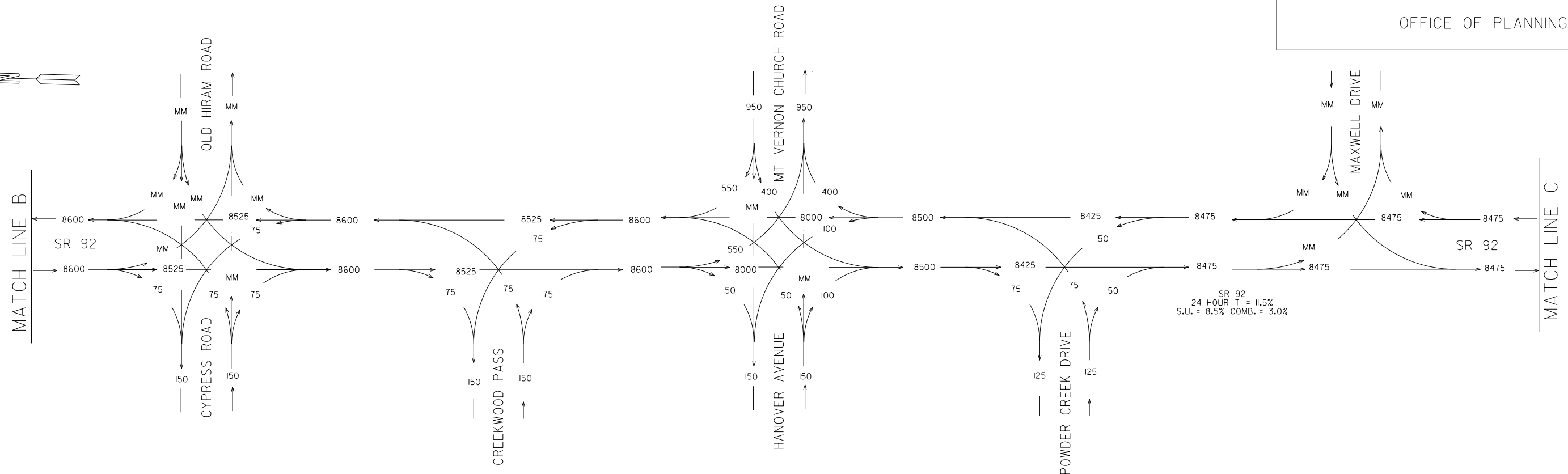
Per request, we have reviewed the consultant's design traffic diagrams for the above project. Based on the information furnished, we find the design traffic diagrams to be satisfactory, and the traffic forecasting task to be complete for the above project. The reviewed design traffic diagrams are attached in 621720-_10.pdf and 621720-_10.dgn.

If you have any questions concerning this information, please contact Rhonda Niles at 404-631-1924.

Nithin Gomez
Gresham, Smith and Partners
Design Traffic Review Consultant to GDOT
678-478-3350

CLV/NMG





PAULDING COUNTY

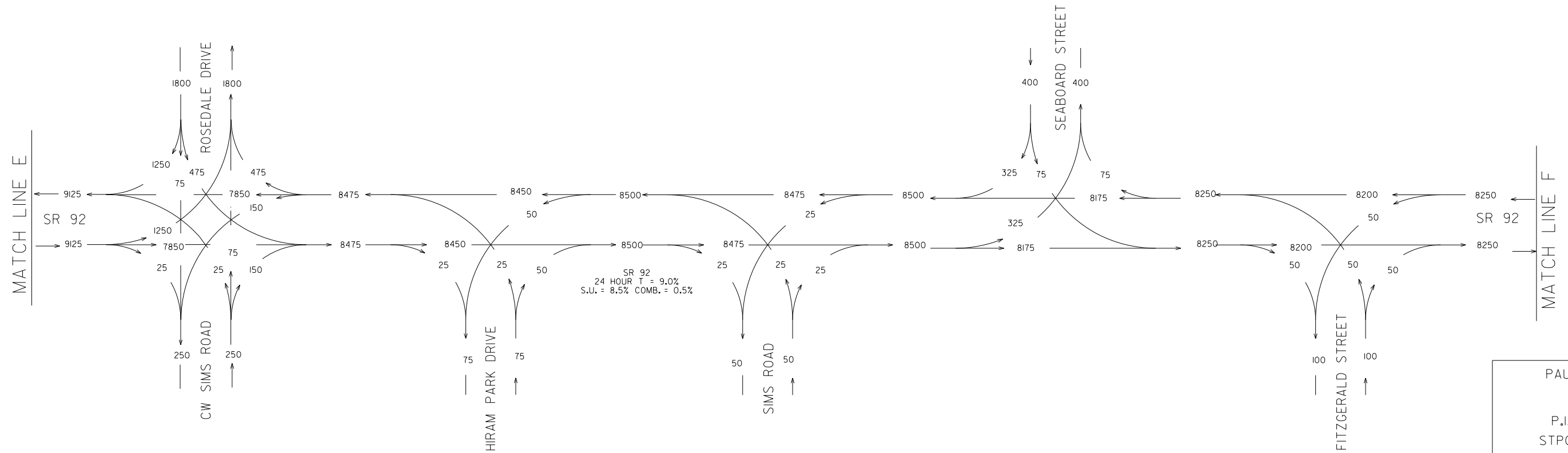
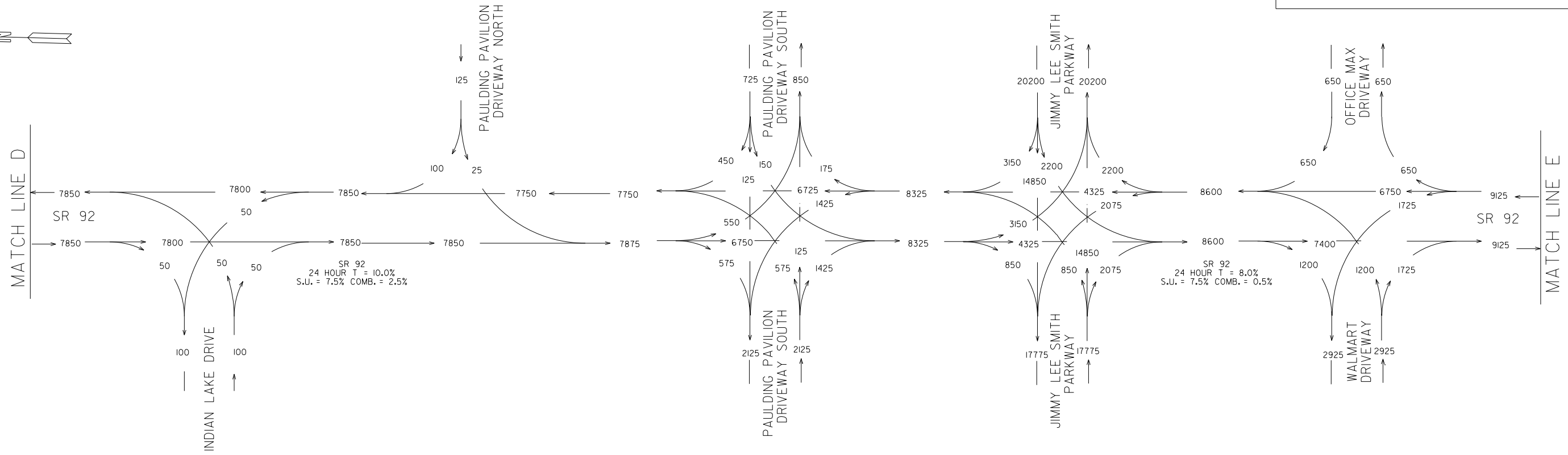
P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2016 EXISTING
AADT = 000
24 HOUR TRUCK % = 0.0%



JIMMY LEE SMITH PKWY
24 HOUR T = 10.0%
S.U. = 7.5% COMB. = 2.5%

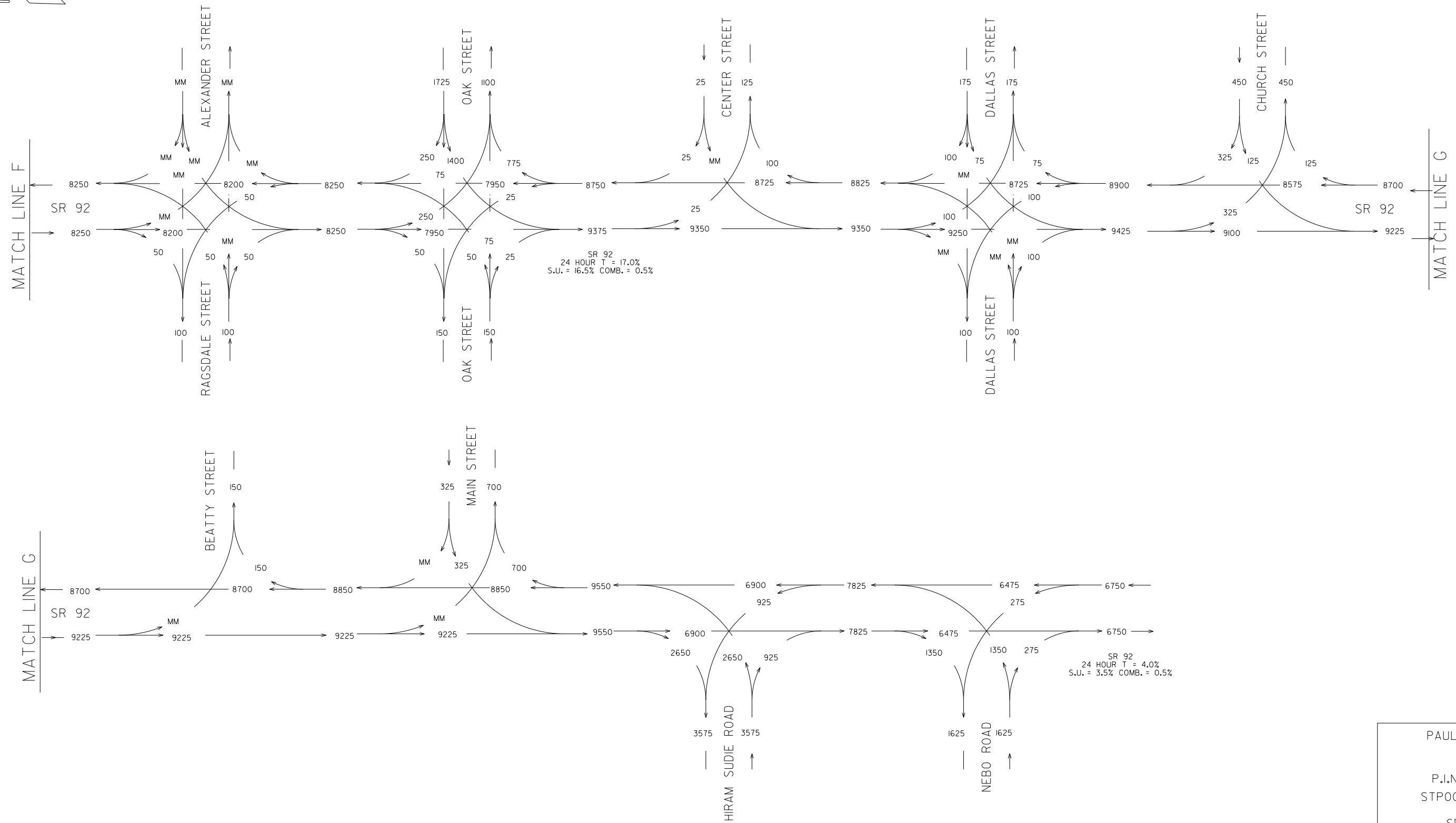


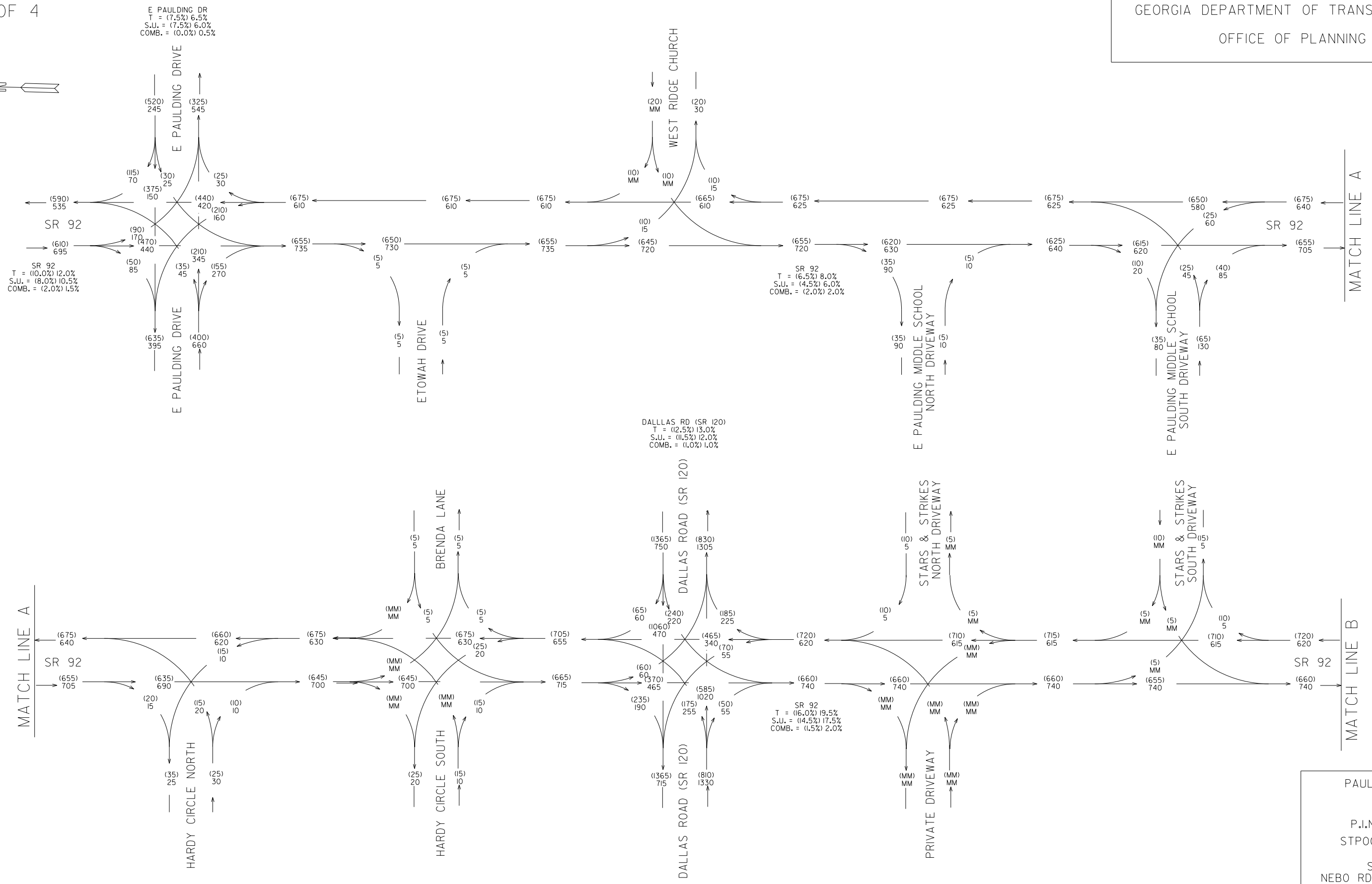
PAULDING COUNTY

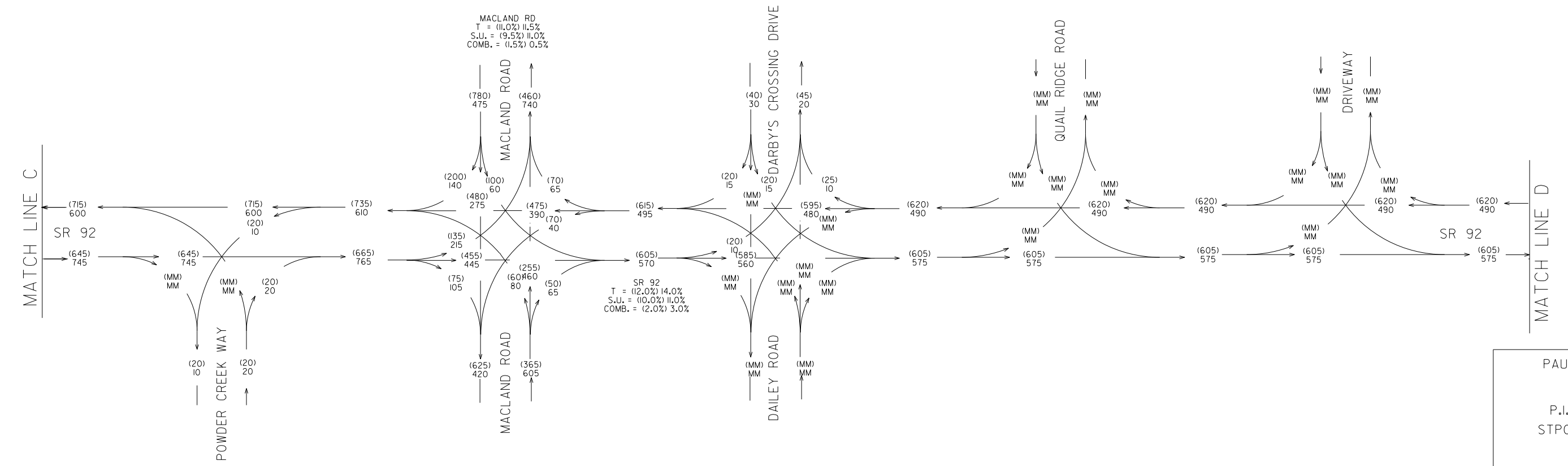
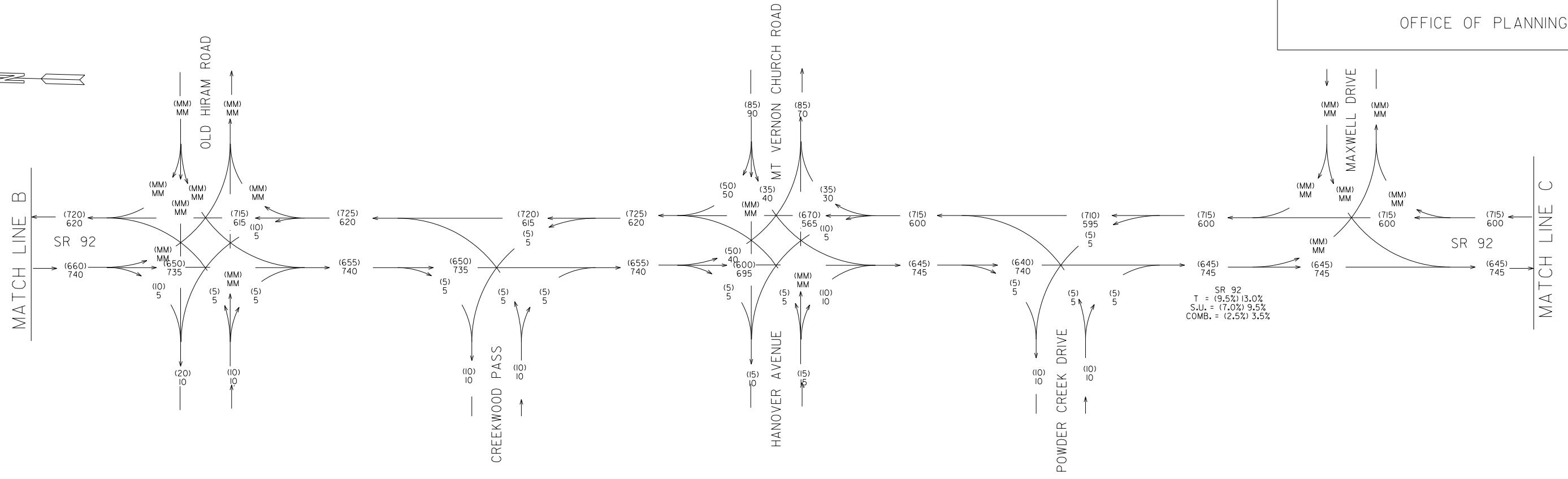
P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SRI20
INCL POWDER SPRINGS CK

2016 EXISTING
AADT = 000
24 HOUR TRUCK % = 0.0%







PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

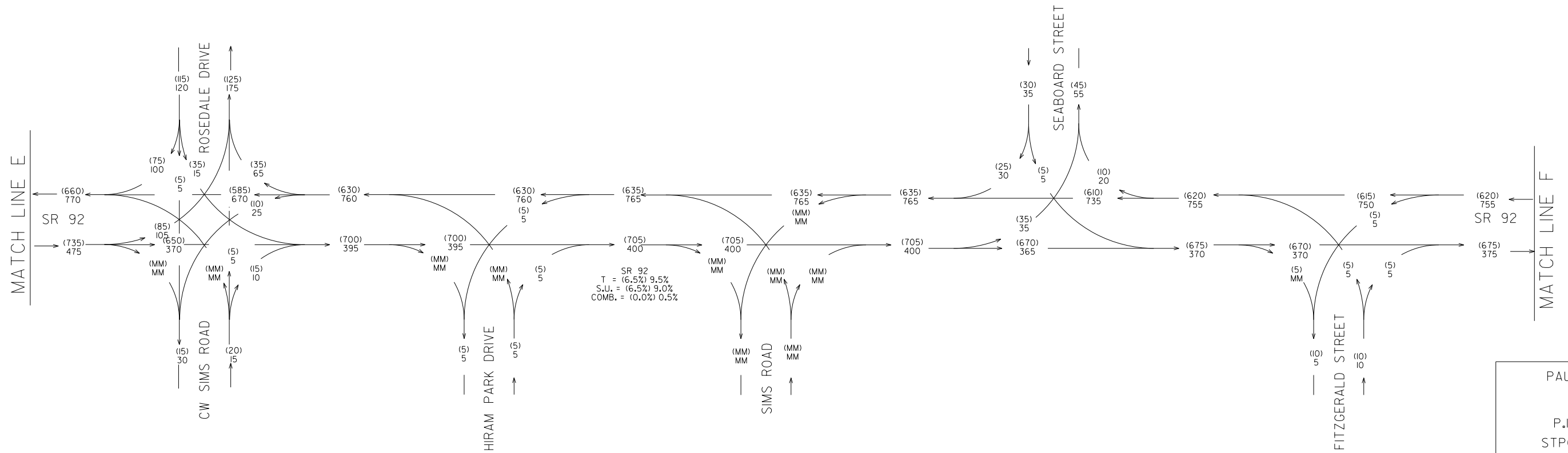
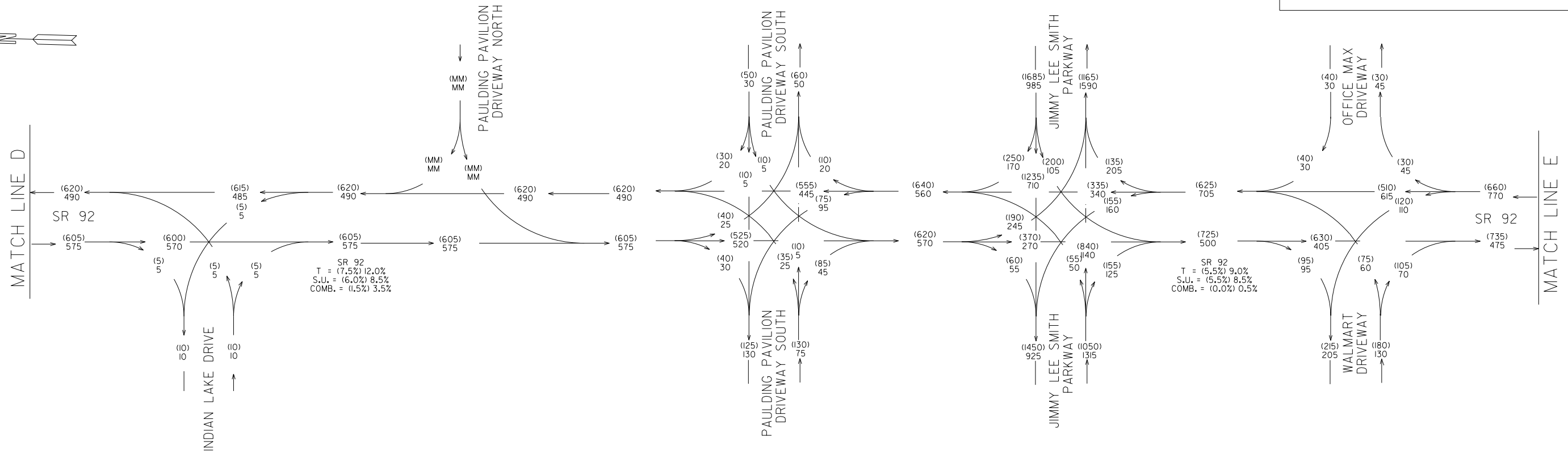
SR 92 FROM
NEBO RD/HIRAM TO SRI20
INCL POWDER SPRINGS CK

2016 EXISTING
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

3/2017



JIMMY LEE SMITH PKWY
T = (7.0%) 12.0%
S.U. = (5.5%) 9.0%
COMB. = (1.5%) 3.0%



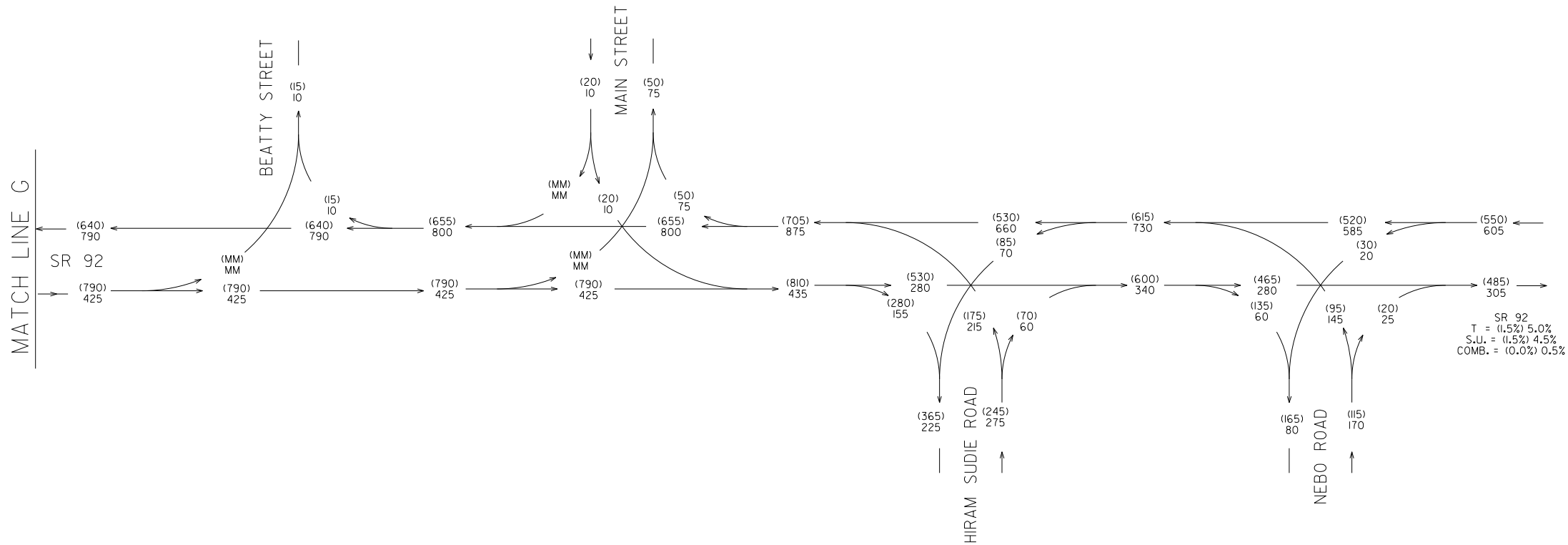
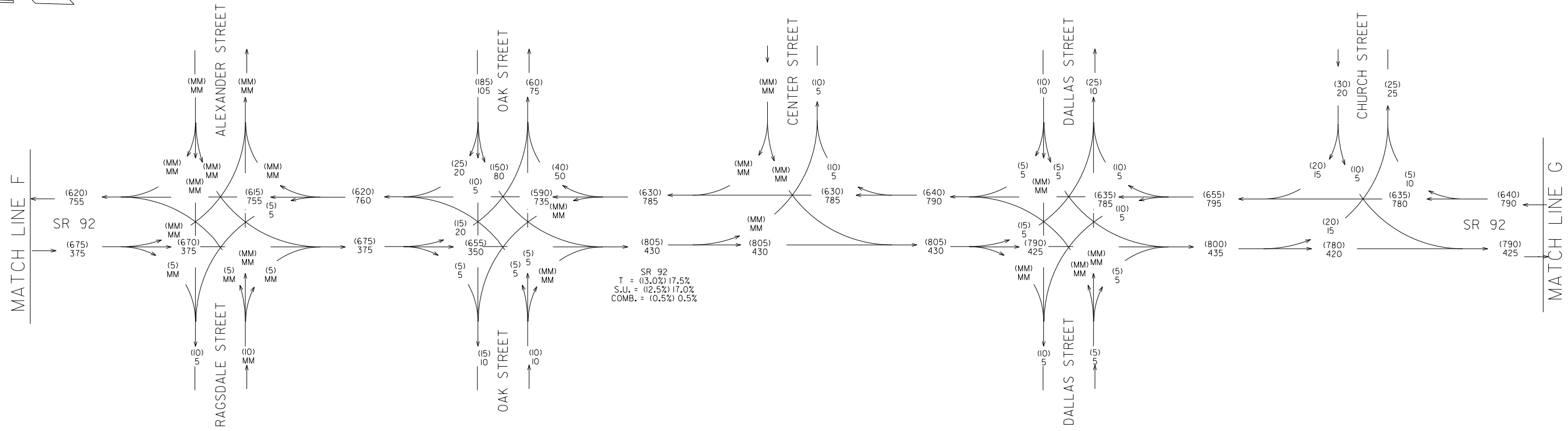
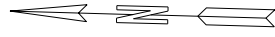
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2016 EXISTING
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

NOTE: DRAWING IS NOT TO SCALE.

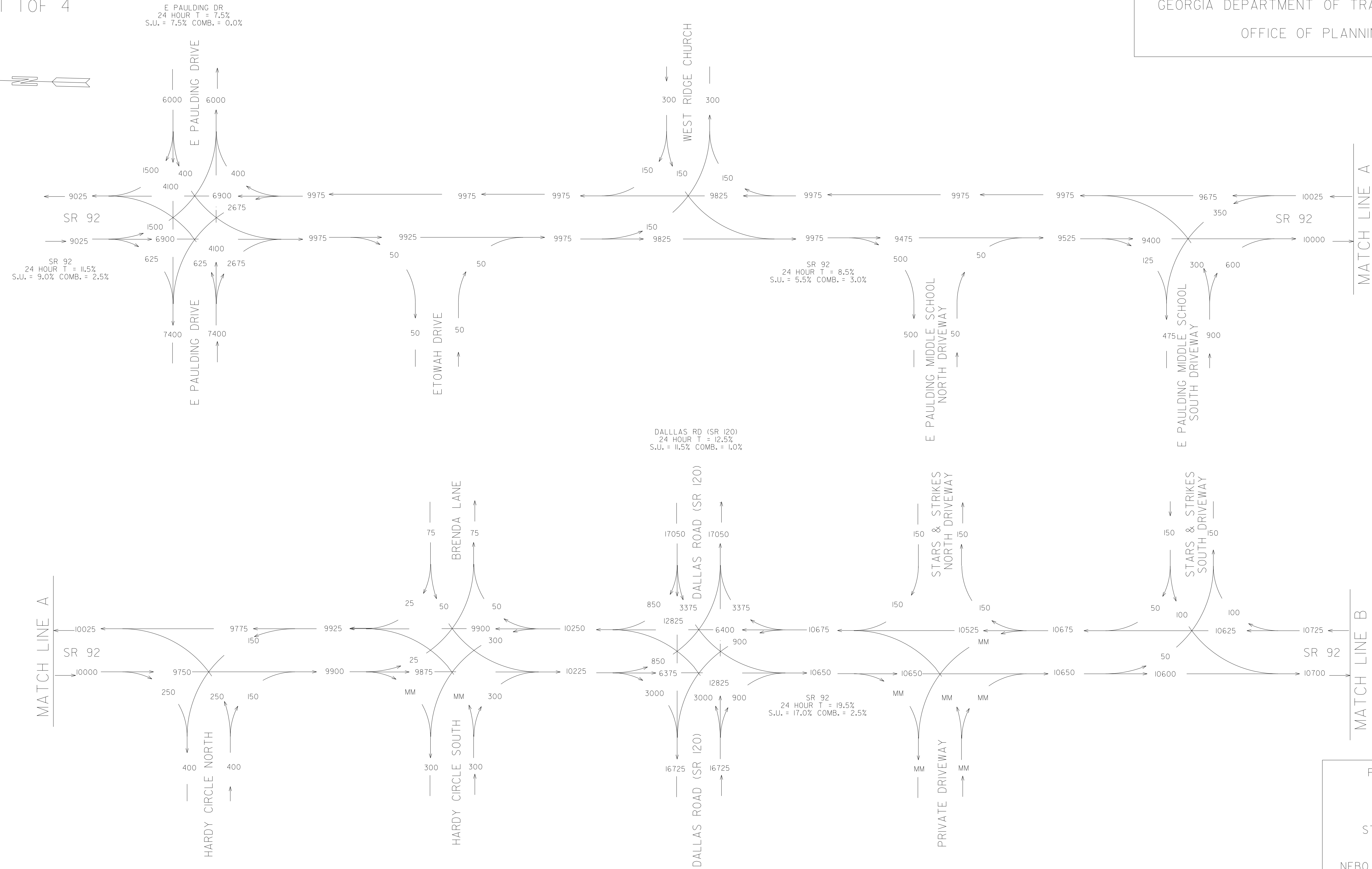
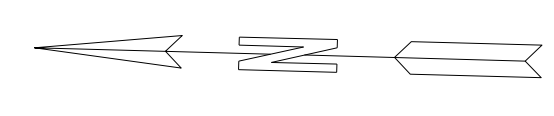


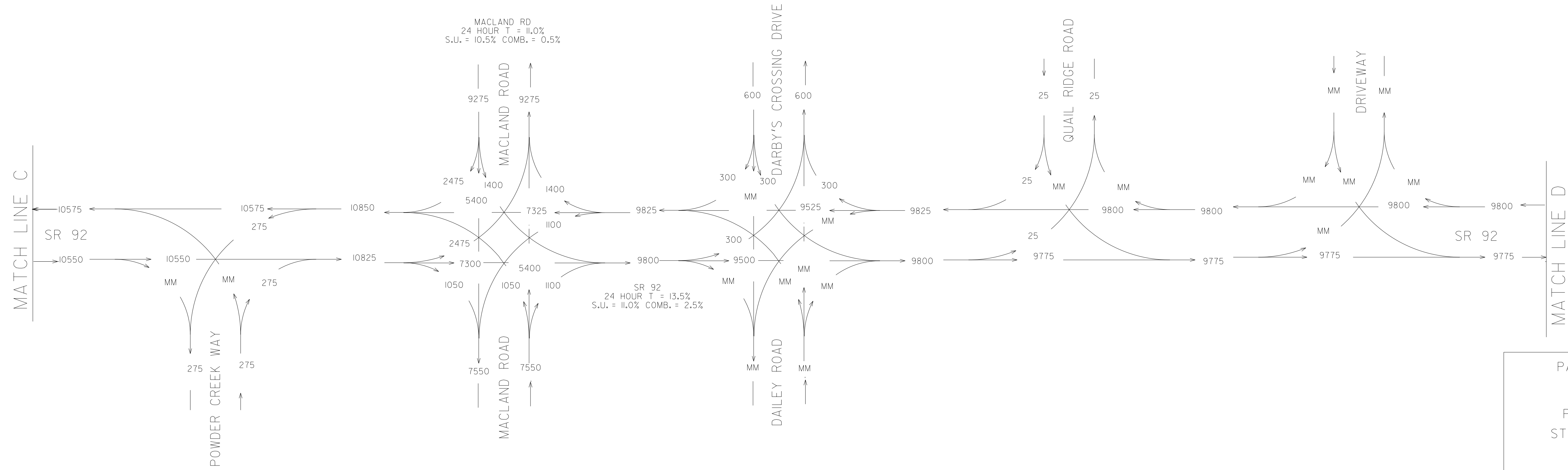
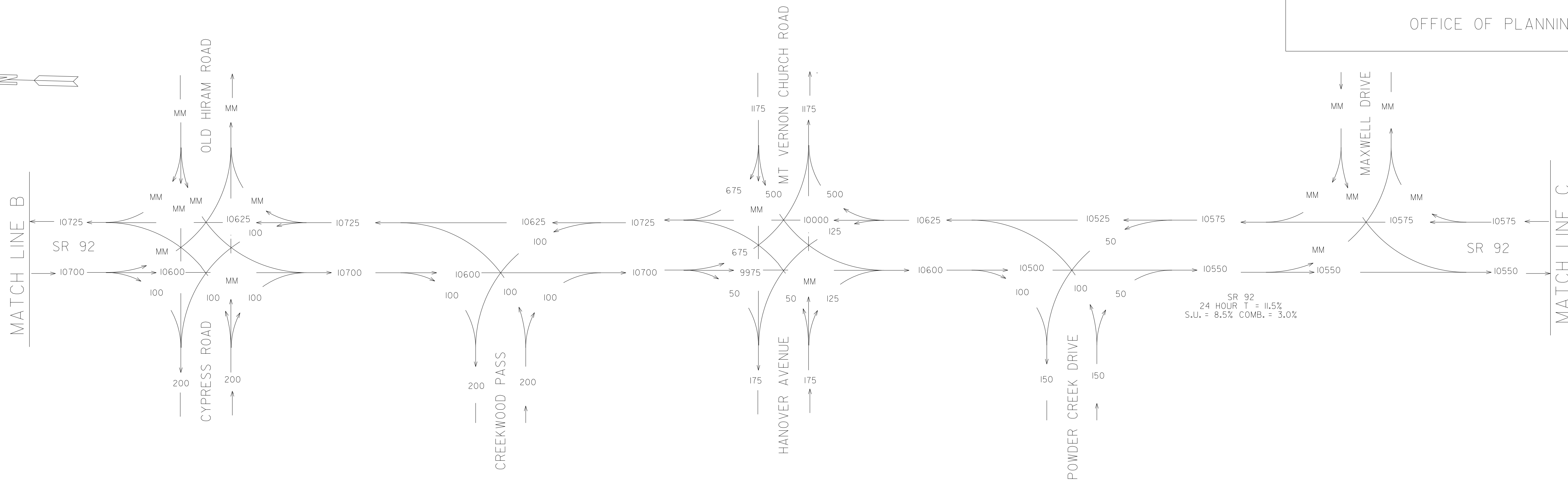
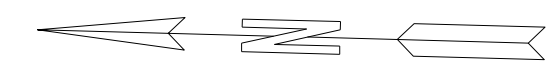
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SRI20
INCL POWDER SPRINGS CK

2016 EXISTING
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

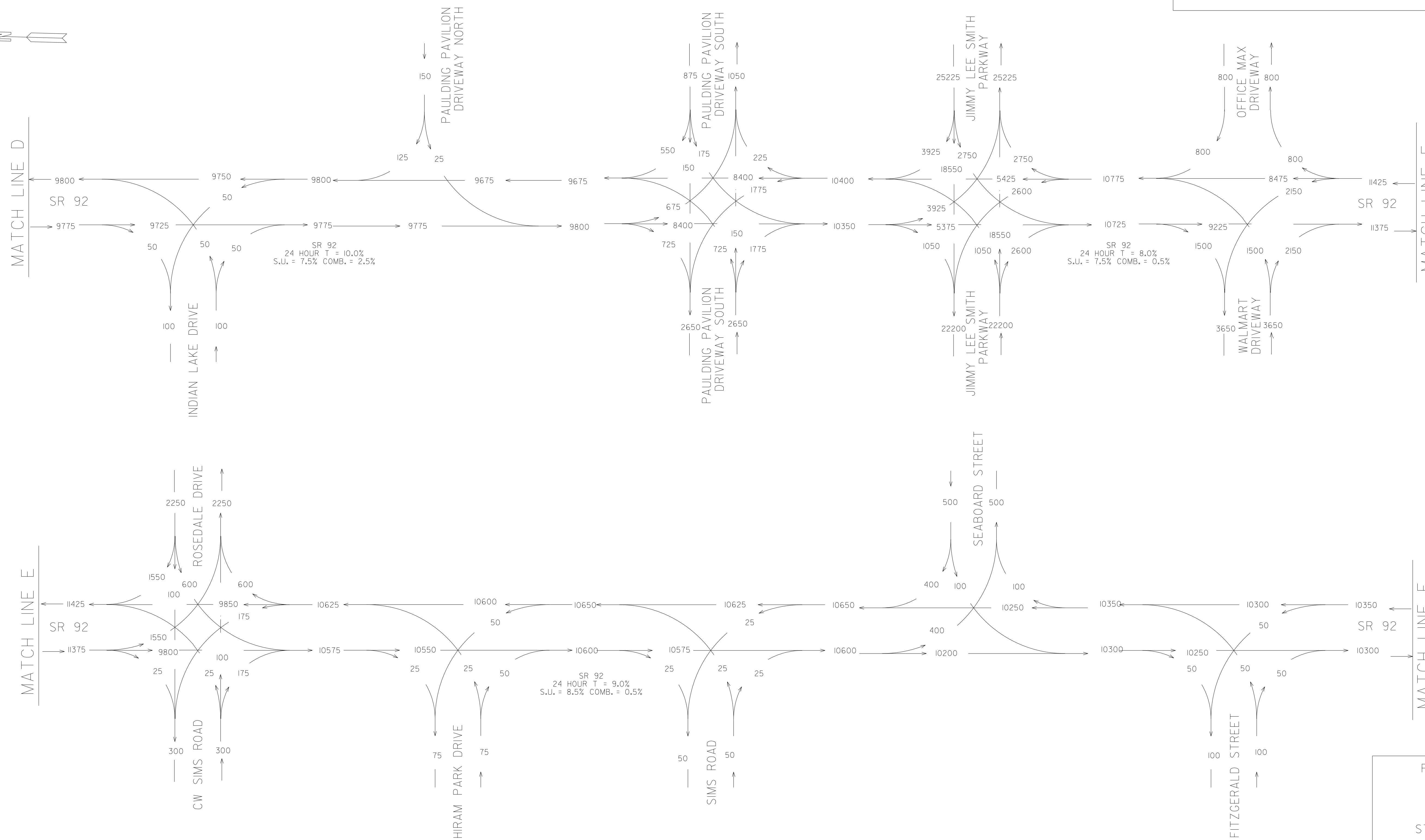
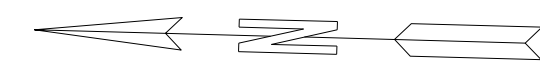


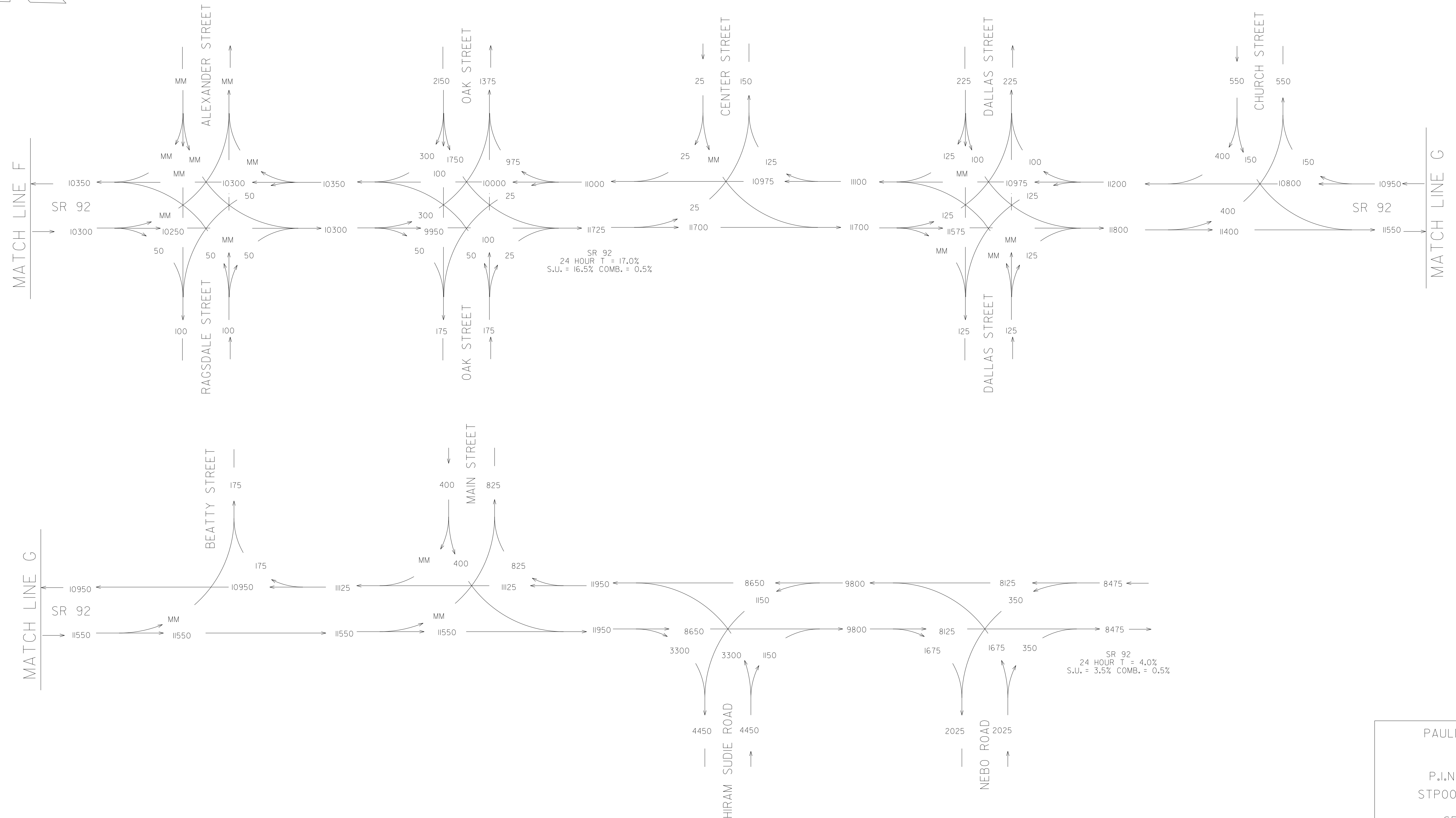
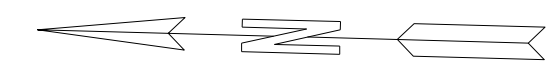


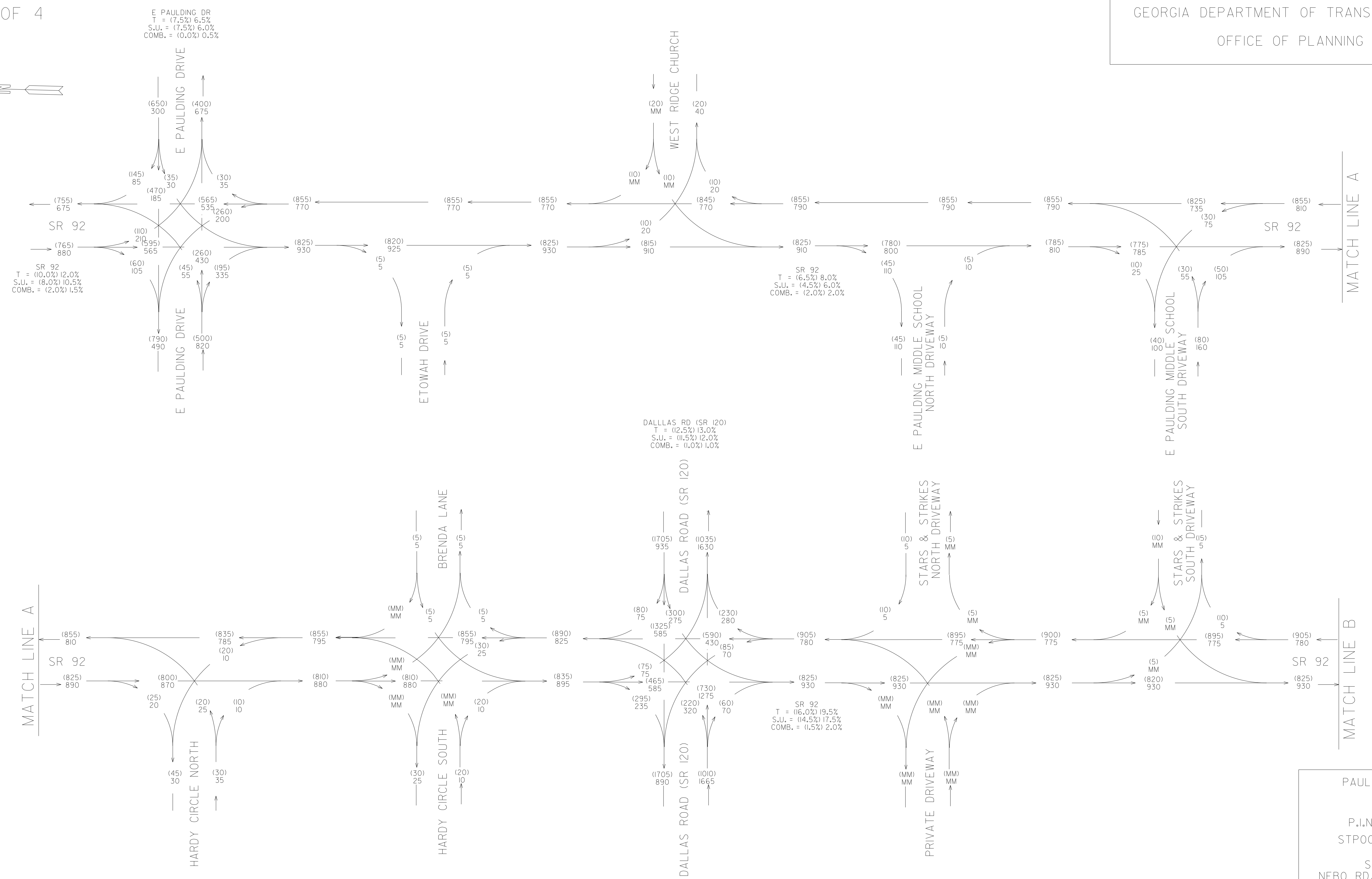
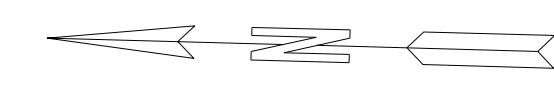
MACLAND RD
24 HOUR T = 11.0%
S.U. = 10.5% COMB. = 0.5%

SR 92
24 HOUR T = 13.5%
S.U. = 11.0% COMB. = 2.5%

JIMMY LEE SMITH PKWY
24 HOUR T = 10.0%
S.U. = 7.5% COMB. = 2.5%







DALLAS RD (SR 120)
T = (12.5%) 13.0%
S.U. = (11.5%) 12.0%
COMB. = (1.0%) 1.0%

SR 92
T = (16.0%) 19.5%
S.U. = (14.5%) 17.5%
COMB. = (1.5%) 2.0%



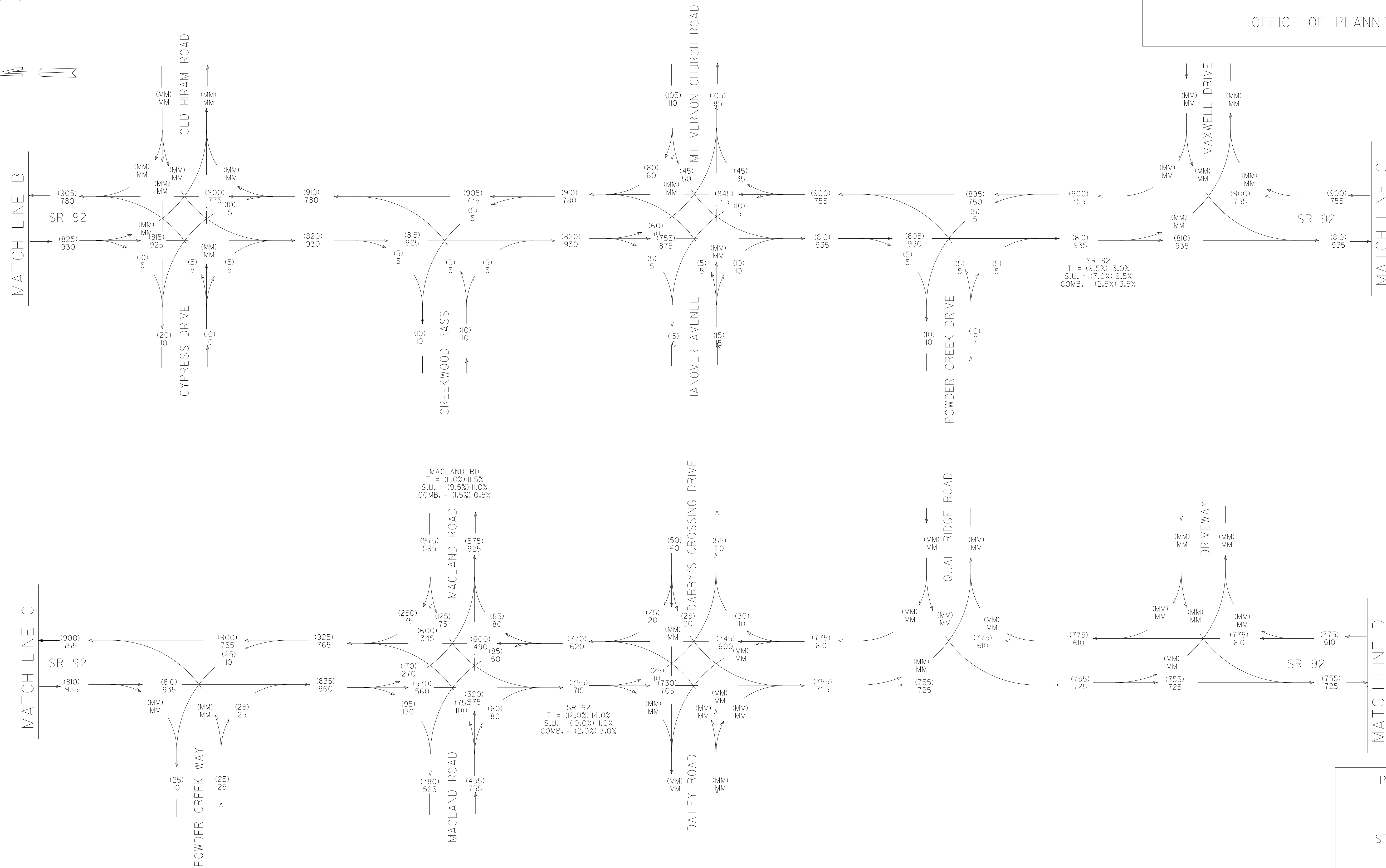
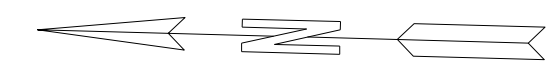
NOTE: DRAWING IS NOT TO SCALE.

PAULDING COUNTY

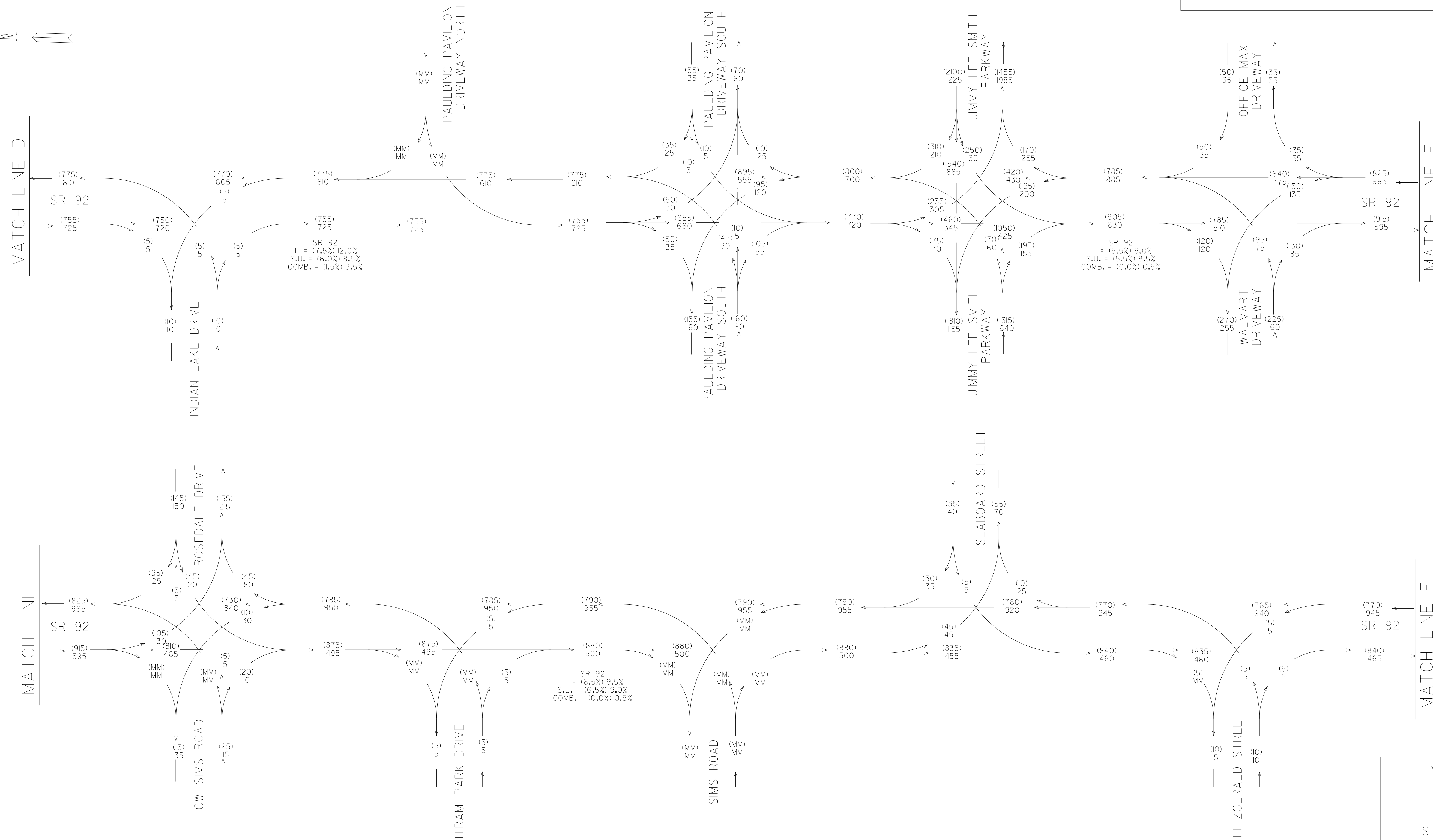
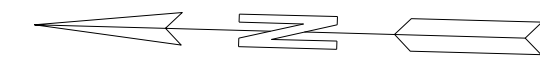
P.I.NO. 621720-
STP00-0186-01(025)

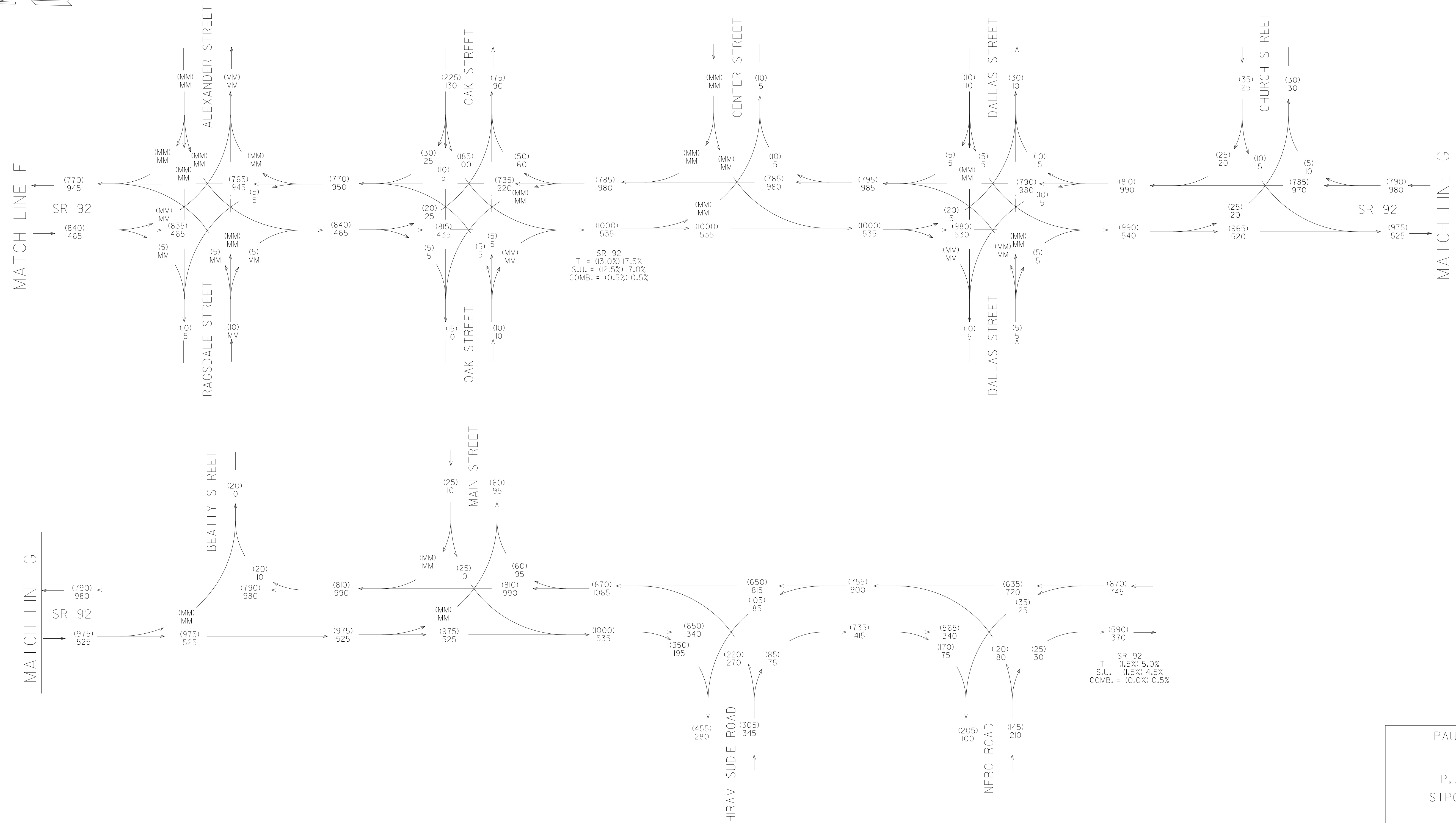
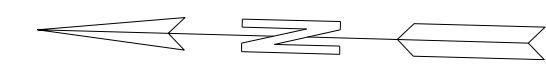
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2025 NO-BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%



JIMMY LEE SMITH PKWY
T = (7.0%) 12.0%
S.U. = (5.5%) 9.0%
COMB. = (1.5%) 3.0%





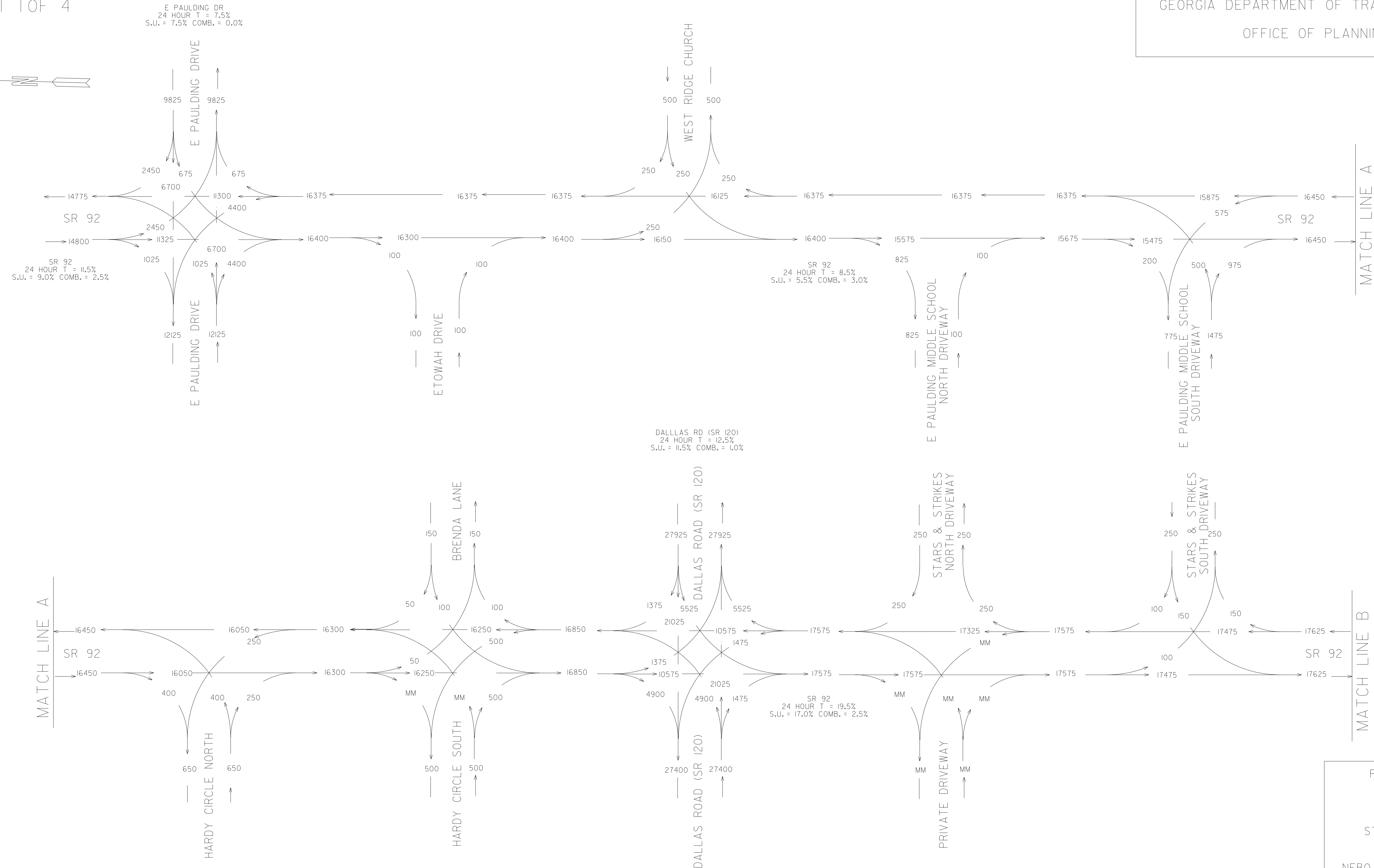
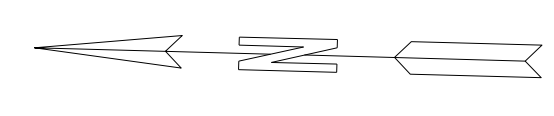
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

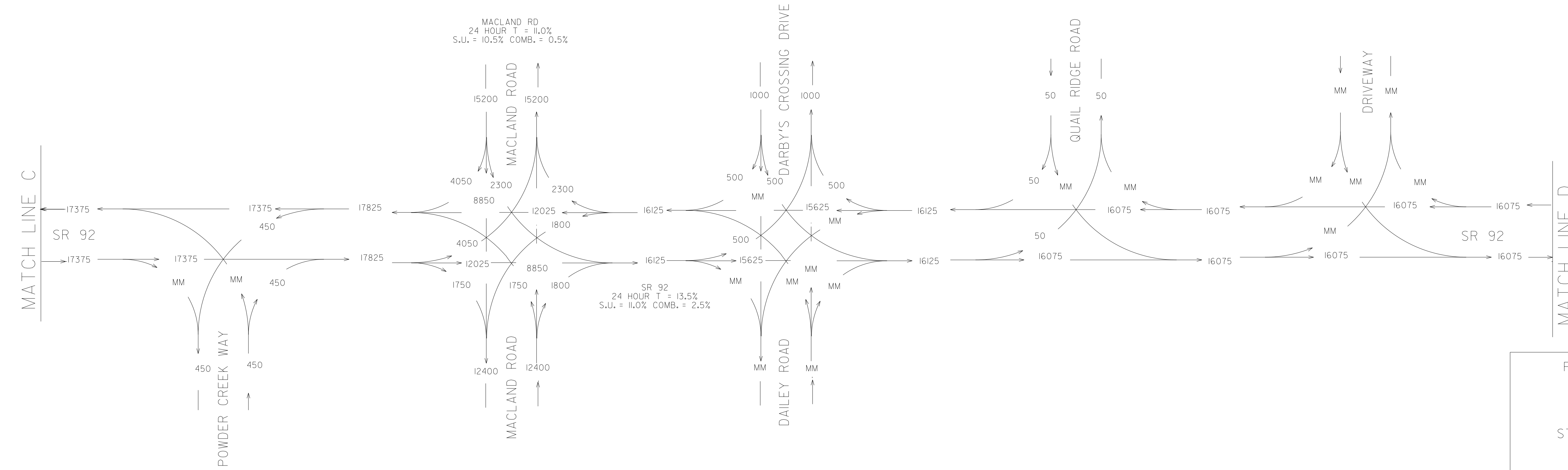
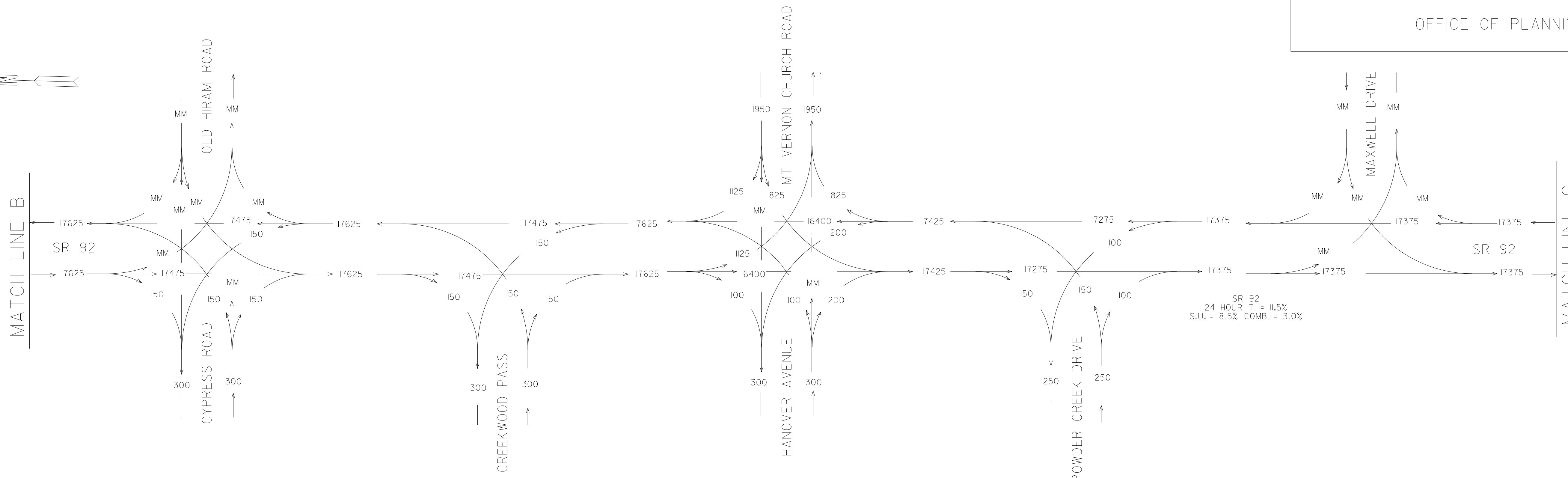
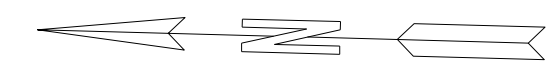
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2025 NO-BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

8/2017



PAULDING COUNTY
P.I.NO. 621720-
STP00-0186-01(025)
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK
2045 NO-BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%



PAULDING COUNTY

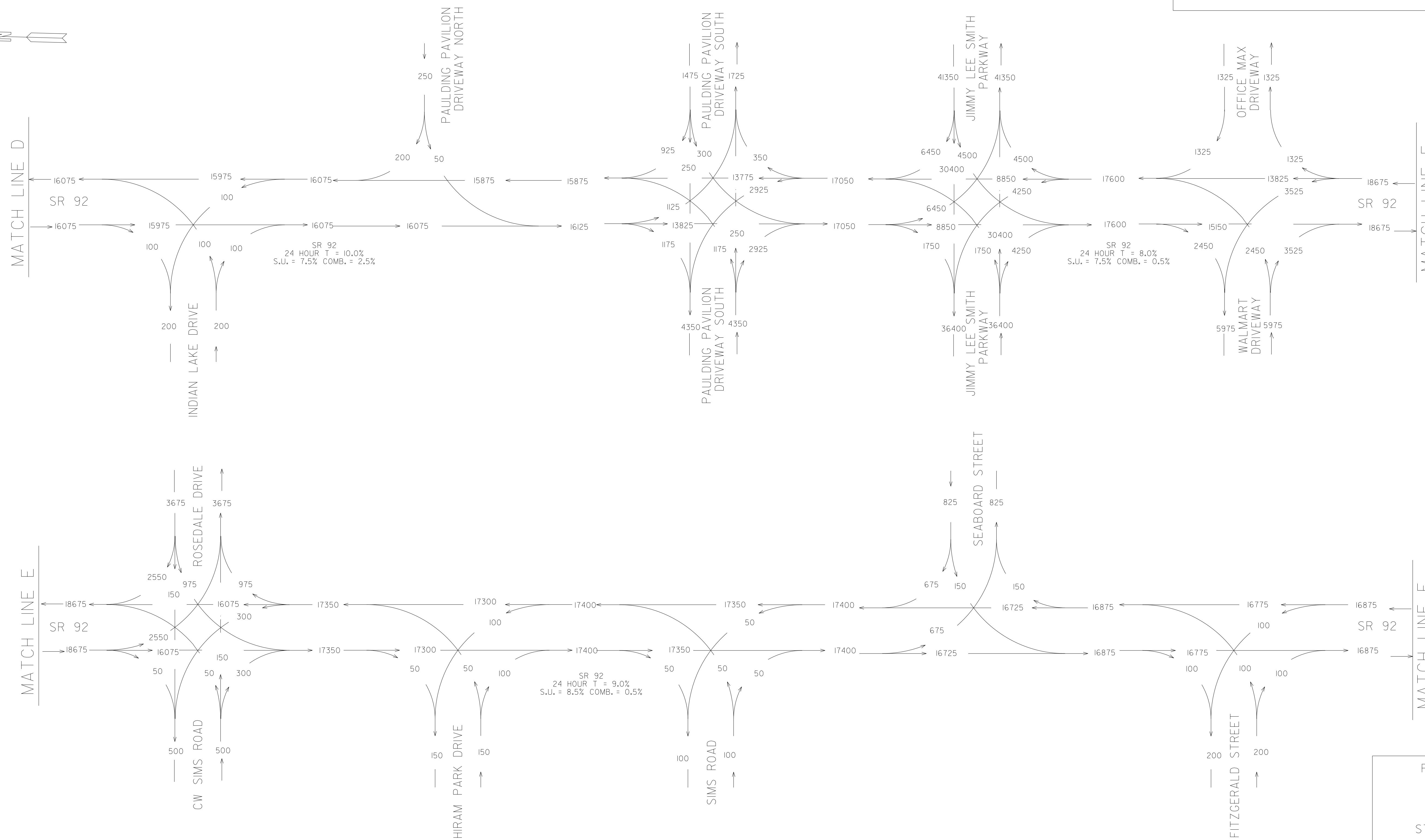
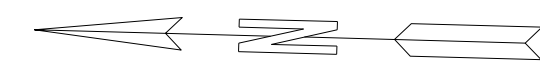
P.I.NO. 621720-
STP00-0186-01(025)

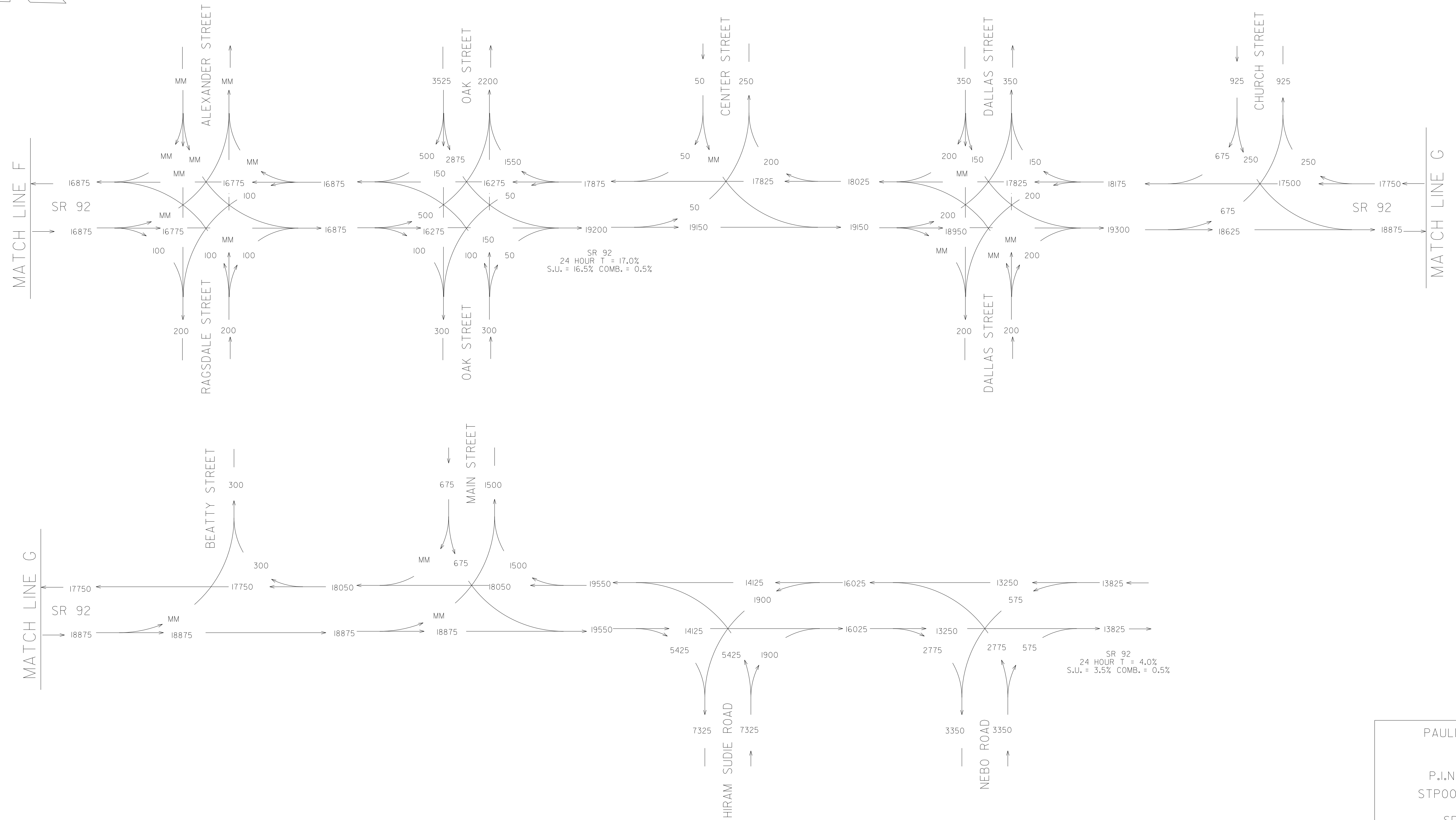
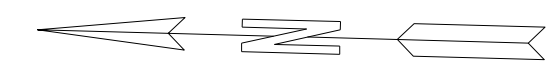
SR 92 FROM
NEBO RD/HIRAM TO SRI20
INCL POWDER SPRINGS CK

2045 NO-BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%

8/2017

JIMMY LEE SMITH PKWY
24 HOUR T = 10.0%
S.U. = 7.5% COMB. = 2.5%





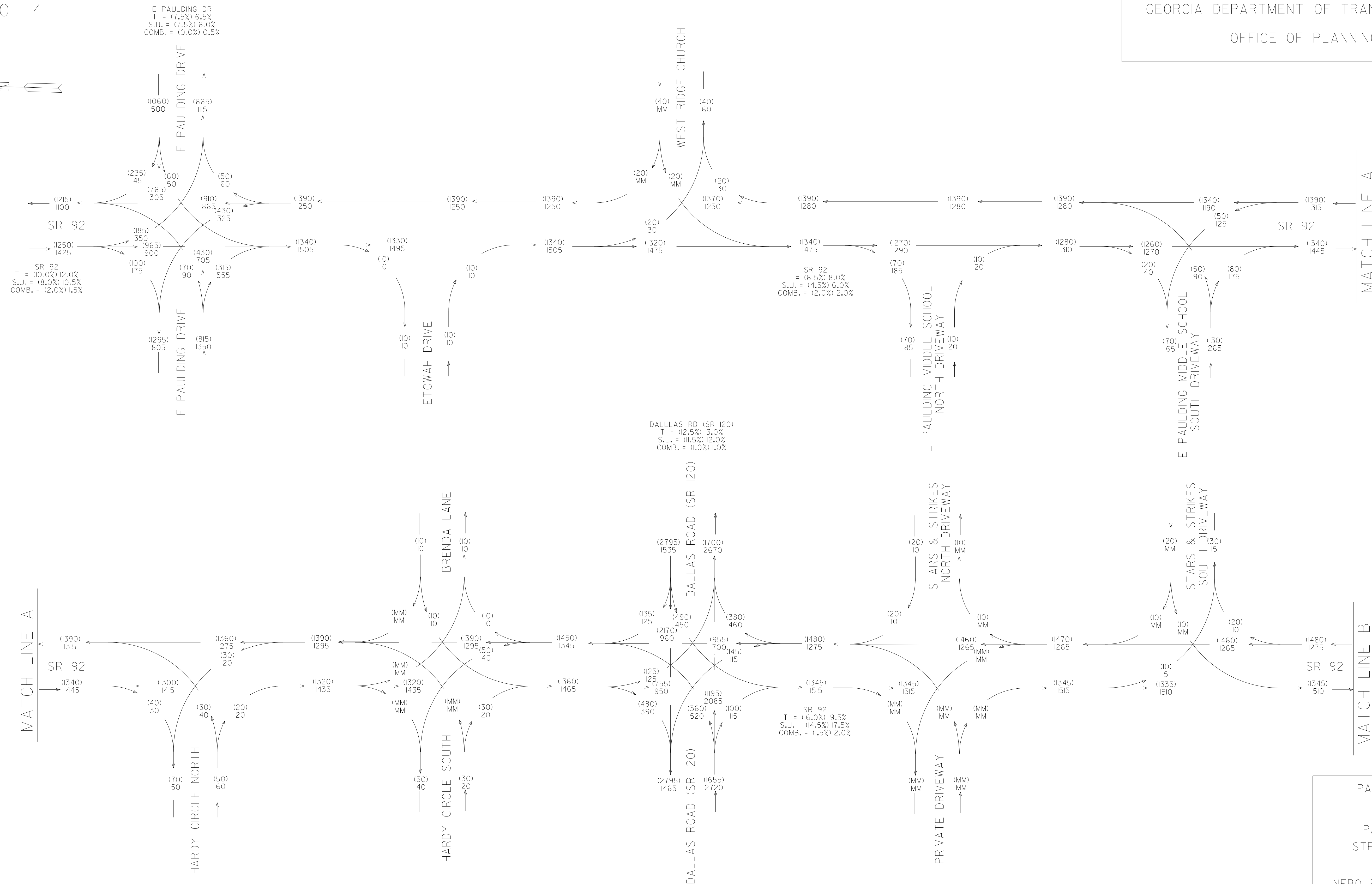
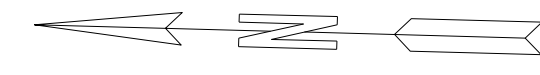
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2045 NO-BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%

8/2017



E PAULDING DR
T = (7.5%) 6.5%
S.U. = (7.5%) 6.0%
COMB. = (10.0%) 0.5%

SR 92
T = (10.0%) 12.0%
S.U. = (8.0%) 10.5%
COMB. = (2.0%) 1.5%

SR 92
T = (6.5%) 8.0%
S.U. = (4.5%) 6.0%
COMB. = (2.0%) 2.0%

DALLAS RD (SR 120)
T = (12.5%) 13.0%
S.U. = (11.5%) 12.0%
COMB. = (1.0%) 1.0%

SR 92
T = (16.0%) 19.5%
S.U. = (14.5%) 17.5%
COMB. = (1.5%) 2.0%

MATCH LINE A

MATCH LINE B

MATCH LINE A



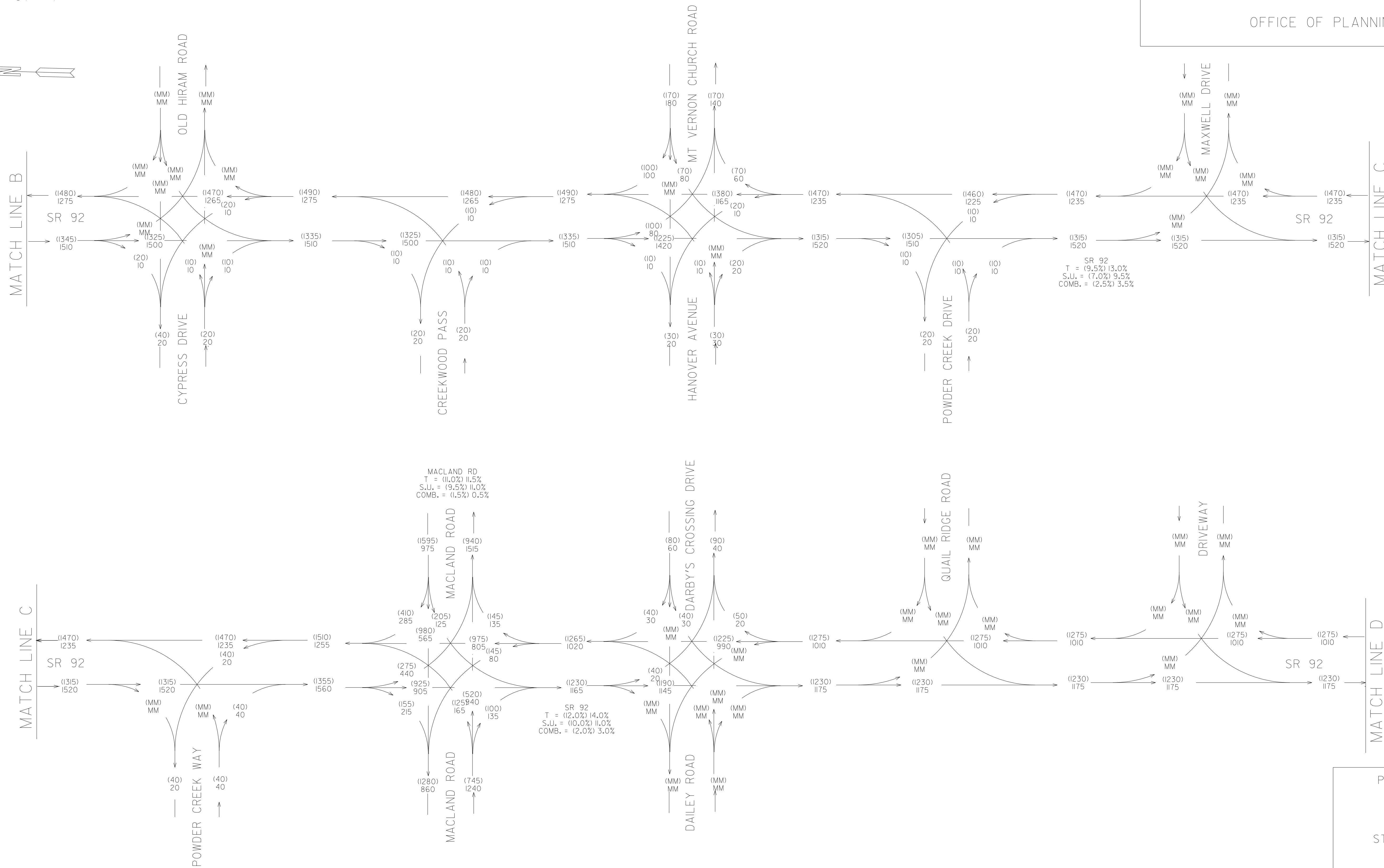
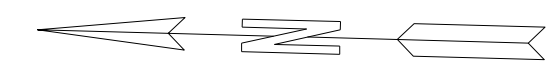
NOTE: DRAWING IS NOT TO SCALE.

PAULDING COUNTY

P.I.NO. 621720-
STPOO-0186-01(025)

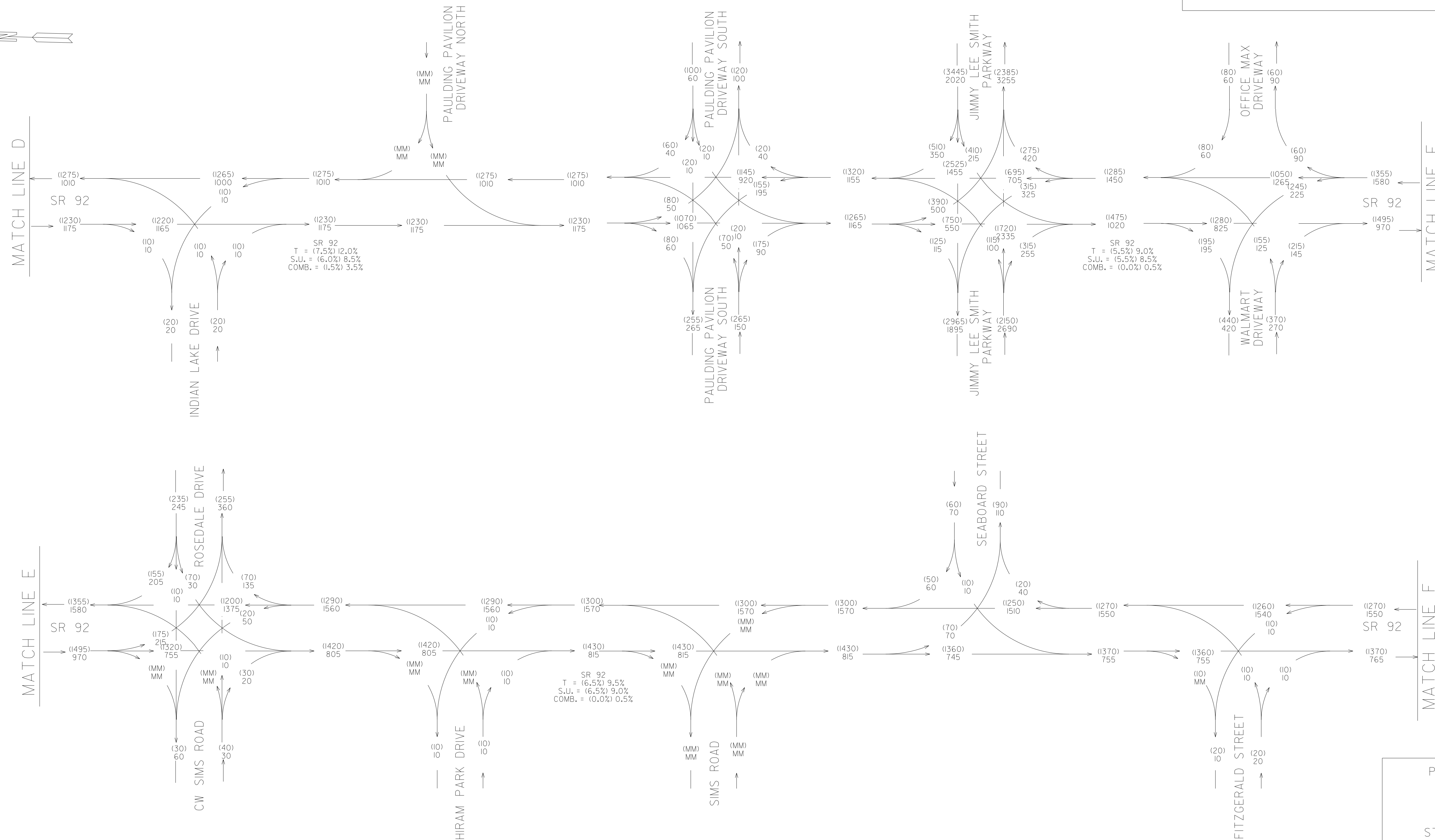
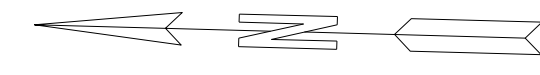
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2045 NO-BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%



NOTE: DRAWING IS NOT TO SCALE.

PAULDING COUNTY
P.I.NO. 621720-
STP00-0186-01(025)
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK
2045 NO-BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%



PAULDING COUNTY

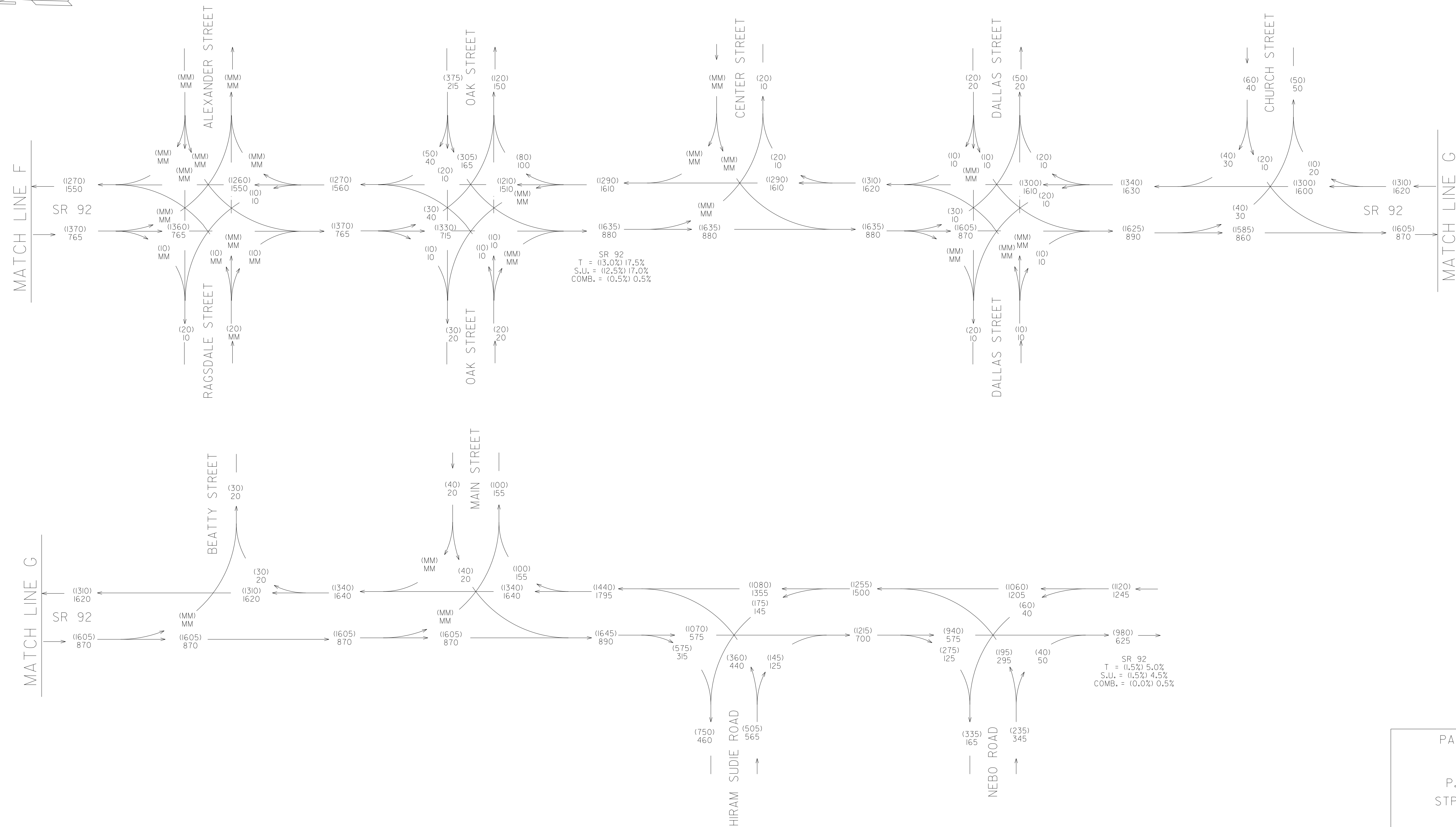
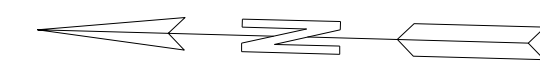
P.I.NO. 621720-
STP00-0186-01(025)

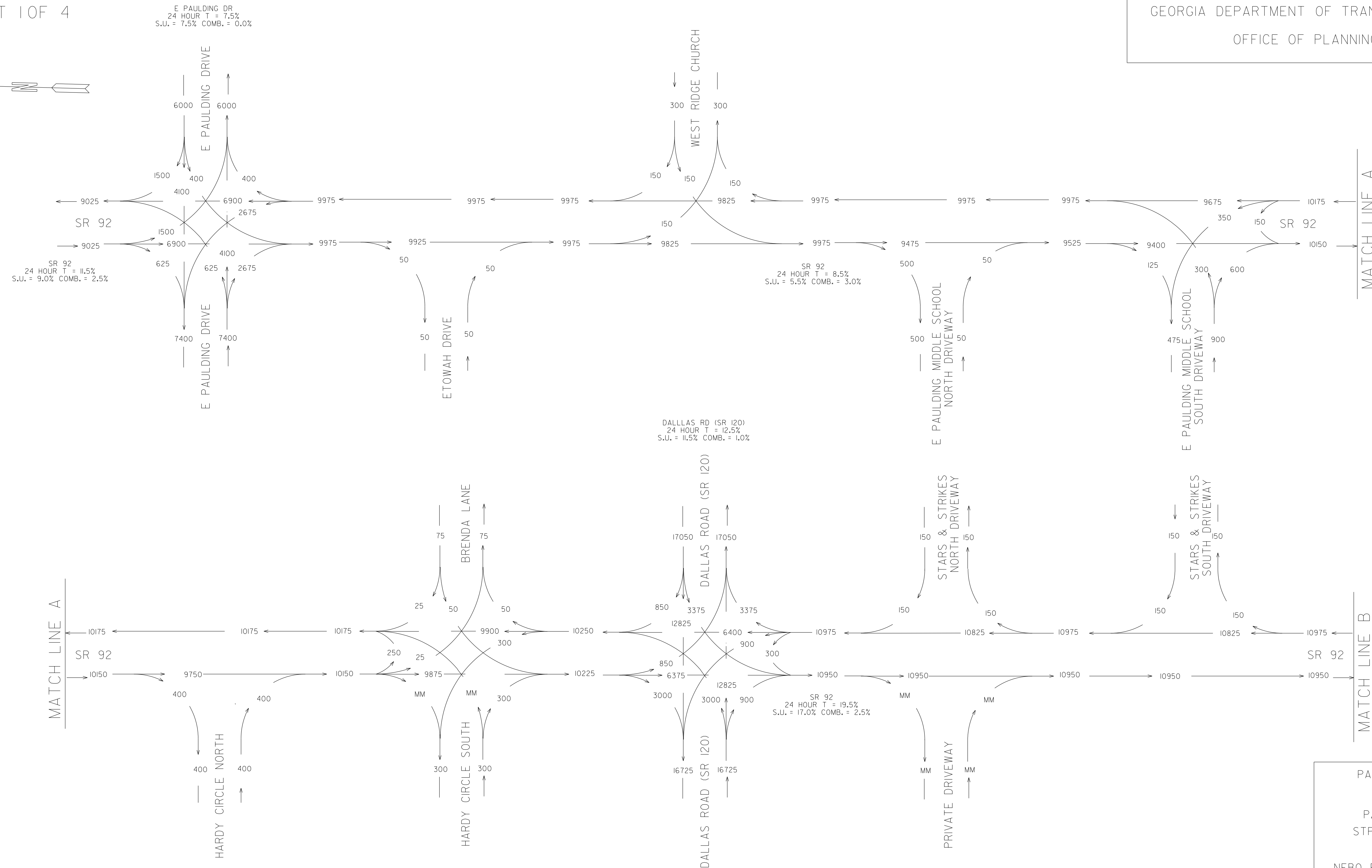
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2045 NO-BUILD
PM DHV = 000
AM DHV = 000
PM TRUCK % = 0.0%
AM TRUCK % = 0.0%



NOTE: DRAWING IS NOT TO SCALE.





