DRAFT PRELIMINARY ENGINEERING REPORT

Florida Department of Transportation

District One

State Road 544 (Lucerne Park Road) from Martin Luther King Boulevard to State Road 17

Project Development & Environment Study

Polk County, Florida

Financial Management Number: 440273-1-22-01

ETDM Number: 5873

January 2025

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated May 26, 2022, and executed by Federal Highway Administration and FDOT.

CERTIFICATION

AGENCY: Florida Department of Transportation District One 801 North Broadway Avenue Bartow, Florida 33831-1249

I hereby certify that I am a registered professional engineer in the State of Florida and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions and technical advice hereby reported for:

| REPORT: | SR 544/Old Lucerne Park Road (West End) Intersection Control Evaluation (ICE) - Stage 1 |
|-------------|---|
| PROJECT: | SR 544 Project Development and Environment (PD&E) Study |
| LOCATION: | SR 544 from Martin Luther King Boulevard to SR 17 Polk County, Florida |
| ROADWAY ID: | 16140000 |

MILEPOST No: 5.749

FPID No.: 440273-1-22-01

I acknowledge that the procedures and references used to develop the information contained in this memorandum are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

| Engineer in Responsible Charge: | Anastasiya A. Senyushkina | A A SENVILLA | |
|---------------------------------|---------------------------|-----------------------|--|
| Professional Registration No.: | 82191 | No. 82191 | Anastasiya A Senyushkina 2023.01.17 14:47:21-05'00' |
| Date: | 1/17/2023 | THE STATE OF CONTRACT | 14.47.21-03.00 |

MEMORANDUM



AIM Engineering & Surveying, Inc.

Tampa Office 201 E. Kennedy Boulevard, Suite 1800 Tampa, Florida 33602 813-627-4144 www.aimengr.com

| Date: | January 17, 2023 |
|----------|---|
| То: | David C. Turley, P.E. – FDOT District One DEMO Project Manager Abra Horne – FDOT District One Planning and Environmental Administrator |
| From: | Greg Root/Anastasiya Senyushkina, P.E. |
| Subject: | SR 544/Old Lucerne Park Road (west end) Intersection (Polk County) — Stage 1+ Intersection Control Evaluation |

INTRODUCTION/PROJECT BACKGROUND

This memorandum documents the Intersection Control Evaluation (ICE) conducted for the Old Lucerne Park Road (west end) intersection. This analysis was conducted in support of the SR 544 Project Development & Environment (PD&E) Study from Martin Luther King Boulevard to SR 17 in Polk County. The length of this study corridor is approximately 8.1 miles. SR 544 is a two-lane undivided roadway with 12-foot travel lanes both west and east of Old Lucerne Park Road. There is a five-foot paved shoulder and a four-foot sidewalk on the south side of SR 544 both west and east of Lake Smart Estates Drive. There is also a five-foot paved shoulder on the north side of SR 544 west of Old Lucerne Park Road. There is no sidewalk on the north side of this roadway. The proposed SR 544 typical section in this area is a four-lane divided roadway that consists of two 11-foot inside travel lanes, two 12-foot outside travel lanes, a 22-foot raised median, and 10-foot shared use paths on both sides of the road. The design speed and target speed is 45 mph.

This memorandum documents the Stage 1 CAP-X and SPICE analyses, as well as the more detailed traffic operations analyses conducted using the SIDRA software. The opening year (2025) and design year (2045) Average Annual Daily Traffic (AADT) volumes documented in the FDOT approved Project Traffic Analysis Report (PTAR) are provided in **Appendix A** along with the 2045 a.m. and p.m. peak hour volumes documented in this same report.