MATCH LINE A

MATCH LINE A

MATCH LINE B

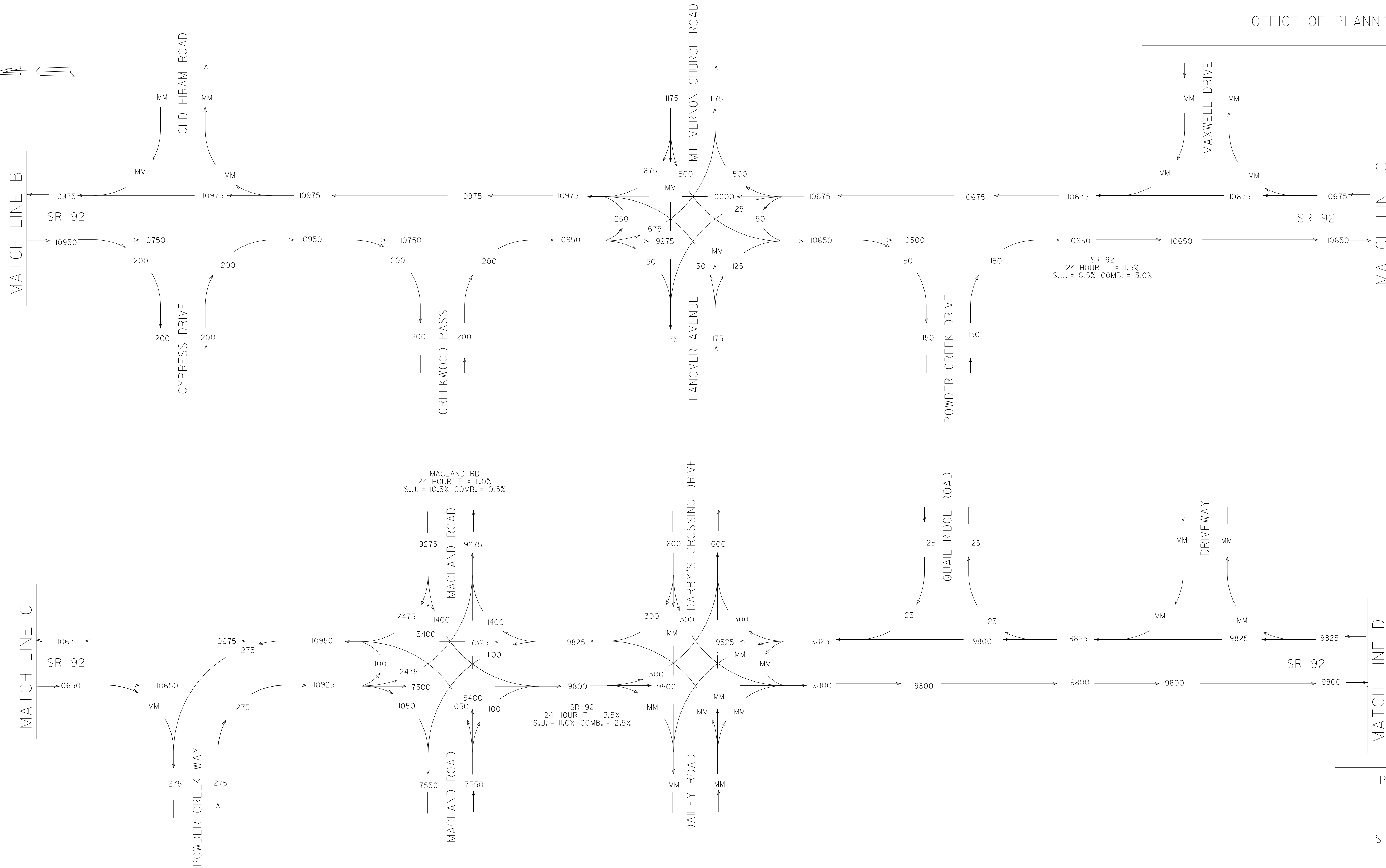
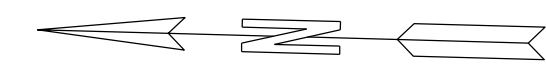
PAULDING COUNTY

P.I.NO. 621720-
STPO0-0186-01(025)

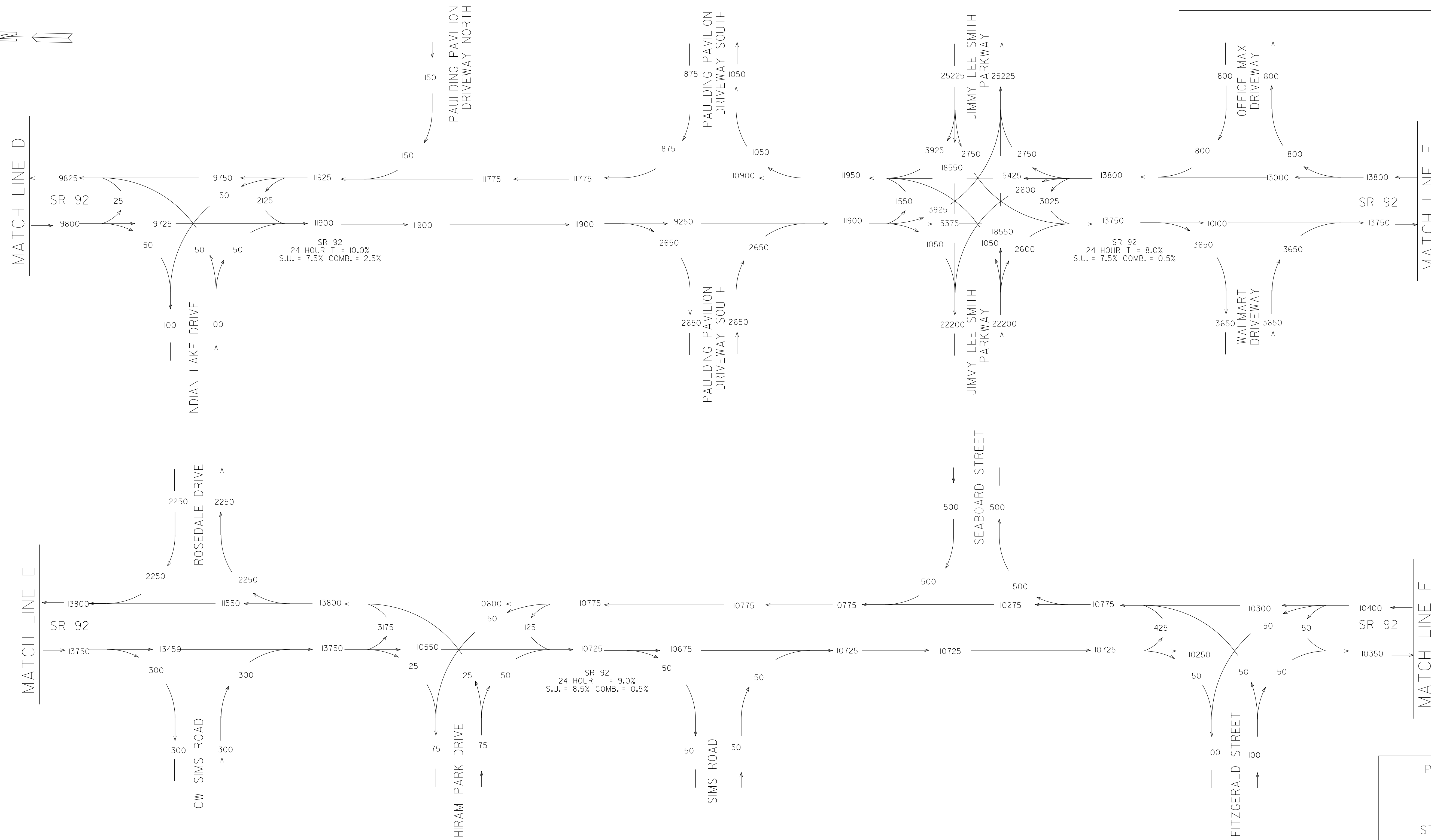
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2025 BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%

8/2017



JIMMY LEE SMITH PKWY
24 HOUR T = 10.0%
S.U. = 7.5% COMB. = 2.5%



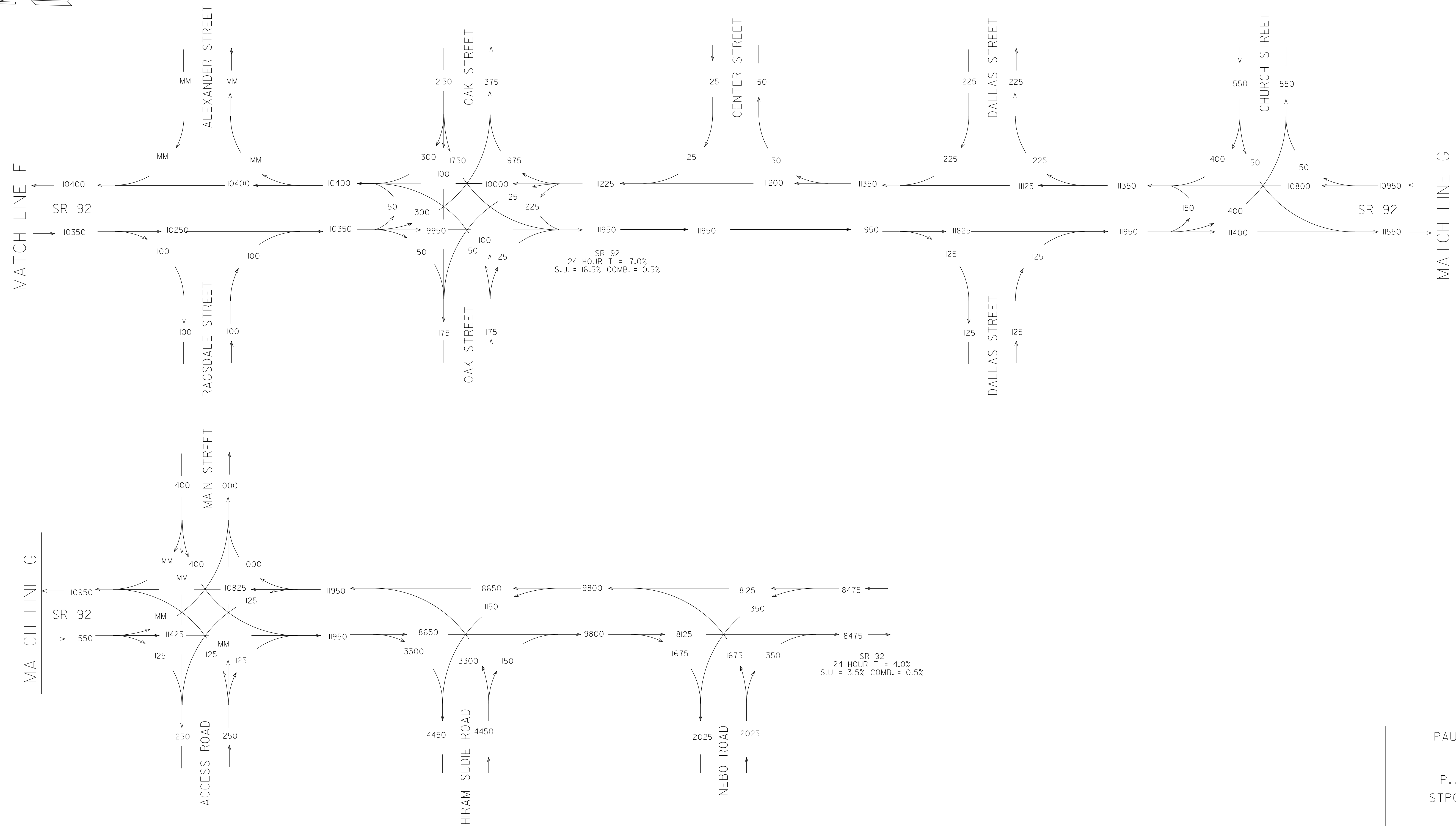
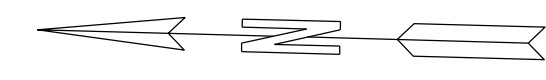
PAULDING COUNTY

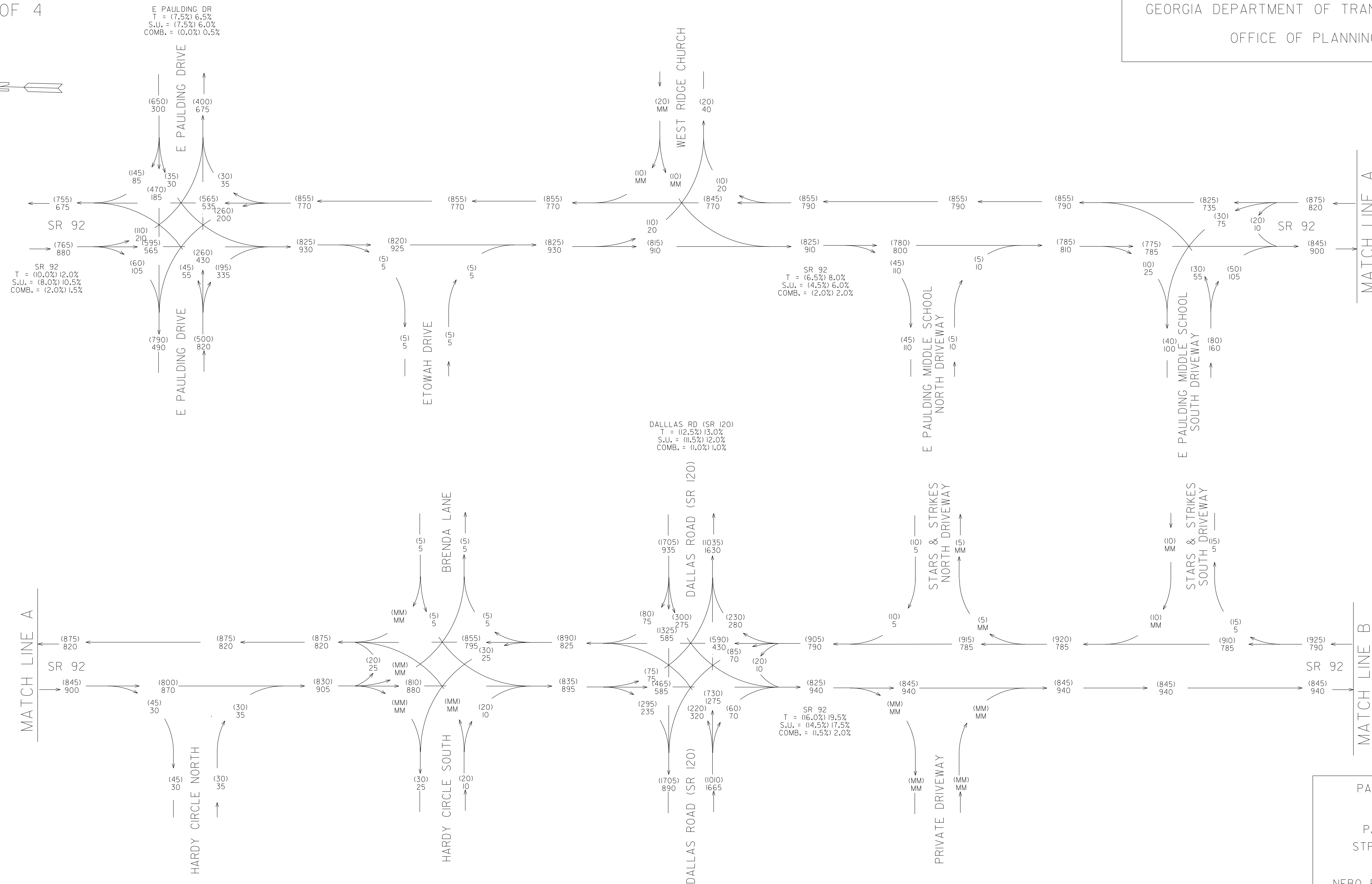
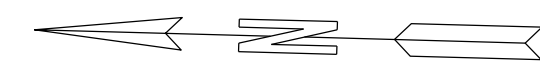
P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2025 BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%

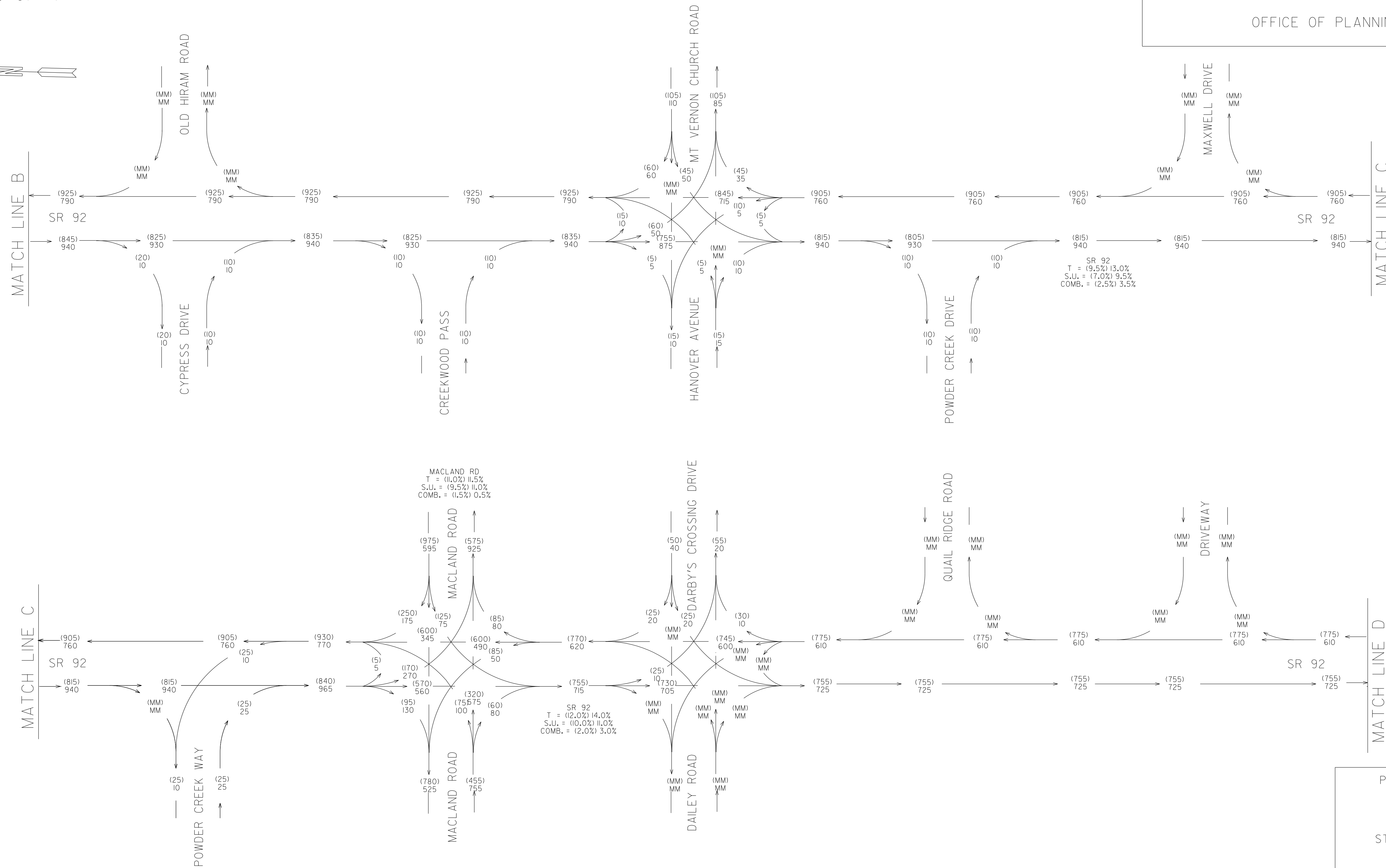
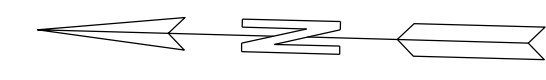
8/2017





NOTE: DRAWING IS NOT TO SCALE.

PAULDING COUNTY
P.I.NO. 621720-
STPOO-0186-01(025)
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK
2025 BUILD
PM DHV = 000
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%
8/2017



NOTE: DRAWING IS NOT TO SCALE.

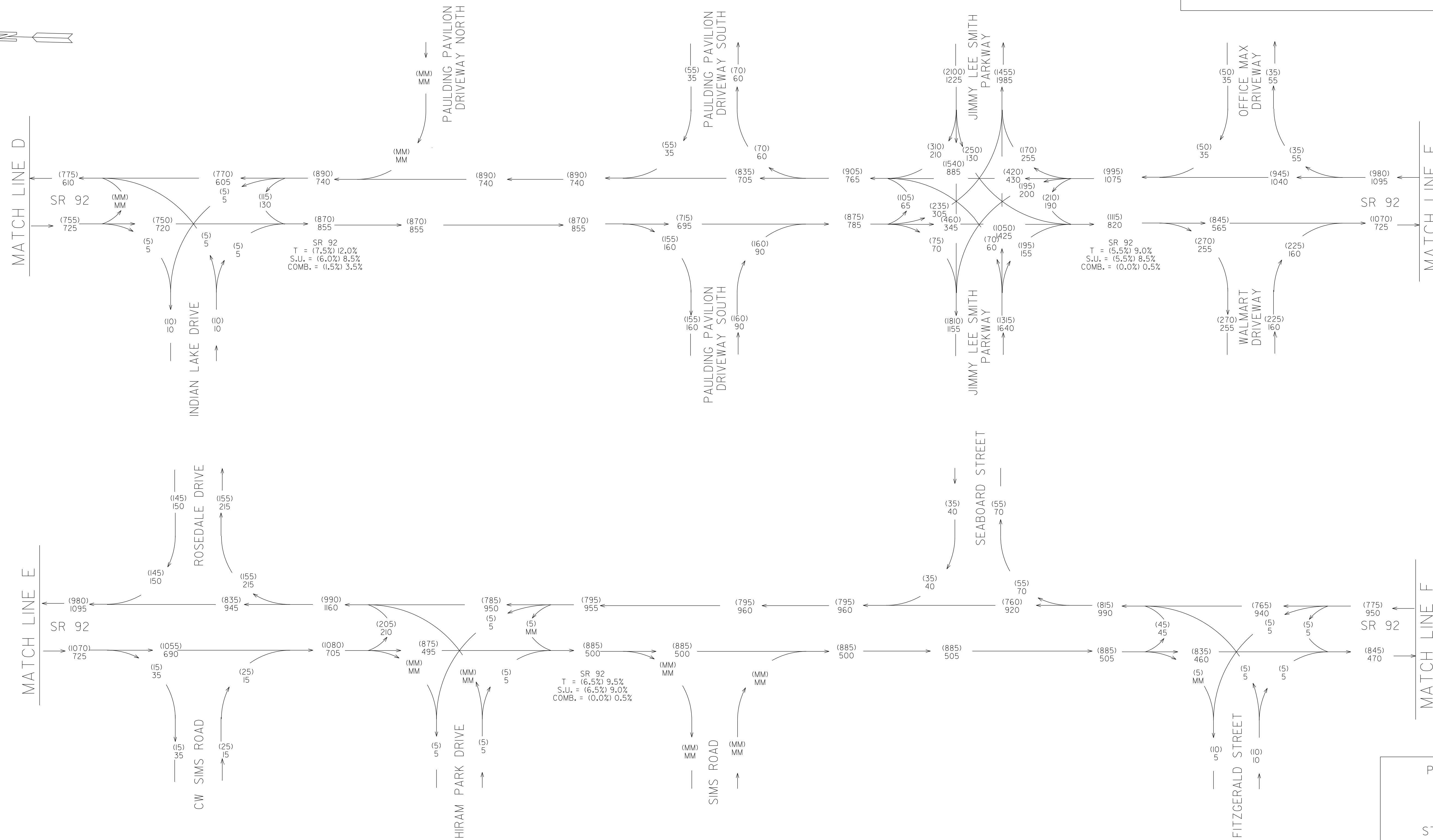
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2025 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

8/2017



JIMMY LEE SMITH PKWY
T = (7.0%) 12.0%
S.U. = (5.5%) 9.0%
COMB. = (1.5%) 3.0%

SR 92
T = (7.5%) 12.0%
S.U. = (6.0%) 8.5%
COMB. = (1.5%) 3.5%

SR 92
T = (5.5%) 9.0%
S.U. = (5.5%) 8.5%
COMB. = (10.0%) 0.5%

SR 92
T = (6.5%) 9.5%
S.U. = (6.5%) 9.0%
COMB. = (10.0%) 0.5%



NOTE: DRAWING IS NOT TO SCALE.

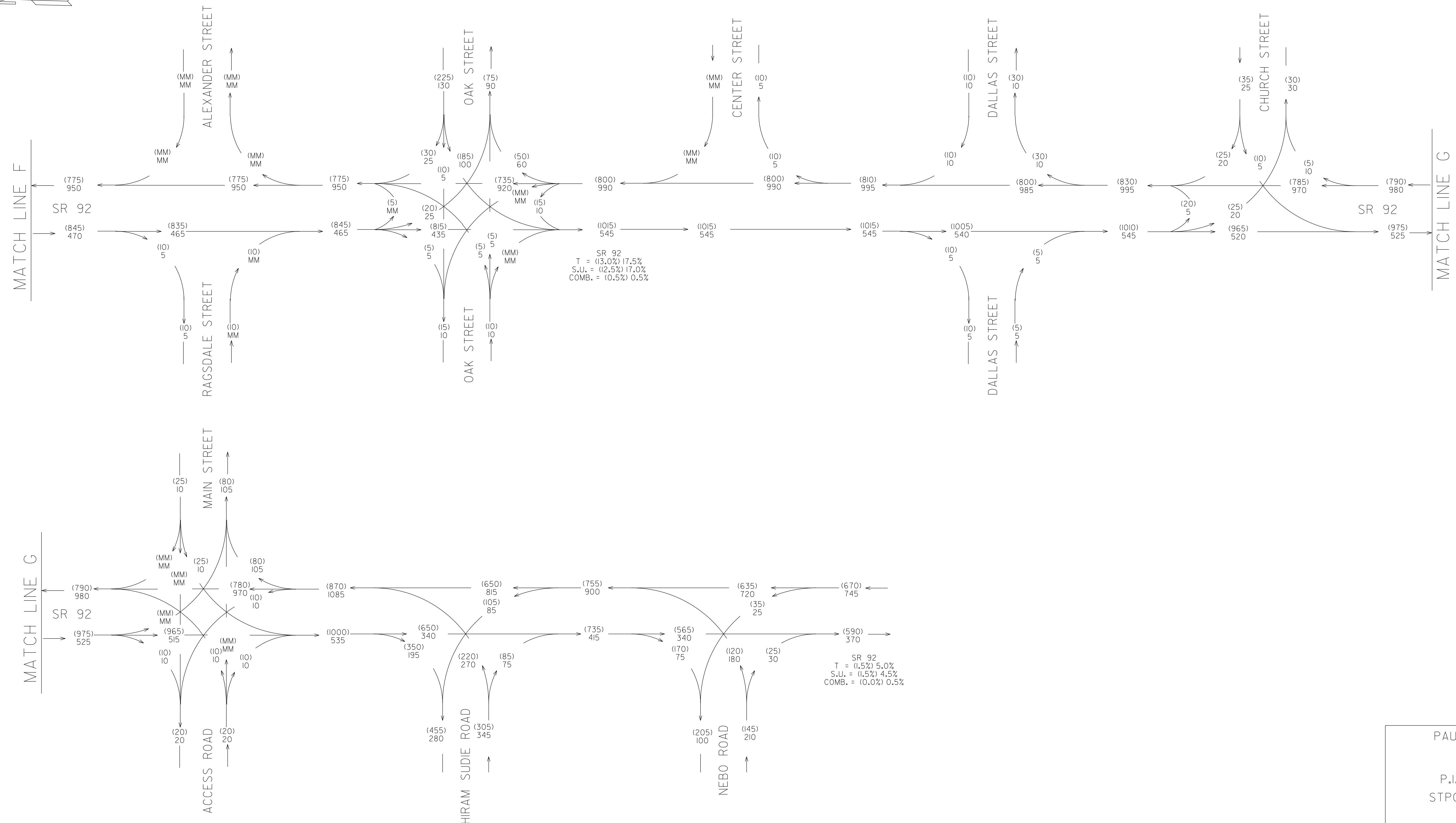
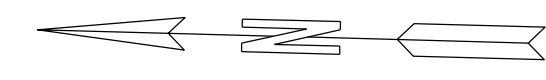
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2025 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

8/2017

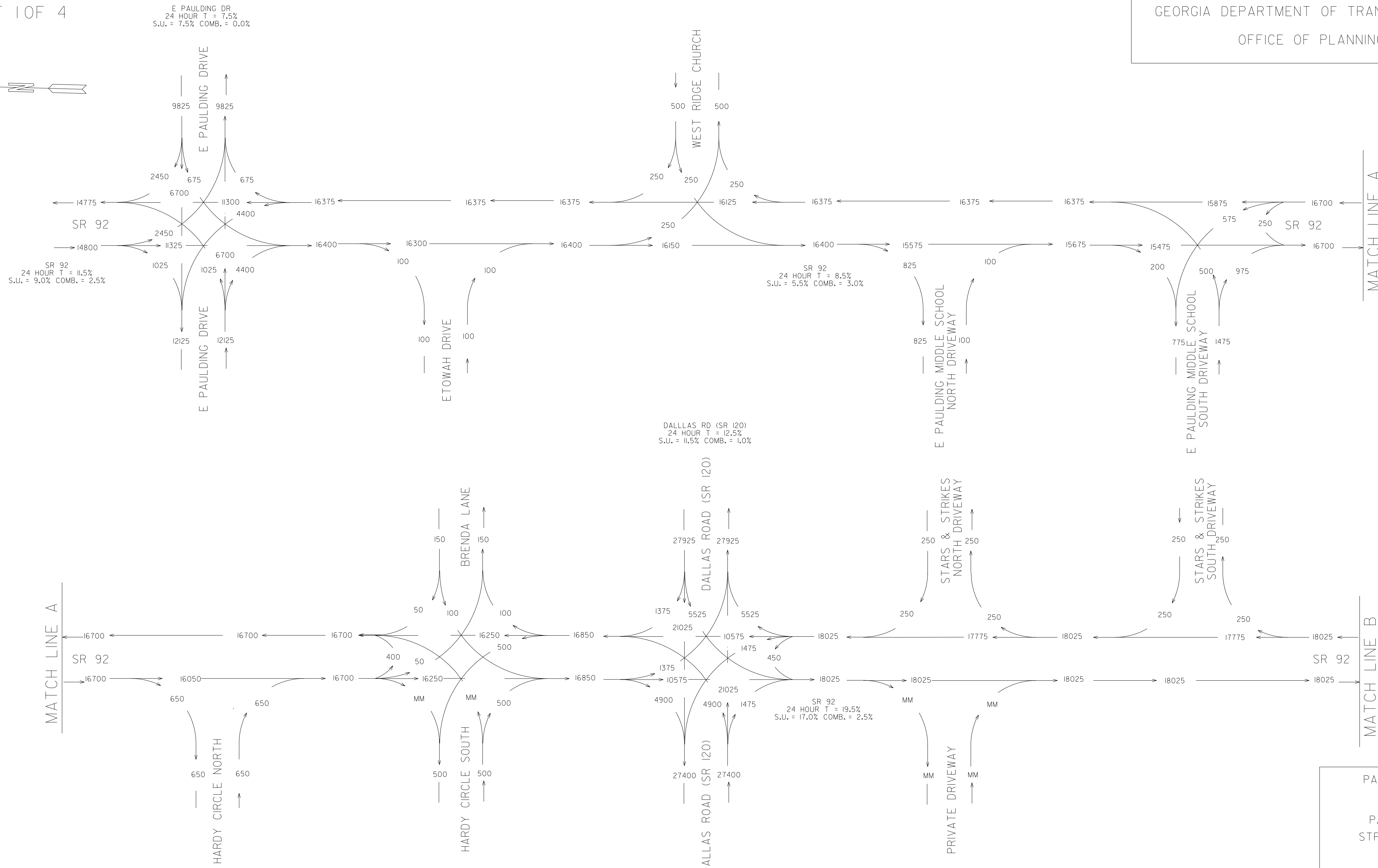


PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2025 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

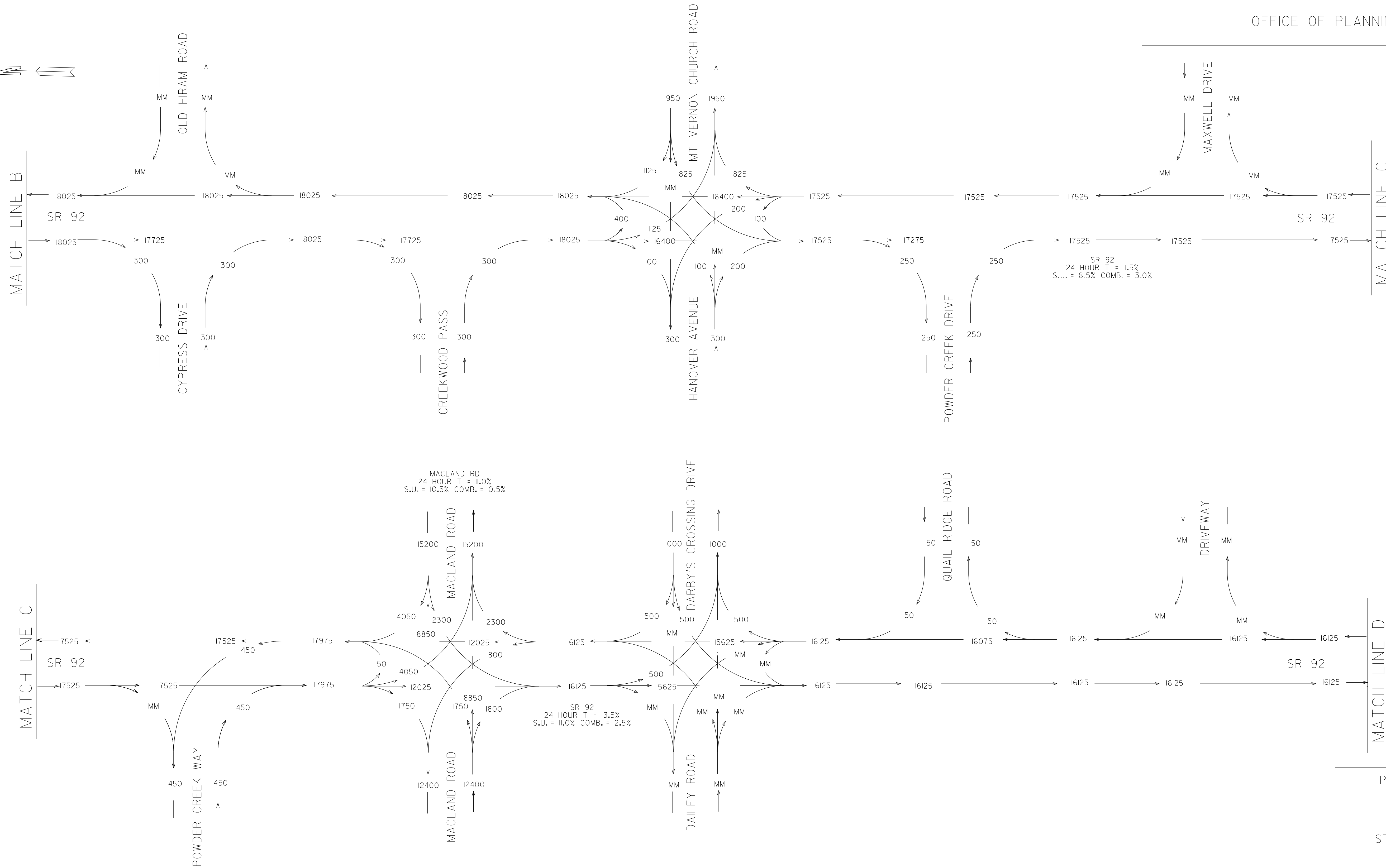
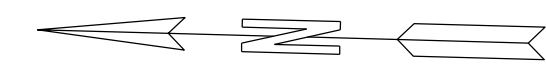


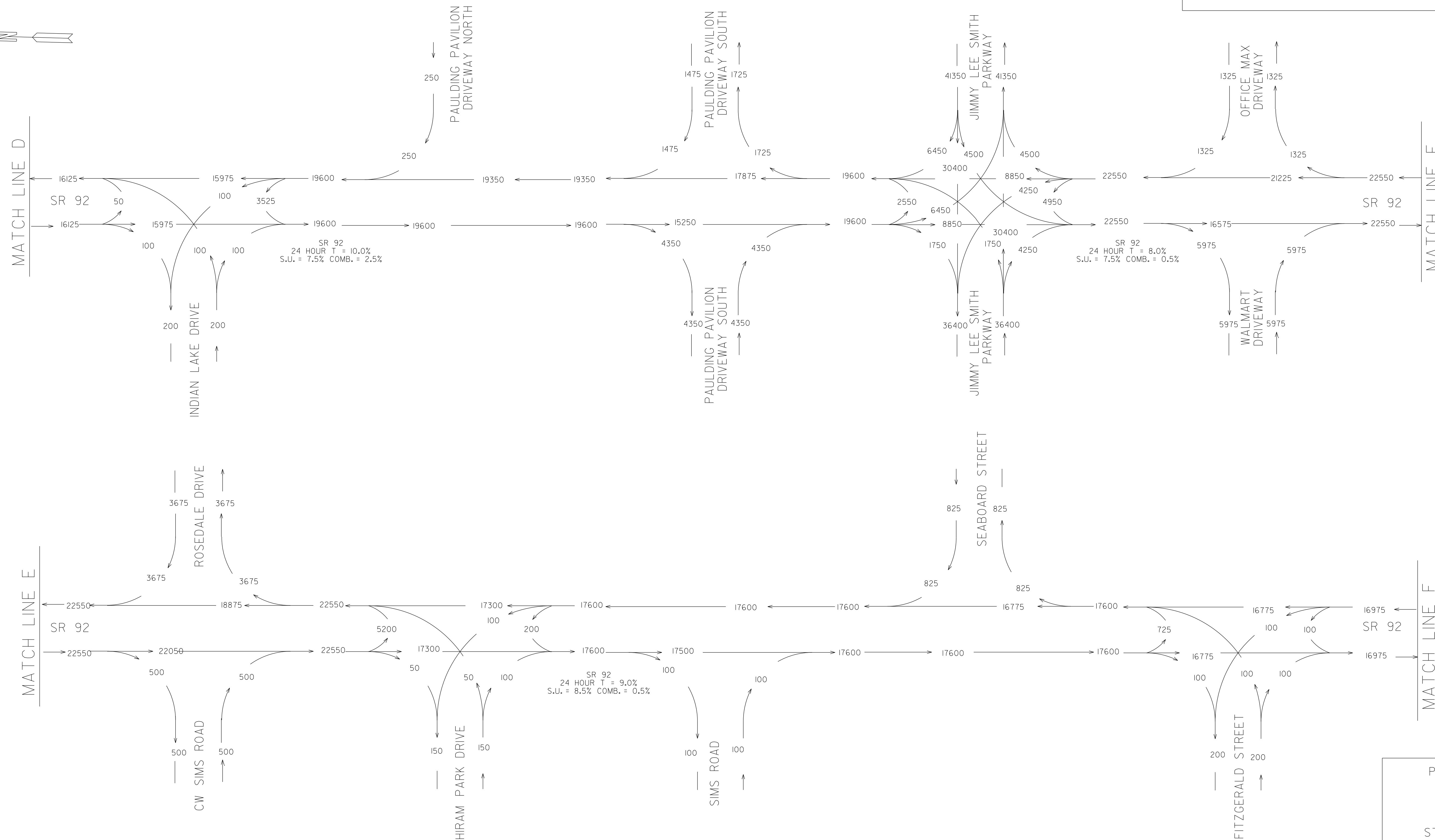
PAULDING COUNTY

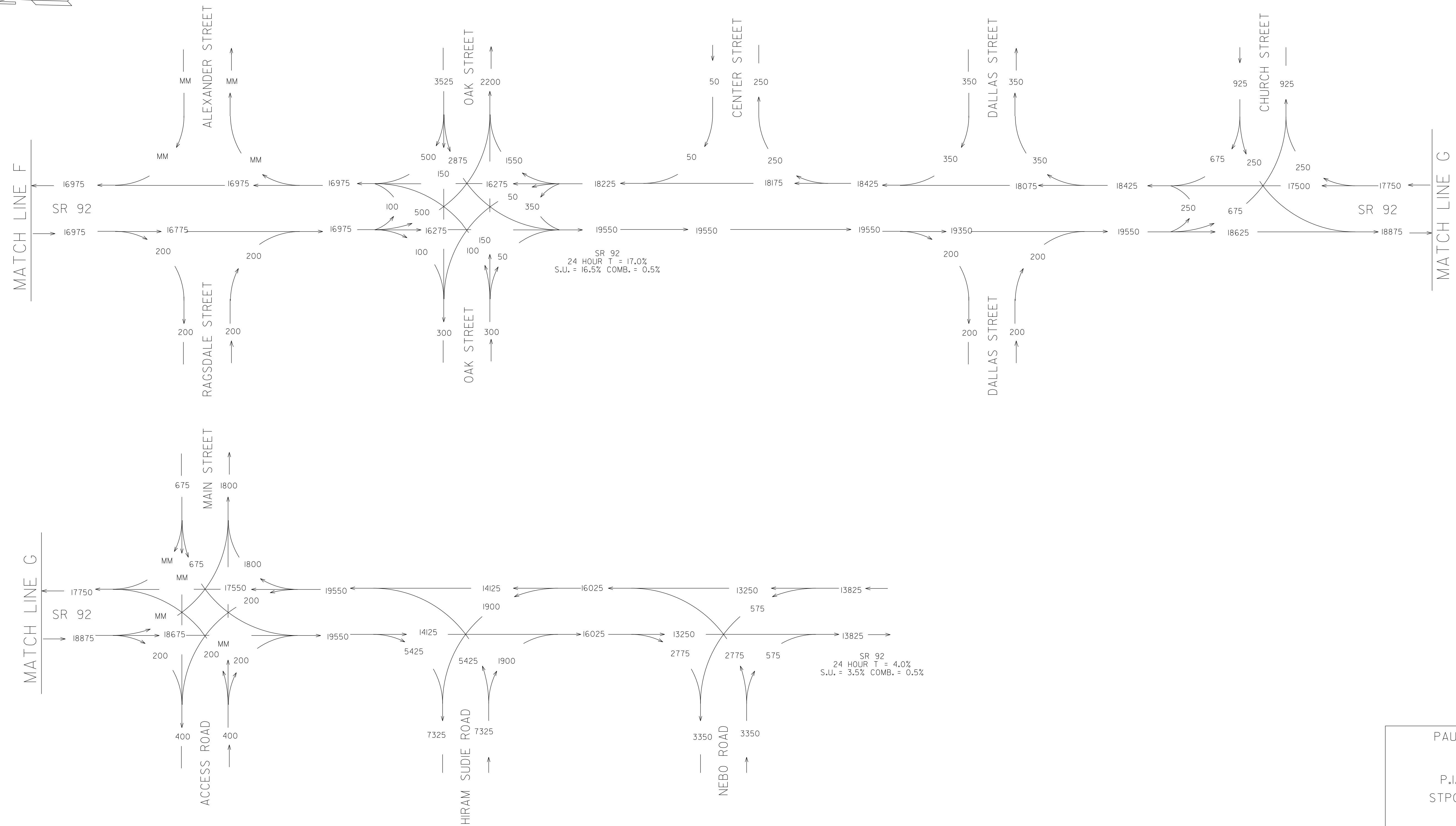
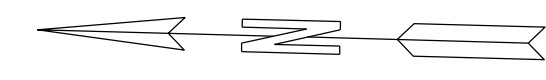
P.I.NO. 621720-
STPOO-0186-01(025)

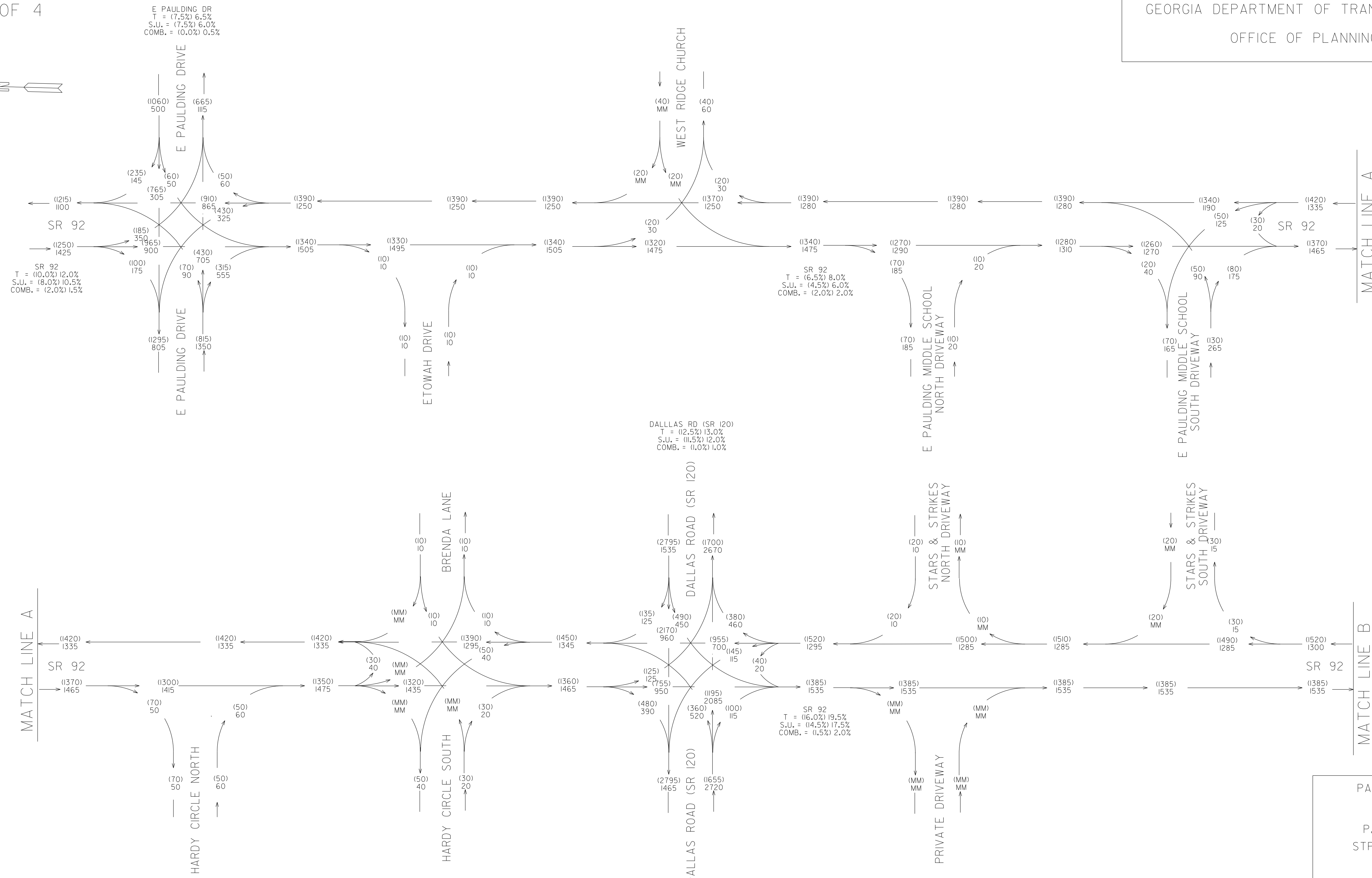
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2045 BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%









MATCH LINE A

MATCH LINE A

MATCH LINE B



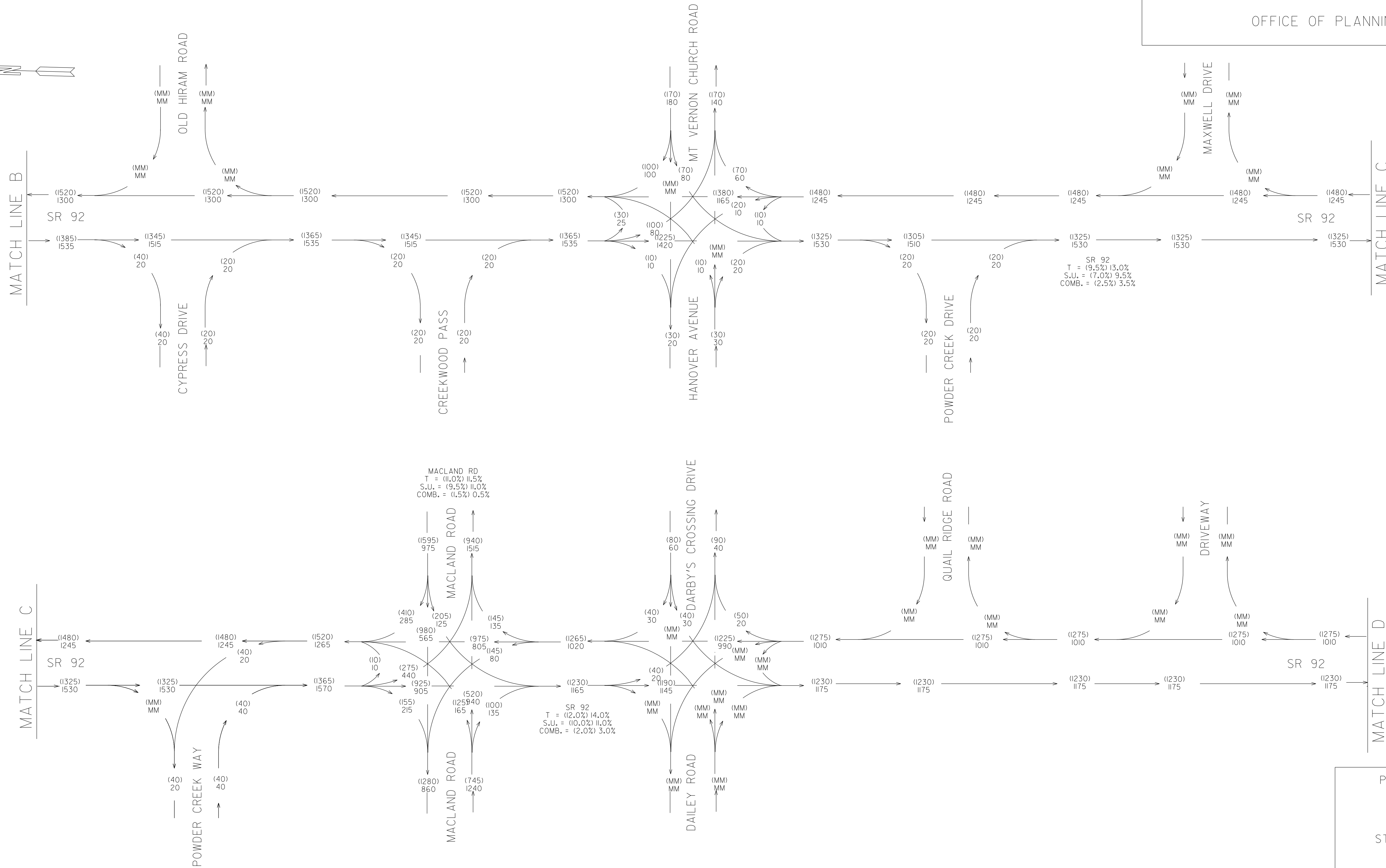
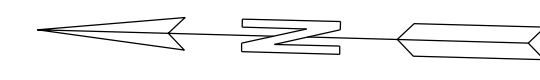
NOTE: DRAWING IS NOT TO SCALE.

PAULDING COUNTY

P.I.NO. 621720-
STPOO-0186-01(025)

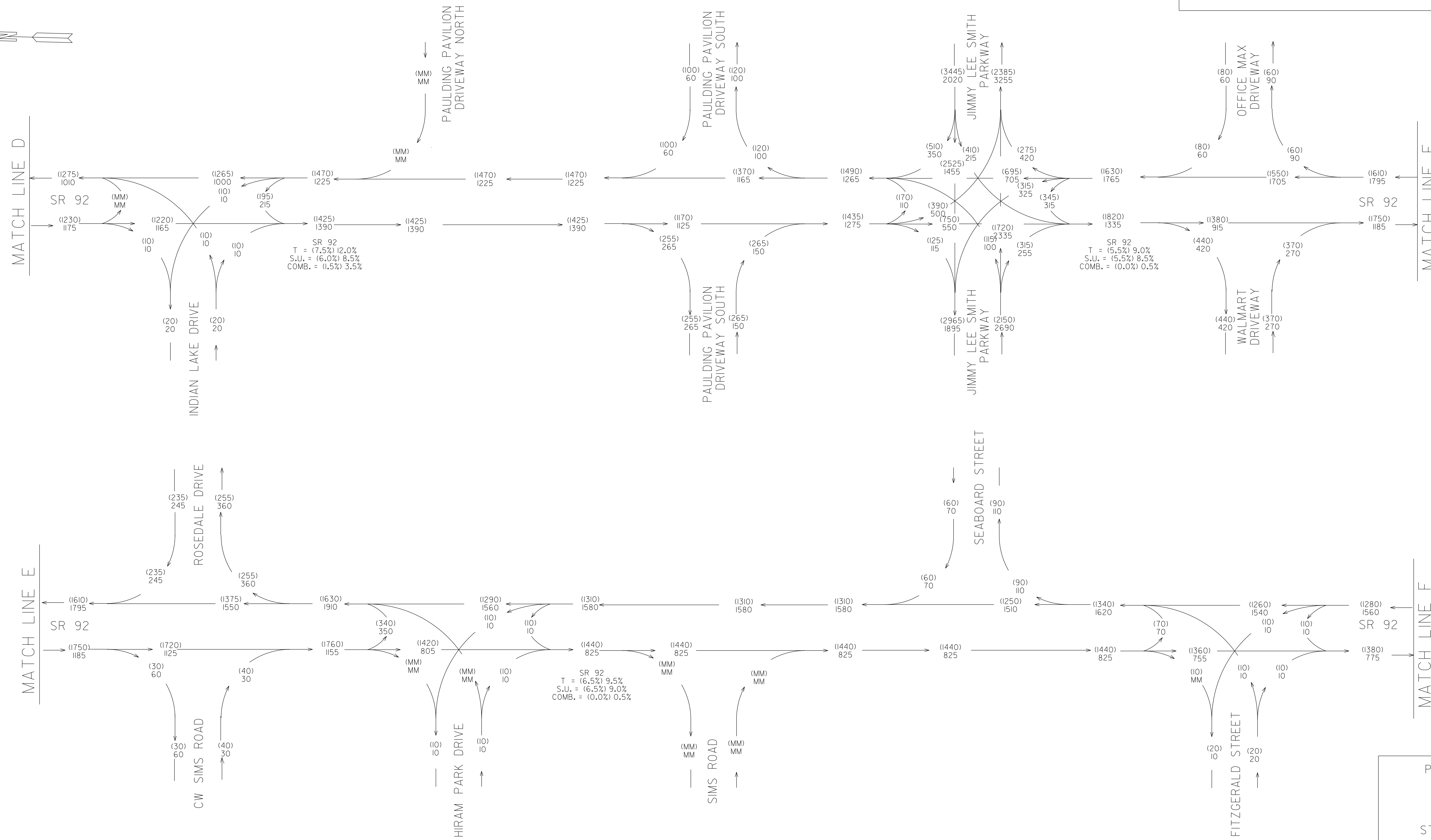
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2045 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%



NOTE: DRAWING IS NOT TO SCALE.

PAULDING COUNTY
P.I.NO. 621720-
STP00-0186-01(025)
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK
2045 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%



JIMMY LEE SMITH PKWY
T = (7.0%) 12.0%
S.U. = (5.5%) 9.0%
COMB. = (1.5%) 3.0%

SR 92
T = (7.5%) 12.0%
S.U. = (6.0%) 8.5%
COMB. = (1.5%) 3.5%

SR 92
T = (5.5%) 9.0%
S.U. = (5.5%) 8.5%
COMB. = (10.0%) 0.5%

SR 92
T = (6.5%) 9.5%
S.U. = (6.5%) 9.0%
COMB. = (10.0%) 0.5%

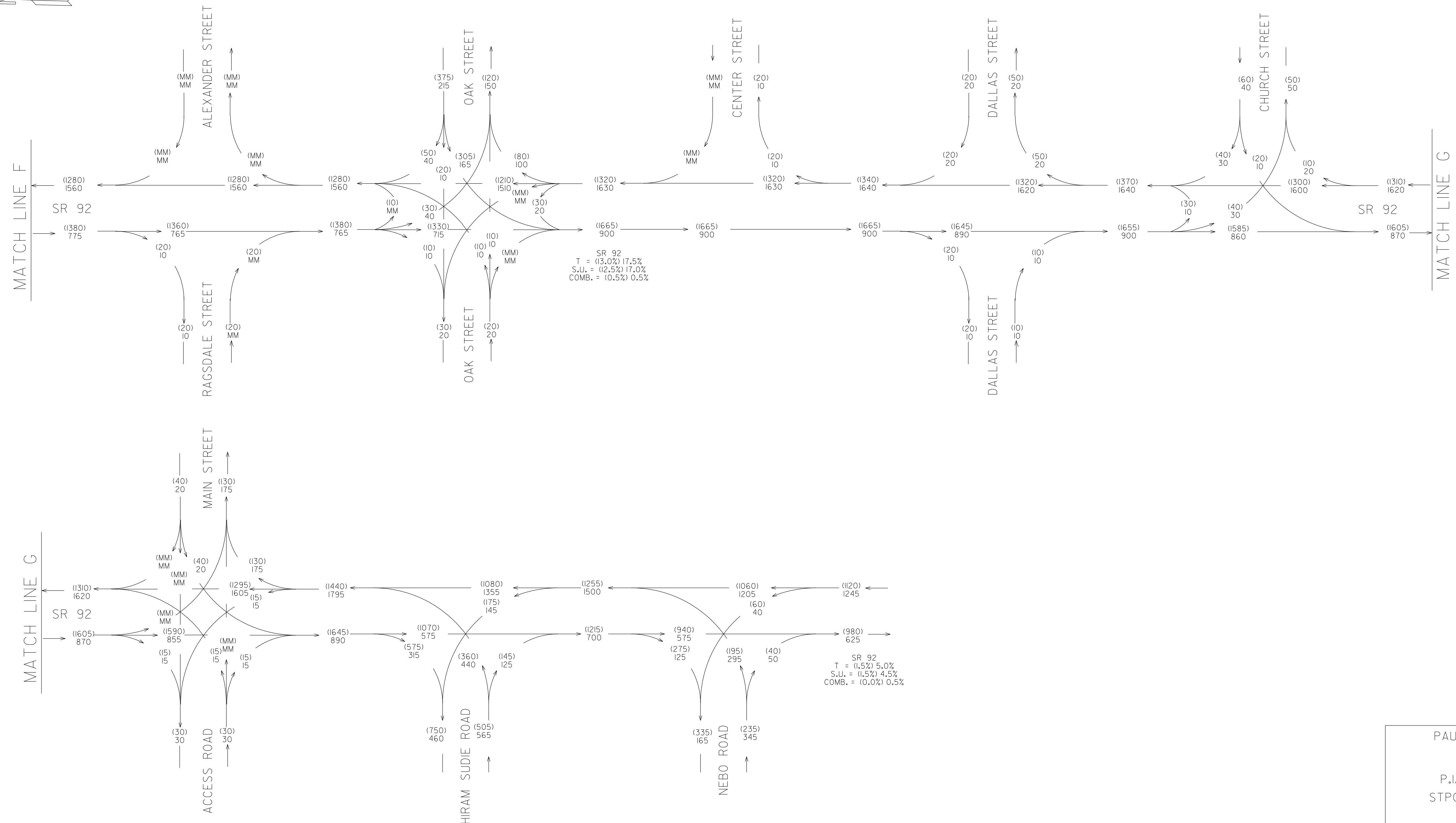
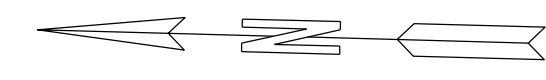
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2045 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

8/2017



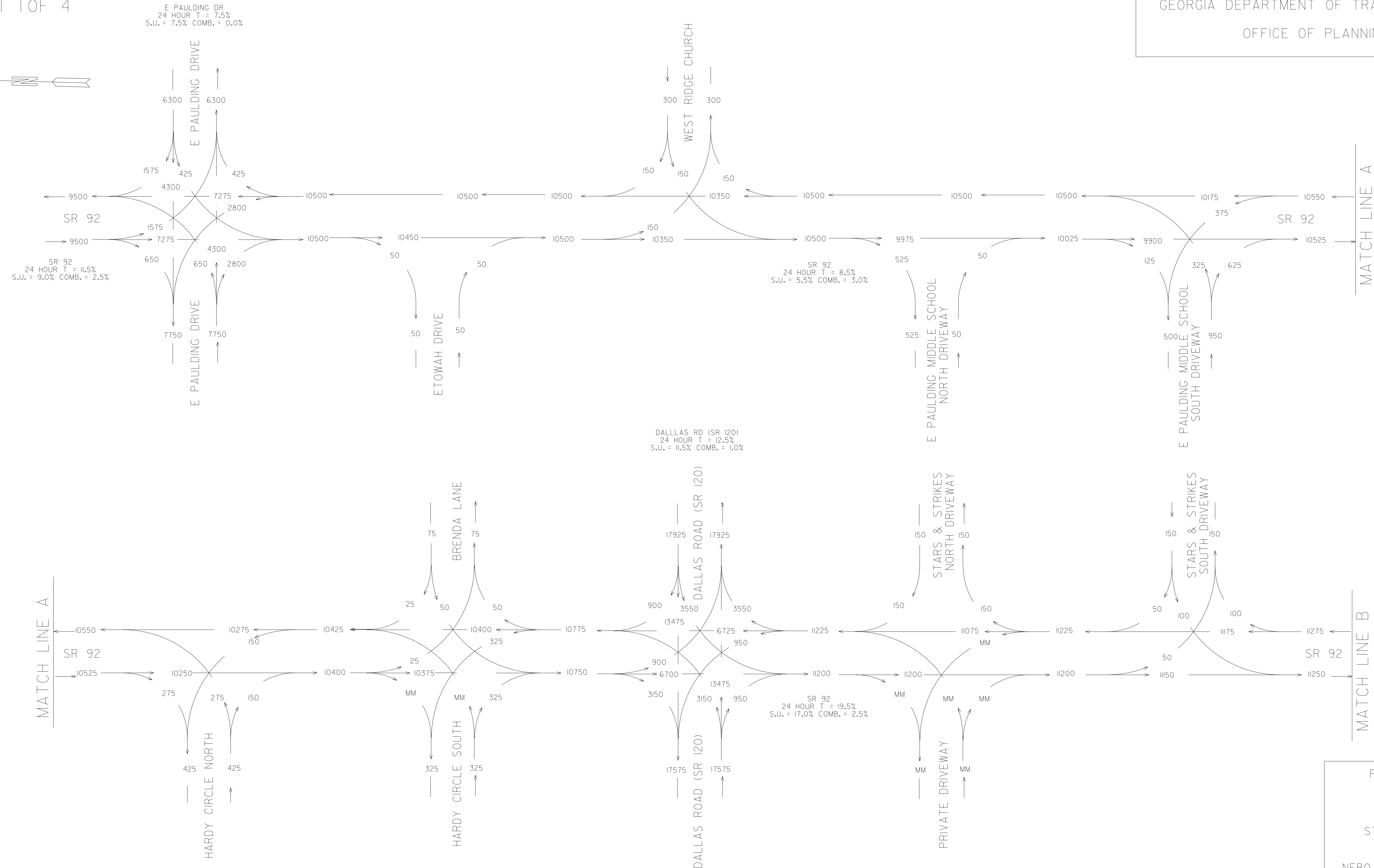
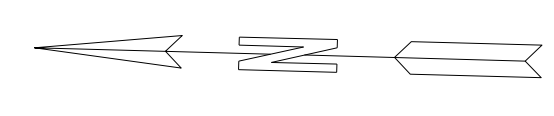
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2045 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

8/2017



MATCH LINE A

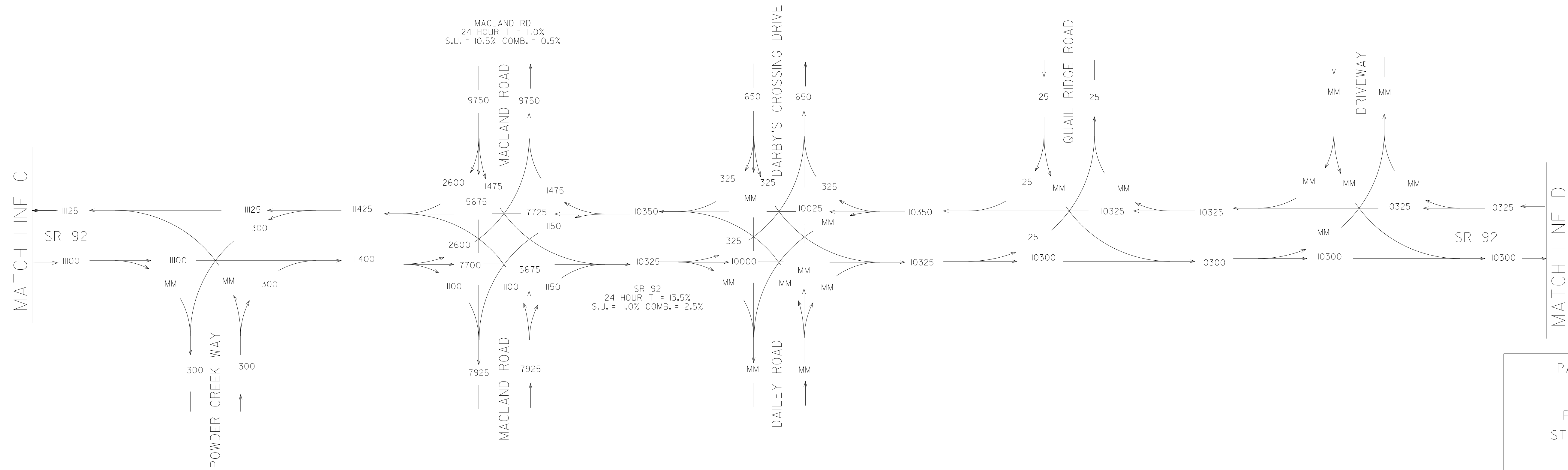
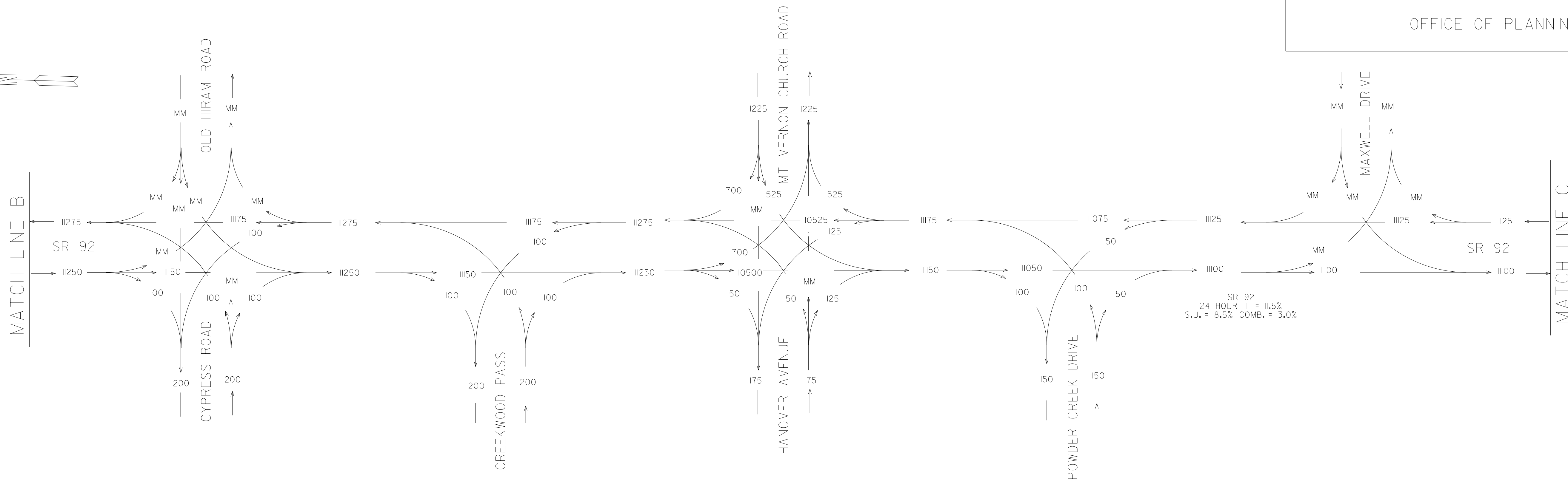
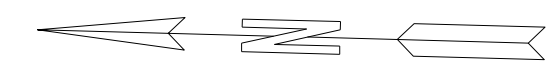
MATCH LINE A

MATCH LINE B



NOTE: DRAWING IS NOT TO SCALE.

PAULDING COUNTY
P.I.NO. 621720-
STP00-0186-01(025)
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK
2027 NO-BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%
8/2017



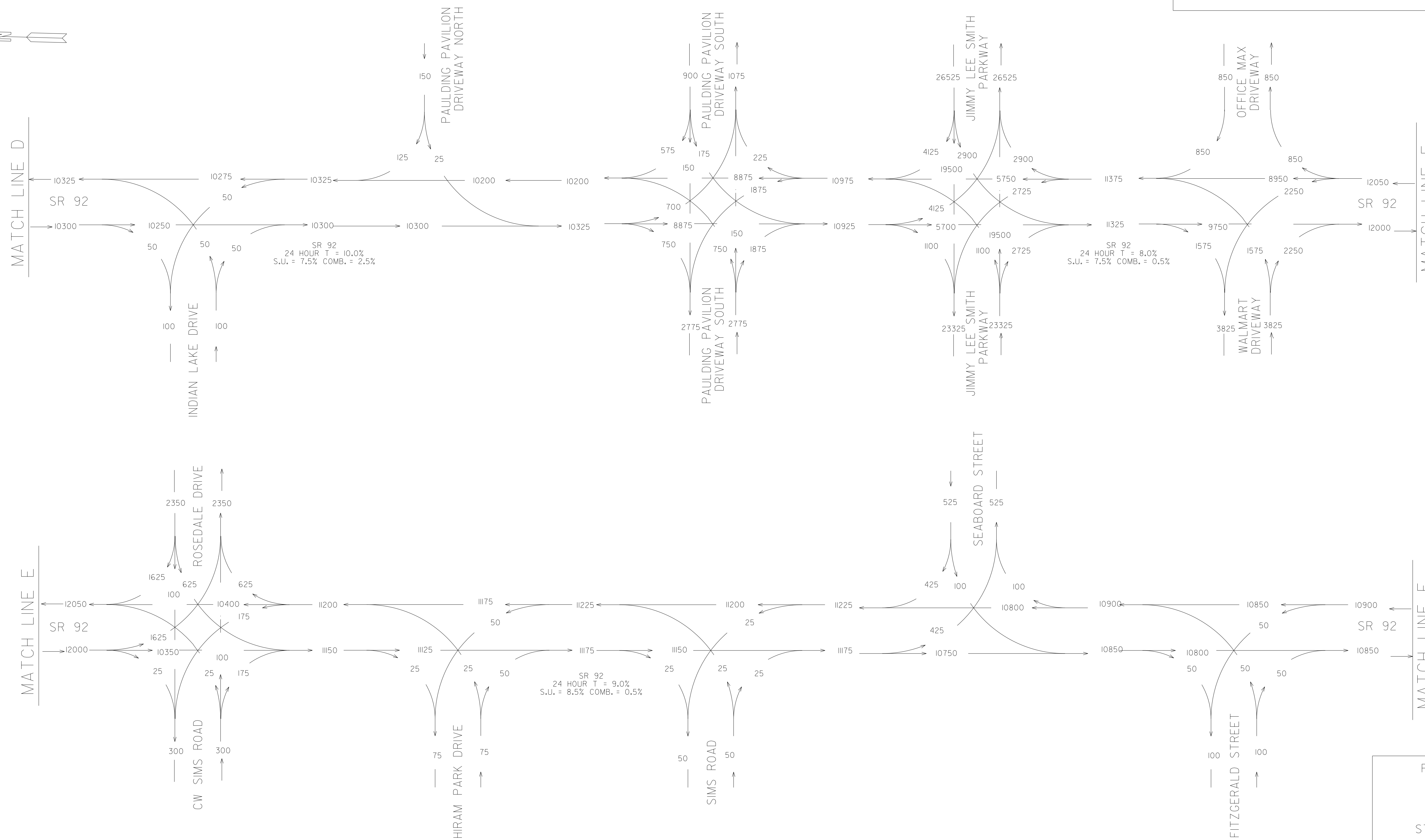
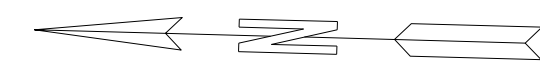
PAULDING COUNTY

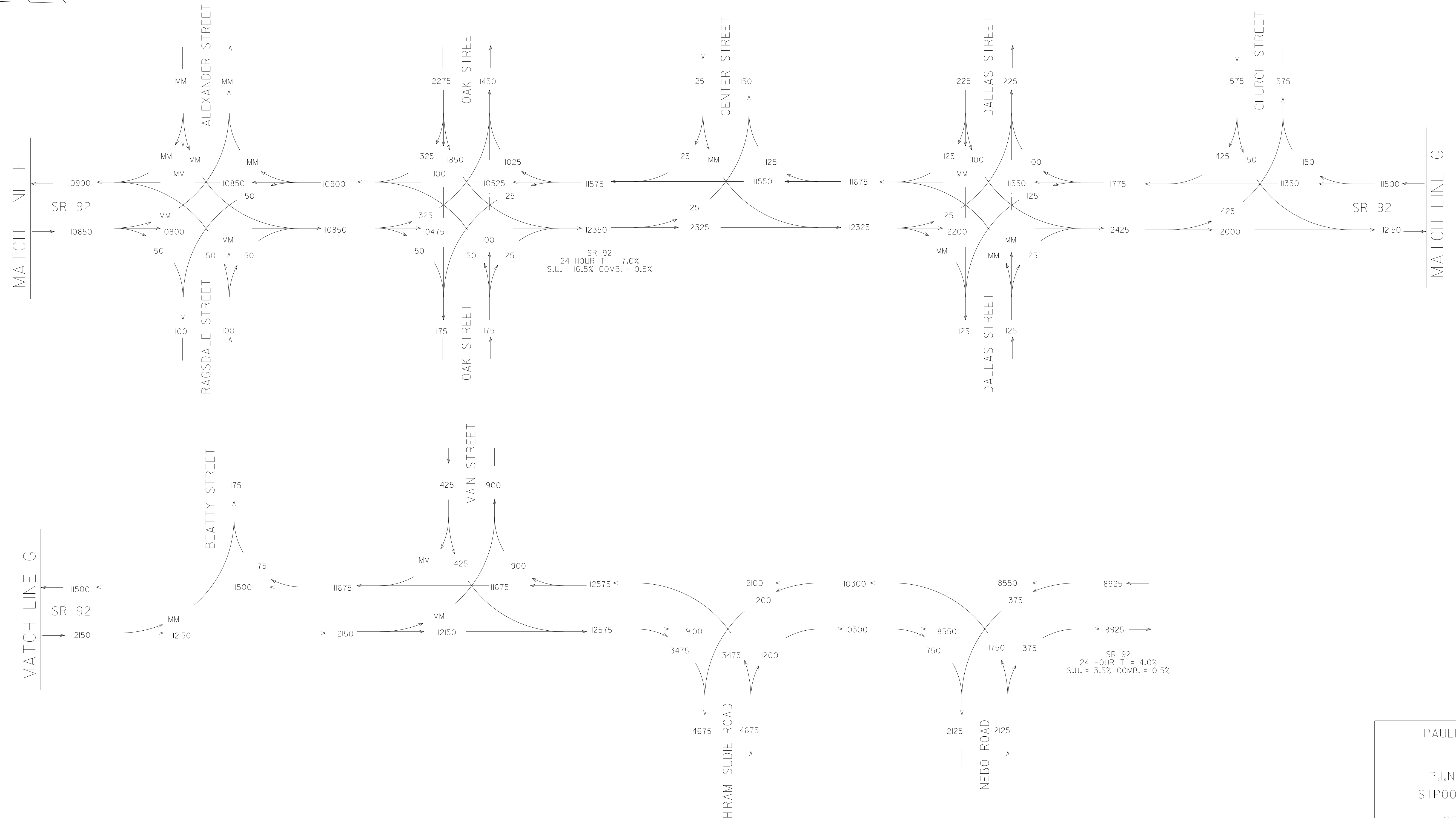
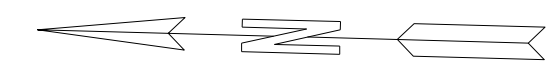
P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2027 NO-BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%

JIMMY LEE SMITH PKWY
24 HOUR T = 10.0%
S.U. = 7.5% COMB. = 2.5%





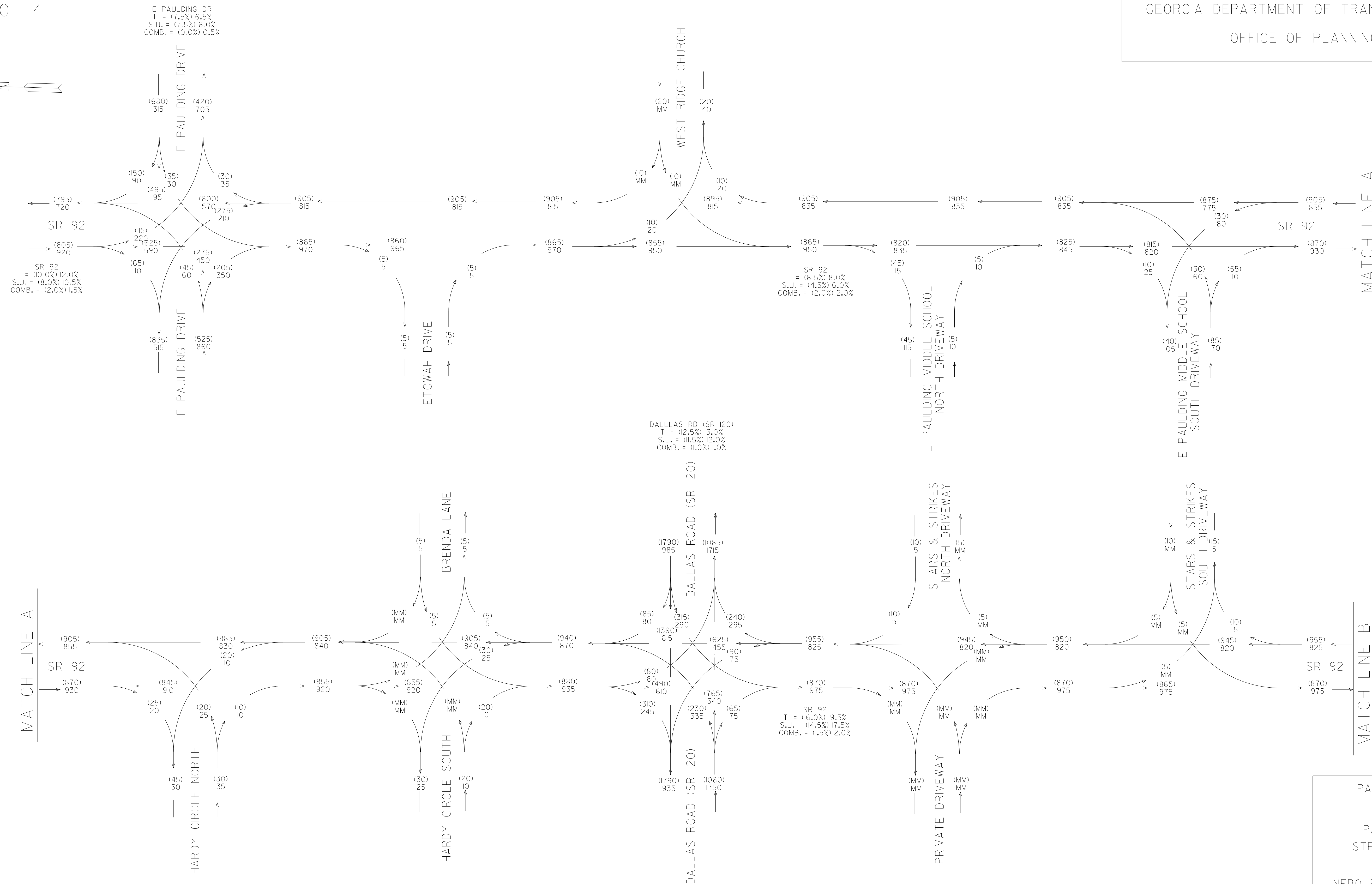
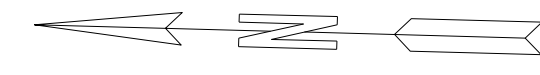
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2027 NO-BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%

8/2017



MATCH LINE A

MATCH LINE A

MATCH LINE B

PAULDING COUNTY

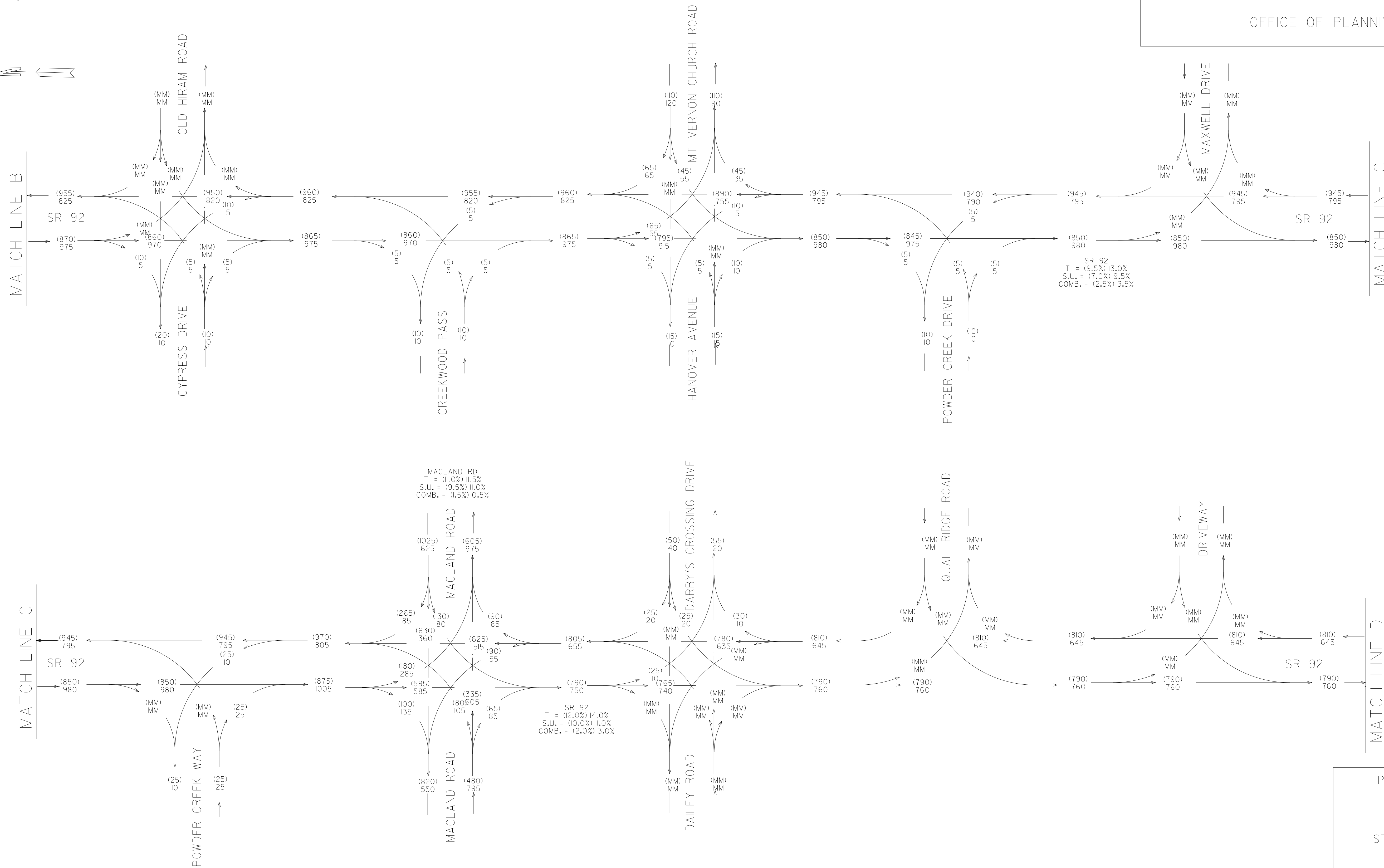
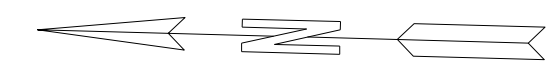
P.I.NO. 621720-
STPOO-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2027 NO-BUILD
PM DHV = 000
AM DHV = 000
PM TRUCK % = 0.0%
AM TRUCK % = 0.0%



NOTE: DRAWING IS NOT TO SCALE.