EXISTING INTERSECTION CHARACTERISTICS

This intersection is a four-legged unsignalized intersection. The western end of Old Lucerne Park Road is the north leg of this intersection and Lake Smart Estates Drive is the southern leg. The south leg provides the only access to the Lake Smart Estates residential community. There are 126 single family dwelling units in this community. Residential development exists in both the southeast and southwest quadrants of the intersection. There are six driveways on the west side of Old Lucerne Park Road within approximately 440 feet of the intersection that provide access to single family homes. There is also one single family home in the northeast quadrant of the intersection that has access on Old Lucerne Park Road. The north and south legs of this intersection are controlled by stop signs. There are also four cross streets on the south side of SR 544 located within 1,000 feet of this intersection. All four of these

cross streets are west of this intersection and provide access to a small mobile home park (i.e., Lucerne Lakeside). An aerial image depicting the Old Lucerne Park Road intersection and the adjacent Lucerne Lakeside residential area is provided in **Figure 1**, which is included in **Appendix A**. The posted speed limit on SR 544 in the vicinity of the intersection is 55 miles per hour (mph) and this changes from 55 mph to 45 mph between Old Lucerne Park Road and Avenue Y. The posted speed limit on Old Lucerne Park Road is 40 mph.

Crash data was provided by District One for the years 2014 through 2019. The data sources were the FDOT's Crash Analysis Reporting System (CARS) and Signal Four Analytics. The crash data is included in **Appendix A**. This intersection has experienced 32 crashes over this six-year period, resulting in 25 injuries and no fatalities. The most prevalent crash types are left-turn/angle crashes (17) and rear-end crashes (14). There were no crashes involving bicyclists or pedestrians.

INTERSECTION CONTROL EVALUATION

The PD&E study goals are to determine the location and conceptual design of the improvement(s) that satisfy the purpose and need for the project, while also minimizing the impacts to the natural and social environment and satisfying the requirements of the National Environmental Policy Act (NEPA). District One conducted a traffic signal warrant analysis for this intersection in April 2018 and the results of this study indicated that a traffic signal was not warranted. In addition, low average vehicle delays were also observed. These delays ranged from 15 seconds (in the morning) to 24 seconds (in the afternoon) for the northbound left-turn/through lane and from 12 seconds (in the morning) to 10 seconds (in the afternoon) for the southbound approach. This signal warrant analysis is provided in **Appendix B**.

The following alternative intersection control strategies were initially analyzed for this intersection:

- Two-way stop control
- All-way stop control
- Unsignalized Restricted Crossing U-Turn (RCUT)
- Unsignalized Thru-Cut
- Two-lane (SR 544) x one-lane (Old Lucerne Park Road) roundabout
- Two-lane x two-lane roundabout

The results of the 2045 CAP-X and SPICE analyses are summarized in **Table 1**. The CAP-X and SPICE analysis summary sheets for this intersection are provided in **Appendix C**. Based on the high v/c ratios estimated for the stop control intersections, as well as the unsignalized RCUT and Thru-Cut intersections, these alternatives were eliminated from any further consideration. Design year (2045) peak hour SIDRA analyses were conducted for a two-lane roundabout and the results are summarized in **Table 2**. All of the movements are projected to operate under capacity during both peak hours. In addition, the overall average vehicle delays are projected to be less than 15 seconds per vehicle during both peak hours. The design year SIDRA analysis summary sheets are provided in **Appendix D**.

An initial geometric improvement concept was developed for this alternative and is provided in **Appendix E**. This roundabout alternative requires additional right-of-way in three of the four intersection quadrants and results in at least one residential relocation. In addition, the raised splitter island on the north leg of the roundabout would require vehicles entering and exiting several other single family dwelling units to make u-turn movements through the roundabout.

| | 2045 V/ | C Ratios | Life-Cyc | le Crashes | SSI So | cores |
|------------------------|--------------|--------------|----------|----------------|---------|--------|
| | | | | | Opening | Design |
| Intersection Type | AM Peak Hour | PM Peak Hour | Total | Fatal & Injury | Year | Year |
| Two-Way Stop Control | 3.86 | 9.77 | 83 | 31 | 41 | 18 |
| All-Way Stop Control | 2.02 | 1.92 | 71 | 28 | 86 | 77 |
| Unsignalized RCUT | 4.25 | 1.25 | n/a | n/a | 58 | 35 |
| Unsignalized Thru-Cut | 10.13 | 97.60 | n/a | n/a | 63 | 39 |
| Roundabout (2EW x 1NS) | 1.16 | 0.78 | 180 | 34 | 89 | 82 |
| Roundabout (2EW x 2NS) | 1.10 | 0.78 | 180 | 34 | 89 | 82 |

Red font denotes a v/c ratio > 1.00

Lowest number of crashes of all alternatives analyzed

n/a = No Safety Performance Function (SPF) available

| | | AI | M Peak Hour | | | |
|--------------|------------------------|----------------|-------------|------------------------|------------------|----------|
| Intersection | Existing Old | Lucerne Park R | d Alignment | Realigne | d Old Lucerne Pa | ark Road |
| Approach | Max V/C ⁽¹⁾ | Avg. Delay | LOS | Max V/C ⁽¹⁾ | Avg. Delay | LOS |
| Northbound | 0.18 | 14.3 | В | 0.22 | 15.1 | С |
| Southbound | 0.69 | 38.6 | E | 0.68 | 36.7 | E |
| Westbound | 0.70 | 13.7 | В | 0.69 | 13.4 | В |
| Eastbound | 0.62 | 10.2 | В | 0.62 | 10.2 | В |
| Overall | 0.70 | 14.9 | В | 0.69 | 14.6 | В |
| | | PI | M Peak Hour | | | |
| Intersection | Existing Old | Lucerne Park R | d Alignment | Realigne | d Old Lucerne Pa | ark Road |
| Approach | Max V/C ⁽¹⁾ | Avg. Delay | LOS | Max V/C ⁽¹⁾ | Avg. Delay | LOS |
| Northbound | 0.09 | 14.1 | В | 0.15 | 15.0 | С |
| Southbound | 0.21 | 12.9 | В | 0.22 | 13.2 | В |
| Westbound | 0.72 | 16.5 | С | 0.74 | 17.2 | С |
| Eastbound | 0.69 | 12.1 | В | 0.69 | 12.2 | В |
| Overall | 0.72 | 13.9 | В | 0.74 | 14.3 | В |

Highest volume-to-capacity ratio for the individual movements on this approach

Vista del Lago Drive is located approximately 1,325 feet to the east of Old Lucerne Park Road. The SR 544 access management plan that was previously approved by District One provides an unsignalized full median opening at this location. In an attempt to minimize the impacts to the residences in the immediate vicinity of the Old Lucerne Park Road intersection and provide an increased level of safety at the Vista del Lago Drive intersection, a second roundabout concept was developed.

This second concept includes a realignment of the southern end of Old Lucerne Park Road to "lineup" directly across from Vista del Lago Drive. In addition, a cul-de-sac is provided on Old Lucerne Park Road just south of the beginning of the realigned roadway. All property owners located between SR 544 and the cul-de-sac will need to travel on the existing southern end of Old Lucerne Park Road. This revised geometric improvement concept is also provided in Appendix E. No existing peak hour turning movement count data was available for the Vista del Lago Drive intersection, so the design year a.m. and p.m. peak hour volumes were estimated using the Institute of Transportation Engineers Trip

Generation Handbook (11th Edition). Vista del Lago Drive serves as the entrance/exit to the Villas at Lake Smart apartment community (a 220-unit apartment complex) and this roadway only connects to SR 544. The a.m. and p.m. peak hour trip generation estimates for this apartment complex are provided in **Appendix F**. The 2045 peak hour inbound and outbound trips estimated for the Villas at Lake Smart were distributed onto eastbound and westbound SR 544 based on a 50%/50% distribution since the AADT volumes on SR 544 east of Old Lucerne Park Road and west of Lucerne Loop Road were equal. Slight adjustments were made to the 2045 peak hour volumes previously estimated for the Old Lucerne Park Road intersection to account for the eastern realignment of this roadway.