PAULDING COUNTY

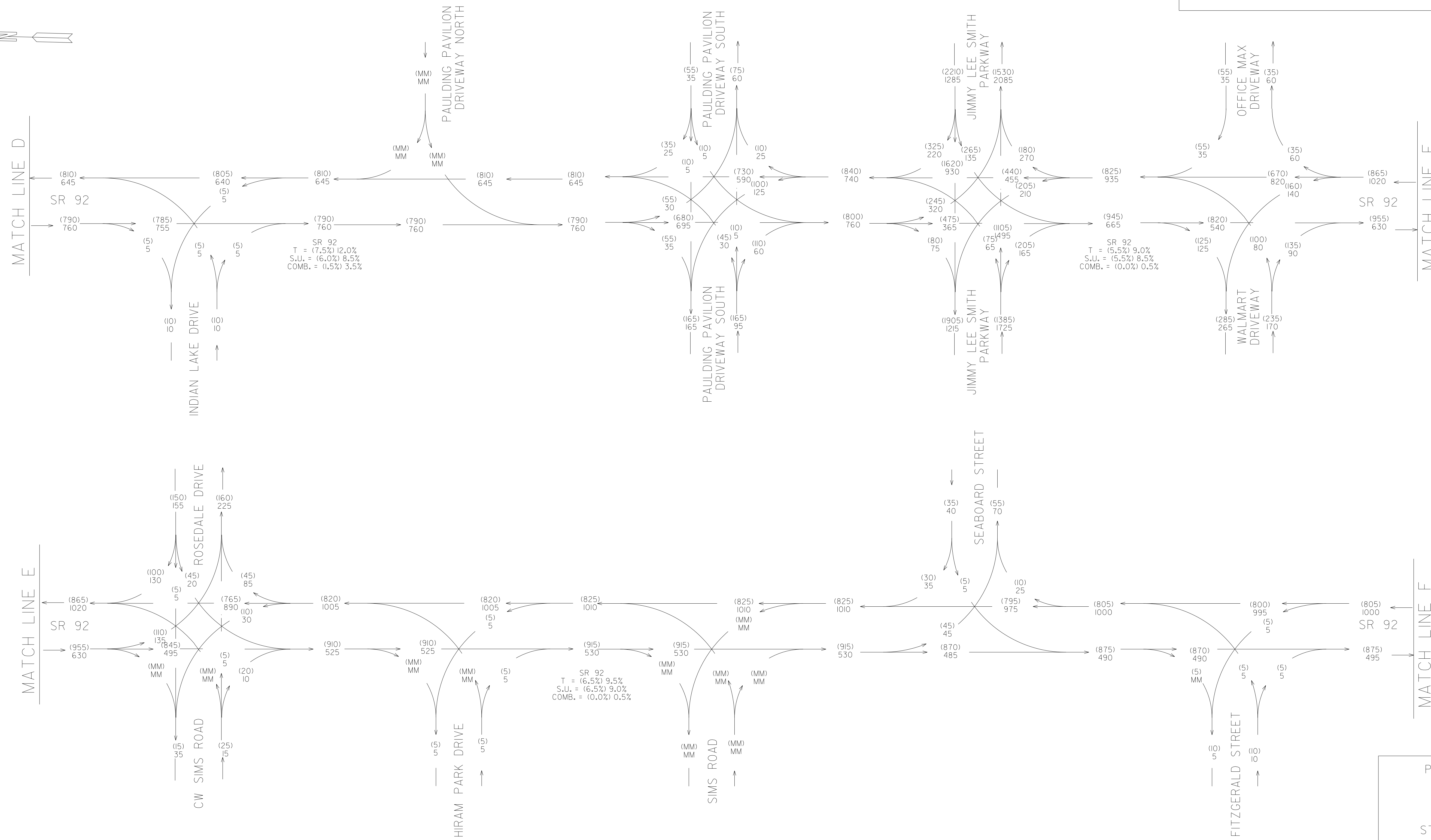
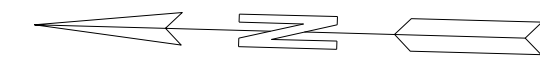
P.I.NO. 621720-
STPO0-0186-01(025)

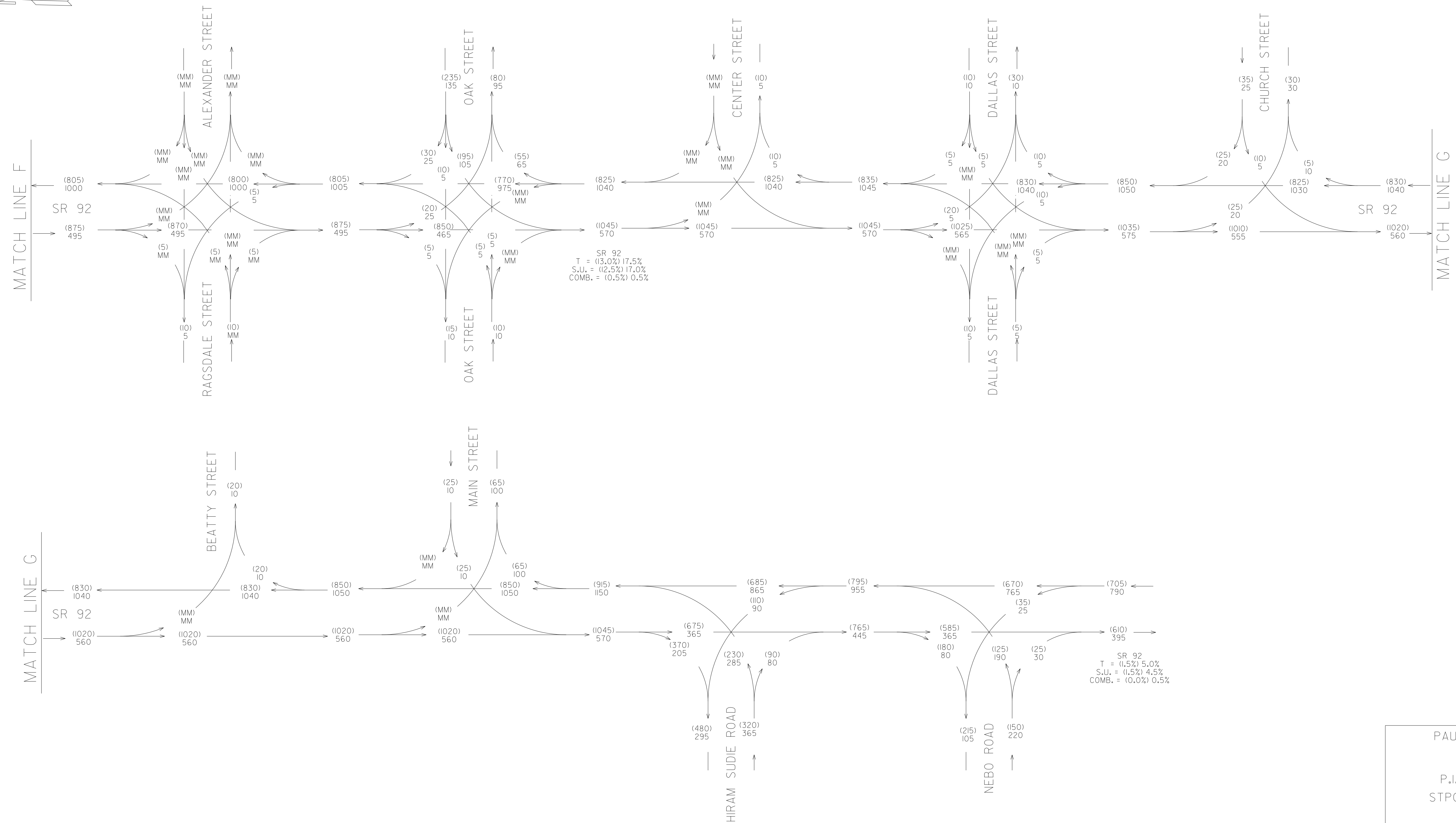
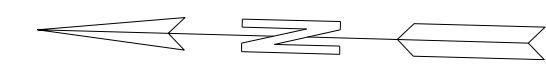
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2027 NO-BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

8/2017

JIMMY LEE SMITH PKWY
T = (7.0%) 12.0%
S.U. = (5.5%) 9.0%
COMB. = (1.5%) 3.0%





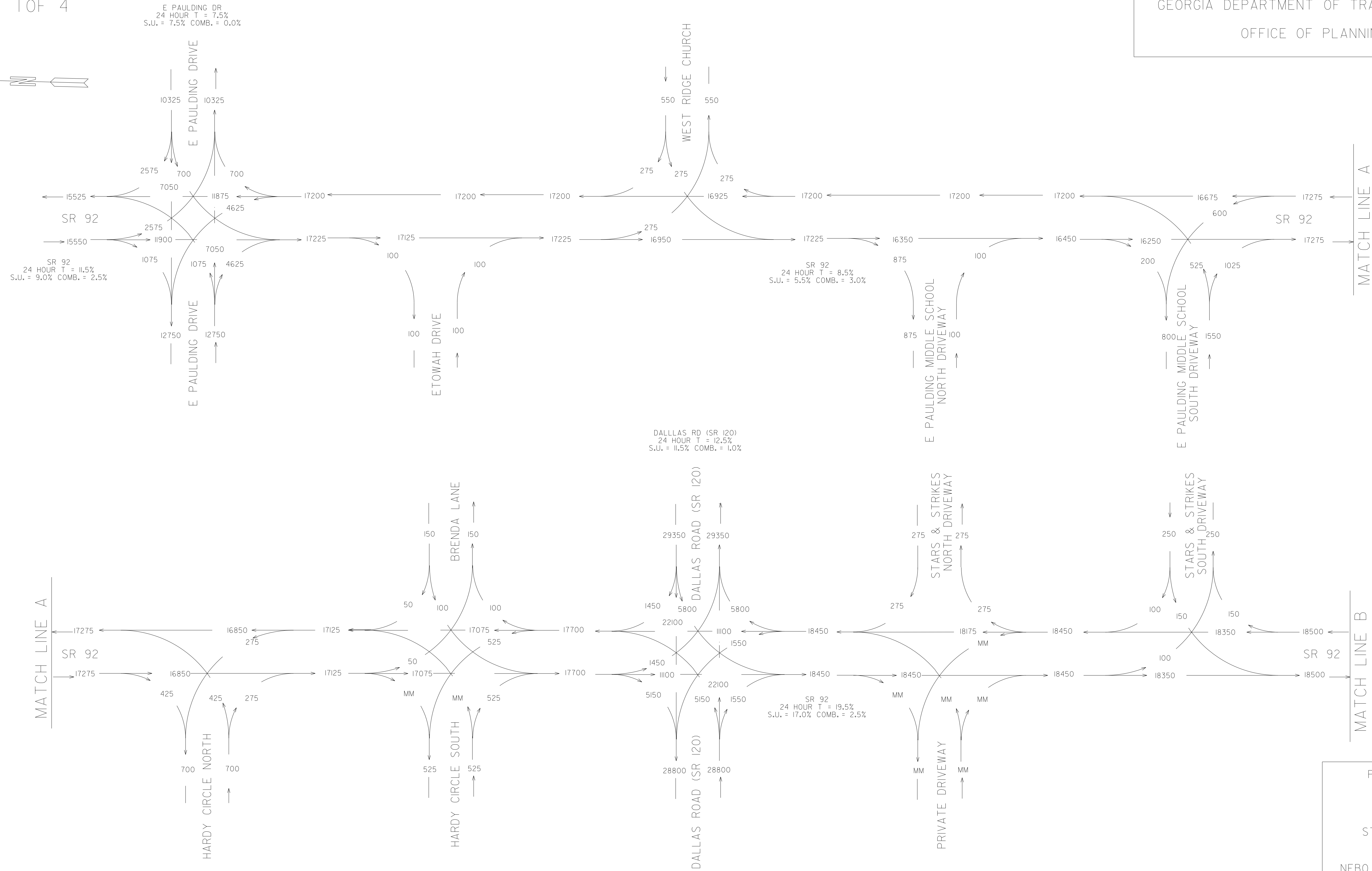
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2027 NO-BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

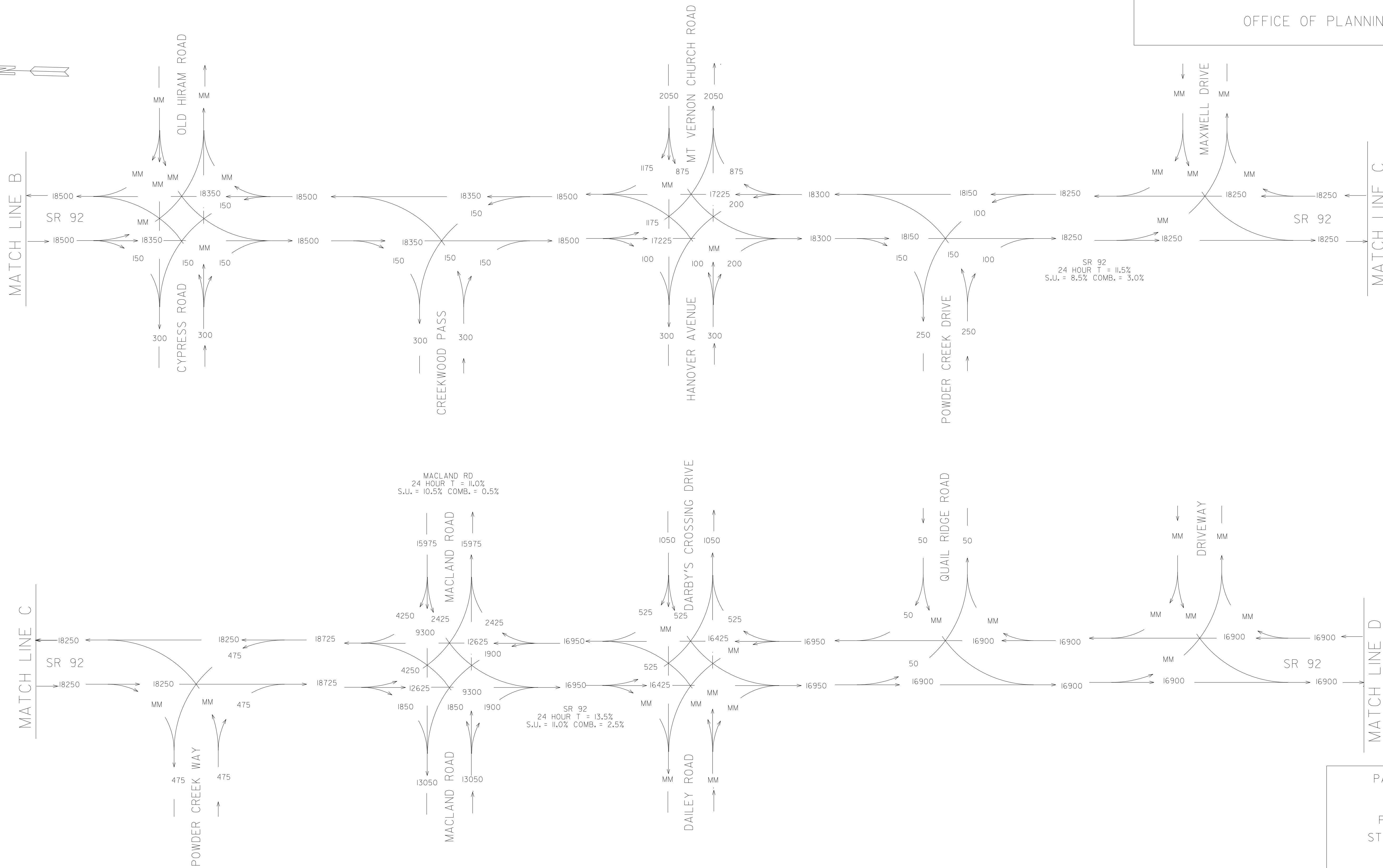
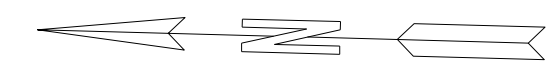
8/2017



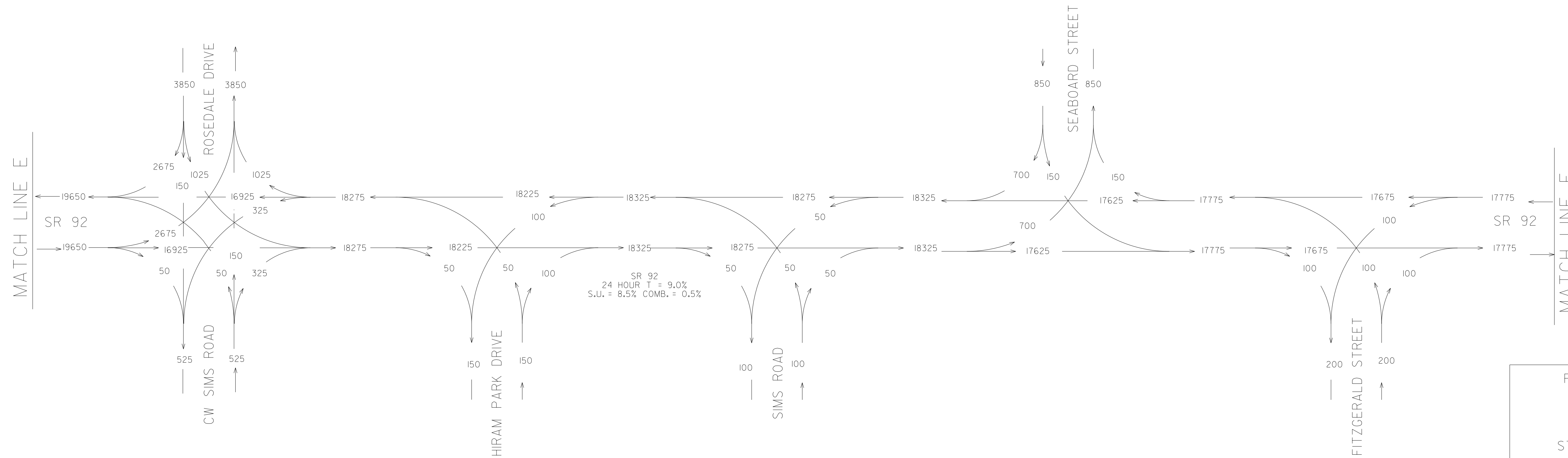
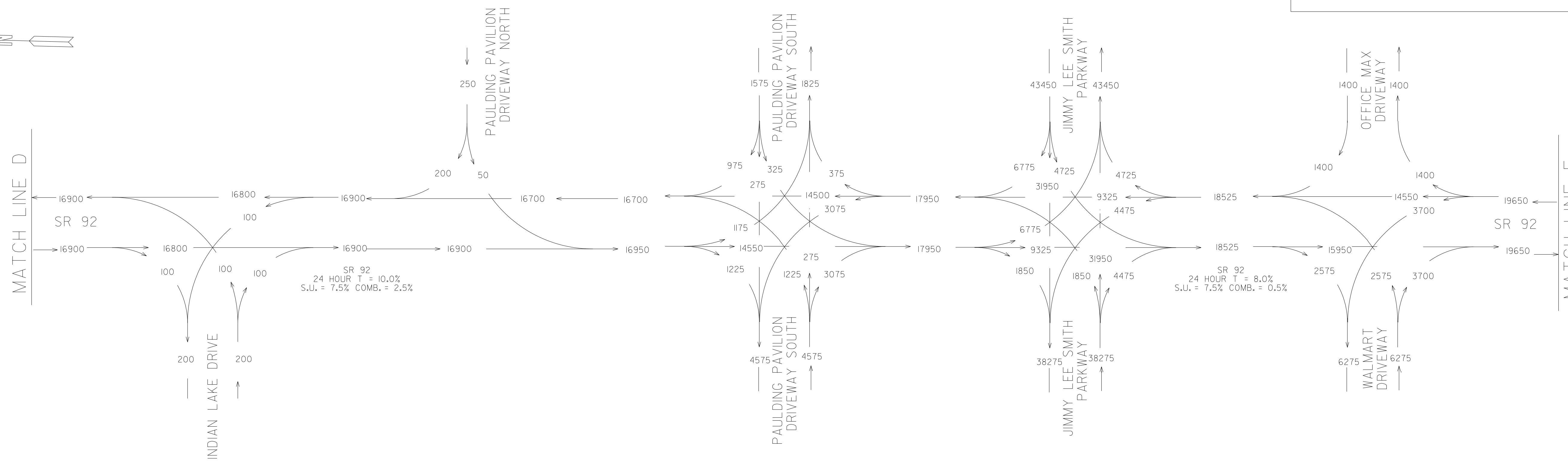
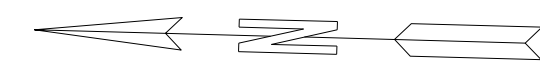
MATCH LINE A

MATCH LINE A

MATCH LINE B



JIMMY LEE SMITH PKWY
24 HOUR T = 10.0%
S.U. = 7.5% COMB. = 2.5%



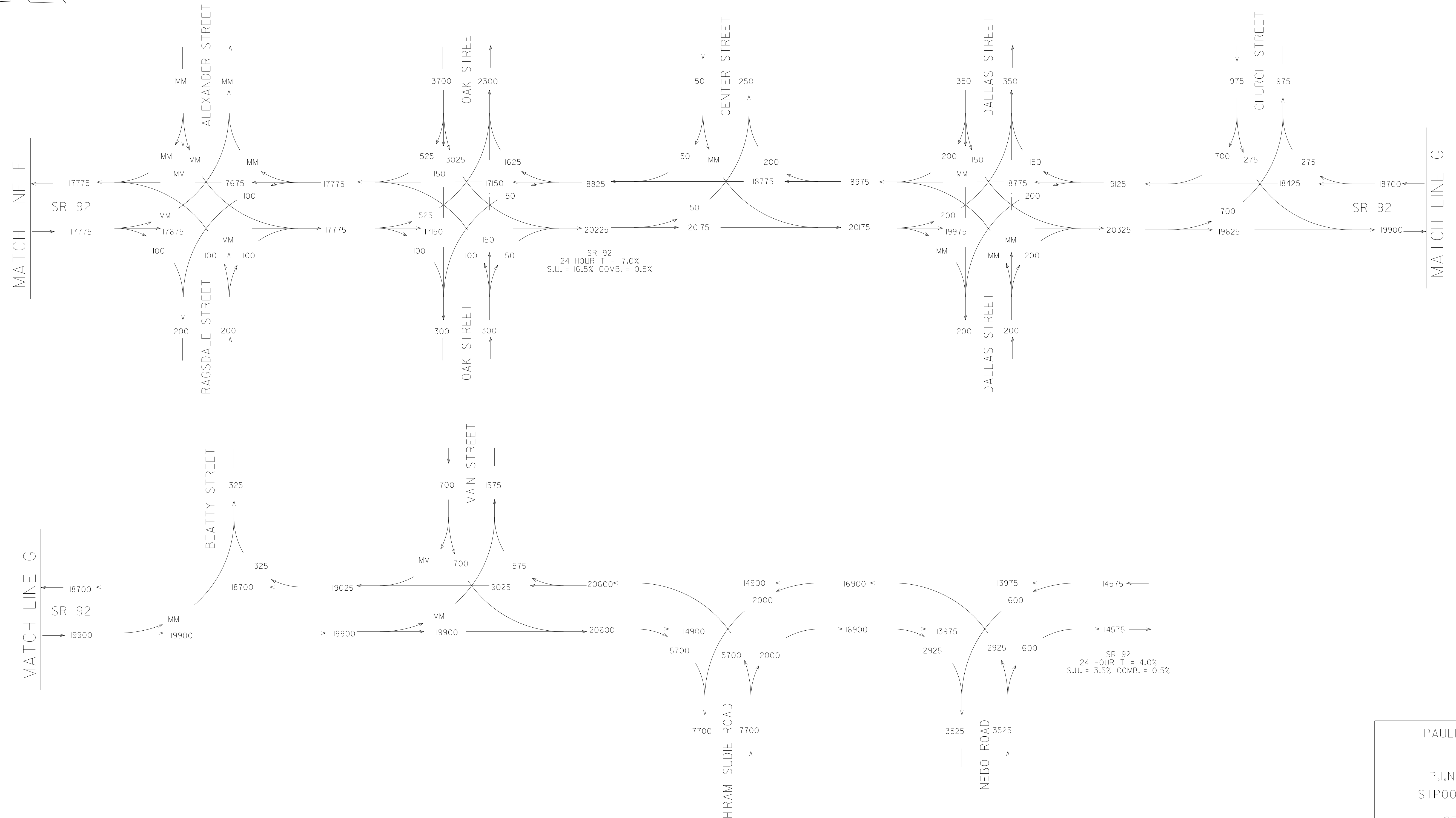
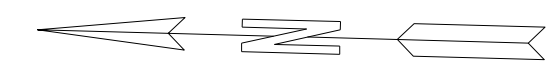
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SRI20
INCL POWDER SPRINGS CK

2047 NO-BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%

8/2017



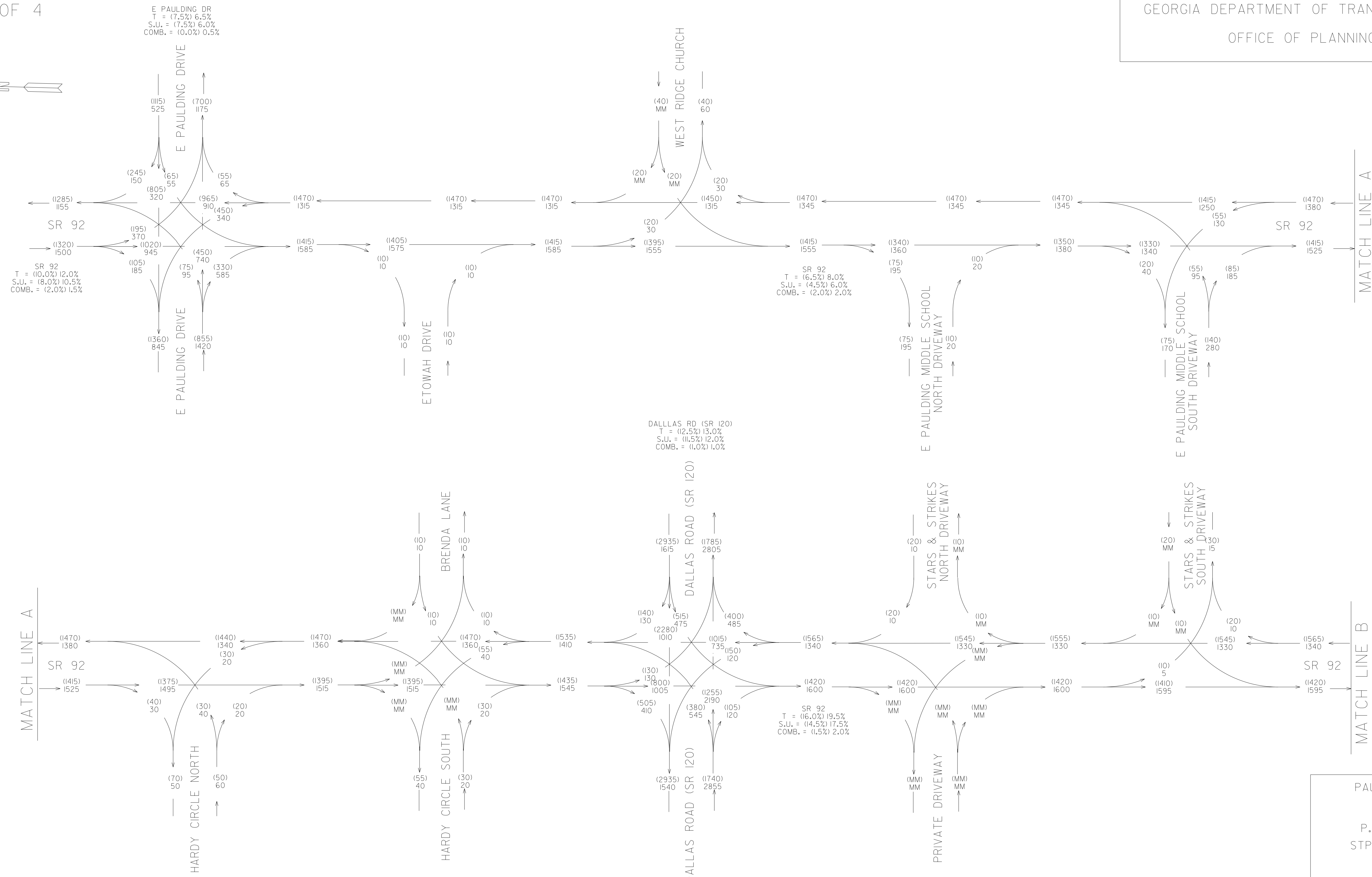
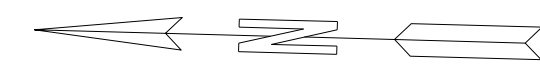
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2047 NO-BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%

8/2017



MATCH LINE A

MATCH LINE A

MATCH LINE B



3577 PARKWAY LANE, SUITE 100
NORCROSS, GA 30092

NOTE: DRAWING IS NOT TO SCALE.

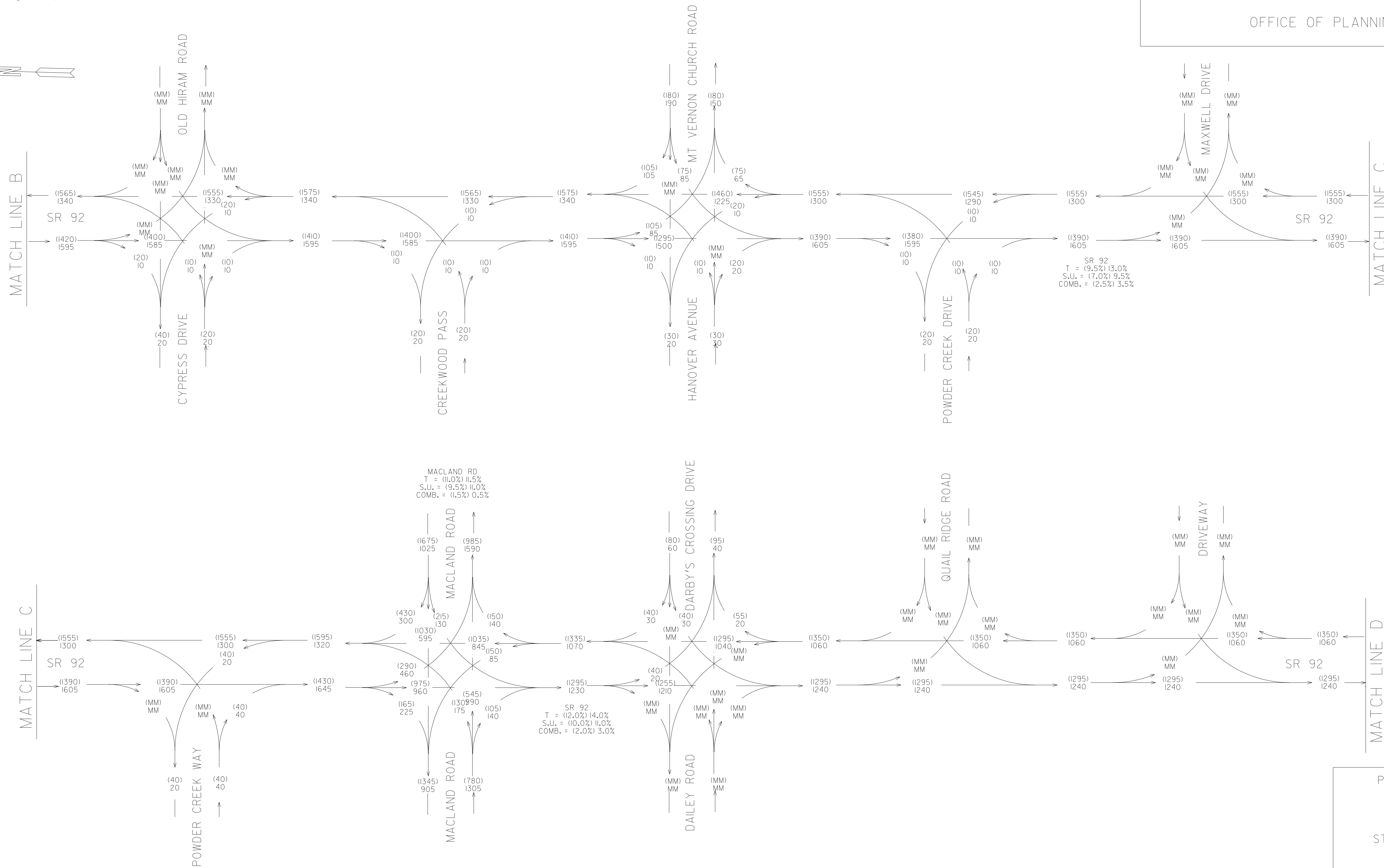
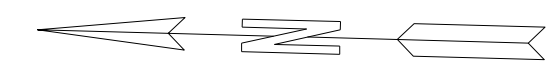
PAULDING COUNTY

P.I.NO. 621720-
STPO0-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

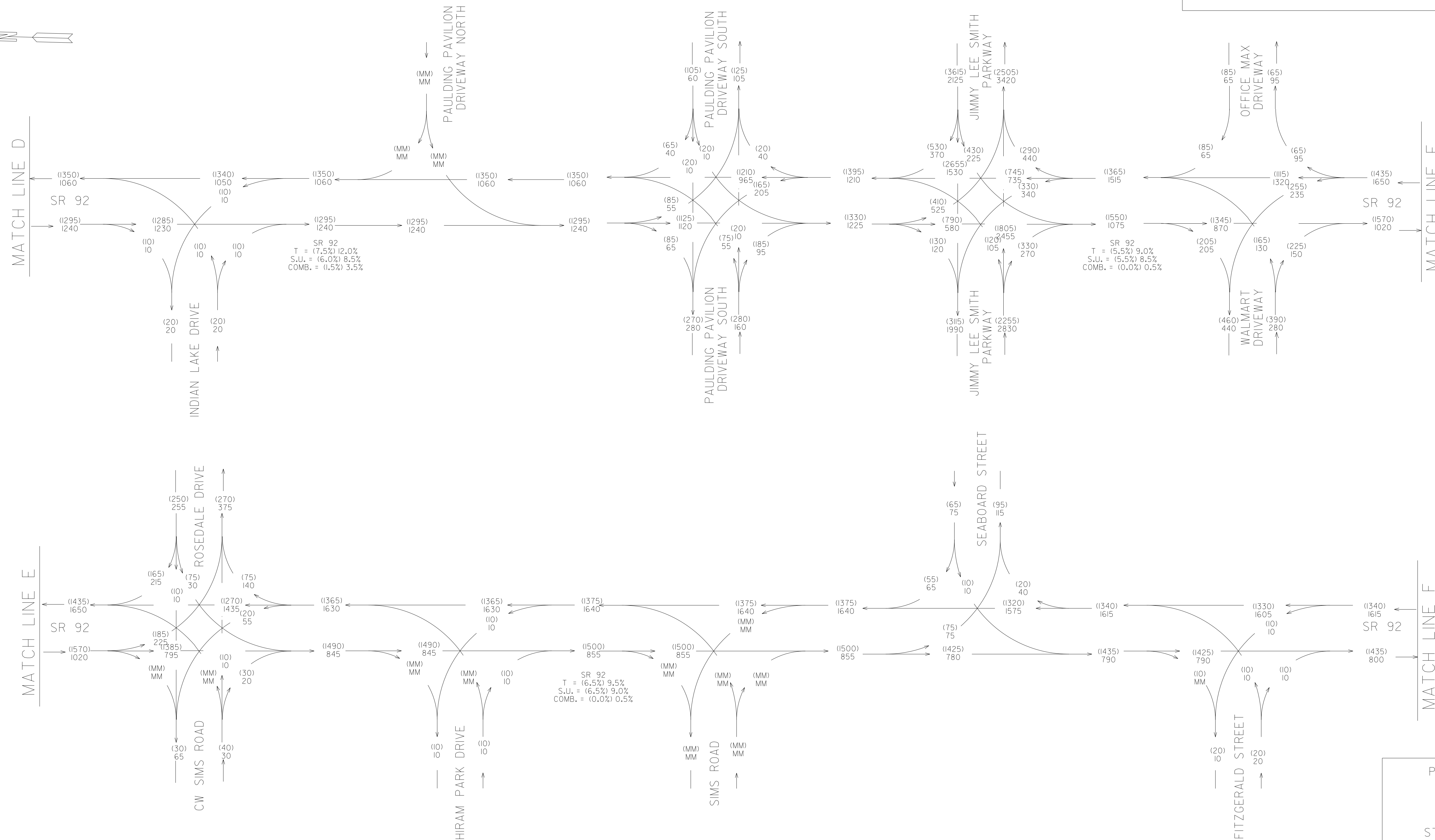
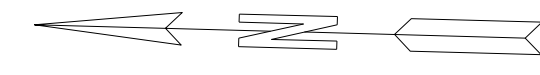
2047 NO-BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

8/2017



NOTE: DRAWING IS NOT TO SCALE.

PAULDING COUNTY
P.I.NO. 621720-
STP00-0186-01(025)
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK
2047 NO-BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%



JIMMY LEE SMITH PKWY
T = (7.0%) 12.0%
S.U. = (5.5%) 9.0%
COMB. = (1.5%) 3.0%

SR 92
T = (7.5%) 12.0%
S.U. = (6.0%) 8.5%
COMB. = (1.5%) 3.5%

SR 92
T = (5.5%) 9.0%
S.U. = (5.5%) 8.5%
COMB. = (10.0%) 0.5%

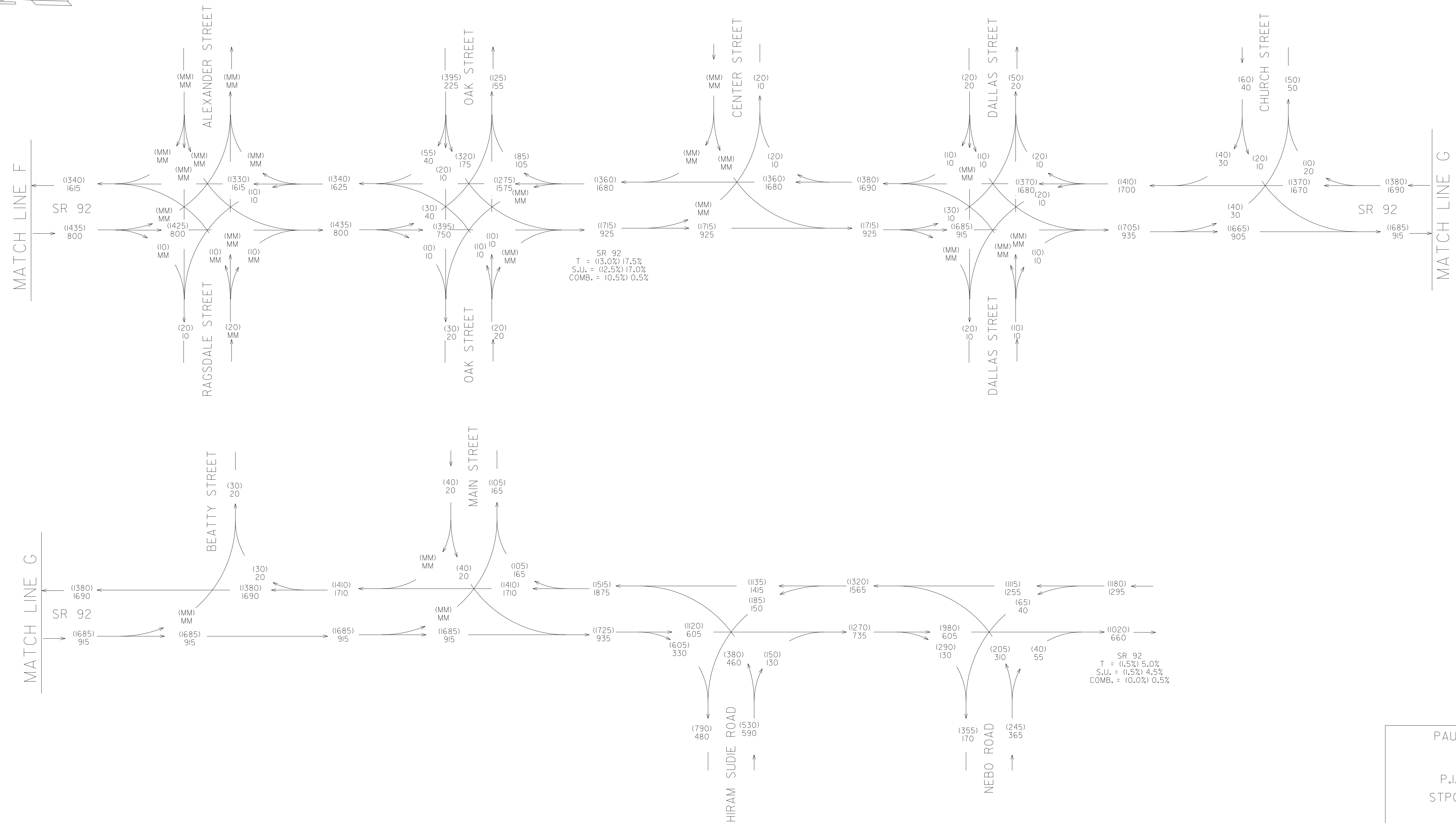
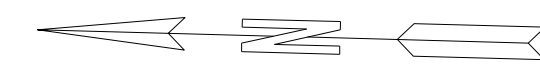
SR 92
T = (6.5%) 9.5%
S.U. = (6.5%) 9.0%
COMB. = (10.0%) 0.5%

PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2047 NO-BUILD
PM DHV = 000
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%



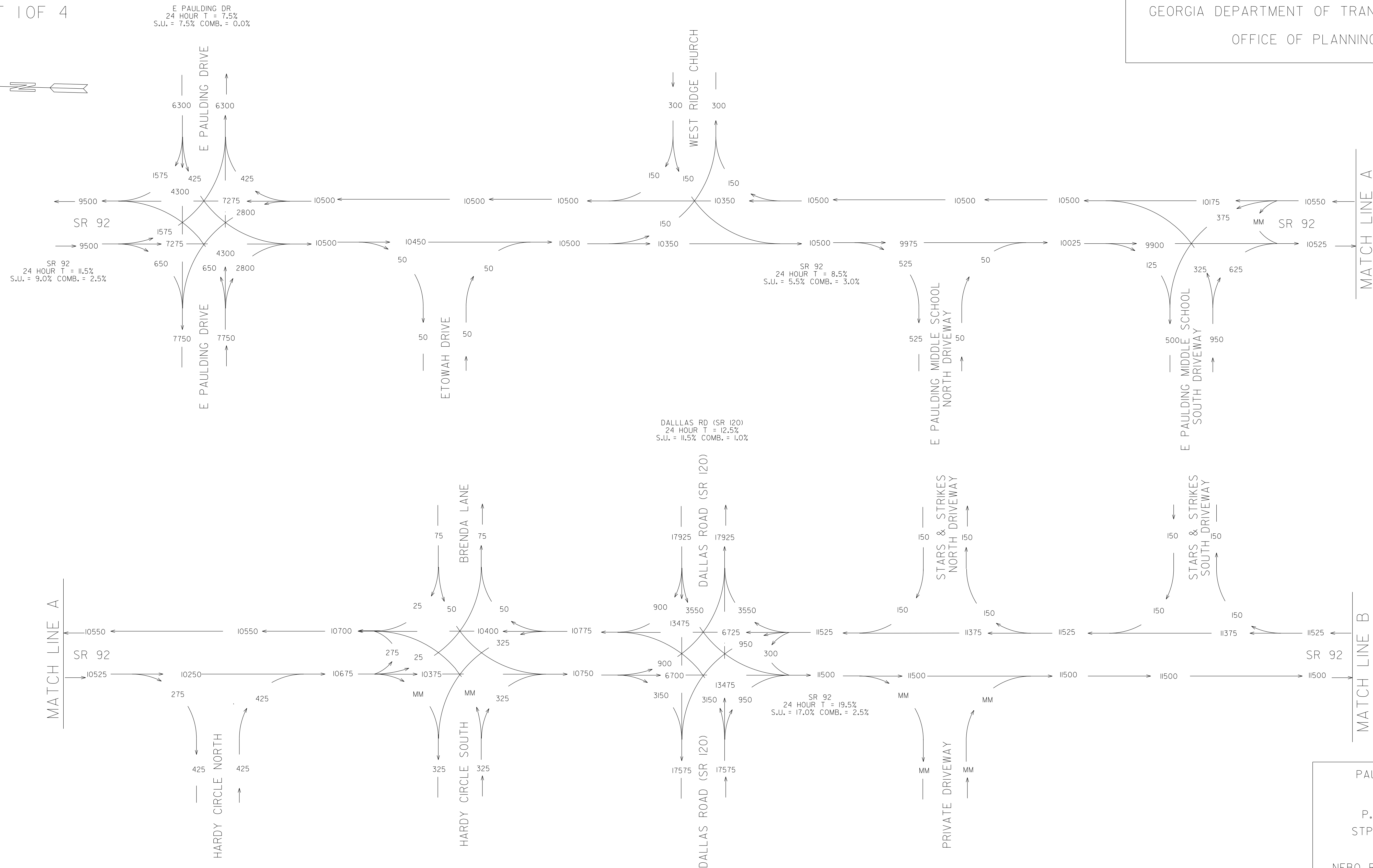
PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2047 NO-BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

8/2017



MATCH LINE A

MATCH LINE A

MATCH LINE B

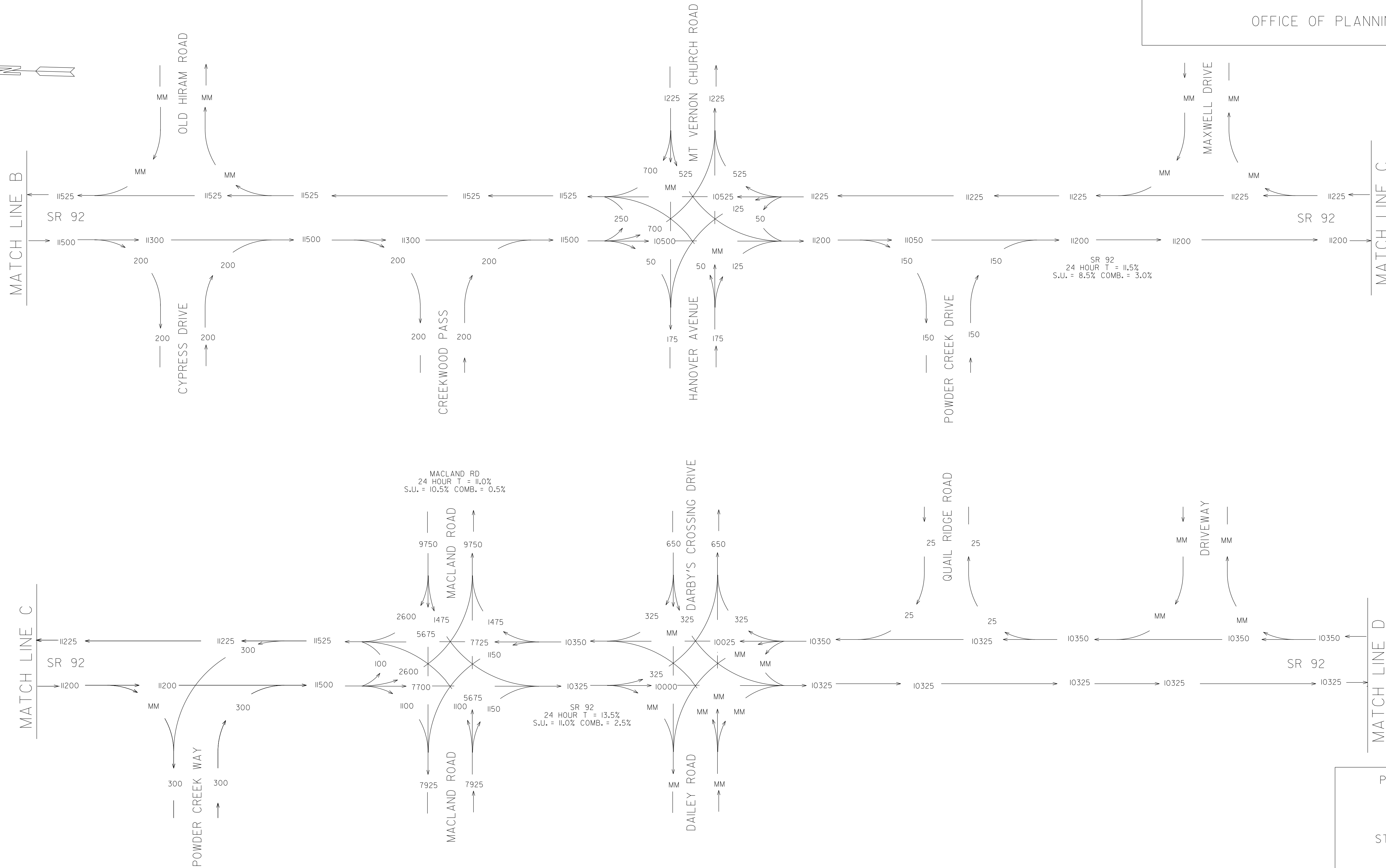
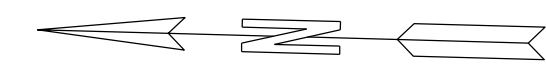
PAULDING COUNTY

P.I.NO. 621720-
STPO0-0186-01(025)

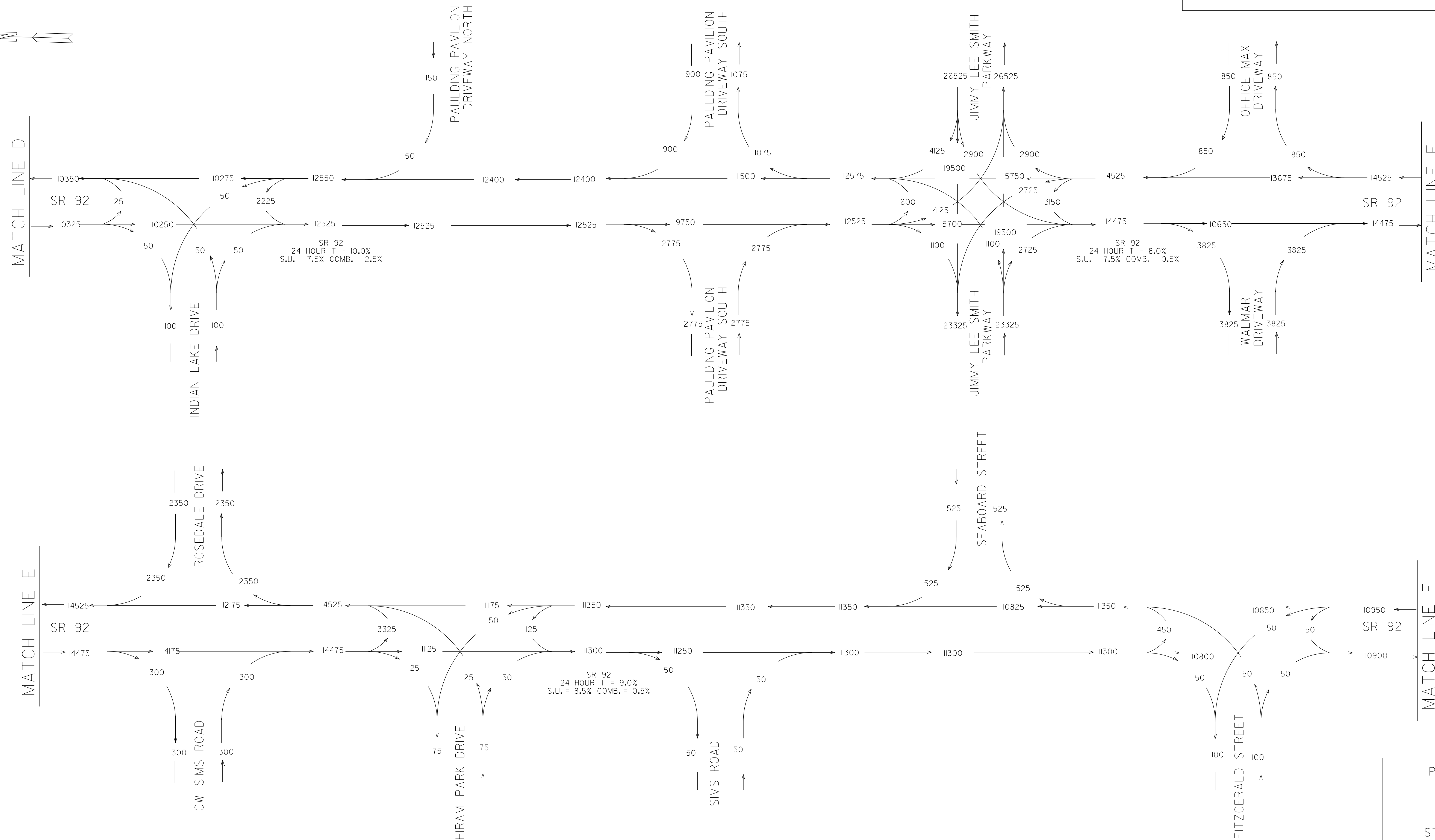
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

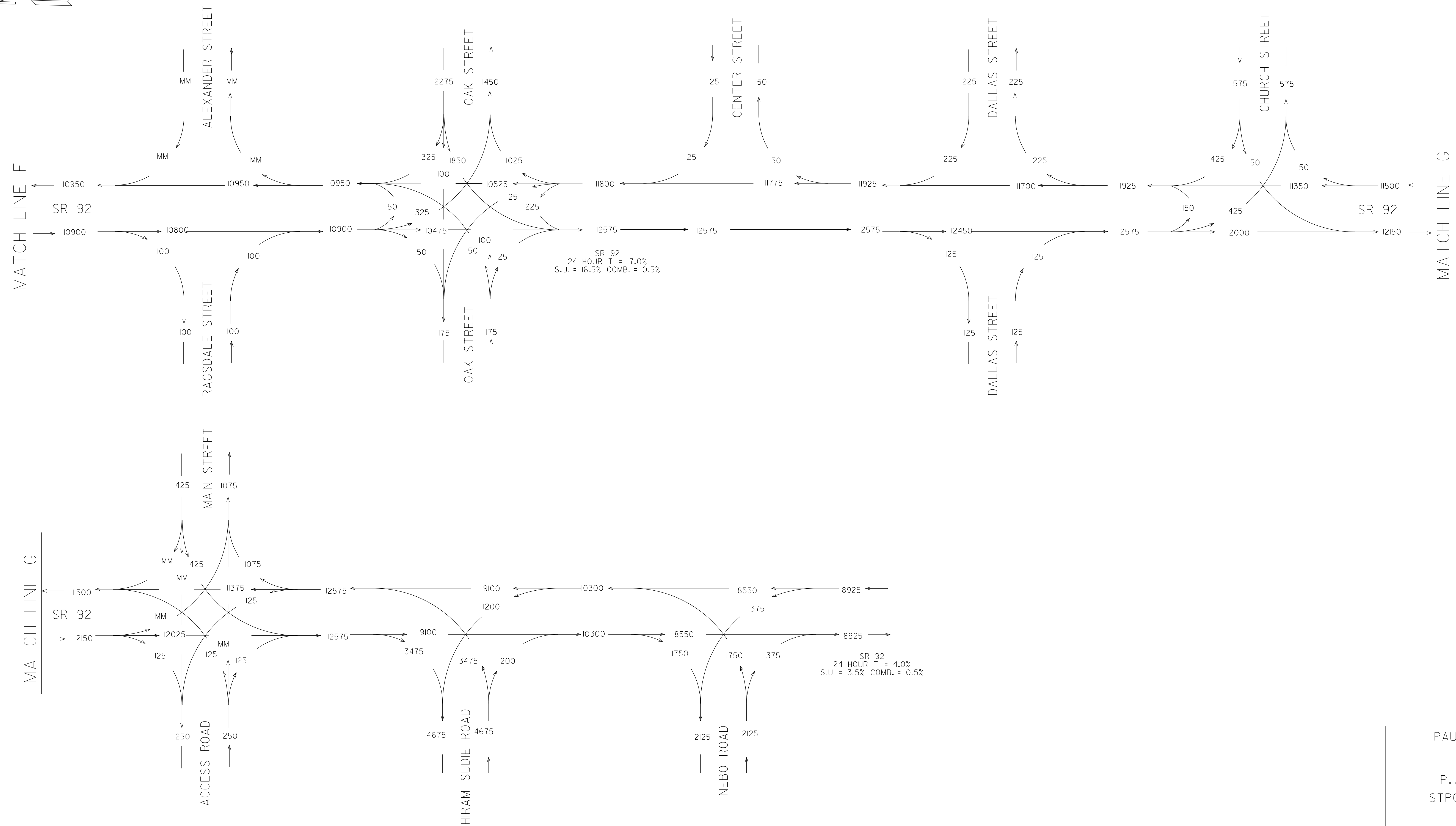
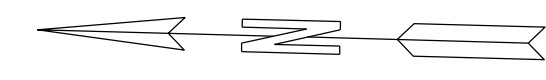
2027 BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%

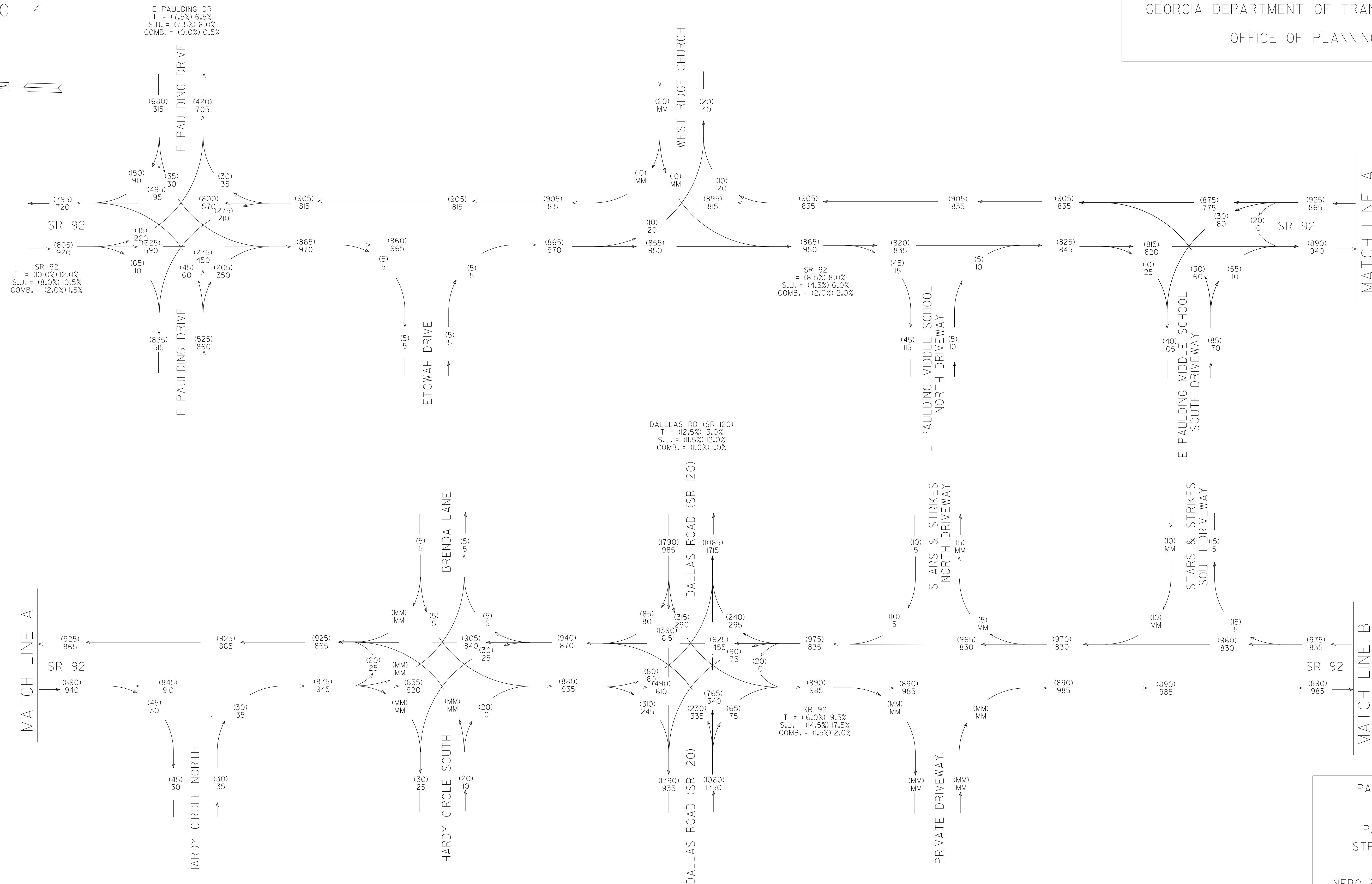
8/2017

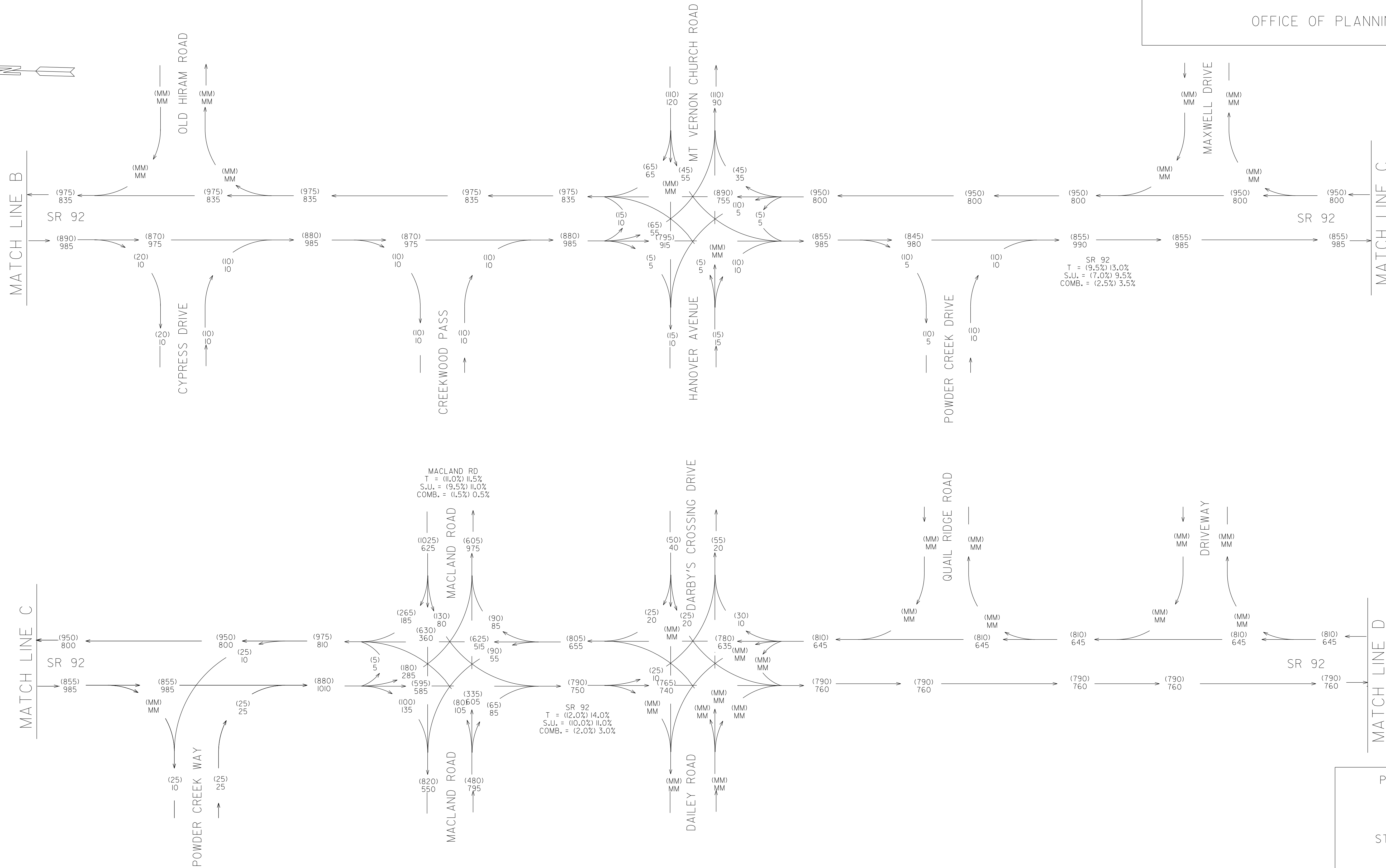
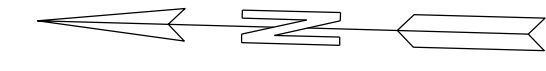


JIMMY LEE SMITH PKWY
24 HOUR T = 10.0%
S.U. = 7.5% COMB. = 2.5%









SR 92
T = (9.5%) 13.0%
S.U. = (7.0%) 9.5%
COMB. = (2.5%) 3.5%

MACLAND RD
T = (11.0%) 11.5%
S.U. = (9.5%) 11.0%
COMB. = (1.5%) 0.5%

SR 92
T = (12.0%) 14.0%
S.U. = (10.0%) 11.0%
COMB. = (2.0%) 3.0%



NOTE: DRAWING IS NOT TO SCALE.

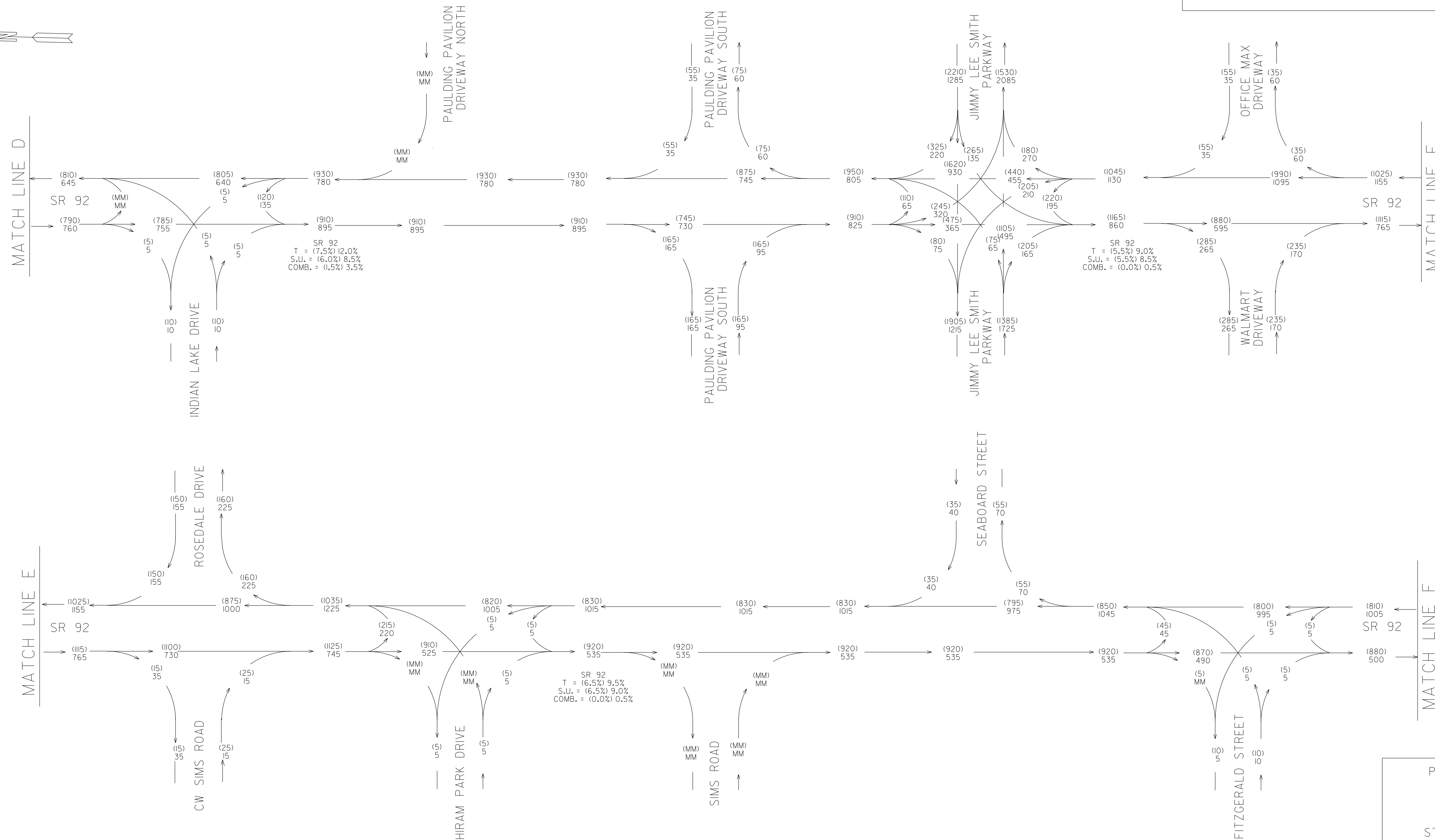
PAULDING COUNTY

P.I.NO. 621720-
STPO0-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

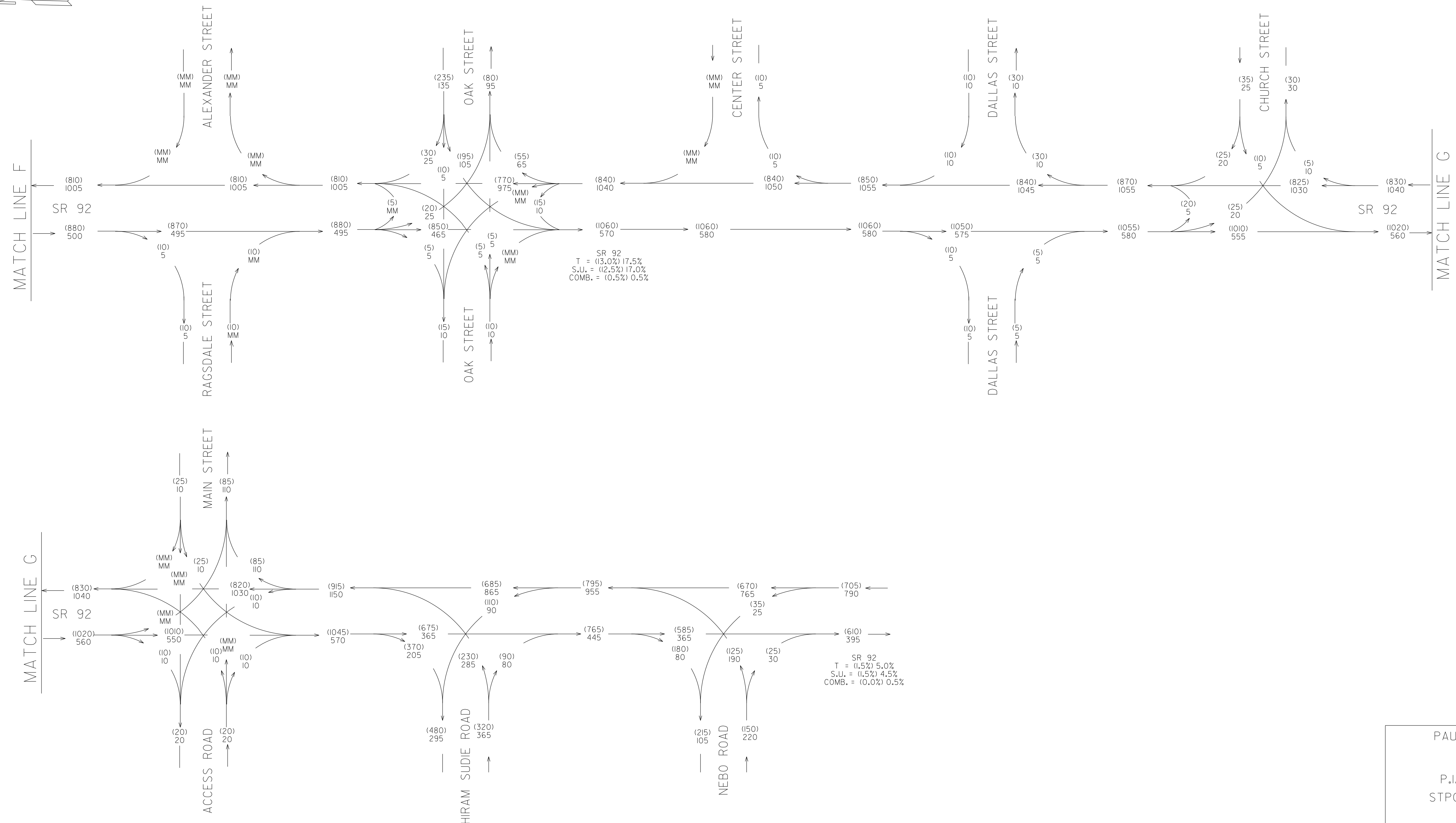
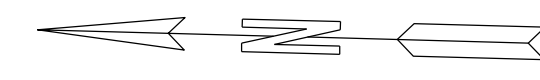
2027 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

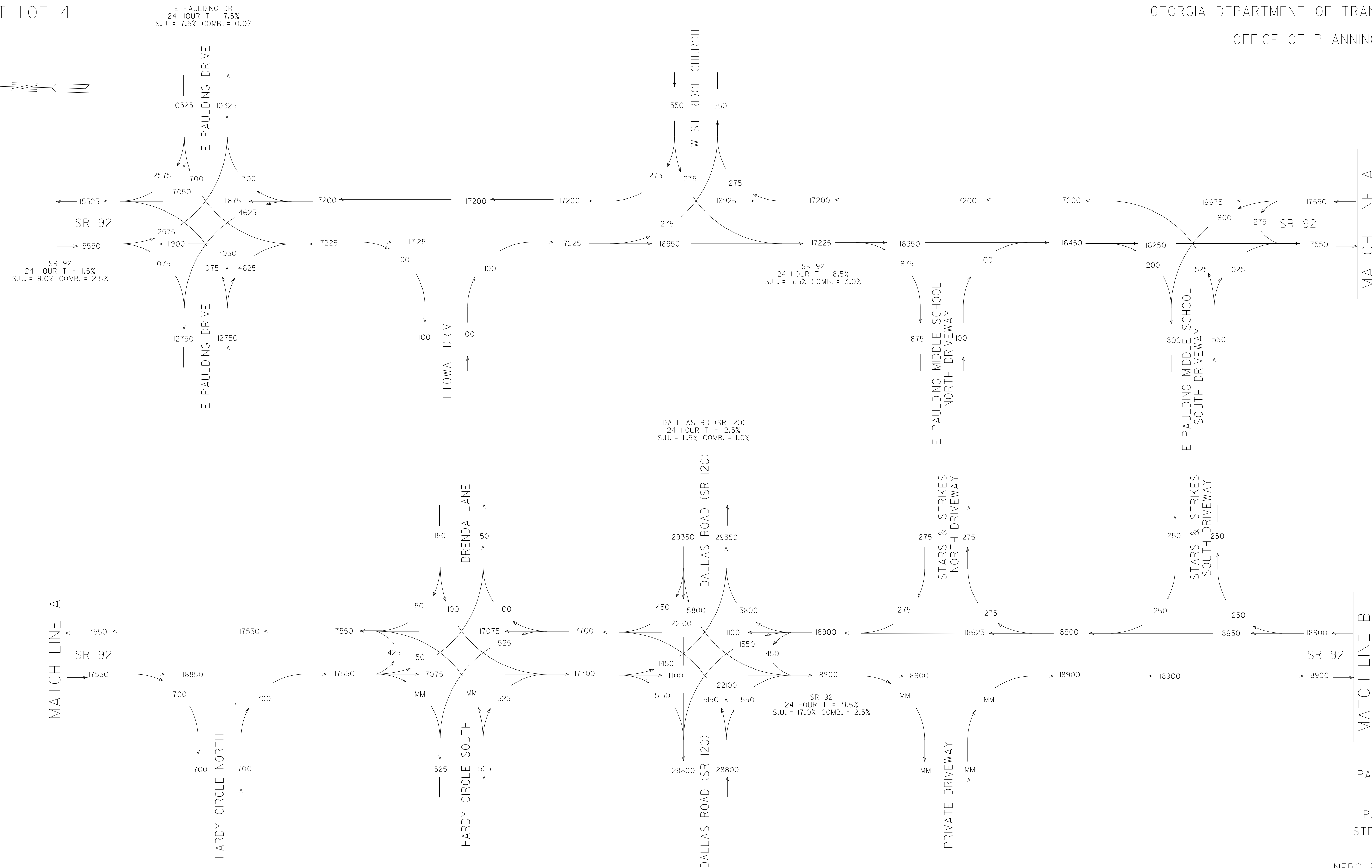
JIMMY LEE SMITH PKWY
T = (7.0%) 12.0%
S.U. = (5.5%) 9.0%
COMB. = (1.5%) 3.0%



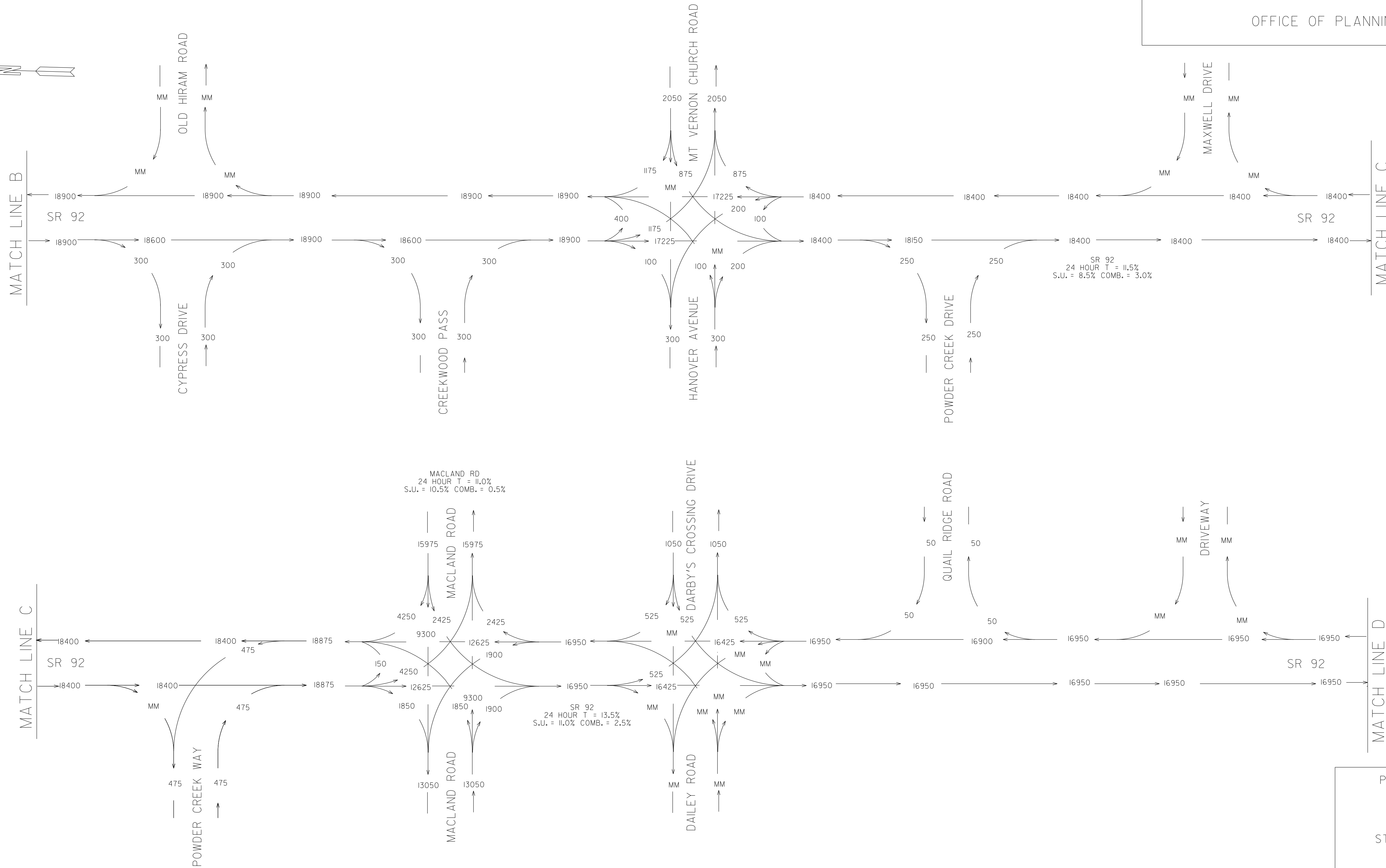
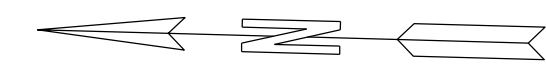
NOTE: DRAWING IS NOT TO SCALE.

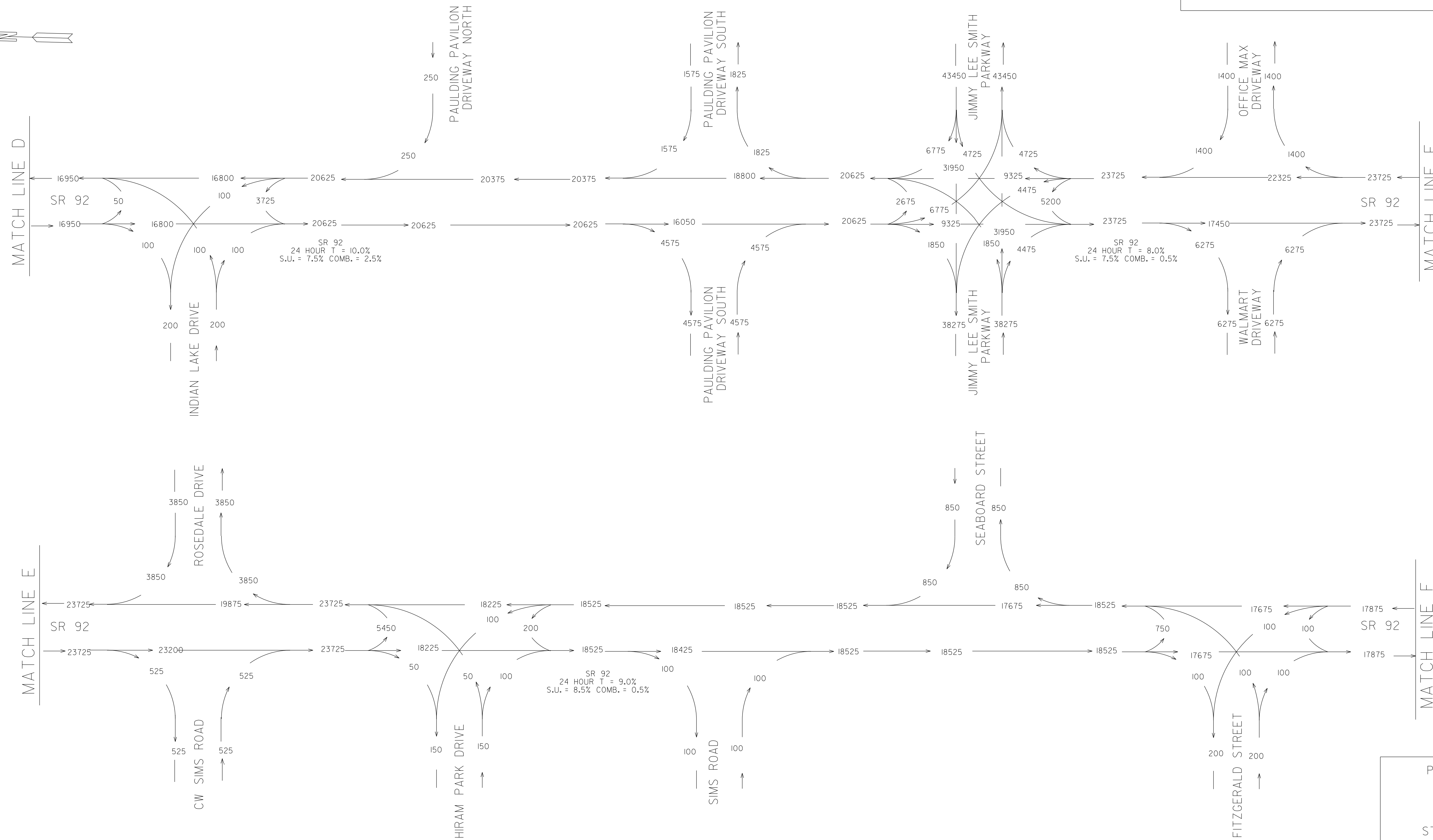
PAULDING COUNTY
P.I.NO. 621720-
STP00-0186-01(025)
SR 92 FROM
NEBO RD/HIRAM TO SRI20
INCL POWDER SPRINGS CK
2027 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%
8/2017

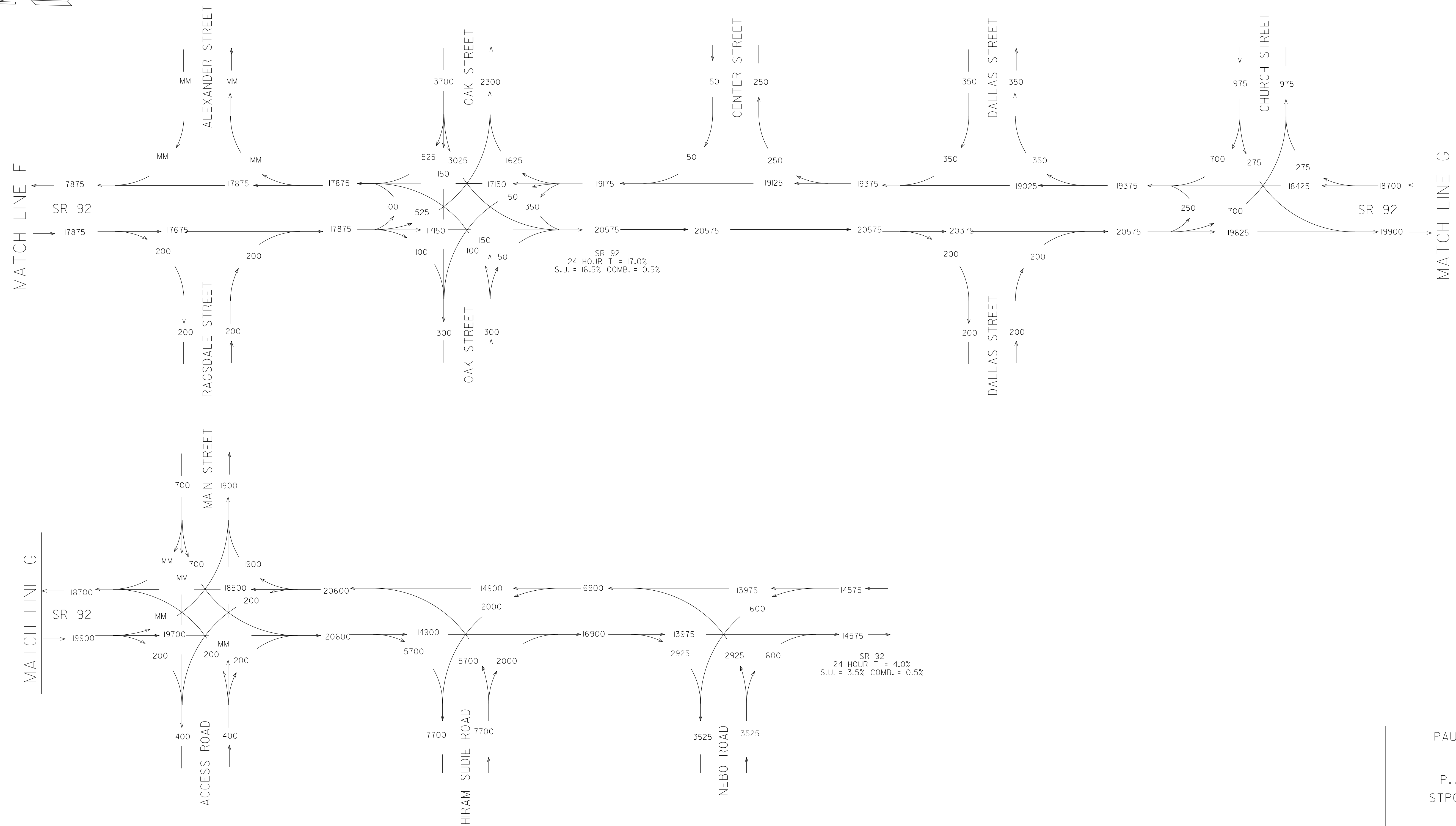
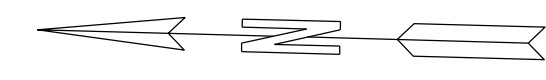


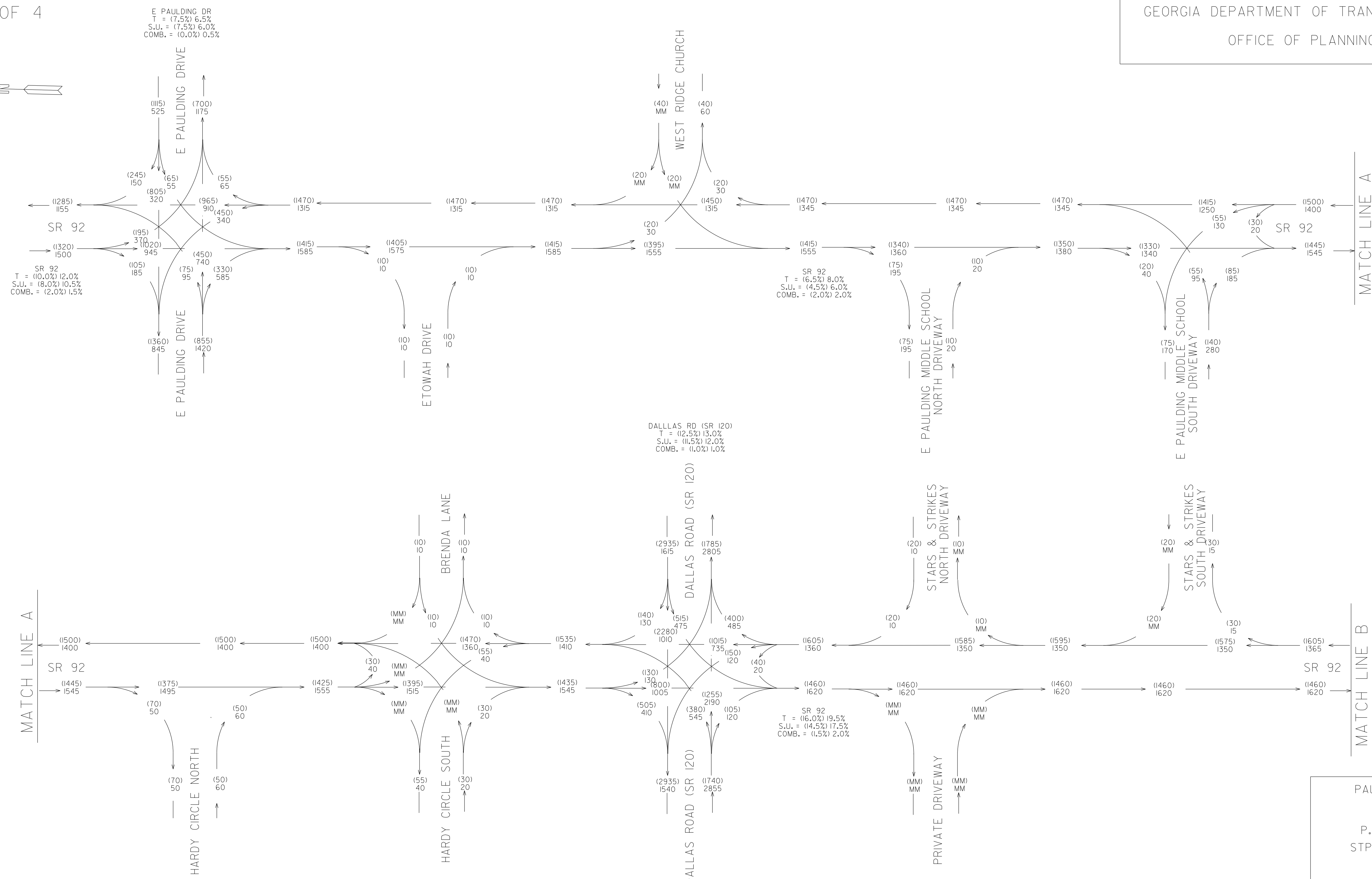


PAULDING COUNTY
P.I.NO. 621720-
STPOO-0186-01(025)
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK
2047 BUILD
AADT = 000
24 HOUR TRUCK % = 0.0%







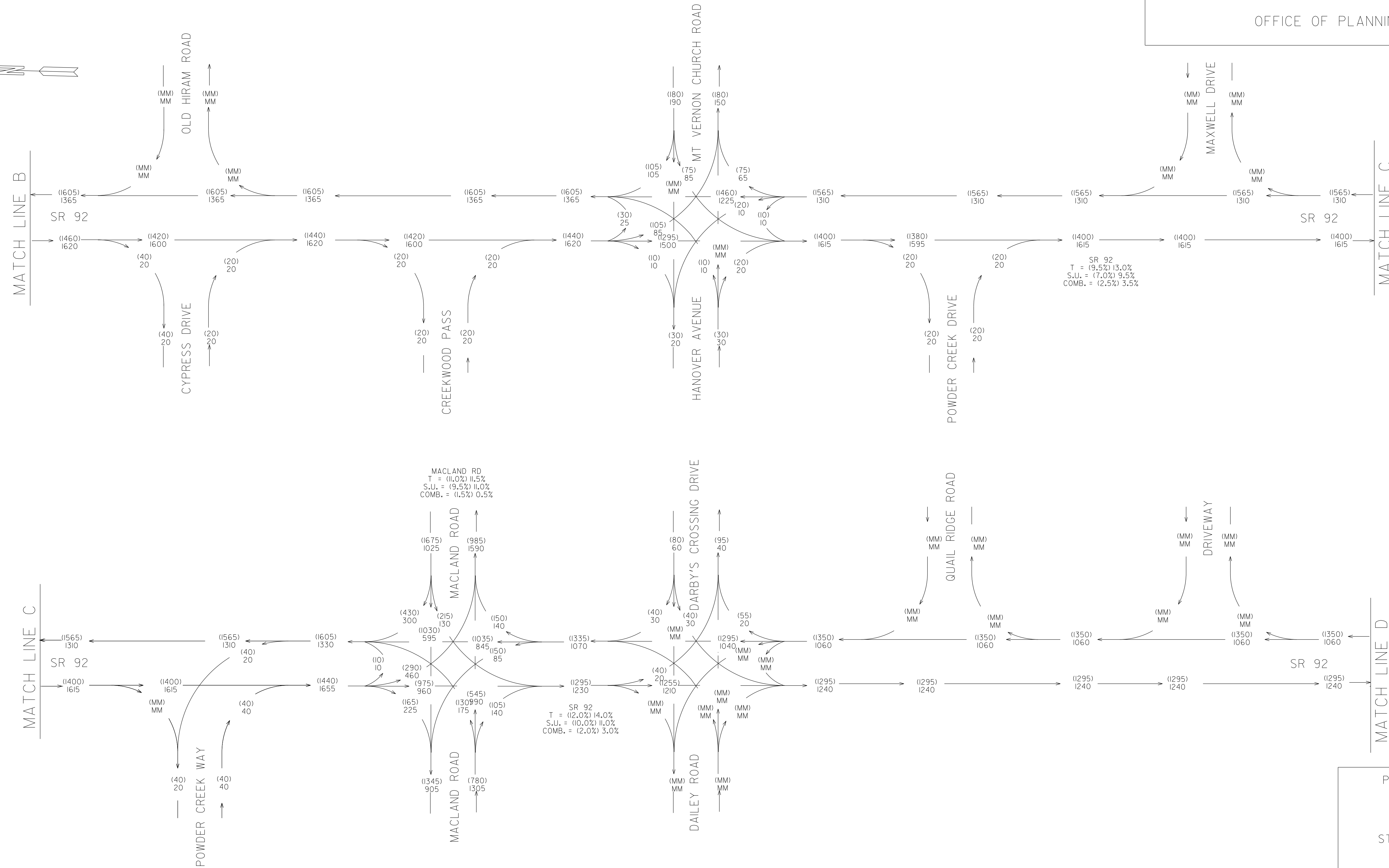
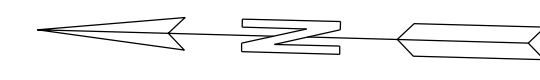


PAULDING COUNTY

P.I.NO. 621720-
STPOO-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

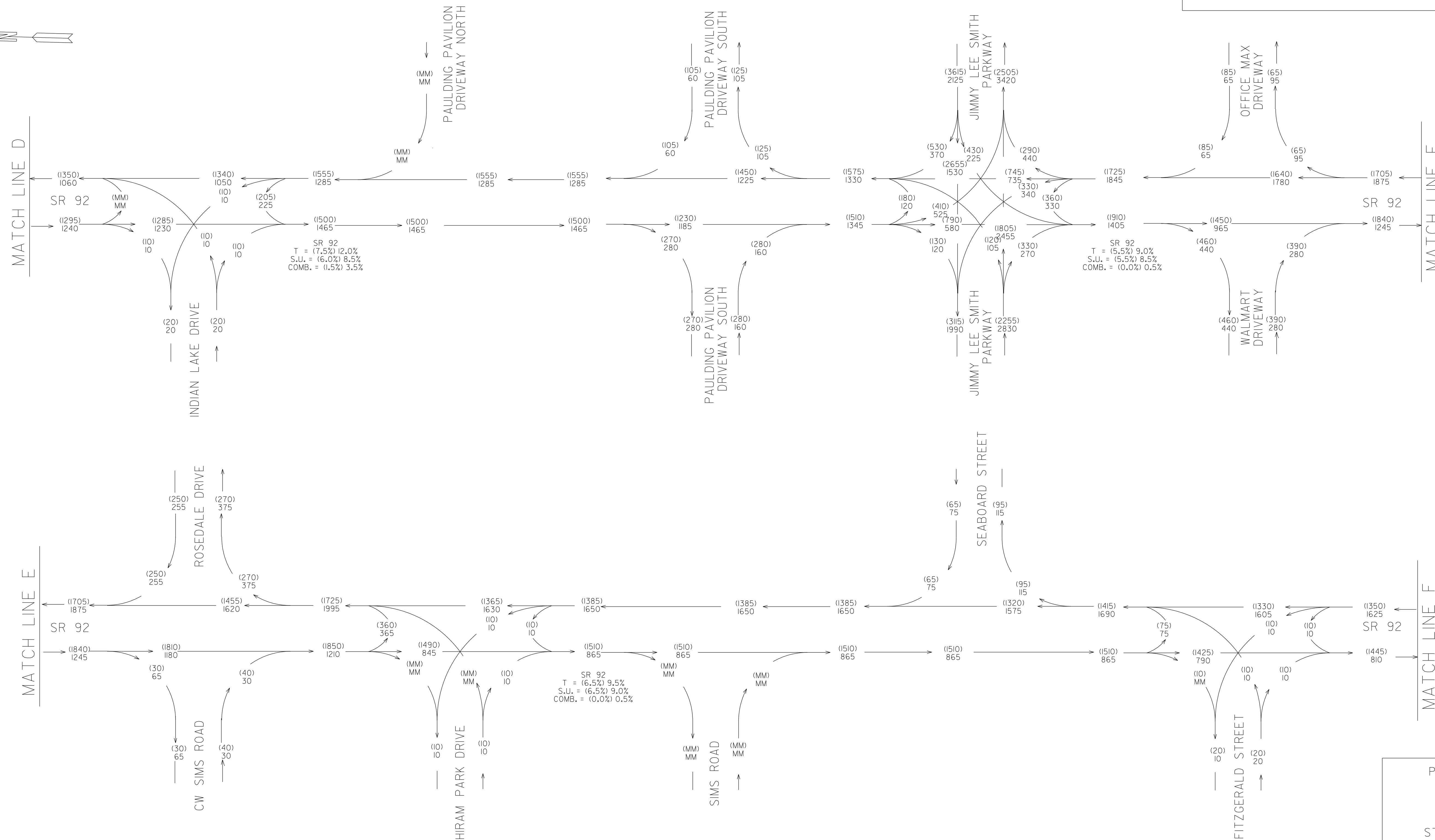
2047 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

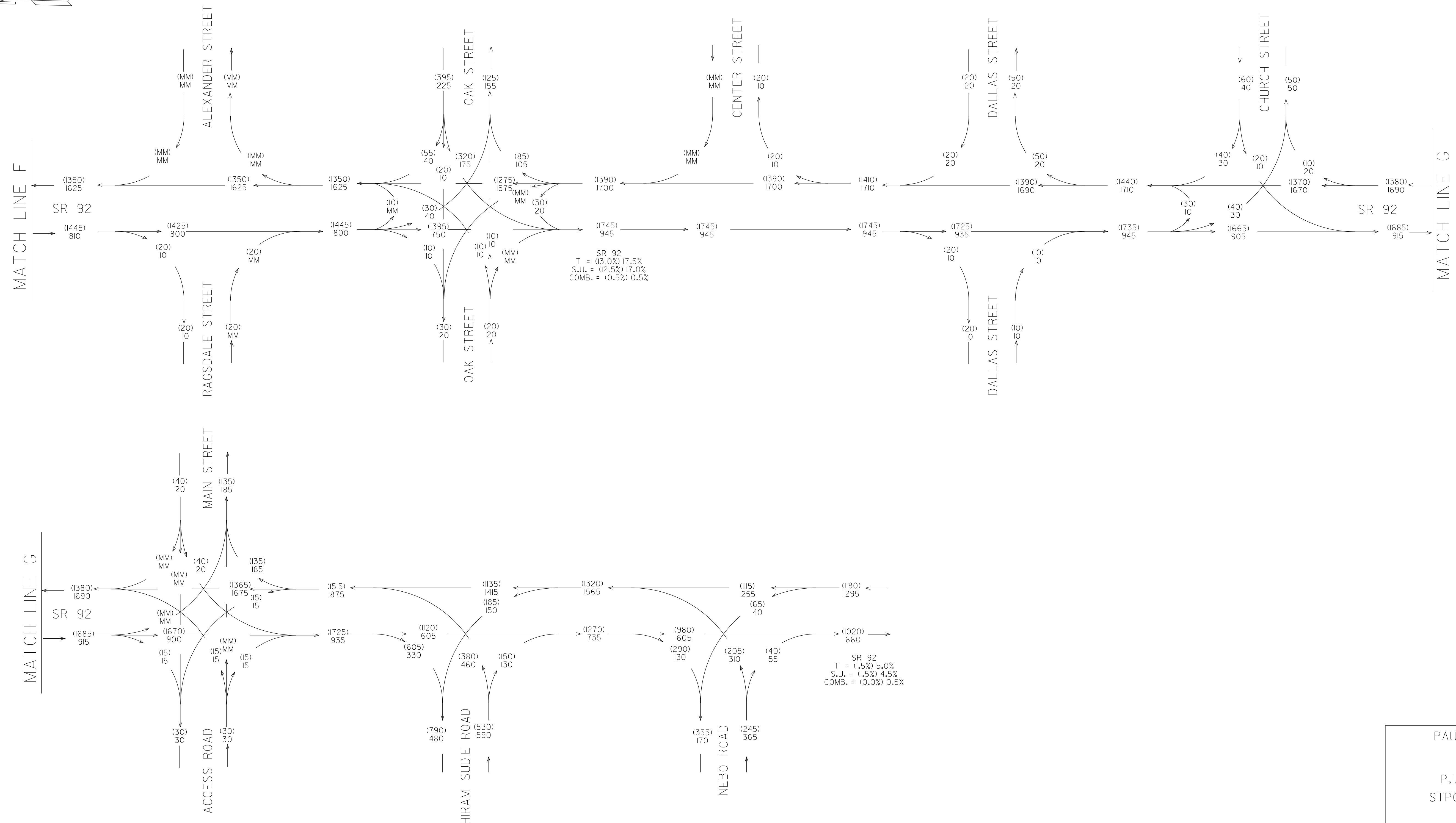
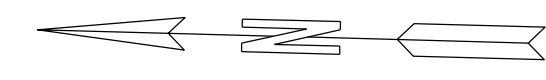


NOTE: DRAWING IS NOT TO SCALE.

PAULDING COUNTY
P.I.NO. 621720-
STP00-0186-01(025)
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK
2047 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

JIMMY LEE SMITH PKWY
T = (7.0%) 12.0%
S.U. = (5.5%) 9.0%
COMB. = (1.5%) 3.0%





PAULDING COUNTY

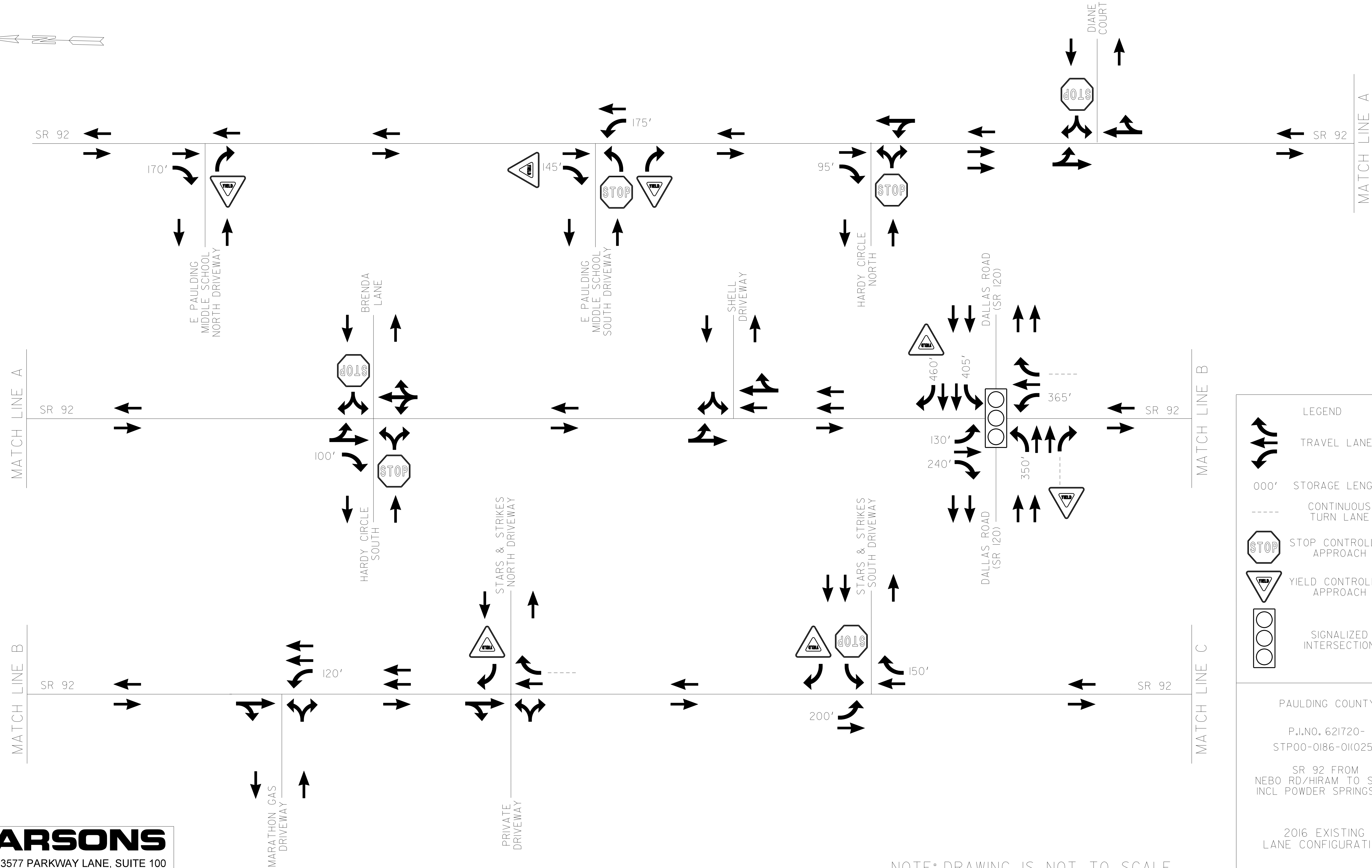
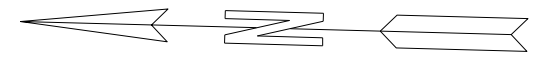
P.I.NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2047 BUILD
PM DHV = (000)
AM DHV = 000
PM TRUCK % = (0.0%)
AM TRUCK % = 0.0%

8/2017

APPENDIX B
Lane Configurations – Existing & Proposed

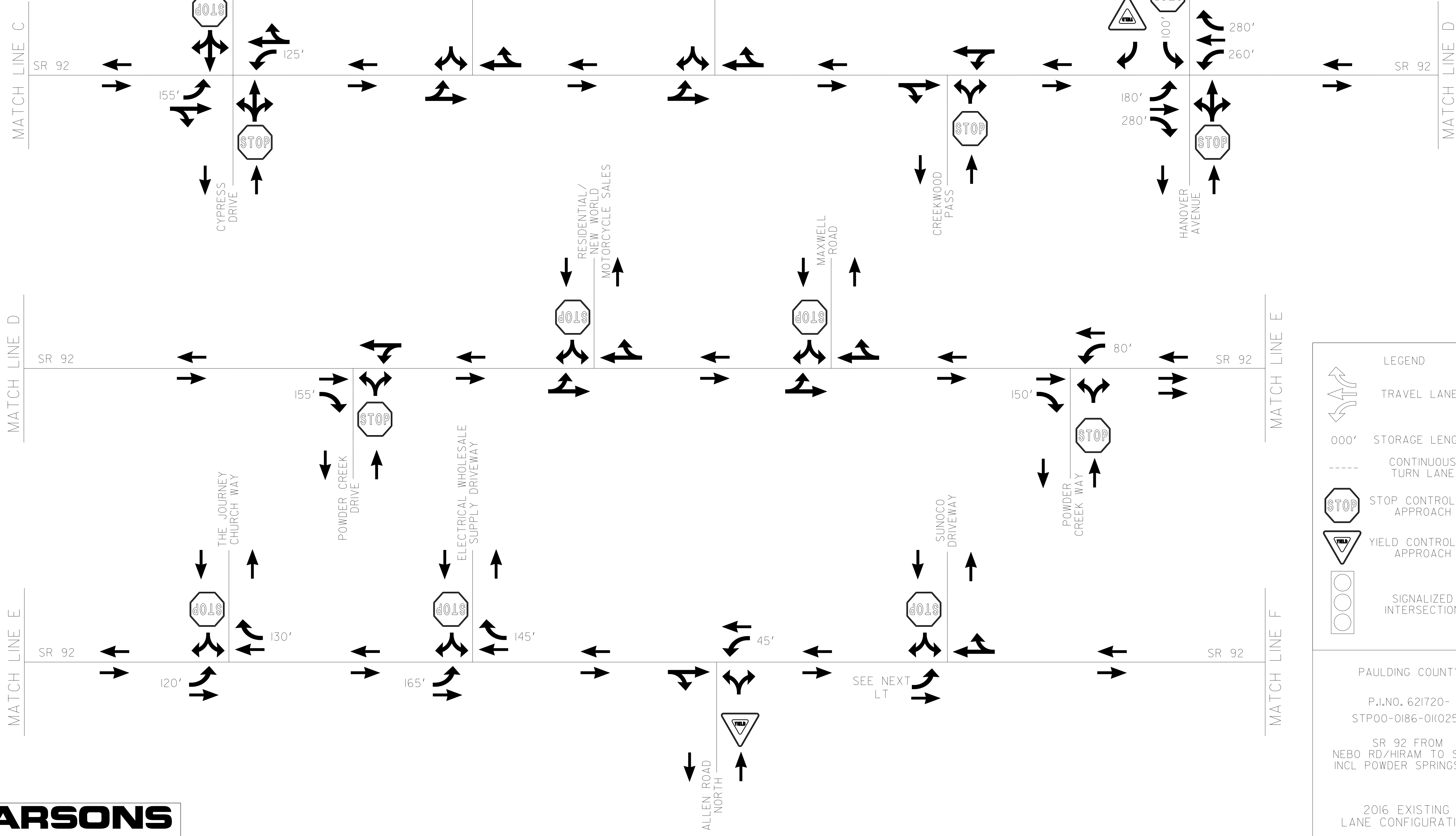
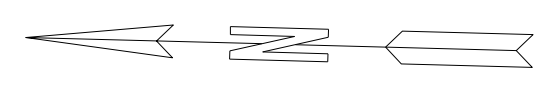


LEGEND	
	TRAVEL LANES
	STORAGE LENGTH
	CONTINUOUS TURN LANE
	STOP CONTROLLED APPROACH
	YIELD CONTROLLED APPROACH
	SIGNALIZED INTERSECTION

PAULDING COUNTY
 P.I.NO. 621720-
 STP00-0186-01(025)
 SR 92 FROM
 NEBO RD/HIRAM TO SR120
 INCL POWDER SPRINGS CK
 2016 EXISTING
 LANE CONFIGURATION

NOTE: DRAWING IS NOT TO SCALE.

PARSONS
 3577 PARKWAY LANE, SUITE 100
 NORCROSS, GA 30092



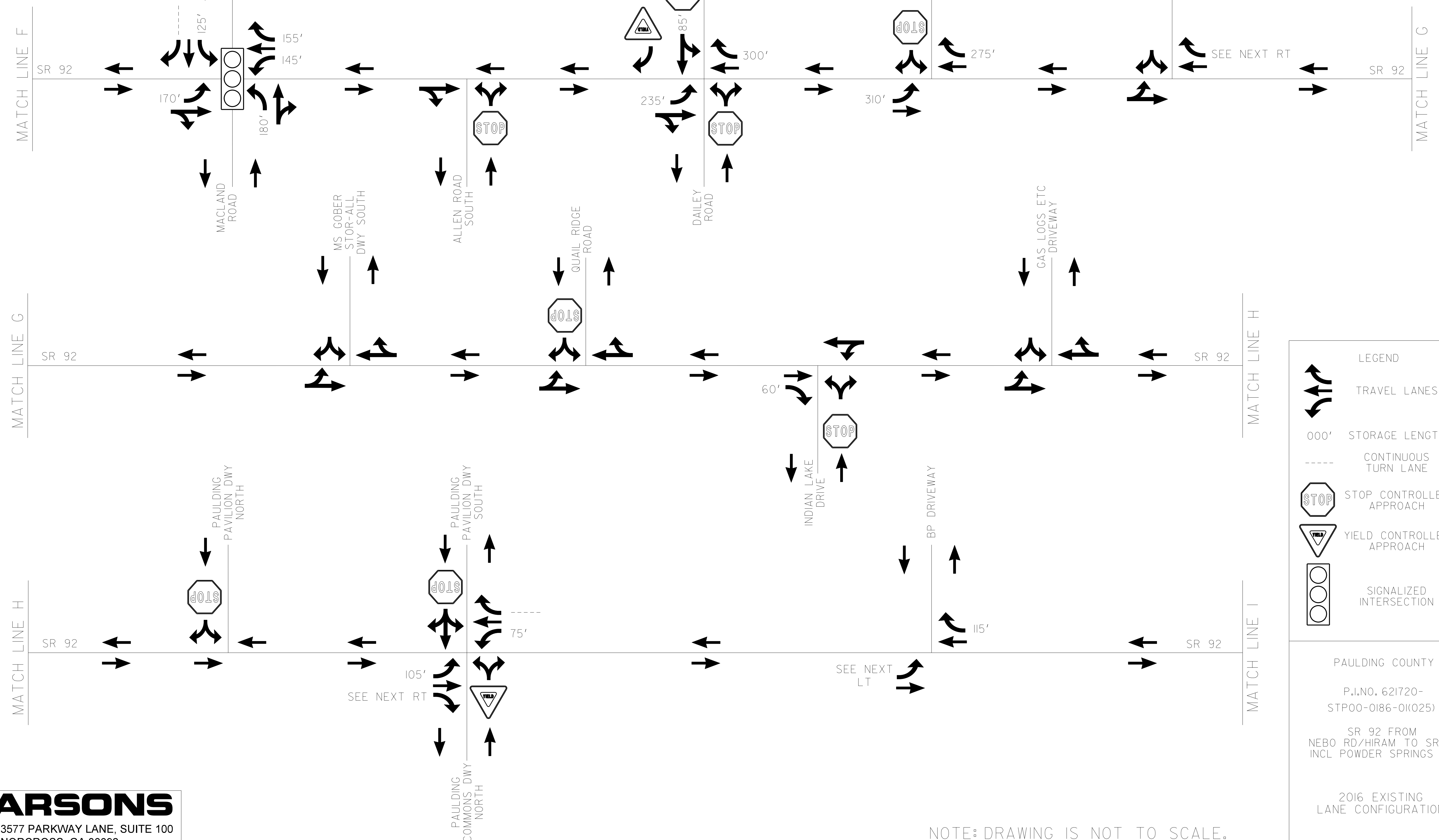
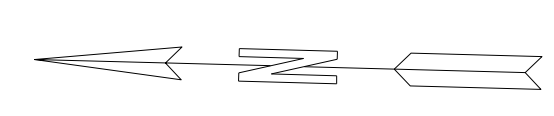
LEGEND	
	TRAVEL LANES
000'	STORAGE LENGTH
	CONTINUOUS TURN LANE
	STOP CONTROLLED APPROACH
	YIELD CONTROLLED APPROACH
	SIGNALIZED INTERSECTION

PAULDING COUNTY
 P.I.NO. 621720-
 STPO0-0186-01(025)
 SR 92 FROM
 NEBO RD/HIRAM TO SR120
 INCL POWDER SPRINGS CK

2016 EXISTING
 LANE CONFIGURATION

PARSONS
 3577 PARKWAY LANE, SUITE 100
 NORCROSS, GA 30092

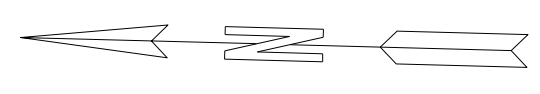
NOTE: DRAWING IS NOT TO SCALE.



LEGEND	
	TRAVEL LANES
000'	STORAGE LENGTH
---	CONTINUOUS TURN LANE
	STOP CONTROLLED APPROACH
	YIELD CONTROLLED APPROACH
	SIGNALIZED INTERSECTION

PAULDING COUNTY
 P.I.NO. 621720-
 STP00-0186-01(025)
 SR 92 FROM
 NEBO RD/HIRAM TO SR120
 INCL POWDER SPRINGS CK
 2016 EXISTING
 LANE CONFIGURATION

NOTE: DRAWING IS NOT TO SCALE.



MATCH LINE I

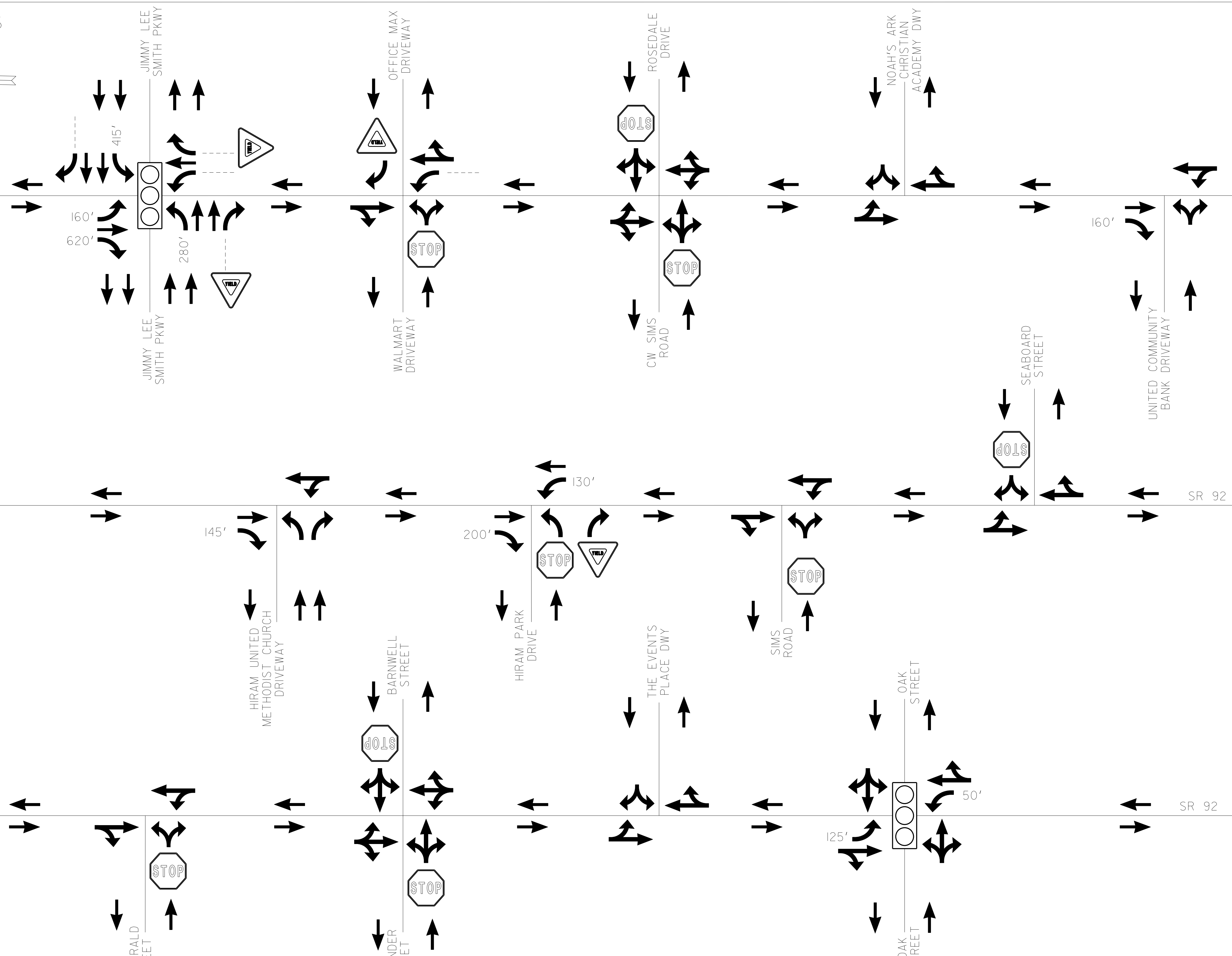
MATCH LINE J

MATCH LINE J

MATCH LINE K

MATCH LINE K

MATCH LINE L

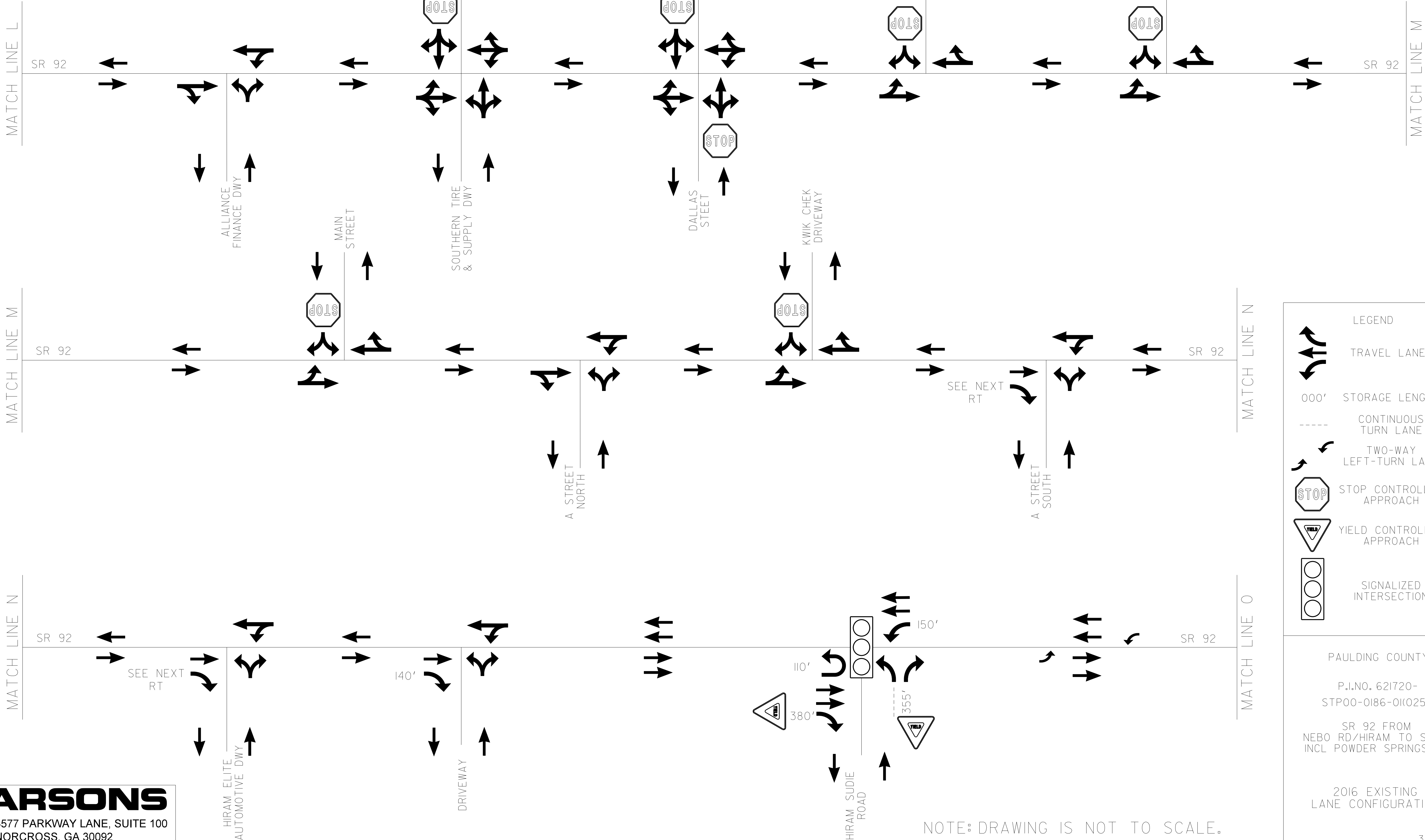
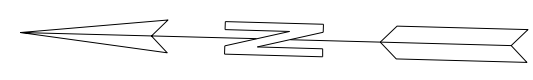


LEGEND	
	TRAVEL LANES
000'	STORAGE LENGTH
---	CONTINUOUS TURN LANE
	STOP CONTROLLED APPROACH
	YIELD CONTROLLED APPROACH
	SIGNALIZED INTERSECTION

PAULDING COUNTY
 P.I.NO. 621720-
 STP00-0186-01(025)
 SR 92 FROM
 NEBO RD/HIRAM TO SR120
 INCL POWDER SPRINGS CK
 2016 EXISTING
 LANE CONFIGURATION

PARSONS
 3577 PARKWAY LANE, SUITE 100
 NORCROSS, GA 30092

NOTE: DRAWING IS NOT TO SCALE.



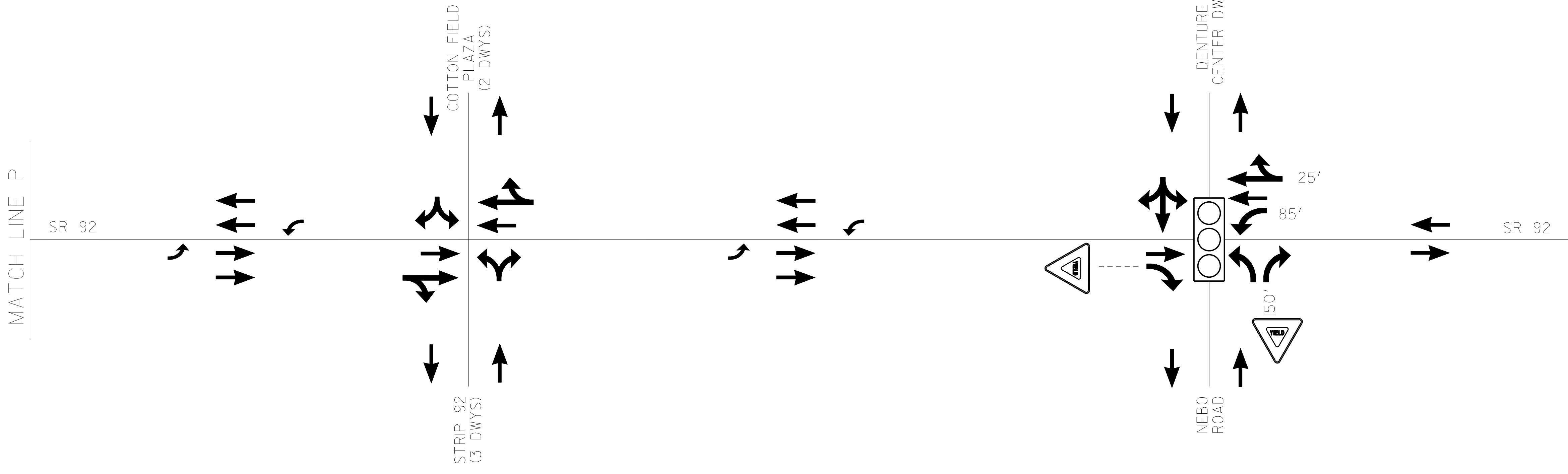
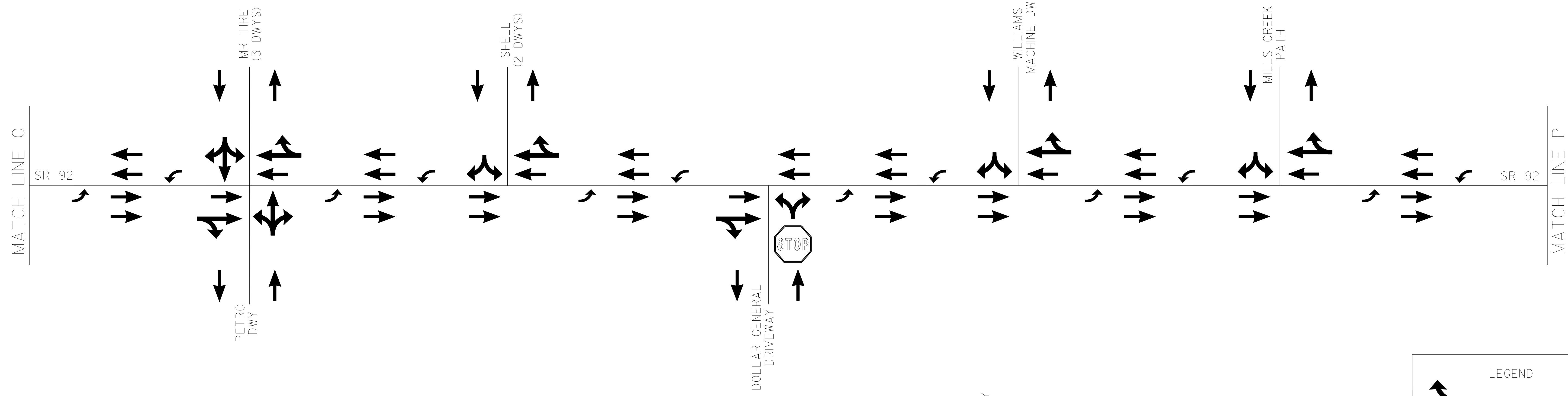
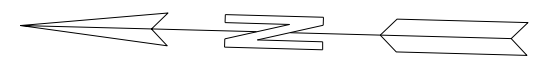
LEGEND	
	TRAVEL LANES
000'	STORAGE LENGTH
----	CONTINUOUS TURN LANE
	TWO-WAY LEFT-TURN LANE
	STOP CONTROLLED APPROACH
	YIELD CONTROLLED APPROACH
	SIGNALIZED INTERSECTION

PAULDING COUNTY
 P.I.NO. 621720-
 STPO0-0186-01(025)
 SR 92 FROM
 NEBO RD/HIRAM TO SR120
 INCL POWDER SPRINGS CK

2016 EXISTING
 LANE CONFIGURATION

PARSONS
 3577 PARKWAY LANE, SUITE 100
 NORCROSS, GA 30092

NOTE: DRAWING IS NOT TO SCALE.



LEGEND

- TRAVEL LANES
- 000' STORAGE LENGTH
- CONTINUOUS TURN LANE
- TWO-WAY LEFT-TURN LANE
- STOP CONTROLLED APPROACH
- YIELD CONTROLLED APPROACH
- SIGNALIZED INTERSECTION

PAULDING COUNTY

P.I.NO. 621720-
STP00-0186-01(025)

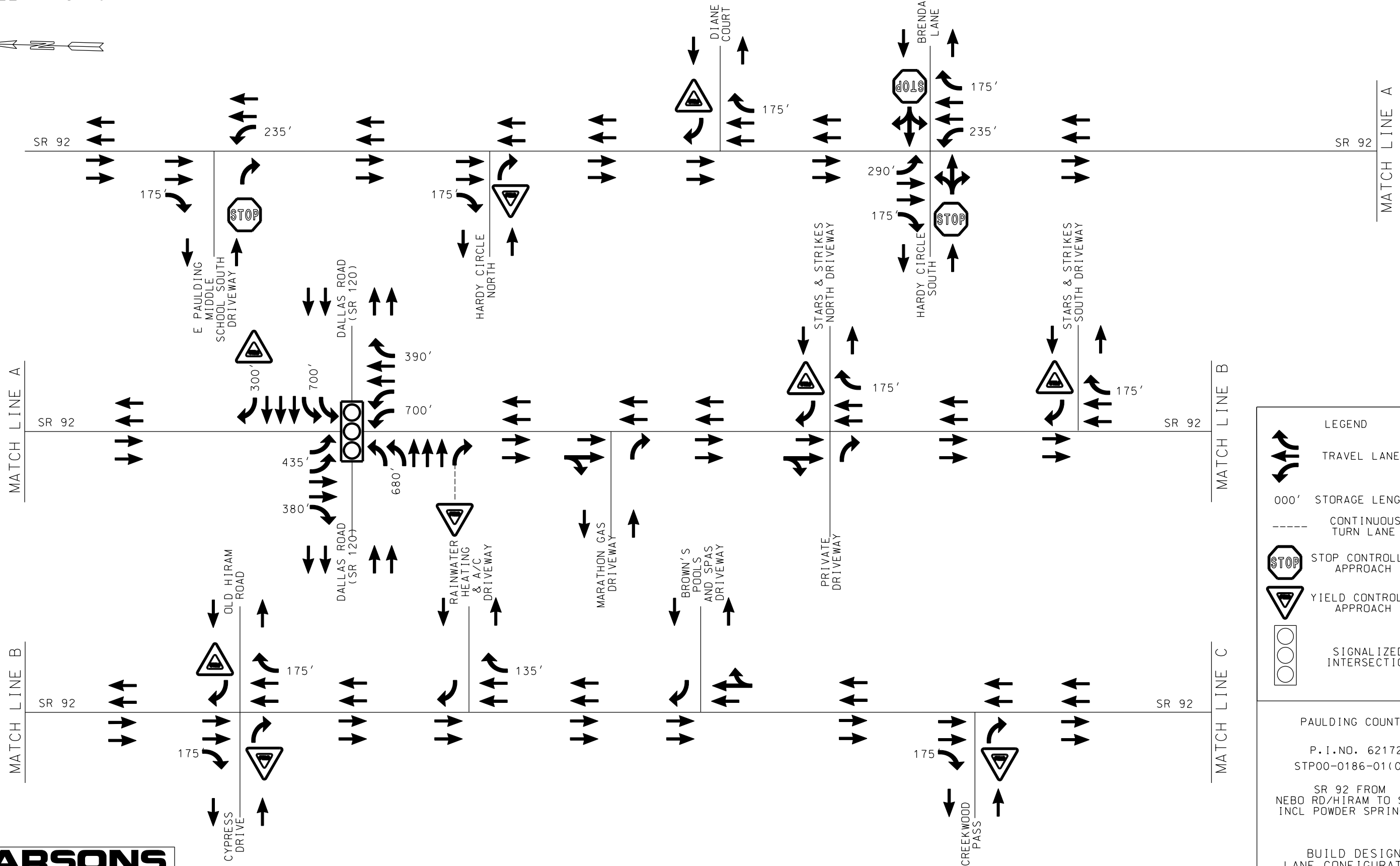
SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

2016 EXISTING
LANE CONFIGURATION

PARSONS

3577 PARKWAY LANE, SUITE 100
NORCROSS, GA 30092

NOTE: DRAWING IS NOT TO SCALE.



LEGEND	
	TRAVEL LANES
000'	STORAGE LENGTH
	CONTINUOUS TURN LANE
	STOP CONTROLLED APPROACH
	YIELD CONTROLLED APPROACH
	SIGNALIZED INTERSECTION

PAULDING COUNTY
 P.I.NO. 621720-STP00-0186-01(025)
 SR 92 FROM NEBO RD/HIRAM TO SR120 INCL POWDER SPRINGS CK
 BUILD DESIGN LANE CONFIGURATION

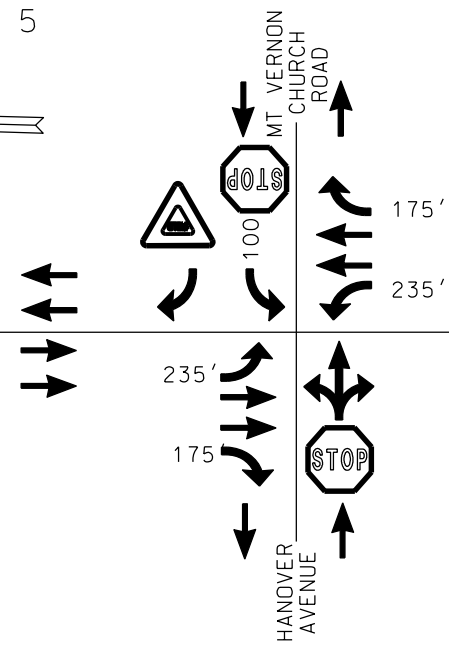
PARSONS
 3577 PARKWAY LANE, SUITE 100
 NORCROSS, GA 30092

NOTE: DRAWING IS NOT TO SCALE.



MATCH LINE C

SR 92

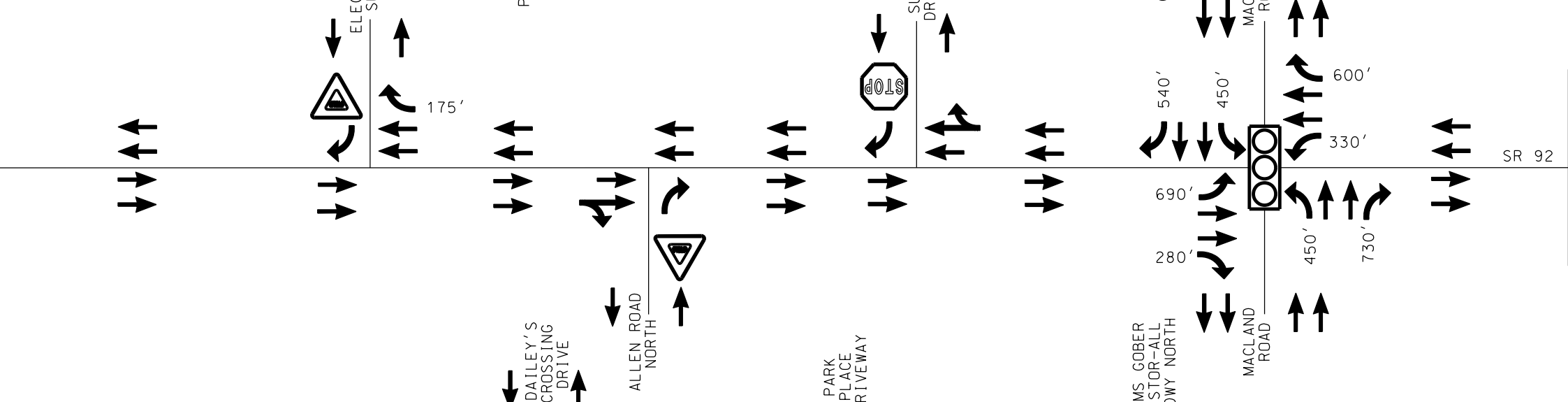


MATCH LINE D

SR 92

MATCH LINE D

SR 92

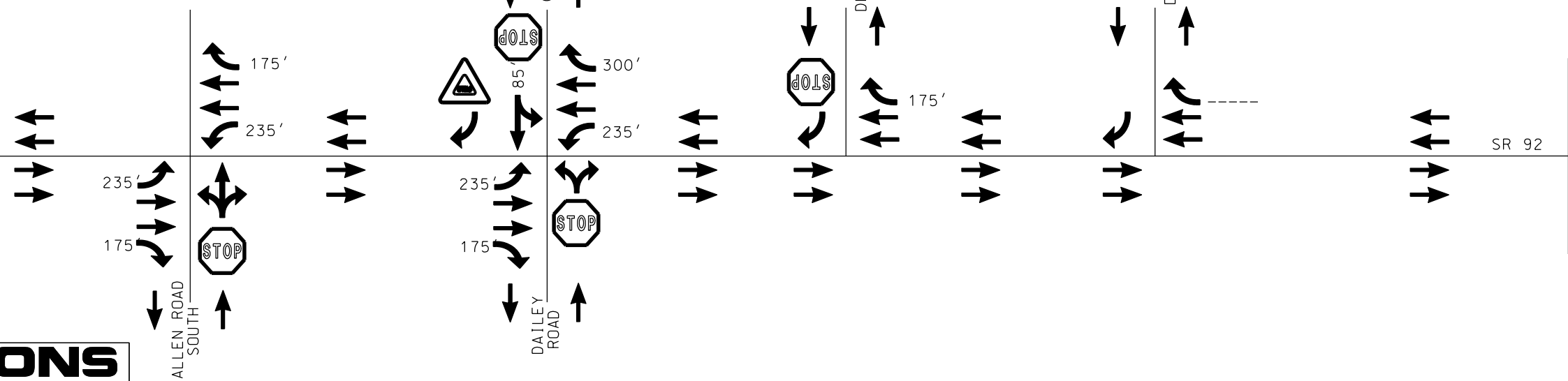


MATCH LINE E

SR 92

MATCH LINE E

SR 92



MATCH LINE F

SR 92

LEGEND	
	TRAVEL LANES
000'	STORAGE LENGTH
	CONTINUOUS TURN LANE
	STOP CONTROLLED APPROACH
	YIELD CONTROLLED APPROACH
	SIGNALIZED INTERSECTION

PAULDING COUNTY

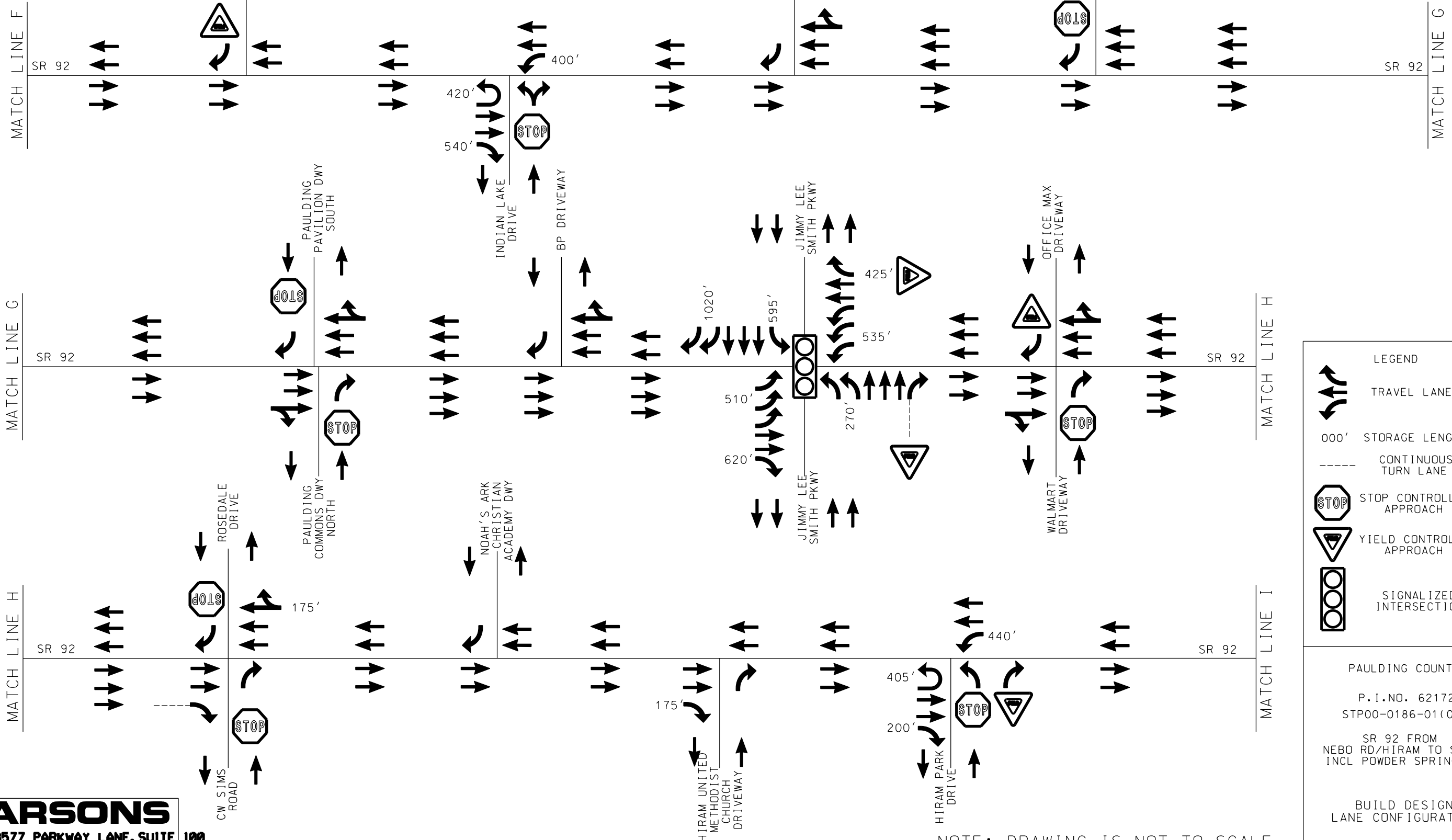
P.I.NO. 621720-STP00-0186-01(025)

SR 92 FROM NEBO RD/HIRAM TO SR120 INCL POWDER SPRINGS CK

BUILD DESIGN LANE CONFIGURATION

PARSONS
 3577 PARKWAY LANE, SUITE 100
 NORCROSS, GA 30092

NOTE: DRAWING IS NOT TO SCALE.



LEGEND	
	TRAVEL LANES
000'	STORAGE LENGTH
	CONTINUOUS TURN LANE
	STOP CONTROLLED APPROACH
	YIELD CONTROLLED APPROACH
	SIGNALIZED INTERSECTION

PAULDING COUNTY

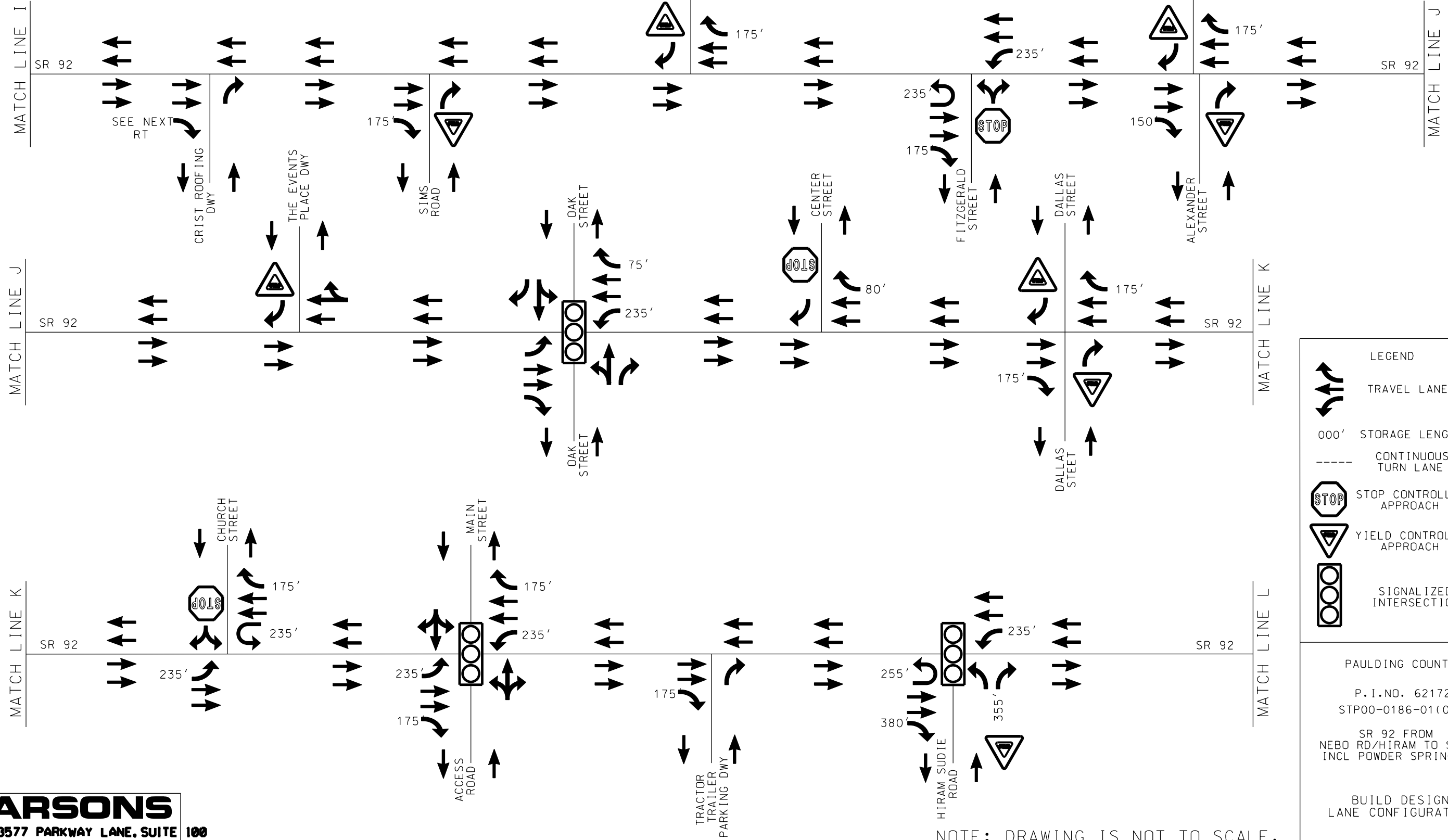
P. I. NO. 621720-STP00-0186-01(025)

SR 92 FROM NEBO RD/HIRAM TO SR120 INCL POWDER SPRINGS CK

BUILD DESIGN LANE CONFIGURATION

NOTE: DRAWING IS NOT TO SCALE.

PARSONS
 3577 PARKWAY LANE, SUITE 100
 NORCROSS, GA 30092

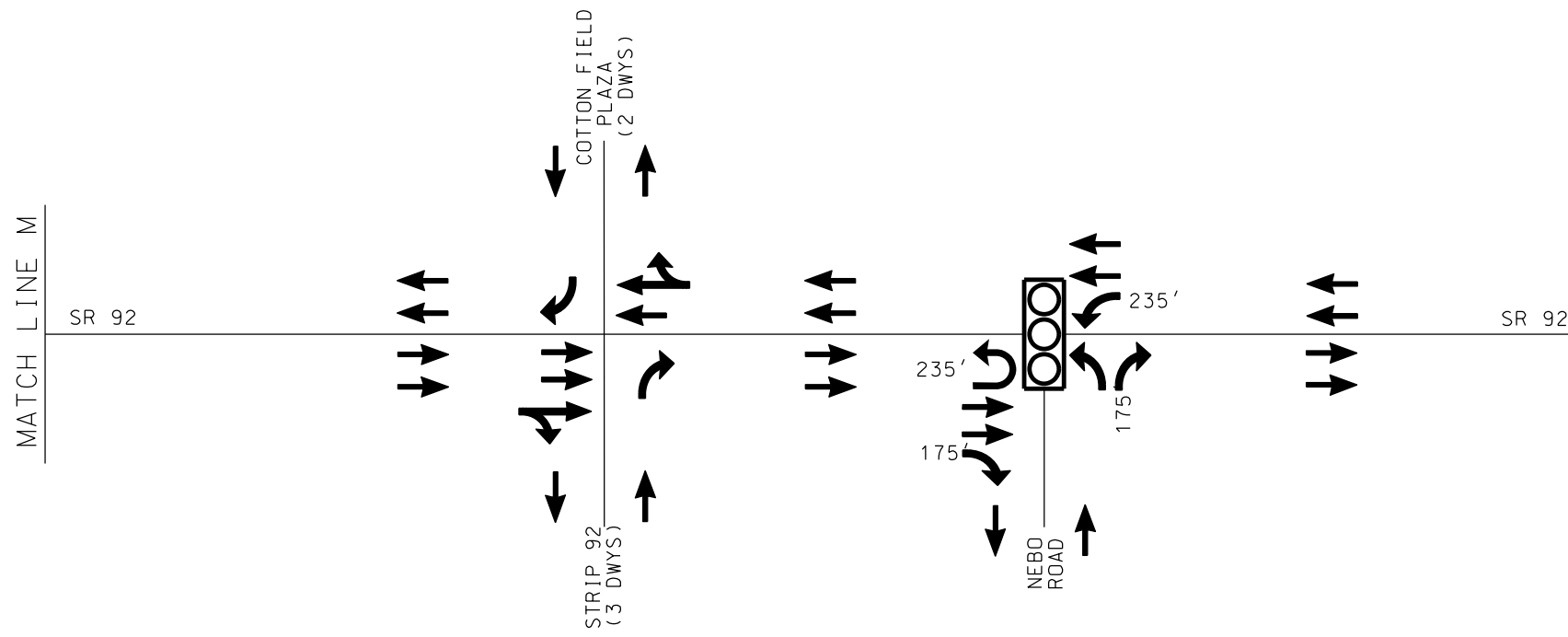
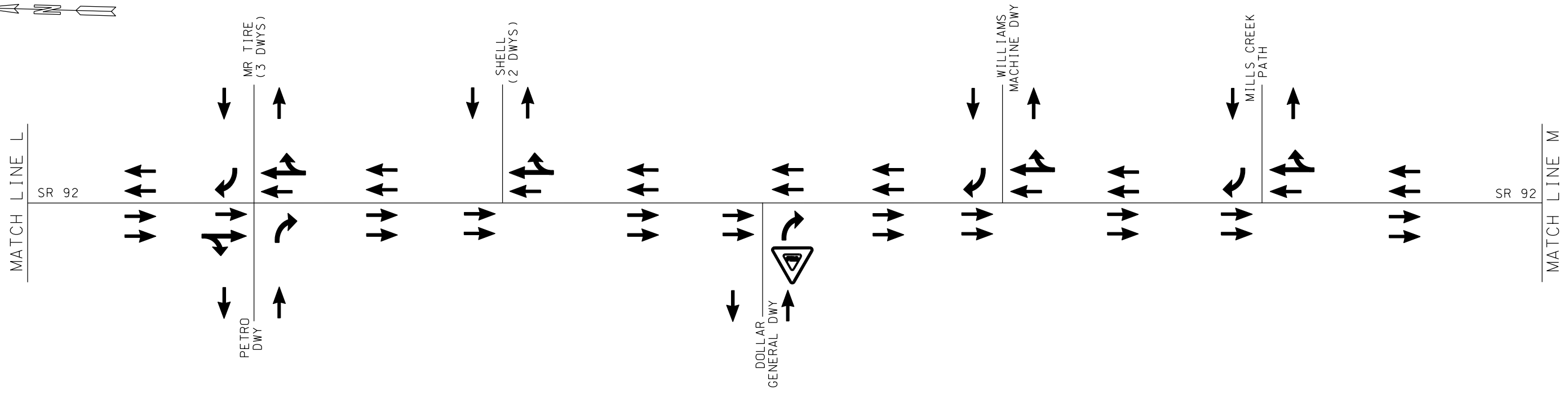


LEGEND	
	TRAVEL LANES
000'	STORAGE LENGTH
	CONTINUOUS TURN LANE
	STOP CONTROLLED APPROACH
	YIELD CONTROLLED APPROACH
	SIGNALIZED INTERSECTION

PAULDING COUNTY
 P.I.NO. 621720-STP00-0186-01(025)
 SR 92 FROM NEBO RD/HIRAM TO SR120 INCL POWDER SPRINGS CK
 BUILD DESIGN LANE CONFIGURATION

PARSONS
 3577 PARKWAY LANE, SUITE 100
 NORCROSS, GA 30092

NOTE: DRAWING IS NOT TO SCALE.



LEGEND	
	TRAVEL LANES
000'	STORAGE LENGTH
-----	CONTINUOUS TURN LANE
	STOP CONTROLLED APPROACH
	YIELD CONTROLLED APPROACH
	SIGNALIZED INTERSECTION

PAULDING COUNTY

P. I. NO. 621720-
STP00-0186-01(025)

SR 92 FROM
NEBO RD/HIRAM TO SR120
INCL POWDER SPRINGS CK

BUILD DESIGN
LANE CONFIGURATION

PARSONS
 3577 PARKWAY LANE, SUITE 100
 NORCROSS, GA 30092

NOTE: DRAWING IS NOT TO SCALE.

APPENDIX C

Synchro Reports

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	45	85	60	580	620	20
Future Vol, veh/h	45	85	60	580	620	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	0	175	-	-	145
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	84	84	93	93
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	71	135	71	690	667	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1500	667	0
Stage 1	667	-	-
Stage 2	833	-	-
Critical Hdwy	6.48	6.28	4.18
Critical Hdwy Stg 1	5.48	-	-
Critical Hdwy Stg 2	5.48	-	-
Follow-up Hdwy	3.572	3.372	2.272
Pot Cap-1 Maneuver	130	448	895
Stage 1	499	-	-
Stage 2	417	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	120	448	895
Mov Cap-2 Maneuver	120	-	-
Stage 1	499	-	-
Stage 2	384	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35.6	0.9	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	895	-	120	448	-	-
HCM Lane V/C Ratio	0.08	-	0.595	0.301	-	-
HCM Control Delay (s)	9.4	-	71.7	16.5	-	-
HCM Lane LOS	A	-	F	C	-	-
HCM 95th %tile Q(veh)	0.3	-	3	1.3	-	-

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	20	10	10	620	690	15
Future Vol, veh/h	20	10	10	620	690	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	84	84	87	87
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	25	13	12	738	793	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1555	793	793	0	-	0
Stage 1	793	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	124	389	802	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	461	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	121	389	802	-	-	-
Mov Cap-2 Maneuver	121	-	-	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	449	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35	0.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	802	-	157	-	-
HCM Lane V/C Ratio	0.015	-	0.239	-	-
HCM Control Delay (s)	9.6	0	35	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	0.9	-	-

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Traffic Vol, veh/h	0	0	10	5	0	0	20	630	5	0	700	0
Future Vol, veh/h	0	0	10	5	0	0	20	630	5	0	700	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	58	58	58	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	8	8	8	8	8	8
Mvmt Flow	0	0	14	9	0	0	22	700	6	0	778	0

























Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1525	1528	778	1532	1525	703	778	0	0	706	0	0
Stage 1	778	778	-	747	747	-	-	-	-	-	-	-
Stage 2	747	750	-	785	778	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.18	-	-	4.18	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.272	-	-	2.272	-	-
Pot Cap-1 Maneuver	96	117	396	95	118	438	813	-	-	865	-	-
Stage 1	389	407	-	405	420	-	-	-	-	-	-	-
Stage 2	405	419	-	386	407	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	93	112	396	88	113	438	813	-	-	865	-	-
Mov Cap-2 Maneuver	93	112	-	88	113	-	-	-	-	-	-	-
Stage 1	371	407	-	387	401	-	-	-	-	-	-	-
Stage 2	387	400	-	372	407	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.4	50.3	0.3	0
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	813	-	-	396	88	865	-	-
HCM Lane V/C Ratio	0.027	-	-	0.036	0.098	-	-	-
HCM Control Delay (s)	9.6	0	-	14.4	50.3	0	-	-
HCM Lane LOS	A	A	-	B	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.3	0	-	-

HCM 2010 Signalized Intersection Summary
8: SR 92 & Dallas Rd

Existing 2016 AM
05/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	255	1020	55	220	470	60	55	340	225	60	465	190
Future Volume (veh/h)	255	1020	55	220	470	60	55	340	225	60	465	190
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1681	1681	1681	1681	1681	1681	1583	1583	1583	1759	1759	1759
Adj Flow Rate, veh/h	297	1186	0	259	553	0	58	358	237	65	505	207
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.86	0.86	0.86	0.85	0.85	0.85	0.95	0.95	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	13	13	13	13	13	13	20	20	20	8	8	8
Cap, veh/h	465	1198	530	268	1143	505	151	491	417	224	548	466
Arrive On Green	0.14	0.38	0.00	0.12	0.36	0.00	0.04	0.31	0.31	0.04	0.31	0.31
Sat Flow, veh/h	1601	3195	1429	1601	3195	1429	1508	1583	1346	1675	1759	1495
Grp Volume(v), veh/h	297	1186	0	259	553	0	58	358	237	65	505	207
Grp Sat Flow(s),veh/h/ln	1601	1597	1429	1601	1597	1429	1508	1583	1346	1675	1759	1495
Q Serve(g_s), s	12.5	40.3	0.0	12.9	14.7	0.0	2.8	22.0	16.1	2.8	30.3	12.1
Cycle Q Clear(g_c), s	12.5	40.3	0.0	12.9	14.7	0.0	2.8	22.0	16.1	2.8	30.3	12.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	465	1198	530	268	1143	505	151	491	417	224	548	466
V/C Ratio(X)	0.64	0.99	0.00	0.97	0.48	0.00	0.38	0.73	0.57	0.29	0.92	0.44
Avail Cap(c_a), veh/h	580	1198	530	268	1143	505	163	491	417	234	548	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	33.9	0.0	30.9	27.3	0.0	28.4	33.6	31.6	26.1	36.3	30.1
Incr Delay (d2), s/veh	1.6	23.4	0.0	45.9	0.3	0.0	1.6	9.2	5.5	0.7	23.2	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	21.7	0.0	11.2	6.5	0.0	1.2	10.9	6.6	1.4	18.3	5.4
LnGrp Delay(d),s/veh	20.0	57.4	0.0	76.8	27.6	0.0	30.0	42.8	37.1	26.9	59.5	33.1
LnGrp LOS	C	E		E	C		C	D	D	C	E	C
Approach Vol, veh/h		1483			812			653			777	
Approach Delay, s/veh		49.9			43.3			39.6			49.7	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	37.9	17.6	45.0	8.6	38.1	19.5	43.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	33.4	13.1	40.5	5.0	33.4	22.9	30.7				
Max Q Clear Time (g_c+I1), s	4.8	24.0	14.9	42.3	4.8	32.3	14.5	16.7				
Green Ext Time (p_c), s	0.0	4.4	0.0	0.0	0.0	0.7	0.5	8.7				
Intersection Summary												
HCM 2010 Ctrl Delay			46.6									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	0	0	615	5	0	740
Future Vol, veh/h	0	0	615	5	0	740
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	150	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	38	38	90	90	94	94
Heavy Vehicles, %	2	2	20	20	20	20
Mvmt Flow	0	0	683	6	0	787

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1470	683	0	0	683	0
Stage 1	683	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.3	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.38	-
Pot Cap-1 Maneuver	140	449	-	-	831	-
Stage 1	502	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	140	449	-	-	831	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	449	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	-	831	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	0	5	0	0	0	5	615	0	0	735	5
Future Vol, veh/h	5	0	5	0	0	0	5	615	0	0	735	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	25	25	25	89	89	89	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	8	0	8	0	0	0	6	691	0	0	817	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1521	1521	819	1526	1524	691	822	0	0	691	0	0
Stage 1	819	819	-	702	702	-	-	-	-	-	-	-
Stage 2	702	702	-	824	822	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.38	-	-
Pot Cap-1 Maneuver	97	118	375	96	118	445	735	-	-	825	-	-
Stage 1	369	389	-	429	440	-	-	-	-	-	-	-
Stage 2	429	440	-	367	388	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	96	117	375	93	117	445	735	-	-	825	-	-
Mov Cap-2 Maneuver	96	117	-	93	117	-	-	-	-	-	-	-
Stage 1	366	389	-	425	436	-	-	-	-	-	-	-
Stage 2	425	436	-	359	388	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.4	0	0.1	0
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	735	-	-	153	-	825	-	-
HCM Lane V/C Ratio	0.008	-	-	0.109	-	-	-	-
HCM Control Delay (s)	9.9	-	-	31.4	0	0	-	-
HCM Lane LOS	A	-	-	D	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	-	0	-	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	5	5	5	615	735	5
Future Vol, veh/h	5	5	5	615	735	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	92	92	92	92
Heavy Vehicles, %	2	2	13	13	20	20
Mvmt Flow	6	6	5	668	799	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1481	802	804	0	-	0
Stage 1	802	-	-	-	-	-
Stage 2	679	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.23	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.317	-	-	-
Pot Cap-1 Maneuver	138	384	774	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	137	384	774	-	-	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	499	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	774	-	202	-	-
HCM Lane V/C Ratio	0.007	-	0.062	-	-
HCM Control Delay (s)	9.7	0	24	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↵		↶	↵	↶	↶	↵	↶	↶
Traffic Vol, veh/h	5	0	10	40	0	50	5	565	30	40	695	5
Future Vol, veh/h	5	0	10	40	0	50	5	565	30	40	695	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	100	-	0	260	-	280	180	-	280
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	77	77	77	96	96	96	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	13	13	13	13	13	13
Mvmt Flow	9	0	17	52	0	65	5	589	31	43	747	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1432	1432	747	1441	-	589	747	0	0	589	0	0
Stage 1	833	833	-	599	-	-	-	-	-	-	-	-
Stage 2	599	599	-	842	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.23	-	-	4.23	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.317	-	-	2.317	-	-
Pot Cap-1 Maneuver	112	134	413	110	0	508	814	-	-	934	-	-
Stage 1	363	384	-	488	0	-	-	-	-	-	-	-
Stage 2	488	490	-	359	0	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	94	127	413	101	-	508	814	-	-	934	-	-
Mov Cap-2 Maneuver	94	127	-	101	-	-	-	-	-	-	-	-
Stage 1	361	366	-	485	-	-	-	-	-	-	-	-
Stage 2	423	487	-	328	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	26.4	39.9	0.1	0.5
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	814	-	-	194	101	508	934	-	-
HCM Lane V/C Ratio	0.006	-	-	0.133	0.514	0.128	0.046	-	-
HCM Control Delay (s)	9.5	-	-	26.4	73.5	13.1	9	-	-
HCM Lane LOS	A	-	-	D	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	2.3	0.4	0.1	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	5	5	5	595	740	5
Future Vol, veh/h	5	5	5	595	740	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	155
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	93	90	86	86
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	7	7	5	661	860	6

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1532	860	0
Stage 1	860	-	-
Stage 2	672	-	-
Critical Hdwy	6.42	6.22	4.23
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.317
Pot Cap-1 Maneuver	128	356	737
Stage 1	414	-	-
Stage 2	508	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	127	356	737
Mov Cap-2 Maneuver	127	-	-
Stage 1	414	-	-
Stage 2	502	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.8	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	737	-	187	-	-
HCM Lane V/C Ratio	0.007	-	0.075	-	-
HCM Control Delay (s)	9.9	0	25.8	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↗			↑
Traffic Vol, veh/h	0	0	600	0	0	745
Future Vol, veh/h	0	0	600	0	0	745
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	93	93	85	85
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	645	0	0	876

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1521	645	0	0	-	-
Stage 1	645	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	130	472	-	-	0	-
Stage 1	522	-	-	-	0	-
Stage 2	407	-	-	-	0	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	130	472	-	-	-	-
Mov Cap-2 Maneuver	130	-	-	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	407	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↗	↗
Traffic Vol, veh/h	0	20	10	600	745	0
Future Vol, veh/h	0	20	10	600	745	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	87	87	86	86
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	27	11	690	866	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1579	866	866	0	0
Stage 1	866	-	-	-	-
Stage 2	713	-	-	-	-
Critical Hdwy	7.12	6.22	4.23	-	-
Critical Hdwy Stg 1	6.12	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.317	-	-
Pot Cap-1 Maneuver	88	353	733	-	-
Stage 1	348	-	-	-	-
Stage 2	423	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	87	353	733	-	-
Mov Cap-2 Maneuver	87	-	-	-	-
Stage 1	343	-	-	-	-
Stage 2	417	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	733	-	353	-	-
HCM Lane V/C Ratio	0.016	-	0.076	-	-
HCM Control Delay (s)	10	-	16	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 2010 Signalized Intersection Summary
 17: SR 92 & Macland Rd

Existing 2016 AM
 05/26/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	460	65	60	275	140	40	390	65	215	445	105
Future Volume (veh/h)	80	460	65	60	275	140	40	390	65	215	445	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1900	1696	1696	1696	1667	1667	1667	1681	1681	1900
Adj Flow Rate, veh/h	88	505	71	77	353	0	44	433	72	253	524	124
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.78	0.78	0.78	0.90	0.90	0.90	0.85	0.85	0.85
Percent Heavy Veh, %	12	12	12	12	12	12	14	14	14	13	13	13
Cap, veh/h	298	472	66	158	540	459	169	570	485	361	557	132
Arrive On Green	0.06	0.32	0.32	0.05	0.32	0.00	0.04	0.34	0.34	0.12	0.42	0.42
Sat Flow, veh/h	1616	1456	205	1616	1696	1442	1587	1667	1417	1601	1315	311
Grp Volume(v), veh/h	88	0	576	77	353	0	44	433	72	253	0	648
Grp Sat Flow(s),veh/h/ln	1616	0	1660	1616	1696	1442	1587	1667	1417	1601	0	1626
Q Serve(g_s), s	3.5	0.0	32.0	3.1	17.7	0.0	1.7	22.8	3.5	9.5	0.0	37.7
Cycle Q Clear(g_c), s	3.5	0.0	32.0	3.1	17.7	0.0	1.7	22.8	3.5	9.5	0.0	37.7
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	298	0	538	158	540	459	169	570	485	361	0	688
V/C Ratio(X)	0.30	0.00	1.07	0.49	0.65	0.00	0.26	0.76	0.15	0.70	0.00	0.94
Avail Cap(c_a), veh/h	302	0	538	168	546	464	195	570	485	371	0	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	0.0	33.4	25.5	29.0	0.0	23.8	28.9	22.5	19.9	0.0	27.3
Incr Delay (d2), s/veh	0.5	0.0	59.2	2.3	2.8	0.0	0.8	9.2	0.6	5.6	0.0	21.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	23.3	1.4	8.7	0.0	0.8	11.9	1.4	4.7	0.0	21.0
LnGrp Delay(d),s/veh	22.4	0.0	92.6	27.8	31.7	0.0	24.6	38.1	23.2	25.5	0.0	48.5
LnGrp LOS	C		F	C	C		C	D	C	C		D
Approach Vol, veh/h		664			430			549			901	
Approach Delay, s/veh		83.3			31.0			35.0			42.0	
Approach LOS		F			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	37.8	9.0	36.0	8.0	45.8	9.5	35.4				
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0				
Max Green Setting (Gmax), s	12.1	33.8	5.1	32.0	5.1	40.8	5.3	31.8				
Max Q Clear Time (g_c+I1), s	11.5	24.8	5.1	34.0	3.7	39.7	5.5	19.7				
Green Ext Time (p_c), s	0.0	4.4	0.0	0.0	0.0	0.7	0.0	4.4				
Intersection Summary												
HCM 2010 Ctrl Delay			49.4									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	0	0	0	15	0	15	0	480	10	10	560	0
Future Vol, veh/h	0	0	0	15	0	15	0	480	10	10	560	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	85	-	0	-	-	300	235	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	61	61	61	93	93	93	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	14	14	14
Mvmt Flow	0	0	0	25	0	25	0	516	11	11	622	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1160	1160	622	1160	1160	516	622	0	0	516	0	0
Stage 1	644	644	-	516	516	-	-	-	-	-	-	-
Stage 2	516	516	-	644	644	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.24	-	-	4.24	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.326	-	-	2.326	-	-
Pot Cap-1 Maneuver	172	195	487	172	195	559	903	-	-	991	-	-
Stage 1	461	468	-	542	534	-	-	-	-	-	-	-
Stage 2	542	534	-	461	468	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	163	193	487	171	193	559	903	-	-	991	-	-
Mov Cap-2 Maneuver	163	193	-	171	193	-	-	-	-	-	-	-
Stage 1	461	463	-	542	534	-	-	-	-	-	-	-
Stage 2	518	534	-	456	463	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	20.7	0	0.2
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	903	-	-	-	171	559	991	-	-
HCM Lane V/C Ratio	-	-	-	-	0.144	0.044	0.011	-	-
HCM Control Delay (s)	0	-	-	0	29.6	11.7	8.7	-	-
HCM Lane LOS	A	-	-	A	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.1	0	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	490	0	0	575
Future Vol, veh/h	0	0	490	0	0	575
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	88	88	89	89
Heavy Vehicles, %	2	2	14	14	14	14
Mvmt Flow	0	0	557	0	0	646

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1203	557	0	0	557	0
Stage 1	557	-	-	-	-	-
Stage 2	646	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.24	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.326	-
Pot Cap-1 Maneuver	204	530	-	-	956	-
Stage 1	574	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	204	530	-	-	956	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	574	-	-	-	-	-
Stage 2	522	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	956
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↖	↑	↗
Traffic Vol, veh/h	5	5	5	485	570	5
Future Vol, veh/h	5	5	5	485	570	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	60
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	88	88	87	87
Heavy Vehicles, %	2	2	12	12	12	12
Mvmt Flow	9	9	6	551	655	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1218	655	655	0	-	0
Stage 1	655	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.22	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.308	-	-	-
Pot Cap-1 Maneuver	199	466	886	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	197	466	886	-	-	-
Mov Cap-2 Maneuver	197	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	564	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	886	-	277	-	-
HCM Lane V/C Ratio	0.006	-	0.066	-	-
HCM Control Delay (s)	9.1	0	18.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↑			↑↑
Traffic Vol, veh/h	0	0	490	0	0	575
Future Vol, veh/h	0	0	490	0	0	575
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	89	89	89	89
Heavy Vehicles, %	2	2	12	12	12	12
Mvmt Flow	0	0	551	0	0	646

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	874	551	0
Stage 1	551	-	-
Stage 2	323	-	-
Critical Hdwy	7.33	6.23	-
Critical Hdwy Stg 1	6.13	-	-
Critical Hdwy Stg 2	6.53	-	-
Follow-up Hdwy	3.519	3.319	-
Pot Cap-1 Maneuver	257	533	0
Stage 1	518	-	0
Stage 2	664	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	257	533	-
Mov Cap-2 Maneuver	257	-	-
Stage 1	518	-	-
Stage 2	664	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↑	↖	↗	↕	
Traffic Vol, veh/h	25	5	45	5	5	20	95	445	20	25	520	30
Future Vol, veh/h	25	5	45	5	5	20	95	445	20	25	520	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	165	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	58	58	58	86	86	86	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	12	12	12	12	12	12
Mvmt Flow	33	7	60	9	9	34	110	517	23	28	584	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1417	1395	309	1090	1412	517	618	0	0	517	0	0
Stage 1	657	657	-	738	738	-	-	-	-	-	-	-
Stage 2	760	738	-	352	674	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.28	-	-	4.28	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.314	-	-	2.314	-	-
Pot Cap-1 Maneuver	106	141	688	181	137	557	904	-	-	989	-	-
Stage 1	421	461	-	409	423	-	-	-	-	-	-	-
Stage 2	397	423	-	639	453	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	83	120	688	141	117	557	904	-	-	989	-	-
Mov Cap-2 Maneuver	83	120	-	141	117	-	-	-	-	-	-	-
Stage 1	370	448	-	359	372	-	-	-	-	-	-	-
Stage 2	320	372	-	558	440	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	45.7	22	1.6	0.4
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	904	-	-	184	263	989	-	-
HCM Lane V/C Ratio	0.122	-	-	0.543	0.197	0.028	-	-
HCM Control Delay (s)	9.5	-	-	45.7	22	8.7	-	-
HCM Lane LOS	A	-	-	E	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2.8	0.7	0.1	-	-

HCM 2010 Signalized Intersection Summary
 24: SR 92 & Jimmy Lee Smith Pkwy

Existing 2016 AM
 05/26/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1140	125	105	710	170	160	340	205	245	270	55
Future Volume (veh/h)	50	1140	125	105	710	170	160	340	205	245	270	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1696	1696	1696	1696	1696	1696	1743	1743	1743	1696	1696	1696
Adj Flow Rate, veh/h	54	1239	0	111	747	179	184	391	0	261	287	59
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.87	0.87	0.87	0.94	0.94	0.94
Percent Heavy Veh, %	12	12	12	12	12	12	9	9	9	12	12	12
Cap, veh/h	67	1218	545	126	1336	598	337	409	347	287	466	396
Arrive On Green	0.04	0.38	0.00	0.08	0.41	0.41	0.08	0.23	0.00	0.12	0.27	0.27
Sat Flow, veh/h	1616	3223	1442	1616	3223	1442	1660	1743	1482	1616	1696	1442
Grp Volume(v), veh/h	54	1239	0	111	747	179	184	391	0	261	287	59
Grp Sat Flow(s),veh/h/ln	1616	1612	1442	1616	1612	1442	1660	1743	1482	1616	1696	1442
Q Serve(g_s), s	3.0	34.0	0.0	6.1	15.9	7.5	7.3	19.9	0.0	10.9	13.3	2.8
Cycle Q Clear(g_c), s	3.0	34.0	0.0	6.1	15.9	7.5	7.3	19.9	0.0	10.9	13.3	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	67	1218	545	126	1336	598	337	409	347	287	466	396
V/C Ratio(X)	0.81	1.02	0.00	0.88	0.56	0.30	0.55	0.96	0.00	0.91	0.62	0.15
Avail Cap(c_a), veh/h	136	1218	545	126	1336	598	337	409	347	287	466	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	28.0	0.0	41.1	20.1	17.6	24.8	34.0	0.0	24.2	28.5	24.7
Incr Delay (d2), s/veh	20.4	30.3	0.0	46.8	0.5	0.3	1.8	34.9	0.0	30.5	2.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	20.2	0.0	4.4	7.2	3.0	0.9	13.5	0.0	7.2	6.5	1.1
LnGrp Delay(d),s/veh	63.2	58.3	0.0	87.9	20.6	17.9	26.6	68.9	0.0	54.7	31.0	24.9
LnGrp LOS	E	F		F	C	B	C	E		D	C	C
Approach Vol, veh/h		1293			1037			575			607	
Approach Delay, s/veh		58.5			27.4			55.4			40.6	
Approach LOS		E			C			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	25.1	11.5	38.0	11.8	28.7	8.2	41.3				
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0				
Max Green Setting (Gmax), s	10.9	21.1	7.0	34.0	7.3	24.7	7.6	33.4				
Max Q Clear Time (g_c+I1), s	12.9	21.9	8.1	36.0	9.3	15.3	5.0	17.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.8	0.0	11.3				
Intersection Summary												
HCM 2010 Ctrl Delay			45.7									
HCM 2010 LOS			D									

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↘	
Traffic Vol, veh/h	60	70	110	660	405	95
Future Vol, veh/h	60	70	110	660	405	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	89	89	92	92
Heavy Vehicles, %	2	2	9	9	6	6
Mvmt Flow	64	74	124	742	440	103

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1110	492	543	0	-	0
Stage 1	492	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.235	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.2855	-	-	-
Pot Cap-1 Maneuver	217	576	983	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	190	576	983	-	-	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	438	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.3	1.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	983	-	297	-	-
HCM Lane V/C Ratio	0.126	-	0.466	-	-
HCM Control Delay (s)	9.2	-	27.3	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.4	-	2.3	-	-

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	10	15	5	100	25	670	65	105	370	0
Future Vol, veh/h	0	5	10	15	5	100	25	670	65	105	370	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	47	47	47	94	94	94	92	92	92	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	9	9	9	9	9	9
Mvmt Flow	0	11	21	16	5	106	27	728	71	118	416	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1526	1505	416	1486	1470	764	416	0	0	799	0	0
Stage 1	652	652	-	818	818	-	-	-	-	-	-	-
Stage 2	874	853	-	668	652	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.19	-	-	4.19	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.281	-	-	2.281	-	-
Pot Cap-1 Maneuver	96	121	637	103	127	404	1106	-	-	794	-	-
Stage 1	457	464	-	370	390	-	-	-	-	-	-	-
Stage 2	344	376	-	448	464	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	56	93	637	75	98	404	1106	-	-	794	-	-
Mov Cap-2 Maneuver	56	93	-	75	98	-	-	-	-	-	-	-
Stage 1	436	374	-	353	372	-	-	-	-	-	-	-
Stage 2	239	359	-	340	374	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.5	35.6	0.3	2.3
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1106	-	-	216	241	794	-	-
HCM Lane V/C Ratio	0.025	-	-	0.148	0.53	0.149	-	-
HCM Control Delay (s)	8.3	0	-	24.5	35.6	10.3	0	-
HCM Lane LOS	A	A	-	C	E	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	2.8	0.5	-	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↘
Traffic Vol, veh/h	0	5	5	760	395	0
Future Vol, veh/h	0	5	5	760	395	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	85	130	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	56	56	94	94	86	86
Heavy Vehicles, %	2	2	10	10	9	9
Mvmt Flow	0	9	5	809	459	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1278	459	0
Stage 1	459	-	-
Stage 2	819	-	-
Critical Hdwy	6.42	6.22	4.2
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.29
Pot Cap-1 Maneuver	183	602	1061
Stage 1	636	-	-
Stage 2	433	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	182	602	1061
Mov Cap-2 Maneuver	182	-	-
Stage 1	636	-	-
Stage 2	431	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	1061	-	-	602	-
HCM Lane V/C Ratio	0.005	-	-	0.015	-
HCM Control Delay (s)	8.4	-	0	11.1	-
HCM Lane LOS	A	-	A	B	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	0	0	0	765	400	0
Future Vol, veh/h	0	0	0	765	400	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	31	31	92	92	85	85
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	0	0	832	471	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1303	471	0
Stage 1	471	-	-
Stage 2	832	-	-
Critical Hdwy	6.42	6.22	4.2
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.29
Pot Cap-1 Maneuver	177	593	1050
Stage 1	628	-	-
Stage 2	427	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	177	593	1050
Mov Cap-2 Maneuver	177	-	-
Stage 1	628	-	-
Stage 2	427	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1050	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	5	30	735	20	35	365
Future Vol, veh/h	5	30	735	20	35	365
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	46	46	92	92	85	85
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	11	65	799	22	41	429

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1322	810	0	0	821	0
Stage 1	810	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.2	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.29	-
Pot Cap-1 Maneuver	173	380	-	-	774	-
Stage 1	438	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	161	380	-	-	774	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	438	-	-	-	-	-
Stage 2	560	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	19.8		0		0.9
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 318	774	-
HCM Lane V/C Ratio	-	- 0.239	0.053	-
HCM Control Delay (s)	-	- 19.8	9.9	0
HCM Lane LOS	-	- C	A	A
HCM 95th %tile Q(veh)	-	- 0.9	0.2	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	5	5	5	750	370	0
Future Vol, veh/h	5	5	5	750	370	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	97	97	86	86
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	10	10	5	773	430	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1214	430	430	0	-	0
Stage 1	430	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-	-
Pot Cap-1 Maneuver	201	625	1088	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	199	625	1088	-	-	-
Mov Cap-2 Maneuver	199	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	446	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1088	-	302	-	-
HCM Lane V/C Ratio	0.005	-	0.066	-	-
HCM Control Delay (s)	8.3	0	17.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	5	755	0	0	375	0
Future Vol, veh/h	0	0	0	0	0	0	5	755	0	0	375	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	96	96	96	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0	5	786	0	0	441	0













Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1238	1238	441	1238	1238	786	441	0	0	786	0	0
Stage 1	441	441	-	797	797	-	-	-	-	-	-	-
Stage 2	797	797	-	441	441	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	152	176	616	152	176	392	1078	-	-	798	-	-
Stage 1	595	577	-	380	399	-	-	-	-	-	-	-
Stage 2	380	399	-	595	577	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	151	175	616	151	175	392	1078	-	-	798	-	-
Mov Cap-2 Maneuver	151	175	-	151	175	-	-	-	-	-	-	-
Stage 1	590	577	-	377	396	-	-	-	-	-	-	-
Stage 2	377	396	-	595	577	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0.1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1078	-	-	-	798	-	-
HCM Lane V/C Ratio	0.005	-	-	-	-	-	-
HCM Control Delay (s)	8.4	0	-	0	0	-	-
HCM Lane LOS	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0	-	-

HCM 2010 Signalized Intersection Summary
32: SR 92 & Oak Street

Existing 2016 AM
05/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (veh/h)	5	5	0	80	5	20	0	735	50	20	350	5
Future Volume (veh/h)	5	5	0	80	5	20	0	735	50	20	350	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1610	1610	1900	1610	1610	1900
Adj Flow Rate, veh/h	10	10	0	104	6	26	0	782	53	23	398	6
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.52	0.52	0.52	0.77	0.77	0.77	0.94	0.94	0.94	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	18	18	18	18	18	18
Cap, veh/h	157	130	0	222	11	33	105	1005	68	338	1211	18
Arrive On Green	0.12	0.12	0.00	0.12	0.12	0.12	0.00	0.67	0.67	0.03	0.77	0.77
Sat Flow, veh/h	665	1095	0	1100	93	282	845	1491	101	1533	1582	24
Grp Volume(v), veh/h	20	0	0	136	0	0	0	0	835	23	0	404
Grp Sat Flow(s),veh/h/ln	1760	0	0	1475	0	0	845	0	1592	1533	0	1606
Q Serve(g_s), s	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	24.7	0.3	0.0	5.4
Cycle Q Clear(g_c), s	0.7	0.0	0.0	6.1	0.0	0.0	0.0	0.0	24.7	0.3	0.0	5.4
Prop In Lane	0.50		0.00	0.76		0.19	1.00		0.06	1.00		0.01
Lane Grp Cap(c), veh/h	287	0	0	267	0	0	105	0	1074	338	0	1229
V/C Ratio(X)	0.07	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.78	0.07	0.00	0.33
Avail Cap(c_a), veh/h	467	0	0	432	0	0	105	0	1074	412	0	1307
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	0.0	29.4	0.0	0.0	0.0	0.0	7.7	7.7	0.0	2.5
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.5	0.0	0.0	0.0	0.0	5.6	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	2.6	0.0	0.0	0.0	0.0	12.3	0.2	0.0	2.4
LnGrp Delay(d),s/veh	27.1	0.0	0.0	30.9	0.0	0.0	0.0	0.0	13.2	7.8	0.0	2.7
LnGrp LOS	C			C					B	A		A
Approach Vol, veh/h		20			136			835				427
Approach Delay, s/veh		27.1			30.9			13.2				3.0
Approach LOS		C			C			B				A
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	6.3	50.4		12.1		56.7		12.1				
Change Period (Y+Rc), s	4.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	5.1	46.4		16.0		56.0		16.0				
Max Q Clear Time (g_c+I1), s	2.3	26.7		2.7		7.4		8.1				
Green Ext Time (p_c), s	0.0	8.5		0.7		11.3		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				12.0								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	785	5	0	430
Future Vol, veh/h	0	0	785	5	0	430
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	33	33	94	94	88	88
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	0	0	835	5	0	489

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1327	838	0	0	840	0
Stage 1	838	-	-	-	-	-
Stage 2	489	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.28	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	171	366	-	-	730	-
Stage 1	424	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	171	366	-	-	730	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	424	-	-	-	-	-
Stage 2	616	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	730
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	5	5	0	5	5	785	5	5	425	0
Future Vol, veh/h	0	0	5	5	0	5	5	785	5	5	425	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	45	50	50	50	96	96	96	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	18	18	18	18	18	18
Mvmt Flow	0	0	11	10	0	10	5	818	5	6	472	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1319	1316	472	1320	1314	820	472	0	0	823	0	0
Stage 1	483	483	-	831	831	-	-	-	-	-	-	-
Stage 2	836	833	-	489	483	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.28	-	-	4.28	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.362	-	-	2.362	-	-
Pot Cap-1 Maneuver	134	158	592	134	158	375	1011	-	-	741	-	-
Stage 1	565	553	-	364	384	-	-	-	-	-	-	-
Stage 2	362	384	-	561	553	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	128	155	592	129	155	375	1011	-	-	741	-	-
Mov Cap-2 Maneuver	128	155	-	129	155	-	-	-	-	-	-	-
Stage 1	560	547	-	361	381	-	-	-	-	-	-	-
Stage 2	349	381	-	544	547	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	25.9	0.1	0.1
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1011	-	-	592	192	741	-	-
HCM Lane V/C Ratio	0.005	-	-	0.019	0.104	0.007	-	-
HCM Control Delay (s)	8.6	0	-	11.2	25.9	9.9	0	-
HCM Lane LOS	A	A	-	B	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	5	15	780	10	15	420
Future Vol, veh/h	5	15	780	10	15	420
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	46	46	94	94	91	91
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	11	33	830	11	16	462

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1330	835	0	0	840	0
Stage 1	835	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.28	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	171	368	-	-	730	-
Stage 1	426	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	166	368	-	-	730	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	595	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	20.1		0		0.3
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 282	730	-
HCM Lane V/C Ratio	-	- 0.154	0.023	-
HCM Control Delay (s)	-	- 20.1	10	0
HCM Lane LOS	-	- C	B	A
HCM 95th %tile Q(veh)	-	- 0.5	0.1	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	790	10	0	425
Future Vol, veh/h	0	0	790	10	0	425
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	86	86
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	0	0	859	11	0	494

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1358	864	0	0	870	0
Stage 1	864	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.28	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	164	354	-	-	711	-
Stage 1	413	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	164	354	-	-	711	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	711
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	10	0	800	75	0	425
Future Vol, veh/h	10	0	800	75	0	425
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	54	54	91	91	86	86
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	19	0	879	82	0	494

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1414	920	0	0	962	0
Stage 1	920	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.28	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	152	328	-	-	655	-
Stage 1	388	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	152	328	-	-	655	-
Mov Cap-2 Maneuver	152	-	-	-	-	-
Stage 1	388	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	31.9		0		0
HCM LOS	D				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 152	655	-
HCM Lane V/C Ratio	-	- 0.122	-	-
HCM Control Delay (s)	-	- 31.9	0	-
HCM Lane LOS	-	- D	A	-
HCM 95th %tile Q(veh)	-	- 0.4	0	-

HCM Signalized Intersection Capacity Analysis
38: SR 92 & Hiram Sudie Road

Existing 2016 AM
05/26/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	215	60	70	660	0	280	155
Future Volume (vph)	215	60	70	660	0	280	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1719	3438		3438	1538
Flt Permitted	0.95	1.00	0.50	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	905	3438		3438	1538
Peak-hour factor, PHF	0.77	0.77	0.89	0.89	0.95	0.86	0.86
Adj. Flow (vph)	279	78	79	742	0	326	180
RTOR Reduction (vph)	0	60	0	0	0	0	88
Lane Group Flow (vph)	279	18	79	742	0	326	92
Heavy Vehicles (%)	2%	2%	5%	5%	2%	5%	5%
Turn Type	Prot	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases	7		5	2		6	
Permitted Phases		7	2		6		6
Actuated Green, G (s)	16.0	16.0	46.3	46.3		36.1	36.1
Effective Green, g (s)	16.5	16.0	46.8	46.3		36.1	36.1
Actuated g/C Ratio	0.23	0.23	0.66	0.65		0.51	0.51
Clearance Time (s)	4.5	4.5	4.5	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	412	357	669	2248		1752	784
v/s Ratio Prot	c0.16		0.01	c0.22		0.09	
v/s Ratio Perm		0.01	0.07				0.06
v/c Ratio	0.68	0.05	0.12	0.33		0.19	0.12
Uniform Delay, d1	24.7	21.4	4.4	5.4		9.4	9.0
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.4	0.1	0.1	0.4		0.1	0.1
Delay (s)	29.1	21.5	4.5	5.8		9.4	9.1
Level of Service	C	C	A	A		A	A
Approach Delay (s)	27.4			5.7		9.3	
Approach LOS	C			A		A	

Intersection Summary

HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	70.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
39: SR 92 & Nebo Rd

Existing 2016 AM
05/26/2017



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	145	25	20	585	280	60
Future Volume (vph)	145	25	20	585	280	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1719	3438	1810	1538
Flt Permitted	0.95	1.00	0.46	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	840	3438	1810	1538
Peak-hour factor, PHF	0.75	0.75	0.91	0.91	0.76	0.76
Adj. Flow (vph)	193	33	22	643	368	79
RTOR Reduction (vph)	0	27	0	0	0	30
Lane Group Flow (vph)	193	6	22	643	368	49
Heavy Vehicles (%)	2%	2%	5%	5%	5%	5%
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	13.2	13.2	54.2	54.2	47.6	47.6
Effective Green, g (s)	13.7	13.2	54.7	54.7	47.6	47.6
Actuated g/C Ratio	0.18	0.17	0.72	0.72	0.62	0.62
Clearance Time (s)	4.5	4.5	4.5	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	317	273	637	2461	1127	958
v/s Ratio Prot			0.00	c0.19	c0.20	
v/s Ratio Perm	c0.11	0.00	0.02			0.03
v/c Ratio	0.61	0.02	0.03	0.26	0.33	0.05
Uniform Delay, d1	28.9	26.2	3.5	3.8	6.8	5.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.0	0.0	0.1	0.8	0.1
Delay (s)	32.2	26.3	3.5	3.8	7.6	5.7
Level of Service	C	C	A	A	A	A
Approach Delay (s)	31.3			3.8	7.3	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	76.4	Sum of lost time (s)	12.5
Intersection Capacity Utilization	31.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Arterial Level of Service: NB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Nebo Rd	I	45	10.0	4.7	14.7	0.10	23.5	D
Hiram Sudie Road	I	45	31.8	6.6	38.4	0.32	30.1	C
Oak Street	I	40	60.9	15.1	76.0	0.67	32.0	C
Jimmy Lee Smith Pkwy	I	44	74.6	71.3	145.9	0.91	22.6	D
Macland Rd	I	45	99.6	38.4	138.0	1.25	32.5	C
Dallas Rd	I	50	74.4	43.1	117.5	1.03	31.6	C
E Paulding Dr	I	50	91.5	25.1	116.6	1.27	39.2	B
Total	I		442.8	204.3	647.1	5.55	30.9	C

Arterial Level of Service: SB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Paulding Dr	I	50	10.7	23.4	34.1	0.11	11.3	F
Dallas Rd	I	50	91.5	59.4	150.9	1.27	30.3	C
Macland Rd	I	50	84.4	39.5	123.9	1.17	34.0	B
Jimmy Lee Smith Pkwy	I	45	99.6	35.3	134.9	1.25	33.2	C
Oak Street	I	44	74.6	4.5	79.1	0.91	41.6	B
Hiram Sudie Road	I	40	60.9	11.2	72.1	0.67	33.7	C
Nebo Rd	I	45	31.8	8.7	40.5	0.32	28.6	C
Total	I		453.5	182.0	635.5	5.70	32.3	C

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	25	40	25	650	615	10
Future Vol, veh/h	25	40	25	650	615	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	0	175	-	-	145
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	34	34	89	89	85	85
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	74	118	28	730	724	12

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1511	724	0
Stage 1	724	-	-
Stage 2	787	-	-
Critical Hdwy	6.47	6.27	4.17
Critical Hdwy Stg 1	5.47	-	-
Critical Hdwy Stg 2	5.47	-	-
Follow-up Hdwy	3.563	3.363	2.263
Pot Cap-1 Maneuver	129	417	856
Stage 1	471	-	-
Stage 2	440	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	125	417	856
Mov Cap-2 Maneuver	125	-	-
Stage 1	471	-	-
Stage 2	426	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.8	0.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	856	-	125	417	-	-
HCM Lane V/C Ratio	0.033	-	0.588	0.282	-	-
HCM Control Delay (s)	9.3	-	68.5	17	-	-
HCM Lane LOS	A	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	2.9	1.1	-	-

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	15	10	15	660	635	20
Future Vol, veh/h	15	10	15	660	635	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	93	93	86	86
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	21	14	16	710	738	23

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1480	738	738	0	0
Stage 1	738	-	-	-	-
Stage 2	742	-	-	-	-
Critical Hdwy	7.12	6.22	4.17	-	-
Critical Hdwy Stg 1	6.12	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-
Pot Cap-1 Maneuver	104	418	846	-	-
Stage 1	410	-	-	-	-
Stage 2	408	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	102	418	846	-	-
Mov Cap-2 Maneuver	102	-	-	-	-
Stage 1	397	-	-	-	-
Stage 2	395	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	37.5	0.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	846	-	146	-	-
HCM Lane V/C Ratio	0.019	-	0.245	-	-
HCM Control Delay (s)	9.3	0	37.5	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	↕
Traffic Vol, veh/h	0	0	15	5	0	0	25	675	5	0	645	0
Future Vol, veh/h	0	0	15	5	0	0	25	675	5	0	645	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	55	55	55	94	94	94	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	0	0	23	9	0	0	27	718	5	0	701	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1475	1478	701	1487	1475	721	701	0	0	723	0	0
Stage 1	701	701	-	774	774	-	-	-	-	-	-	-
Stage 2	774	777	-	713	701	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	104	126	439	103	126	427	873	-	-	857	-	-
Stage 1	429	441	-	391	408	-	-	-	-	-	-	-
Stage 2	391	407	-	423	441	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	100	119	439	94	119	427	873	-	-	857	-	-
Mov Cap-2 Maneuver	100	119	-	94	119	-	-	-	-	-	-	-
Stage 1	407	441	-	371	387	-	-	-	-	-	-	-
Stage 2	371	386	-	400	441	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	47.4	0.3	0
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	873	-	-	439	94	857	-	-
HCM Lane V/C Ratio	0.03	-	-	0.053	0.097	-	-	-
HCM Control Delay (s)	9.3	0	-	13.7	47.4	0	-	-
HCM Lane LOS	A	A	-	B	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.3	0	-	-

HCM 2010 Signalized Intersection Summary
8: SR 92 & Dallas Rd

Existing 2016 PM
05/26/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	175	585	50	240	1060	65	70	465	185	60	370	235
Future Volume (veh/h)	175	585	50	240	1060	65	70	465	185	60	370	235
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1681	1681	1681	1681	1681	1681	1638	1638	1638	1776	1776	1776
Adj Flow Rate, veh/h	184	616	0	267	1178	0	74	489	195	71	440	280
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.95	0.95	0.95	0.84	0.84	0.84
Percent Heavy Veh, %	13	13	13	13	13	13	16	16	16	7	7	7
Cap, veh/h	215	1092	482	405	1222	540	216	556	473	183	597	507
Arrive On Green	0.09	0.34	0.00	0.13	0.38	0.00	0.05	0.34	0.34	0.04	0.34	0.34
Sat Flow, veh/h	1601	3195	1429	1601	3195	1429	1560	1638	1392	1691	1776	1509
Grp Volume(v), veh/h	184	616	0	267	1178	0	74	489	195	71	440	280
Grp Sat Flow(s),veh/h/ln	1601	1597	1429	1601	1597	1429	1560	1638	1392	1691	1776	1509
Q Serve(g_s), s	8.1	17.3	0.0	11.2	39.6	0.0	3.4	30.9	11.8	3.0	24.0	16.6
Cycle Q Clear(g_c), s	8.1	17.3	0.0	11.2	39.6	0.0	3.4	30.9	11.8	3.0	24.0	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	215	1092	482	405	1222	540	216	556	473	183	597	507
V/C Ratio(X)	0.86	0.56	0.00	0.66	0.96	0.00	0.34	0.88	0.41	0.39	0.74	0.55
Avail Cap(c_a), veh/h	215	1092	482	468	1222	540	219	556	473	192	597	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	29.5	0.0	19.9	33.2	0.0	24.8	34.1	27.9	26.7	32.2	29.7
Incr Delay (d2), s/veh	27.2	0.7	0.0	2.8	17.8	0.0	0.9	17.8	2.6	1.3	7.9	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	7.7	0.0	5.2	20.4	0.0	1.5	16.7	4.9	1.4	13.0	7.5
LnGrp Delay(d),s/veh	53.8	30.1	0.0	22.7	50.9	0.0	25.7	51.9	30.5	28.0	40.1	34.0
LnGrp LOS	D	C		C	D		C	D	C	C	D	C
Approach Vol, veh/h		800			1445			758			791	
Approach Delay, s/veh		35.6			45.7			43.9			36.9	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	41.3	18.1	41.5	9.3	40.9	13.6	46.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	36.4	17.9	32.7	5.0	36.4	9.1	41.5				
Max Q Clear Time (g_c+I1), s	5.0	32.9	13.2	19.3	5.4	26.0	10.1	41.6				
Green Ext Time (p_c), s	0.0	2.2	0.3	8.7	0.0	5.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				41.4								
HCM 2010 LOS				D								

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↑	↗	↔	↑
Traffic Vol, veh/h	5	5	710	10	5	655
Future Vol, veh/h	5	5	710	10	5	655
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	150	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	93	93	90	90
Heavy Vehicles, %	2	2	16	16	16	16
Mvmt Flow	5	5	763	11	6	728

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1502	763	0	0	763	0
Stage 1	763	-	-	-	-	-
Stage 2	739	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.26	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.344	-
Pot Cap-1 Maneuver	134	404	-	-	790	-
Stage 1	460	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	133	404	-	-	790	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	460	-	-	-	-	-
Stage 2	468	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	23.6		0		0.1
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	133	404	790	-
HCM Lane V/C Ratio	-	-	0.041	0.013	0.007	-
HCM Control Delay (s)	-	-	33.2	14	9.6	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↑	↑		↑	↑	
Traffic Vol, veh/h	5	0	5	0	0	0	10	715	0	0	650	10
Future Vol, veh/h	5	0	5	0	0	0	10	715	0	0	650	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	25	25	25	95	95	95	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	16	16	16	16	16	16
Mvmt Flow	7	0	7	0	0	0	11	753	0	0	730	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1510	1510	736	1514	1516	753	742	0	0	753	0	0
Stage 1	736	736	-	774	774	-	-	-	-	-	-	-
Stage 2	774	774	-	740	742	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.26	-	-	4.26	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.344	-	-	2.344	-	-
Pot Cap-1 Maneuver	99	120	419	98	119	410	805	-	-	797	-	-
Stage 1	411	425	-	391	408	-	-	-	-	-	-	-
Stage 2	391	408	-	409	422	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	98	118	419	95	117	410	805	-	-	797	-	-
Mov Cap-2 Maneuver	98	118	-	95	117	-	-	-	-	-	-	-
Stage 1	405	425	-	386	402	-	-	-	-	-	-	-
Stage 2	386	402	-	402	422	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.9	0	0.1	0
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	805	-	-	159	-	797	-	-
HCM Lane V/C Ratio	0.013	-	-	0.091	-	-	-	-
HCM Control Delay (s)	9.5	-	-	29.9	0	0	-	-
HCM Lane LOS	A	-	-	D	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	-	0	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	5	5	5	720	650	5
Future Vol, veh/h	5	5	5	720	650	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	92	92
Heavy Vehicles, %	2	2	10	10	16	16
Mvmt Flow	8	8	5	791	707	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1511	709	712	0	-	0
Stage 1	709	-	-	-	-	-
Stage 2	802	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-	-
Pot Cap-1 Maneuver	132	434	852	-	-	-
Stage 1	488	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	131	434	852	-	-	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	488	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.4	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	852	-	201	-	-
HCM Lane V/C Ratio	0.006	-	0.079	-	-
HCM Control Delay (s)	9.3	0	24.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↵		↶	↵	↶	↶	↵	↶	↶
Traffic Vol, veh/h	5	0	10	35	0	50	10	670	35	50	600	5
Future Vol, veh/h	5	0	10	35	0	50	10	670	35	50	600	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	100	-	0	260	-	280	180	-	280
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	59	59	59	58	58	58	95	95	95	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	10	10	10	10	10	10
Mvmt Flow	8	0	17	60	0	86	11	705	37	56	674	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1513	1513	674	1521	-	705	674	0	0	705	0	0
Stage 1	787	787	-	726	-	-	-	-	-	-	-	-
Stage 2	726	726	-	795	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	98	120	455	97	0	436	881	-	-	857	-	-
Stage 1	385	403	-	416	0	-	-	-	-	-	-	-
Stage 2	416	430	-	381	0	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	74	111	455	88	-	436	881	-	-	857	-	-
Mov Cap-2 Maneuver	74	111	-	88	-	-	-	-	-	-	-	-
Stage 1	380	377	-	411	-	-	-	-	-	-	-	-
Stage 2	330	425	-	343	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.2	53.5	0.1	0.7
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	881	-	-	168	88	436	857	-	-
HCM Lane V/C Ratio	0.012	-	-	0.151	0.686	0.198	0.066	-	-
HCM Control Delay (s)	9.1	-	-	30.2	108	15.3	9.5	-	-
HCM Lane LOS	A	-	-	D	F	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	3.3	0.7	0.2	-	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	5	5	5	710	640	5
Future Vol, veh/h	5	5	5	710	640	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	155
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	92	92	94	94
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	6	6	5	772	681	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1464	681	681	0	-	0
Stage 1	681	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-	-
Pot Cap-1 Maneuver	141	450	875	-	-	-
Stage 1	503	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	140	450	875	-	-	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	503	-	-	-	-	-
Stage 2	446	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	875	-	214	-	-
HCM Lane V/C Ratio	0.006	-	0.058	-	-
HCM Control Delay (s)	9.1	0	22.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			↑
Traffic Vol, veh/h	0	0	715	0	0	645
Future Vol, veh/h	0	0	715	0	0	645
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	93	93	90	90
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	0	769	0	0	717

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1486	769	0	0	-	-
Stage 1	769	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	137	401	-	-	0	-
Stage 1	457	-	-	-	0	-
Stage 2	484	-	-	-	0	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	137	401	-	-	-	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	457	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↗	↗
Traffic Vol, veh/h	0	20	20	715	645	0
Future Vol, veh/h	0	20	20	715	645	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	94	94	92	92
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	24	21	761	701	0
























Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1504	701	701	0	-	0
Stage 1	701	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-	-
Pot Cap-1 Maneuver	134	439	860	-	-	-
Stage 1	492	-	-	-	-	-
Stage 2	441	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	131	439	860	-	-	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	492	-	-	-	-	-
Stage 2	430	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	860	-	439	-	-
HCM Lane V/C Ratio	0.025	-	0.055	-	-
HCM Control Delay (s)	9.3	-	13.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM 2010 Signalized Intersection Summary
 17: SR 92 & Macland Rd

Existing 2016 PM
 05/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	255	50	100	480	200	70	475	70	135	455	75
Future Volume (veh/h)	60	255	50	100	480	200	70	475	70	135	455	75
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1712	1712	1900	1712	1712	1712	1696	1696	1696	1727	1727	1900
Adj Flow Rate, veh/h	67	287	56	105	505	0	74	500	74	147	495	82
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Percent Heavy Veh, %	11	11	11	11	11	11	12	12	12	10	10	10
Cap, veh/h	186	423	82	302	549	467	244	677	576	304	604	100
Arrive On Green	0.05	0.30	0.30	0.07	0.32	0.00	0.05	0.40	0.40	0.07	0.42	0.42
Sat Flow, veh/h	1630	1392	272	1630	1712	1455	1616	1696	1442	1645	1446	239
Grp Volume(v), veh/h	67	0	343	105	505	0	74	500	74	147	0	577
Grp Sat Flow(s),veh/h/ln	1630	0	1664	1630	1712	1455	1616	1696	1442	1645	0	1685
Q Serve(g_s), s	2.7	0.0	17.6	4.2	27.7	0.0	2.6	24.5	3.2	5.0	0.0	29.6
Cycle Q Clear(g_c), s	2.7	0.0	17.6	4.2	27.7	0.0	2.6	24.5	3.2	5.0	0.0	29.6
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	186	0	505	302	549	467	244	677	576	304	0	704
V/C Ratio(X)	0.36	0.00	0.68	0.35	0.92	0.00	0.30	0.74	0.13	0.48	0.00	0.82
Avail Cap(c_a), veh/h	200	0	538	312	580	493	257	677	576	304	0	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.8	0.0	29.8	22.2	31.9	0.0	19.6	24.9	18.5	18.7	0.0	25.1
Incr Delay (d2), s/veh	1.2	0.0	3.2	0.7	19.5	0.0	0.7	7.1	0.5	1.2	0.0	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	8.5	1.9	16.0	0.0	1.2	12.7	1.3	2.3	0.0	15.1
LnGrp Delay(d),s/veh	26.0	0.0	32.9	22.9	51.4	0.0	20.3	32.0	19.0	19.9	0.0	32.8
LnGrp LOS	C		C	C	D		C	C	B	B		C
Approach Vol, veh/h		410			610			648			724	
Approach Delay, s/veh		31.8			46.5			29.2			30.2	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	42.9	10.3	33.6	8.8	44.7	8.7	35.2				
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0				
Max Green Setting (Gmax), s	6.1	38.9	6.5	31.5	5.1	39.9	5.0	33.0				
Max Q Clear Time (g_c+I1), s	7.0	26.5	6.2	19.6	4.6	31.6	4.7	29.7				
Green Ext Time (p_c), s	0.0	5.3	0.0	3.9	0.0	4.1	0.0	1.5				
Intersection Summary												
HCM 2010 Ctrl Delay			34.3									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	0	0	0	20	0	20	0	595	25	20	585	0
Future Vol, veh/h	0	0	0	20	0	20	0	595	25	20	585	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	85	-	0	-	-	300	235	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	82	82	82	89	89	89	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	12	12	12	12	12	12
Mvmt Flow	0	0	0	24	0	24	0	669	28	24	688	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1404	1404	688	1404	1404	669	688	0	0	669	0	0
Stage 1	735	735	-	669	669	-	-	-	-	-	-	-
Stage 2	669	669	-	735	735	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.22	-	-	4.22	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.308	-	-	2.308	-	-
Pot Cap-1 Maneuver	117	140	446	117	140	458	861	-	-	876	-	-
Stage 1	411	425	-	447	456	-	-	-	-	-	-	-
Stage 2	447	456	-	411	425	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	108	136	446	115	136	458	861	-	-	876	-	-
Mov Cap-2 Maneuver	108	136	-	115	136	-	-	-	-	-	-	-
Stage 1	411	413	-	447	456	-	-	-	-	-	-	-
Stage 2	423	456	-	400	413	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	28.9	0	0.3
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	861	-	-	-	115	458	876	-	-
HCM Lane V/C Ratio	-	-	-	-	0.212	0.053	0.027	-	-
HCM Control Delay (s)	0	-	-	0	44.5	13.3	9.2	-	-
HCM Lane LOS	A	-	-	A	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0.2	0.1	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	620	0	0	605
Future Vol, veh/h	0	0	620	0	0	605
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	33	33	89	89	89	89
Heavy Vehicles, %	2	2	12	12	12	12
Mvmt Flow	0	0	697	0	0	680

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1377	697	0	0	697	0
Stage 1	697	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.22	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.308	-
Pot Cap-1 Maneuver	160	441	-	-	854	-
Stage 1	494	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	160	441	-	-	854	-
Mov Cap-2 Maneuver	160	-	-	-	-	-
Stage 1	494	-	-	-	-	-
Stage 2	503	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	854	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	0	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	5	5	5	615	600	5
Future Vol, veh/h	5	5	5	615	600	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	60
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	31	31	87	87	84	84
Heavy Vehicles, %	2	2	8	8	12	12
Mvmt Flow	16	16	6	707	714	6

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1432	714	714	0	0
Stage 1	714	-	-	-	-
Stage 2	718	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-
Pot Cap-1 Maneuver	148	431	859	-	-
Stage 1	485	-	-	-	-
Stage 2	483	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	146	431	859	-	-
Mov Cap-2 Maneuver	146	-	-	-	-
Stage 1	485	-	-	-	-
Stage 2	477	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.4	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	859	-	218	-	-
HCM Lane V/C Ratio	0.007	-	0.148	-	-
HCM Control Delay (s)	9.2	0	24.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		↑			↑↑
Traffic Vol, veh/h	0	0	620	0	0	605
Future Vol, veh/h	0	0	620	0	0	605
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	92	92	95	95
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	0	674	0	0	637

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	992	674	0
Stage 1	674	-	-
Stage 2	318	-	-
Critical Hdwy	6.63	6.23	-
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.319	-
Pot Cap-1 Maneuver	257	454	0
Stage 1	505	-	0
Stage 2	711	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	257	454	-
Mov Cap-2 Maneuver	257	-	-
Stage 1	505	-	-
Stage 2	711	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	0	-
HCM Lane LOS	A	-
HCM 95th %tile Q(veh)	-	-

Intersection

Int Delay, s/veh 12

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↑	↖	↗	↕	
Traffic Vol, veh/h	35	10	85	10	10	30	75	555	10	40	525	40
Future Vol, veh/h	35	10	85	10	10	30	75	555	10	40	525	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	165	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	73	73	73	92	92	92	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	8	8	8	8	8	8
Mvmt Flow	45	13	109	14	14	41	82	603	11	44	577	44

























Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1481	1453	310	1149	1475	603	621	0	0	603	0	0
Stage 1	687	687	-	766	766	-	-	-	-	-	-	-
Stage 2	794	766	-	383	709	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.22	-	-	4.22	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.276	-	-	2.276	-	-
Pot Cap-1 Maneuver	95	130	687	164	126	498	924	-	-	938	-	-
Stage 1	404	446	-	394	411	-	-	-	-	-	-	-
Stage 2	381	411	-	612	436	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	71	113	687	114	109	498	924	-	-	938	-	-
Mov Cap-2 Maneuver	71	113	-	114	109	-	-	-	-	-	-	-
Stage 1	368	425	-	359	375	-	-	-	-	-	-	-
Stage 2	307	375	-	476	416	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	95.2	30.4	1.1	0.6
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	924	-	-	184	209	938	-
HCM Lane V/C Ratio	0.088	-	-	0.906	0.328	0.047	-
HCM Control Delay (s)	9.3	-	-	95.2	30.4	9	-
HCM Lane LOS	A	-	-	F	D	A	-
HCM 95th %tile Q(veh)	0.3	-	-	6.9	1.4	0.1	-

HCM 2010 Signalized Intersection Summary
 24: SR 92 & Jimmy Lee Smith Pkwy

Existing 2016 PM
 05/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	840	155	200	1235	250	155	335	135	190	370	60
Future Volume (veh/h)	55	840	155	200	1235	250	155	335	135	190	370	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1776	1776	1776	1776	1776	1776	1792	1792	1792	1759	1759	1759
Adj Flow Rate, veh/h	56	857	0	208	1286	260	165	356	0	198	385	62
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.96	0.96	0.96
Percent Heavy Veh, %	7	7	7	7	7	7	6	6	6	8	8	8
Cap, veh/h	72	1054	472	242	1395	624	276	478	406	306	489	415
Arrive On Green	0.04	0.31	0.00	0.14	0.41	0.41	0.07	0.27	0.00	0.09	0.28	0.28
Sat Flow, veh/h	1691	3374	1509	1691	3374	1509	1707	1792	1524	1675	1759	1495
Grp Volume(v), veh/h	56	857	0	208	1286	260	165	356	0	198	385	62
Grp Sat Flow(s),veh/h/ln	1691	1687	1509	1691	1687	1509	1707	1792	1524	1675	1759	1495
Q Serve(g_s), s	2.9	20.6	0.0	10.6	31.9	10.8	6.2	16.0	0.0	7.5	17.8	2.8
Cycle Q Clear(g_c), s	2.9	20.6	0.0	10.6	31.9	10.8	6.2	16.0	0.0	7.5	17.8	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	72	1054	472	242	1395	624	276	478	406	306	489	415
V/C Ratio(X)	0.78	0.81	0.00	0.86	0.92	0.42	0.60	0.75	0.00	0.65	0.79	0.15
Avail Cap(c_a), veh/h	96	1054	472	286	1415	633	276	478	406	306	489	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	27.9	0.0	36.9	24.5	18.3	23.2	29.6	0.0	23.1	29.4	24.0
Incr Delay (d2), s/veh	25.1	5.0	0.0	19.7	10.1	0.4	3.5	10.1	0.0	4.7	8.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.4	0.0	6.3	16.8	4.5	3.2	9.3	0.0	1.6	9.8	1.2
LnGrp Delay(d),s/veh	66.9	32.9	0.0	56.6	34.6	18.8	26.8	39.7	0.0	27.9	37.8	24.2
LnGrp LOS	E	C		E	C	B	C	D		C	D	C
Approach Vol, veh/h		913			1754			521			645	
Approach Delay, s/veh		35.0			34.9			35.6			33.5	
Approach LOS		C			C			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	27.5	17.1	31.6	11.0	28.5	8.2	40.5				
Change Period (Y+Rc), s	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0				
Max Green Setting (Gmax), s	7.5	23.5	14.9	27.1	6.5	24.5	5.0	37.0				
Max Q Clear Time (g_c+I1), s	9.5	18.0	12.6	22.6	8.2	19.8	4.9	33.9				
Green Ext Time (p_c), s	0.0	2.1	0.1	4.0	0.0	1.8	0.0	2.6				
Intersection Summary												
HCM 2010 Ctrl Delay				34.8								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↘	
Traffic Vol, veh/h	75	105	120	540	630	95
Future Vol, veh/h	75	105	120	540	630	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	90	90	98	98
Heavy Vehicles, %	2	2	6	6	6	6
Mvmt Flow	82	115	133	600	643	97

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1258	691	740	0	-	0
Stage 1	691	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.19	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.257	-	-	-
Pot Cap-1 Maneuver	175	444	843	-	-	-
Stage 1	496	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	147	444	843	-	-	-
Mov Cap-2 Maneuver	147	-	-	-	-	-
Stage 1	496	-	-	-	-	-
Stage 2	448	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	64.1	1.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	843	-	241	-	-
HCM Lane V/C Ratio	0.158	-	0.821	-	-
HCM Control Delay (s)	10.1	-	64.1	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.6	-	6.3	-	-

Intersection

Int Delay, s/veh 8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	15	35	5	75	10	585	35	85	650	0
Future Vol, veh/h	0	5	15	35	5	75	10	585	35	85	650	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	85	85	85	91	91	91	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	6	6	6	6	6	6
Mvmt Flow	0	7	22	41	6	88	11	643	38	89	684	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1594	1566	684	1562	1547	662	684	0	0	681	0	0
Stage 1	863	863	-	684	684	-	-	-	-	-	-	-
Stage 2	731	703	-	878	863	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.254	-	-	2.254	-	-
Pot Cap-1 Maneuver	86	111	449	91	114	462	891	-	-	893	-	-
Stage 1	349	372	-	439	449	-	-	-	-	-	-	-
Stage 2	413	440	-	343	372	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	57	91	449	70	94	462	891	-	-	893	-	-
Mov Cap-2 Maneuver	57	91	-	70	94	-	-	-	-	-	-	-
Stage 1	342	312	-	430	440	-	-	-	-	-	-	-
Stage 2	323	431	-	267	312	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.3	90.2	0.1	1.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	891	-	-	226	161	893	-	-
HCM Lane V/C Ratio	0.012	-	-	0.132	0.84	0.1	-	-
HCM Control Delay (s)	9.1	0	-	23.3	90.2	9.5	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	5.7	0.3	-	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↷	↶	↷
Traffic Vol, veh/h	0	5	5	630	700	0
Future Vol, veh/h	0	5	5	630	700	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	85	130	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	94	94	91	91
Heavy Vehicles, %	2	2	7	7	6	6
Mvmt Flow	0	10	5	670	769	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1450	769	769	0	0
Stage 1	769	-	-	-	-
Stage 2	681	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-
Pot Cap-1 Maneuver	144	401	823	-	0
Stage 1	457	-	-	-	0
Stage 2	503	-	-	-	0
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	143	401	823	-	-
Mov Cap-2 Maneuver	143	-	-	-	-
Stage 1	457	-	-	-	-
Stage 2	500	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	823	-	-	401	-
HCM Lane V/C Ratio	0.006	-	-	0.025	-
HCM Control Delay (s)	9.4	-	0	14.2	-
HCM Lane LOS	A	-	A	B	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	0	0	0	635	705	0
Future Vol, veh/h	0	0	0	635	705	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	94	94	93	93
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	0	0	0	676	758	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1434	758	758	0	0
Stage 1	758	-	-	-	-
Stage 2	676	-	-	-	-
Critical Hdwy	7.12	6.22	4.17	-	-
Critical Hdwy Stg 1	6.12	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-
Pot Cap-1 Maneuver	112	407	831	-	-
Stage 1	399	-	-	-	-
Stage 2	443	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	112	407	831	-	-
Mov Cap-2 Maneuver	112	-	-	-	-
Stage 1	399	-	-	-	-
Stage 2	443	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	831	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	5	25	610	10	35	670
Future Vol, veh/h	5	25	610	10	35	670
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	68	68	95	95	94	94
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	7	37	642	11	37	713

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1434	647	0	0	653	0
Stage 1	647	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263	-
Pot Cap-1 Maneuver	147	471	-	-	910	-
Stage 1	521	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	137	471	-	-	910	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	419	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	17.4		0		0.5
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 335	910	-
HCM Lane V/C Ratio	-	- 0.132	0.041	-
HCM Control Delay (s)	-	- 17.4	9.1	0
HCM Lane LOS	-	- C	A	A
HCM 95th %tile Q(veh)	-	- 0.4	0.1	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	5	5	5	615	670	5
Future Vol, veh/h	5	5	5	615	670	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	91	91	94	94
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	9	9	5	676	713	5

Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	1402	715	718	0
Stage 1	715	-	-	-
Stage 2	687	-	-	-
Critical Hdwy	6.42	6.22	4.17	-
Critical Hdwy Stg 1	5.42	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-
Pot Cap-1 Maneuver	154	431	860	-
Stage 1	485	-	-	-
Stage 2	499	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	153	431	860	-
Mov Cap-2 Maneuver	153	-	-	-
Stage 1	485	-	-	-
Stage 2	495	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.3	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	860	-	226	-	-
HCM Lane V/C Ratio	0.006	-	0.08	-	-
HCM Control Delay (s)	9.2	0	22.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	5	0	0	0	5	615	0	0	670	5
Future Vol, veh/h	5	0	5	0	0	0	5	615	0	0	670	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	92	92	92	92	93	93	93	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	11	0	5	0	0	0	5	661	0	0	713	5













Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1387	1387	715	1390	1390	661	718	0	0	661	0	0
Stage 1	715	715	-	672	672	-	-	-	-	-	-	-
Stage 2	672	672	-	718	718	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	120	143	431	120	142	462	860	-	-	904	-	-
Stage 1	422	434	-	445	454	-	-	-	-	-	-	-
Stage 2	445	454	-	420	433	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	119	142	431	118	141	462	860	-	-	904	-	-
Mov Cap-2 Maneuver	119	142	-	118	141	-	-	-	-	-	-	-
Stage 1	418	434	-	441	450	-	-	-	-	-	-	-
Stage 2	441	450	-	415	433	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.8	0	0.1	0
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	860	-	-	156	-	904	-
HCM Lane V/C Ratio	0.006	-	-	0.106	-	-	-
HCM Control Delay (s)	9.2	0	-	30.8	0	0	-
HCM Lane LOS	A	A	-	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	-	0	-

HCM 2010 Signalized Intersection Summary
32: SR 92 & Oak Street

Existing 2016 PM
05/26/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (veh/h)	5	5	0	150	10	25	0	590	40	15	655	5
Future Volume (veh/h)	5	5	0	150	10	25	0	590	40	15	655	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1681	1681	1900	1681	1681	1900
Adj Flow Rate, veh/h	7	7	0	170	11	28	0	641	43	16	682	5
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.68	0.68	0.68	0.88	0.88	0.88	0.92	0.92	0.92	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	13	13	13	13	13	13
Cap, veh/h	198	173	0	298	13	34	102	982	66	402	1189	9
Arrive On Green	0.17	0.17	0.00	0.17	0.17	0.17	0.00	0.63	0.63	0.03	0.71	0.71
Sat Flow, veh/h	699	1000	0	1184	77	195	679	1558	105	1601	1667	12
Grp Volume(v), veh/h	14	0	0	209	0	0	0	0	684	16	0	687
Grp Sat Flow(s),veh/h/ln	1698	0	0	1456	0	0	679	0	1663	1601	0	1679
Q Serve(g_s), s	0.0	0.0	0.0	9.3	0.0	0.0	0.0	0.0	18.2	0.2	0.0	14.0
Cycle Q Clear(g_c), s	0.4	0.0	0.0	9.7	0.0	0.0	0.0	0.0	18.2	0.2	0.0	14.0
Prop In Lane	0.50		0.00	0.81		0.13	1.00		0.06	1.00		0.01
Lane Grp Cap(c), veh/h	371	0	0	345	0	0	102	0	1048	402	0	1198
V/C Ratio(X)	0.04	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.65	0.04	0.00	0.57
Avail Cap(c_a), veh/h	500	0	0	464	0	0	102	0	1048	488	0	1287
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.3	0.0	0.0	28.1	0.0	0.0	0.0	0.0	8.2	6.3	0.0	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	4.1	0.0	0.0	0.0	0.0	9.1	0.1	0.0	6.5
LnGrp Delay(d),s/veh	24.3	0.0	0.0	29.8	0.0	0.0	0.0	0.0	11.3	6.4	0.0	5.4
LnGrp LOS	C			C					B	A		A
Approach Vol, veh/h		14			209			684			703	
Approach Delay, s/veh		24.3			29.8			11.3			5.5	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	5.8	48.4		16.2		54.2		16.2				
Change Period (Y+Rc), s	4.5	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	5.1	44.4		18.0		54.0		18.0				
Max Q Clear Time (g_c+I1), s	2.2	20.2		2.4		16.0		11.7				
Green Ext Time (p_c), s	0.0	10.2		1.1		12.0		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				11.3								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	630	10	0	805
Future Vol, veh/h	0	0	630	10	0	805
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	95	95	97	97
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	663	11	0	830

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1498	668	0	0	674	0
Stage 1	668	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Critical Hdwy	7.12	6.22	-	-	4.23	-
Critical Hdwy Stg 1	6.12	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	101	458	-	-	867	-
Stage 1	448	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	101	458	-	-	867	-
Mov Cap-2 Maneuver	101	-	-	-	-	-
Stage 1	448	-	-	-	-	-
Stage 2	364	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	867
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	5	5	0	5	10	635	10	15	790	0
Future Vol, veh/h	0	0	5	5	0	5	10	635	10	15	790	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	56	56	50	91	91	91	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	13	13	13	13	13	13
Mvmt Flow	0	0	7	9	0	10	11	698	11	15	814	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1575	1576	814	1574	1570	703	814	0	0	709	0	0
Stage 1	845	845	-	725	725	-	-	-	-	-	-	-
Stage 2	730	731	-	849	845	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.23	-	-	4.23	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.317	-	-	2.317	-	-
Pot Cap-1 Maneuver	89	110	378	89	111	438	767	-	-	841	-	-
Stage 1	357	379	-	416	430	-	-	-	-	-	-	-
Stage 2	414	427	-	356	379	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	83	104	378	84	105	438	767	-	-	841	-	-
Mov Cap-2 Maneuver	83	104	-	84	105	-	-	-	-	-	-	-
Stage 1	348	366	-	406	420	-	-	-	-	-	-	-
Stage 2	395	417	-	338	366	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	33.1	0.1	0.2
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	767	-	-	378	147	841	-
HCM Lane V/C Ratio	0.014	-	-	0.019	0.129	0.018	-
HCM Control Delay (s)	9.8	0	-	14.7	33.1	9.4	0
HCM Lane LOS	A	A	-	B	D	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.1	-

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	10	20	635	5	20	780
Future Vol, veh/h	10	20	635	5	20	780
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	93	93	98	98
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	13	26	683	5	20	796

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1522	685	0	0	688	0
Stage 1	685	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	130	448	-	-	857	-
Stage 1	500	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	125	448	-	-	857	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	500	-	-	-	-	-
Stage 2	407	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	22.8		0		0.2
HCM LOS	C				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 241	857	-
HCM Lane V/C Ratio	-	- 0.16	0.024	-
HCM Control Delay (s)	-	- 22.8	9.3	0
HCM Lane LOS	-	- C	A	A
HCM 95th %tile Q(veh)	-	- 0.6	0.1	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	640	15	0	790
Future Vol, veh/h	0	0	640	15	0	790
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	94	94	96	96
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	681	16	0	823

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1512	689	0	0	697	0
Stage 1	689	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	132	446	-	-	850	-
Stage 1	498	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	132	446	-	-	850	-
Mov Cap-2 Maneuver	132	-	-	-	-	-
Stage 1	498	-	-	-	-	-
Stage 2	431	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	850
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	20	0	655	50	0	790
Future Vol, veh/h	20	0	655	50	0	790
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	95	95	96	96
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	27	0	689	53	0	823

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1539	716	0	0	742	0
Stage 1	716	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	127	430	-	-	817	-
Stage 1	484	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	127	430	-	-	817	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	484	-	-	-	-	-
Stage 2	431	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	41		0		0
HCM LOS	E				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 127	817	-
HCM Lane V/C Ratio	-	- 0.216	-	-
HCM Control Delay (s)	-	- 41	0	-
HCM Lane LOS	-	- E	A	-
HCM 95th %tile Q(veh)	-	- 0.8	0	-

HCM Signalized Intersection Capacity Analysis
38: SR 92 & Hiram Sudie Road

Existing 2016 PM
05/26/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	175	70	85	530	0	530	280
Future Volume (vph)	175	70	85	530	0	530	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539		3539	1583
Flt Permitted	0.95	1.00	0.39	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	718	3539		3539	1583
Peak-hour factor, PHF	0.84	0.84	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	208	83	92	576	0	558	295
RTOR Reduction (vph)	0	68	0	0	0	0	125
Lane Group Flow (vph)	208	15	92	576	0	558	170
Turn Type	Prot	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases	7		5	2		6	
Permitted Phases		7	2		6		6
Actuated Green, G (s)	14.2	14.2	55.3	55.3		45.0	45.0
Effective Green, g (s)	14.7	14.2	55.8	55.3		45.0	45.0
Actuated g/C Ratio	0.19	0.18	0.72	0.71		0.58	0.58
Clearance Time (s)	4.5	4.5	4.5	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	333	288	598	2509		2041	913
v/s Ratio Prot	c0.12		0.01	c0.16		c0.16	
v/s Ratio Perm		0.01	0.10				0.11
v/c Ratio	0.62	0.05	0.15	0.23		0.27	0.19
Uniform Delay, d1	29.1	26.3	3.6	3.9		8.3	7.8
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.6	0.1	0.1	0.2		0.1	0.1
Delay (s)	32.7	26.4	3.8	4.2		8.4	7.9
Level of Service	C	C	A	A		A	A
Approach Delay (s)	30.9			4.1		8.2	
Approach LOS	C			A		A	

Intersection Summary

HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 39: SR 92 & Nebo Rd

Existing 2016 PM
 05/26/2017



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	20	30	520	465	135
Future Volume (vph)	95	20	30	520	465	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539	1863	1583
Flt Permitted	0.95	1.00	0.41	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	766	3539	1863	1583
Peak-hour factor, PHF	0.82	0.82	0.93	0.93	0.95	0.95
Adj. Flow (vph)	116	24	32	559	489	142
RTOR Reduction (vph)	0	21	0	0	0	43
Lane Group Flow (vph)	116	3	32	559	489	99
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	8.9	8.9	62.2	62.2	55.7	55.7
Effective Green, g (s)	9.4	8.9	62.7	62.7	55.7	55.7
Actuated g/C Ratio	0.12	0.11	0.78	0.78	0.70	0.70
Clearance Time (s)	4.5	4.5	4.5	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	207	175	637	2770	1295	1100
v/s Ratio Prot			0.00	c0.16	c0.26	
v/s Ratio Perm	c0.07	0.00	0.04			0.06
v/c Ratio	0.56	0.02	0.05	0.20	0.38	0.09
Uniform Delay, d1	33.4	31.7	2.5	2.2	5.0	4.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	0.0	0.0	0.0	0.8	0.2
Delay (s)	36.8	31.7	2.5	2.3	5.9	4.1
Level of Service	D	C	A	A	A	A
Approach Delay (s)	36.0			2.3	5.5	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	80.1	Sum of lost time (s)	12.5
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Arterial Level of Service: NB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Nebo Rd	I	45	10.0	3.0	13.0	0.10	26.6	D
Hiram Sudie Road	I	45	31.8	4.7	36.5	0.32	31.7	C
Oak Street	I	40	60.9	11.7	72.6	0.67	33.5	C
Jimmy Lee Smith Pkwy	I	44	74.6	41.1	115.7	0.91	28.4	C
Macland Rd	I	45	99.6	32.6	132.2	1.25	33.9	C
Dallas Rd	I	50	74.4	51.2	125.6	1.03	29.5	C
E Paulding Dr	I	50	91.5	22.8	114.3	1.27	40.0	B
Total	I		442.8	167.1	609.9	5.55	32.8	C

Arterial Level of Service: SB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Paulding Dr	I	50	10.7	31.0	41.7	0.11	9.2	F
Dallas Rd	I	50	91.5	39.4	130.9	1.27	34.9	B
Macland Rd	I	50	84.4	33.4	117.8	1.17	35.8	B
Jimmy Lee Smith Pkwy	I	45	99.6	43.0	142.6	1.25	31.5	C
Oak Street	I	44	74.6	9.3	83.9	0.91	39.2	B
Hiram Sudie Road	I	40	60.9	9.8	70.7	0.67	34.4	B
Nebo Rd	I	45	31.8	7.0	38.8	0.32	29.8	C
Total	I		453.5	172.9	626.4	5.70	32.8	C

HCM Signalized Intersection Capacity Analysis
1: SR 92 & E Paulding Dr

No Build 2025 AM
08/11/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	430	335	30	185	85	200	535	35	210	565	105
Future Volume (vph)	55	430	335	30	185	85	200	535	35	210	565	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1687	1776	1509	1687	1776	1509	1671	1743		1612	1696	1442
Flt Permitted	0.51	1.00	1.00	0.16	1.00	1.00	0.19	1.00		0.11	1.00	1.00
Satd. Flow (perm)	904	1776	1509	281	1776	1509	330	1743		193	1696	1442
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	65	506	394	33	203	93	215	575	38	216	582	108
RTOR Reduction (vph)	0	0	256	0	0	66	0	3	0	0	0	66
Lane Group Flow (vph)	65	506	138	33	203	27	215	610	0	216	582	42
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	8%	8%	8%	12%	12%	12%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	29.9	25.9	25.9	27.7	24.8	24.8	38.9	32.2		43.7	34.6	34.6
Effective Green, g (s)	30.9	26.4	25.9	28.7	25.3	25.3	39.9	32.7		44.7	35.1	34.6
Actuated g/C Ratio	0.35	0.30	0.29	0.33	0.29	0.29	0.45	0.37		0.51	0.40	0.39
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	357	532	443	145	510	433	259	646		252	675	566
v/s Ratio Prot	c0.01	c0.28		0.01	0.11		0.07	c0.35		c0.09	0.34	
v/s Ratio Perm	0.05		0.09	0.07		0.02	0.31			0.34		0.03
v/c Ratio	0.18	0.95	0.31	0.23	0.40	0.06	0.83	0.95		0.86	0.86	0.07
Uniform Delay, d1	19.5	30.2	24.2	22.5	25.3	22.8	17.9	26.8		20.0	24.3	16.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	27.1	0.4	0.8	0.5	0.1	19.7	24.2		23.8	13.7	0.3
Delay (s)	19.7	57.3	24.6	23.3	25.8	22.8	37.6	51.0		43.8	38.0	17.0
Level of Service	B	E	C	C	C	C	D	D		D	D	B
Approach Delay (s)		41.4			24.7			47.5			36.8	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	88.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	0	0	770	20	20	910
Future Vol, veh/h	0	0	770	20	20	910
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	255	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	93	93	92	92
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	0	828	22	22	989

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1861	828	0	-	828	0
Stage 1	828	-	-	-	-	-
Stage 2	1033	-	-	-	-	-
Critical Hdwy	7.12	6.22	-	-	4.18	-
Critical Hdwy Stg 1	6.12	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.272	-
Pot Cap-1 Maneuver	56	371	-	0	778	-
Stage 1	365	-	-	0	-	-
Stage 2	281	-	-	0	-	-
Platoon blocked, %			-			
Mov Cap-1 Maneuver	55	371	-	-	778	-
Mov Cap-2 Maneuver	55	-	-	-	-	-
Stage 1	365	-	-	-	-	-
Stage 2	273	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0.2
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	778	-
HCM Lane V/C Ratio	-	-	-	0.028	-
HCM Control Delay (s)	-	0	0	9.8	-
HCM Lane LOS	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	-

Intersection

Int Delay, s/veh 16.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	55	105	75	735	785	25
Future Vol, veh/h	55	105	75	735	785	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	0	175	-	-	145
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	84	84	93	93
Heavy Vehicles, %	8	8	8	8	8	8
Mvmt Flow	87	167	89	875	844	27

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1898	844	0
Stage 1	844	-	-
Stage 2	1054	-	-
Critical Hdwy	6.48	6.28	4.18
Critical Hdwy Stg 1	5.48	-	-
Critical Hdwy Stg 2	5.48	-	-
Follow-up Hdwy	3.572	3.372	2.272
Pot Cap-1 Maneuver	~ 73	354	767
Stage 1	412	-	-
Stage 2	327	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	~ 65	354	767
Mov Cap-2 Maneuver	~ 65	-	-
Stage 1	412	-	-
Stage 2	289	-	-

Approach	EB	NB	SB
HCM Control Delay, s	131.3	1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	767	-	65	354	-	-
HCM Lane V/C Ratio	0.116	-	1.343	0.471	-	-
HCM Control Delay (s)	10.3	-	\$ 336.2	23.9	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.4	-	7.3	2.4	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	25	10	10	785	870	20
Future Vol, veh/h	25	10	10	785	870	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	84	84	87	87
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	31	13	12	935	1000	23

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1958	1000	1000	0	0
Stage 1	1000	-	-	-	-
Stage 2	958	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-
Pot Cap-1 Maneuver	70	295	669	-	-
Stage 1	356	-	-	-	-
Stage 2	373	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	67	295	669	-	-
Mov Cap-2 Maneuver	67	-	-	-	-
Stage 1	356	-	-	-	-
Stage 2	359	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	84	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	669	-	86	-	-
HCM Lane V/C Ratio	0.018	-	0.509	-	-
HCM Control Delay (s)	10.5	0	84	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	2.2	-	-

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Traffic Vol, veh/h	0	0	10	5	0	0	25	795	5	0	880	0
Future Vol, veh/h	0	0	10	5	0	0	25	795	5	0	880	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	58	58	58	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	8	8	8	8	8	8
Mvmt Flow	0	0	14	9	0	0	28	883	6	0	978	0



























Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1920	1922	978	1927	1920	886	978	0	0	889	0	0
Stage 1	978	978	-	942	942	-	-	-	-	-	-	-
Stage 2	942	944	-	985	978	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.18	-	-	4.18	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.272	-	-	2.272	-	-
Pot Cap-1 Maneuver	51	67	304	50	67	343	682	-	-	737	-	-
Stage 1	301	329	-	316	342	-	-	-	-	-	-	-
Stage 2	316	341	-	299	329	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	48	62	304	45	62	343	682	-	-	737	-	-
Mov Cap-2 Maneuver	48	62	-	45	62	-	-	-	-	-	-	-
Stage 1	277	329	-	290	314	-	-	-	-	-	-	-
Stage 2	290	313	-	285	329	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.4	103.1	0.3	0
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	682	-	-	304	45	737	-
HCM Lane V/C Ratio	0.041	-	-	0.046	0.192	-	-
HCM Control Delay (s)	10.5	0	-	17.4	103.1	0	-
HCM Lane LOS	B	A	-	C	F	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.6	0	-

HCM Signalized Intersection Capacity Analysis
8: SR 92 & Dallas Rd

No Build 2025 AM
08/11/2017

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 								
Traffic Volume (vph)	320	1275	70	275	585	75	70	430	280	75	585	235	
Future Volume (vph)	320	1275	70	275	585	75	70	430	280	75	585	235	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1597	3195	1429	1597	3195	1429	1504	1583	1346	1671	1759	1495	
Flt Permitted	0.22	1.00	1.00	0.08	1.00	1.00	0.09	1.00	1.00	0.18	1.00	1.00	
Satd. Flow (perm)	365	3195	1429	140	3195	1429	142	1583	1346	325	1759	1495	
Peak-hour factor, PHF	0.86	0.86	0.86	0.85	0.85	0.85	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	372	1483	81	324	688	88	74	453	295	82	636	255	
RTOR Reduction (vph)	0	0	49	0	0	58	0	0	184	0	0	113	
Lane Group Flow (vph)	372	1483	32	324	688	30	74	453	111	82	636	142	
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	8%	8%	8%	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases	4		4	8		8	2		2	6		6	
Actuated Green, G (s)	77.5	54.5	54.5	66.2	47.7	47.7	49.0	44.0	44.0	49.0	44.0	44.0	
Effective Green, g (s)	78.0	55.0	54.5	67.2	48.2	47.7	50.0	44.5	44.5	50.0	44.5	44.5	
Actuated g/C Ratio	0.56	0.39	0.39	0.48	0.34	0.34	0.36	0.32	0.32	0.36	0.32	0.32	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	430	1255	556	264	1099	486	104	503	427	168	559	475	
v/s Ratio Prot	0.16	c0.46		c0.17	0.22		c0.03	0.29		0.02	c0.36		
v/s Ratio Perm	0.32		0.02	0.42		0.02	0.23		0.08	0.15		0.09	
v/c Ratio	0.87	1.18	0.06	1.23	0.63	0.06	0.71	0.90	0.26	0.49	1.14	0.30	
Uniform Delay, d1	22.8	42.5	26.7	45.1	38.4	31.1	36.6	45.6	35.5	33.5	47.8	36.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.4	90.2	0.0	131.0	1.1	0.1	20.4	21.8	1.5	2.2	82.1	1.6	
Delay (s)	39.2	132.7	26.7	176.1	39.5	31.1	57.0	67.4	37.0	35.8	129.8	37.6	
Level of Service	D	F	C	F	D	C	E	E	D	D	F	D	
Approach Delay (s)		110.3			79.1			55.6			97.7		
Approach LOS		F			E			E			F		
Intersection Summary													
HCM 2000 Control Delay			91.3									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.15										
Actuated Cycle Length (s)			140.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			98.8%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	0	0	775	5	0	930
Future Vol, veh/h	0	0	775	5	0	930
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	150	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	38	38	90	90	94	94
Heavy Vehicles, %	2	2	20	20	20	20
Mvmt Flow	0	0	861	6	0	989

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1850	861	0	0	861	0
Stage 1	861	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.3	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.38	-
Pot Cap-1 Maneuver	82	355	-	-	709	-
Stage 1	414	-	-	-	-	-
Stage 2	360	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	82	355	-	-	709	-
Mov Cap-2 Maneuver	82	-	-	-	-	-
Stage 1	414	-	-	-	-	-
Stage 2	360	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	-	709	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	0	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘		↗	↘	
Traffic Vol, veh/h	5	0	5	0	0	0	5	775	0	0	925	5
Future Vol, veh/h	5	0	5	0	0	0	5	775	0	0	925	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	25	25	25	89	89	89	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	8	0	8	0	0	0	6	871	0	0	1028	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1913	1913	1031	1917	1915	871	1033	0	0	871	0	0
Stage 1	1031	1031	-	882	882	-	-	-	-	-	-	-
Stage 2	882	882	-	1035	1033	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.38	-	-
Pot Cap-1 Maneuver	51	68	283	51	68	350	608	-	-	703	-	-
Stage 1	281	310	-	341	364	-	-	-	-	-	-	-
Stage 2	341	364	-	280	310	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	51	67	283	49	67	350	608	-	-	703	-	-
Mov Cap-2 Maneuver	51	67	-	49	67	-	-	-	-	-	-	-
Stage 1	278	310	-	338	360	-	-	-	-	-	-	-
Stage 2	338	360	-	272	310	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	56.7	0	0.1	0
HCM LOS	F	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	608	-	-	86	-	703	-	-
HCM Lane V/C Ratio	0.009	-	-	0.194	-	-	-	-
HCM Control Delay (s)	11	-	-	56.7	0	0	-	-
HCM Lane LOS	B	-	-	F	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	-	0	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	5	5	5	775	925	5
Future Vol, veh/h	5	5	5	775	925	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	92	92	92	92
Heavy Vehicles, %	2	2	13	13	20	20
Mvmt Flow	6	6	5	842	1005	5

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1861	1008	1011 0
Stage 1	1008	-	- -
Stage 2	853	-	- -
Critical Hdwy	6.42	6.22	4.23 -
Critical Hdwy Stg 1	5.42	-	- -
Critical Hdwy Stg 2	5.42	-	- -
Follow-up Hdwy	3.518	3.318	2.317 -
Pot Cap-1 Maneuver	80	292	644 -
Stage 1	353	-	- -
Stage 2	418	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	79	292	644 -
Mov Cap-2 Maneuver	79	-	- -
Stage 1	353	-	- -
Stage 2	412	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	37.3	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	644	-	124	-	-
HCM Lane V/C Ratio	0.008	-	0.101	-	-
HCM Control Delay (s)	10.6	0	37.3	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 11.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↵		↶	↵	↶	↶	↵	↶	↶
Traffic Vol, veh/h	5	0	10	50	0	60	5	715	35	50	875	5
Future Vol, veh/h	5	0	10	50	0	60	5	715	35	50	875	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	100	-	0	260	-	280	180	-	280
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	77	77	77	96	96	96	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	13	13	13	13	13	13
Mvmt Flow	9	0	17	65	0	78	5	745	36	54	941	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1803	1803	941	1812	-	745	941	0	0	745	0	0
Stage 1	1048	1048	-	755	-	-	-	-	-	-	-	-
Stage 2	755	755	-	1057	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.23	-	-	4.23	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.317	-	-	2.317	-	-
Pot Cap-1 Maneuver	62	79	319	~ 61	0	414	686	-	-	815	-	-
Stage 1	275	305	-	401	0	-	-	-	-	-	-	-
Stage 2	401	417	-	272	0	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	48	73	319	~ 54	-	414	686	-	-	815	-	-
Mov Cap-2 Maneuver	48	73	-	~ 54	-	-	-	-	-	-	-	-
Stage 1	273	285	-	398	-	-	-	-	-	-	-	-
Stage 2	323	414	-	240	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47	150.7	0.1	0.5
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	686	-	-	111	54	414	815	-	-
HCM Lane V/C Ratio	0.008	-	-	0.233	1.203	0.188	0.066	-	-
HCM Control Delay (s)	10.3	-	-	47	312.6	15.7	9.7	-	-
HCM Lane LOS	B	-	-	E	F	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.8	5.7	0.7	0.2	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	5	5	5	750	930	5
Future Vol, veh/h	5	5	5	750	930	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	155
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	93	90	86	86
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	7	7	5	833	1081	6

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1925	1081	0
Stage 1	1081	-	-
Stage 2	844	-	-
Critical Hdwy	6.42	6.22	4.23
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.317
Pot Cap-1 Maneuver	73	265	605
Stage 1	326	-	-
Stage 2	422	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	72	265	605
Mov Cap-2 Maneuver	72	-	-
Stage 1	326	-	-
Stage 2	416	-	-

Approach	EB	NB	SB
HCM Control Delay, s	41.3	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	605	-	113	-	-
HCM Lane V/C Ratio	0.009	-	0.125	-	-
HCM Control Delay (s)	11	0	41.3	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			↑
Traffic Vol, veh/h	0	0	755	0	0	935
Future Vol, veh/h	0	0	755	0	0	935
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	93	93	85	85
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	812	0	0	1100

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1912	812	0	0	-	-
Stage 1	812	-	-	-	-	-
Stage 2	1100	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	75	379	-	-	0	-
Stage 1	437	-	-	-	0	-
Stage 2	319	-	-	-	0	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	75	379	-	-	-	-
Mov Cap-2 Maneuver	75	-	-	-	-	-
Stage 1	437	-	-	-	-	-
Stage 2	319	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↗	↗
Traffic Vol, veh/h	0	25	10	755	935	0
Future Vol, veh/h	0	25	10	755	935	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	87	87	86	86
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	33	11	868	1087	0
























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1978	1087	0
Stage 1	1087	-	-
Stage 2	891	-	-
Critical Hdwy	6.42	6.22	4.23
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.317
Pot Cap-1 Maneuver	68	263	602
Stage 1	323	-	-
Stage 2	401	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	67	263	602
Mov Cap-2 Maneuver	67	-	-
Stage 1	323	-	-
Stage 2	394	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	602	-	263	-	-
HCM Lane V/C Ratio	0.019	-	0.127	-	-
HCM Control Delay (s)	11.1	-	20.7	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

HCM Signalized Intersection Capacity Analysis
17: SR 92 & Macland Rd

No Build 2025 AM
08/11/2017

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	100	575	80	75	345	175	50	490	80	270	560	130	
Future Volume (vph)	100	575	80	75	345	175	50	490	80	270	560	130	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Fr _t	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		
Fl _t Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1612	1665		1612	1696	1442	1583	1667	1417	1597	1634		
Fl _t Permitted	0.23	1.00		0.07	1.00	1.00	0.08	1.00	1.00	0.11	1.00		
Satd. Flow (perm)	396	1665		126	1696	1442	127	1667	1417	191	1634		
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.90	0.90	0.90	0.85	0.85	0.85	
Adj. Flow (vph)	110	632	88	96	442	224	56	544	89	318	659	153	
RTOR Reduction (vph)	0	3	0	0	0	135	0	0	58	0	5	0	
Lane Group Flow (vph)	110	717	0	96	442	89	56	544	31	318	807	0	
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	14%	14%	14%	13%	13%	13%	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases	4			8		8	2		2	6			
Actuated Green, G (s)	63.7	56.0		58.3	53.3	53.3	56.2	52.2	52.2	77.4	68.9		
Effective Green, g (s)	64.7	56.0		59.3	53.3	53.3	57.2	52.2	52.2	77.9	68.9		
Actuated g/C Ratio	0.43	0.37		0.39	0.35	0.35	0.38	0.35	0.35	0.52	0.46		
Clearance Time (s)	4.5	4.0		4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	235	617		103	599	509	91	576	490	296	746		
v/s Ratio Prot	c0.03	c0.43		c0.03	0.26		0.02	0.33		c0.15	0.49		
v/s Ratio Perm	0.17			0.33		0.06	0.21		0.02	c0.40			
v/c Ratio	0.47	1.16		0.93	0.74	0.18	0.62	0.94	0.06	1.07	1.08		
Uniform Delay, d ₁	30.0	47.5		39.9	42.7	33.7	37.8	47.9	33.0	42.9	41.0		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d ₂	1.5	89.8		66.8	4.7	0.2	11.7	26.0	0.2	73.5	57.1		
Delay (s)	31.4	137.3		106.8	47.4	33.8	49.5	74.0	33.2	116.4	98.1		
Level of Service	C	F		F	D	C	D	E	C	F	F		
Approach Delay (s)		123.2			50.9			66.7			103.2		
Approach LOS		F			D			E			F		
Intersection Summary													
HCM 2000 Control Delay			89.0									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.13										
Actuated Cycle Length (s)			150.9									Sum of lost time (s)	16.0
Intersection Capacity Utilization			94.2%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	0	0	0	20	0	20	0	600	10	10	705	0
Future Vol, veh/h	0	0	0	20	0	20	0	600	10	10	705	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	85	-	0	-	-	300	235	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	61	61	61	93	93	93	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	14	14	14
Mvmt Flow	0	0	0	33	0	33	0	645	11	11	783	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1451	1451	783	1451	1451	645	783	0	0	645	0	0
Stage 1	806	806	-	645	645	-	-	-	-	-	-	-
Stage 2	645	645	-	806	806	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.24	-	-	4.24	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.326	-	-	2.326	-	-
Pot Cap-1 Maneuver	109	131	394	109	131	472	784	-	-	885	-	-
Stage 1	376	395	-	461	467	-	-	-	-	-	-	-
Stage 2	461	467	-	376	395	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	100	129	394	108	129	472	784	-	-	885	-	-
Mov Cap-2 Maneuver	100	129	-	108	129	-	-	-	-	-	-	-
Stage 1	376	390	-	461	467	-	-	-	-	-	-	-
Stage 2	429	467	-	371	390	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	32.7	0	0.1
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	784	-	-	-	108	472	885	-	-
HCM Lane V/C Ratio	-	-	-	-	0.304	0.069	0.013	-	-
HCM Control Delay (s)	0	-	-	0	52.2	13.2	9.1	-	-
HCM Lane LOS	A	-	-	A	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1.2	0.2	0	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	610	0	0	725
Future Vol, veh/h	0	0	610	0	0	725
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	88	88	89	89
Heavy Vehicles, %	2	2	14	14	14	14
Mvmt Flow	0	0	693	0	0	815

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1508	693	0	0	693	0
Stage 1	693	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.24	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.326	-
Pot Cap-1 Maneuver	133	443	-	-	849	-
Stage 1	496	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	133	443	-	-	849	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	496	-	-	-	-	-
Stage 2	435	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	849
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	5	5	5	605	720	5
Future Vol, veh/h	5	5	5	605	720	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	60
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	88	88	87	87
Heavy Vehicles, %	2	2	12	12	12	12
Mvmt Flow	9	9	6	688	828	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1527	828	828	0	-	0
Stage 1	828	-	-	-	-	-
Stage 2	699	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.22	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.308	-	-	-
Pot Cap-1 Maneuver	129	371	762	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	493	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	127	371	762	-	-	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.1	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	762	-	189	-	-
HCM Lane V/C Ratio	0.007	-	0.096	-	-
HCM Control Delay (s)	9.8	0	26.1	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↑			↑↑
Traffic Vol, veh/h	0	0	610	0	0	725
Future Vol, veh/h	0	0	610	0	0	725
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	89	89	89	89
Heavy Vehicles, %	2	2	12	12	12	12
Mvmt Flow	0	0	685	0	0	815

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1092	685	0
Stage 1	685	-	-
Stage 2	407	-	-
Critical Hdwy	6.63	6.23	-
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.319	-
Pot Cap-1 Maneuver	223	447	0
Stage 1	499	-	0
Stage 2	641	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	223	447	-
Mov Cap-2 Maneuver	223	-	-
Stage 1	499	-	-
Stage 2	641	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection

Int Delay, s/veh 18.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↑	↖	↗	↖	
Traffic Vol, veh/h	30	5	55	5	5	25	120	555	25	30	660	35
Future Vol, veh/h	30	5	55	5	5	25	120	555	25	30	660	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	165	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	58	58	58	86	86	86	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	12	12	12	12	12	12
Mvmt Flow	40	7	73	9	9	43	140	645	29	34	742	39




























Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1779	1753	390	1366	1772	645	781	0	0	645	0	0
Stage 1	829	829	-	924	924	-	-	-	-	-	-	-
Stage 2	950	924	-	442	848	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.28	-	-	4.28	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.314	-	-	2.314	-	-
Pot Cap-1 Maneuver	58	85	610	115	83	471	782	-	-	883	-	-
Stage 1	332	384	-	322	347	-	-	-	-	-	-	-
Stage 2	312	347	-	565	377	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	40	67	610	79	66	471	782	-	-	883	-	-
Mov Cap-2 Maneuver	40	67	-	79	66	-	-	-	-	-	-	-
Stage 1	273	369	-	264	285	-	-	-	-	-	-	-
Stage 2	226	285	-	469	362	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	243.2	34.3	1.8	0.4
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	782	-	-	98	182	883	-
HCM Lane V/C Ratio	0.178	-	-	1.224	0.332	0.038	-
HCM Control Delay (s)	10.6	-	-	243.2	34.3	9.2	-
HCM Lane LOS	B	-	-	F	D	A	-
HCM 95th %tile Q(veh)	0.6	-	-	8.2	1.4	0.1	-

HCM Signalized Intersection Capacity Analysis
 24: SR 92 & Jimmy Lee Smith Pkwy

No Build 2025 AM
 08/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	60	1425	155	130	885	210	200	430	255	305	345	70
Future Volume (vph)	60	1425	155	130	885	210	200	430	255	305	345	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	3223	1442	1612	3223	1442	1656	1743	1482	1612	1696	1442
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.29	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	1612	3223	1442	1612	3223	1442	500	1743	1482	168	1696	1442
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.87	0.87	0.87	0.94	0.94	0.94
Adj. Flow (vph)	65	1549	168	137	932	221	230	494	293	324	367	74
RTOR Reduction (vph)	0	0	58	0	0	121	0	0	121	0	0	53
Lane Group Flow (vph)	65	1549	110	137	932	100	230	494	172	324	367	21
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	9%	9%	9%	12%	12%	12%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	9.1	57.9	57.9	10.5	59.3	59.3	50.8	36.0	36.0	60.0	40.7	40.7
Effective Green, g (s)	9.1	57.9	57.9	10.5	59.3	59.3	50.8	36.0	36.0	60.0	40.7	40.7
Actuated g/C Ratio	0.06	0.41	0.41	0.07	0.42	0.42	0.36	0.26	0.26	0.43	0.29	0.29
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	104	1324	592	120	1356	606	301	445	378	271	489	416
v/s Ratio Prot	0.04	c0.48		c0.09	0.29		0.08	0.28		c0.17	0.22	
v/s Ratio Perm			0.08			0.07	0.19		0.12	c0.34		0.01
v/c Ratio	0.62	1.17	0.19	1.14	0.69	0.16	0.76	1.11	0.46	1.20	0.75	0.05
Uniform Delay, d1	64.2	41.5	26.5	65.2	33.2	25.4	34.8	52.5	44.2	44.2	45.5	36.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.1	84.9	0.2	125.3	1.5	0.1	11.0	76.1	3.9	118.2	6.4	0.1
Delay (s)	75.4	126.4	26.6	190.5	34.7	25.5	45.8	128.6	48.1	162.5	51.9	36.2
Level of Service	E	F	C	F	C	C	D	F	D	F	D	D
Approach Delay (s)		115.1			49.7			86.7			97.2	
Approach LOS		F			D			F			F	

Intersection Summary		
HCM 2000 Control Delay	88.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.20	F
Actuated Cycle Length (s)	140.9	Sum of lost time (s)
Intersection Capacity Utilization	100.3%	17.0
Analysis Period (min)	15	ICU Level of Service
		G
c Critical Lane Group		

Intersection

Int Delay, s/veh 7.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↘	
Traffic Vol, veh/h	75	85	135	830	510	120
Future Vol, veh/h	75	85	135	830	510	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	89	89	92	92
Heavy Vehicles, %	2	2	9	9	6	6
Mvmt Flow	80	90	152	933	554	130

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1390	620	685	0	-	0
Stage 1	620	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.235	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.2855	-	-	-
Pot Cap-1 Maneuver	145	487	868	-	-	-
Stage 1	535	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	120	487	868	-	-	-
Mov Cap-2 Maneuver	120	-	-	-	-	-
Stage 1	535	-	-	-	-	-
Stage 2	345	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	79	1.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	868	-	200	-	-
HCM Lane V/C Ratio	0.175	-	0.851	-	-
HCM Control Delay (s)	10	-	79	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.6	-	6.3	-	-

Intersection

Int Delay, s/veh 18.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	10	20	5	125	30	840	80	130	465	0
Future Vol, veh/h	0	5	10	20	5	125	30	840	80	130	465	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	47	47	47	94	94	94	92	92	92	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	9	9	9	9	9	9
Mvmt Flow	0	11	21	21	5	133	33	913	87	146	522	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1906	1880	522	1853	1837	957	522	0	0	1000	0	0
Stage 1	815	815	-	1022	1022	-	-	-	-	-	-	-
Stage 2	1091	1065	-	831	815	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.19	-	-	4.19	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.281	-	-	2.281	-	-
Pot Cap-1 Maneuver	52	71	555	57	76	313	1010	-	-	665	-	-
Stage 1	371	391	-	285	313	-	-	-	-	-	-	-
Stage 2	260	299	-	364	391	-	-	-	-	-	-	-
Platoon blocked, %							-	-	-	-	-	-
Mov Cap-1 Maneuver	20	45	555	33	49	313	1010	-	-	665	-	-
Mov Cap-2 Maneuver	20	45	-	33	49	-	-	-	-	-	-	-
Stage 1	343	270	-	264	290	-	-	-	-	-	-	-
Stage 2	136	277	-	232	270	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.4	198.6	0.3	2.6
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1010	-	-	116	135	665	-
HCM Lane V/C Ratio	0.032	-	-	0.275	1.182	0.22	-
HCM Control Delay (s)	8.7	0	-	47.4	198.6	11.9	0
HCM Lane LOS	A	A	-	E	F	B	A
HCM 95th %tile Q(veh)	0.1	-	-	1	9.4	0.8	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↗
Traffic Vol, veh/h	0	5	5	950	495	0
Future Vol, veh/h	0	5	5	950	495	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	85	130	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	56	56	94	94	86	86
Heavy Vehicles, %	2	2	10	10	9	9
Mvmt Flow	0	9	5	1011	576	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1597	576	0
Stage 1	576	-	-
Stage 2	1021	-	-
Critical Hdwy	7.12	6.22	4.2
Critical Hdwy Stg 1	6.12	-	-
Critical Hdwy Stg 2	6.12	-	-
Follow-up Hdwy	3.518	3.318	2.29
Pot Cap-1 Maneuver	86	517	959
Stage 1	503	-	-
Stage 2	285	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	86	517	959
Mov Cap-2 Maneuver	86	-	-
Stage 1	500	-	-
Stage 2	284	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	959	-	-	517	-
HCM Lane V/C Ratio	0.006	-	-	0.017	-
HCM Control Delay (s)	8.8	-	0	12.1	-
HCM Lane LOS	A	-	A	B	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	0	0	0	955	500	0
Future Vol, veh/h	0	0	0	955	500	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	31	31	92	92	85	85
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	0	0	1038	588	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1626	588	588	0	-	0
Stage 1	588	-	-	-	-	-
Stage 2	1038	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-	-
Pot Cap-1 Maneuver	112	509	949	-	-	-
Stage 1	555	-	-	-	-	-
Stage 2	341	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	112	509	949	-	-	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	555	-	-	-	-	-
Stage 2	341	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	949	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	5	35	920	25	45	455
Future Vol, veh/h	5	35	920	25	45	455
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	46	46	92	92	85	85
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	11	76	1000	27	53	535

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1655	1014	0	0	1027	0
Stage 1	1014	-	-	-	-	-
Stage 2	641	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.2	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.29	-
Pot Cap-1 Maneuver	108	290	-	-	646	-
Stage 1	350	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	95	290	-	-	646	-
Mov Cap-2 Maneuver	95	-	-	-	-	-
Stage 1	350	-	-	-	-	-
Stage 2	464	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	29.7		0		1
HCM LOS	D				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	231	646
HCM Lane V/C Ratio	-	-	0.376	0.082
HCM Control Delay (s)	-	-	29.7	11.1
HCM Lane LOS	-	-	D	B
HCM 95th %tile Q(veh)	-	-	1.7	0.3

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	5	5	5	940	460	0
Future Vol, veh/h	5	5	5	940	460	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	97	97	86	86
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	10	10	5	969	535	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1514	535	535	0	-	0
Stage 1	535	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-	-
Pot Cap-1 Maneuver	132	545	994	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	131	545	994	-	-	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	360	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	994	-	211	-	-
HCM Lane V/C Ratio	0.005	-	0.095	-	-
HCM Control Delay (s)	8.6	0	23.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	5	945	0	0	465	0
Future Vol, veh/h	0	0	0	0	0	0	5	945	0	0	465	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	96	96	96	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0	5	984	0	0	547	0




















Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1542	1542	547	1542	1542	984	547	0	0	984	0	0
Stage 1	547	547	-	995	995	-	-	-	-	-	-	-
Stage 2	995	995	-	547	547	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	94	115	537	94	115	301	983	-	-	671	-	-
Stage 1	521	517	-	295	323	-	-	-	-	-	-	-
Stage 2	295	323	-	521	517	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	93	114	537	93	114	301	983	-	-	671	-	-
Mov Cap-2 Maneuver	93	114	-	93	114	-	-	-	-	-	-	-
Stage 1	515	517	-	292	319	-	-	-	-	-	-	-
Stage 2	292	319	-	521	517	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	983	-	-	-	671	-	-
HCM Lane V/C Ratio	0.005	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	0	0	-	-
HCM Lane LOS	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0	-	-

HCM Signalized Intersection Capacity Analysis
32: SR 92 & Oak Street

No Build 2025 AM
08/11/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	0	100	5	25	0	920	60	25	435	5
Future Volume (vph)	5	5	0	100	5	25	0	920	60	25	435	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Flt		1.00			0.97			0.99		1.00	1.00	
Flt Protected		0.98			0.96			1.00		0.95	1.00	
Satd. Flow (prot)		1817			1747			1595		1530	1607	
Flt Permitted		0.89			0.76			1.00		0.12	1.00	
Satd. Flow (perm)		1663			1382			1595		190	1607	
Peak-hour factor, PHF	0.52	0.52	0.52	0.77	0.77	0.77	0.94	0.94	0.94	0.88	0.88	0.88
Adj. Flow (vph)	10	10	0	130	6	32	0	979	64	28	494	6
RTOR Reduction (vph)	0	0	0	0	9	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	20	0	0	159	0	0	1041	0	28	500	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	18%	18%	18%	18%	18%	18%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.6			13.6			60.9		67.4	67.4	
Effective Green, g (s)		13.6			13.6			60.9		67.9	67.4	
Actuated g/C Ratio		0.15			0.15			0.68		0.76	0.76	
Clearance Time (s)		4.0			4.0			4.0		4.5	4.0	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		254			211			1091		182	1216	
v/s Ratio Prot								c0.65		0.00	c0.31	
v/s Ratio Perm		0.01			c0.11					0.11		
v/c Ratio		0.08			0.75			0.95		0.15	0.41	
Uniform Delay, d1		32.3			36.1			12.8		11.5	3.8	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.1			14.0			18.2		0.4	0.2	
Delay (s)		32.5			50.1			31.0		11.9	4.0	
Level of Service		C			D			C		B	A	
Approach Delay (s)		32.5			50.1			31.0			4.4	
Approach LOS		C			D			C			A	
Intersection Summary												
HCM 2000 Control Delay			24.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			89.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			69.9%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	980	5	0	535
Future Vol, veh/h	0	0	980	5	0	535
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	33	33	94	94	88	88
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	0	0	1043	5	0	608

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1653	1045	0	0	1048	0
Stage 1	1045	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.28	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	108	278	-	-	606	-
Stage 1	339	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	108	278	-	-	606	-
Mov Cap-2 Maneuver	108	-	-	-	-	-
Stage 1	339	-	-	-	-	-
Stage 2	543	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	606	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	0	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	5	5	0	5	5	980	5	5	530	0
Future Vol, veh/h	0	0	5	5	0	5	5	980	5	5	530	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	45	50	50	50	96	96	96	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	18	18	18	18	18	18
Mvmt Flow	0	0	11	10	0	10	5	1021	5	6	589	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1639	1636	589	1640	1634	1023	589	0	0	1026	0	0
Stage 1	600	600	-	1034	1034	-	-	-	-	-	-	-
Stage 2	1039	1036	-	606	600	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.28	-	-	4.28	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.362	-	-	2.362	-	-
Pot Cap-1 Maneuver	80	101	508	80	101	286	912	-	-	618	-	-
Stage 1	488	490	-	280	309	-	-	-	-	-	-	-
Stage 2	279	309	-	484	490	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	76	98	508	77	98	286	912	-	-	618	-	-
Mov Cap-2 Maneuver	76	98	-	77	98	-	-	-	-	-	-	-
Stage 1	482	483	-	276	305	-	-	-	-	-	-	-
Stage 2	266	305	-	467	483	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	40.6	0	0.1
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	912	-	-	508	121	618	-	-
HCM Lane V/C Ratio	0.006	-	-	0.022	0.165	0.009	-	-
HCM Control Delay (s)	9	0	-	12.2	40.6	10.9	0	-
HCM Lane LOS	A	A	-	B	E	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.6	0	-	-

Intersection

Int Delay, s/veh 1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	5	20	970	10	20	520
Future Vol, veh/h	5	20	970	10	20	520
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	46	46	94	94	91	91
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	11	43	1032	11	22	571

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1652	1037	0
Stage 1	1037	-	-
Stage 2	615	-	-
Critical Hdwy	6.42	6.22	4.28
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.362
Pot Cap-1 Maneuver	108	281	609
Stage 1	342	-	-
Stage 2	539	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	102	281	609
Mov Cap-2 Maneuver	102	-	-
Stage 1	342	-	-
Stage 2	510	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.3	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	208	609
HCM Lane V/C Ratio	-	-	0.261	0.036
HCM Control Delay (s)	-	-	28.3	11.1
HCM Lane LOS	-	-	D	B
HCM 95th %tile Q(veh)	-	-	1	0.1

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	980	10	0	525
Future Vol, veh/h	0	0	980	10	0	525
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	86	86
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	0	0	1065	11	0	610

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1681	1071	0	0	1076	0
Stage 1	1071	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.28	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	104	268	-	-	591	-
Stage 1	329	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	104	268	-	-	591	-
Mov Cap-2 Maneuver	104	-	-	-	-	-
Stage 1	329	-	-	-	-	-
Stage 2	542	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	591
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	10	0	990	95	0	525
Future Vol, veh/h	10	0	990	95	0	525
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	54	54	91	91	86	86
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	19	0	1088	104	0	610
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1750	1140	0	0	1192	0
Stage 1	1140	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.28	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	94	245	-	-	533	-
Stage 1	305	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	94	245	-	-	533	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	52.5		0		0	
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	- 94	533	-		
HCM Lane V/C Ratio	-	- 0.197	-	-		
HCM Control Delay (s)	-	- 52.5	0	-		
HCM Lane LOS	-	- F	A	-		
HCM 95th %tile Q(veh)	-	- 0.7	0	-		

HCM Signalized Intersection Capacity Analysis
38: SR 92 & Hiram Sudie Road

No Build 2025 AM
08/11/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	270	75	85	815	0	340	195
Future Volume (vph)	270	75	85	815	0	340	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1719	3438		3438	1538
Flt Permitted	0.95	1.00	0.45	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	821	3438		3438	1538
Peak-hour factor, PHF	0.77	0.77	0.89	0.89	0.95	0.86	0.86
Adj. Flow (vph)	351	97	96	916	0	395	227
RTOR Reduction (vph)	0	71	0	0	0	0	118
Lane Group Flow (vph)	351	26	96	916	0	395	109
Heavy Vehicles (%)	2%	2%	5%	5%	2%	5%	5%
Turn Type	Prot	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases	7		5	2		6	
Permitted Phases		7	2		6		6
Actuated Green, G (s)	19.2	19.2	45.3	45.3		35.0	35.0
Effective Green, g (s)	19.7	19.2	45.8	45.3		35.0	35.0
Actuated g/C Ratio	0.27	0.26	0.63	0.62		0.48	0.48
Clearance Time (s)	4.5	4.5	4.5	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	477	416	592	2133		1648	737
v/s Ratio Prot	c0.20		0.01	c0.27		0.11	
v/s Ratio Perm		0.02	0.09				0.07
v/c Ratio	0.74	0.06	0.16	0.43		0.24	0.15
Uniform Delay, d1	24.3	20.1	5.6	7.2		11.2	10.6
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.8	0.1	0.1	0.6		0.1	0.1
Delay (s)	30.1	20.2	5.7	7.8		11.3	10.7
Level of Service	C	C	A	A		B	B
Approach Delay (s)	28.0			7.6		11.1	
Approach LOS	C			A		B	

Intersection Summary

HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	73.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
39: SR 92 & Nebo Rd

No Build 2025 AM
08/11/2017



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	180	30	25	720	340	75
Future Volume (vph)	180	30	25	720	340	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1719	3438	1810	1538
Flt Permitted	0.95	1.00	0.40	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	733	3438	1810	1538
Peak-hour factor, PHF	0.75	0.75	0.91	0.91	0.76	0.76
Adj. Flow (vph)	240	40	27	791	447	99
RTOR Reduction (vph)	0	32	0	0	0	39
Lane Group Flow (vph)	240	8	27	791	447	60
Heavy Vehicles (%)	2%	2%	5%	5%	5%	5%
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	15.3	15.3	53.6	53.6	47.3	47.3
Effective Green, g (s)	15.8	15.3	54.1	54.1	47.3	47.3
Actuated g/C Ratio	0.20	0.20	0.69	0.69	0.61	0.61
Clearance Time (s)	4.5	4.5	4.5	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	358	310	544	2387	1099	933
v/s Ratio Prot			0.00	c0.23	c0.25	
v/s Ratio Perm	c0.14	0.00	0.03			0.04
v/c Ratio	0.67	0.03	0.05	0.33	0.41	0.06
Uniform Delay, d1	28.6	25.3	4.4	4.7	8.0	6.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	0.0	0.0	0.1	1.1	0.1
Delay (s)	33.5	25.3	4.4	4.8	9.1	6.4
Level of Service	C	C	A	A	A	A
Approach Delay (s)	32.3			4.8	8.6	
Approach LOS	C			A	A	

Intersection Summary

HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	12.5
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Arterial Level of Service: NB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Nebo Rd	I	45	10.0	5.9	15.9	0.10	21.7	D
Hiram Sudie Road	I	45	31.8	8.9	40.7	0.32	28.4	C
Oak Street	I	40	60.9	28.7	89.6	0.67	27.1	C
Jimmy Lee Smith Pkwy	I	44	74.6	121.0	195.6	0.91	16.8	E
Macland Rd	I	45	99.6	76.1	175.7	1.25	25.5	D
Dallas Rd	I	50	74.4	67.9	142.3	1.03	26.1	D
E Paulding Dr	I	50	91.5	48.8	140.3	1.27	32.6	C
Total	I		442.8	357.3	800.1	5.55	25.0	D

Arterial Level of Service: SB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Paulding Dr	I	50	10.7	37.4	48.1	0.11	8.0	F
Dallas Rd	I	50	91.5	125.2	216.7	1.27	21.1	D
Macland Rd	I	50	84.4	93.1	177.5	1.17	23.7	D
Jimmy Lee Smith Pkwy	I	45	99.6	55.8	155.4	1.25	28.9	C
Oak Street	I	44	74.6	5.5	80.1	0.91	41.1	B
Hiram Sudie Road	I	40	60.9	13.4	74.3	0.67	32.7	C
Nebo Rd	I	45	31.8	10.3	42.1	0.32	27.5	C
Total	I		453.5	340.7	794.2	5.70	25.8	D

HCM Signalized Intersection Capacity Analysis
 1: SR 92 & E Paulding Dr

No Build 2025 PM
 09/18/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	260	195	35	470	145	260	565	30	110	595	60
Future Volume (vph)	45	260	195	35	470	145	260	565	30	110	595	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1671	1759	1495	1671	1759	1495	1687	1762		1641	1727	1468
Flt Permitted	0.11	1.00	1.00	0.40	1.00	1.00	0.08	1.00		0.25	1.00	1.00
Satd. Flow (perm)	191	1759	1495	704	1759	1495	134	1762		428	1727	1468
Peak-hour factor, PHF	0.89	0.89	0.89	0.92	0.92	0.92	0.97	0.97	0.97	0.87	0.87	0.87
Adj. Flow (vph)	51	292	219	38	511	158	268	582	31	126	684	69
RTOR Reduction (vph)	0	0	153	0	0	111	0	2	0	0	0	41
Lane Group Flow (vph)	51	292	66	38	511	47	268	611	0	126	684	28
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	7%	7%	7%	10%	10%	10%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	40.2	36.3	36.3	38.4	35.4	35.4	67.1	56.3		55.0	48.7	48.7
Effective Green, g (s)	41.2	36.8	36.3	39.4	35.9	35.9	67.6	56.8		56.0	49.2	48.7
Actuated g/C Ratio	0.34	0.31	0.30	0.33	0.30	0.30	0.56	0.47		0.47	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	119	539	452	259	526	447	262	834		268	708	596
v/s Ratio Prot	c0.02	0.17		0.00	c0.29		c0.12	0.35		0.03	0.40	
v/s Ratio Perm	0.13		0.04	0.04		0.03	c0.46			0.19		0.02
v/c Ratio	0.43	0.54	0.15	0.15	0.97	0.11	1.02	0.73		0.47	0.97	0.05
Uniform Delay, d1	30.6	34.5	30.5	28.2	41.5	30.4	38.2	25.4		20.7	34.5	21.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.5	1.1	0.2	0.3	31.9	0.1	61.6	5.7		1.3	26.5	0.1
Delay (s)	33.1	35.7	30.6	28.5	73.4	30.5	99.8	31.1		22.0	61.0	21.7
Level of Service	C	D	C	C	E	C	F	C		C	E	C
Approach Delay (s)		33.5			61.4			52.0			52.3	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	50.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection

Int Delay, s/veh 0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	10	10	845	10	10	815
Future Vol, veh/h	10	10	845	10	10	815
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	255	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	93	93	91	91
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	13	13	909	11	11	896

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1827	909	0	-	909	0
Stage 1	909	-	-	-	-	-
Stage 2	918	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263	-
Pot Cap-1 Maneuver	84	333	-	0	729	-
Stage 1	393	-	-	0	-	-
Stage 2	389	-	-	0	-	-
Platoon blocked, %			-			
Mov Cap-1 Maneuver	83	333	-	-	729	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	383	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	36.4		0		0.1
HCM LOS	E				

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	83	333	729	-
HCM Lane V/C Ratio	-	0.161	0.04	0.015	-
HCM Control Delay (s)	-	56.5	16.3	10	-
HCM Lane LOS	-	F	C	B	-
HCM 95th %tile Q(veh)	-	0.5	0.1	0	-

Intersection

Int Delay, s/veh 26.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↗
Traffic Vol, veh/h	30	50	30	825	775	10
Future Vol, veh/h	30	50	30	825	775	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	0	175	-	-	145
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	34	34	89	89	85	85
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	88	147	34	927	912	12

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1906	912	0
Stage 1	912	-	-
Stage 2	994	-	-
Critical Hdwy	7.17	6.27	4.17
Critical Hdwy Stg 1	6.17	-	-
Critical Hdwy Stg 2	6.17	-	-
Follow-up Hdwy	3.563	3.363	2.263
Pot Cap-1 Maneuver	~ 50	325	727
Stage 1	321	-	-
Stage 2	289	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	~ 48	325	727
Mov Cap-2 Maneuver	~ 48	-	-
Stage 1	306	-	-
Stage 2	275	-	-

Approach	EB	NB	SB
HCM Control Delay, s	233.4	0.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	727	-	48	325	-	-
HCM Lane V/C Ratio	0.046	-	1.838	0.452	-	-
HCM Control Delay (s)	10.2	-	\$ 581	24.9	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	8.8	2.3	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	20	10	20	835	800	25
Future Vol, veh/h	20	10	20	835	800	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	93	93	86	86
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	29	14	22	898	930	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1871	930	930	0	-	0
Stage 1	930	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	79	324	715	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	380	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	74	324	715	-	-	-
Mov Cap-2 Maneuver	74	-	-	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	357	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	65.6	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	715	-	100	-	-
HCM Lane V/C Ratio	0.03	-	0.429	-	-
HCM Control Delay (s)	10.2	0	65.6	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	1.8	-	-

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Traffic Vol, veh/h	0	0	20	5	0	0	30	855	5	0	810	0
Future Vol, veh/h	0	0	20	5	0	0	30	855	5	0	810	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	55	55	55	94	94	94	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	0	0	31	9	0	0	32	910	5	0	880	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1856	1859	880	1872	1856	912	880	0	0	915	0	0
Stage 1	880	880	-	976	976	-	-	-	-	-	-	-
Stage 2	976	979	-	896	880	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	56	73	346	55	74	332	747	-	-	725	-	-
Stage 1	342	365	-	302	329	-	-	-	-	-	-	-
Stage 2	302	328	-	335	365	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	52	67	346	47	68	332	747	-	-	725	-	-
Mov Cap-2 Maneuver	52	67	-	47	68	-	-	-	-	-	-	-
Stage 1	312	365	-	276	300	-	-	-	-	-	-	-
Stage 2	276	299	-	305	365	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	99.1	0.3	0
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	747	-	-	346	47	725	-	-
HCM Lane V/C Ratio	0.043	-	-	0.09	0.193	-	-	-
HCM Control Delay (s)	10	0	-	16.4	99.1	0	-	-
HCM Lane LOS	B	A	-	C	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.6	0	-	-

HCM Signalized Intersection Capacity Analysis
8: SR 92 & Dallas Rd

No Build 2025 PM
09/18/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	730	60	300	1325	80	85	590	230	75	465	295
Future Volume (vph)	220	730	60	300	1325	80	85	590	230	75	465	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1597	3195	1429	1597	3195	1429	1556	1638	1392	1687	1776	1509
Flt Permitted	0.08	1.00	1.00	0.16	1.00	1.00	0.12	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	139	3195	1429	266	3195	1429	204	1638	1392	133	1776	1509
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.95	0.95	0.95	0.84	0.84	0.84
Adj. Flow (vph)	232	768	63	333	1472	89	89	621	242	89	554	351
RTOR Reduction (vph)	0	0	43	0	0	53	0	0	103	0	0	143
Lane Group Flow (vph)	232	768	20	333	1472	36	89	621	139	89	554	208
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	16%	16%	16%	7%	7%	7%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	61.4	47.9	47.9	78.5	60.5	60.5	58.0	53.0	53.0	58.0	53.0	53.0
Effective Green, g (s)	62.4	48.4	47.9	79.0	61.0	60.5	59.0	53.5	53.5	59.0	53.5	53.5
Actuated g/C Ratio	0.42	0.32	0.32	0.53	0.41	0.40	0.39	0.36	0.36	0.39	0.36	0.36
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	193	1030	456	376	1299	576	129	584	496	109	633	538
v/s Ratio Prot	c0.11	0.24		0.16	c0.46		0.03	c0.38		c0.03	0.31	
v/s Ratio Perm	c0.39		0.01	0.31		0.03	0.24		0.10	0.29		0.14
v/c Ratio	1.20	0.75	0.04	0.89	1.13	0.06	0.69	1.06	0.28	0.82	0.88	0.39
Uniform Delay, d1	45.5	45.3	35.2	33.6	44.5	27.4	35.1	48.2	34.5	37.1	45.1	36.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	129.8	3.0	0.0	21.2	70.0	0.0	14.3	55.2	1.4	35.7	15.6	2.1
Delay (s)	175.3	48.3	35.3	54.8	114.5	27.4	49.4	103.5	35.9	72.8	60.7	38.1
Level of Service	F	D	D	D	F	C	D	F	D	E	E	D
Approach Delay (s)		75.2			99.9			81.2			53.8	
Approach LOS		E			F			F			D	
Intersection Summary												
HCM 2000 Control Delay			81.6	HCM 2000 Level of Service				F				
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			150.0	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			97.4%	ICU Level of Service				F				
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↑	↗	↖	↑
Traffic Vol, veh/h	5	5	895	10	5	820
Future Vol, veh/h	5	5	895	10	5	820
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	150	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	93	93	90	90
Heavy Vehicles, %	2	2	16	16	16	16
Mvmt Flow	5	5	962	11	6	911

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1884	962	0	0	962	0
Stage 1	962	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.26	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.344	-
Pot Cap-1 Maneuver	78	310	-	-	662	-
Stage 1	371	-	-	-	-	-
Stage 2	387	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	77	310	-	-	662	-
Mov Cap-2 Maneuver	77	-	-	-	-	-
Stage 1	371	-	-	-	-	-
Stage 2	383	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	36.1		0		0.1
HCM LOS	E				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	77	310	662	-
HCM Lane V/C Ratio	-	-	0.071	0.018	0.008	-
HCM Control Delay (s)	-	-	55.3	16.8	10.5	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	0	-

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↕	↕		↕	↕	
Traffic Vol, veh/h	5	0	5	0	0	0	10	900	0	0	815	10
Future Vol, veh/h	5	0	5	0	0	0	10	900	0	0	815	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	25	25	25	95	95	95	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	16	16	16	16	16	16
Mvmt Flow	7	0	7	0	0	0	11	947	0	0	916	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1889	1889	921	1893	1895	947	927	0	0	947	0	0
Stage 1	921	921	-	968	968	-	-	-	-	-	-	-
Stage 2	968	968	-	925	927	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.26	-	-	4.26	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.344	-	-	2.344	-	-
Pot Cap-1 Maneuver	53	70	328	53	70	317	683	-	-	671	-	-
Stage 1	324	349	-	305	332	-	-	-	-	-	-	-
Stage 2	305	332	-	323	347	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	52	69	328	51	69	317	683	-	-	671	-	-
Mov Cap-2 Maneuver	52	69	-	51	69	-	-	-	-	-	-	-
Stage 1	319	349	-	300	327	-	-	-	-	-	-	-
Stage 2	300	327	-	316	347	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	52.5	0	0.1	0
HCM LOS	F	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	683	-	-	90	-	671	-	-
HCM Lane V/C Ratio	0.015	-	-	0.161	-	-	-	-
HCM Control Delay (s)	10.4	-	-	52.5	0	0	-	-
HCM Lane LOS	B	-	-	F	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	-	0	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	5	5	5	905	815	5
Future Vol, veh/h	5	5	5	905	815	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	92	92
Heavy Vehicles, %	2	2	10	10	16	16
Mvmt Flow	8	8	5	995	886	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1894	889	891	0	-	0
Stage 1	889	-	-	-	-	-
Stage 2	1005	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-	-
Pot Cap-1 Maneuver	77	342	728	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	76	342	728	-	-	-
Mov Cap-2 Maneuver	76	-	-	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	349	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.2	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	728	-	124	-	-
HCM Lane V/C Ratio	0.008	-	0.128	-	-
HCM Control Delay (s)	10	0	38.2	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection

Int Delay, s/veh 21.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↵		↶	↵	↶	↶	↵	↶	↶
Traffic Vol, veh/h	5	0	10	45	0	60	10	845	45	60	755	5
Future Vol, veh/h	5	0	10	45	0	60	10	845	45	60	755	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	100	-	0	260	-	280	180	-	280
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	59	59	59	58	58	58	95	95	95	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	10	10	10	10	10	10
Mvmt Flow	8	0	17	78	0	103	11	889	47	67	848	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1894	1894	848	1903	-	889	848	0	0	889	0	0
Stage 1	983	983	-	911	-	-	-	-	-	-	-	-
Stage 2	911	911	-	992	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	53	70	361	~ 52	0	342	756	-	-	730	-	-
Stage 1	299	327	-	328	0	-	-	-	-	-	-	-
Stage 2	328	353	-	296	0	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	34	63	361	~ 46	-	342	756	-	-	730	-	-
Mov Cap-2 Maneuver	34	63	-	~ 46	-	-	-	-	-	-	-	-
Stage 1	295	297	-	323	-	-	-	-	-	-	-	-
Stage 2	225	348	-	256	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	63.6	237	0.1	0.8
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	756	-	-	86	46	342	730	-	-
HCM Lane V/C Ratio	0.014	-	-	0.296	1.687	0.302	0.092	-	-
HCM Control Delay (s)	9.8	-	-	63.6	526.3	20	10.4	-	-
HCM Lane LOS	A	-	-	F	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	1.1	7.7	1.2	0.3	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	5	5	5	895	805	5
Future Vol, veh/h	5	5	5	895	805	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	155
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	92	92	94	94
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	6	6	5	973	856	5

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1840	856	0
Stage 1	856	-	-
Stage 2	984	-	-
Critical Hdwy	6.42	6.22	4.2
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.29
Pot Cap-1 Maneuver	83	357	751
Stage 1	416	-	-
Stage 2	362	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	82	357	751
Mov Cap-2 Maneuver	82	-	-
Stage 1	416	-	-
Stage 2	357	-	-

Approach	EB	NB	SB
HCM Control Delay, s	34.9	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	751	-	133	-	-
HCM Lane V/C Ratio	0.007	-	0.094	-	-
HCM Control Delay (s)	9.8	0	34.9	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			↑
Traffic Vol, veh/h	0	0	900	0	0	810
Future Vol, veh/h	0	0	900	0	0	810
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	93	93	90	90
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	0	968	0	0	900

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1868	968	0	0	-	-
Stage 1	968	-	-	-	-	-
Stage 2	900	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	80	308	-	-	0	-
Stage 1	368	-	-	-	0	-
Stage 2	397	-	-	-	0	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	80	308	-	-	-	-
Mov Cap-2 Maneuver	80	-	-	-	-	-
Stage 1	368	-	-	-	-	-
Stage 2	397	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↗	↗
Traffic Vol, veh/h	0	25	25	900	810	0
Future Vol, veh/h	0	25	25	900	810	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	94	94	92	92
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	30	27	957	880	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1891	880	880	0	-	0
Stage 1	880	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-	-
Pot Cap-1 Maneuver	77	346	735	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	74	346	735	-	-	-
Mov Cap-2 Maneuver	74	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	339	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.4	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	735	-	346	-	-
HCM Lane V/C Ratio	0.036	-	0.087	-	-
HCM Control Delay (s)	10.1	-	16.4	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

HCM Signalized Intersection Capacity Analysis
17: SR 92 & Macland Rd

No Build 2025 PM
09/18/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	75	320	60	125	600	250	85	600	85	170	570	95	
Future Volume (vph)	75	320	60	125	600	250	85	600	85	170	570	95	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Fr _t	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		
Fl _t Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1626	1671		1626	1712	1455	1612	1696	1442	1641	1690		
Fl _t Permitted	0.09	1.00		0.25	1.00	1.00	0.08	1.00	1.00	0.11	1.00		
Satd. Flow (perm)	150	1671		427	1712	1455	130	1696	1442	185	1690		
Peak-hour factor, PHF	0.89	0.89	0.89	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	84	360	67	132	632	263	89	632	89	185	620	103	
RTOR Reduction (vph)	0	5	0	0	0	127	0	0	50	0	5	0	
Lane Group Flow (vph)	84	422	0	132	632	136	89	632	39	185	718	0	
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	12%	12%	12%	10%	10%	10%	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases	4			8		8	2		2	6			
Actuated Green, G (s)	50.0	45.0		54.0	47.0	47.0	57.2	51.9	51.9	64.8	55.7		
Effective Green, g (s)	51.0	45.0		55.0	47.0	47.0	58.2	51.9	51.9	65.8	55.7		
Actuated g/C Ratio	0.39	0.35		0.42	0.36	0.36	0.45	0.40	0.40	0.51	0.43		
Clearance Time (s)	4.5	4.0		4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	121	578		249	618	526	124	677	575	201	724		
v/s Ratio Prot	c0.03	0.25		c0.03	c0.37		0.03	0.37		c0.07	c0.43		
v/s Ratio Perm	0.24			0.19		0.09	0.29		0.03	0.40			
v/c Ratio	0.69	0.73		0.53	1.02	0.26	0.72	0.93	0.07	0.92	0.99		
Uniform Delay, d ₁	31.6	37.2		26.2	41.5	29.2	28.9	37.4	24.1	27.0	36.9		
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d ₂	15.9	4.6		2.2	42.1	0.3	17.9	21.7	0.2	41.7	31.4		
Delay (s)	47.5	41.8		28.4	83.6	29.5	46.8	59.1	24.3	68.7	68.3		
Level of Service	D	D		C	F	C	D	E	C	E	E		
Approach Delay (s)		42.7			62.6			53.9			68.4		
Approach LOS		D			E			D			E		
Intersection Summary													
HCM 2000 Control Delay			58.9	HCM 2000 Level of Service						E			
HCM 2000 Volume to Capacity ratio			1.01										
Actuated Cycle Length (s)			130.0	Sum of lost time (s)						16.0			
Intersection Capacity Utilization			90.1%	ICU Level of Service						E			
Analysis Period (min)			15										
c Critical Lane Group													

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	0	0	0	25	0	25	0	745	30	25	730	0
Future Vol, veh/h	0	0	0	25	0	25	0	745	30	25	730	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	85	-	0	-	-	300	235	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	82	82	82	89	89	89	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	12	12	12	12	12	12
Mvmt Flow	0	0	0	30	0	30	0	837	34	29	859	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1755	1755	859	1755	1755	837	859	0	0	837	0	0
Stage 1	918	918	-	837	837	-	-	-	-	-	-	-
Stage 2	837	837	-	918	918	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.22	-	-	4.22	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.308	-	-	2.308	-	-
Pot Cap-1 Maneuver	67	85	356	67	85	367	741	-	-	756	-	-
Stage 1	326	350	-	361	382	-	-	-	-	-	-	-
Stage 2	361	382	-	326	350	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	60	82	356	65	82	367	741	-	-	756	-	-
Mov Cap-2 Maneuver	60	82	-	65	82	-	-	-	-	-	-	-
Stage 1	326	337	-	361	382	-	-	-	-	-	-	-
Stage 2	331	382	-	313	337	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	58.9	0	0.3
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	741	-	-	-	65	367	756	-	-
HCM Lane V/C Ratio	-	-	-	-	0.469	0.083	0.039	-	-
HCM Control Delay (s)	0	-	-	0	102	15.7	10	-	-
HCM Lane LOS	A	-	-	A	F	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1.9	0.3	0.1	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	775	0	0	755
Future Vol, veh/h	0	0	775	0	0	755
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	33	33	89	89	89	89
Heavy Vehicles, %	2	2	12	12	12	12
Mvmt Flow	0	0	871	0	0	848

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1719	871	0	0	871	0
Stage 1	871	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.22	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.308	-
Pot Cap-1 Maneuver	99	350	-	-	733	-
Stage 1	410	-	-	-	-	-
Stage 2	420	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	99	350	-	-	733	-
Mov Cap-2 Maneuver	99	-	-	-	-	-
Stage 1	410	-	-	-	-	-
Stage 2	420	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	733
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	5	5	5	770	750	5
Future Vol, veh/h	5	5	5	770	750	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	60
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	31	31	87	87	84	84
Heavy Vehicles, %	2	2	8	8	12	12
Mvmt Flow	16	16	6	885	893	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1790	893	893	0	-	0
Stage 1	893	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	89	340	735	-	-	-
Stage 1	400	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	88	340	735	-	-	-
Mov Cap-2 Maneuver	88	-	-	-	-	-
Stage 1	400	-	-	-	-	-
Stage 2	392	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.2	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	735	-	140	-	-
HCM Lane V/C Ratio	0.008	-	0.23	-	-
HCM Control Delay (s)	9.9	0	38.2	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↑			↑↑
Traffic Vol, veh/h	0	0	775	0	0	755
Future Vol, veh/h	0	0	775	0	0	755
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	92	92	95	95
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	0	842	0	0	795

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1239	842	0	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	-	-
Pot Cap-1 Maneuver	180	363	-	0	0	-
Stage 1	422	-	-	0	0	-
Stage 2	649	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	180	363	-	-	-	-
Mov Cap-2 Maneuver	180	-	-	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	649	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection

Int Delay, s/veh 71.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↖	↗	↗	↖	↖
Traffic Vol, veh/h	45	10	105	10	10	35	95	695	10	50	655	50
Future Vol, veh/h	45	10	105	10	10	35	95	695	10	50	655	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	165	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	73	73	73	92	92	92	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	8	8	8	8	8	8
Mvmt Flow	58	13	135	14	14	48	103	755	11	55	720	55

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1850	1819	387	1438	1847	755	775	0	0	755	0	0
Stage 1	857	857	-	962	962	-	-	-	-	-	-	-
Stage 2	993	962	-	476	885	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.22	-	-	4.22	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.276	-	-	2.276	-	-
Pot Cap-1 Maneuver	~ 51	77	612	102	74	408	807	-	-	821	-	-
Stage 1	319	373	-	307	333	-	-	-	-	-	-	-
Stage 2	295	333	-	540	362	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	~ 32	63	612	58	60	408	807	-	-	821	-	-
Mov Cap-2 Maneuver	~ 32	63	-	58	60	-	-	-	-	-	-	-
Stage 1	278	348	-	268	290	-	-	-	-	-	-	-
Stage 2	216	290	-	379	338	-	-	-	-	-	-	-




























Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 661.1	66.2	1.2	0.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	807	-	-	92 129	821	-	-
HCM Lane V/C Ratio	0.128	-	-	2.23 0.584	0.067	-	-
HCM Control Delay (s)	10.1	-	-	\$ 661.1 66.2	9.7	-	-
HCM Lane LOS	B	-	-	F F	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	18.3 2.9	0.2	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis
 24: SR 92 & Jimmy Lee Smith Pkwy

No Build 2025 PM
 09/18/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	70	1050	195	250	1540	310	195	420	170	235	460	75
Future Volume (vph)	70	1050	195	250	1540	310	195	420	170	235	460	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1687	3374	1509	1687	3374	1509	1703	1792	1524	1671	1759	1495
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.13	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	1687	3374	1509	1687	3374	1509	237	1792	1524	215	1759	1495
Peak-hour factor, PHF	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.96	0.96	0.96
Adj. Flow (vph)	71	1071	199	260	1604	323	207	447	181	245	479	78
RTOR Reduction (vph)	0	0	116	0	0	127	0	0	134	0	0	57
Lane Group Flow (vph)	71	1071	83	260	1604	197	207	447	47	245	479	21
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	8%	8%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	5.7	40.2	40.2	19.5	54.0	54.0	40.7	30.2	30.2	45.9	32.8	32.8
Effective Green, g (s)	5.7	40.2	40.2	19.5	54.0	54.0	40.7	30.2	30.2	45.9	32.8	32.8
Actuated g/C Ratio	0.05	0.34	0.34	0.16	0.45	0.45	0.34	0.25	0.25	0.38	0.27	0.27
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	80	1130	505	274	1518	679	208	450	383	241	480	408
v/s Ratio Prot	0.04	0.32		c0.15	c0.48		0.09	0.25		c0.11	0.27	
v/s Ratio Perm			0.05			0.13	0.25		0.03	c0.28		0.01
v/c Ratio	0.89	0.95	0.16	0.95	1.06	0.29	1.00	0.99	0.12	1.02	1.00	0.05
Uniform Delay, d1	56.8	38.9	28.1	49.8	33.0	20.9	33.7	44.8	34.7	33.3	43.6	32.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	63.6	15.7	0.2	40.2	39.7	0.2	60.7	40.8	0.7	62.3	40.2	0.1
Delay (s)	120.4	54.6	28.2	89.9	72.7	21.1	94.4	85.6	35.3	95.6	83.8	32.2
Level of Service	F	D	C	F	E	C	F	F	D	F	F	C
Approach Delay (s)		54.1			67.1			76.9			82.4	
Approach LOS		D			E			E			F	
Intersection Summary												
HCM 2000 Control Delay			67.7	HCM 2000 Level of Service				E				
HCM 2000 Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				17.0				
Intersection Capacity Utilization			96.0%	ICU Level of Service				F				
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 43.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↘	
Traffic Vol, veh/h	95	130	150	675	785	120
Future Vol, veh/h	95	130	150	675	785	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	90	90	98	98
Heavy Vehicles, %	2	2	6	6	6	6
Mvmt Flow	104	143	167	750	801	122

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1570	862	923	0	-	0
Stage 1	862	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.19	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.257	-	-	-
Pot Cap-1 Maneuver	111	354	718	-	-	-
Stage 1	412	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 85	354	718	-	-	-
Mov Cap-2 Maneuver	~ 85	-	-	-	-	-
Stage 1	412	-	-	-	-	-
Stage 2	345	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 362.6	2.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	718	-	152	-	-
HCM Lane V/C Ratio	0.232	-	1.627	-	-
HCM Control Delay (s)	11.5	-	\$ 362.6	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.9	-	17.3	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 54.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	20	45	5	95	10	730	45	105	810	0
Future Vol, veh/h	0	5	20	45	5	95	10	730	45	105	810	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	85	85	85	91	91	91	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	6	6	6	6	6	6
Mvmt Flow	0	7	30	53	6	112	11	802	49	111	853	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1982	1948	853	1941	1923	827	853	0	0	852	0	0
Stage 1	1074	1074	-	849	849	-	-	-	-	-	-	-
Stage 2	908	874	-	1092	1074	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.254	-	-	2.254	-	-
Pot Cap-1 Maneuver	46	65	359	~ 49	67	371	769	-	-	770	-	-
Stage 1	266	296	-	356	377	-	-	-	-	-	-	-
Stage 2	330	367	-	260	296	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	23	46	359	~ 31	47	371	769	-	-	770	-	-
Mov Cap-2 Maneuver	23	46	-	~ 31	47	-	-	-	-	-	-	-
Stage 1	259	215	-	346	367	-	-	-	-	-	-	-
Stage 2	221	357	-	167	215	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	36.2	\$ 633.6	0.1	1.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	769	-	-	152	80	770	-	-
HCM Lane V/C Ratio	0.014	-	-	0.245	2.132	0.144	-	-
HCM Control Delay (s)	9.7	0	-	36.2	\$ 633.6	10.5	0	-
HCM Lane LOS	A	A	-	E	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.9	15.5	0.5	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↷	↶	↷
Traffic Vol, veh/h	0	5	5	785	875	0
Future Vol, veh/h	0	5	5	785	875	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	85	130	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	94	94	91	91
Heavy Vehicles, %	2	2	7	7	6	6
Mvmt Flow	0	10	5	835	962	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1808	962	0
Stage 1	962	-	-
Stage 2	846	-	-
Critical Hdwy	6.42	6.22	4.17
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.263
Pot Cap-1 Maneuver	87	310	696
Stage 1	371	-	-
Stage 2	421	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	86	310	696
Mov Cap-2 Maneuver	86	-	-
Stage 1	371	-	-
Stage 2	418	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	696	-	-	310	-
HCM Lane V/C Ratio	0.008	-	-	0.032	-
HCM Control Delay (s)	10.2	-	0	17	-
HCM Lane LOS	B	-	A	C	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	0	0	0	790	880	0
Future Vol, veh/h	0	0	0	790	880	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	94	94	93	93
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	0	0	0	840	946	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1786	946	946	0	0
Stage 1	946	-	-	-	-
Stage 2	840	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-
Pot Cap-1 Maneuver	90	317	705	-	-
Stage 1	377	-	-	-	-
Stage 2	424	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	90	317	705	-	-
Mov Cap-2 Maneuver	90	-	-	-	-
Stage 1	377	-	-	-	-
Stage 2	424	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	705	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	5	30	760	10	45	835
Future Vol, veh/h	5	30	760	10	45	835
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	68	68	95	95	94	94
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	7	44	800	11	48	888

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1789	805	0	0	811	0
Stage 1	805	-	-	-	-	-
Stage 2	984	-	-	-	-	-
Critical Hdwy	7.12	6.22	-	-	4.17	-
Critical Hdwy Stg 1	6.12	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263	-
Pot Cap-1 Maneuver	63	382	-	-	794	-
Stage 1	376	-	-	-	-	-
Stage 2	299	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	57	382	-	-	794	-
Mov Cap-2 Maneuver	57	-	-	-	-	-
Stage 1	376	-	-	-	-	-
Stage 2	263	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	27.5		0		0.5
HCM LOS	D				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 211	794	-
HCM Lane V/C Ratio	-	- 0.244	0.06	-
HCM Control Delay (s)	-	- 27.5	9.8	0
HCM Lane LOS	-	- D	A	A
HCM 95th %tile Q(veh)	-	- 0.9	0.2	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	5	5	5	765	835	5
Future Vol, veh/h	5	5	5	765	835	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	91	91	94	94
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	9	9	5	841	888	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1743	891	894	0	-	0
Stage 1	891	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-	-
Pot Cap-1 Maneuver	95	341	738	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	94	341	738	-	-	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.9	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	738	-	147	-	-
HCM Lane V/C Ratio	0.007	-	0.124	-	-
HCM Control Delay (s)	9.9	0	32.9	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	5	0	5	0	0	0	5	765	0	0	835	5
Future Vol, veh/h	5	0	5	0	0	0	5	765	0	0	835	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	92	92	92	92	93	93	93	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	11	0	5	0	0	0	5	823	0	0	888	5




















Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1724	1724	891	1727	1727	823	894	0	0	823	0	0
Stage 1	891	891	-	833	833	-	-	-	-	-	-	-
Stage 2	833	833	-	894	894	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	70	89	341	70	89	373	738	-	-	785	-	-
Stage 1	337	361	-	363	384	-	-	-	-	-	-	-
Stage 2	363	384	-	336	360	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	69	88	341	68	88	373	738	-	-	785	-	-
Mov Cap-2 Maneuver	69	88	-	68	88	-	-	-	-	-	-	-
Stage 1	333	361	-	359	379	-	-	-	-	-	-	-
Stage 2	359	379	-	331	360	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	51.9	0	0.1	0
HCM LOS	F	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	738	-	-	93	-	785	-	-
HCM Lane V/C Ratio	0.007	-	-	0.178	-	-	-	-
HCM Control Delay (s)	9.9	0	-	51.9	0	0	-	-
HCM Lane LOS	A	A	-	F	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.6	-	0	-	-

HCM Signalized Intersection Capacity Analysis
32: SR 92 & Oak Street

No Build 2025 PM
09/18/2017

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	5	5	0	185	10	30	0	735	50	20	815	5	
Future Volume (vph)	5	5	0	185	10	30	0	735	50	20	815	5	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0		4.0	4.0		
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00		
Flt		1.00			0.98			0.99		1.00	1.00		
Flt Protected		0.98			0.96			1.00		0.95	1.00		
Satd. Flow (prot)		1817			1757			1665		1597	1680		
Flt Permitted		0.90			0.75			1.00		0.17	1.00		
Satd. Flow (perm)		1670			1379			1665		290	1680		
Peak-hour factor, PHF	0.68	0.68	0.68	0.88	0.88	0.88	0.92	0.92	0.92	0.96	0.96	0.96	
Adj. Flow (vph)	7	7	0	210	11	34	0	799	54	21	849	5	
RTOR Reduction (vph)	0	0	0	0	6	0	0	2	0	0	0	0	
Lane Group Flow (vph)	0	14	0	0	249	0	0	851	0	21	854	0	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	13%	13%	13%	13%	13%	13%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA		
Protected Phases		4			8			2		1	6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		18.3			18.3			54.3		60.7	60.7		
Effective Green, g (s)		18.3			18.3			54.3		61.2	60.7		
Actuated g/C Ratio		0.21			0.21			0.62		0.70	0.70		
Clearance Time (s)		4.0			4.0			4.0		4.5	4.0		
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0		
Lane Grp Cap (vph)		351			290			1039		240	1172		
v/s Ratio Prot								c0.51		0.00	c0.51		
v/s Ratio Perm		0.01			c0.18					0.06			
v/c Ratio		0.04			0.86			0.82		0.09	0.73		
Uniform Delay, d1		27.4			33.1			12.6		9.0	8.1		
Progression Factor		1.00			1.00			1.00		1.00	1.00		
Incremental Delay, d2		0.0			21.3			7.2		0.2	2.3		
Delay (s)		27.4			54.4			19.8		9.2	10.4		
Level of Service		C			D			B		A	B		
Approach Delay (s)		27.4			54.4			19.8			10.4		
Approach LOS		C			D			B			B		
Intersection Summary													
HCM 2000 Control Delay			20.1									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.84										
Actuated Cycle Length (s)			87.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			69.1%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	785	10	0	1000
Future Vol, veh/h	0	0	785	10	0	1000
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	95	95	97	97
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	826	11	0	1031

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1863	832	0	0	837	0
Stage 1	832	-	-	-	-	-
Stage 2	1031	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	80	369	-	-	752	-
Stage 1	427	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	80	369	-	-	752	-
Mov Cap-2 Maneuver	80	-	-	-	-	-
Stage 1	427	-	-	-	-	-
Stage 2	344	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	752	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	0	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	5	5	0	5	10	790	10	20	980	0
Future Vol, veh/h	0	0	5	5	0	5	10	790	10	20	980	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	56	56	50	91	91	91	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	13	13	13	13	13	13
Mvmt Flow	0	0	7	9	0	10	11	868	11	21	1010	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1953	1953	1010	1951	1948	874	1010	0	0	879	0	0
Stage 1	1052	1052	-	896	896	-	-	-	-	-	-	-
Stage 2	901	901	-	1055	1052	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.23	-	-	4.23	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.317	-	-	2.317	-	-
Pot Cap-1 Maneuver	48	64	291	48	65	349	645	-	-	724	-	-
Stage 1	274	303	-	335	359	-	-	-	-	-	-	-
Stage 2	333	357	-	273	303	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	43	58	291	43	59	349	645	-	-	724	-	-
Mov Cap-2 Maneuver	43	58	-	43	59	-	-	-	-	-	-	-
Stage 1	265	283	-	324	347	-	-	-	-	-	-	-
Stage 2	313	345	-	249	283	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.7	63.4	0.1	0.2
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	645	-	-	291	80	724	-	-
HCM Lane V/C Ratio	0.017	-	-	0.025	0.237	0.028	-	-
HCM Control Delay (s)	10.7	0	-	17.7	63.4	10.1	0	-
HCM Lane LOS	B	A	-	C	F	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.8	0.1	-	-

Intersection

Int Delay, s/veh 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	10	25	785	5	25	965
Future Vol, veh/h	10	25	785	5	25	965
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	93	93	98	98
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	13	32	844	5	26	985

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1883	847	0	0	849	0
Stage 1	847	-	-	-	-	-
Stage 2	1036	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	78	362	-	-	744	-
Stage 1	420	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	72	362	-	-	744	-
Mov Cap-2 Maneuver	72	-	-	-	-	-
Stage 1	420	-	-	-	-	-
Stage 2	316	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	34.1		0		0.3
HCM LOS	D				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 168	744	-
HCM Lane V/C Ratio	-	- 0.267	0.034	-
HCM Control Delay (s)	-	- 34.1	10	0
HCM Lane LOS	-	- D	B	A
HCM 95th %tile Q(veh)	-	- 1	0.1	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	790	20	0	975
Future Vol, veh/h	0	0	790	20	0	975
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	94	94	96	96
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	840	21	0	1016

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1867	851	0	0	862	0
Stage 1	851	-	-	-	-	-
Stage 2	1016	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	80	360	-	-	735	-
Stage 1	419	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	80	360	-	-	735	-
Mov Cap-2 Maneuver	80	-	-	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	350	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	735
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection

Int Delay, s/veh 1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	25	0	810	60	0	975
Future Vol, veh/h	25	0	810	60	0	975
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	95	95	96	96
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	34	0	853	63	0	1016

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1900	884	0	0	916	0
Stage 1	884	-	-	-	-	-
Stage 2	1016	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	76	344	-	-	701	-
Stage 1	404	-	-	-	-	-
Stage 2	350	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	76	344	-	-	701	-
Mov Cap-2 Maneuver	76	-	-	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	350	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	86.5		0		0
HCM LOS	F				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 76	701	-
HCM Lane V/C Ratio	-	- 0.451	-	-
HCM Control Delay (s)	-	- 86.5	0	-
HCM Lane LOS	-	- F	A	-
HCM 95th %tile Q(veh)	-	- 1.8	0	-

HCM Signalized Intersection Capacity Analysis
38: SR 92 & Hiram Sudie Road

No Build 2025 PM
09/18/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	220	85	105	650	0	650	350
Future Volume (vph)	220	85	105	650	0	650	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Fr _t	1.00	0.85	1.00	1.00		1.00	0.85
Fl _t Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539		3539	1583
Fl _t Permitted	0.95	1.00	0.32	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	591	3539		3539	1583
Peak-hour factor, PHF	0.84	0.84	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	262	101	114	707	0	684	368
RTOR Reduction (vph)	0	80	0	0	0	0	168
Lane Group Flow (vph)	262	21	114	707	0	684	200
Turn Type	Prot	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases	7		5	2		6	
Permitted Phases		7	2		6		6
Actuated Green, G (s)	16.4	16.4	53.0	53.0		42.3	42.3
Effective Green, g (s)	16.9	16.4	53.5	53.0		42.3	42.3
Actuated g/C Ratio	0.22	0.21	0.69	0.68		0.54	0.54
Clearance Time (s)	4.5	4.5	4.5	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	383	333	507	2407		1921	859
v/s Ratio Prot	c0.15		0.02	c0.20		c0.19	
v/s Ratio Perm		0.01	0.14				0.13
v/c Ratio	0.68	0.06	0.22	0.29		0.36	0.23
Uniform Delay, d1	28.0	24.6	4.7	5.0		10.1	9.3
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.0	0.1	0.2	0.3		0.1	0.1
Delay (s)	33.0	24.7	4.9	5.3		10.2	9.5
Level of Service	C	C	A	A		B	A
Approach Delay (s)	30.7			5.2		9.9	
Approach LOS	C			A		A	

Intersection Summary

HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
39: SR 92 & Nebo Rd

No Build 2025 PM
09/18/2017



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	120	25	35	635	565	170
Future Volume (vph)	120	25	35	635	565	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539	1863	1583
Flt Permitted	0.95	1.00	0.34	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	629	3539	1863	1583
Peak-hour factor, PHF	0.82	0.82	0.93	0.93	0.95	0.95
Adj. Flow (vph)	146	30	38	683	595	179
RTOR Reduction (vph)	0	26	0	0	0	60
Lane Group Flow (vph)	146	4	38	683	595	119
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	12.0	12.0	63.2	63.2	56.0	56.0
Effective Green, g (s)	12.5	12.0	63.7	63.7	56.0	56.0
Actuated g/C Ratio	0.15	0.14	0.76	0.76	0.67	0.67
Clearance Time (s)	4.5	4.5	4.5	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	262	225	525	2677	1239	1052
v/s Ratio Prot			0.00	c0.19	c0.32	
v/s Ratio Perm	c0.08	0.00	0.05			0.08
v/c Ratio	0.56	0.02	0.07	0.26	0.48	0.11
Uniform Delay, d1	33.3	31.0	3.8	3.1	6.9	5.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	0.0	0.1	0.1	1.3	0.2
Delay (s)	35.8	31.1	3.8	3.1	8.3	5.3
Level of Service	D	C	A	A	A	A
Approach Delay (s)	35.0			3.2	7.6	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	84.2	Sum of lost time (s)	12.5
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Arterial Level of Service: NB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Nebo Rd	I	45	10.0	3.8	13.8	0.10	25.0	D
Hiram Sudie Road	I	45	31.8	6.0	37.8	0.32	30.6	C
Oak Street	I	40	60.9	19.9	80.8	0.67	30.1	C
Jimmy Lee Smith Pkwy	I	44	74.6	86.1	160.7	0.91	20.5	E
Macland Rd	I	45	99.6	59.6	159.2	1.25	28.2	C
Dallas Rd	I	50	74.4	100.9	175.3	1.03	21.2	D
E Paulding Dr	I	50	91.5	30.9	122.4	1.27	37.3	B
Total	I		442.8	307.2	750.0	5.55	26.6	D

Arterial Level of Service: SB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Paulding Dr	I	50	10.7	58.4	69.1	0.11	5.6	F
Dallas Rd	I	50	91.5	61.2	152.7	1.27	29.9	C
Macland Rd	I	50	84.4	68.2	152.6	1.17	27.6	C
Jimmy Lee Smith Pkwy	I	45	99.6	84.6	184.2	1.25	24.3	D
Oak Street	I	44	74.6	13.6	88.2	0.91	37.3	B
Hiram Sudie Road	I	40	60.9	12.1	73.0	0.67	33.3	C
Nebo Rd	I	45	31.8	9.4	41.2	0.32	28.1	C
Total	I		453.5	307.5	761.0	5.70	27.0	D

HCM Signalized Intersection Capacity Analysis
1: SR 92 & E Paulding Dr

No Build 2045 AM
08/14/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	705	555	50	305	145	325	865	60	350	900	175
Future Volume (vph)	90	705	555	50	305	145	325	865	60	350	900	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1687	1776	1509	1687	1776	1509	1671	1742		1612	1696	1442
Flt Permitted	0.28	1.00	1.00	0.09	1.00	1.00	0.07	1.00		0.06	1.00	1.00
Satd. Flow (perm)	498	1776	1509	161	1776	1509	116	1742		107	1696	1442
Peak-hour factor, PHF	0.85	0.85	0.85	0.91	0.91	0.91	0.93	0.93	0.93	0.97	0.97	0.97
Adj. Flow (vph)	106	829	653	55	335	159	349	930	65	361	928	180
RTOR Reduction (vph)	0	0	186	0	0	112	0	2	0	0	0	49
Lane Group Flow (vph)	106	829	467	55	335	47	349	993	0	361	928	131
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	8%	8%	8%	12%	12%	12%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	56.9	48.5	48.5	47.5	43.6	43.6	75.5	60.0		81.5	63.0	63.0
Effective Green, g (s)	57.4	49.0	48.5	48.5	44.1	44.1	76.5	60.5		82.5	63.5	63.0
Actuated g/C Ratio	0.39	0.33	0.33	0.33	0.30	0.30	0.51	0.41		0.55	0.43	0.42
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	266	584	491	97	526	446	226	707		251	723	610
v/s Ratio Prot	0.02	c0.47		c0.02	0.19		0.17	0.57		c0.18	0.55	
v/s Ratio Perm	0.13		0.31	0.17		0.03	c0.62			0.61		0.09
v/c Ratio	0.40	1.42	0.95	0.57	0.64	0.11	1.54	1.40		1.44	1.28	0.21
Uniform Delay, d1	32.2	50.0	49.0	40.6	45.5	38.1	49.2	44.2		50.8	42.7	27.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	198.7	28.5	7.4	2.5	0.1	265.7	190.6		218.5	138.0	0.8
Delay (s)	33.1	248.6	77.6	48.0	48.0	38.2	314.9	234.8		269.3	180.7	28.1
Level of Service	C	F	E	D	D	D	F	F		F	F	C
Approach Delay (s)		163.9			45.1			255.6			183.8	
Approach LOS		F			D			F			F	
Intersection Summary												
HCM 2000 Control Delay			181.5			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.45									
Actuated Cycle Length (s)			148.9			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			123.2%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	0	0	1250	30	30	1475
Future Vol, veh/h	0	0	1250	30	30	1475
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	255	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	93	93	92	92
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	0	1344	32	33	1603

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3012	1344	0	-	1344	0
Stage 1	1344	-	-	-	-	-
Stage 2	1668	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.18	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.272	-
Pot Cap-1 Maneuver	15	186	-	0	494	-
Stage 1	243	-	-	0	-	-
Stage 2	168	-	-	0	-	-
Platoon blocked, %			-			
Mov Cap-1 Maneuver	14	186	-	-	494	-
Mov Cap-2 Maneuver	14	-	-	-	-	-
Stage 1	243	-	-	-	-	-
Stage 2	157	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0.3
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	494	-
HCM Lane V/C Ratio	-	-	-	0.066	-
HCM Control Delay (s)	-	0	0	12.8	-
HCM Lane LOS	-	A	A	B	-
HCM 95th %tile Q(veh)	-	-	-	0.2	-

Intersection							
Int Delay, s/veh	343.9						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↖	↗	↖	↗	↖	↗	
Traffic Vol, veh/h	90	175	125	1190	1270	40	
Future Vol, veh/h	90	175	125	1190	1270	40	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	Yield	-	None	-	Yield	
Storage Length	0	0	175	-	-	145	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	63	63	84	84	93	93	
Heavy Vehicles, %	8	8	8	8	8	8	
Mvmt Flow	143	278	149	1417	1366	43	

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3080	1366	1366	0	-	0
Stage 1	1366	-	-	-	-	-
Stage 2	1714	-	-	-	-	-
Critical Hdwy	6.48	6.28	4.18	-	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.272	-	-	-
Pot Cap-1 Maneuver	~ 13	~ 175	484	-	-	-
Stage 1	230	-	-	-	-	-
Stage 2	154	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 9	~ 175	484	-	-	-
Mov Cap-2 Maneuver	~ 9	-	-	-	-	-
Stage 1	230	-	-	-	-	-
Stage 2	~ 107	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 2769.9	1.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	484	-	9	175	-	-
HCM Lane V/C Ratio	0.307	-	15.873	1.587	-	-
HCM Control Delay (s)	15.7	\$ 7500.5	\$ 337	-	-	-
HCM Lane LOS	C	-	F	F	-	-
HCM 95th %tile Q(veh)	1.3	-	19.5	18.5	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 83.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	40	20	20	1275	1415	30
Future Vol, veh/h	40	20	20	1275	1415	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	84	84	87	87
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	50	25	24	1518	1626	34

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	3191	1626	0
Stage 1	1626	-	-
Stage 2	1565	-	-
Critical Hdwy	6.42	6.22	4.18
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.272
Pot Cap-1 Maneuver	~ 11	126	384
Stage 1	177	-	-
Stage 2	189	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	~ 7	126	384
Mov Cap-2 Maneuver	~ 7	-	-
Stage 1	177	-	-
Stage 2	114	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 3658.9	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	384	-	10	-	-
HCM Lane V/C Ratio	0.062	-	7.5	-	-
HCM Control Delay (s)	15	\$ 3658.9	-	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.2	-	10.7	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	24.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Traffic Vol, veh/h	0	0	20	10	0	0	40	1295	10	0	1435	0
Future Vol, veh/h	0	0	20	10	0	0	40	1295	10	0	1435	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	58	58	58	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	8	8	8	8	8	8
Mvmt Flow	0	0	28	17	0	0	44	1439	11	0	1594	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3127	3133	1594	3142	3127	1444	1594	0	0	1450	0	0
Stage 1	1594	1594	-	1533	1533	-	-	-	-	-	-	-
Stage 2	1533	1539	-	1609	1594	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.18	-	-	4.18	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.272	-	-	2.272	-	-
Pot Cap-1 Maneuver	7	11	132	~7	11	162	395	-	-	449	-	-
Stage 1	134	166	-	146	178	-	-	-	-	-	-	-
Stage 2	146	177	-	132	166	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	4	5	132	~3	5	162	395	-	-	449	-	-
Mov Cap-2 Maneuver	4	5	-	~3	5	-	-	-	-	-	-	-
Stage 1	57	166	-	62	75	-	-	-	-	-	-	-
Stage 2	62	75	-	104	166	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	39.5	\$ 4333.3	0.5	0
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	395	-	-	132	3	449	-	-
HCM Lane V/C Ratio	0.113	-	-	0.213	5.747	-	-	-
HCM Control Delay (s)	15.3	0	-	39.5	\$ 4333.3	0	-	-
HCM Lane LOS	C	A	-	E	F	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.8	3.6	0	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis
8: SR 92 & Dallas Rd

No Build 2045 AM
08/14/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	520	2085	115	450	960	125	115	700	460	125	950	390
Future Volume (vph)	520	2085	115	450	960	125	115	700	460	125	950	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1597	3195	1429	1597	3195	1429	1504	1583	1346	1671	1759	1495
Flt Permitted	0.07	1.00	1.00	0.07	1.00	1.00	0.08	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	116	3195	1429	122	3195	1429	127	1583	1346	141	1759	1495
Peak-hour factor, PHF	0.86	0.86	0.86	0.85	0.85	0.85	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	605	2424	134	529	1129	147	121	737	484	136	1033	424
RTOR Reduction (vph)	0	0	47	0	0	77	0	0	173	0	0	109
Lane Group Flow (vph)	605	2424	87	529	1129	70	121	737	311	136	1033	315
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	8%	8%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	80.0	57.5	57.5	74.0	54.5	54.5	55.0	49.5	49.5	55.0	49.5	49.5
Effective Green, g (s)	81.0	58.0	57.5	75.0	55.0	54.5	56.0	50.0	50.0	56.0	50.0	50.0
Actuated g/C Ratio	0.54	0.39	0.38	0.50	0.37	0.36	0.37	0.33	0.33	0.37	0.33	0.33
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	289	1235	547	257	1171	519	102	527	448	113	586	498
v/s Ratio Prot	c0.32	0.76		0.27	0.35		0.05	0.47		c0.05	c0.59	
v/s Ratio Perm	c0.81		0.06	0.75		0.05	0.39		0.23	0.40		0.21
v/c Ratio	2.09	1.96	0.16	2.06	0.96	0.13	1.19	1.40	0.69	1.20	1.76	0.63
Uniform Delay, d1	50.0	46.0	30.4	49.8	46.5	32.0	42.9	50.0	43.4	42.8	50.0	42.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	503.7	436.2	0.1	489.5	18.2	0.1	147.6	190.6	8.6	149.4	350.2	6.0
Delay (s)	553.7	482.2	30.5	539.3	64.7	32.1	190.5	240.6	51.9	192.2	400.2	48.3
Level of Service	F	F	C	F	E	C	F	F	D	F	F	D
Approach Delay (s)		476.7			201.2			168.0			288.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	323.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.97		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	152.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	0	0	1265	10	5	1510
Future Vol, veh/h	0	0	1265	10	5	1510
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	150	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	38	38	90	90	94	94
Heavy Vehicles, %	2	2	20	20	20	20
Mvmt Flow	0	0	1406	11	5	1606

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3023	1406	0	0	1406	0
Stage 1	1406	-	-	-	-	-
Stage 2	1617	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.3	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.38	-
Pot Cap-1 Maneuver	15	171	-	-	433	-
Stage 1	227	-	-	-	-	-
Stage 2	178	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	15	171	-	-	433	-
Mov Cap-2 Maneuver	15	-	-	-	-	-
Stage 1	227	-	-	-	-	-
Stage 2	176	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	-	433	-
HCM Lane V/C Ratio	-	-	-	-	0.012	-
HCM Control Delay (s)	-	-	0	0	13.4	-
HCM Lane LOS	-	-	A	A	B	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection												
Int Delay, s/veh	13.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↑	↑		↑	↑	
Traffic Vol, veh/h	10	0	10	0	0	0	10	1265	0	0	1500	10
Future Vol, veh/h	10	0	10	0	0	0	10	1265	0	0	1500	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	25	25	25	89	89	89	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	20	20	20	20	20	20
Mvmt Flow	17	0	17	0	0	0	11	1421	0	0	1667	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3116	3116	1672	3125	3122	1421	1678	0	0	1421	0	0
Stage 1	1672	1672	-	1444	1444	-	-	-	-	-	-	-
Stage 2	1444	1444	-	1681	1678	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.3	-	-	4.3	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.38	-	-
Pot Cap-1 Maneuver	~ 7	11	118	7	11	167	337	-	-	427	-	-
Stage 1	121	152	-	164	197	-	-	-	-	-	-	-
Stage 2	164	197	-	120	151	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	~ 7	11	118	6	11	167	337	-	-	427	-	-
Mov Cap-2 Maneuver	~ 7	11	-	6	11	-	-	-	-	-	-	-
Stage 1	117	152	-	159	191	-	-	-	-	-	-	-
Stage 2	159	191	-	103	151	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 1299.7	0	0.1	0
HCM LOS	F	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	337	-	-	13	-	427	-
HCM Lane V/C Ratio	0.033	-	-	2.564	-	-	-
HCM Control Delay (s)	16.1	-	-	\$ 1299.7	0	0	-
HCM Lane LOS	C	-	-	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	5	-	0	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			+	+	
Traffic Vol, veh/h	10	10	10	1265	1500	10
Future Vol, veh/h	10	10	10	1265	1500	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	92	92	92	92
Heavy Vehicles, %	2	2	13	13	20	20
Mvmt Flow	13	13	11	1375	1630	11

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	3033	1636	1641 0
Stage 1	1636	-	- -
Stage 2	1397	-	- -
Critical Hdwy	6.42	6.22	4.23 -
Critical Hdwy Stg 1	5.42	-	- -
Critical Hdwy Stg 2	5.42	-	- -
Follow-up Hdwy	3.518	3.318	2.317 -
Pot Cap-1 Maneuver	14	124	366 -
Stage 1	175	-	- -
Stage 2	229	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	~ 12	124	366 -
Mov Cap-2 Maneuver	~ 12	-	- -
Stage 1	175	-	- -
Stage 2	200	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	\$ 490.2	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	366	-	22	-	-
HCM Lane V/C Ratio	0.03	-	1.136	-	-
HCM Control Delay (s)	15.1	\$	490.2	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	3.3	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 327.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↕		↕	↕	↑	↕	↕	↑	↕
Traffic Vol, veh/h	10	0	20	80	0	100	10	1165	60	80	1420	10
Future Vol, veh/h	10	0	20	80	0	100	10	1165	60	80	1420	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	100	-	0	260	-	280	180	-	280
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	77	77	77	96	96	96	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	13	13	13	13	13	13
Mvmt Flow	17	0	34	104	0	130	10	1214	63	86	1527	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2933	2933	1527	2950	-	1214	1527	0	0	1214	0	0
Stage 1	1699	1699	-	1234	-	-	-	-	-	-	-	-
Stage 2	1234	1234	-	1716	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.23	-	-	4.23	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.317	-	-	2.317	-	-
Pot Cap-1 Maneuver	~ 9	15	145	~ 9	0	221	406	-	-	538	-	-
Stage 1	117	148	-	216	0	-	-	-	-	-	-	-
Stage 2	216	249	-	114	0	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	~ 3	12	145	~ 6	-	221	406	-	-	538	-	-
Mov Cap-2 Maneuver	~ 3	12	-	~ 6	-	-	-	-	-	-	-	-
Stage 1	114	124	-	211	-	-	-	-	-	-	-	-
Stage 2	87	243	-	~ 73	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 2948	\$ 3817.5	0.1	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	406	-	-	9	6	221	538	-	-
HCM Lane V/C Ratio	0.026	-	-	5.747	17.316	0.588	0.16	-	-
HCM Control Delay (s)	14.1	-	-	\$ 2948	\$ 8536.7	42.2	13	-	-
HCM Lane LOS	B	-	-	F	F	E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	7.8	14.9	3.3	0.6	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 6.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↗	↑	↗
Traffic Vol, veh/h	10	10	10	1225	1510	10
Future Vol, veh/h	10	10	10	1225	1510	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	155
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	93	90	86	86
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	14	14	11	1361	1756	12

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	3139	1756	1756	0	0
Stage 1	1756	-	-	-	-
Stage 2	1383	-	-	-	-
Critical Hdwy	6.42	6.22	4.23	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.317	-	-
Pot Cap-1 Maneuver	~ 12	105	329	-	-
Stage 1	152	-	-	-	-
Stage 2	233	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 10	105	329	-	-
Mov Cap-2 Maneuver	~ 10	-	-	-	-
Stage 1	152	-	-	-	-
Stage 2	201	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 728.3	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	329	-	18	-	-
HCM Lane V/C Ratio	0.033	-	1.565	-	-
HCM Control Delay (s)	16.3	0	\$ 728.3	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	3.9	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			↑
Traffic Vol, veh/h	0	0	1235	0	0	1520
Future Vol, veh/h	0	0	1235	0	0	1520
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	93	93	85	85
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	1328	0	0	1788

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3116	1328	0	0	-	-
Stage 1	1328	-	-	-	-	-
Stage 2	1788	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	13	190	-	-	0	-
Stage 1	247	-	-	-	0	-
Stage 2	147	-	-	-	0	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	13	190	-	-	-	-
Mov Cap-2 Maneuver	13	-	-	-	-	-
Stage 1	247	-	-	-	-	-
Stage 2	147	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↗	↘
Traffic Vol, veh/h	0	40	20	1235	1520	0
Future Vol, veh/h	0	40	20	1235	1520	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	87	87	86	86
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	53	23	1420	1767	0
























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	3233	1767	0
Stage 1	1767	-	-
Stage 2	1466	-	-
Critical Hdwy	6.42	6.22	4.23
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.317
Pot Cap-1 Maneuver	11	104	326
Stage 1	150	-	-
Stage 2	212	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	10	104	326
Mov Cap-2 Maneuver	10	-	-
Stage 1	150	-	-
Stage 2	197	-	-

Approach	EB	NB	SB
HCM Control Delay, s	71.4	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	326	-	104	-	-
HCM Lane V/C Ratio	0.071	-	0.513	-	-
HCM Control Delay (s)	16.9	-	71.4	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	0.2	-	2.3	-	-

HCM Signalized Intersection Capacity Analysis
17: SR 92 & Macland Rd

No Build 2045 AM
08/14/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	940	135	125	565	285	80	805	135	440	905	215
Future Volume (vph)	165	940	135	125	565	285	80	805	135	440	905	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Fr _t	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Fl _t Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1612	1665		1612	1696	1442	1583	1667	1417	1597	1633	
Fl _t Permitted	0.07	1.00		0.07	1.00	1.00	0.08	1.00	1.00	0.07	1.00	
Satd. Flow (perm)	120	1665		120	1696	1442	132	1667	1417	123	1633	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.90	0.90	0.90	0.85	0.85	0.85
Adj. Flow (vph)	181	1033	148	160	724	365	89	894	150	518	1065	253
RTOR Reduction (vph)	0	3	0	0	0	133	0	0	70	0	6	0
Lane Group Flow (vph)	181	1178	0	160	724	232	89	894	80	518	1312	0
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	14%	14%	14%	13%	13%	13%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	62.5	56.0		62.5	56.0	56.0	55.0	50.0	50.0	75.0	65.5	
Effective Green, g (s)	63.5	56.0		63.5	56.0	56.0	56.0	50.0	50.0	75.5	65.5	
Actuated g/C Ratio	0.42	0.37		0.42	0.37	0.37	0.37	0.33	0.33	0.50	0.44	
Clearance Time (s)	4.5	4.0		4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	120	621		120	633	538	102	555	472	268	713	
v/s Ratio Prot	c0.07	c0.71		0.06	0.43		0.03	0.54		c0.27	0.80	
v/s Ratio Perm	0.57			0.50		0.16	0.29		0.06	c0.70		
v/c Ratio	1.51	1.90		1.33	1.14	0.43	0.87	1.61	0.17	1.93	1.84	
Uniform Delay, d ₁	36.8	47.0		36.8	47.0	35.1	39.4	50.0	35.3	49.9	42.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d ₂	266.9	409.6		195.9	82.4	0.6	50.8	283.2	0.8	433.3	383.7	
Delay (s)	303.7	456.6		232.8	129.4	35.7	90.1	333.2	36.1	483.2	426.0	
Level of Service	F	F		F	F	D	F	F	D	F	F	
Approach Delay (s)		436.3			115.3			274.7			442.1	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay	333.5		HCM 2000 Level of Service				F					
HCM 2000 Volume to Capacity ratio	1.94											
Actuated Cycle Length (s)	150.0				Sum of lost time (s)				16.0			
Intersection Capacity Utilization	144.7%		ICU Level of Service				H					
Analysis Period (min)	15											
c Critical Lane Group												

Intersection												
Int Delay, s/veh	18											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	0	0	0	30	0	30	0	990	20	20	1145	0
Future Vol, veh/h	0	0	0	30	0	30	0	990	20	20	1145	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	85	-	0	-	-	300	235	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	61	61	61	93	93	93	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	14	14	14
Mvmt Flow	0	0	0	49	0	49	0	1065	22	22	1272	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2382	2382	1272	2382	2382	1065	1272	0	0	1065	0	0
Stage 1	1317	1317	-	1065	1065	-	-	-	-	-	-	-
Stage 2	1065	1065	-	1317	1317	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.24	-	-	4.24	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.326	-	-	2.326	-	-
Pot Cap-1 Maneuver	24	34	205	~ 24	34	270	507	-	-	611	-	-
Stage 1	194	227	-	269	299	-	-	-	-	-	-	-
Stage 2	269	299	-	194	227	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	19	33	205	~ 23	33	270	507	-	-	611	-	-
Mov Cap-2 Maneuver	19	33	-	~ 23	33	-	-	-	-	-	-	-
Stage 1	194	219	-	269	299	-	-	-	-	-	-	-
Stage 2	220	299	-	187	219	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	\$ 452	0	0.2
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	507	-	-	-	23	270	611	-	-
HCM Lane V/C Ratio	-	-	-	-	2.138	0.182	0.036	-	-
HCM Control Delay (s)	0	-	-	\$ 882.6	21.3	11.1	-	-	-
HCM Lane LOS	A	-	-	A	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	6.2	0.7	0.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	1010	0	0	1175
Future Vol, veh/h	0	0	1010	0	0	1175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	88	88	89	89
Heavy Vehicles, %	2	2	14	14	14	14
Mvmt Flow	0	0	1148	0	0	1320

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2468	1148	0	0	1148	0
Stage 1	1148	-	-	-	-	-
Stage 2	1320	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.24	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.326	-
Pot Cap-1 Maneuver	33	242	-	-	567	-
Stage 1	302	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	33	242	-	-	567	-
Mov Cap-2 Maneuver	33	-	-	-	-	-
Stage 1	302	-	-	-	-	-
Stage 2	250	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	567
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection							
Int Delay, s/veh	2.5						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↘			↗	↑	↗	
Traffic Vol, veh/h	10	10	10	1000	1165	10	
Future Vol, veh/h	10	10	10	1000	1165	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	-	-	-	-	60	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	55	55	88	88	87	87	
Heavy Vehicles, %	2	2	12	12	12	12	
Mvmt Flow	18	18	11	1136	1339	11	

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	2498	1339	1339	0	0
Stage 1	1339	-	-	-	-
Stage 2	1159	-	-	-	-
Critical Hdwy	6.42	6.22	4.22	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.308	-	-
Pot Cap-1 Maneuver	32	187	484	-	-
Stage 1	244	-	-	-	-
Stage 2	299	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	30	187	484	-	-
Mov Cap-2 Maneuver	30	-	-	-	-
Stage 1	244	-	-	-	-
Stage 2	280	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	168.9	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	484	-	52	-	-
HCM Lane V/C Ratio	0.023	-	0.699	-	-
HCM Control Delay (s)	12.6	0	168.9	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	2.8	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↑			↑↑
Traffic Vol, veh/h	0	0	1010	0	0	1175
Future Vol, veh/h	0	0	1010	0	0	1175
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	89	89	89	89
Heavy Vehicles, %	2	2	12	12	12	12
Mvmt Flow	0	0	1135	0	0	1320

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1795	1135	0
Stage 1	1135	-	-
Stage 2	660	-	-
Critical Hdwy	6.63	6.23	-
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.319	-
Pot Cap-1 Maneuver	80	245	0
Stage 1	306	-	0
Stage 2	477	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	80	245	-
Mov Cap-2 Maneuver	80	-	-
Stage 1	306	-	-
Stage 2	477	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↖	↗	↗	↖	↖
Traffic Vol, veh/h	50	10	90	10	10	40	195	920	40	50	1065	60
Future Vol, veh/h	50	10	90	10	10	40	195	920	40	50	1065	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	165	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	58	58	58	86	86	86	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	12	12	12	12	12	12
Mvmt Flow	67	13	120	17	17	69	227	1070	47	56	1197	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2909	2866	632	2240	2899	1070	1264	0	0	1070	0	0
Stage 1	1343	1343	-	1523	1523	-	-	-	-	-	-	-
Stage 2	1566	1523	-	717	1376	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.28	-	-	4.28	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.314	-	-	2.314	-	-
Pot Cap-1 Maneuver	~ 8	17	424	26	~ 16	268	506	-	-	603	-	-
Stage 1	161	220	-	147	180	-	-	-	-	-	-	-
Stage 2	139	180	-	388	212	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	-	~ 9	424	-	~ 8	268	506	-	-	603	-	-
Mov Cap-2 Maneuver	-	~ 9	-	-	~ 8	-	-	-	-	-	-	-
Stage 1	89	200	-	81	99	-	-	-	-	-	-	-
Stage 2	~ 47	99	-	236	192	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			3	0.5
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	506	-	-	-	603	-	-
HCM Lane V/C Ratio	0.448	-	-	-	0.093	-	-
HCM Control Delay (s)	17.8	-	-	-	11.6	-	-
HCM Lane LOS	C	-	-	-	B	-	-
HCM 95th %tile Q(veh)	2.3	-	-	-	0.3	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis
 24: SR 92 & Jimmy Lee Smith Pkwy

No Build 2045 AM
 08/14/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	2335	255	215	1455	350	325	705	420	500	550	115
Future Volume (vph)	100	2335	255	215	1455	350	325	705	420	500	550	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	3223	1442	1612	3223	1442	1656	1743	1482	1612	1696	1442
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.10	1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	1612	3223	1442	1612	3223	1442	170	1743	1482	149	1696	1442
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.87	0.87	0.87	0.94	0.94	0.94
Adj. Flow (vph)	109	2538	277	226	1532	368	374	810	483	532	585	122
RTOR Reduction (vph)	0	0	63	0	0	120	0	0	76	0	0	55
Lane Group Flow (vph)	109	2538	214	226	1532	248	374	810	407	532	585	67
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	9%	9%	9%	12%	12%	12%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	7.5	60.0	60.0	11.5	64.0	64.0	54.5	41.0	41.0	66.0	48.0	48.0
Effective Green, g (s)	7.5	60.0	60.0	11.5	64.0	64.0	54.5	41.0	41.0	66.0	48.0	48.0
Actuated g/C Ratio	0.05	0.40	0.40	0.08	0.43	0.43	0.36	0.27	0.27	0.44	0.32	0.32
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	80	1289	576	123	1375	615	195	476	405	265	542	461
v/s Ratio Prot	0.07	c0.79		c0.14	c0.48		0.17	0.46		c0.27	0.34	
v/s Ratio Perm			0.15			0.17	0.52		0.27	c0.61		0.05
v/c Ratio	1.36	1.97	0.37	1.84	1.11	0.40	1.92	1.70	1.00	2.01	1.08	0.15
Uniform Delay, d1	71.2	45.0	31.7	69.2	43.0	29.8	43.4	54.5	54.5	48.3	51.0	36.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	224.6	438.9	0.4	406.6	62.0	0.4	431.5	324.7	45.8	466.5	61.8	0.1
Delay (s)	295.8	483.9	32.1	475.8	105.0	30.2	474.9	379.2	100.3	514.8	112.8	36.5
Level of Service	F	F	C	F	F	C	F	F	F	F	F	D
Approach Delay (s)		434.1			131.5			319.8			277.9	
Approach LOS		F			F			F			F	

Intersection Summary		
HCM 2000 Control Delay	304.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	2.00	F
Actuated Cycle Length (s)	150.0	Sum of lost time (s)
Intersection Capacity Utilization	155.4%	17.0
Analysis Period (min)	15	ICU Level of Service
		H
c Critical Lane Group		

Intersection

Int Delay, s/veh 242.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑	
Traffic Vol, veh/h	125	145	225	1355	825	195
Future Vol, veh/h	125	145	225	1355	825	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	89	89	92	92
Heavy Vehicles, %	2	2	9	9	6	6
Mvmt Flow	133	154	253	1522	897	212

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	2270	1003	1109	0	0
Stage 1	1003	-	-	-	-
Stage 2	1267	-	-	-	-
Critical Hdwy	6.63	6.23	4.235	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.2855	-	-
Pot Cap-1 Maneuver	~ 39	293	595	-	-
Stage 1	354	-	-	-	-
Stage 2	229	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 22	293	595	-	-
Mov Cap-2 Maneuver	~ 22	-	-	-	-
Stage 1	354	-	-	-	-
Stage 2	~ 132	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 2667.6	2.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	595	-	44	-	-
HCM Lane V/C Ratio	0.425	-	6.528	-	-
HCM Control Delay (s)	15.4	\$ 2667.6	-	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	2.1	-	33.6	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	10	20	30	10	205	50	1375	135	215	755	0
Future Vol, veh/h	0	10	20	30	10	205	50	1375	135	215	755	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	47	47	47	94	94	94	92	92	92	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	9	9	9	9	9	9
Mvmt Flow	0	21	43	32	11	218	54	1495	147	242	848	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3122	3081	848	3040	3008	1568	848	0	0	1641	0	0
Stage 1	1331	1331	-	1677	1677	-	-	-	-	-	-	-
Stage 2	1791	1750	-	1363	1331	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.19	-	-	4.19	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.281	-	-	2.281	-	-
Pot Cap-1 Maneuver	7	~ 12	361	~ 8	13	~ 137	760	-	-	376	-	-
Stage 1	190	224	-	120	151	-	-	-	-	-	-	-
Stage 2	103	139	-	183	224	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	-	0	361	-	0	~ 137	760	-	-	376	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	2	0	-	~ 1	~ 2	-	-	-	-	-	-	-
Stage 2	3	~ 2	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.3	6.7
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	760	-	-	-	376	-	-
HCM Lane V/C Ratio	0.072	-	-	-	0.642	-	-
HCM Control Delay (s)	10.1	0	-	-	30.3	0	-
HCM Lane LOS	B	A	-	-	D	A	-
HCM 95th %tile Q(veh)	0.2	-	-	-	4.3	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↗	↗
Traffic Vol, veh/h	0	10	10	1560	805	0
Future Vol, veh/h	0	10	10	1560	805	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	85	130	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	56	56	94	94	86	86
Heavy Vehicles, %	2	2	10	10	9	9
Mvmt Flow	0	18	11	1660	936	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2617	936	0
Stage 1	936	-	-
Stage 2	1681	-	-
Critical Hdwy	6.42	6.22	4.2
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.29
Pot Cap-1 Maneuver	27	321	700
Stage 1	382	-	-
Stage 2	166	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	27	321	700
Mov Cap-2 Maneuver	27	-	-
Stage 1	382	-	-
Stage 2	163	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	700	-	-	321	-
HCM Lane V/C Ratio	0.015	-	-	0.056	-
HCM Control Delay (s)	10.2	-	0	16.9	-
HCM Lane LOS	B	-	A	C	-
HCM 95th %tile Q(veh)	0	-	-	0.2	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	0	0	0	1570	815	0
Future Vol, veh/h	0	0	0	1570	815	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	31	31	92	92	85	85
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	0	0	1707	959	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2666	959	959	0	-	0
Stage 1	959	-	-	-	-	-
Stage 2	1707	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-	-
Pot Cap-1 Maneuver	25	312	686	-	-	-
Stage 1	372	-	-	-	-	-
Stage 2	161	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	25	312	686	-	-	-
Mov Cap-2 Maneuver	25	-	-	-	-	-
Stage 1	372	-	-	-	-	-
Stage 2	161	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	686	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 52.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	10	60	1510	40	70	745
Future Vol, veh/h	10	60	1510	40	70	745
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	46	46	92	92	85	85
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	22	130	1641	43	82	876

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2704	1663	0	0	1685	0
Stage 1	1663	-	-	-	-	-
Stage 2	1041	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.2	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.29	-
Pot Cap-1 Maneuver	23	~ 120	-	-	359	-
Stage 1	169	-	-	-	-	-
Stage 2	340	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	~ 13	~ 120	-	-	359	-
Mov Cap-2 Maneuver	~ 13	-	-	-	-	-
Stage 1	169	-	-	-	-	-
Stage 2	189	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	\$ 957.4		0		1.5
HCM LOS	F				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 55	359	-
HCM Lane V/C Ratio	-	- 2.767	0.229	-
HCM Control Delay (s)	-	-\$ 957.4	18	0
HCM Lane LOS	-	- F	C	A
HCM 95th %tile Q(veh)	-	- 15.8	0.9	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			X	X	
Traffic Vol, veh/h	10	10	10	1540	755	0
Future Vol, veh/h	10	10	10	1540	755	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	97	97	86	86
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	20	20	10	1588	878	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2486	878	0
Stage 1	878	-	-
Stage 2	1608	-	-
Critical Hdwy	6.42	6.22	4.2
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.29
Pot Cap-1 Maneuver	32	347	737
Stage 1	406	-	-
Stage 2	180	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	28	347	737
Mov Cap-2 Maneuver	28	-	-
Stage 1	406	-	-
Stage 2	159	-	-

Approach	EB	NB	SB
HCM Control Delay, s	185.6	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	737	-	52	-	-
HCM Lane V/C Ratio	0.014	-	0.769	-	-
HCM Control Delay (s)	10	0	185.6	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0	-	3.2	-	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	10	1550	0	0	765	0
Future Vol, veh/h	0	0	0	0	0	0	10	1550	0	0	765	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	96	96	96	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0	10	1615	0	0	900	0




















Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2535	2535	900	2535	2535	1615	900	0	0	1615	0	0
Stage 1	900	900	-	1635	1635	-	-	-	-	-	-	-
Stage 2	1635	1635	-	900	900	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	18	27	337	18	27	128	723	-	-	382	-	-
Stage 1	333	357	-	127	159	-	-	-	-	-	-	-
Stage 2	127	159	-	333	357	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	16	23	337	16	23	128	723	-	-	382	-	-
Mov Cap-2 Maneuver	16	23	-	16	23	-	-	-	-	-	-	-
Stage 1	288	357	-	110	138	-	-	-	-	-	-	-
Stage 2	110	138	-	333	357	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0.1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	723	-	-	-	382	-	-
HCM Lane V/C Ratio	0.014	-	-	-	-	-	-
HCM Control Delay (s)	10.1	0	-	0	0	-	-
HCM Lane LOS	B	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0	-	-

HCM Signalized Intersection Capacity Analysis
32: SR 92 & Oak Street

No Build 2045 AM
08/14/2017

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	10	10	0	165	10	40	0	1510	100	40	715	10		
Future Volume (vph)	10	10	0	165	10	40	0	1510	100	40	715	10		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.0			4.0			4.0		4.0	4.0			
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00			
Flt		1.00			0.97			0.99		1.00	1.00			
Flt Protected		0.98			0.96			1.00		0.95	1.00			
Satd. Flow (prot)		1817			1749			1595		1530	1607			
Flt Permitted		0.91			0.77			1.00		0.03	1.00			
Satd. Flow (perm)		1690			1407			1595		56	1607			
Peak-hour factor, PHF	0.52	0.52	0.52	0.77	0.77	0.77	0.94	0.94	0.94	0.88	0.88	0.88		
Adj. Flow (vph)	19	19	0	214	13	52	0	1606	106	45	812	11		
RTOR Reduction (vph)	0	0	0	0	5	0	0	2	0	0	0	0		
Lane Group Flow (vph)	0	38	0	0	274	0	0	1710	0	45	824	0		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	18%	18%	18%	18%	18%	18%		
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA			
Protected Phases		4			8			2		1	6			
Permitted Phases	4			8			2			6				
Actuated Green, G (s)		22.0			22.0			110.6		119.0	119.0			
Effective Green, g (s)		22.0			22.0			110.6		119.5	119.0			
Actuated g/C Ratio		0.15			0.15			0.74		0.80	0.80			
Clearance Time (s)		4.0			4.0			4.0		4.5	4.0			
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0			
Lane Grp Cap (vph)		249			207			1183		88	1283			
v/s Ratio Prot								c1.07		0.02	c0.51			
v/s Ratio Perm		0.02			c0.19					0.39				
v/c Ratio		0.15			1.32			1.45		0.51	0.64			
Uniform Delay, d1		55.4			63.5			19.2		45.6	6.2			
Progression Factor		1.00			1.00			1.00		1.00	1.00			
Incremental Delay, d2		0.3			175.0			205.5		4.9	1.1			
Delay (s)		55.7			238.5			224.7		50.6	7.3			
Level of Service		E			F			F		D	A			
Approach Delay (s)		55.7			238.5			224.7			9.5			
Approach LOS		E			F			F			A			
Intersection Summary														
HCM 2000 Control Delay			159.3									HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio			1.41											
Actuated Cycle Length (s)			149.0								12.0		Sum of lost time (s)	
Intersection Capacity Utilization			110.6%										ICU Level of Service	H
Analysis Period (min)			15											
c Critical Lane Group														

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	1610	10	0	880
Future Vol, veh/h	0	0	1610	10	0	880
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	33	33	94	94	88	88
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	0	0	1713	11	0	1000

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2718	1718	0	0	1723	0
Stage 1	1718	-	-	-	-	-
Stage 2	1000	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.28	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	23	111	-	-	328	-
Stage 1	159	-	-	-	-	-
Stage 2	356	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	23	111	-	-	328	-
Mov Cap-2 Maneuver	23	-	-	-	-	-
Stage 1	159	-	-	-	-	-
Stage 2	356	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	328
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection												
Int Delay, s/veh	15											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	10	10	0	10	10	1610	10	10	870	0
Future Vol, veh/h	0	0	10	10	0	10	10	1610	10	10	870	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	45	50	50	50	96	96	96	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	18	18	18	18	18	18
Mvmt Flow	0	0	22	20	0	20	10	1677	10	11	967	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2702	2697	967	2703	2692	1682	967	0	0	1688	0	0
Stage 1	989	989	-	1703	1703	-	-	-	-	-	-	-
Stage 2	1713	1708	-	1000	989	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.28	-	-	4.28	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.362	-	-	2.362	-	-
Pot Cap-1 Maneuver	14	21	308	~ 14	22	117	652	-	-	339	-	-
Stage 1	297	325	-	116	147	-	-	-	-	-	-	-
Stage 2	115	146	-	293	325	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	9	15	308	~ 10	15	117	652	-	-	339	-	-
Mov Cap-2 Maneuver	9	15	-	~ 10	15	-	-	-	-	-	-	-
Stage 1	223	302	-	87	110	-	-	-	-	-	-	-
Stage 2	72	110	-	253	302	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.6	\$ 1005	0.1	0.2
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	652	-	-	308	18	339	-
HCM Lane V/C Ratio	0.016	-	-	0.072	2.222	0.033	-
HCM Control Delay (s)	10.6	0	-	17.6 \$ 1005	16	0	-
HCM Lane LOS	B	A	-	C	F	C	A
HCM 95th %tile Q(veh)	0	-	-	0.2	5.5	0.1	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 30

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	10	30	1600	20	30	860
Future Vol, veh/h	10	30	1600	20	30	860
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	46	46	94	94	91	91
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	22	65	1702	21	33	945

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2724	1713	0	0	1723	0
Stage 1	1713	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Critical Hdwy	7.12	6.22	-	-	4.28	-
Critical Hdwy Stg 1	6.12	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	~ 13	112	-	-	328	-
Stage 1	115	-	-	-	-	-
Stage 2	289	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 11	112	-	-	328	-
Mov Cap-2 Maneuver	~ 11	-	-	-	-	-
Stage 1	115	-	-	-	-	-
Stage 2	228	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	\$ 956		0		0.6
HCM LOS	F				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 34	328	-
HCM Lane V/C Ratio	-	- 2.558	0.101	-
HCM Control Delay (s)	-	- \$ 956	17.2	0
HCM Lane LOS	-	- F	C	A
HCM 95th %tile Q(veh)	-	- 9.9	0.3	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	1620	20	0	870
Future Vol, veh/h	0	0	1620	20	0	870
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	86	86
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	0	0	1761	22	0	1012

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2784	1772	0	0	1783	0
Stage 1	1772	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.28	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	21	103	-	-	310	-
Stage 1	149	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	21	103	-	-	310	-
Mov Cap-2 Maneuver	21	-	-	-	-	-
Stage 1	149	-	-	-	-	-
Stage 2	351	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	310
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection

Int Delay, s/veh 11.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	20	0	1640	155	0	870
Future Vol, veh/h	20	0	1640	155	0	870
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	54	54	91	91	86	86
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	37	0	1802	170	0	1012

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2899	1887	0	0	1973	0
Stage 1	1887	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.28	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.362	-
Pot Cap-1 Maneuver	~ 18	88	-	-	260	-
Stage 1	131	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 18	88	-	-	260	-
Mov Cap-2 Maneuver	~ 18	-	-	-	-	-
Stage 1	131	-	-	-	-	-
Stage 2	351	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	\$ 934.7		0		0
HCM LOS	F				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 18	260	-
HCM Lane V/C Ratio	-	- 2.058	-	-
HCM Control Delay (s)	-	-\$ 934.7	0	-
HCM Lane LOS	-	- F	A	-
HCM 95th %tile Q(veh)	-	- 5.1	0	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis
38: SR 92 & Hiram Sudie Road

No Build 2045 AM
08/14/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	440	125	145	1355	0	575	315
Future Volume (vph)	440	125	145	1355	0	575	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1719	3438		3438	1538
Flt Permitted	0.95	1.00	0.26	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	475	3438		3438	1538
Peak-hour factor, PHF	0.77	0.77	0.89	0.89	0.95	0.86	0.86
Adj. Flow (vph)	571	162	163	1522	0	669	366
RTOR Reduction (vph)	0	104	0	0	0	0	224
Lane Group Flow (vph)	571	58	163	1522	0	669	142
Heavy Vehicles (%)	2%	2%	5%	5%	2%	5%	5%
Turn Type	Prot	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases	7		5	2		6	
Permitted Phases		7	2		6		6
Actuated Green, G (s)	30.8	30.8	46.2	46.2		33.1	33.1
Effective Green, g (s)	31.3	30.8	46.7	46.2		33.1	33.1
Actuated g/C Ratio	0.37	0.36	0.55	0.54		0.39	0.39
Clearance Time (s)	4.5	4.5	4.5	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	647	570	391	1857		1330	595
v/s Ratio Prot	c0.32		0.04	c0.44		0.19	
v/s Ratio Perm		0.04	0.18				0.09
v/c Ratio	0.88	0.10	0.42	0.82		0.50	0.24
Uniform Delay, d1	25.4	18.2	11.0	16.2		19.9	17.7
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.5	0.1	0.7	4.2		0.3	0.2
Delay (s)	38.8	18.2	11.7	20.4		20.2	17.9
Level of Service	D	B	B	C		C	B
Approach Delay (s)	34.3			19.6		19.4	
Approach LOS	C			B		B	

Intersection Summary

HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	85.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
39: SR 92 & Nebo Rd

No Build 2045 AM
08/14/2017



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	295	50	40	1205	575	125
Future Volume (vph)	295	50	40	1205	575	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1719	3438	1810	1538
Flt Permitted	0.95	1.00	0.18	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	319	3438	1810	1538
Peak-hour factor, PHF	0.75	0.75	0.91	0.91	0.76	0.76
Adj. Flow (vph)	393	67	44	1324	757	164
RTOR Reduction (vph)	0	50	0	0	0	73
Lane Group Flow (vph)	393	17	44	1324	757	91
Heavy Vehicles (%)	2%	2%	5%	5%	5%	5%
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	21.9	21.9	54.0	54.0	47.2	47.2
Effective Green, g (s)	22.4	21.9	54.5	54.5	47.2	47.2
Actuated g/C Ratio	0.26	0.26	0.64	0.64	0.56	0.56
Clearance Time (s)	4.5	4.5	4.5	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	466	408	259	2206	1006	855
v/s Ratio Prot			0.01	c0.39	c0.42	
v/s Ratio Perm	c0.22	0.01	0.10			0.06
v/c Ratio	0.84	0.04	0.17	0.60	0.75	0.11
Uniform Delay, d1	29.6	23.6	10.3	8.9	14.4	8.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.1	0.0	0.3	0.5	5.2	0.3
Delay (s)	42.6	23.7	10.6	9.3	19.6	9.1
Level of Service	D	C	B	A	B	A
Approach Delay (s)	39.9			9.4	17.7	
Approach LOS	D			A	B	

Intersection Summary

HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	84.9	Sum of lost time (s)	12.5
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Arterial Level of Service: NB SR 92
























Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Nebo Rd	I	45	10.0	11.0	21.0	0.10	16.5	E
Hiram Sudie Road	I	45	31.8	22.0	53.8	0.32	21.5	D
Oak Street	I	40	60.9	222.4	283.3	0.67	8.6	F
Jimmy Lee Smith Pkwy	I	44	74.6	358.0	432.6	0.91	7.6	F
Macland Rd	I	45	99.6	316.5	416.1	1.25	10.8	F
Dallas Rd	I	50	74.4	228.4	302.8	1.03	12.3	F
E Paulding Dr	I	50	91.5	220.7	312.2	1.27	14.6	F
Total	I		442.8	1379.0	1821.8	5.55	11.0	F

Arterial Level of Service: SB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Paulding Dr	I	50	10.7	171.1	181.8	0.11	2.1	F
Dallas Rd	I	50	91.5	381.0	472.5	1.27	9.7	F
Macland Rd	I	50	84.4	408.7	493.1	1.17	8.5	F
Jimmy Lee Smith Pkwy	I	45	99.6	109.3	208.9	1.25	21.5	D
Oak Street	I	44	74.6	9.0	83.6	0.91	39.4	B
Hiram Sudie Road	I	40	60.9	22.7	83.6	0.67	29.1	C
Nebo Rd	I	45	31.8	21.0	52.8	0.32	21.9	D
Total	I		453.5	1122.8	1576.3	5.70	13.0	F

HCM Signalized Intersection Capacity Analysis
1: SR 92 & E Paulding Dr

No Build 2045 PM
08/14/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	430	315	60	765	235	430	910	50	185	965	100
Future Volume (vph)	70	430	315	60	765	235	430	910	50	185	965	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1671	1759	1495	1671	1759	1495	1687	1762		1641	1727	1468
Flt Permitted	0.08	1.00	1.00	0.16	1.00	1.00	0.06	1.00		0.06	1.00	1.00
Satd. Flow (perm)	144	1759	1495	278	1759	1495	107	1762		111	1727	1468
Peak-hour factor, PHF	0.89	0.89	0.89	0.92	0.92	0.92	0.97	0.97	0.97	0.87	0.87	0.87
Adj. Flow (vph)	79	483	354	65	832	255	443	938	52	213	1109	115
RTOR Reduction (vph)	0	0	161	0	0	124	0	2	0	0	0	64
Lane Group Flow (vph)	79	483	193	65	832	131	443	988	0	213	1109	51
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	7%	7%	7%	10%	10%	10%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		6
Actuated Green, G (s)	53.4	48.4	48.4	51.4	47.4	47.4	85.0	71.0		71.5	62.0	62.0
Effective Green, g (s)	54.4	48.9	48.4	52.4	47.9	47.9	85.5	71.5		72.5	62.5	62.0
Actuated g/C Ratio	0.36	0.32	0.32	0.35	0.32	0.32	0.57	0.47		0.48	0.41	0.41
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	107	570	479	138	558	474	259	834		154	715	603
v/s Ratio Prot	c0.03	0.27		0.01	c0.47		c0.21	0.56		0.09	0.64	
v/s Ratio Perm	0.24		0.13	0.15		0.09	c0.75			0.57		0.03
v/c Ratio	0.74	0.85	0.40	0.47	1.49	0.28	1.71	1.19		1.38	1.55	0.08
Uniform Delay, d1	39.4	47.5	40.0	37.2	51.5	38.5	52.0	39.7		45.0	44.2	27.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	23.1	11.2	0.6	2.5	230.4	0.3	335.6	95.4		207.5	254.9	0.3
Delay (s)	62.5	58.7	40.5	39.7	281.9	38.8	387.6	135.1		252.5	299.1	27.4
Level of Service	E	E	D	D	F	D	F	F		F	F	C
Approach Delay (s)		52.0			214.4			213.1			270.4	
Approach LOS		D			F			F			F	
Intersection Summary												
HCM 2000 Control Delay			200.2			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.62									
Actuated Cycle Length (s)			150.9			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			132.4%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

Intersection

Int Delay, s/veh 8.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	20	20	1370	20	20	1320
Future Vol, veh/h	20	20	1370	20	20	1320
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	None
Storage Length	0	0	-	255	250	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	93	93	91	91
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	27	27	1473	22	22	1451

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2968	1473	0
Stage 1	1473	-	-
Stage 2	1495	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	~ 16	156	-
Stage 1	210	-	0
Stage 2	205	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	~ 15	156	-
Mov Cap-2 Maneuver	~ 15	-	-
Stage 1	210	-	-
Stage 2	195	-	-

Approach	WB	NB	SB
HCM Control Delay, s	\$ 462.3	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBTWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	15	156	443
HCM Lane V/C Ratio	-	1.778	0.171	0.05
HCM Control Delay (s)	-	\$ 891.8	32.8	13.6
HCM Lane LOS	-	F	D	B
HCM 95th %tile Q(veh)	-	4	0.6	0.2

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 317.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↗	↖
Traffic Vol, veh/h	50	80	50	1340	1260	20
Future Vol, veh/h	50	80	50	1340	1260	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	0	175	-	-	145
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	34	34	89	89	85	85
Heavy Vehicles, %	7	7	7	7	7	7
Mvmt Flow	147	235	56	1506	1482	24

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	3100	1482	0
Stage 1	1482	-	-
Stage 2	1618	-	-
Critical Hdwy	6.47	6.27	4.17
Critical Hdwy Stg 1	5.47	-	-
Critical Hdwy Stg 2	5.47	-	-
Follow-up Hdwy	3.563	3.363	2.263
Pot Cap-1 Maneuver	~ 12	~ 150	439
Stage 1	203	-	-
Stage 2	173	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	~ 10	~ 150	439
Mov Cap-2 Maneuver	~ 10	-	-
Stage 1	203	-	-
Stage 2	151	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 2861.7	0.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	439	-	10	150	-	-
HCM Lane V/C Ratio	0.128	-	14.706	1.569	-	-
HCM Control Delay (s)	14.4	\$ 6897.3	\$ 339.5	-	-	-
HCM Lane LOS	B	-	F	F	-	-
HCM 95th %tile Q(veh)	0.4	-	19.9	16.1	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 59.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	↑	↗
Traffic Vol, veh/h	30	20	30	1360	1300	40
Future Vol, veh/h	30	20	30	1360	1300	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	93	93	86	86
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	43	29	32	1462	1512	47

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	3039	1512	1512	0	0
Stage 1	1512	-	-	-	-
Stage 2	1527	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-
Pot Cap-1 Maneuver	~ 14	148	428	-	-
Stage 1	201	-	-	-	-
Stage 2	198	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 8	148	428	-	-
Mov Cap-2 Maneuver	~ 8	-	-	-	-
Stage 1	201	-	-	-	-
Stage 2	119	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 2599.8	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	428	-	13	-	-
HCM Lane V/C Ratio	0.075	-	5.495	-	-
HCM Control Delay (s)	14.1	\$ 2599.8	-	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.2	-	10	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	27.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Traffic Vol, veh/h	0	0	30	10	0	0	50	1390	10	0	1320	0
Future Vol, veh/h	0	0	30	10	0	0	50	1390	10	0	1320	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	64	64	64	55	55	55	94	94	94	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	0	0	47	18	0	0	53	1479	11	0	1435	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3025	3031	1435	3048	3025	1484	1435	0	0	1489	0	0
Stage 1	1435	1435	-	1590	1590	-	-	-	-	-	-	-
Stage 2	1590	1596	-	1458	1435	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	8	13	164	~ 8	13	153	458	-	-	437	-	-
Stage 1	166	199	-	135	167	-	-	-	-	-	-	-
Stage 2	135	166	-	161	199	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	4	4	164	~ 3	4	153	458	-	-	437	-	-
Mov Cap-2 Maneuver	4	4	-	~ 3	4	-	-	-	-	-	-	-
Stage 1	54	199	-	44	54	-	-	-	-	-	-	-
Stage 2	44	54	-	115	199	-	-	-	-	-	-	-

























Approach	EB	WB	NB	SB
HCM Control Delay, s	35.5	\$ 4481.2	0.5	0
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	458	-	-	164	3	437	-	-
HCM Lane V/C Ratio	0.116	-	-	0.286	6.061	-	-	-
HCM Control Delay (s)	13.9	0	-	35.5	\$ 4481.2	0	-	-
HCM Lane LOS	B	A	-	E	F	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	1.1	3.7	0	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis
8: SR 92 & Dallas Rd

No Build 2045 PM
08/14/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	1195	100	490	2170	135	145	955	380	125	755	480
Future Volume (vph)	360	1195	100	490	2170	135	145	955	380	125	755	480
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1597	3195	1429	1597	3195	1429	1556	1638	1392	1687	1776	1509
Flt Permitted	0.07	1.00	1.00	0.07	1.00	1.00	0.08	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	125	3195	1429	116	3195	1429	124	1638	1392	134	1776	1509
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.95	0.95	0.95	0.84	0.84	0.84
Adj. Flow (vph)	379	1258	105	544	2411	150	153	1005	400	149	899	571
RTOR Reduction (vph)	0	0	68	0	0	55	0	0	105	0	0	139
Lane Group Flow (vph)	379	1258	37	544	2411	95	153	1005	295	149	899	432
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	16%	16%	16%	7%	7%	7%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	68.0	53.5	53.5	78.5	59.5	59.5	58.0	52.5	52.5	58.0	52.5	52.5
Effective Green, g (s)	69.0	54.0	53.5	79.0	60.0	59.5	59.0	53.0	53.0	59.0	53.0	53.0
Actuated g/C Ratio	0.46	0.36	0.36	0.53	0.40	0.40	0.39	0.35	0.35	0.39	0.35	0.35
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	204	1150	509	268	1278	566	106	578	491	114	627	533
v/s Ratio Prot	0.19	0.39		c0.28	0.75		c0.06	c0.61		0.05	0.51	
v/s Ratio Perm	0.67		0.03	c0.78		0.07	0.51		0.21	0.46		0.29
v/c Ratio	1.86	1.09	0.07	2.03	1.89	0.17	1.44	1.74	0.60	1.31	1.43	0.81
Uniform Delay, d1	47.6	48.0	31.9	50.5	45.0	29.3	41.3	48.5	39.8	41.0	48.5	43.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	404.3	56.0	0.1	476.3	401.9	0.1	244.6	339.6	5.4	187.6	204.3	12.6
Delay (s)	451.9	104.0	31.9	526.8	446.9	29.4	285.9	388.1	45.2	228.7	252.8	56.5
Level of Service	F	F	C	F	F	C	F	F	D	F	F	E
Approach Delay (s)		175.4			440.7			290.0			181.3	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	301.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.93		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	150.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Intersection

Int Delay, s/veh 2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘	↗	↑	↗	↘	↑
Traffic Vol, veh/h	10	10	1460	20	10	1335
Future Vol, veh/h	10	10	1460	20	10	1335
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	0	0	-	150	200	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	93	93	90	90
Heavy Vehicles, %	2	2	16	16	16	16
Mvmt Flow	11	11	1570	22	11	1483

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	3076	1570	0	0	1570	0
Stage 1	1570	-	-	-	-	-
Stage 2	1506	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.26	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.344	-
Pot Cap-1 Maneuver	13	136	-	-	383	-
Stage 1	188	-	-	-	-	-
Stage 2	202	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	13	136	-	-	383	-
Mov Cap-2 Maneuver	13	-	-	-	-	-
Stage 1	188	-	-	-	-	-
Stage 2	196	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	\$ 301.8	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	13	136	383	-
HCM Lane V/C Ratio	-	-	0.836	0.08	0.029	-
HCM Control Delay (s)	-	-	\$ 569.9	33.8	14.7	-
HCM Lane LOS	-	-	F	D	B	-
HCM 95th %tile Q(veh)	-	-	1.9	0.3	0.1	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	10.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↕	↕		↕	↕	
Traffic Vol, veh/h	10	0	10	0	0	0	20	1470	0	0	1325	20
Future Vol, veh/h	10	0	10	0	0	0	20	1470	0	0	1325	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	125	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	25	25	25	95	95	95	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	16	16	16	16	16	16
Mvmt Flow	14	0	14	0	0	0	21	1547	0	0	1489	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3089	3089	1500	3096	3100	1547	1511	0	0	1547	0	0
Stage 1	1500	1500	-	1589	1589	-	-	-	-	-	-	-
Stage 2	1589	1589	-	1507	1511	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.26	-	-	4.26	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.344	-	-	2.344	-	-
Pot Cap-1 Maneuver	~ 7	12	150	7	12	141	404	-	-	391	-	-
Stage 1	152	185	-	135	167	-	-	-	-	-	-	-
Stage 2	135	167	-	151	183	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	~ 7	11	150	6	11	141	404	-	-	391	-	-
Mov Cap-2 Maneuver	~ 7	11	-	6	11	-	-	-	-	-	-	-
Stage 1	144	185	-	128	158	-	-	-	-	-	-	-
Stage 2	128	158	-	136	183	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 1153.9	0	0.2	0
HCM LOS	F	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	404	-	-	13	-	391	-
HCM Lane V/C Ratio	0.052	-	-	2.23	-	-	-
HCM Control Delay (s)	14.4	-	-	\$ 1153.9	0	0	-
HCM Lane LOS	B	-	-	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	4.4	-	0	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 7.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			+	+	
Traffic Vol, veh/h	10	10	10	1480	1325	10
Future Vol, veh/h	10	10	10	1480	1325	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	92	92
Heavy Vehicles, %	2	2	10	10	16	16
Mvmt Flow	16	16	11	1626	1440	11

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	3094	1446	1451	0	0
Stage 1	1446	-	-	-	-
Stage 2	1648	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-
Pot Cap-1 Maneuver	~ 13	161	443	-	-
Stage 1	217	-	-	-	-
Stage 2	172	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 10	161	443	-	-
Mov Cap-2 Maneuver	~ 10	-	-	-	-
Stage 1	217	-	-	-	-
Stage 2	128	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 751.9	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	443	-	19	-	-
HCM Lane V/C Ratio	0.025	-	1.671	-	-
HCM Control Delay (s)	13.3	\$ 751.9		-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	4.3	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 538.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↕		↕	↕	↑	↕	↕	↑	↕
Traffic Vol, veh/h	10	0	20	70	0	100	20	1380	70	100	1225	10
Future Vol, veh/h	10	0	20	70	0	100	20	1380	70	100	1225	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	100	-	0	260	-	280	180	-	280
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	59	59	59	58	58	58	95	95	95	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	10	10	10	10	10	10
Mvmt Flow	17	0	34	121	0	172	21	1453	74	112	1376	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3096	3096	1376	3113	-	1453	1376	0	0	1453	0	0
Stage 1	1601	1601	-	1495	-	-	-	-	-	-	-	-
Stage 2	1495	1495	-	1618	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.2	-	-	4.2	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.29	-	-	2.29	-	-
Pot Cap-1 Maneuver	~ 7	12	178	~ 7	0	~ 160	474	-	-	442	-	-
Stage 1	133	165	-	153	0	-	-	-	-	-	-	-
Stage 2	153	186	-	130	0	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	-	9	178	~ 4	-	~ 160	474	-	-	442	-	-
Mov Cap-2 Maneuver	-	9	-	~ 4	-	-	-	-	-	-	-	-
Stage 1	127	123	-	146	-	-	-	-	-	-	-	-
Stage 2	-	178	-	~ 79	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		\$ 6226.3	0.2	1.2
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	474	-	-	-	4	160	442	-	-
HCM Lane V/C Ratio	0.044	-	-	-30.172	1.078	0.254	-	-	-
HCM Control Delay (s)	12.9	-	-	\$ 14905.4	150.9	15.9	-	-	-
HCM Lane LOS	B	-	-	-	F	F	C	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	17.2	8.9	1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			X	↑	↑
Traffic Vol, veh/h	10	10	10	1460	1305	10
Future Vol, veh/h	10	10	10	1460	1305	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	155
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	92	92	94	94
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	13	13	11	1587	1388	11

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2997	1388	1388 0
Stage 1	1388	-	- -
Stage 2	1609	-	- -
Critical Hdwy	6.42	6.22	4.2 -
Critical Hdwy Stg 1	5.42	-	- -
Critical Hdwy Stg 2	5.42	-	- -
Follow-up Hdwy	3.518	3.318	2.29 -
Pot Cap-1 Maneuver	15	175	469 -
Stage 1	231	-	- -
Stage 2	180	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	~ 12	175	469 -
Mov Cap-2 Maneuver	~ 12	-	- -
Stage 1	231	-	- -
Stage 2	144	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	\$ 490.2	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	469	-	22	-	-
HCM Lane V/C Ratio	0.023	-	1.136	-	-
HCM Control Delay (s)	12.9	\$ 490.2		-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	3.3	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			↑
Traffic Vol, veh/h	0	0	1470	0	0	1315
Future Vol, veh/h	0	0	1470	0	0	1315
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	93	93	90	90
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	0	1581	0	0	1461

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3042	1581	0	0	-	-
Stage 1	1581	-	-	-	-	-
Stage 2	1461	-	-	-	-	-
Critical Hdwy	7.12	6.22	-	-	-	-
Critical Hdwy Stg 1	6.12	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	-	-
Pot Cap-1 Maneuver	8	134	-	-	0	-
Stage 1	137	-	-	-	0	-
Stage 2	160	-	-	-	0	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	8	134	-	-	-	-
Mov Cap-2 Maneuver	8	-	-	-	-	-
Stage 1	137	-	-	-	-	-
Stage 2	160	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↗	↗
Traffic Vol, veh/h	0	40	40	1470	1315	0
Future Vol, veh/h	0	40	40	1470	1315	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	94	94	92	92
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	48	43	1564	1429	0
























Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	3078	1429	1429	0	0
Stage 1	1429	-	-	-	-
Stage 2	1649	-	-	-	-
Critical Hdwy	6.42	6.22	4.2	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.29	-	-
Pot Cap-1 Maneuver	13	165	452	-	-
Stage 1	221	-	-	-	-
Stage 2	172	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	12	165	452	-	-
Mov Cap-2 Maneuver	12	-	-	-	-
Stage 1	221	-	-	-	-
Stage 2	156	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35.6	0.4	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	452	-	165	-	-
HCM Lane V/C Ratio	0.094	-	0.292	-	-
HCM Control Delay (s)	13.8	-	35.6	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.3	-	1.1	-	-

HCM Signalized Intersection Capacity Analysis
17: SR 92 & Macland Rd

No Build 2045 PM
08/14/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	520	100	205	980	410	145	975	145	275	925	155
Future Volume (vph)	125	520	100	205	980	410	145	975	145	275	925	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Fr _t	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Fl _t Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1626	1670		1626	1712	1455	1612	1696	1442	1641	1690	
Fl _t Permitted	0.08	1.00		0.07	1.00	1.00	0.07	1.00	1.00	0.06	1.00	
Satd. Flow (perm)	134	1670		124	1712	1455	111	1696	1442	106	1690	
Peak-hour factor, PHF	0.89	0.89	0.89	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	140	584	112	216	1032	432	153	1026	153	299	1005	168
RTOR Reduction (vph)	0	5	0	0	0	96	0	0	63	0	4	0
Lane Group Flow (vph)	140	691	0	216	1032	336	153	1026	90	299	1169	0
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	12%	12%	12%	10%	10%	10%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	55.5	50.5		64.5	55.0	55.0	67.0	60.5	60.5	77.5	66.5	
Effective Green, g (s)	56.5	50.5		65.0	55.0	55.0	68.0	60.5	60.5	78.0	66.5	
Actuated g/C Ratio	0.38	0.34		0.43	0.37	0.37	0.45	0.40	0.40	0.52	0.44	
Clearance Time (s)	4.5	4.0		4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	105	562		153	627	533	120	684	581	188	749	
v/s Ratio Prot	0.05	0.41		c0.09	c0.60		0.06	0.60		c0.14	0.69	
v/s Ratio Perm	0.45			0.51		0.23	0.52		0.06	c0.69		
v/c Ratio	1.33	1.23		1.41	1.65	0.63	1.27	1.50	0.16	1.59	1.56	
Uniform Delay, d ₁	43.6	49.8		42.5	47.5	39.1	38.5	44.8	28.5	48.8	41.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d ₂	201.1	118.5		219.4	297.8	2.3	173.4	232.6	0.6	289.4	258.9	
Delay (s)	244.7	168.3		261.9	345.3	41.5	211.9	277.4	29.1	338.1	300.7	
Level of Service	F	F		F	F	D	F	F	C	F	F	
Approach Delay (s)		181.1			256.4			241.3			308.3	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay			255.2	HCM 2000 Level of Service				F				
HCM 2000 Volume to Capacity ratio			1.66									
Actuated Cycle Length (s)			150.0	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			138.4%	ICU Level of Service				H				
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	46.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Vol, veh/h	0	0	0	40	0	40	0	1225	50	40	1190	0
Future Vol, veh/h	0	0	0	40	0	40	0	1225	50	40	1190	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	85	-	0	-	-	300	235	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	82	82	82	89	89	89	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	12	12	12	12	12	12
Mvmt Flow	0	0	0	49	0	49	0	1376	56	47	1400	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2870	2870	1400	2870	2870	1376	1400	0	0	1376	0	0
Stage 1	1494	1494	-	1376	1376	-	-	-	-	-	-	-
Stage 2	1376	1376	-	1494	1494	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.22	-	-	4.22	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.308	-	-	2.308	-	-
Pot Cap-1 Maneuver	10	17	172	~ 10	17	178	458	-	-	468	-	-
Stage 1	153	186	-	179	213	-	-	-	-	-	-	-
Stage 2	179	213	-	153	186	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	7	15	172	~ 9	15	178	458	-	-	468	-	-
Mov Cap-2 Maneuver	7	15	-	~ 9	15	-	-	-	-	-	-	-
Stage 1	153	167	-	179	213	-	-	-	-	-	-	-
Stage 2	130	213	-	138	167	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	\$ 1416.9	0	0.4
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	458	-	-	-	9	178	468	-	-
HCM Lane V/C Ratio	-	-	-	-	5.42	0.274	0.101	-	-
HCM Control Delay (s)	0	-	-	\$ 2801.2	32.7	13.6	-	-	-
HCM Lane LOS	A	-	-	A	F	D	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	7.4	1.1	0.3	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	1275	0	0	1230
Future Vol, veh/h	0	0	1275	0	0	1230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	33	33	89	89	89	89
Heavy Vehicles, %	2	2	12	12	12	12
Mvmt Flow	0	0	1433	0	0	1382

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2815	1433	0	0	1433	0
Stage 1	1433	-	-	-	-	-
Stage 2	1382	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.22	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.308	-
Pot Cap-1 Maneuver	20	164	-	-	444	-
Stage 1	220	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	20	164	-	-	444	-
Mov Cap-2 Maneuver	20	-	-	-	-	-
Stage 1	220	-	-	-	-	-
Stage 2	233	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	444	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	0	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection

Int Delay, s/veh 20.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	↑	↑
Traffic Vol, veh/h	10	10	10	1265	1220	10
Future Vol, veh/h	10	10	10	1265	1220	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	60
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	31	31	87	87	84	84
Heavy Vehicles, %	2	2	8	8	12	12
Mvmt Flow	32	32	11	1454	1452	12

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	2929	1452	1452	0	0
Stage 1	1452	-	-	-	-
Stage 2	1477	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-
Pot Cap-1 Maneuver	~ 17	160	448	-	-
Stage 1	215	-	-	-	-
Stage 2	209	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 15	160	448	-	-
Mov Cap-2 Maneuver	~ 15	-	-	-	-
Stage 1	215	-	-	-	-
Stage 2	182	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 942	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	448	-	27	-	-
HCM Lane V/C Ratio	0.026	-	2.389	-	-
HCM Control Delay (s)	13.2	0	\$ 942	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	7.8	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↑			↑↑
Traffic Vol, veh/h	0	0	1275	0	0	1230
Future Vol, veh/h	0	0	1275	0	0	1230
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	92	92	95	95
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	0	1386	0	0	1295

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2033	1386	0	-	-	-
Stage 1	1386	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Critical Hdwy	6.63	6.23	-	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	-	-
Pot Cap-1 Maneuver	56	175	-	0	0	-
Stage 1	231	-	-	0	0	-
Stage 2	484	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	56	175	-	-	-	-
Mov Cap-2 Maneuver	56	-	-	-	-	-
Stage 1	231	-	-	-	-	-
Stage 2	484	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↑	↖	↗	↖	
Traffic Vol, veh/h	70	20	175	20	20	60	155	1145	20	80	1070	80
Future Vol, veh/h	70	20	175	20	20	60	155	1145	20	80	1070	80
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	75	-	165	105	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	73	73	73	92	92	92	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	8	8	8	8	8	8
Mvmt Flow	90	26	224	27	27	82	168	1245	22	88	1176	88

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3032	2978	632	2359	3022	1245	1264	0	0	1245	0	0
Stage 1	1396	1396	-	1582	1582	-	-	-	-	-	-	-
Stage 2	1636	1582	-	777	1440	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.22	-	-	4.22	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.276	-	-	2.276	-	-
Pot Cap-1 Maneuver	~ 7	~ 14	424	~ 21	~ 13	211	522	-	-	531	-	-
Stage 1	149	207	-	136	168	-	-	-	-	-	-	-
Stage 2	126	168	-	357	197	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	-	~ 8	424	-	~ 7	211	522	-	-	531	-	-
Mov Cap-2 Maneuver	-	~ 8	-	-	~ 7	-	-	-	-	-	-	-
Stage 1	101	173	-	92	114	-	-	-	-	-	-	-
Stage 2	~ 40	114	-	119	164	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			1.8	0.9
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	522	-	-	-	531	-	-
HCM Lane V/C Ratio	0.323	-	-	-	0.166	-	-
HCM Control Delay (s)	15.1	-	-	-	13.1	-	-
HCM Lane LOS	C	-	-	-	B	-	-
HCM 95th %tile Q(veh)	1.4	-	-	-	0.6	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis
 24: SR 92 & Jimmy Lee Smith Pkwy

No Build 2045 PM
 08/14/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	115	1720	315	410	2525	510	315	695	275	390	750	125	
Future Volume (vph)	115	1720	315	410	2525	510	315	695	275	390	750	125	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1687	3374	1509	1687	3374	1509	1703	1792	1524	1671	1759	1495	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.10	1.00	1.00	0.09	1.00	1.00	
Satd. Flow (perm)	1687	3374	1509	1687	3374	1509	175	1792	1524	160	1759	1495	
Peak-hour factor, PHF	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.96	0.96	0.96	
Adj. Flow (vph)	117	1755	321	427	2630	531	335	739	293	406	781	130	
RTOR Reduction (vph)	0	0	92	0	0	101	0	0	105	0	0	74	
Lane Group Flow (vph)	117	1755	229	427	2630	430	335	739	188	406	781	56	
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	8%	8%	8%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases			4			8	2		2	6		6	
Actuated Green, G (s)	7.5	53.0	53.0	22.5	68.0	68.0	54.5	41.0	41.0	60.5	44.0	44.0	
Effective Green, g (s)	7.5	53.0	53.0	22.5	68.0	68.0	54.5	41.0	41.0	60.5	44.0	44.0	
Actuated g/C Ratio	0.05	0.35	0.35	0.15	0.45	0.45	0.36	0.27	0.27	0.40	0.29	0.29	
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	84	1192	533	253	1529	684	201	489	416	230	515	438	
v/s Ratio Prot	0.07	0.52		c0.25	c0.78		0.15	0.41		c0.19	0.44		
v/s Ratio Perm			0.15			0.28	0.46		0.12	c0.52		0.04	
v/c Ratio	1.39	1.47	0.43	1.69	1.72	0.63	1.67	1.51	0.45	1.77	1.52	0.13	
Uniform Delay, d1	71.2	48.5	37.0	63.8	41.0	31.3	43.5	54.5	45.2	46.4	53.0	38.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	234.1	217.1	0.6	326.1	326.8	1.8	320.9	240.5	3.5	361.5	242.3	0.1	
Delay (s)	305.4	265.6	37.5	389.8	367.8	33.2	364.4	295.0	48.7	407.9	295.3	39.0	
Level of Service	F	F	D	F	F	C	F	F	D	F	F	D	
Approach Delay (s)		234.4			320.9			259.2			304.7		
Approach LOS		F			F			F			F		

Intersection Summary		
HCM 2000 Control Delay	286.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.80	F
Actuated Cycle Length (s)	150.0	Sum of lost time (s)
Intersection Capacity Utilization	148.5%	17.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		H

Intersection

Int Delay, s/veh 1081.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑	
Traffic Vol, veh/h	155	215	245	1110	1280	195
Future Vol, veh/h	155	215	245	1110	1280	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	90	90	98	98
Heavy Vehicles, %	2	2	6	6	6	6
Mvmt Flow	170	236	272	1233	1306	199

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	2567	1406	1505	0	0
Stage 1	1406	-	-	-	-
Stage 2	1161	-	-	-	-
Critical Hdwy	6.63	6.23	4.19	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.257	-	-
Pot Cap-1 Maneuver	~ 25	~ 170	427	-	-
Stage 1	226	-	-	-	-
Stage 2	261	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 9	~ 170	427	-	-
Mov Cap-2 Maneuver	~ 9	-	-	-	-
Stage 1	226	-	-	-	-
Stage 2	~ 95	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 9068.7	4.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	427	-	20	-	-
HCM Lane V/C Ratio	0.638	-	20.33	-	-
HCM Control Delay (s)	27.1	\$ 9068.7	-	-	-
HCM Lane LOS	D	-	F	-	-
HCM 95th %tile Q(veh)	4.3	-	51.3	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	10	30	70	10	155	20	1200	70	175	1320	0
Future Vol, veh/h	0	10	30	70	10	155	20	1200	70	175	1320	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	85	85	85	91	91	91	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	6	6	6	6	6	6
Mvmt Flow	0	15	45	82	12	182	22	1319	77	184	1389	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3256	3198	1389	3189	3159	1357	1389	0	0	1396	0	0
Stage 1	1758	1758	-	1401	1401	-	-	-	-	-	-	-
Stage 2	1498	1440	-	1788	1758	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.254	-	-	2.254	-	-
Pot Cap-1 Maneuver	5	~ 10	175	~ 6	~ 11	~ 182	480	-	-	477	-	-
Stage 1	108	138	-	174	207	-	-	-	-	-	-	-
Stage 2	153	198	-	104	138	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	-	0	175	-	0	~ 182	480	-	-	477	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	85	0	-	137	163	-	-	-	-	-	-	-
Stage 2	-	156	-	-	0	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.2	2
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	480	-	-	-	477	-	-
HCM Lane V/C Ratio	0.046	-	-	-	0.386	-	-
HCM Control Delay (s)	12.9	0	-	-	17.2	0	-
HCM Lane LOS	B	A	-	-	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	1.8	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↗
Traffic Vol, veh/h	0	10	10	1290	1420	0
Future Vol, veh/h	0	10	10	1290	1420	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	85	130	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	94	94	91	91
Heavy Vehicles, %	2	2	7	7	6	6
Mvmt Flow	0	20	11	1372	1560	0

Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	2954	1560	1560	0
Stage 1	1560	-	-	-
Stage 2	1394	-	-	-
Critical Hdwy	6.42	6.22	4.17	-
Critical Hdwy Stg 1	5.42	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-
Pot Cap-1 Maneuver	16	138	410	-
Stage 1	190	-	-	-
Stage 2	230	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	16	138	410	-
Mov Cap-2 Maneuver	16	-	-	-
Stage 1	190	-	-	-
Stage 2	224	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35.5	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	410	-	-	138	-
HCM Lane V/C Ratio	0.026	-	-	0.145	-
HCM Control Delay (s)	14	-	0	35.5	-
HCM Lane LOS	B	-	A	E	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			X	X	
Traffic Vol, veh/h	0	0	0	1300	1430	0
Future Vol, veh/h	0	0	0	1300	1430	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	50	50	94	94	93	93
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	0	0	0	1383	1538	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	2921	1538	1538	0	0
Stage 1	1538	-	-	-	-
Stage 2	1383	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-
Pot Cap-1 Maneuver	17	142	418	-	-
Stage 1	195	-	-	-	-
Stage 2	233	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	17	142	418	-	-
Mov Cap-2 Maneuver	17	-	-	-	-
Stage 1	195	-	-	-	-
Stage 2	233	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	418	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection

Int Delay, s/veh 51.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	10	50	1250	20	70	1360
Future Vol, veh/h	10	50	1250	20	70	1360
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	68	68	95	95	94	94
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	15	74	1316	21	74	1447

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2922	1326	0	0	1337	0
Stage 1	1326	-	-	-	-	-
Stage 2	1596	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.17	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.263	-
Pot Cap-1 Maneuver	17	190	-	-	500	-
Stage 1	248	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 4	190	-	-	500	-
Mov Cap-2 Maneuver	~ 4	-	-	-	-	-
Stage 1	248	-	-	-	-	-
Stage 2	45	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	\$ 1714.5		0		0.7
HCM LOS	F				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	22	500
HCM Lane V/C Ratio	-	-	4.011	0.149
HCM Control Delay (s)	-	\$ 1714.5	13.5	0
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	11.2	0.5

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			X	X	
Traffic Vol, veh/h	10	10	10	1260	1360	10
Future Vol, veh/h	10	10	10	1260	1360	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	91	91	94	94
Heavy Vehicles, %	2	2	7	7	7	7
Mvmt Flow	18	18	11	1385	1447	11

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	2859	1452	1457	0	0
Stage 1	1452	-	-	-	-
Stage 2	1407	-	-	-	-
Critical Hdwy	6.42	6.22	4.17	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.263	-	-
Pot Cap-1 Maneuver	19	160	449	-	-
Stage 1	215	-	-	-	-
Stage 2	226	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 17	160	449	-	-
Mov Cap-2 Maneuver	~ 17	-	-	-	-
Stage 1	215	-	-	-	-
Stage 2	202	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 410.7	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	449	-	31	-	-
HCM Lane V/C Ratio	0.024	-	1.173	-	-
HCM Control Delay (s)	13.2	\$ 410.7	-	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0.1	-	4	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 13.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	10	0	0	0	10	1260	0	0	1360	10
Future Vol, veh/h	10	0	10	0	0	0	10	1260	0	0	1360	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	92	92	92	92	93	93	93	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	22	0	11	0	0	0	11	1355	0	0	1447	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2828	2828	1452	2834	2833	1355	1457	0	0	1355	0	0
Stage 1	1452	1452	-	1376	1376	-	-	-	-	-	-	-
Stage 2	1376	1376	-	1458	1457	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.17	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.263	-	-
Pot Cap-1 Maneuver	~ 11	18	160	11	17	183	449	-	-	492	-	-
Stage 1	162	195	-	179	213	-	-	-	-	-	-	-
Stage 2	179	213	-	161	194	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	~ 10	16	160	9	15	183	449	-	-	492	-	-
Mov Cap-2 Maneuver	~ 10	16	-	9	15	-	-	-	-	-	-	-
Stage 1	146	195	-	161	192	-	-	-	-	-	-	-
Stage 2	161	192	-	150	194	-	-	-	-	-	-	-




















Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 1175.3	0	0.1	0
HCM LOS	F	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	449	-	-	14	-	492	-
HCM Lane V/C Ratio	0.024	-	-	2.364	-	-	-
HCM Control Delay (s)	13.2	0	\$ 1175.3	0	0	-	-
HCM Lane LOS	B	A	-	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	4.9	-	0	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis
32: SR 92 & Oak Street

No Build 2045 PM
08/14/2017

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	10	10	0	305	20	50	0	1210	80	30	1330	10	
Future Volume (vph)	10	10	0	305	20	50	0	1210	80	30	1330	10	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0		4.0	4.0		
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00		
Flt		1.00			0.98			0.99		1.00	1.00		
Flt Protected		0.98			0.96			1.00		0.95	1.00		
Satd. Flow (prot)		1817			1758			1666		1597	1680		
Flt Permitted		0.90			0.77			1.00		0.04	1.00		
Satd. Flow (perm)		1678			1402			1666		64	1680		
Peak-hour factor, PHF	0.68	0.68	0.68	0.88	0.88	0.88	0.92	0.92	0.92	0.96	0.96	0.96	
Adj. Flow (vph)	15	15	0	347	23	57	0	1315	87	31	1385	10	
RTOR Reduction (vph)	0	0	0	0	4	0	0	2	0	0	0	0	
Lane Group Flow (vph)	0	30	0	0	423	0	0	1400	0	31	1395	0	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	13%	13%	13%	13%	13%	13%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA		
Protected Phases		4			8			2		1	6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		35.0			35.0			101.3		108.8	108.8		
Effective Green, g (s)		35.0			35.0			101.3		109.3	108.8		
Actuated g/C Ratio		0.23			0.23			0.67		0.72	0.72		
Clearance Time (s)		4.0			4.0			4.0		4.5	4.0		
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0		
Lane Grp Cap (vph)		386			323			1111		81	1204		
v/s Ratio Prot								c0.84		0.01	c0.83		
v/s Ratio Perm		0.02			c0.30					0.27			
v/c Ratio		0.08			1.31			1.26		0.38	1.16		
Uniform Delay, d1		45.8			58.4			25.3		40.8	21.5		
Progression Factor		1.00			1.00			1.00		1.00	1.00		
Incremental Delay, d2		0.1			160.1			124.6		3.0	80.9		
Delay (s)		45.8			218.5			149.8		43.8	102.4		
Level of Service		D			F			F		D	F		
Approach Delay (s)		45.8			218.5			149.8			101.1		
Approach LOS		D			F			F			F		
Intersection Summary													
HCM 2000 Control Delay			136.7									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.28										
Actuated Cycle Length (s)			151.8									Sum of lost time (s)	12.0
Intersection Capacity Utilization			104.9%									ICU Level of Service	G
Analysis Period (min)			15										
c Critical Lane Group													

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	1290	20	0	1635
Future Vol, veh/h	0	0	1290	20	0	1635
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	95	95	97	97
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	1358	21	0	1686

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3054	1368	0	0	1379	0
Stage 1	1368	-	-	-	-	-
Stage 2	1686	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	14	180	-	-	464	-
Stage 1	237	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	14	180	-	-	464	-
Mov Cap-2 Maneuver	14	-	-	-	-	-
Stage 1	237	-	-	-	-	-
Stage 2	165	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	464	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	0	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection

Int Delay, s/veh 135.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	10	10	0	10	20	1300	20	30	1605	0
Future Vol, veh/h	0	0	10	10	0	10	20	1300	20	30	1605	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	56	56	50	91	91	91	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	13	13	13	13	13	13
Mvmt Flow	0	0	15	18	0	20	22	1429	22	31	1655	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3210	3211	1655	3208	3200	1440	1655	0	0	1451	0	0
Stage 1	1716	1716	-	1484	1484	-	-	-	-	-	-	-
Stage 2	1494	1495	-	1724	1716	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.23	-	-	4.23	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.317	-	-	2.317	-	-
Pot Cap-1 Maneuver	6	10	121	~ 6	10	163	361	-	-	435	-	-
Stage 1	114	145	-	156	188	-	-	-	-	-	-	-
Stage 2	153	186	-	113	145	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	1	1	121	~ 1	1	163	361	-	-	435	-	-
Mov Cap-2 Maneuver	1	1	-	~ 1	1	-	-	-	-	-	-	-
Stage 1	78	17	-	106	128	-	-	-	-	-	-	-
Stage 2	92	127	-	~ 12	17	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	38.8	\$ 11460.7	0.2	0.3
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	361	-	-	121	2	435	-	-
HCM Lane V/C Ratio	0.061	-	-	0.122	18.929	0.071	-	-
HCM Control Delay (s)	15.6	0	-	38.8	11460.7	13.9	0	-
HCM Lane LOS	C	A	-	E	F	B	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	6.6	0.2	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 328.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	20	40	1300	10	40	1585
Future Vol, veh/h	20	40	1300	10	40	1585
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	93	93	98	98
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	26	51	1398	11	41	1617

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3102	1403	0	0	1409	0
Stage 1	1403	-	-	-	-	-
Stage 2	1699	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	~ 13	171	-	-	451	-
Stage 1	227	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	~ 1	171	-	-	451	-
Mov Cap-2 Maneuver	~ 1	-	-	-	-	-
Stage 1	227	-	-	-	-	-
Stage 2	~ 17	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	\$ 13426.4		0		0.3
HCM LOS	F				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	3	451
HCM Lane V/C Ratio	-	-25.641	0.091	-
HCM Control Delay (s)	-	\$ 13426.4	13.8	0
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	11.7	0.3

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	0	0	1310	30	0	1605
Future Vol, veh/h	0	0	1310	30	0	1605
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	94	94	96	96
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	1394	32	0	1672

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3082	1410	0	0	1426	0
Stage 1	1410	-	-	-	-	-
Stage 2	1672	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	13	170	-	-	444	-
Stage 1	226	-	-	-	-	-
Stage 2	168	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	13	170	-	-	444	-
Mov Cap-2 Maneuver	13	-	-	-	-	-
Stage 1	226	-	-	-	-	-
Stage 2	168	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	0		0		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	444	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	0	-
HCM Lane LOS	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	-

Intersection

Int Delay, s/veh 37.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			A
Traffic Vol, veh/h	40	0	1340	100	0	1605
Future Vol, veh/h	40	0	1340	100	0	1605
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	95	95	96	96
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	55	0	1411	105	0	1672

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3135	1463	0	0	1516	0
Stage 1	1463	-	-	-	-	-
Stage 2	1672	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.23	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.317	-
Pot Cap-1 Maneuver	~ 12	158	-	-	410	-
Stage 1	213	-	-	-	-	-
Stage 2	168	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 12	158	-	-	410	-
Mov Cap-2 Maneuver	~ 12	-	-	-	-	-
Stage 1	213	-	-	-	-	-
Stage 2	168	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	\$ 2230	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 12	410	-
HCM Lane V/C Ratio	-	- 4.566	-	-
HCM Control Delay (s)	-	-\$ 2230	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	- 7.9	0	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis
38: SR 92 & Hiram Sudie Road

No Build 2045 PM
08/14/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	360	145	175	1080	0	1070	575
Future Volume (vph)	360	145	175	1080	0	1070	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Fr _t	1.00	0.85	1.00	1.00		1.00	0.85
Fl _t Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539		3539	1583
Fl _t Permitted	0.95	1.00	0.12	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	226	3539		3539	1583
Peak-hour factor, PHF	0.84	0.84	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	429	173	190	1174	0	1126	605
RTOR Reduction (vph)	0	124	0	0	0	0	327
Lane Group Flow (vph)	429	49	190	1174	0	1126	278
Turn Type	Prot	Perm	pm+pt	NA	Perm	NA	Perm
Protected Phases	7		5	2		6	
Permitted Phases		7	2		6		6
Actuated Green, G (s)	24.3	24.3	52.2	52.2		39.0	39.0
Effective Green, g (s)	24.8	24.3	52.7	52.2		39.0	39.0
Actuated g/C Ratio	0.29	0.29	0.62	0.61		0.46	0.46
Clearance Time (s)	4.5	4.5	4.5	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	516	452	307	2173		1623	726
v/s Ratio Prot	c0.24		c0.07	0.33		c0.32	
v/s Ratio Perm		0.03	0.32				0.18
v/c Ratio	0.83	0.11	0.62	0.54		0.69	0.38
Uniform Delay, d ₁	28.1	22.4	11.9	9.5		18.3	15.1
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d ₂	10.9	0.1	3.7	1.0		1.3	0.3
Delay (s)	39.1	22.5	15.6	10.4		19.6	15.4
Level of Service	D	C	B	B		B	B
Approach Delay (s)	34.3			11.2		18.1	
Approach LOS	C			B		B	

Intersection Summary

HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
39: SR 92 & Nebo Rd

No Build 2045 PM
08/14/2017



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	195	40	60	1060	940	275
Future Volume (vph)	195	40	60	1060	940	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539	1863	1583
Flt Permitted	0.95	1.00	0.10	1.00	1.00	1.00
Satd. Flow (perm)	1770	1583	196	3539	1863	1583
Peak-hour factor, PHF	0.82	0.82	0.93	0.93	0.95	0.95
Adj. Flow (vph)	238	49	65	1140	989	289
RTOR Reduction (vph)	0	40	0	0	0	106
Lane Group Flow (vph)	238	9	65	1140	989	183
Turn Type	Perm	Perm	pm+pt	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	15.5	15.5	64.5	64.5	56.5	56.5
Effective Green, g (s)	16.0	15.5	65.0	65.0	56.5	56.5
Actuated g/C Ratio	0.18	0.17	0.73	0.73	0.63	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	318	275	222	2584	1182	1004
v/s Ratio Prot			0.01	c0.32	c0.53	
v/s Ratio Perm	c0.13	0.01	0.20			0.12
v/c Ratio	0.75	0.03	0.29	0.44	0.84	0.18
Uniform Delay, d1	34.6	30.5	13.3	4.8	12.7	6.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	0.0	0.7	0.1	7.1	0.4
Delay (s)	43.9	30.6	14.1	4.9	19.8	7.1
Level of Service	D	C	B	A	B	A
Approach Delay (s)	41.6			5.4	16.9	
Approach LOS	D			A	B	

Intersection Summary

HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Arterial Level of Service: NB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Nebo Rd	I	45	10.0	5.8	15.8	0.10	21.9	D
Hiram Sudie Road	I	45	31.8	11.4	43.2	0.32	26.8	D
Oak Street	I	40	60.9	142.9	203.8	0.67	11.9	F
Jimmy Lee Smith Pkwy	I	44	74.6	277.7	352.3	0.91	9.3	F
Macland Rd	I	45	99.6	265.8	365.4	1.25	12.3	F
Dallas Rd	I	50	74.4	370.3	444.7	1.03	8.3	F
E Paulding Dr	I	50	91.5	128.4	219.9	1.27	20.8	E
Total	I		442.8	1202.3	1645.1	5.55	12.1	F

Arterial Level of Service: SB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Paulding Dr	I	50	10.7	283.1	293.8	0.11	1.3	F
Dallas Rd	I	50	91.5	240.5	332.0	1.27	13.8	F
Macland Rd	I	50	84.4	288.3	372.7	1.17	11.3	F
Jimmy Lee Smith Pkwy	I	45	99.6	278.8	378.4	1.25	11.9	F
Oak Street	I	44	74.6	106.5	181.1	0.91	18.2	E
Hiram Sudie Road	I	40	60.9	22.2	83.1	0.67	29.2	C
Nebo Rd	I	45	31.8	21.7	53.5	0.32	21.6	D
Total	I		453.5	1241.1	1694.6	5.70	12.1	F

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations		↗		↘	↕	↕	
Traffic Vol, veh/h	0	160	10	75	790	785	25
Future Vol, veh/h	0	160	10	75	790	785	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	63	63	84	84	84	93	93
Heavy Vehicles, %	8	8	8	8	8	8	8
Mvmt Flow	0	254	12	89	940	844	27

Major/Minor	Minor2	Major1			Major2
Conflicting Flow All	-	435	870	871	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.06	6.56	4.26	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.38	2.58	2.28	-
Pot Cap-1 Maneuver	0	553	384	733	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	-	553	612	612	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.9	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	612	-	553	-	-
HCM Lane V/C Ratio	0.165	-	0.459	-	-
HCM Control Delay (s)	12	-	16.9	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.6	-	2.4	-	-

Intersection													
Int Delay, s/veh	0.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↑↑	↔		↔	↑↑	↔
Traffic Vol, veh/h	0	0	10	5	0	0	25	795	5	25	0	880	0
Future Vol, veh/h	0	0	10	5	0	0	25	795	5	25	0	880	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	-	Yield
Storage Length	-	-	-	-	-	-	235	-	175	-	235	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	71	71	71	58	58	58	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	8	8	8	8	8	8	8
Mvmt Flow	0	0	14	9	0	0	28	883	6	28	0	978	0

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1530	1972	489	1483	1972	442	978	0	0	-	883	0	0
Stage 1	1033	1033	-	939	939	-	-	-	-	-	-	-	-
Stage 2	497	939	-	544	1033	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.26	-	-	6.56	4.26	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.28	-	-	2.58	2.28	-	-
Pot Cap-1 Maneuver	80	62	525	87	62	563	666	-	-	-	725	-	-
Stage 1	249	308	-	284	341	-	-	-	-	-	-	-	-
Stage 2	523	341	-	491	308	-	-	-	-	-	-	-	-
Platoon blocked, %													
Mov Cap-1 Maneuver	77	59	525	82	59	563	666	-	-	-	-	-	-
Mov Cap-2 Maneuver	77	59	-	82	59	-	-	-	-	-	-	-	-
Stage 1	239	308	-	272	327	-	-	-	-	-	-	-	-
Stage 2	501	327	-	478	308	-	-	-	-	-	-	-	-

































Approach	EB	WB	NB	SB
HCM Control Delay, s	12	54	0.3	
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	666	-	-	525	82	-	-	-
HCM Lane V/C Ratio	0.042	-	-	0.027	0.105	-	-	-
HCM Control Delay (s)	10.6	-	-	12	54	-	-	-
HCM Lane LOS	B	-	-	B	F	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.3	-	-	-

HCM Signalized Intersection Capacity Analysis

8: SR 92 & Dallas Rd

Build 2025 AM
08/15/2017

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	 	  		 	  				 	 	 	 	
Traffic Volume (vph)	320	1275	70	275	585	75	10	70	430	280	75	585	
Future Volume (vph)	320	1275	70	275	585	75	10	70	430	280	75	585	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.5		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.95	1.00	0.97	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3099	4590	1429	3099	4590	1429		2918	3008	1346	3242	3343	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3099	4590	1429	3099	4590	1429		2918	3008	1346	3242	3343	
Peak-hour factor, PHF	0.86	0.86	0.86	0.85	0.85	0.85	0.95	0.95	0.95	0.95	0.92	0.92	
Adj. Flow (vph)	372	1483	81	324	688	88	11	74	453	295	82	636	
RTOR Reduction (vph)	0	0	52	0	0	60	0	0	0	217	0	0	
Lane Group Flow (vph)	372	1483	29	324	688	28	0	85	453	78	82	636	
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	20%	8%	8%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	5	2		1	6	
Permitted Phases			4			8				2			
Actuated Green, G (s)	14.8	31.5	31.5	11.5	28.2	28.2		3.9	22.8	22.8	3.9	22.8	
Effective Green, g (s)	15.3	32.0	31.5	12.0	28.7	28.2		4.4	23.3	23.3	4.4	23.3	
Actuated g/C Ratio	0.17	0.36	0.36	0.14	0.33	0.32		0.05	0.27	0.27	0.05	0.27	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	540	1674	513	424	1502	459		146	799	357	162	888	
v/s Ratio Prot	c0.12	c0.32		0.10	0.15			c0.03	0.15		0.03	c0.19	
v/s Ratio Perm			0.02			0.02				0.06			
v/c Ratio	0.69	0.89	0.06	0.76	0.46	0.06		0.58	0.57	0.22	0.51	0.72	
Uniform Delay, d1	34.0	26.1	18.4	36.5	23.3	20.6		40.8	27.8	25.1	40.6	29.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.7	6.0	0.0	8.0	0.2	0.1		5.8	2.9	1.4	2.5	4.9	
Delay (s)	37.6	32.2	18.4	44.5	23.6	20.6		46.6	30.7	26.5	43.1	34.1	
Level of Service	D	C	B	D	C	C		D	C	C	D	C	
Approach Delay (s)		32.6			29.5				30.9			32.7	
Approach LOS		C			C				C			C	
Intersection Summary													
HCM 2000 Control Delay			31.6		HCM 2000 Level of Service					C			
HCM 2000 Volume to Capacity ratio			0.80										
Actuated Cycle Length (s)			87.7		Sum of lost time (s)					16.5			
Intersection Capacity Utilization			66.2%		ICU Level of Service					C			
Analysis Period (min)			15										
c Critical Lane Group													



Movement	SBR
Lane Configurations	7
Traffic Volume (vph)	235
Future Volume (vph)	235
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Fr _t	0.85
Fl _t Protected	1.00
Satd. Flow (prot)	1495
Fl _t Permitted	1.00
Satd. Flow (perm)	1495
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	255
RTOR Reduction (vph)	187
Lane Group Flow (vph)	68
Heavy Vehicles (%)	8%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	22.8
Effective Green, g (s)	23.3
Actuated g/C Ratio	0.27
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	397
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.17
Uniform Delay, d ₁	24.8
Progression Factor	1.00
Incremental Delay, d ₂	0.9
Delay (s)	25.7
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↕	↗		↕↕
Traffic Vol, veh/h	0	0	785	5	0	940
Future Vol, veh/h	0	0	785	5	0	940
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	175	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	38	38	90	90	94	94
Heavy Vehicles, %	2	2	20	20	20	20
Mvmt Flow	0	0	872	6	0	1000

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	436	0 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	568	- - 0 -
Stage 1	0	-	- - 0 -
Stage 2	0	-	- - 0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	568	- - - -
Mov Cap-2 Maneuver	-	-	- - - -
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗↗	↗
Traffic Vol, veh/h	0	10	0	790	930	10
Future Vol, veh/h	0	10	0	790	930	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	0	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	92	92	92	92
Heavy Vehicles, %	2	2	13	13	20	20
Mvmt Flow	0	13	0	859	1011	11

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	505	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	7.14	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.92	- -
Pot Cap-1 Maneuver	0	439	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	439	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	439	-	-
HCM Lane V/C Ratio	-	0.028	-	-
HCM Control Delay (s)	-	13.4	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔		↵		↶		↵	↗	↶		↵	↗	↶
Traffic Vol, veh/h	5	0	10	50	0	60	5	5	715	35	10	50	875	5
Future Vol, veh/h	5	0	10	50	0	60	5	5	715	35	10	50	875	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Stop	-	-	-	Yield	-	-	-	None
Storage Length	-	-	-	30	-	0	-	235	-	175	-	0	-	280
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	58	58	58	77	77	77	96	96	96	96	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	13	13	13	13	13	13	13	13
Mvmt Flow	9	0	17	65	0	78	5	5	745	36	11	54	941	5

Major/Minor	Minor2			Minor1			Major1			Major2				
Conflicting Flow All	1463	1836	470	1365	-	372	-	941	0	0	-	745	0	0
Stage 1	1070	1070	-	766	-	-	-	-	-	-	-	-	-	-
Stage 2	393	766	-	599	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	-	6.94	6.66	4.36	-	-	6.66	4.36	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	-	3.32	2.63	2.33	-	-	2.63	2.33	-	-
Pot Cap-1 Maneuver	90	75	540	106	0	625	-	660	-	-	-	790	-	-
Stage 1	236	296	-	361	0	-	-	-	-	-	-	-	-	-
Stage 2	603	410	-	455	0	-	-	-	-	-	-	-	-	-
Platoon blocked, %														
Mov Cap-1 Maneuver	79	75	540	103	-	625	~	~	-	-	~-6	~-6	-	-
Mov Cap-2 Maneuver	79	75	-	103	-	-	-	-	-	-	-	-	-	-
Stage 1	236	296	-	361	-	-	-	-	-	-	-	-	-	-
Stage 2	528	410	-	440	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.9	45.6		
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	~	-	-	183	103	625	+	-	-
HCM Lane V/C Ratio	~	-	-	0.141	0.63	0.125	-	-	-
HCM Control Delay (s)	-	-	-	27.9	86.5	11.6	-	-	-
HCM Lane LOS	-	-	-	D	F	B	-	-	-
HCM 95th %tile Q(veh)	~	-	-	0.5	3.1	0.4	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	10	0	760	930	10
Future Vol, veh/h	0	10	0	760	930	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	-	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	87	87	86	86
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	13	0	874	1081	12

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	541	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	485	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	485	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	12.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 485	-
HCM Lane V/C Ratio	- 0.027	-
HCM Control Delay (s)	- 12.6	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0.1	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↗
Traffic Vol, veh/h	0	0	760	0	0	940
Future Vol, veh/h	0	0	760	0	0	940
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	93	93	85	85
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	817	0	0	1106

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	409	0 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	592	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	592	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↗	↘
Traffic Vol, veh/h	0	25	10	760	940	0
Future Vol, veh/h	0	25	10	760	940	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	235	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	87	87	86	86
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	33	11	874	1093	0






























Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1553	547	1093	0	-	0
Stage 1	1093	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.36	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.33	-	-	-
Pot Cap-1 Maneuver	104	481	574	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	102	481	574	-	-	-
Mov Cap-2 Maneuver	102	-	-	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	590	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	574	-	481	-	-
HCM Lane V/C Ratio	0.02	-	0.069	-	-
HCM Control Delay (s)	11.4	-	13	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM Signalized Intersection Capacity Analysis
 17: SR 92 & Macland Rd

Build 2025 AM
 08/15/2017

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	
Lane Configurations		 			 			 			 	 	
Traffic Volume (vph)	100	575	80	75	345	175	50	490	80	5	270	560	
Future Volume (vph)	100	575	80	75	345	175	50	490	80	5	270	560	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5		4.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	1612	3223	1442	1612	3223	1442	1583	3167	1417		1597	3195	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.40	1.00	1.00		0.29	1.00	
Satd. Flow (perm)	1612	3223	1442	1612	3223	1442	669	3167	1417		484	3195	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.90	0.90	0.90	0.85	0.85	0.85	
Adj. Flow (vph)	110	632	88	96	442	224	56	544	89	6	318	659	
RTOR Reduction (vph)	0	0	67	0	0	174	0	0	62	0	0	0	
Lane Group Flow (vph)	110	632	21	96	442	50	56	544	27	0	324	659	
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	14%	14%	14%	13%	13%	13%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	1	6	
Permitted Phases			4			8	2		2	6	6		
Actuated Green, G (s)	7.6	20.2	20.2	6.4	19.0	19.0	29.4	25.4	25.4		44.7	36.2	
Effective Green, g (s)	8.1	20.2	20.2	6.9	19.0	19.0	30.4	25.4	25.4		45.2	36.2	
Actuated g/C Ratio	0.10	0.24	0.24	0.08	0.22	0.22	0.36	0.30	0.30		0.53	0.43	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	153	767	343	131	722	323	288	948	424		458	1363	
v/s Ratio Prot	c0.07	c0.20		0.06	0.14		0.01	0.17			c0.13	0.21	
v/s Ratio Perm			0.01			0.03	0.06		0.02		c0.25		
v/c Ratio	0.72	0.82	0.06	0.73	0.61	0.16	0.19	0.57	0.06		0.71	0.48	
Uniform Delay, d1	37.2	30.6	25.0	38.0	29.6	26.4	18.1	25.1	21.2		12.8	17.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.9	7.2	0.1	18.9	1.5	0.2	0.3	2.5	0.3		4.9	0.3	
Delay (s)	52.2	37.8	25.0	57.0	31.1	26.7	18.4	27.6	21.5		17.7	17.8	
Level of Service	D	D	C	E	C	C	B	C	C		B	B	
Approach Delay (s)		38.3			33.1			26.1				17.4	
Approach LOS		D			C			C				B	
Intersection Summary													
HCM 2000 Control Delay			27.7	HCM 2000 Level of Service						C			
HCM 2000 Volume to Capacity ratio			0.80										
Actuated Cycle Length (s)			84.8	Sum of lost time (s)						17.5			
Intersection Capacity Utilization			63.0%	ICU Level of Service						B			
Analysis Period (min)			15										
c Critical Lane Group													



Movement	SBR
Lane Configurations	7
Traffic Volume (vph)	130
Future Volume (vph)	130
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1429
Flt Permitted	1.00
Satd. Flow (perm)	1429
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	153
RTOR Reduction (vph)	88
Lane Group Flow (vph)	65
Heavy Vehicles (%)	13%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	36.2
Effective Green, g (s)	36.2
Actuated g/C Ratio	0.43
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	610
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.11
Uniform Delay, d1	14.6
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	14.7
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↗	↗	↗	↗	↗	↗	↗
Traffic Vol, veh/h	0	0	0	20	0	20	0	600	10	10	705	0
Future Vol, veh/h	0	0	0	20	0	20	0	600	10	10	705	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	85	-	0	235	-	175	235	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	61	61	61	93	93	93	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	14	14	14
Mvmt Flow	0	0	0	33	0	33	0	645	11	11	783	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1129	1451	392	1059	1451	323	783	0	0	645	0	0
Stage 1	806	806	-	645	645	-	-	-	-	-	-	-
Stage 2	323	645	-	414	806	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.38	-	-	4.38	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.34	-	-	2.34	-	-
Pot Cap-1 Maneuver	159	130	607	179	130	673	757	-	-	859	-	-
Stage 1	342	393	-	427	466	-	-	-	-	-	-	-
Stage 2	663	466	-	586	393	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	150	128	607	177	128	673	757	-	-	859	-	-
Mov Cap-2 Maneuver	150	128	-	177	128	-	-	-	-	-	-	-
Stage 1	342	388	-	427	466	-	-	-	-	-	-	-
Stage 2	631	466	-	578	388	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	20.2	0	0.1
HCM LOS	A	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	757	-	-	-	177	673	859	-	-
HCM Lane V/C Ratio	-	-	-	-	0.185	0.049	0.013	-	-
HCM Control Delay (s)	0	-	-	0	29.9	10.6	9.2	-	-
HCM Lane LOS	A	-	-	A	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0.2	0	-	-

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘			↘	↗	↘	↗	↗
Traffic Vol, veh/h	5	5	130	5	605	0	720	5
Future Vol, veh/h	5	5	130	5	605	0	720	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	-	-	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	55	55	88	88	88	89	89	89
Heavy Vehicles, %	2	2	12	12	12	12	12	12
Mvmt Flow	9	9	148	6	688	0	809	6

Major/Minor	Minor2	Major1				Major2		
Conflicting Flow All	1460	404	590	809	0	502	-	0
Stage 1	809	-	-	-	-	-	-	-
Stage 2	651	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.64	4.34	-	6.64	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.62	2.32	-	2.62	-	-
Pot Cap-1 Maneuver	120	596	569	751	-	650	-	-
Stage 1	398	-	-	-	-	-	-	-
Stage 2	481	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	120	596	569	569	-	650	-	-
Mov Cap-2 Maneuver	120	-	-	-	-	-	-	-
Stage 1	398	-	-	-	-	-	-	-
Stage 2	481	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.8	2.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	569	-	200	650	-	-
HCM Lane V/C Ratio	0.27	-	0.091	-	-	-
HCM Control Delay (s)	13.6	-	24.8	0	-	-
HCM Lane LOS	B	-	C	A	-	-
HCM 95th %tile Q(veh)	1.1	-	0.3	0	-	-

HCM Signalized Intersection Capacity Analysis
 24: SR 92 & Jimmy Lee Smith Pkwy

Build 2025 AM
 08/15/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	60	1425	155	130	885	210	190	200	430	255	65	305
Future Volume (vph)	60	1425	155	130	885	210	190	200	430	255	65	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91	1.00		0.94	0.95	1.00		0.94
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	3127	4631	2538	3127	4631	1442		4670	3312	1482		4545
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	3127	4631	2538	3127	4631	1442		4670	3312	1482		4545
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.87	0.87	0.87	0.87	0.94	0.94
Adj. Flow (vph)	65	1549	168	137	932	221	218	230	494	293	69	324
RTOR Reduction (vph)	0	0	103	0	0	130	0	0	0	98	0	0
Lane Group Flow (vph)	65	1549	65	137	932	91	0	448	494	195	0	393
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	9%	9%	9%	9%	12%	12%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)	4.4	34.9	34.9	6.5	37.0	37.0		11.3	20.5	20.5		10.4
Effective Green, g (s)	4.4	34.9	34.9	6.5	37.0	37.0		11.3	20.5	20.5		10.4
Actuated g/C Ratio	0.05	0.39	0.39	0.07	0.41	0.41		0.13	0.23	0.23		0.12
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	152	1789	980	225	1897	590		584	751	336		523
v/s Ratio Prot	0.02	c0.33		c0.04	0.20			c0.10	c0.15			0.09
v/s Ratio Perm			0.03			0.06				0.13		
v/c Ratio	0.43	0.87	0.07	0.61	0.49	0.15		1.04dl	0.66	0.58		0.75
Uniform Delay, d1	41.7	25.5	17.4	40.7	19.7	16.8		38.2	31.7	31.1		38.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.97	0.98	0.96		1.05
Incremental Delay, d2	1.9	4.7	0.0	4.6	0.2	0.1		6.0	4.5	7.1		6.0
Delay (s)	43.7	30.2	17.5	45.3	19.9	16.9		43.2	35.6	37.1		46.7
Level of Service	D	C	B	D	B	B		D	D	D		D
Approach Delay (s)		29.5			22.1				38.7			
Approach LOS		C			C				D			

Intersection Summary		
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.78	
Actuated Cycle Length (s)	90.3	Sum of lost time (s) 18.0
Intersection Capacity Utilization	65.6%	ICU Level of Service C
Analysis Period (min)	15	

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	345	70
Future Volume (vph)	345	70
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3223	1442
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3223	1442
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	367	74
RTOR Reduction (vph)	0	58
Lane Group Flow (vph)	367	16
Heavy Vehicles (%)	12%	12%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	19.6	19.6
Effective Green, g (s)	19.6	19.6
Actuated g/C Ratio	0.22	0.22
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	699	312
v/s Ratio Prot	0.11	
v/s Ratio Perm		0.01
v/c Ratio	0.53	0.05
Uniform Delay, d1	31.2	28.0
Progression Factor	0.94	0.61
Incremental Delay, d2	0.7	0.1
Delay (s)	30.1	17.0
Level of Service	C	B
Approach Delay (s)	36.8	
Approach LOS	D	

Intersection Summary

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↖	↗	↖	↗	↖	↗	↗
Traffic Vol, veh/h	0	5	5	950	210	495	0
Future Vol, veh/h	0	5	5	950	210	495	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	-	Yield
Storage Length	0	85	235	-	235	-	175
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	56	56	94	94	86	86	86
Heavy Vehicles, %	2	2	10	10	9	9	9
Mvmt Flow	0	9	5	1011	244	576	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1580	288	576	0	737
Stage 1	1064	-	-	-	-
Stage 2	516	-	-	-	-
Critical Hdwy	6.84	6.94	4.3	-	6.58
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.3	-	2.59
Pot Cap-1 Maneuver	100	709	940	-	466
Stage 1	293	-	-	-	-
Stage 2	564	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	99	709	940	-	466
Mov Cap-2 Maneuver	99	-	-	-	-
Stage 1	293	-	-	-	-
Stage 2	561	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	6.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	940	-	-	709	466	-	-
HCM Lane V/C Ratio	0.006	-	-	0.013	0.524	-	-
HCM Control Delay (s)	8.9	-	0	10.1	20.9	-	-
HCM Lane LOS	A	-	A	B	C	-	-
HCM 95th %tile Q(veh)	0	-	-	0	3	-	-

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘			↘	↗	↘	↗	↗
Traffic Vol, veh/h	5	5	5	5	940	45	460	0
Future Vol, veh/h	5	5	5	5	940	45	460	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	50	50	97	97	97	86	86	86
Heavy Vehicles, %	2	2	7	7	7	10	10	10
Mvmt Flow	10	10	5	5	969	52	535	0

Major/Minor	Minor2	Major1				Major2		
Conflicting Flow All	1145	267	390	535	0	707	-	0
Stage 1	640	-	-	-	-	-	-	-
Stage 2	505	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.54	4.24	-	6.6	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.57	2.27	-	2.6	-	-
Pot Cap-1 Maneuver	193	731	790	995	-	484	-	-
Stage 1	487	-	-	-	-	-	-	-
Stage 2	571	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	193	731	878	878	-	484	-	-
Mov Cap-2 Maneuver	193	-	-	-	-	-	-	-
Stage 1	487	-	-	-	-	-	-	-
Stage 2	571	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	0.1	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	878	-	305	484	-	-
HCM Lane V/C Ratio	0.012	-	0.066	0.108	-	-
HCM Control Delay (s)	9.2	-	17.6	13.3	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.4	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕	↗		↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	950	0	0	465	5
Future Vol, veh/h	0	0	0	0	0	0	0	950	0	0	465	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	175	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	96	96	96	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0	0	990	0	0	547	6























Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	-	-	276	-	-	495	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	721	0	0	520	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	721	-	-	520	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis
32: SR 92 & Oak Street

Build 2025 AM
08/15/2017

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT		
Lane Configurations														
Traffic Volume (vph)	5	5	0	100	5	25	10	0	920	60	25	435		
Future Volume (vph)	5	5	0	100	5	25	10	0	920	60	25	435		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.0	4.5	
Lane Util. Factor		1.00			1.00	1.00			1.00	0.95	1.00	1.00	0.95	
Flt		1.00			1.00	0.85			1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00			0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817			1778	1583			1530	3059	1369	1530	3059	
Flt Permitted		0.86			0.72	1.00			0.47	1.00	1.00	0.26	1.00	
Satd. Flow (perm)		1597			1343	1583			759	3059	1369	415	3059	
Peak-hour factor, PHF	0.52	0.52	0.52	0.77	0.77	0.77	0.94	0.94	0.94	0.94	0.88	0.88	0.88	
Adj. Flow (vph)	10	10	0	130	6	32	11	0	979	64	28	494		
RTOR Reduction (vph)	0	0	0	0	0	27	0	0	0	22	0	0		
Lane Group Flow (vph)	0	20	0	0	136	5	0	11	979	42	28	494		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	18%	18%	18%	18%	18%	18%		
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	NA	Perm	pm+pt	NA		
Protected Phases		4			8				2		1	6		
Permitted Phases	4		4	8		8	2	2		2	6			
Actuated Green, G (s)		13.4			13.4	13.4			55.3	55.3	55.3	61.8	61.8	
Effective Green, g (s)		13.4			13.4	13.4			55.3	55.3	55.3	62.3	61.8	
Actuated g/C Ratio		0.16			0.16	0.16			0.66	0.66	0.66	0.74	0.73	
Clearance Time (s)		4.5			4.5	4.5			4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0			3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		254			213	251			498	2009	899	340	2245	
v/s Ratio Prot									c0.32		0.00	c0.16		
v/s Ratio Perm		0.01			c0.10	0.00			0.01		0.03	0.06		
v/c Ratio		0.08			0.64	0.02			0.02	0.49	0.05	0.08	0.22	
Uniform Delay, d1		30.1			33.1	29.9			5.0	7.3	5.1	5.3	3.6	
Progression Factor		1.00			1.00	1.00			1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1			6.2	0.0			0.1	0.8	0.1	0.1	0.0	
Delay (s)		30.3			39.3	29.9			5.1	8.1	5.2	5.4	3.6	
Level of Service		C			D	C			A	A	A	A	A	
Approach Delay (s)		30.3			37.5				7.9				3.7	
Approach LOS		C			D				A				A	
Intersection Summary														
HCM 2000 Control Delay			9.7										HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.51											
Actuated Cycle Length (s)			84.2										Sum of lost time (s)	13.0
Intersection Capacity Utilization			45.4%										ICU Level of Service	A
Analysis Period (min)			15											
c Critical Lane Group														



Movement	SBR
Lane Configurations	7
Traffic Volume (vph)	5
Future Volume (vph)	5
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Fr _t	0.85
Fl _t Protected	1.00
Satd. Flow (prot)	1369
Fl _t Permitted	1.00
Satd. Flow (perm)	1369
Peak-hour factor, PHF	0.88
Adj. Flow (vph)	6
RTOR Reduction (vph)	2
Lane Group Flow (vph)	4
Heavy Vehicles (%)	18%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	61.8
Effective Green, g (s)	61.8
Actuated g/C Ratio	0.73
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	1004
v/s Ratio Prot	
v/s Ratio Perm	0.00
v/c Ratio	0.00
Uniform Delay, d ₁	3.0
Progression Factor	1.00
Incremental Delay, d ₂	0.0
Delay (s)	3.0
Level of Service	A
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↕	↗		↕↕
Traffic Vol, veh/h	0	0	990	5	0	545
Future Vol, veh/h	0	0	990	5	0	545
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	-	0	-	80	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	33	33	94	94	88	88
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	0	0	1053	5	0	619

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	527	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	496	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			
Mov Cap-1 Maneuver	-	496	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection

Int Delay, s/veh 0.8

Movement	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↘	↗	↘	↗	↗		↘	↗
Traffic Vol, veh/h	5	20	0	970	10	5	20	520
Future Vol, veh/h	5	20	0	970	10	5	20	520
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	190	0	235	-	175	-	235	-
Veh in Median Storage, #	0	-	-	0	-	-	-	0
Grade, %	0	-	-	0	-	-	-	0
Peak Hour Factor	46	46	94	94	94	91	91	91
Heavy Vehicles, %	2	2	18	18	18	18	18	18
Mvmt Flow	11	43	0	1032	11	5	22	571





















Major/Minor	Minor1	Major1	Major2					
Conflicting Flow All	1373	516	417	0	0	753	1032	0
Stage 1	1032	-	-	-	-	-	-	-
Stage 2	341	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.76	-	-	6.76	4.46	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.68	-	-	2.68	2.38	-
Pot Cap-1 Maneuver	137	504	714	-	-	427	581	-
Stage 1	304	-	-	-	-	-	-	-
Stage 2	692	-	-	-	-	-	-	-
Platoon blocked, %				-	-			-
Mov Cap-1 Maneuver	137	504	714	-	-	536	536	-
Mov Cap-2 Maneuver	137	-	-	-	-	-	-	-
Stage 1	304	-	-	-	-	-	-	-
Stage 2	692	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBU	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	714	-	-	137	504	536
HCM Lane V/C Ratio	-	-	-	0.079	0.086	0.051
HCM Control Delay (s)	0	-	-	33.5	12.8	12.1
HCM Lane LOS	A	-	-	D	B	B
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0.2

HCM Signalized Intersection Capacity Analysis
37: SR 92 & Access Rd/Main St

Build 2025 AM
08/15/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	0	10	10	0	0	10	970	105	0	515	10
Future Volume (vph)	10	0	10	10	0	0	10	970	105	0	515	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5		4.5	4.5
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00		0.95	1.00
Fr _t		0.93			1.00		1.00	1.00	0.85		1.00	0.85
Fl _t Protected		0.98			0.95		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)		1695			1770		1530	3059	1369		3059	1369
Fl _t Permitted		0.83			0.93		0.43	1.00	1.00		1.00	1.00
Satd. Flow (perm)		1445			1733		685	3059	1369		3059	1369
Peak-hour factor, PHF	0.54	0.54	0.54	0.54	0.54	0.54	0.91	0.91	0.91	0.86	0.86	0.86
Adj. Flow (vph)	19	0	19	19	0	0	11	1066	115	0	599	12
RTOR Reduction (vph)	0	36	0	0	0	0	0	0	19	0	0	3
Lane Group Flow (vph)	0	2	0	0	19	0	11	1066	96	0	599	9
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	18%	18%	18%	18%	18%	18%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		4.3			4.3		69.2	69.2	69.2		63.6	63.6
Effective Green, g (s)		4.3			4.3		69.2	69.2	69.2		63.6	63.6
Actuated g/C Ratio		0.05			0.05		0.84	0.84	0.84		0.77	0.77
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		75			90		585	2565	1148		2358	1055
v/s Ratio Prot							0.00	c0.35			0.20	
v/s Ratio Perm		0.00			c0.01		0.02		0.07			0.01
v/c Ratio		0.03			0.21		0.02	0.42	0.08		0.25	0.01
Uniform Delay, d ₁		37.1			37.5		1.1	1.6	1.2		2.7	2.2
Progression Factor		1.00			1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d ₂		0.1			1.2		0.0	0.5	0.1		0.3	0.0
Delay (s)		37.3			38.6		1.1	2.1	1.3		3.0	2.2
Level of Service		D			D		A	A	A		A	A
Approach Delay (s)		37.3			38.6			2.1			2.9	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			3.4				HCM 2000 Level of Service				A	
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			82.5				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			38.5%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
38: SR 92 & Hiram Sudie Road

Build 2025 AM
08/15/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	270	75	85	815	0	340	195
Future Volume (vph)	270	75	85	815	0	340	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1719	3438		3438	1538
Flt Permitted	0.95	1.00	0.46	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	831	3438		3438	1538
Peak-hour factor, PHF	0.77	0.77	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	351	97	96	916	0	395	227
RTOR Reduction (vph)	0	72	0	0	0	0	119
Lane Group Flow (vph)	351	25	96	916	0	395	108
Heavy Vehicles (%)	2%	2%	5%	5%	5%	5%	5%
Turn Type	Prot	Prot	pm+pt	NA	Perm	NA	Perm
Protected Phases	7	7	5	2		6	
Permitted Phases			2		6		6
Actuated Green, G (s)	19.5	19.5	45.9	45.9		35.5	35.5
Effective Green, g (s)	20.0	19.5	46.4	45.9		35.5	35.5
Actuated g/C Ratio	0.27	0.26	0.62	0.62		0.48	0.48
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	475	414	594	2121		1640	733
v/s Ratio Prot	c0.20	0.02	0.01	c0.27		0.11	
v/s Ratio Perm			0.09				0.07
v/c Ratio	0.74	0.06	0.16	0.43		0.24	0.15
Uniform Delay, d1	24.8	20.6	5.7	7.4		11.5	10.9
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.9	0.1	0.1	0.6		0.1	0.1
Delay (s)	30.8	20.6	5.9	8.1		11.6	11.0
Level of Service	C	C	A	A		B	B
Approach Delay (s)	28.6			7.9		11.4	
Approach LOS	C			A		B	

Intersection Summary

HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	74.4	Sum of lost time (s)	13.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
39: SR 92 & Nebo Rd

Build 2025 AM
08/15/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	180	30	25	720	0	340	75
Future Volume (vph)	180	30	25	720	0	340	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1719	3438		3438	1538
Flt Permitted	0.95	1.00	0.49	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	885	3438		3438	1538
Peak-hour factor, PHF	0.75	0.75	0.91	0.91	0.76	0.76	0.76
Adj. Flow (vph)	240	40	27	791	0	447	99
RTOR Reduction (vph)	0	32	0	0	0	0	37
Lane Group Flow (vph)	240	8	27	791	0	447	62
Heavy Vehicles (%)	2%	2%	5%	5%	5%	5%	5%
Turn Type	Prot	Prot	pm+pt	NA	Perm	NA	Perm
Protected Phases	7	7	5	2		6	
Permitted Phases			2		6		6
Actuated Green, G (s)	17.7	17.7	63.3	63.3		56.4	56.4
Effective Green, g (s)	18.2	17.7	63.8	63.8		56.4	56.4
Actuated g/C Ratio	0.20	0.20	0.71	0.71		0.63	0.63
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	357	311	654	2437		2154	963
v/s Ratio Prot	c0.14	0.00	0.00	c0.23		0.13	
v/s Ratio Perm			0.03				0.04
v/c Ratio	0.67	0.03	0.04	0.32		0.21	0.06
Uniform Delay, d1	33.1	29.2	4.1	5.0		7.2	6.5
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.9	0.0	0.0	0.1		0.2	0.1
Delay (s)	38.1	29.2	4.1	5.0		7.4	6.7
Level of Service	D	C	A	A		A	A
Approach Delay (s)	36.8			5.0		7.3	
Approach LOS	D			A		A	

Intersection Summary

HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↘↗		↑↑		↘		↑↑
Traffic Vol, veh/h	0	0	820	0	55	0	905
Future Vol, veh/h	0	0	820	0	55	0	905
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	0	891	0	60	0	984

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1502	446	0 - 891 - -
Stage 1	891	-	- - - -
Stage 2	611	-	- - - -
Critical Hdwy	6.84	6.94	- - 6.44 - -
Critical Hdwy Stg 1	5.84	-	- - - -
Critical Hdwy Stg 2	5.84	-	- - - -
Follow-up Hdwy	3.52	3.32	- - 2.52 - -
Pot Cap-1 Maneuver	112	560	- 0 390 0 -
Stage 1	361	-	- 0 - 0 -
Stage 2	504	-	- 0 - 0 -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	112	560	- - 390 - -
Mov Cap-2 Maneuver	112	-	- - - -
Stage 1	361	-	- - - -
Stage 2	504	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBU	SBT
Capacity (veh/h)	-	- 390	-
HCM Lane V/C Ratio	-	- 0.153	-
HCM Control Delay (s)	-	0 15.9	-
HCM Lane LOS	-	A C	-
HCM 95th %tile Q(veh)	-	- 0.5	-

Arterial Level of Service: NB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Nebo Rd	II	45	23.3	5.9	29.2	0.21	26.3	C
Hiram Sudie Road	II	45	31.8	9.2	41.0	0.32	28.2	B
Main St	II	45	27.8	2.4	30.2	0.27	31.9	B
Oak Street	II	45	38.2	8.8	47.0	0.41	31.1	B
Jimmy Lee Smith Pkwy	II	45	73.1	35.4	108.5	0.91	30.3	B
Macland Rd	II	45	99.6	30.5	130.1	1.25	34.5	B
Dallas Rd	II	45	100.3	31.5	131.8	1.25	34.3	B
Total	II		394.1	123.7	517.8	4.62	32.1	B

Arterial Level of Service: SB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Dallas Rd	II	45	53.1	34.7	87.8	0.66	27.2	C
Macland Rd	II	45	100.3	20.3	120.6	1.25	37.4	A
Jimmy Lee Smith Pkwy	II	45	99.6	32.1	131.7	1.25	34.0	B
Oak Street	II	45	73.1	4.5	77.6	0.91	42.4	A
Access Rd	II	45	38.2	2.8	41.0	0.41	35.7	A
Hiram Sudie Road	II	45	27.8	13.7	41.5	0.27	23.2	C
Nebo Rd	II	45	31.8	8.0	39.8	0.32	29.1	B
Total	II		423.9	116.1	540.0	5.07	33.8	B

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↕	↕↗	
Traffic Vol, veh/h	0	80	20	30	855	775	10
Future Vol, veh/h	0	80	20	30	855	775	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	34	34	89	89	89	85	85
Heavy Vehicles, %	7	7	7	7	7	7	7
Mvmt Flow	0	235	22	34	961	912	12

Major/Minor	Minor2	Major1			Major2
Conflicting Flow All	-	462	922	924	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.04	6.54	4.24	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.37	2.57	2.27	-
Pot Cap-1 Maneuver	0	533	358	705	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	-	533	461	461	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	0.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	461	-	533	-	-
HCM Lane V/C Ratio	0.122	-	0.441	-	-
HCM Control Delay (s)	13.9	-	17	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.4	-	2.2	-	-

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↑↑	↔		↔	↑↑	↔
Traffic Vol, veh/h	0	0	20	5	0	0	30	855	5	20	0	810	0
Future Vol, veh/h	0	0	20	5	0	0	30	855	5	20	0	810	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	-	Yield
Storage Length	-	-	-	-	-	-	235	-	175	-	235	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	64	64	64	55	55	55	94	94	94	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	2	7	7	7
Mvmt Flow	0	0	31	9	0	0	32	910	5	22	0	880	0

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	1443	1897	440	1457	1897	455	880	0	0	-	910	0	0
Stage 1	924	924	-	973	973	-	-	-	-	-	-	-	-
Stage 2	519	973	-	484	924	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.24	-	-	6.44	4.24	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.27	-	-	2.52	2.27	-	-
Pot Cap-1 Maneuver	93	69	565	91	69	552	733	-	-	-	714	-	-
Stage 1	290	346	-	271	329	-	-	-	-	-	-	-	-
Stage 2	508	329	-	533	346	-	-	-	-	-	-	-	-
Platoon blocked, %													
Mov Cap-1 Maneuver	90	66	565	83	66	552	733	-	-	-	-	-	-
Mov Cap-2 Maneuver	90	66	-	83	66	-	-	-	-	-	-	-	-
Stage 1	277	346	-	259	315	-	-	-	-	-	-	-	-
Stage 2	486	315	-	504	346	-	-	-	-	-	-	-	-
























Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	53.6	0.3	
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	733	-	-	565	83	-	-	-
HCM Lane V/C Ratio	0.044	-	-	0.055	0.11	-	-	-
HCM Control Delay (s)	10.1	-	-	11.7	53.6	-	-	-
HCM Lane LOS	B	-	-	B	F	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.4	-	-	-

HCM Signalized Intersection Capacity Analysis

8: SR 92 & Dallas Rd

Build 2025 PM
08/15/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	220	730	60	300	1325	80	20	85	590	230	75	465
Future Volume (vph)	220	730	60	300	1325	80	20	85	590	230	75	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.5		4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.95	1.00	0.97	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3099	4590	1429	3099	4590	1429		3019	3112	1392	3273	3374
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3099	4590	1429	3099	4590	1429		3019	3112	1392	3273	3374
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.84	0.84
Adj. Flow (vph)	232	768	63	333	1472	89	21	89	621	242	89	554
RTOR Reduction (vph)	0	0	43	0	0	56	0	0	0	173	0	0
Lane Group Flow (vph)	232	768	20	333	1472	33	0	110	621	69	89	554
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	16%	16%	16%	16%	7%	7%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases			4			8				2		
Actuated Green, G (s)	9.2	27.6	27.6	13.6	32.0	32.0		4.2	24.2	24.2	3.8	23.8
Effective Green, g (s)	9.7	28.1	27.6	14.1	32.5	32.0		4.7	24.7	24.7	4.3	24.3
Actuated g/C Ratio	0.11	0.32	0.32	0.16	0.37	0.37		0.05	0.28	0.28	0.05	0.28
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	344	1479	452	501	1710	524		162	881	394	161	940
v/s Ratio Prot	0.07	0.17		c0.11	c0.32			c0.04	c0.20		0.03	0.16
v/s Ratio Perm			0.01			0.02				0.05		
v/c Ratio	0.67	0.52	0.04	0.66	0.86	0.06		0.68	0.70	0.17	0.55	0.59
Uniform Delay, d1	37.2	24.1	20.7	34.3	25.3	17.9		40.5	28.0	23.6	40.5	27.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.2	0.3	0.0	3.3	4.7	0.1		10.8	4.7	1.0	4.1	2.7
Delay (s)	42.4	24.4	20.7	37.6	30.0	17.9		51.3	32.7	24.5	44.6	29.9
Level of Service	D	C	C	D	C	B		D	C	C	D	C
Approach Delay (s)		28.1			30.7				32.8			30.5
Approach LOS		C			C				C			C
Intersection Summary												
HCM 2000 Control Delay			30.5	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			87.2	Sum of lost time (s)				16.5				
Intersection Capacity Utilization			65.7%	ICU Level of Service				C				
Analysis Period (min)			15									
c Critical Lane Group												

Movement	SBR
Lane Configurations	7
Traffic Volume (vph)	295
Future Volume (vph)	295
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Fr _t	0.85
Fl _t Protected	1.00
Satd. Flow (prot)	1509
Fl _t Permitted	1.00
Satd. Flow (perm)	1509
Peak-hour factor, PHF	0.84
Adj. Flow (vph)	351
RTOR Reduction (vph)	190
Lane Group Flow (vph)	161
Heavy Vehicles (%)	7%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	23.8
Effective Green, g (s)	24.3
Actuated g/C Ratio	0.28
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	420
v/s Ratio Prot	
v/s Ratio Perm	0.11
v/c Ratio	0.38
Uniform Delay, d ₁	25.4
Progression Factor	1.00
Incremental Delay, d ₂	2.6
Delay (s)	28.1
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↕	↗		↕↕
Traffic Vol, veh/h	0	10	910	15	0	845
Future Vol, veh/h	0	10	910	15	0	845
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	175	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	93	93	90	90
Heavy Vehicles, %	2	2	16	16	16	16
Mvmt Flow	0	11	978	16	0	939

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	489	0 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	525	- - 0 -
Stage 1	0	-	- - 0 -
Stage 2	0	-	- - 0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	525	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	- 525	-
HCM Lane V/C Ratio	-	- 0.021	-
HCM Control Delay (s)	-	- 12	-
HCM Lane LOS	-	- B	-
HCM 95th %tile Q(veh)	-	- 0.1	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗↗	↗
Traffic Vol, veh/h	0	10	0	925	825	10
Future Vol, veh/h	0	10	0	925	825	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	0	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	92	92
Heavy Vehicles, %	2	2	10	10	16	16
Mvmt Flow	0	16	0	1016	897	11

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	448	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	7.14	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.92	- -
Pot Cap-1 Maneuver	0	477	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	477	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	12.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	477	-	-
HCM Lane V/C Ratio	-	0.033	-	-
HCM Control Delay (s)	-	12.8	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection

Int Delay, s/veh 7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔		↑		↑		↑	↑↑	↑		↑	↑↑	↑
Traffic Vol, veh/h	5	0	10	45	0	60	5	10	845	45	15	60	755	5
Future Vol, veh/h	5	0	10	45	0	60	5	10	845	45	15	60	755	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Stop	-	-	-	Yield	-	-	-	None
Storage Length	-	-	-	30	-	0	-	235	-	175	-	0	-	280
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	59	59	59	58	58	58	95	95	95	95	92	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	10	10	10	10	2	10	10	10
Mvmt Flow	8	0	17	78	0	103	5	11	889	47	16	67	848	6

Major/Minor	Minor2			Minor1			Major1			Major2				
Conflicting Flow All	1492	1937	424	1513	-	445	-	848	0	0	-	889	0	0
Stage 1	1016	1016	-	921	-	-	-	-	-	-	-	-	-	-
Stage 2	476	921	-	592	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	-	6.94	6.6	4.3	-	-	6.44	4.3	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	-	3.32	2.6	2.3	-	-	2.52	2.3	-	-
Pot Cap-1 Maneuver	85	65	579	82	0	561	-	736	-	-	-	709	-	-
Stage 1	255	314	-	291	0	-	-	-	-	-	-	-	-	-
Stage 2	539	347	-	460	0	-	-	-	-	-	-	-	-	-
Platoon blocked, %														
Mov Cap-1 Maneuver	69	65	579	80	-	561	~-3	~-3	-	-	~-5	~-5	-	-
Mov Cap-2 Maneuver	69	65	-	80	-	-	-	-	-	-	-	-	-	-
Stage 1	255	314	-	291	-	-	-	-	-	-	-	-	-	-
Stage 2	440	347	-	447	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.4	86		
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	167	80	561	+	-	-
HCM Lane V/C Ratio	-	-	-	0.152	0.97	0.184	-	-	-
HCM Control Delay (s)	-	-	-	30.4	183.5	12.9	-	-	-
HCM Lane LOS	-	-	-	D	F	B	-	-	-
HCM 95th %tile Q(veh)	-	-	-	0.5	5.2	0.7	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	↗
Traffic Vol, veh/h	0	10	0	905	805	10
Future Vol, veh/h	0	10	0	905	805	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	-	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	92	92	94	94
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	13	0	984	856	11

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	428	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	575	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	575	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 575	-
HCM Lane V/C Ratio	- 0.022	-
HCM Control Delay (s)	- 11.4	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0.1	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↗
Traffic Vol, veh/h	0	0	905	0	0	815
Future Vol, veh/h	0	0	905	0	0	815
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	93	93	90	90
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	0	973	0	0	906

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	487	0 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	526	- - 0 -
Stage 1	0	-	- - 0 -
Stage 2	0	-	- - 0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	526	- - - -
Mov Cap-2 Maneuver	-	-	- - - -
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↗	↘
Traffic Vol, veh/h	0	25	25	905	815	0
Future Vol, veh/h	0	25	25	905	815	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	235	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	94	94	92	92
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	30	27	963	886	0





























Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1421	443	886 0
Stage 1	886	-	- -
Stage 2	535	-	- -
Critical Hdwy	6.84	6.94	4.3 -
Critical Hdwy Stg 1	5.84	-	- -
Critical Hdwy Stg 2	5.84	-	- -
Follow-up Hdwy	3.52	3.32	2.3 -
Pot Cap-1 Maneuver	127	562	711 -
Stage 1	363	-	- -
Stage 2	551	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	122	562	711 -
Mov Cap-2 Maneuver	122	-	- -
Stage 1	363	-	- -
Stage 2	530	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	711	-	562	-	-
HCM Lane V/C Ratio	0.037	-	0.054	-	-
HCM Control Delay (s)	10.3	-	11.8	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM Signalized Intersection Capacity Analysis
17: SR 92 & Macland Rd

Build 2025 PM
08/15/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		 			 			 			 	 
Traffic Volume (vph)	75	320	60	125	600	250	85	600	85	5	170	570
Future Volume (vph)	75	320	60	125	600	250	85	600	85	5	170	570
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5		4.0	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1626	3252	1455	1626	3252	1455	1612	3223	1442		1644	3282
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.38	1.00	1.00		0.26	1.00
Satd. Flow (perm)	1626	3252	1455	1626	3252	1455	652	3223	1442		444	3282
Peak-hour factor, PHF	0.89	0.89	0.89	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	84	360	67	132	632	263	89	632	89	5	185	620
RTOR Reduction (vph)	0	0	52	0	0	193	0	0	59	0	0	0
Lane Group Flow (vph)	84	360	15	132	632	70	89	632	30	0	190	620
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	12%	12%	12%	2%	10%	10%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases			4			8	2		2	6	6	
Actuated Green, G (s)	7.0	18.8	18.8	11.3	23.1	23.1	33.6	28.9	28.9		43.0	33.8
Effective Green, g (s)	7.5	18.8	18.8	11.8	23.1	23.1	34.6	28.9	28.9		43.5	33.8
Actuated g/C Ratio	0.09	0.22	0.22	0.14	0.27	0.27	0.40	0.33	0.33		0.50	0.39
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	140	705	315	221	867	388	318	1075	481		362	1280
v/s Ratio Prot	0.05	0.11		c0.08	c0.19		0.02	c0.20			c0.06	0.19
v/s Ratio Perm			0.01			0.05	0.09		0.02		0.20	
v/c Ratio	0.60	0.51	0.05	0.60	0.73	0.18	0.28	0.59	0.06		0.52	0.48
Uniform Delay, d1	38.1	29.8	26.8	35.2	28.9	24.5	16.6	23.9	19.6		13.4	19.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	6.8	0.6	0.1	4.3	3.1	0.2	0.5	2.4	0.2		1.4	0.3
Delay (s)	44.9	30.5	26.9	39.5	32.0	24.7	17.0	26.3	19.9		14.7	20.1
Level of Service	D	C	C	D	C	C	B	C	B		B	C
Approach Delay (s)		32.4			31.1			24.6				18.6
Approach LOS		C			C			C				B
Intersection Summary												
HCM 2000 Control Delay			26.2	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			86.6	Sum of lost time (s)				17.5				
Intersection Capacity Utilization			61.2%	ICU Level of Service				B				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR
Lane Configurations	7
Traffic Volume (vph)	95
Future Volume (vph)	95
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Fr _t	0.85
Fl _t Protected	1.00
Satd. Flow (prot)	1468
Fl _t Permitted	1.00
Satd. Flow (perm)	1468
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	103
RTOR Reduction (vph)	63
Lane Group Flow (vph)	40
Heavy Vehicles (%)	10%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	33.8
Effective Green, g (s)	33.8
Actuated g/C Ratio	0.39
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	572
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.07
Uniform Delay, d ₁	16.6
Progression Factor	1.00
Incremental Delay, d ₂	0.1
Delay (s)	16.6
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↕	↕	↕	↕	↕
Traffic Vol, veh/h	0	0	0	25	0	25	0	745	30	25	730	0
Future Vol, veh/h	0	0	0	25	0	25	0	745	30	25	730	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	85	-	0	235	-	175	235	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	82	82	82	89	89	89	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	12	12	12	12	12	12
Mvmt Flow	0	0	0	30	0	30	0	837	34	29	859	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1337	1755	429	1325	1755	419	859	0	0	837	0	0
Stage 1	918	918	-	837	837	-	-	-	-	-	-	-
Stage 2	419	837	-	488	918	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.34	-	-	4.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.32	-	-	2.32	-	-
Pot Cap-1 Maneuver	111	84	574	114	84	583	717	-	-	732	-	-
Stage 1	292	349	-	327	380	-	-	-	-	-	-	-
Stage 2	582	380	-	530	349	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	102	81	574	111	81	583	717	-	-	732	-	-
Mov Cap-2 Maneuver	102	81	-	111	81	-	-	-	-	-	-	-
Stage 1	292	335	-	327	380	-	-	-	-	-	-	-
Stage 2	552	380	-	509	335	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	30.4	0	0.3
HCM LOS	A	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	717	-	-	-	111	583	732	-	-
HCM Lane V/C Ratio	-	-	-	-	0.275	0.052	0.04	-	-
HCM Control Delay (s)	0	-	-	0	49.3	11.5	10.1	-	-
HCM Lane LOS	A	-	-	A	E	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1	0.2	0.1	-	-

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘			↘	↑↑↑	↘	↑↑	↘
Traffic Vol, veh/h	5	5	115	5	770	0	750	5
Future Vol, veh/h	5	5	115	5	770	0	750	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	-	-	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	31	31	87	87	87	92	84	84
Heavy Vehicles, %	2	2	8	8	8	2	12	12
Mvmt Flow	16	16	132	6	885	0	893	6

Major/Minor	Minor2	Major1				Major2		
Conflicting Flow All	1523	446	651	893	0	-	-	0
Stage 1	893	-	-	-	-	-	-	-
Stage 2	630	-	-	-	-	-	-	-
Critical Hdwy	6.29	6.94	6.56	4.26	-	5.64	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	2.58	2.28	-	2.32	-	-
Pot Cap-1 Maneuver	135	560	533	719	-	-	-	-
Stage 1	351	-	-	-	-	-	-	-
Stage 2	462	-	-	-	-	-	-	-
Platoon blocked, %					-			-
Mov Cap-1 Maneuver	135	560	534	534	-	-	-	-
Mov Cap-2 Maneuver	135	-	-	-	-	-	-	-
Stage 1	351	-	-	-	-	-	-	-
Stage 2	462	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.4	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	534	-	218	-	-	-
HCM Lane V/C Ratio	0.258	-	0.148	-	-	-
HCM Control Delay (s)	14.1	-	24.4	0	-	-
HCM Lane LOS	B	-	C	A	-	-
HCM 95th %tile Q(veh)	1	-	0.5	-	-	-

HCM Signalized Intersection Capacity Analysis
 24: SR 92 & Jimmy Lee Smith Pkwy

Build 2025 PM
 08/15/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	70	1050	195	250	1540	310	210	195	420	170	105	235
Future Volume (vph)	70	1050	195	250	1540	310	210	195	420	170	105	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5
Lane Util. Factor	0.97	0.91	0.88	0.97	0.91	1.00		0.94	0.95	1.00		0.94
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	3273	4848	2656	3273	4848	1509		4802	3406	1524		4798
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	3273	4848	2656	3273	4848	1509		4802	3406	1524		4798
Peak-hour factor, PHF	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.94	0.92	0.96
Adj. Flow (vph)	71	1071	199	260	1604	323	223	207	447	181	114	245
RTOR Reduction (vph)	0	0	126	0	0	96	0	0	0	136	0	0
Lane Group Flow (vph)	71	1071	73	260	1604	227	0	430	447	45	0	359
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)	3.9	27.4	27.4	11.4	34.9	34.9		11.1	22.1	22.1		9.4
Effective Green, g (s)	3.9	27.4	27.4	11.4	34.9	34.9		11.1	22.1	22.1		9.4
Actuated g/C Ratio	0.04	0.31	0.31	0.13	0.40	0.40		0.13	0.25	0.25		0.11
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	144	1504	824	422	1916	596		603	852	381		510
v/s Ratio Prot	0.02	0.22		c0.08	c0.33			c0.09	0.13			0.07
v/s Ratio Perm			0.03			0.15				0.03		
v/c Ratio	0.49	0.71	0.09	0.62	0.84	0.38		1.03dl	0.52	0.12		0.70
Uniform Delay, d1	41.2	27.0	21.6	36.4	24.1	19.0		37.1	28.6	25.6		38.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.98	0.97	0.89		1.03
Incremental Delay, d2	2.6	1.6	0.0	2.7	3.4	0.4		4.0	2.3	0.6		4.4
Delay (s)	43.9	28.6	21.6	39.0	27.5	19.4		40.2	29.9	23.4		43.5
Level of Service	D	C	C	D	C	B		D	C	C		D
Approach Delay (s)		28.4			27.7				33.0			
Approach LOS		C			C				C			

Intersection Summary		
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.76	
Actuated Cycle Length (s)	88.3	Sum of lost time (s) 18.0
Intersection Capacity Utilization	69.3%	ICU Level of Service C
Analysis Period (min)	15	

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	460	75
Future Volume (vph)	460	75
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3343	1495
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3343	1495
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	479	78
RTOR Reduction (vph)	0	60
Lane Group Flow (vph)	479	18
Heavy Vehicles (%)	8%	8%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	20.4	20.4
Effective Green, g (s)	20.4	20.4
Actuated g/C Ratio	0.23	0.23
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	772	345
v/s Ratio Prot	c0.14	
v/s Ratio Perm		0.01
v/c Ratio	0.62	0.05
Uniform Delay, d1	30.5	26.4
Progression Factor	0.97	1.00
Incremental Delay, d2	1.6	0.1
Delay (s)	31.2	26.5
Level of Service	C	C
Approach Delay (s)	35.6	
Approach LOS	D	
Intersection Summary		

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘	↗		↘	↑↑↑	↘	↑↑	↗
Traffic Vol, veh/h	0	5	5	5	785	205	875	0
Future Vol, veh/h	0	5	5	5	785	205	875	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	Yield	-	-	None	-	-	Yield
Storage Length	0	85	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	50	50	94	94	94	92	91	91
Heavy Vehicles, %	2	2	7	7	7	2	6	6
Mvmt Flow	0	10	5	5	835	223	962	0

Major/Minor	Minor2	Major1				Major2		
Conflicting Flow All	1762	481	702	962	0	-	-	0
Stage 1	1407	-	-	-	-	-	-	-
Stage 2	355	-	-	-	-	-	-	-
Critical Hdwy	6.29	6.94	6.54	4.24	-	5.64	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	3.32	2.57	2.27	-	2.32	-	-
Pot Cap-1 Maneuver	97	531	498	681	-	-	-	-
Stage 1	188	-	-	-	-	-	-	-
Stage 2	644	-	-	-	-	-	-	-
Platoon blocked, %					-			
Mov Cap-1 Maneuver	97	531	572	572	-	-	-	-
Mov Cap-2 Maneuver	97	-	-	-	-	-	-	-
Stage 1	188	-	-	-	-	-	-	-
Stage 2	644	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0.1	
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	572	-	-	531	-	-	-
HCM Lane V/C Ratio	0.019	-	-	0.019	-	-	-
HCM Control Delay (s)	11.4	-	0	11.9	-	-	-
HCM Lane LOS	B	-	A	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	-	-

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘			↙	↕	↘	↕	↙
Traffic Vol, veh/h	5	5	5	5	765	45	835	5
Future Vol, veh/h	5	5	5	5	765	45	835	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	55	55	91	91	91	92	94	94
Heavy Vehicles, %	2	2	7	7	7	2	7	7
Mvmt Flow	9	9	5	5	841	49	888	5

Major/Minor	Minor2	Major1				Major2		
Conflicting Flow All	1428	444	648	888	0	613	-	0
Stage 1	986	-	-	-	-	-	-	-
Stage 2	442	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.54	4.24	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.57	2.27	-	2.52	-	-
Pot Cap-1 Maneuver	126	561	539	728	-	587	-	-
Stage 1	322	-	-	-	-	-	-	-
Stage 2	615	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	126	561	616	616	-	587	-	-
Mov Cap-2 Maneuver	126	-	-	-	-	-	-	-
Stage 1	322	-	-	-	-	-	-	-
Stage 2	615	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.2	0.1	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	616	-	206	587	-	-
HCM Lane V/C Ratio	0.018	-	0.088	0.083	-	-
HCM Control Delay (s)	10.9	-	24.2	11.7	-	-
HCM Lane LOS	B	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	0.3	-	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↕	↗		↕↕	
Traffic Vol, veh/h	0	0	10	0	0	0	0	775	0	0	835	10
Future Vol, veh/h	0	0	10	0	0	0	0	775	0	0	835	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	175	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	92	92	92	92	93	93	93	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	0	0	11	0	0	0	0	833	0	0	888	11





















Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	-	-	449	-	-	417	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	557	0	0	585	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	557	-	-	585	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	0	0	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	-	-	557	-	-
HCM Lane V/C Ratio	-	-	0.02	-	-
HCM Control Delay (s)	-	-	11.6	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	-	-

HCM Signalized Intersection Capacity Analysis
32: SR 92 & Oak Street

Build 2025 PM
08/15/2017

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	
Lane Configurations													
Traffic Volume (vph)	5	5	0	185	10	30	15	0	735	50	5	20	
Future Volume (vph)	5	5	0	185	10	30	15	0	735	50	5	20	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5			4.5	4.5		4.5	4.5	4.5		4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00	0.95	1.00		1.00	
Flt		1.00			1.00	0.85		1.00	1.00	0.85		1.00	
Flt Protected		0.98			0.95	1.00		0.95	1.00	1.00		0.95	
Satd. Flow (prot)		1817			1778	1583		1597	3195	1429		1628	
Flt Permitted		0.87			0.73	1.00		0.30	1.00	1.00		0.31	
Satd. Flow (perm)		1616			1354	1583		507	3195	1429		532	
Peak-hour factor, PHF	0.68	0.68	0.68	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.96	
Adj. Flow (vph)	7	7	0	210	11	34	16	0	799	54	5	21	
RTOR Reduction (vph)	0	0	0	0	0	26	0	0	0	23	0	0	
Lane Group Flow (vph)	0	14	0	0	221	8	0	16	799	31	0	26	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	13%	13%	13%	13%	2%	13%	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	NA	Perm	custom	pm+pt	
Protected Phases		4			8				2			1	
Permitted Phases	4		4	8		8	2	2		2	1	6	
Actuated Green, G (s)		17.0			17.0	17.0		43.6	43.6	43.6		50.0	
Effective Green, g (s)		17.0			17.0	17.0		43.6	43.6	43.6		50.5	
Actuated g/C Ratio		0.22			0.22	0.22		0.57	0.57	0.57		0.66	
Clearance Time (s)		4.5			4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		361			302	354		290	1832	819		388	
v/s Ratio Prot									c0.25			0.00	
v/s Ratio Perm		0.01			c0.16	0.00		0.03		0.02		0.04	
v/c Ratio		0.04			0.73	0.02		0.06	0.44	0.04		0.07	
Uniform Delay, d1		23.1			27.4	23.0		7.1	9.2	7.1		6.6	
Progression Factor		1.00			1.00	1.00		1.02	1.01	1.05		1.00	
Incremental Delay, d2		0.0			8.8	0.0		0.4	0.8	0.1		0.1	
Delay (s)		23.1			36.2	23.0		7.7	10.0	7.5		6.6	
Level of Service		C			D	C		A	B	A		A	
Approach Delay (s)		23.1			34.4				9.8				
Approach LOS		C			C				A				
Intersection Summary													
HCM 2000 Control Delay			11.4									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.53										
Actuated Cycle Length (s)			76.0									Sum of lost time (s)	13.0
Intersection Capacity Utilization			47.5%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	815	5
Future Volume (vph)	815	5
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3195	1429
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3195	1429
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	849	5
RTOR Reduction (vph)	0	2
Lane Group Flow (vph)	849	3
Heavy Vehicles (%)	13%	13%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	50.0	50.0
Effective Green, g (s)	50.0	50.0
Actuated g/C Ratio	0.66	0.66
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2101	940
v/s Ratio Prot	c0.27	
v/s Ratio Perm		0.00
v/c Ratio	0.40	0.00
Uniform Delay, d1	6.1	4.5
Progression Factor	1.00	1.00
Incremental Delay, d2	0.1	0.0
Delay (s)	6.2	4.5
Level of Service	A	A
Approach Delay (s)	6.2	
Approach LOS	A	
Intersection Summary		

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↕	↗		↕↕
Traffic Vol, veh/h	0	0	800	10	0	1015
Future Vol, veh/h	0	0	800	10	0	1015
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	-	0	-	80	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	95	95	97	97
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	842	11	0	1046

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	421	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	581	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	581	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↘	↗	↘	↗	↗		↘	↗
Traffic Vol, veh/h	10	25	0	785	5	20	25	965
Future Vol, veh/h	10	25	0	785	5	20	25	965
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	190	0	235	-	175	-	235	-
Veh in Median Storage, #	0	-	-	0	-	-	-	0
Grade, %	0	-	-	0	-	-	-	0
Peak Hour Factor	78	78	92	93	93	92	98	98
Heavy Vehicles, %	2	2	2	13	13	2	13	13
Mvmt Flow	13	32	0	844	5	22	26	985





















Major/Minor	Minor1	Major1	Major2					
Conflicting Flow All	1431	422	718	0	0	616	844	0
Stage 1	844	-	-	-	-	-	-	-
Stage 2	587	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	-	-	6.44	4.36	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	-	-	2.52	2.33	-
Pot Cap-1 Maneuver	125	580	503	-	-	584	722	-
Stage 1	382	-	-	-	-	-	-	-
Stage 2	519	-	-	-	-	-	-	-
Platoon blocked, %				-	-			-
Mov Cap-1 Maneuver	125	580	503	-	-	637	637	-
Mov Cap-2 Maneuver	125	-	-	-	-	-	-	-
Stage 1	382	-	-	-	-	-	-	-
Stage 2	519	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.9	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBU	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	503	-	-	125	580	637
HCM Lane V/C Ratio	-	-	-	0.103	0.055	0.074
HCM Control Delay (s)	0	-	-	37.1	11.6	11.1
HCM Lane LOS	A	-	-	E	B	B
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0.2

HCM Signalized Intersection Capacity Analysis
37: SR 92 & Access Rd/Main St

Build 2025 PM
08/15/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	0	10	25	0	0	10	780	80	0	965	10
Future Volume (vph)	10	0	10	25	0	0	10	780	80	0	965	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5		4.5	4.5
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00		0.95	1.00
Flt		0.93			1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		0.98			0.95		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)		1695			1770		1597	3195	1429		3195	1429
Flt Permitted		0.86			1.00		0.27	1.00	1.00		1.00	1.00
Satd. Flow (perm)		1489			1863		458	3195	1429		3195	1429
Peak-hour factor, PHF	0.73	0.73	0.73	0.73	0.73	0.73	0.95	0.95	0.95	0.96	0.96	0.96
Adj. Flow (vph)	14	0	14	34	0	0	11	821	84	0	1005	10
RTOR Reduction (vph)	0	27	0	0	0	0	0	0	13	0	0	2
Lane Group Flow (vph)	0	1	0	0	34	0	11	821	71	0	1005	8
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	13%	13%	13%	13%	13%	13%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		3.5			3.5		67.6	67.6	67.6		62.1	62.1
Effective Green, g (s)		3.5			3.5		67.6	67.6	67.6		62.1	62.1
Actuated g/C Ratio		0.04			0.04		0.84	0.84	0.84		0.78	0.78
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		65			81		400	2696	1205		2477	1107
v/s Ratio Prot							0.00	c0.26			c0.31	
v/s Ratio Perm		0.00			c0.02		0.02		0.05			0.01
v/c Ratio		0.02			0.42		0.03	0.30	0.06		0.41	0.01
Uniform Delay, d1		36.7			37.3		1.5	1.3	1.0		3.0	2.0
Progression Factor		1.00			1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1			3.5		0.0	0.3	0.1		0.5	0.0
Delay (s)		36.8			40.8		1.6	1.6	1.1		3.4	2.0
Level of Service		D			D		A	A	A		A	A
Approach Delay (s)		36.8			40.8			1.6			3.4	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			3.7				HCM 2000 Level of Service				A	
HCM 2000 Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			80.1				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			38.3%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
38: SR 92 & Hiram Sudie Road

Build 2025 PM
08/15/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	220	85	105	650	0	650	350
Future Volume (vph)	220	85	105	650	0	650	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Fr _t	1.00	0.85	1.00	1.00		1.00	0.85
Fl _t Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539		3539	1583
Fl _t Permitted	0.95	1.00	0.32	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	595	3539		3539	1583
Peak-hour factor, PHF	0.84	0.84	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	262	101	114	707	0	684	368
RTOR Reduction (vph)	0	80	0	0	0	0	171
Lane Group Flow (vph)	262	21	114	707	0	684	197
Turn Type	Prot	Prot	pm+pt	NA	Perm	NA	Perm
Protected Phases	7	7	5	2		6	
Permitted Phases			2		6		6
Actuated Green, G (s)	16.4	16.4	52.5	52.5		41.8	41.8
Effective Green, g (s)	16.9	16.4	53.0	52.5		41.8	41.8
Actuated g/C Ratio	0.22	0.21	0.68	0.67		0.54	0.54
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	383	333	505	2385		1898	849
v/s Ratio Prot	c0.15	0.01	0.02	c0.20		c0.19	
v/s Ratio Perm			0.13				0.12
v/c Ratio	0.68	0.06	0.23	0.30		0.36	0.23
Uniform Delay, d1	28.0	24.6	4.8	5.2		10.4	9.6
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.0	0.1	0.2	0.3		0.1	0.1
Delay (s)	33.0	24.7	5.0	5.5		10.5	9.7
Level of Service	C	C	A	A		B	A
Approach Delay (s)	30.7			5.4		10.2	
Approach LOS	C			A		B	

Intersection Summary

HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	13.0
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
39: SR 92 & Nebo Rd

Build 2025 PM
08/15/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	120	25	35	635	0	565	170
Future Volume (vph)	120	25	35	635	0	565	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539		3539	1583
Flt Permitted	0.95	1.00	0.41	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	773	3539		3539	1583
Peak-hour factor, PHF	0.82	0.82	0.93	0.93	0.92	0.95	0.95
Adj. Flow (vph)	146	30	38	683	0	595	179
RTOR Reduction (vph)	0	26	0	0	0	0	68
Lane Group Flow (vph)	146	4	38	683	0	595	111
Turn Type	Prot	Prot	pm+pt	NA	Perm	NA	Perm
Protected Phases	7	7	5	2		6	
Permitted Phases			2		6		6
Actuated Green, G (s)	11.1	11.1	54.5	54.5		46.2	46.2
Effective Green, g (s)	11.6	11.1	55.0	55.0		46.2	46.2
Actuated g/C Ratio	0.16	0.15	0.74	0.74		0.62	0.62
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	275	235	627	2609		2191	980
v/s Ratio Prot	c0.08	0.00	0.00	c0.19		0.17	
v/s Ratio Perm			0.04				0.07
v/c Ratio	0.53	0.02	0.06	0.26		0.27	0.11
Uniform Delay, d1	29.0	27.1	3.1	3.2		6.5	5.8
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.0	0.0	0.0	0.1		0.3	0.2
Delay (s)	31.0	27.1	3.2	3.2		6.8	6.0
Level of Service	C	C	A	A		A	A
Approach Delay (s)	30.3			3.2		6.6	
Approach LOS	C			A		A	

Intersection Summary

HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	74.6	Sum of lost time (s)	13.0
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection

Int Delay, s/veh 0.3

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↘		↑↑		↘		↑↑
Traffic Vol, veh/h	0	0	875	0	30	0	830
Future Vol, veh/h	0	0	875	0	30	0	830
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	0	951	0	33	0	902

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1467	476	0 - 951 - -
Stage 1	951	-	- - - -
Stage 2	516	-	- - - -
Critical Hdwy	6.84	6.94	- - 6.44 - -
Critical Hdwy Stg 1	5.84	-	- - - -
Critical Hdwy Stg 2	5.84	-	- - - -
Follow-up Hdwy	3.52	3.32	- - 2.52 - -
Pot Cap-1 Maneuver	119	535	- 0 357 0 -
Stage 1	336	-	- 0 - 0 -
Stage 2	564	-	- 0 - 0 -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	119	535	- - 357 - -
Mov Cap-2 Maneuver	119	-	- - - -
Stage 1	336	-	- - - -
Stage 2	564	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBU	SBT
Capacity (veh/h)	-	- 357	-
HCM Lane V/C Ratio	-	- 0.091	-
HCM Control Delay (s)	-	0 16.1	-
HCM Lane LOS	-	A C	-
HCM 95th %tile Q(veh)	-	- 0.3	-

Arterial Level of Service: NB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Nebo Rd	II	45	23.3	3.9	27.2	0.21	28.3	B
Hiram Sudie Road	II	45	31.8	6.2	38.0	0.32	30.4	B
Main St	II	45	27.8	1.8	29.6	0.27	32.5	B
Oak Street	II	45	38.2	11.1	49.3	0.41	29.7	B
Jimmy Lee Smith Pkwy	II	45	73.1	30.3	103.4	0.91	31.8	B
Macland Rd	II	45	99.5	27.9	127.4	1.25	35.2	A
Dallas Rd	II	45	100.3	33.5	133.8	1.25	33.8	B
Total	II		394.0	114.7	508.7	4.62	32.7	B

Arterial Level of Service: SB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Dallas Rd	II	45	53.1	30.8	83.9	0.66	28.5	B
Macland Rd	II	45	100.3	22.4	122.7	1.25	36.8	A
Jimmy Lee Smith Pkwy	II	45	99.5	34.0	133.5	1.25	33.6	B
Oak Street	II	45	73.1	7.9	81.0	0.91	40.6	A
Access Rd	II	45	38.2	3.3	41.5	0.41	35.3	A
Hiram Sudie Road	II	45	27.8	12.4	40.2	0.27	24.0	C
Nebo Rd	II	45	31.8	7.6	39.4	0.32	29.3	B
Total	II		423.8	118.4	542.2	5.07	33.7	B

Intersection

Int Delay, s/veh 18.8

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↕	↕	
Traffic Vol, veh/h	0	265	20	125	1280	1270	40
Future Vol, veh/h	0	265	20	125	1280	1270	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	63	63	84	84	84	93	93
Heavy Vehicles, %	8	8	8	8	8	8	8
Mvmt Flow	0	421	24	149	1524	1366	43

Major/Minor	Minor2	Major1			Major2
Conflicting Flow All	-	704	1408	1409	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.06	6.56	4.26	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.38	2.58	2.28	-
Pot Cap-1 Maneuver	0	~ 366	170	451	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	-	~ 366	206	206	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	127.3	7.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	206	-	366	-	-
HCM Lane V/C Ratio	0.838	-	1.149	-	-
HCM Control Delay (s)	74.7	-	127.3	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	6.2	-	16.4	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↑↑	↔		↔	↑↑	↔
Traffic Vol, veh/h	0	0	20	10	0	0	40	1295	10	40	0	1435	0
Future Vol, veh/h	0	0	20	10	0	0	40	1295	10	40	0	1435	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	-	Yield
Storage Length	-	-	-	-	-	-	235	-	175	-	235	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	71	71	71	58	58	58	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	8	8	8	8	8	8	8
Mvmt Flow	0	0	28	17	0	0	44	1439	11	44	0	1594	0

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	2491	3211	797	2414	3211	719	1594	0	0	-	1439	0	0
Stage 1	1683	1683	-	1528	1528	-	-	-	-	-	-	-	-
Stage 2	808	1528	-	886	1683	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.26	-	-	6.56	4.26	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.28	-	-	2.58	2.28	-	-
Pot Cap-1 Maneuver	15	10	329	~ 17	10	371	380	-	-	-	438	-	-
Stage 1	98	149	-	123	178	-	-	-	-	-	-	-	-
Stage 2	341	178	-	306	149	-	-	-	-	-	-	-	-
Platoon blocked, %													
Mov Cap-1 Maneuver	14	9	329	~ 14	9	371	380	-	-	-	-	-	-
Mov Cap-2 Maneuver	14	9	-	~ 14	9	-	-	-	-	-	-	-	-
Stage 1	87	149	-	109	157	-	-	-	-	-	-	-	-
Stage 2	302	157	-	280	149	-	-	-	-	-	-	-	-
























Approach	EB	WB	NB	SB
HCM Control Delay, s	17	\$ 695.3	0.5	
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	380	-	-	329	14	-	-	-
HCM Lane V/C Ratio	0.117	-	-	0.086	1.232	-	-	-
HCM Control Delay (s)	15.7	-	-	17\$	695.3	-	-	-
HCM Lane LOS	C	-	-	C	F	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	2.8	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis
8: SR 92 & Dallas Rd

Build 2045 AM
08/18/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	520	2085	115	450	960	125	20	115	700	460	125	950
Future Volume (vph)	520	2085	115	450	960	125	20	115	700	460	125	950
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.5		4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.95	1.00	0.97	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3099	4590	1429	3099	4590	1429		2918	3008	1346	3242	3343
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3099	4590	1429	3099	4590	1429		2918	3008	1346	3242	3343
Peak-hour factor, PHF	0.86	0.86	0.86	0.85	0.85	0.85	0.95	0.95	0.95	0.95	0.92	0.92
Adj. Flow (vph)	605	2424	134	529	1129	147	21	121	737	484	136	1033
RTOR Reduction (vph)	0	0	47	0	0	77	0	0	0	187	0	0
Lane Group Flow (vph)	605	2424	87	529	1129	70	0	142	737	297	136	1033
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	20%	20%	20%	20%	8%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases			4			8				2		
Actuated Green, G (s)	30.0	59.5	59.5	18.5	48.0	48.0		5.5	37.9	37.9	6.1	38.5
Effective Green, g (s)	30.5	60.0	59.5	19.0	48.5	48.0		6.0	38.4	38.4	6.6	39.0
Actuated g/C Ratio	0.22	0.43	0.42	0.14	0.35	0.34		0.04	0.27	0.27	0.05	0.28
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	675	1967	607	420	1590	489		125	825	369	152	931
v/s Ratio Prot	0.20	c0.53		c0.17	0.25			c0.05	0.24		0.04	c0.31
v/s Ratio Perm			0.06			0.05				0.22		
v/c Ratio	0.90	1.23	0.14	1.26	0.71	0.14		1.14	0.89	0.81	0.89	1.11
Uniform Delay, d1	53.2	40.0	24.6	60.5	39.7	31.8		67.0	48.8	47.3	66.4	50.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.5	109.2	0.1	134.8	1.5	0.1		121.7	14.1	17.0	43.3	64.3
Delay (s)	67.7	149.2	24.8	195.3	41.2	31.9		188.7	63.0	64.3	109.7	114.8
Level of Service	E	F	C	F	D	C		F	E	E	F	F
Approach Delay (s)		128.3			85.6				76.5			97.5
Approach LOS		F			F				E			F
Intersection Summary												
HCM 2000 Control Delay			103.5				HCM 2000 Level of Service		F			
HCM 2000 Volume to Capacity ratio			1.20									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)		16.5			
Intersection Capacity Utilization			96.9%				ICU Level of Service		F			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR
Lane Configurations	7
Traffic Volume (vph)	390
Future Volume (vph)	390
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Fr _t	0.85
Fl _t Protected	1.00
Satd. Flow (prot)	1495
Fl _t Permitted	1.00
Satd. Flow (perm)	1495
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	424
RTOR Reduction (vph)	160
Lane Group Flow (vph)	264
Heavy Vehicles (%)	8%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	38.5
Effective Green, g (s)	39.0
Actuated g/C Ratio	0.28
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	416
v/s Ratio Prot	
v/s Ratio Perm	0.18
v/c Ratio	0.63
Uniform Delay, d ₁	44.3
Progression Factor	1.00
Incremental Delay, d ₂	7.2
Delay (s)	51.4
Level of Service	D
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↕	↗		↕↕
Traffic Vol, veh/h	0	0	1285	15	0	1535
Future Vol, veh/h	0	0	1285	15	0	1535
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	175	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	38	38	90	90	94	94
Heavy Vehicles, %	2	2	20	20	20	20
Mvmt Flow	0	0	1428	17	0	1633

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	714	0 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	374	- - 0 -
Stage 1	0	-	- - 0 -
Stage 2	0	-	- - 0 -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	-	374	- - - -
Mov Cap-2 Maneuver	-	-	- - - -
Stage 1	-	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗↗	↗
Traffic Vol, veh/h	0	20	0	1300	1515	20
Future Vol, veh/h	0	20	0	1300	1515	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	0	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	92	92	92	92
Heavy Vehicles, %	2	2	13	13	20	20
Mvmt Flow	0	25	0	1413	1647	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	823	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	7.14	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.92	- -
Pot Cap-1 Maneuver	0	272	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	272	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	19.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	272	-	-
HCM Lane V/C Ratio	-	0.092	-	-
HCM Control Delay (s)	-	19.6	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Intersection

Int Delay, s/veh 78

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔		↵		↶		↵	↗	↶		↵	↗	↶
Traffic Vol, veh/h	10	0	20	80	0	100	10	10	1165	60	25	80	1420	10
Future Vol, veh/h	10	0	20	80	0	100	10	10	1165	60	25	80	1420	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Stop	-	-	-	Yield	-	-	-	None
Storage Length	-	-	-	30	-	0	-	235	-	175	-	0	-	280
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	58	58	58	77	77	77	96	96	96	96	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	13	13	13	13	13	13	13	13
Mvmt Flow	17	0	34	104	0	130	10	10	1214	63	27	86	1527	11

Major/Minor	Minor2			Minor1			Major1			Major2				
Conflicting Flow All	2401	3008	763	2244	-	607	-	1527	0	0	-	1214	0	0
Stage 1	1753	1753	-	1255	-	-	-	-	-	-	-	-	-	-
Stage 2	648	1255	-	989	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	-	6.94	6.66	4.36	-	-	6.66	4.36	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	-	3.32	2.63	2.33	-	-	2.63	2.33	-	-
Pot Cap-1 Maneuver	~ 17	13	347	~ 23	0	439	-	383	-	-	-	513	-	-
Stage 1	89	138	-	182	0	-	-	-	-	-	-	-	-	-
Stage 2	425	241	-	265	0	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-				
Mov Cap-1 Maneuver	~ 12	13	347	~ 21	-	439	~	~	-	-	~ -4	~ -4	-	-
Mov Cap-2 Maneuver	~ 12	13	-	~ 21	-	-	-	-	-	-	-	-	-	-
Stage 1	89	138	-	182	-	-	-	-	-	-	-	-	-	-
Stage 2	299	241	-	239	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 521.8	\$ 963.2		
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	~	-	-	34	21	439	+	-	-
HCM Lane V/C Ratio	~	-	-	1.521	4.947	0.296	-	-	-
HCM Control Delay (s)	-	-	-	\$ 521.8	\$ 2146.5	16.6	-	-	-
HCM Lane LOS	-	-	-	F	F	C	-	-	-
HCM 95th %tile Q(veh)	~	-	-	5.6	13.3	1.2	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	20	0	1245	1510	20
Future Vol, veh/h	0	20	0	1245	1510	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	-	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	87	87	86	86
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	27	0	1431	1756	23

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	878	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	291	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	291	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	18.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 291	-
HCM Lane V/C Ratio	- 0.092	-
HCM Control Delay (s)	- 18.6	-
HCM Lane LOS	- C	-
HCM 95th %tile Q(veh)	- 0.3	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↗
Traffic Vol, veh/h	0	0	1245	0	0	1530
Future Vol, veh/h	0	0	1245	0	0	1530
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	93	93	85	85
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	1339	0	0	1800

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	669	0 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	400	- - 0 -
Stage 1	0	-	- - 0 -
Stage 2	0	-	- - 0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	400	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↗	↘
Traffic Vol, veh/h	0	40	20	1245	1530	0
Future Vol, veh/h	0	40	20	1245	1530	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	235	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	75	75	87	87	86	86
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	53	23	1431	1779	0





























Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	2540	890	1779	0	0
Stage 1	1779	-	-	-	-
Stage 2	761	-	-	-	-
Critical Hdwy	6.84	6.94	4.36	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.33	-	-
Pot Cap-1 Maneuver	22	286	302	-	-
Stage 1	120	-	-	-	-
Stage 2	422	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	20	286	302	-	-
Mov Cap-2 Maneuver	20	-	-	-	-
Stage 1	120	-	-	-	-
Stage 2	390	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.5	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	302	-	286	-	-
HCM Lane V/C Ratio	0.076	-	0.186	-	-
HCM Control Delay (s)	17.9	-	20.5	-	-
HCM Lane LOS	C	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

HCM Signalized Intersection Capacity Analysis
17: SR 92 & Macland Rd

Build 2045 AM
08/18/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations		 			 			 			 	 
Traffic Volume (vph)	165	940	135	125	565	285	80	805	135	10	440	905
Future Volume (vph)	165	940	135	125	565	285	80	805	135	10	440	905
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1612	3223	1442	1612	3223	1442	1583	3167	1417		1597	3195
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.23	1.00	1.00		0.11	1.00
Satd. Flow (perm)	1612	3223	1442	1612	3223	1442	384	3167	1417		190	3195
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.90	0.90	0.90	0.85	0.85	0.85
Adj. Flow (vph)	181	1033	148	160	724	365	89	894	150	12	518	1065
RTOR Reduction (vph)	0	0	103	0	0	251	0	0	108	0	0	0
Lane Group Flow (vph)	181	1033	45	160	724	114	89	894	42	0	530	1065
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	14%	14%	14%	13%	13%	13%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases			4			8	2		2	6	6	
Actuated Green, G (s)	12.5	32.0	32.0	7.5	27.0	27.0	35.3	30.9	30.9		58.9	50.0
Effective Green, g (s)	13.0	32.0	32.0	8.0	27.0	27.0	36.3	30.9	30.9		59.4	50.0
Actuated g/C Ratio	0.12	0.29	0.29	0.07	0.24	0.24	0.33	0.28	0.28		0.54	0.45
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0	4.5	4.0	4.0		4.5	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	188	929	416	116	784	351	178	882	394		406	1440
v/s Ratio Prot	c0.11	c0.32		c0.10	0.22		0.02	0.28			c0.28	0.33
v/s Ratio Perm			0.03			0.08	0.14		0.03		c0.42	
v/c Ratio	0.96	1.11	0.11	1.38	0.92	0.32	0.50	1.01	0.11		1.31	0.74
Uniform Delay, d1	48.7	39.5	29.0	51.5	40.9	34.5	26.7	40.0	29.7		33.4	25.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	54.5	65.2	0.1	215.4	16.4	0.5	2.2	33.7	0.5		154.3	2.0
Delay (s)	103.2	104.7	29.1	266.9	57.3	35.0	28.9	73.7	30.3		187.7	27.1
Level of Service	F	F	C	F	E	C	C	E	C		F	C
Approach Delay (s)		96.3			77.6			64.5				72.0
Approach LOS		F			E			E				E
Intersection Summary												
HCM 2000 Control Delay			77.7	HCM 2000 Level of Service				E				
HCM 2000 Volume to Capacity ratio			1.30									
Actuated Cycle Length (s)			110.9	Sum of lost time (s)				16.5				
Intersection Capacity Utilization			93.4%	ICU Level of Service				F				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR
Lane Configurations	7
Traffic Volume (vph)	215
Future Volume (vph)	215
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Fr _t	0.85
Fl _t Protected	1.00
Satd. Flow (prot)	1429
Fl _t Permitted	1.00
Satd. Flow (perm)	1429
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	253
RTOR Reduction (vph)	115
Lane Group Flow (vph)	138
Heavy Vehicles (%)	13%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	50.0
Effective Green, g (s)	50.0
Actuated g/C Ratio	0.45
Clearance Time (s)	4.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	644
v/s Ratio Prot	
v/s Ratio Perm	0.10
v/c Ratio	0.21
Uniform Delay, d ₁	18.5
Progression Factor	1.00
Incremental Delay, d ₂	0.2
Delay (s)	18.7
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↕	↕	↕	↕	↕
Traffic Vol, veh/h	0	0	0	30	0	30	0	990	20	20	1145	0
Future Vol, veh/h	0	0	0	30	0	30	0	990	20	20	1145	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	85	-	0	235	-	175	235	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	61	61	61	93	93	93	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	14	14	14
Mvmt Flow	0	0	0	49	0	49	0	1065	22	22	1272	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1849	2382	636	1746	2382	532	1272	0	0	1065	0	0
Stage 1	1317	1317	-	1065	1065	-	-	-	-	-	-	-
Stage 2	532	1065	-	681	1317	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.38	-	-	4.38	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.34	-	-	2.34	-	-
Pot Cap-1 Maneuver	46	34	421	55	34	492	481	-	-	583	-	-
Stage 1	166	225	-	238	297	-	-	-	-	-	-	-
Stage 2	499	297	-	407	225	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	40	33	421	53	33	492	481	-	-	583	-	-
Mov Cap-2 Maneuver	40	33	-	53	33	-	-	-	-	-	-	-
Stage 1	166	217	-	238	297	-	-	-	-	-	-	-
Stage 2	449	297	-	392	217	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	119.5	0	0.2
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	481	-	-	-	53	492	583	-	-
HCM Lane V/C Ratio	-	-	-	-	0.928	0.1	0.038	-	-
HCM Control Delay (s)	0	-	-	0	225.9	13.1	11.4	-	-
HCM Lane LOS	A	-	-	A	F	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	4.1	0.3	0.1	-	-

Intersection

Int Delay, s/veh 6.6

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘			↘	↗	↘	↗	↗
Traffic Vol, veh/h	10	10	215	10	1000	0	1165	10
Future Vol, veh/h	10	10	215	10	1000	0	1165	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	-	-	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	55	55	88	88	88	89	89	89
Heavy Vehicles, %	2	2	12	12	12	12	12	12
Mvmt Flow	18	18	244	11	1136	0	1309	11

Major/Minor	Minor2	Major1			Major2		
Conflicting Flow All	2389	654	955	1309	0	829	- 0
Stage 1	1309	-	-	-	-	-	- -
Stage 2	1080	-	-	-	-	-	- -
Critical Hdwy	6.84	6.94	6.64	4.34	-	6.64	- -
Critical Hdwy Stg 1	5.84	-	-	-	-	-	- -
Critical Hdwy Stg 2	5.84	-	-	-	-	-	- -
Follow-up Hdwy	3.52	3.32	2.62	2.32	-	2.62	- -
Pot Cap-1 Maneuver	28	409	328	474	-	397	- -
Stage 1	217	-	-	-	-	-	- -
Stage 2	287	-	-	-	-	-	- -
Platoon blocked, %					-		- -
Mov Cap-1 Maneuver	28	409	325	325	-	397	- -
Mov Cap-2 Maneuver	28	-	-	-	-	-	- -
Stage 1	217	-	-	-	-	-	- -
Stage 2	287	-	-	-	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	168.9	8.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	325	-	52	397	-	-
HCM Lane V/C Ratio	0.787	-	0.699	-	-	-
HCM Control Delay (s)	47.1	-	168.9	0	-	-
HCM Lane LOS	E	-	F	A	-	-
HCM 95th %tile Q(veh)	6.4	-	2.8	0	-	-

HCM Signalized Intersection Capacity Analysis
 24: SR 92 & Jimmy Lee Smith Pkwy

Build 2045 AM
 08/18/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	100	2335	255	215	1455	350	315	325	705	420	110	500
Future Volume (vph)	100	2335	255	215	1455	350	315	325	705	420	110	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0	4.0	4.5	4.0	4.0		4.5	4.0	4.0		4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00		0.94	0.95	1.00		0.94
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	3127	4631	1442	3127	4631	1442		4670	3312	1482		4545
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	3127	4631	1442	3127	4631	1442		4670	3312	1482		4545
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.87	0.87	0.87	0.87	0.94	0.94
Adj. Flow (vph)	109	2538	277	226	1532	368	362	374	810	483	117	532
RTOR Reduction (vph)	0	0	57	0	0	68	0	0	0	83	0	0
Lane Group Flow (vph)	109	2538	220	226	1532	300	0	736	810	400	0	649
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	9%	9%	9%	9%	12%	12%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)	9.5	69.0	69.0	9.5	69.0	69.0		24.5	36.0	36.0		18.5
Effective Green, g (s)	9.5	69.0	69.0	9.5	69.0	69.0		24.5	36.0	36.0		18.5
Actuated g/C Ratio	0.06	0.46	0.46	0.06	0.46	0.46		0.16	0.24	0.24		0.12
Clearance Time (s)	4.5	4.0	4.0	4.5	4.0	4.0		4.5	4.0	4.0		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	198	2130	663	198	2130	663		762	794	355		560
v/s Ratio Prot	0.03	c0.55		c0.07	0.33			0.16	0.24			c0.14
v/s Ratio Perm			0.15			0.21				c0.27		
v/c Ratio	0.55	1.19	0.33	1.14	0.72	0.45		1.34dl	1.02	1.13		1.16
Uniform Delay, d1	68.2	40.5	25.8	70.2	32.7	27.6		62.3	57.0	57.0		65.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.99	1.04	1.06		0.97
Incremental Delay, d2	3.3	91.2	0.3	107.2	1.2	0.5		24.2	37.1	86.8		90.1
Delay (s)	71.5	131.7	26.1	177.4	33.9	28.1		85.9	96.5	147.1		154.2
Level of Service	E	F	C	F	C	C		F	F	F		F
Approach Delay (s)		119.4			48.1				104.7			
Approach LOS		F			D				F			

Intersection Summary

HCM 2000 Control Delay	96.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	550	115
Future Volume (vph)	550	115
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3223	1442
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3223	1442
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	585	122
RTOR Reduction (vph)	0	98
Lane Group Flow (vph)	585	24
Heavy Vehicles (%)	12%	12%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	30.0	30.0
Effective Green, g (s)	30.0	30.0
Actuated g/C Ratio	0.20	0.20
Clearance Time (s)	4.0	4.0
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	644	288
v/s Ratio Prot	0.18	
v/s Ratio Perm		0.02
v/c Ratio	0.91	0.08
Uniform Delay, d1	58.7	48.8
Progression Factor	0.99	0.99
Incremental Delay, d2	16.6	0.1
Delay (s)	74.8	48.5
Level of Service	E	D
Approach Delay (s)	110.4	
Approach LOS	F	

Intersection Summary

Intersection

Int Delay, s/veh 54.6

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘	↗		↘	↗	↘	↗	↗
Traffic Vol, veh/h	0	10	10	10	1560	350	805	0
Future Vol, veh/h	0	10	10	10	1560	350	805	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	Yield	-	-	None	-	-	Yield
Storage Length	0	85	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	56	56	94	94	94	86	86	86
Heavy Vehicles, %	2	2	10	10	10	9	9	9
Mvmt Flow	0	18	11	11	1660	407	936	0

Major/Minor	Minor2	Major1				Major2		
Conflicting Flow All	2622	468	683	936	0	1211	-	0
Stage 1	1750	-	-	-	-	-	-	-
Stage 2	872	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.6	4.3	-	6.58	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.6	2.3	-	2.59	-	-
Pot Cap-1 Maneuver	19	542	501	680	-	~ 228	-	-
Stage 1	125	-	-	-	-	-	-	-
Stage 2	369	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	19	542	571	571	-	~ 228	-	-
Mov Cap-2 Maneuver	19	-	-	-	-	-	-	-
Stage 1	125	-	-	-	-	-	-	-
Stage 2	369	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0.1	123.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	571	-	-	542	~ 228	-	-
HCM Lane V/C Ratio	0.037	-	-	0.033	1.785	-	-
HCM Control Delay (s)	11.6	-	0	11.9	406.9	-	-
HCM Lane LOS	B	-	A	B	F	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	27.9	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘			↘	↗	↘	↗	↗
Traffic Vol, veh/h	10	10	10	10	1540	70	755	0
Future Vol, veh/h	10	10	10	10	1540	70	755	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	50	50	97	97	97	86	86	86
Heavy Vehicles, %	2	2	7	7	7	10	10	10
Mvmt Flow	20	20	10	10	1588	81	878	0

Major/Minor	Minor2	Major1				Major2		
Conflicting Flow All	1876	439	640	878	0	1159	-	0
Stage 1	1041	-	-	-	-	-	-	-
Stage 2	835	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.54	4.24	-	6.6	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.57	2.27	-	2.6	-	-
Pot Cap-1 Maneuver	63	566	546	734	-	244	-	-
Stage 1	301	-	-	-	-	-	-	-
Stage 2	386	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	63	566	620	620	-	244	-	-
Mov Cap-2 Maneuver	63	-	-	-	-	-	-	-
Stage 1	301	-	-	-	-	-	-	-
Stage 2	386	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	53.4	0.1	2.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	620	-	113	244	-	-
HCM Lane V/C Ratio	0.033	-	0.354	0.334	-	-
HCM Control Delay (s)	11	-	53.4	27	-	-
HCM Lane LOS	B	-	F	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.4	1.4	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕	↗		↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	1560	0	0	765	10
Future Vol, veh/h	0	0	0	0	0	0	0	1560	0	0	765	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	175	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	96	96	96	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	10	10	10	10	10	10
Mvmt Flow	0	0	0	0	0	0	0	1625	0	0	900	12






















Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	-	-	456	-	-	813	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	551	0	0	322	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	551	-	-	322	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

HCM Signalized Intersection Capacity Analysis
32: SR 92 & Oak Street

Build 2045 AM
08/18/2017

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	
Lane Configurations													
Traffic Volume (vph)	10	10	0	165	10	40	20	0	1510	100	40	715	
Future Volume (vph)	10	10	0	165	10	40	20	0	1510	100	40	715	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Fr _t		1.00			1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Fl _t Protected		0.98			0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817			1779	1583		1530	3059	1369	1530	3059	
Fl _t Permitted		0.83			0.71	1.00		0.32	1.00	1.00	0.09	1.00	
Satd. Flow (perm)		1538			1323	1583		516	3059	1369	146	3059	
Peak-hour factor, PHF	0.52	0.52	0.52	0.77	0.77	0.77	0.94	0.94	0.94	0.94	0.88	0.88	
Adj. Flow (vph)	19	19	0	214	13	52	21	0	1606	106	45	812	
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	0	25	0	0	
Lane Group Flow (vph)	0	38	0	0	227	10	0	21	1606	81	45	813	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	18%	18%	18%	18%	18%	18%	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8				2		1	6	
Permitted Phases	4		4	8		8	2	2		2	6		
Actuated Green, G (s)		17.6			17.6	17.6		56.0	56.0	56.0	63.4	63.4	
Effective Green, g (s)		17.6			17.6	17.6		56.0	56.0	56.0	63.9	63.4	
Actuated g/C Ratio		0.20			0.20	0.20		0.63	0.63	0.63	0.72	0.71	
Clearance Time (s)		4.0			4.0	4.0		4.0	4.0	4.0	4.5	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		304			261	313		324	1924	861	157	2179	
v/s Ratio Prot									c0.52		0.01	c0.27	
v/s Ratio Perm		0.02			c0.17	0.01		0.04		0.06	0.19		
v/c Ratio		0.12			0.87	0.03		0.06	0.83	0.09	0.29	0.37	
Uniform Delay, d ₁		29.4			34.6	28.8		6.4	12.9	6.5	17.3	5.0	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.01	1.00	
Incremental Delay, d ₂		0.2			25.0	0.0		0.4	4.5	0.2	1.0	0.1	
Delay (s)		29.6			59.6	28.9		6.8	17.3	6.7	18.4	5.1	
Level of Service		C			E	C		A	B	A	B	A	
Approach Delay (s)		29.6			53.9				16.6			5.8	
Approach LOS		C			D				B			A	
Intersection Summary													
HCM 2000 Control Delay			17.1									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.83										
Actuated Cycle Length (s)			89.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			64.7%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													



Movement	SBR
Lane Configurations	7
Traffic Volume (vph)	10
Future Volume (vph)	10
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Fr _t	0.85
Fl _t Protected	1.00
Satd. Flow (prot)	1369
Fl _t Permitted	1.00
Satd. Flow (perm)	1369
Peak-hour factor, PHF	0.88
Adj. Flow (vph)	11
RTOR Reduction (vph)	3
Lane Group Flow (vph)	8
Heavy Vehicles (%)	18%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	63.4
Effective Green, g (s)	63.4
Actuated g/C Ratio	0.71
Clearance Time (s)	4.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	975
v/s Ratio Prot	
v/s Ratio Perm	0.01
v/c Ratio	0.01
Uniform Delay, d ₁	3.7
Progression Factor	1.03
Incremental Delay, d ₂	0.0
Delay (s)	3.8
Level of Service	A
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↕	↗		↕↕
Traffic Vol, veh/h	0	0	1630	10	0	900
Future Vol, veh/h	0	0	1630	10	0	900
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	-	0	-	80	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	33	33	94	94	88	88
Heavy Vehicles, %	2	2	18	18	18	18
Mvmt Flow	0	0	1734	11	0	1023

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	867	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	296	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	296	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection

Int Delay, s/veh 2.5

Movement	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↘	↗	↘	↗	↗		↘	↗
Traffic Vol, veh/h	10	30	0	1600	20	10	30	860
Future Vol, veh/h	10	30	0	1600	20	10	30	860
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	190	0	235	-	175	-	235	-
Veh in Median Storage, #	0	-	-	0	-	-	-	0
Grade, %	0	-	-	0	-	-	-	0
Peak Hour Factor	46	46	94	94	94	91	91	91
Heavy Vehicles, %	2	2	18	18	18	18	18	18
Mvmt Flow	22	65	0	1702	21	11	33	945





















Major/Minor	Minor1	Major1	Major2					
Conflicting Flow All	2262	851	690	0	0	1242	1702	0
Stage 1	1702	-	-	-	-	-	-	-
Stage 2	560	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.76	-	-	6.76	4.46	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.68	-	-	2.68	2.38	-
Pot Cap-1 Maneuver	35	303	470	-	-	200	306	-
Stage 1	133	-	-	-	-	-	-	-
Stage 2	535	-	-	-	-	-	-	-
Platoon blocked, %				-	-			-
Mov Cap-1 Maneuver	35	303	470	-	-	260	260	-
Mov Cap-2 Maneuver	35	-	-	-	-	-	-	-
Stage 1	133	-	-	-	-	-	-	-
Stage 2	535	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	68.2	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	470	-	-	35	303	260
HCM Lane V/C Ratio	-	-	-	0.621	0.215	0.169
HCM Control Delay (s)	0	-	-	212.4	20.1	21.6
HCM Lane LOS	A	-	-	F	C	C
HCM 95th %tile Q(veh)	0	-	-	2.1	0.8	0.6

HCM Signalized Intersection Capacity Analysis
37: SR 92 & Access Rd/Main St

Build 2045 AM
08/18/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	15	20	0	0	15	1605	175	0	855	15
Future Volume (vph)	15	0	15	20	0	0	15	1605	175	0	855	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5		4.5	4.5
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00		0.95	1.00
Flt		0.93			1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		0.98			0.95		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)		1695			1770		1530	3059	1369		3059	1369
Flt Permitted		0.82			0.92		0.27	1.00	1.00		1.00	1.00
Satd. Flow (perm)		1429			1710		440	3059	1369		3059	1369
Peak-hour factor, PHF	0.54	0.54	0.54	0.54	0.54	0.54	0.91	0.91	0.91	0.86	0.86	0.86
Adj. Flow (vph)	28	0	28	37	0	0	16	1764	192	0	994	17
RTOR Reduction (vph)	0	53	0	0	0	0	0	0	28	0	0	4
Lane Group Flow (vph)	0	3	0	0	37	0	16	1764	164	0	994	13
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	18%	18%	18%	18%	18%	18%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		5.0			5.0		66.8	66.8	66.8		61.4	61.4
Effective Green, g (s)		5.0			5.0		66.8	66.8	66.8		61.4	61.4
Actuated g/C Ratio		0.06			0.06		0.83	0.83	0.83		0.76	0.76
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		88			105		375	2528	1131		2324	1040
v/s Ratio Prot							0.00	c0.58			0.32	
v/s Ratio Perm		0.00			c0.02		0.03		0.12			0.01
v/c Ratio		0.04			0.35		0.04	0.70	0.14		0.43	0.01
Uniform Delay, d1		35.6			36.3		2.0	2.9	1.4		3.5	2.4
Progression Factor		1.00			1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2			2.0		0.0	1.6	0.3		0.6	0.0
Delay (s)		35.8			38.4		2.0	4.5	1.6		4.0	2.4
Level of Service		D			D		A	A	A		A	A
Approach Delay (s)		35.8			38.4			4.2			4.0	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.1				HCM 2000 Level of Service				A	
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			80.8				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			56.0%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
38: SR 92 & Hiram Sudie Road

Build 2045 AM
08/18/2017

















Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	440	125	145	1355	0	575	315
Future Volume (vph)	440	125	145	1355	0	575	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1719	3438		3438	1538
Flt Permitted	0.95	1.00	0.26	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	475	3438		3438	1538
Peak-hour factor, PHF	0.77	0.77	0.89	0.89	0.86	0.86	0.86
Adj. Flow (vph)	571	162	163	1522	0	669	366
RTOR Reduction (vph)	0	104	0	0	0	0	224
Lane Group Flow (vph)	571	58	163	1522	0	669	142
Heavy Vehicles (%)	2%	2%	5%	5%	5%	5%	5%
Turn Type	Prot	Prot	pm+pt	NA	Perm	NA	Perm
Protected Phases	7	7	5	2		6	
Permitted Phases			2		6		6
Actuated Green, G (s)	30.8	30.8	46.2	46.2		33.1	33.1
Effective Green, g (s)	31.3	30.8	46.7	46.2		33.1	33.1
Actuated g/C Ratio	0.37	0.36	0.55	0.54		0.39	0.39
Clearance Time (s)	4.5	4.5	4.5	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	647	570	391	1857		1330	595
v/s Ratio Prot	c0.32	0.04	0.04	c0.44		0.19	
v/s Ratio Perm			0.18				0.09
v/c Ratio	0.88	0.10	0.42	0.82		0.50	0.24
Uniform Delay, d1	25.4	18.2	11.0	16.2		19.9	17.7
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.5	0.1	0.7	4.2		0.3	0.2
Delay (s)	38.8	18.2	11.7	20.4		20.2	17.9
Level of Service	D	B	B	C		C	B
Approach Delay (s)	34.3			19.6		19.4	
Approach LOS	C			B		B	

Intersection Summary

HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	85.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
39: SR 92 & Nebo Rd

Build 2045 AM
08/18/2017

							
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	295	50	40	1205	0	575	125
Future Volume (vph)	295	50	40	1205	0	575	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1719	3438		3438	1538
Flt Permitted	0.95	1.00	0.31	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	562	3438		3438	1538
Peak-hour factor, PHF	0.75	0.75	0.91	0.91	0.76	0.76	0.76
Adj. Flow (vph)	393	67	44	1324	0	757	164
RTOR Reduction (vph)	0	48	0	0	0	0	76
Lane Group Flow (vph)	393	19	44	1324	0	757	88
Heavy Vehicles (%)	2%	2%	5%	5%	5%	5%	5%
Turn Type	Prot	Prot	pm+pt	NA	Perm	NA	Perm
Protected Phases	7	7	5	2		6	
Permitted Phases			2		6		6
Actuated Green, G (s)	25.2	25.2	55.8	55.8		48.5	48.5
Effective Green, g (s)	25.7	25.2	56.3	56.3		48.5	48.5
Actuated g/C Ratio	0.29	0.28	0.63	0.63		0.54	0.54
Clearance Time (s)	4.5	4.5	4.5	4.5		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	505	443	400	2150		1852	828
v/s Ratio Prot	c0.22	0.01	0.00	c0.39		0.22	
v/s Ratio Perm			0.06				0.06
v/c Ratio	0.78	0.04	0.11	0.62		0.41	0.11
Uniform Delay, d1	29.5	23.6	10.3	10.3		12.3	10.2
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	7.4	0.0	0.1	0.5		0.7	0.3
Delay (s)	37.0	23.6	10.4	10.8		12.9	10.4
Level of Service	D	C	B	B		B	B
Approach Delay (s)	35.0			10.8		12.5	
Approach LOS	D			B		B	
Intersection Summary							
HCM 2000 Control Delay			15.4		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.71				
Actuated Cycle Length (s)			90.0		Sum of lost time (s)		12.5
Intersection Capacity Utilization			56.3%		ICU Level of Service		B
Analysis Period (min)			15				
c Critical Lane Group							

Intersection

Int Delay, s/veh 1.6

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↘		↑↑		↘		↑↑
Traffic Vol, veh/h	0	0	1335	0	90	0	1475
Future Vol, veh/h	0	0	1335	0	90	0	1475
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	0	1451	0	98	0	1603

Major/Minor	Minor1		Major1	Major2			
Conflicting Flow All	2448	726	0	-	1451	-	-
Stage 1	1451	-	-	-	-	-	-
Stage 2	997	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.52	-	-
Pot Cap-1 Maneuver	26	367	-	0	170	0	-
Stage 1	182	-	-	0	-	0	-
Stage 2	318	-	-	0	-	0	-
Platoon blocked, %			-				-
Mov Cap-1 Maneuver	26	367	-	-	170	-	-
Mov Cap-2 Maneuver	26	-	-	-	-	-	-
Stage 1	182	-	-	-	-	-	-
Stage 2	318	-	-	-	-	-	-

Approach	WB		NB	SB
HCM Control Delay, s	0		0	3
HCM LOS	A			

Minor Lane/Major Mvmt	NBTWBLn1	SBU	SBT	
Capacity (veh/h)	-	-	170	-
HCM Lane V/C Ratio	-	-	0.575	-
HCM Control Delay (s)	-	0	51.5	-
HCM Lane LOS	-	A	F	-
HCM 95th %tile Q(veh)	-	-	3	-

Arterial Level of Service: NB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Nebo Rd	II	45	23.3	12.9	36.2	0.21	21.2	D
Hiram Sudie Road	II	45	31.8	22.0	53.8	0.32	21.5	D
Main St	II	45	27.8	5.1	32.9	0.27	29.3	B
Oak Street	II	45	38.2	17.9	56.1	0.41	26.1	C
Jimmy Lee Smith Pkwy	II	45	73.1	94.5	167.6	0.91	19.6	D
Macland Rd	II	45	99.6	80.0	179.6	1.25	25.0	C
Dallas Rd	II	45	100.3	63.2	163.5	1.25	27.6	C
Total	II		394.1	295.6	689.7	4.62	24.1	C

Arterial Level of Service: SB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Dallas Rd	II	45	53.1	110.5	163.6	0.66	14.6	E
Macland Rd	II	45	100.3	28.9	129.2	1.25	35.0	B
Jimmy Lee Smith Pkwy	II	45	99.6	77.1	176.7	1.25	25.4	C
Oak Street	II	45	73.1	5.9	79.0	0.91	41.6	A
Access Rd	II	45	38.2	3.8	42.0	0.41	34.8	B
Hiram Sudie Road	II	45	27.8	22.7	50.5	0.27	19.1	D
Nebo Rd	II	45	31.8	14.0	45.8	0.32	25.2	C
Total	II		423.9	262.9	686.8	5.07	26.6	C

Intersection

Int Delay, s/veh 14.2

Movement	EBL	EBR	NBU	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↕	↕	
Traffic Vol, veh/h	0	130	30	50	1390	1260	20
Future Vol, veh/h	0	130	30	50	1390	1260	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	-	0	0	-
Grade, %	0	-	-	-	0	0	-
Peak Hour Factor	34	34	89	89	89	85	85
Heavy Vehicles, %	7	7	7	7	7	7	7
Mvmt Flow	0	382	34	56	1562	1482	24

Major/Minor	Minor2	Major1			Major2
Conflicting Flow All	-	753	1505	1506	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	7.04	6.54	4.24	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.37	2.57	2.27	-
Pot Cap-1 Maneuver	0	~ 341	148	417	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %					-
Mov Cap-1 Maneuver	-	~ 341	179	179	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	120.8	2.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	179	-	341	-	-
HCM Lane V/C Ratio	0.502	-	1.121	-	-
HCM Control Delay (s)	43.7	-	120.8	-	-
HCM Lane LOS	E	-	F	-	-
HCM 95th %tile Q(veh)	2.5	-	14.8	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↑↑	↔		↔	↑↑	↔
Traffic Vol, veh/h	0	0	30	10	0	0	50	1390	10	30	0	1320	0
Future Vol, veh/h	0	0	30	10	0	0	50	1390	10	30	0	1320	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	-	Yield
Storage Length	-	-	-	-	-	-	235	-	175	-	235	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	64	64	64	55	55	55	94	94	94	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	2	7	7	7
Mvmt Flow	0	0	47	18	0	0	53	1479	11	33	0	1435	0

Major/Minor	Minor2			Minor1			Major1			Major2			
Conflicting Flow All	2346	3085	717	2368	3085	739	1435	0	0	-	1479	0	0
Stage 1	1500	1500	-	1585	1585	-	-	-	-	-	-	-	-
Stage 2	846	1585	-	783	1500	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.24	-	-	6.44	4.24	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.27	-	-	2.52	2.27	-	-
Pot Cap-1 Maneuver	19	12	372	~ 18	12	360	445	-	-	-	427	-	-
Stage 1	128	184	-	113	167	-	-	-	-	-	-	-	-
Stage 2	323	167	-	353	184	-	-	-	-	-	-	-	-
Platoon blocked, %													
Mov Cap-1 Maneuver	17	11	372	~ 14	11	360	445	-	-	-	-	-	-
Mov Cap-2 Maneuver	17	11	-	~ 14	11	-	-	-	-	-	-	-	-
Stage 1	113	184	-	100	147	-	-	-	-	-	-	-	-
Stage 2	285	147	-	309	184	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	\$ 722.8	0.5	
HCM LOS	C	F		






































Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	445	-	-	372 14	-	-	-
HCM Lane V/C Ratio	0.12	-	-	0.126 1.299	-	-	-
HCM Control Delay (s)	14.2	-	-	16.1\$ 722.8	-	-	-
HCM Lane LOS	B	-	-	C F	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.4 2.9	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis

8: SR 92 & Dallas Rd

Build 2045 PM
08/18/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations	 	  	 	  	  	 			 	 	  	  
Traffic Volume (vph)	360	1195	100	490	2170	135	40	145	955	380	125	755
Future Volume (vph)	360	1195	100	490	2170	135	40	145	955	380	125	755
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.5	4.0	4.0	4.5		4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00		0.97	0.95	1.00	0.97	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3099	4590	1429	3099	4590	1429		3019	3112	1392	3273	3374
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3099	4590	1429	3099	4590	1429		3019	3112	1392	3273	3374
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.84	0.84
Adj. Flow (vph)	379	1258	105	544	2411	150	42	153	1005	400	149	899
RTOR Reduction (vph)	0	0	68	0	0	46	0	0	0	156	0	0
Lane Group Flow (vph)	379	1258	37	544	2411	104	0	195	1005	244	149	899
Heavy Vehicles (%)	13%	13%	13%	13%	13%	13%	16%	16%	16%	16%	7%	7%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	NA
Protected Phases	7	4		3	8		5	5	2		1	6
Permitted Phases			4			8				2		
Actuated Green, G (s)	14.5	48.8	48.8	27.2	61.5	61.5		8.6	40.5	40.5	5.5	37.4
Effective Green, g (s)	15.0	49.3	48.8	27.7	62.0	61.5		9.1	41.0	41.0	6.0	37.9
Actuated g/C Ratio	0.11	0.35	0.35	0.20	0.44	0.44		0.06	0.29	0.29	0.04	0.27
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	332	1616	498	613	2032	627		196	911	407	140	913
v/s Ratio Prot	c0.12	0.27		0.18	c0.53			c0.06	c0.32		0.05	0.27
v/s Ratio Perm			0.03			0.07				0.18		
v/c Ratio	1.14	0.78	0.07	0.89	1.19	0.17		0.99	1.10	0.60	1.06	0.98
Uniform Delay, d1	62.5	40.5	30.5	54.6	39.0	23.7		65.4	49.5	42.5	67.0	50.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	93.5	2.4	0.1	14.5	89.2	0.1		62.5	62.2	6.4	94.3	26.3
Delay (s)	156.0	42.9	30.5	69.2	128.2	23.9		127.9	111.7	48.9	161.3	77.1
Level of Service	F	D	C	E	F	C		F	F	D	F	E
Approach Delay (s)		66.8			112.8				98.0			93.7
Approach LOS		E			F				F			F
Intersection Summary												
HCM 2000 Control Delay			96.1	HCM 2000 Level of Service				F				
HCM 2000 Volume to Capacity ratio			1.16									
Actuated Cycle Length (s)			140.0	Sum of lost time (s)				16.5				
Intersection Capacity Utilization			96.1%	ICU Level of Service				F				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR
Lane Configurations	7
Traffic Volume (vph)	480
Future Volume (vph)	480
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Fr _t	0.85
Fl _t Protected	1.00
Satd. Flow (prot)	1509
Fl _t Permitted	1.00
Satd. Flow (perm)	1509
Peak-hour factor, PHF	0.84
Adj. Flow (vph)	571
RTOR Reduction (vph)	152
Lane Group Flow (vph)	419
Heavy Vehicles (%)	7%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	37.4
Effective Green, g (s)	37.9
Actuated g/C Ratio	0.27
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	408
v/s Ratio Prot	
v/s Ratio Perm	0.28
v/c Ratio	1.03
Uniform Delay, d ₁	51.0
Progression Factor	1.00
Incremental Delay, d ₂	51.3
Delay (s)	102.4
Level of Service	F
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↕	↗		↕↕
Traffic Vol, veh/h	0	20	1490	30	0	1385
Future Vol, veh/h	0	20	1490	30	0	1385
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	175	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	93	93	90	90
Heavy Vehicles, %	2	2	16	16	16	16
Mvmt Flow	0	22	1602	32	0	1539

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	801	0 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	327	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	327	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	- 327	-
HCM Lane V/C Ratio	-	- 0.066	-
HCM Control Delay (s)	-	- 16.8	-
HCM Lane LOS	-	- C	-
HCM 95th %tile Q(veh)	-	- 0.2	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗↗	↗
Traffic Vol, veh/h	0	20	0	1520	1345	20
Future Vol, veh/h	0	20	0	1520	1345	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	0	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	92	92
Heavy Vehicles, %	2	2	10	10	16	16
Mvmt Flow	0	32	0	1670	1462	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	731	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	7.14	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.92	- -
Pot Cap-1 Maneuver	0	312	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	312	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	17.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	312	-	-
HCM Lane V/C Ratio	-	0.102	-	-
HCM Control Delay (s)	-	17.8	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Intersection

Int Delay, s/veh 153.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↔		↵		↶		↵	↗	↶		↵	↗	↶
Traffic Vol, veh/h	10	0	20	70	0	100	10	20	1380	70	30	100	1225	10
Future Vol, veh/h	10	0	20	70	0	100	10	20	1380	70	30	100	1225	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Stop	-	-	-	Yield	-	-	-	None
Storage Length	-	-	-	30	-	0	-	235	-	175	-	0	-	280
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	59	59	59	58	58	58	95	95	95	95	92	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	10	10	10	10	2	10	10	10
Mvmt Flow	17	0	34	121	0	172	11	21	1453	74	33	112	1376	11

Major/Minor	Minor2			Minor1			Major1			Major2				
Conflicting Flow All	2455	3182	688	2494	-	726	-	1376	0	0	-	1453	0	0
Stage 1	1666	1666	-	1516	-	-	-	-	-	-	-	-	-	-
Stage 2	789	1516	-	978	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	-	6.94	6.6	4.3	-	-	6.44	4.3	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	-	3.32	2.6	2.3	-	-	2.52	2.3	-	-
Pot Cap-1 Maneuver	~ 16	10	389	~ 15	0	367	-	455	-	-	-	424	-	-
Stage 1	100	152	-	125	0	-	-	-	-	-	-	-	-	-
Stage 2	350	180	-	269	0	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-				
Mov Cap-1 Maneuver	~ 8	10	389	~ 14	-	367	~ -3	~ -3	-	-	~ -4	~ -4	-	-
Mov Cap-2 Maneuver	~ 8	10	-	~ 14	-	-	-	-	-	-	-	-	-	-
Stage 1	100	152	-	125	-	-	-	-	-	-	-	-	-	-
Stage 2	186	180	-	246	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 913.5	\$ 1644.7		
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	+	-	-	23	14	367	+	-	-
HCM Lane V/C Ratio	-	-	-	2.211	8.621	0.47	-	-	-
HCM Control Delay (s)	-	-	-	\$ 913.5	\$ 3961.1	23.2	-	-	-
HCM Lane LOS	-	-	-	F	F	C	-	-	-
HCM 95th %tile Q(veh)	-	-	-	6.4	16.1	2.4	-	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	20	0	1480	1305	20
Future Vol, veh/h	0	20	0	1480	1305	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	-	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	92	92	94	94
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	25	0	1609	1388	21

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	694	- 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	385	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	385	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	15	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 385	-
HCM Lane V/C Ratio	- 0.065	-
HCM Control Delay (s)	- 15	-
HCM Lane LOS	- C	-
HCM 95th %tile Q(veh)	- 0.2	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↗			↕↗
Traffic Vol, veh/h	0	0	1480	0	0	1325
Future Vol, veh/h	0	0	1480	0	0	1325
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	25	93	93	90	90
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	0	1591	0	0	1472

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	796	0 0
Stage 1	-	-	- -
Stage 2	-	-	- -
Critical Hdwy	-	6.94	- -
Critical Hdwy Stg 1	-	-	- -
Critical Hdwy Stg 2	-	-	- -
Follow-up Hdwy	-	3.32	- -
Pot Cap-1 Maneuver	0	330	0 -
Stage 1	0	-	0 -
Stage 2	0	-	0 -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	-	330	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↗	↗	↘
Traffic Vol, veh/h	0	40	40	1480	1325	0
Future Vol, veh/h	0	40	40	1480	1325	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	235	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	94	94	92	92
Heavy Vehicles, %	2	2	10	10	10	10
Mvmt Flow	0	48	43	1574	1440	0
























Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	2312	720	1440	0	0
Stage 1	1440	-	-	-	-
Stage 2	872	-	-	-	-
Critical Hdwy	6.84	6.94	4.3	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.3	-	-
Pot Cap-1 Maneuver	32	370	429	-	-
Stage 1	184	-	-	-	-
Stage 2	369	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	29	370	429	-	-
Mov Cap-2 Maneuver	29	-	-	-	-
Stage 1	184	-	-	-	-
Stage 2	332	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	429	-	370	-	-
HCM Lane V/C Ratio	0.099	-	0.13	-	-
HCM Control Delay (s)	14.3	-	16.2	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	0.4	-	-

HCM Signalized Intersection Capacity Analysis
17: SR 92 & Macland Rd

Build 2045 PM
08/18/2017

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	
Lane Configurations													
Traffic Volume (vph)	125	520	100	205	980	410	145	975	145	10	275	925	
Future Volume (vph)	125	520	100	205	980	410	145	975	145	10	275	925	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	4.5		4.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)	1626	3252	1455	1626	3252	1455	1612	3223	1442		1645	3282	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.14	1.00	1.00		0.10	1.00	
Satd. Flow (perm)	1626	3252	1455	1626	3252	1455	246	3223	1442		176	3282	
Peak-hour factor, PHF	0.89	0.89	0.89	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	
Adj. Flow (vph)	140	584	112	216	1032	432	153	1026	153	11	299	1005	
RTOR Reduction (vph)	0	0	86	0	0	151	0	0	104	0	0	0	
Lane Group Flow (vph)	140	584	26	216	1032	281	153	1026	49	0	310	1005	
Heavy Vehicles (%)	11%	11%	11%	11%	11%	11%	12%	12%	12%	2%	10%	10%	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	1	6	
Permitted Phases			4			8	2		2	6	6		
Actuated Green, G (s)	9.1	25.5	25.5	17.1	33.5	33.5	42.8	34.9	34.9		53.9	41.5	
Effective Green, g (s)	9.6	25.5	25.5	17.6	33.5	33.5	43.8	34.9	34.9		54.4	41.5	
Actuated g/C Ratio	0.09	0.23	0.23	0.16	0.30	0.30	0.40	0.32	0.32		0.49	0.38	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	141	753	337	260	990	443	202	1022	457		287	1238	
v/s Ratio Prot	c0.09	0.18		0.13	c0.32		0.06	0.32			c0.15	0.31	
v/s Ratio Perm			0.02			0.19	0.24		0.03		c0.39		
v/c Ratio	0.99	0.78	0.08	0.83	1.04	0.63	0.76	1.00	0.11		1.08	0.81	
Uniform Delay, d1	50.2	39.6	33.0	44.8	38.2	33.0	24.0	37.5	26.5		32.8	30.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	73.3	5.0	0.1	19.7	40.3	3.0	14.9	29.1	0.5		76.1	4.2	
Delay (s)	123.5	44.6	33.1	64.4	78.5	35.9	39.0	66.7	27.0		108.9	34.9	
Level of Service	F	D	C	E	E	D	D	E	C		F	C	
Approach Delay (s)		56.3			65.8			58.9				49.0	
Approach LOS		E			E			E				D	
Intersection Summary													
HCM 2000 Control Delay			57.9									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.10										
Actuated Cycle Length (s)			110.0									Sum of lost time (s)	17.5
Intersection Capacity Utilization			90.9%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													



Movement	SBR
Lane Configurations	7
Traffic Volume (vph)	155
Future Volume (vph)	155
Ideal Flow (vphpl)	1900
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Fr _t	0.85
Fl _t Protected	1.00
Satd. Flow (prot)	1468
Fl _t Permitted	1.00
Satd. Flow (perm)	1468
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	168
RTOR Reduction (vph)	93
Lane Group Flow (vph)	75
Heavy Vehicles (%)	10%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	41.5
Effective Green, g (s)	41.5
Actuated g/C Ratio	0.38
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	553
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.14
Uniform Delay, d ₁	22.5
Progression Factor	1.00
Incremental Delay, d ₂	0.1
Delay (s)	22.6
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

Intersection

Int Delay, s/veh 14

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↗	↗	↗	↗	↗	↗	↗
Traffic Vol, veh/h	0	0	0	40	0	40	0	1225	50	40	1190	0
Future Vol, veh/h	0	0	0	40	0	40	0	1225	50	40	1190	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Yield	-	-	None	-	-	None
Storage Length	-	-	-	85	-	0	235	-	175	235	-	175
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	82	82	82	89	89	89	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	12	12	12	12	12	12
Mvmt Flow	0	0	0	49	0	49	0	1376	56	47	1400	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2182	2870	700	2170	2870	688	1400	0	0	1376	0	0
Stage 1	1494	1494	-	1376	1376	-	-	-	-	-	-	-
Stage 2	688	1376	-	794	1494	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.34	-	-	4.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.32	-	-	2.32	-	-
Pot Cap-1 Maneuver	26	16	382	~ 26	16	389	436	-	-	445	-	-
Stage 1	129	185	-	153	211	-	-	-	-	-	-	-
Stage 2	403	211	-	348	185	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	21	14	382	~ 24	14	389	436	-	-	445	-	-
Mov Cap-2 Maneuver	21	14	-	~ 24	14	-	-	-	-	-	-	-
Stage 1	129	165	-	153	211	-	-	-	-	-	-	-
Stage 2	352	211	-	311	165	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	\$ 420.1	0	0.5
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	436	-	-	-	24	389	445	-	-
HCM Lane V/C Ratio	-	-	-	-	2.033	0.125	0.106	-	-
HCM Control Delay (s)	0	-	-	0	\$ 824.5	15.6	14	-	-
HCM Lane LOS	A	-	-	A	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	6.1	0.4	0.4	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 16.5

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘			↘	↗	↘	↗	↗
Traffic Vol, veh/h	10	10	195	10	1265	0	1220	10
Future Vol, veh/h	10	10	195	10	1265	0	1220	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	-	-	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	31	31	87	87	87	92	84	84
Heavy Vehicles, %	2	2	8	8	8	2	12	12
Mvmt Flow	32	32	224	11	1454	0	1452	12

Major/Minor	Minor2	Major1			Major2		
Conflicting Flow All	2650	726	1060	1452	0	1061	- 0
Stage 1	1452	-	-	-	-	-	- -
Stage 2	1198	-	-	-	-	-	- -
Critical Hdwy	6.84	6.94	6.56	4.26	-	6.44	- -
Critical Hdwy Stg 1	5.84	-	-	-	-	-	- -
Critical Hdwy Stg 2	5.84	-	-	-	-	-	- -
Follow-up Hdwy	3.52	3.32	2.58	2.28	-	2.52	- -
Pot Cap-1 Maneuver	~ 19	367	289	433	-	303	- -
Stage 1	182	-	-	-	-	-	- -
Stage 2	249	-	-	-	-	-	- -
Platoon blocked, %					-		- -
Mov Cap-1 Maneuver	~ 19	367	286	286	-	303	- -
Mov Cap-2 Maneuver	~ 19	-	-	-	-	-	- -
Stage 1	182	-	-	-	-	-	- -
Stage 2	249	-	-	-	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	\$ 618.5	7.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	286	-	36	303	-	-
HCM Lane V/C Ratio	0.824	-	1.792	-	-	-
HCM Control Delay (s)	57	-	\$ 618.5	0	-	-
HCM Lane LOS	F	-	F	A	-	-
HCM 95th %tile Q(veh)	6.8	-	7	0	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Signalized Intersection Capacity Analysis
 24: SR 92 & Jimmy Lee Smith Pkwy

Build 2045 PM
 08/18/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	115	1720	315	410	2525	510	345	315	695	275	170	390
Future Volume (vph)	115	1720	315	410	2525	510	345	315	695	275	170	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00		0.94	0.95	1.00		0.94
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	3273	4848	1509	3273	4848	1509		4802	3406	1524		4796
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)	3273	4848	1509	3273	4848	1509		4802	3406	1524		4796
Peak-hour factor, PHF	0.98	0.98	0.98	0.96	0.96	0.96	0.94	0.94	0.94	0.94	0.92	0.96
Adj. Flow (vph)	117	1755	321	427	2630	531	367	335	739	293	185	406
RTOR Reduction (vph)	0	0	73	0	0	42	0	0	0	148	0	0
Lane Group Flow (vph)	117	1755	248	427	2630	489	0	702	739	145	0	591
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	6%	6%	6%	6%	2%	8%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Prot	NA	Perm	Prot	Prot
Protected Phases	7	4		3	8		5	5	2		1	1
Permitted Phases			4			8				2		
Actuated Green, G (s)	5.0	53.2	53.2	19.3	67.5	67.5		18.5	33.0	33.0		16.5
Effective Green, g (s)	5.0	53.2	53.2	19.3	67.5	67.5		18.5	33.0	33.0		16.5
Actuated g/C Ratio	0.04	0.38	0.38	0.14	0.48	0.48		0.13	0.24	0.24		0.12
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	116	1842	573	451	2337	727		634	802	359		565
v/s Ratio Prot	0.04	0.36		c0.13	c0.54			c0.15	0.22			0.12
v/s Ratio Perm			0.16			0.32				0.09		
v/c Ratio	1.01	0.95	0.43	0.95	1.13	0.67		1.63dl	0.92	0.40		1.05
Uniform Delay, d1	67.5	42.2	32.2	59.8	36.2	27.8		60.8	52.2	45.2		61.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.97	1.03	1.07		0.99
Incremental Delay, d2	85.9	11.7	0.5	29.0	62.6	2.5		68.8	17.6	3.3		50.4
Delay (s)	153.4	53.9	32.7	88.9	98.9	30.2		127.9	71.3	51.9		111.5
Level of Service	F	D	C	F	F	C		F	E	D		F
Approach Delay (s)		56.1			87.5				90.9			
Approach LOS		E			F				F			

Intersection Summary		
HCM 2000 Control Delay	82.8	HCM 2000 Level of Service F
HCM 2000 Volume to Capacity ratio	1.11	
Actuated Cycle Length (s)	140.0	Sum of lost time (s) 18.0
Intersection Capacity Utilization	101.2%	ICU Level of Service G
Analysis Period (min)	15	

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	750	125
Future Volume (vph)	750	125
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3343	1495
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3343	1495
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	781	130
RTOR Reduction (vph)	0	91
Lane Group Flow (vph)	781	39
Heavy Vehicles (%)	8%	8%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	31.0	31.0
Effective Green, g (s)	31.0	31.0
Actuated g/C Ratio	0.22	0.22
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	740	331
v/s Ratio Prot	c0.23	
v/s Ratio Perm		0.03
v/c Ratio	1.06	0.12
Uniform Delay, d1	54.5	43.6
Progression Factor	0.99	0.96
Incremental Delay, d2	48.7	0.2
Delay (s)	102.6	42.1
Level of Service	F	D
Approach Delay (s)	100.9	
Approach LOS	F	

Intersection Summary

Intersection

Int Delay, s/veh 13.6

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↘	↗	↖
Traffic Vol, veh/h	0	10	10	10	1290	340	1420	0
Future Vol, veh/h	0	10	10	10	1290	340	1420	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	Yield	-	-	None	-	-	Yield
Storage Length	0	85	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	50	50	94	94	94	92	91	91
Heavy Vehicles, %	2	2	7	7	7	2	6	6
Mvmt Flow	0	20	11	11	1372	370	1560	0

Major/Minor	Minor2	Major1				Major2		
Conflicting Flow All	3029	780	1139	1560	0	1002	-	0
Stage 1	2300	-	-	-	-	-	-	-
Stage 2	729	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.54	4.24	-	6.44	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.57	2.27	-	2.52	-	-
Pot Cap-1 Maneuver	10	338	258	397	-	~ 331	-	-
Stage 1	62	-	-	-	-	-	-	-
Stage 2	438	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	10	338	307	307	-	~ 331	-	-
Mov Cap-2 Maneuver	10	-	-	-	-	-	-	-
Stage 1	62	-	-	-	-	-	-	-
Stage 2	438	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0.3	23.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBU	SBT	SBR
Capacity (veh/h)	307	-	-	338	~ 331	-	-
HCM Lane V/C Ratio	0.069	-	-	0.059	1.117	-	-
HCM Control Delay (s)	17.6	-	0	16.3	120.5	-	-
HCM Lane LOS	C	-	A	C	F	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	14.4	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↘			↘	↗	↘	↗	↗
Traffic Vol, veh/h	10	10	10	10	1260	70	1360	10
Future Vol, veh/h	10	10	10	10	1260	70	1360	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	235	-	235	-	175
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	55	55	91	91	91	92	94	94
Heavy Vehicles, %	2	2	7	7	7	2	7	7
Mvmt Flow	18	18	11	11	1385	76	1447	11

Major/Minor	Minor2	Major1				Major2		
Conflicting Flow All	2335	723	1056	1447	0	1010	-	0
Stage 1	1599	-	-	-	-	-	-	-
Stage 2	736	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.94	6.54	4.24	-	6.44	-	-
Critical Hdwy Stg 1	6.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.57	2.27	-	2.52	-	-
Pot Cap-1 Maneuver	20	369	293	440	-	327	-	-
Stage 1	111	-	-	-	-	-	-	-
Stage 2	377	-	-	-	-	-	-	-
Platoon blocked, %					-		-	-
Mov Cap-1 Maneuver	20	369	346	346	-	327	-	-
Mov Cap-2 Maneuver	20	-	-	-	-	-	-	-
Stage 1	111	-	-	-	-	-	-	-
Stage 2	377	-	-	-	-	-	-	-





















Approach	EB	NB	SB
HCM Control Delay, s	292.3	0.3	1
HCM LOS	F		

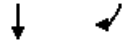
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	346	-	38	327	-	-
HCM Lane V/C Ratio	0.064	-	0.957	0.233	-	-
HCM Control Delay (s)	16.1	-	292.3	19.3	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	0.2	-	3.6	0.9	-	-

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕	↗		↕	
Traffic Vol, veh/h	0	0	20	0	0	0	0	1280	0	0	1360	20
Future Vol, veh/h	0	0	20	0	0	0	0	1280	0	0	1360	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	175	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	45	45	92	92	92	92	93	93	93	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	7	7	7
Mvmt Flow	0	0	22	0	0	0	0	1376	0	0	1447	21
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	734	-	-	688	-	0	0	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	-	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	-	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	363	0	0	389	0	-	-	0	-	-
Stage 1	0	0	-	0	0	-	0	-	-	0	-	-
Stage 2	0	0	-	0	0	-	0	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	363	-	-	389	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	15.5			0			0			0		
HCM LOS	C			A								
Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBT	SBR							
Capacity (veh/h)	-	-	363	-	-							
HCM Lane V/C Ratio	-	-	0.06	-	-							
HCM Control Delay (s)	-	-	15.5	0	-							
HCM Lane LOS	-	-	C	A	-							
HCM 95th %tile Q(veh)	-	-	0.2	-	-							

HCM Signalized Intersection Capacity Analysis
32: SR 92 & Oak Street

Build 2045 PM
08/18/2017

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	
Lane Configurations													
Traffic Volume (vph)	10	10	0	305	20	50	30	0	1210	80	10	30	
Future Volume (vph)	10	10	0	305	20	50	30	0	1210	80	10	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.5			4.5	4.5		4.5	4.5	4.5		4.0	
Lane Util. Factor		1.00			1.00	1.00		1.00	0.95	1.00		1.00	
Flt		1.00			1.00	0.85		1.00	1.00	0.85		1.00	
Flt Protected		0.98			0.96	1.00		0.95	1.00	1.00		0.95	
Satd. Flow (prot)		1817			1779	1583		1597	3195	1429		1639	
Flt Permitted		0.82			0.72	1.00		0.11	1.00	1.00		0.11	
Satd. Flow (perm)		1525			1336	1583		183	3195	1429		197	
Peak-hour factor, PHF	0.68	0.68	0.68	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.96	
Adj. Flow (vph)	15	15	0	347	23	57	33	0	1315	87	11	31	
RTOR Reduction (vph)	0	0	0	0	0	40	0	0	0	36	0	0	
Lane Group Flow (vph)	0	30	0	0	370	17	0	33	1315	51	0	42	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	13%	13%	13%	13%	2%	13%	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	NA	Perm	custom	pm+pt	
Protected Phases		4			8				2			1	
Permitted Phases	4		4	8		8	2	2		2	1	6	
Actuated Green, G (s)		25.8			25.8	25.8		43.4	43.4	43.4		50.7	
Effective Green, g (s)		25.8			25.8	25.8		43.4	43.4	43.4		51.2	
Actuated g/C Ratio		0.30			0.30	0.30		0.51	0.51	0.51		0.60	
Clearance Time (s)		4.5			4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		460			403	477		92	1621	725		173	
v/s Ratio Prot									c0.41			0.01	
v/s Ratio Perm		0.02			c0.28	0.01		0.18		0.04		0.14	
v/c Ratio		0.07			0.92	0.04		0.36	0.81	0.07		0.24	
Uniform Delay, d1		21.3			28.8	21.1		12.7	17.6	10.7		20.8	
Progression Factor		1.00			1.00	1.00		1.02	1.01	1.04		1.00	
Incremental Delay, d2		0.1			25.4	0.0		10.6	4.5	0.2		0.7	
Delay (s)		21.3			54.2	21.1		23.5	22.3	11.3		21.6	
Level of Service		C			D	C		C	C	B		C	
Approach Delay (s)		21.3			49.8				21.7				
Approach LOS		C			D				C				
Intersection Summary													
HCM 2000 Control Delay			22.0									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.87										
Actuated Cycle Length (s)			85.5									Sum of lost time (s)	13.0
Intersection Capacity Utilization			68.9%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1330	10
Future Volume (vph)	1330	10
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	4.5	4.5
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3195	1429
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3195	1429
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	1385	10
RTOR Reduction (vph)	0	4
Lane Group Flow (vph)	1385	6
Heavy Vehicles (%)	13%	13%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	50.7	50.7
Effective Green, g (s)	50.7	50.7
Actuated g/C Ratio	0.59	0.59
Clearance Time (s)	4.5	4.5
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1894	847
v/s Ratio Prot	c0.43	
v/s Ratio Perm		0.00
v/c Ratio	0.73	0.01
Uniform Delay, d1	12.5	7.1
Progression Factor	1.00	1.00
Incremental Delay, d2	1.5	0.0
Delay (s)	14.0	7.1
Level of Service	B	A
Approach Delay (s)	14.2	
Approach LOS	B	

Intersection Summary

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕↕	↗		↕↕
Traffic Vol, veh/h	0	0	1320	20	0	1665
Future Vol, veh/h	0	0	1320	20	0	1665
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Free	-	None
Storage Length	-	0	-	80	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	50	95	95	97	97
Heavy Vehicles, %	2	2	13	13	13	13
Mvmt Flow	0	0	1389	21	0	1716

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	695	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	385	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			
Mov Cap-1 Maneuver	-	385	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection

Int Delay, s/veh 3.2

Movement	WBL	WBR	NBU	NBT	NBR	SBU	SBL	SBT
Lane Configurations	↖	↗	↘	↖↗	↗		↖	↖↗
Traffic Vol, veh/h	20	40	0	1300	10	30	40	1585
Future Vol, veh/h	20	40	0	1300	10	30	40	1585
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	190	0	235	-	175	-	235	-
Veh in Median Storage, #	0	-	-	0	-	-	-	0
Grade, %	0	-	-	0	-	-	-	0
Peak Hour Factor	78	78	92	93	93	92	98	98
Heavy Vehicles, %	2	2	2	13	13	2	13	13
Mvmt Flow	26	51	0	1398	11	33	41	1617

Major/Minor	Minor1	Major1	Major2					
Conflicting Flow All	2354	699	1180	0	0	1020	1398	0
Stage 1	1398	-	-	-	-	-	-	-
Stage 2	956	-	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	-	-	6.44	4.36	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	-	-	2.52	2.33	-
Pot Cap-1 Maneuver	30	382	254	-	-	322	432	-
Stage 1	194	-	-	-	-	-	-	-
Stage 2	334	-	-	-	-	-	-	-
Platoon blocked, %				-	-			-
Mov Cap-1 Maneuver	30	382	254	-	-	354	354	-
Mov Cap-2 Maneuver	30	-	-	-	-	-	-	-
Stage 1	194	-	-	-	-	-	-	-
Stage 2	334	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	113.8	0	0.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBRWBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	254	-	-	30	382	354
HCM Lane V/C Ratio	-	-	-	0.855	0.134	0.207
HCM Control Delay (s)	0	-	-	309.6	15.9	17.8
HCM Lane LOS	A	-	-	F	C	C
HCM 95th %tile Q(veh)	0	-	-	2.8	0.5	0.8

HCM Signalized Intersection Capacity Analysis
37: SR 92 & Access Rd/Main St

Build 2045 PM
08/18/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	15	40	0	0	15	1295	130	0	1590	15
Future Volume (vph)	15	0	15	40	0	0	15	1295	130	0	1590	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5		4.5	4.5
Lane Util. Factor		1.00			1.00		1.00	0.95	1.00		0.95	1.00
Flt		0.93			1.00		1.00	1.00	0.85		1.00	0.85
Flt Protected		0.98			0.95		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)		1695			1770		1597	3195	1429		3195	1429
Flt Permitted		0.84			0.73		0.12	1.00	1.00		1.00	1.00
Satd. Flow (perm)		1462			1359		194	3195	1429		3195	1429
Peak-hour factor, PHF	0.73	0.73	0.73	0.73	0.73	0.73	0.95	0.95	0.95	0.96	0.96	0.96
Adj. Flow (vph)	21	0	21	55	0	0	16	1363	137	0	1656	16
RTOR Reduction (vph)	0	39	0	0	0	0	0	0	25	0	0	4
Lane Group Flow (vph)	0	3	0	0	55	0	16	1363	112	0	1656	12
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	13%	13%	13%	13%	13%	13%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)		5.9			5.9		66.7	66.7	66.7		61.3	61.3
Effective Green, g (s)		5.9			5.9		66.7	66.7	66.7		61.3	61.3
Actuated g/C Ratio		0.07			0.07		0.82	0.82	0.82		0.75	0.75
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		105			98		174	2611	1168		2400	1073
v/s Ratio Prot							0.00	c0.43			c0.52	
v/s Ratio Perm		0.00			c0.04		0.07		0.08			0.01
v/c Ratio		0.03			0.56		0.09	0.52	0.10		0.69	0.01
Uniform Delay, d1		35.2			36.6		5.7	2.4	1.5		5.2	2.5
Progression Factor		1.00			1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1			7.2		0.2	0.8	0.2		1.6	0.0
Delay (s)		35.3			43.8		5.9	3.1	1.6		6.9	2.6
Level of Service		D			D		A	A	A		A	A
Approach Delay (s)		35.3			43.8			3.0			6.9	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			6.1				HCM 2000 Level of Service				A	
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			81.6				Sum of lost time (s)				13.5	
Intersection Capacity Utilization			55.6%				ICU Level of Service				B	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
38: SR 92 & Hiram Sudie Road

Build 2045 PM
08/18/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	360	145	175	1080	0	1070	575
Future Volume (vph)	360	145	175	1080	0	1070	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539		3539	1583
Flt Permitted	0.95	1.00	0.12	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	226	3539		3539	1583
Peak-hour factor, PHF	0.84	0.84	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	429	173	190	1174	0	1126	605
RTOR Reduction (vph)	0	124	0	0	0	0	306
Lane Group Flow (vph)	429	49	190	1174	0	1126	299
Turn Type	Prot	Prot	pm+pt	NA	Perm	NA	Perm
Protected Phases	7	7	5	2		6	
Permitted Phases			2		6		6
Actuated Green, G (s)	24.3	24.3	51.7	51.7		38.5	38.5
Effective Green, g (s)	24.8	24.3	52.2	51.7		38.5	38.5
Actuated g/C Ratio	0.29	0.29	0.61	0.61		0.45	0.45
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	516	452	305	2152		1602	717
v/s Ratio Prot	c0.24	0.03	0.07	c0.33		c0.32	
v/s Ratio Perm			0.31				0.19
v/c Ratio	0.83	0.11	0.62	0.55		0.70	0.42
Uniform Delay, d1	28.1	22.4	12.0	9.8		18.7	15.7
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	10.9	0.1	3.9	1.0		1.4	0.4
Delay (s)	39.1	22.5	15.9	10.8		20.1	16.1
Level of Service	D	C	B	B		C	B
Approach Delay (s)	34.3			11.5		18.7	
Approach LOS	C			B		B	

Intersection Summary

HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
39: SR 92 & Nebo Rd

Build 2045 PM
08/18/2017



Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	195	40	60	1060	0	940	275
Future Volume (vph)	195	40	60	1060	0	940	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5	4.0	4.0		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	0.95		0.95	1.00
Flt	1.00	0.85	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00		1.00	1.00
Satd. Flow (prot)	1770	1583	1770	3539		3539	1583
Flt Permitted	0.95	1.00	0.24	1.00		1.00	1.00
Satd. Flow (perm)	1770	1583	447	3539		3539	1583
Peak-hour factor, PHF	0.82	0.82	0.93	0.93	0.92	0.95	0.95
Adj. Flow (vph)	238	49	65	1140	0	989	289
RTOR Reduction (vph)	0	40	0	0	0	0	115
Lane Group Flow (vph)	238	9	65	1140	0	989	174
Turn Type	Prot	Prot	pm+pt	NA	Perm	NA	Perm
Protected Phases	7	7	5	2		6	
Permitted Phases			2		6		6
Actuated Green, G (s)	17.3	17.3	63.7	63.7		54.1	54.1
Effective Green, g (s)	17.8	17.3	64.2	64.2		54.1	54.1
Actuated g/C Ratio	0.20	0.19	0.71	0.71		0.60	0.60
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	350	304	401	2524		2127	951
v/s Ratio Prot	c0.13	0.01	0.01	c0.32		0.28	
v/s Ratio Perm			0.11				0.11
v/c Ratio	0.68	0.03	0.16	0.45		0.46	0.18
Uniform Delay, d1	33.5	29.5	8.1	5.5		9.9	8.0
Progression Factor	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.4	0.0	0.2	0.1		0.7	0.4
Delay (s)	38.8	29.6	8.3	5.6		10.7	8.5
Level of Service	D	C	A	A		B	A
Approach Delay (s)	37.2			5.7		10.2	
Approach LOS	D			A		B	

Intersection Summary

HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations	Y		↑↑		⌵		↑↑
Traffic Vol, veh/h	0	0	1420	0	50	0	1350
Future Vol, veh/h	0	0	1420	0	50	0	1350
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	0	-	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	-	0
Grade, %	0	-	0	-	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	0	0	1543	0	54	0	1467

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2385	772	0 - 1543
Stage 1	1543	-	- - -
Stage 2	842	-	- - -
Critical Hdwy	6.84	6.94	- - 6.44
Critical Hdwy Stg 1	5.84	-	- - -
Critical Hdwy Stg 2	5.84	-	- - -
Follow-up Hdwy	3.52	3.32	- - 2.52
Pot Cap-1 Maneuver	28	342	- 0 148
Stage 1	162	-	- 0 -
Stage 2	383	-	- 0 -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	28	342	- - 148
Mov Cap-2 Maneuver	28	-	- - -
Stage 1	162	-	- - -
Stage 2	383	-	- - -

Approach	WB	NB	SB
HCM Control Delay, s	0	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBU	SBT
Capacity (veh/h)	-	- 148	-
HCM Lane V/C Ratio	-	- 0.367	-
HCM Control Delay (s)	-	0 42.8	-
HCM Lane LOS	-	A E	-
HCM 95th %tile Q(veh)	-	- 1.5	-

Arterial Level of Service: NB SR 92

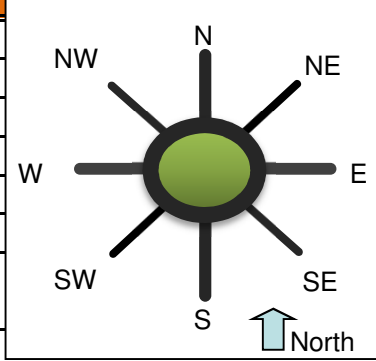
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Nebo Rd	II	45	23.3	6.7	30.0	0.21	25.6	C
Hiram Sudie Road	II	45	31.8	11.7	43.5	0.32	26.6	C
Main St	II	45	27.8	3.7	31.5	0.27	30.6	B
Oak Street	II	45	38.2	22.8	61.0	0.41	24.0	C
Jimmy Lee Smith Pkwy	II	45	73.1	71.3	144.4	0.91	22.8	C
Macland Rd	II	45	99.5	67.2	166.7	1.25	26.9	C
Dallas Rd	II	45	100.3	107.8	208.1	1.25	21.7	D
Total	II		394.0	291.2	685.2	4.62	24.3	C

Arterial Level of Service: SB SR 92

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Dallas Rd	II	45	53.1	76.8	129.9	0.66	18.4	D
Macland Rd	II	45	100.3	37.1	137.4	1.25	32.9	B
Jimmy Lee Smith Pkwy	II	45	99.5	99.8	199.3	1.25	22.5	C
Oak Street	II	45	73.1	16.3	89.4	0.91	36.8	A
Access Rd	II	45	38.2	6.8	45.0	0.41	32.5	B
Hiram Sudie Road	II	45	27.8	22.8	50.6	0.27	19.0	D
Nebo Rd	II	45	31.8	11.7	43.5	0.32	26.6	C
Total	II		423.8	271.3	695.1	5.07	26.3	C

APPENDIX D
Roundabout Analyses Reports

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/7/2017	
Project or PI#:	621720	
Year, Peak Hour:	2016 AM	
County/District:	Paulding County	
Intersection Name:	SR 92 @ East Paulding Middle School South Driveway	



		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph					580		45	
	NE (2), vph								
	E (3), vph								
	SE (4), vph								
	S (5), vph	620						85	
	SW (6), vph								
	W (7), vph	20				60			
	NW (8), vph								
Output	Total Vehicles	640	0	0	0	640	0	130	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	92.0%	100.0%	100.0%	100.0%	92.0%	100.0%	98.0%	100.0%
% Heavy Vehicles	8.0%	0.0%	0.0%	0.0%	8.0%	0.0%	2.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.93	0.95	0.95	0.95	0.84	0.95	0.63	0.95
F _{HV}	0.926	1.000	1.000	1.000	0.926	1.000	0.980	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	0	0	746	0	73	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	0	0	0	0	0	0	0	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	720	0	0	0	0	0	138	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	23	0	0	0	77	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	743	0	0	0	823	0	210	0
Conflicting flow, pcu/h	77	0	0	0	73	0	720	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	1181	NA	NA	NA	1186	NA	649	NA
Entry Flow Rates, vph	688	NA	NA	NA	762	NA	206	NA
V/C ratio	0.58				0.64		0.32	
Control Delay, sec/pcu	10				12		10	
LOS	B				B		A	
95th % Queue (ft)	106				133		35	

Notes:

v 4.0

Unit Legend:

vph = vehicles per hour

PHF = peak hour factor

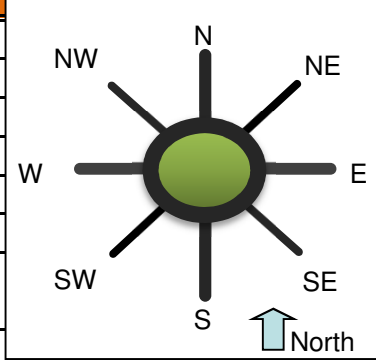
F_{HV} = heavy vehicle factor

pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

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

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/7/2017	
Project or PI#:	621720	
Year, Peak Hour:	2016 PM	
County/District:	Paulding County	
Intersection Name:	SR 92 @ East Paulding Middle School South Driveway	



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph					650		25	
	NE (2), vph								
	E (3), vph								
	SE (4), vph								
	S (5), vph	615						40	
	SW (6), vph								
	W (7), vph	10				25			
	NW (8), vph								
Output	Total Vehicles	625	0	0	0	675	0	65	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	93.0%	100.0%	100.0%	100.0%	93.0%	100.0%	93.0%	100.0%
% Heavy Vehicles	7.0%	0.0%	0.0%	0.0%	7.0%	0.0%	7.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.89	0.95	0.95	0.95	0.85	0.95	0.34	0.95
F _{HV}	0.935	1.000	1.000	1.000	0.935	1.000	0.935	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	0	0	818	0	79	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	0	0	0	0	0	0	0	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	739	0	0	0	0	0	126	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	12	0	0	0	31	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	751	0	0	0	850	0	205	0
Conflicting flow, pcu/h	31	0	0	0	79	0	739	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	1249	NA	NA	NA	1190	NA	607	NA
Entry Flow Rates, vph	702	NA	NA	NA	794	NA	191	NA
V/C ratio	0.56				0.67		0.32	
Control Delay, sec/pcu	9				12		10	
LOS	A				B		B	
95th % Queue (ft)	98				145		36	

Notes:

v 4.0

Unit Legend:

vph = vehicles per hour

PHF = peak hour factor

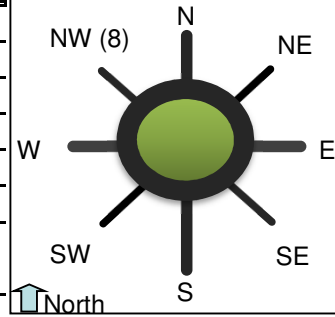
F_{HV} = heavy vehicle factor

pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

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

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/8/2017	
Project or PI#:	621720	
Year, Peak Hour:	2025 Build AM	
County/District:	Paulding County	
Intersection:	SR 92 @ East Paulding Middle School South Driveway	



Volumes **Entry Legs (FROM)**

Lane Designation	Entry Legs (FROM)							
	N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Exit Legs (TO)	Thru	Right-Thru	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
N (1), vph								
NE (2), vph								
E (3), vph								
SE (4), vph								
S (5), vph	381	404						
SW (6), vph								
W (7), vph		25						
NW (8), vph								
Entry Volume, vph	381	429	0	0	0	0	0	0

Lane Designation	Entry Legs (TO)							
	S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
Exit Legs (TO)	Left-Thru	Thru	SELECT	SELECT	Left Only	Right only	SELECT	SELECT
N (1), vph	326	464			55			
NE (2), vph								
E (3), vph								
SE (4), vph								
S (5), vph						105		
SW (6), vph								
W (7), vph	85							
NW (8), vph								
Entry Volume, vph	411	464	0	0	55	105	0	0

	N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	0	0	2	0	2	0
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	92.0%	100.0%	100.0%	100.0%	92.0%	100.0%	98.0%	100.0%
% Heavy Vehicles	8.0%	0.0%	0.0%	0.0%	8.0%	0.0%	2.0%	0.0%
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.93	0.95	0.95	0.95	0.84	0.95	0.63	0.95
F _{hv}	0.926	1.000	1.000	1.000	0.926	1.000	0.980	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	0	0	1016	0	89	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	0	0	0	0	0	0	0	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	912	0	0	0	0	0	170	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	29	0	0	0	109	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	941	0	0	0	1125	0	259	0
	Entry flow Lane 1, pcu/h	442	0	0	0	528	0	89	0
	Entry flow Lane 2, pcu/h	498	0	0	0	597	0	170	0
	Conflicting flow, pcu/h	109	0	0	0	89	0	912	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
	Thru	Right-Thru	Lane 1	Lane 2	Left-Thru	Thru	Left Only	Right only
Lane Designations								
Entry Capacity, veh/h	1130	1198	NA	NA	1152	1219	572	641
Entry Flow Rates, veh/h	410	461	NA	NA	489	552	87	167
V/C ratio	0.36	0.38			0.42	0.45	0.15	0.26
Control Delay, s/veh	6.8	6.8			7.5	7.6	8.2	8.9
LOS	A	A			A	A	A	A
95th % Queue (ft)	45	50			58	65	14	26
Approach Delay, LOS	6.8 sec, LOS A				7.6 sec, LOS A		8.6 sec, LOS A	
	NE		SE		SW		NW	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS					#N/A		#N/A	

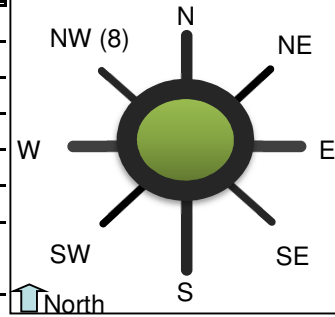
v 4.0

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
Volumes						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
Volume Characteristics						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/8/2017	
Project or PI#:	621720	
Year, Peak Hour:	2025 Build PM	
County/District:	Paulding County	
Intersection:	SR 92 @ East Paulding Middle School South Driveway	



Volumes **Entry Legs (FROM)**

Lane Designation	N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
	Thru	Right-Thru	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)								
N (1), vph								
NE (2), vph								
E (3), vph								
SE (4), vph								
S (5), vph	369	406						
SW (6), vph								
W (7), vph		10						
NW (8), vph								
Entry Volume, vph	369	416	0	0	0	0	0	0

Lane Designation	S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
	Left-Thru	Thru	SELECT	SELECT	Left Only	Right only	SELECT	SELECT
N (1), vph	375	480			30			
NE (2), vph								
E (3), vph								
SE (4), vph								
S (5), vph						50		
SW (6), vph								
W (7), vph	50							
NW (8), vph								
Entry Volume, vph	425	480	0	0	30	50	0	0

	N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	0	0	2	0	2	0
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	93.0%	100.0%	100.0%	100.0%	93.0%	100.0%	93.0%	100.0%
% Heavy Vehicles	7.0%	0.0%	0.0%	0.0%	7.0%	0.0%	7.0%	0.0%
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.85	0.95	0.95	0.95	0.89	0.95	0.34	0.95
F _{hv}	0.935	1.000	1.000	1.000	0.935	1.000	0.935	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	0	0	1028	0	94	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	0	0	0	0	0	0	0	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	976	0	0	0	0	0	157	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	13	0	0	0	60	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	988	0	0	0	1088	0	252	0
	Entry flow Lane 1, pcu/h	465	0	0	0	511	0	94	0
	Entry flow Lane 2, pcu/h	524	0	0	0	577	0	157	0
	Conflicting flow, pcu/h	60	0	0	0	94	0	976	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
	Thru	Right-Thru	Lane 1	Lane 2	Left-Thru	Thru	Left Only	Right only
Lane Designations								
Entry Capacity, veh/h	1194	1261	NA	NA	1157	1225	514	579
Entry Flow Rates, veh/h	434	489	NA	NA	478	539	88	147
V/C ratio	0.36	0.39			0.41	0.44	0.17	0.25
Control Delay, s/veh	6.5	6.6			7.3	7.4	9.3	9.6
LOS	A	A			A	A	A	A
95th % Queue (ft)	45	50			55	61	16	27
Approach Delay, LOS	6.6 sec, LOS A				7.4 sec, LOS A		9.5 sec, LOS A	
	NE		SE		SW		NW	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS					#N/A		#N/A	

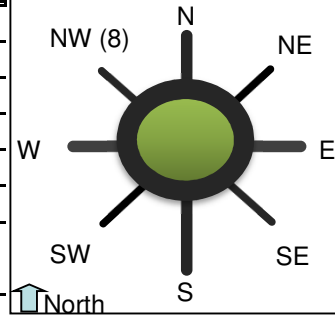
v 4.0

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
Volumes						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
Volume Characteristics						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/8/2017	
Project or PI#:	621720	
Year, Peak Hour:	2045 Build AM	
County/District:	Paulding County	
Intersection:	SR 92 @ East Paulding Middle School South Driveway	



Volumes **Entry Legs (FROM)**

Lane Designation	N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
	Thru	Right-Thru	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)								
N (1), vph								
NE (2), vph								
E (3), vph								
SE (4), vph								
S (5), vph	616	654						
SW (6), vph		40						
W (7), vph								
NW (8), vph								
Entry Volume, vph	616	694	0	0	0	0	0	0

Lane Designation	S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
	Left-Thru	Thru	SELECT	SELECT	Left Only	Right only	SELECT	SELECT
N (1), vph	525	755			90			
NE (2), vph								
E (3), vph								
SE (4), vph								
S (5), vph						175		
SW (6), vph								
W (7), vph	145							
NW (8), vph								
Entry Volume, vph	670	755	0	0	90	175	0	0

	N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	0	0	2	0	2	0
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	92.0%	100.0%	100.0%	100.0%	92.0%	100.0%	98.0%	100.0%
% Heavy Vehicles	8.0%	0.0%	0.0%	0.0%	8.0%	0.0%	2.0%	0.0%
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.93	0.95	0.95	0.95	0.84	0.95	0.63	0.95
F _{hv}	0.926	1.000	1.000	1.000	0.926	1.000	0.980	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	0	0	1646	0	146	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	0	0	0	0	0	0	0	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	1475	0	0	0	0	0	283	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	46	0	0	0	186	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	1521	0	0	0	1832	0	429	0
	Entry flow Lane 1, pcu/h	715	0	0	0	861	0	146	0
	Entry flow Lane 2, pcu/h	806	0	0	0	971	0	283	0
	Conflicting flow, pcu/h	186	0	0	0	146	0	1475	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
	Thru	Right-Thru	Lane 1	Lane 2	Left-Thru	Thru	Left Only	Right only
Lane Designations								
Entry Capacity, veh/h	1053	1122	NA	NA	1093	1162	341	397
Entry Flow Rates, veh/h	662	746	NA	NA	798	899	143	278
V/C ratio	0.63	0.67			0.73	0.77	0.42	0.70
Control Delay, s/veh	12.2	12.7			15.3	16.6	20.1	31.1
LOS	B	B			C	C	C	D
95th % Queue (ft)	125	144			184	222	51	132
Approach Delay, LOS	12.4 sec, LOS B				16 sec, LOS C		27.3 sec, LOS D	
	NE		SE		SW		NW	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS					#N/A		#N/A	

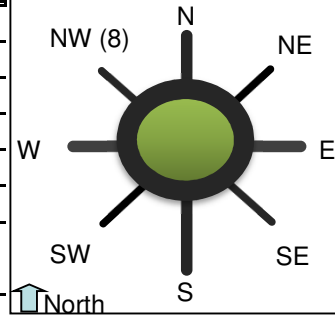
v 4.0

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
Volumes						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
Volume Characteristics						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/8/2017	
Project or PI#:	621720	
Year, Peak Hour:	2045 Build PM	
County/District:	Paulding County	
Intersection:	SR 92 @ East Paulding Middle School South Driveway	



Volumes **Entry Legs (FROM)**

Lane Designation	N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
	Thru	Right-Thru	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)								
N (1), vph								
NE (2), vph								
E (3), vph								
SE (4), vph								
S (5), vph	602	658						
SW (6), vph		20						
W (7), vph								
NW (8), vph								
Entry Volume, vph	602	678	0	0	0	0	0	0

Lane Designation	S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)
	Left-Thru	Thru	SELECT	SELECT	Left Only	Right only	SELECT	SELECT
N (1), vph	611	779			50			
NE (2), vph								
E (3), vph								
SE (4), vph								
S (5), vph						80		
SW (6), vph								
W (7), vph	80							
NW (8), vph								
Entry Volume, vph	691	779	0	0	50	80	0	0

	N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	0	0	2	0	2	0
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	93.0%	100.0%	100.0%	100.0%	93.0%	100.0%	93.0%	100.0%
% Heavy Vehicles	7.0%	0.0%	0.0%	0.0%	7.0%	0.0%	7.0%	0.0%
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.85	0.95	0.95	0.95	0.89	0.95	0.34	0.95
F _{hv}	0.935	1.000	1.000	1.000	0.935	1.000	0.935	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	0	0	1671	0	157	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	0	0	0	0	0	0	0	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	1586	0	0	0	0	0	252	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	25	0	0	0	96	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	1611	0	0	0	1767	0	409	0
	Entry flow Lane 1, pcu/h	758	0	0	0	831	0	157	0
	Entry flow Lane 2, pcu/h	853	0	0	0	937	0	252	0
	Conflicting flow, pcu/h	96	0	0	0	157	0	1586	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
	Thru	Right-Thru	Lane 1	Lane 2	Left-Thru	Thru	Left Only	Right only
Lane Designations								
Entry Capacity, veh/h	1155	1223	NA	NA	1092	1161	293	345
Entry Flow Rates, veh/h	708	798	NA	NA	776	875	147	235
V/C ratio	0.61	0.65			0.71	0.75	0.50	0.68
Control Delay, s/veh	11.0	11.5			14.5	15.7	26.5	33.6
LOS	B	B			B	C	D	D
95th % Queue (ft)	118	137			170	203	71	128
Approach Delay, LOS	11.3 sec, LOS B				15.1 sec, LOS C		30.9 sec, LOS D	
	NE		SE		SW		NW	
Lane Designations	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS					#N/A		#N/A	

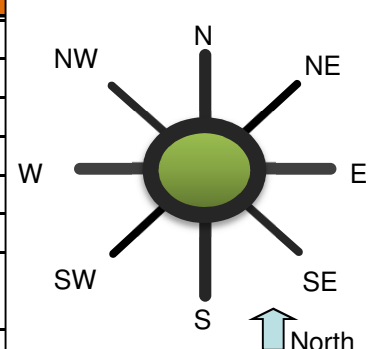
v 4.0

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
Volumes						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
Volume Characteristics						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/7/2017	
Project or PI#:	621720	
Year, Peak Hour:	2016 AM	
County/District:	Paulding County	
Intersection Name:	SR 92 @ Main Street	



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph					800			
	NE (2), vph								
	E (3), vph					75			
	SE (4), vph								
	S (5), vph	425		10					
	SW (6), vph								
	W (7), vph								
	NW (8), vph								
Output	Total Vehicles	425	0	10	0	875	0	0	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	82.0%	100.0%	98.0%	100.0%	82.0%	100.0%	100.0%	100.0%
% Heavy Vehicles	18.0%	0.0%	2.0%	0.0%	18.0%	0.0%	0.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.86	0.95	0.54	0.95	0.91	0.95	0.95	0.95
F _{HV}	0.847	1.000	0.980	1.000	0.847	1.000	1.000	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	0	0	1037	0	0	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	0	0	0	0	97	0	0	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	583	0	19	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	0	0	0	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	583	0	19	0	1135	0	0	0
Conflicting flow, pcu/h	19	0	1037	0	0	0	0	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	1147	NA	470	NA	1169	NA	NA	NA
Entry Flow Rates, vph	494	NA	19	NA	962	NA	NA	NA
V/C ratio	0.43		0.04		0.82			
Control Delay, sec/pcu	8		8		20			
LOS	A		A		C			
95th % Queue (ft)	65		3		295			

Notes:

v 4.0

Unit Legend:

vph = vehicles per hour

PHF = peak hour factor

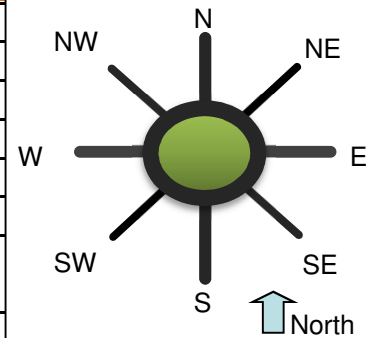
F_{HV} = heavy vehicle factor

pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

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

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/7/2017	
Project or PI#:	621720	
Year, Peak Hour:	2016 PM	
County/District:	Paulding County	
Intersection Name:	SR 92 @ Main Street	



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph					655			
	NE (2), vph								
	E (3), vph					50			
	SE (4), vph								
	S (5), vph	790		20					
	SW (6), vph								
	W (7), vph								
	NW (8), vph								
Output	Total Vehicles	790	0	20	0	705	0	0	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	82.0%	100.0%	98.0%	100.0%	82.0%	100.0%	100.0%	100.0%
% Heavy Vehicles	18.0%	0.0%	2.0%	0.0%	18.0%	0.0%	0.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.96	0.95	0.73	0.95	0.95	0.95	0.95	0.95
F _{HV}	0.847	1.000	0.980	1.000	0.847	1.000	1.000	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	0	0	814	0	0	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	0	0	0	0	62	0	0	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	971	0	28	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	0	0	0	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	971	0	28	0	876	0	0	0
Conflicting flow, pcu/h	28	0	814	0	0	0	0	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	1137	NA	590	NA	1169	NA	NA	NA
Entry Flow Rates, vph	823	NA	27	NA	742	NA	NA	NA
V/C ratio	0.72		0.05		0.63			
Control Delay, sec/pcu	15		7		11			
LOS	B		A		B			
95th % Queue (ft)	198		4		141			

Notes:

v 4.0

Unit Legend:

vph = vehicles per hour

PHF = peak hour factor

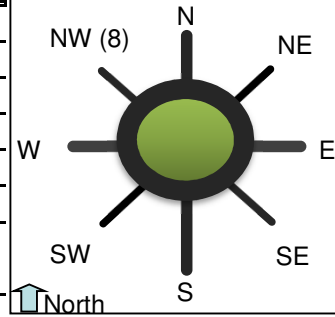
F_{HV} = heavy vehicle factor

pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)

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

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/8/2017	
Project or PI#:	621720	
Year, Peak Hour:	2025 Build AM	
County/District:	Paulding County	
Intersection:	SR 92 @ Main Street	



Volumes	Entry Legs (FROM)							
	N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Lane Designation	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)	N (1), vph							
	NE (2), vph							
	E (3), vph							
	SE (4), vph							
	S (5), vph	247	268			10		
	SW (6), vph							
	W (7), vph		10					
	NW (8), vph							
Entry Volume, vph	247	278	0	0	10	0	0	0
	S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)

Lane Designation	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
N (1), vph	500	470			10			
NE (2), vph								
E (3), vph		105						
SE (4), vph								
S (5), vph					10			
SW (6), vph								
W (7), vph	10							
NW (8), vph								
Entry Volume, vph	510	575	0	0	20	0	0	0

	N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	1	0	2	0	1	0
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	82.0%	100.0%	98.0%	100.0%	82.0%	100.0%	98.0%	100.0%
% Heavy Vehicles	18.0%	0.0%	2.0%	0.0%	18.0%	0.0%	2.0%	0.0%
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.86	0.95	0.54	0.95	0.86	0.95	0.54	0.95
F _{hv}	0.847	1.000	0.980	1.000	0.847	1.000	0.980	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	0	0	1331	0	19	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	0	0	0	0	144	0	0	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	707	0	19	0	0	0	19	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	14	0	0	0	14	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	720	0	19	0	1489	0	38	0
	Entry flow Lane 1, pcu/h	339	0	19	0	700	0	38	0
	Entry flow Lane 2, pcu/h	381	0	0	0	789	0	0	0
	Conflicting flow, pcu/h	33	0	1364	0	19	0	726	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
<i>Lane Designations</i>	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	1110	1170	437	NA	1124	1184	751	NA
Entry Flow Rates, veh/h	287	323	19	NA	593	669	37	NA
V/C ratio	0.26	0.28	0.04		0.53	0.56	0.05	
Control Delay, s/veh	5.7	5.6	8.8		9.4	9.7	5.3	
LOS	A	A	A		A	A	A	
95th % Queue (ft)	31	33	3		94	109	4	
Approach Delay, LOS	5.6 sec, LOS A		8.8 sec, LOS A		9.6 sec, LOS A		5.3 sec, LOS A	
	NE		SE		SW		NW	
<i>Lane Designations</i>	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS			#N/A				#N/A	

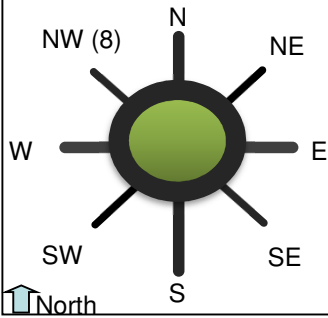
v 4.0

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
<i>Volumes</i>						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
<i>Volume Characteristics</i>						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/8/2017	
Project or PI#:	621720	
Year, Peak Hour:	2025 Build PM	
County/District:	Paulding County	
Intersection:	SR 92 @ Main Street	



Volumes		Entry Legs (FROM)							
		N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Lane Designation		SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)	N (1), vph								
	NE (2), vph								
	E (3), vph								
	SE (4), vph								
	S (5), vph	458	507			25			
	SW (6), vph								
	W (7), vph		10						
	NW (8), vph								
	Entry Volume, vph	458	517	0	0	25	0	0	0
		S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)

Lane Designation		SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
N (1), vph		399	381			10			
NE (2), vph									
E (3), vph			80						
SE (4), vph									
S (5), vph					10				
SW (6), vph									
W (7), vph		10							
NW (8), vph									
Entry Volume, vph		409	461	0	0	20	0	0	0

	N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	1	0	2	0	1	0
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	87.0%	100.0%	98.0%	100.0%	87.0%	100.0%	98.0%	100.0%
% Heavy Vehicles	13.0%	0.0%	2.0%	0.0%	13.0%	0.0%	2.0%	0.0%
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.96	0.95	0.73	0.95	0.95	0.95	0.73	0.95
F _{hv}	0.885	1.000	0.980	1.000	0.885	1.000	0.980	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	0	0	928	0	14	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	0	0	0	0	95	0	0	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	1136	0	35	0	0	0	14	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	12	0	0	0	12	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	1148	0	35	0	1035	0	28	0
	Entry flow Lane 1, pcu/h	539	0	35	0	486	0	28	0
	Entry flow Lane 2, pcu/h	609	0	0	0	548	0	0	0
	Conflicting flow, pcu/h	47	0	954	0	14	0	1171	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
<i>Lane Designations</i>	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	1144	1208	619	NA	1179	1242	515	NA
Entry Flow Rates, veh/h	477	539	34	NA	431	485	27	NA
V/C ratio	0.42	0.45	0.06		0.37	0.39	0.05	
Control Delay, s/veh	7.5	7.6	6.4		6.6	6.7	7.7	
LOS	A	A	A		A	A	A	
95th % Queue (ft)	59	66	4		48	53	4	
Approach Delay, LOS	7.5 sec, LOS A		6.4 sec, LOS A		6.7 sec, LOS A		7.7 sec, LOS A	
	NE		SE		SW		NW	
<i>Lane Designations</i>	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS			#N/A				#N/A	

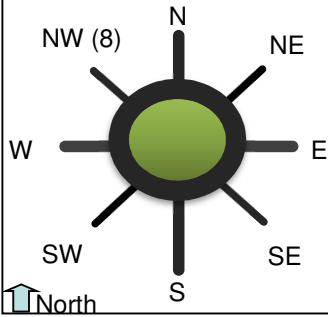
v 4.0

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
<i>Volumes</i>						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
<i>Volume Characteristics</i>						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/8/2017	
Project or PI#:	621720	
Year, Peak Hour:	2045 Build AM	
County/District:	Paulding County	
Intersection:	SR 92 @ Main Street	



Volumes	Entry Legs (FROM)							
	N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Lane Designation	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)	N (1), vph							
	NE (2), vph							
	E (3), vph							
	SE (4), vph							
	S (5), vph	409	446			20		
	SW (6), vph							
	W (7), vph		15					
	NW (8), vph							
Entry Volume, vph	409	461	0	0	20	0	0	0
	S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)

Lane Designation	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
N (1), vph	829	776			15			
NE (2), vph								
E (3), vph		175						
SE (4), vph								
S (5), vph					15			
SW (6), vph								
W (7), vph	15							
NW (8), vph								
Entry Volume, vph	844	951	0	0	30	0	0	0

	N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	1	0	2	0	1	0
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	82.0%	100.0%	98.0%	100.0%	82.0%	100.0%	98.0%	100.0%
% Heavy Vehicles	18.0%	0.0%	2.0%	0.0%	18.0%	0.0%	2.0%	0.0%
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.86	0.95	0.54	0.95	0.86	0.95	0.54	0.95
F _{hv}	0.847	1.000	0.980	1.000	0.847	1.000	0.980	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	0	0	2202	0	28	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	0	0	0	0	240	0	0	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	1173	0	38	0	0	0	28	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	21	0	0	0	21	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	1194	0	38	0	2463	0	57	0
	Entry flow Lane 1, pcu/h	561	0	38	0	1158	0	57	0
	Entry flow Lane 2, pcu/h	633	0	0	0	1305	0	0	0
	Conflicting flow, pcu/h	58	0	2251	0	28	0	1211	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
<i>Lane Designations</i>	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	1084	1145	205	NA	1115	1175	497	NA
Entry Flow Rates, veh/h	476	536	37	NA	981	1106	56	NA
V/C ratio	0.44	0.47	0.18		0.88	0.94	0.11	
Control Delay, s/veh	8.1	8.2	22.2		25.5	32.9	8.7	
LOS	A	A	C		D	D	A	
95th % Queue (ft)	67	75	16		371	487	10	
Approach Delay, LOS	8.2 sec, LOS A		22.2 sec, LOS C		29.4 sec, LOS D		8.7 sec, LOS A	
	NE		SE		SW		NW	
<i>Lane Designations</i>	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS			#N/A				#N/A	

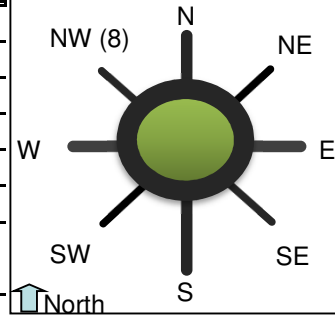
v 4.0

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
<i>Volumes</i>						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
<i>Volume Characteristics</i>						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

General & Site Information		v 4.1
Analyst:	YOC	
Agency/Co:	Parsons	
Date:	9/8/2017	
Project or PI#:	621720	
Year, Peak Hour:	2045 Build PM	
County/District:	Paulding County	
Intersection:	SR 92 @ Main Street	



Volumes	Entry Legs (FROM)							
	N1 (1)	N2 (1)	NE1 (2)	NE2 (2)	E1 (3)	E2 (3)	SE1 (4)	SE2 (4)
Lane Designation	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
Exit Legs (TO)	N (1), vph							
	NE (2), vph							
	E (3), vph							
	SE (4), vph							
	S (5), vph	754	836			40		
	SW (6), vph							
	W (7), vph		15					
	NW (8), vph							
Entry Volume, vph	754	851	0	0	40	0	0	0
	S1 (5)	S2 (5)	SW1 (6)	SW2 (6)	W1 (7)	W2 (7)	NW1 (8)	NW2 (8)

Lane Designation	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT
N (1), vph	662	633			15			
NE (2), vph								
E (3), vph		130						
SE (4), vph								
S (5), vph					15			
SW (6), vph								
W (7), vph	15							
NW (8), vph								
Entry Volume, vph	677	763	0	0	30	0	0	0

	N	NE	E	SE	S	SW	W	NW
# of Entry Flow Lanes	2	0	1	0	2	0	1	0
# of Conflict Flow Lanes	2	2	2	2	2	2	2	2

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	87.0%	100.0%	98.0%	100.0%	87.0%	100.0%	98.0%	100.0%
% Heavy Vehicles	13.0%	0.0%	2.0%	0.0%	13.0%	0.0%	2.0%	0.0%
% Bicycles	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.96	0.95	0.73	0.95	0.95	0.95	0.73	0.95
F _{hv}	0.885	1.000	0.980	1.000	0.885	1.000	0.980	1.000
F _{ped}	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to N (1), pcu/h	0	0	0	0	1540	0	21	0

Leg #	NE (2), pcu/h	0	0	0	0	0	0	0	0
	E (3), pcu/h	0	0	0	0	155	0	0	0
	SE (4), pcu/h	0	0	0	0	0	0	0	0
	S (5), pcu/h	1872	0	56	0	0	0	21	0
	SW (6), pcu/h	0	0	0	0	0	0	0	0
	W (7), pcu/h	18	0	0	0	18	0	0	0
	NW (8), pcu/h	0	0	0	0	0	0	0	0
	Entry flow, pcu/h	1889	0	56	0	1713	0	42	0
	Entry flow Lane 1, pcu/h	888	0	56	0	805	0	42	0
	Entry flow Lane 2, pcu/h	1002	0	0	0	908	0	0	0
	Conflicting flow, pcu/h	74	0	1579	0	21	0	1927	0

Results: Approach Measures of Effectiveness

HCM 6th Edition	N		E		S		W	
<i>Lane Designations</i>	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	1116	1180	364	NA	1172	1234	271	NA
Entry Flow Rates, veh/h	785	886	55	NA	713	803	41	NA
V/C ratio	0.70	0.75	0.15		0.61	0.65	0.15	
Control Delay, s/veh	14.0	15.4	12.4		10.8	11.4	16.4	
LOS	B	C	B		B	B	C	
95th % Queue (ft)	175	212	13		122	144	13	
Approach Delay, LOS	14.7 sec, LOS B		12.4 sec, LOS B		11.1 sec, LOS B		16.4 sec, LOS C	
	NE		SE		SW		NW	
<i>Lane Designations</i>	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2	Lane 1	Lane 2
Entry Capacity, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
Entry Flow Rates, veh/h	NA	NA	NA	NA	NA	NA	NA	NA
V/C ratio			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Control Delay, sec/pcu			#VALUE!	#VALUE!			#VALUE!	#VALUE!
LOS			#VALUE!	#VALUE!			#VALUE!	#VALUE!
95th % Queue (ft)			#VALUE!	#VALUE!			#VALUE!	#VALUE!
Approach Delay, LOS			#N/A				#N/A	

v 4.0

Bypass Lane Merge Point Analysis (if applicable)

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
# of Conflicting Exit Flow Lanes	2	2	2	2	2	2
<i>Volumes</i>						
Entry Leg: Insert Right Turn Volume						
Exit Leg: (Select Input Method)						
Lane Flow in Exit Leg***						
Sum of inner circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Sum of outer circulatory flow lane to exit leg (leg bypass merges into)	N/A	N/A	N/A	N/A	N/A	N/A
Critical Lane Flow (Manual) in Exit Leg***						
<i>Volume Characteristics</i>						
PHF (Entry Leg)						
F _{HV} (Entry Leg)						

F_{ped}						
PHF (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
F_{HV} (Exit Leg)***	N/A	N/A	N/A	N/A	N/A	N/A
***Volume Characteristics are already taken into account for Default method ONLY. Insert Values above if Manual method.						
Entry/Conflicting Flows						
Entry Flow						
Conflicting Critical Flow						
Bypass Lane Results						
Entry Capacity of Bypass, veh/h						
Flow Rates of Exiting Traffic, veh/h						
V/C ratio						
Control Delay, sec/pcu						
LOS						
95th % Queue (ft)						

APPENDIX E

Signal Warrant Analysis

Analyst: MAC
 Agency: Parsons
 Date: 5/25/2017
 Project ID: PI 621720: SR 92 Widening
 EW Street: Main St
 Intersection: SR 92 @ Main St
 Jurisdiction:
 Units: U.S. Customary
 Analysis Year: 2016 Existing
 NS Street: SR 92

General Information

Major St. Speed (mph): 40
 Nearest Signal (ft): 1400
 Crashes per Yr: 8
 Population: Not less than 10000
 Coordinated Signal System: N

School Crossing

Students in Highest Hour: 0
 Adequate Gaps in Period: 0
 Minutes in Period: 0

Roadway Network

Two Major Routes: 0
 Weekend Count: 0
 5-yr Growth Factor: 0

Geometry and Traffic

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LaneUsage					LR			TR			LT	

Results

Warrant 1: Eight-Hour Vehicular Volume []
 1 A. Minimum Vehicular Volumes []
 1 B. Interruption of Continuous Traffic []
 1 80% Vehicular --and-- Interruption Volumes []
 Warrant 2: Four-Hour Vehicular Volume []
 2 A. Four-Hour Vehicular Volumes []
 Warrant 3: Peak Hour []
 3 A. Peak-Hour Conditions []
 3 B. Peak-Hour Vehicular Volume Hours Met []
 Warrant 4: Pedestrian Volume []
 4 A. Four Hour Volumes []
 4 B. One-Hour Volumes []
 Warrant 5: School Crossing []
 5 A. Student Volumes []
 5 B. Gaps Same Period []
 Warrant 6: Coordinated Signal System []
 6 Degree of Platooning []
 Warrant 7: Crash Experience []
 7 A. Adequate trials of alternatives []

Analyst: FBG
 Agency: Parsons
 Date: 9/19/2017
 Project ID: PI 621720: SR 92 Widening
 EW Street: Main St

Intersection: SR 92 @ Main St
 Jurisdiction:
 Units: U.S. Customary
 Analysis Year: 2025 Build
 NS Street: SR 92

General Information

Major St. Speed (mph): 45
 Nearest Signal (ft): 1400
 Crashes per Yr: 8

Population: Not less than 10000
 Coordinated Signal System: N

School Crossing

Students in Highest Hour: 0
 Adequate Gaps in Period: 0
 Minutes in Period: 0

Roadway Network

Two Major Routes: 0
 Weekend Count: 0
 5-yr Growth Factor: 0

Geometry and Traffic

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	1	1	2	1
Lane Usage	LTR			LTR			L	T	R	L	T	R

Results

- Warrant 1: Eight-Hour Vehicular Volume []
 - 1 A. Minimum Vehicular Volumes []
 - 1 B. Interruption of Continuous Traffic []
 - 1 56% Vehicular --and-- Interruption Volumes []
- Warrant 2: Four-Hour Vehicular Volume []
 - 2 A. Four-Hour Vehicular Volumes []
- Warrant 3: Peak Hour []
 - 3 A. Peak-Hour Conditions []
 - 3 B. Peak-Hour Vehicular Volume Hours Met []
- Warrant 4: Pedestrian Volume []
 - 4 A. Four Hour Volumes []
 - 4 B. One-Hour Volumes []
- Warrant 5: School Crossing []
 - 5 A. Student Volumes []
 - 5 B. Gaps Same Period []
- Warrant 6: Coordinated Signal System []
 - 6 Degree of Platooning []
- Warrant 7: Crash Experience []
 - 7 A. Adequate trials of alternatives []

Analyst: FBG
 Agency: Parsons
 Date: 9/19/2017
 Project ID: PI 621720: SR 92 Widening
 EW Street: Main St
 Intersection: SR 92 @ Main St
 Jurisdiction:
 Units: U.S. Customary
 Analysis Year: 2045 Build
 NS Street: SR 92

General Information

Major St. Speed (mph): 45
 Nearest Signal (ft): 1400
 Crashes per Yr: 8
 Population: Not less than 10000
 Coordinated Signal System: N

School Crossing

Students in Highest Hour: 0
 Adequate Gaps in Period: 0
 Minutes in Period: 0

Roadway Network

Two Major Routes: 0
 Weekend Count: 0
 5-yr Growth Factor: 0

Geometry and Traffic

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	2	1	1	2	1
Lane Usage	LTR			LTR			L	T	R	L	T	R

Results

- Warrant 1: Eight-Hour Vehicular Volume [X]
- 1 A. Minimum Vehicular Volumes []
- 1 B. Interruption of Continuous Traffic [X]
- 1 56% Vehicular --and-- Interruption Volumes []

- Warrant 2: Four-Hour Vehicular Volume
- 2 A. Four-Hour Vehicular Volumes [X]

- Warrant 3: Peak Hour
- 3 A. Peak-Hour Conditions []
- 3 B. Peak-Hour Vehicular Volume Hours Met [X]

- Warrant 4: Pedestrian Volume []
- 4 A. Four Hour Volumes []
- 4 B. One-Hour Volumes []

- Warrant 5: School Crossing []
- 5 A. Student Volumes []
- 5 B. Gaps Same Period []

- Warrant 6: Coordinated Signal System
- 6 Degree of Platooning []

- Warrant 7: Crash Experience []
- 7 A. Adequate trials of alternatives []

7 B. Reported crashes [X]
 7 56% Volumes for Warrants 1A, 1B --or-- 4 [X]

Warrant 8: Roadway Network []
 8 A. Weekday Volume []
 8 B. Weekend Volume []

Warrant 9: Grade Crossing []
 9 A. Grade Crossing within 140 ft --and-- []
 9 B. Peak-Hour Vehicular Volumes []

Summary											
Hours	Major Volume	Minor Volume	Total Volume	Delay (Veh-hr)	1A 70%	1A 56%	1B 70%	1B 56%	2 70%	3A 70%	3B 70%
08-09	3144	43	3227	0.0	No	No	No	Yes	No	No	No
09-10	3177	54	3269	0.0	No	No	Yes	Yes	No	No	No
10-11	3111	74	3225	0.0	No	No	Yes	Yes	Yes	No	No
11-12	3016	54	3110	0.0	No	No	Yes	Yes	No	No	No
12-13	3325	79	3446	0.0	No	No	Yes	Yes	Yes	No	Yes
13-14	3350	77	3471	0.0	No	No	Yes	Yes	Yes	No	Yes
14-15	3456	84	3586	0.0	No	Yes	Yes	Yes	Yes	No	Yes
15-16	3482	79	3609	0.0	No	No	Yes	Yes	Yes	No	Yes
16-17	3729	100	3881	0.0	No	Yes	Yes	Yes	Yes	No	Yes
17-18	4199	97	4352	0.0	No	Yes	Yes	Yes	Yes	No	Yes
18-19	3784	54	3888	0.0	No	No	Yes	Yes	No	No	No
19-20	3709	64	3817	0.0	No	No	Yes	Yes	Yes	No	No
Total	41482	859	42881		0	3	11	12	8	0	6

Traffic Volumes (vph)												
	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
20	0	20	43	0	0	18	1789	194	0	1121	22	
19	0	19	54	0	0	19	1858	201	0	1078	21	
20	0	20	74	0	0	17	1609	174	0	1286	25	
20	0	20	54	0	0	15	1442	156	0	1376	27	
21	0	21	79	0	0	16	1554	168	0	1557	30	
22	0	22	77	0	0	20	1544	158	0	1611	17	
23	0	23	84	0	0	19	1448	149	0	1821	19	
24	0	24	79	0	0	18	1425	146	0	1874	19	
26	0	26	100	0	0	19	1508	155	0	2026	21	
28	0	28	97	0	0	20	1597	164	0	2393	25	
25	0	25	54	0	0	19	1519	156	0	2069	21	
22	0	22	64	0	0	20	1565	161	0	1943	20	

Pedestrian Volumes and Gaps (Per Hour)												
	Volume		Gap		Volume		Gap		Volume		Gap	
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		
0		0	0	0	0	0	0	0	0	0		

Delay	sec/veh	veh-hrs	sec/veh	veh-hrs	sec/veh	veh-hrs	sec/veh	veh-hrs	
0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	

!