Design year (2045) peak hour SIDRA analyses were conducted for this revised two-lane roundabout and the results are also summarized in **Table 2**. All of the movements are projected to operate under capacity during both peak hours. In addition, the overall average vehicle delays are projected to be less than 15 seconds per vehicle during both peak hours. The design year SIDRA analysis summary sheets for this revised concept are also provided in **Appendix D**.

RECOMMENDED INTERSECTION CONTROL STRATEGY

The implementation of a two-lane roundabout is expected to help facilitate speed control in this area. Reduced vehicle speeds should provide additional safety benefits for the older driving population accessing SR 544 from the 55+ Lucerne Lakeside Mobile Home Park, as well as the westbound vehicles approaching the horizontal curve at Lake Rochelle Estates. The roundabout is also projected to have the lowest opening year and design year SSI scores of all the alternatives analyzed and is expected to result in very low design year peak hour vehicle delays. Consequently, the PD&E study is recommending a roundabout for the Old Lucerne Park Road (west end) intersection. The PD&E study is also recommending a realignment of the southern portion of this roadway to connect directly across from Vista del Lago Drive. This realignment will eliminate the need for any residential relocations.

Appendix A

Existing Geometry, Existing/Future Year Traffic Volumes and Historic Crash Data

Figure 1: Existing SR 544/Old Lucerne Park Road (West End) Intersection



Project Traffic Analysis Report FPID: 440273-1-22-01

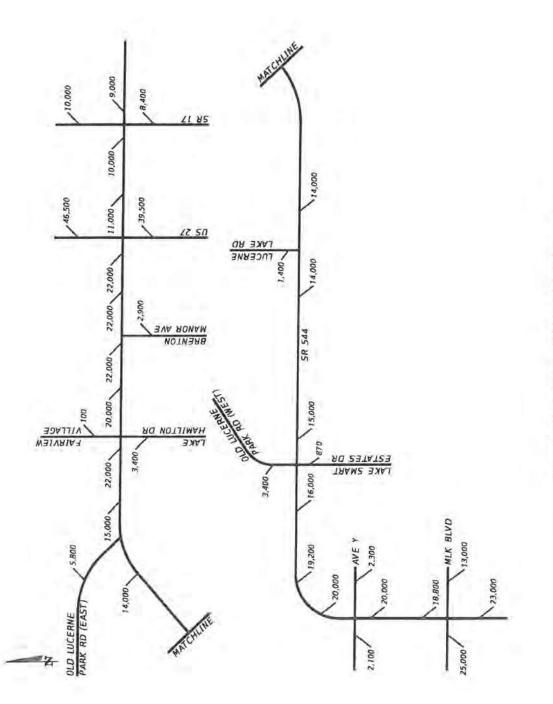


Figure 2-2: Existing (2019) AADT Volumes

Table 2-2: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Mainline)

| Location | Date | Count | SF (1) | AF (2) | AADT (3) | Growth | 2019 AADT (4) | 2019 AADT 2019 AADT 2019 AADT (4) (5) (6) | 2019 AADT (6) | Average | Final 2019 AADT |
|---|-----------|--------|--------|--------|----------|--------|------------------|---|------------------|---------|--------------------|
| South of M. L. King Boulevard (2) | 4/17/2018 | 21,686 | 0.96 | 0.95 | 19,778 | 1.0319 | 20,409 | 20,000 | 23,000 | 21,500 | 23,000 (8) |
| North of M. L. King Boulevard (7) | 4/17/2018 | 17,212 | 0.96 | 0.95 | 15,697 | 1.0319 | 16,198 | 16,000 | 18,800 | 17,400 | 18,800 (9) |
| South of Avenue Y ^[7] | 2/16/2016 | 19.748 | 0.96 | 0.97 | 18,389 | 1.0988 | 20,206 | 20,000 | e/u | | 20.000 |
| North of Avenue Y (2) | 2/16/2016 | 19,936 | 96.0 | 0.97 | 18,564 | 1.0988 | 20,399 | 20,000 | n/a | | 20,000 |
| South of Lake Conine Drive | | | | | | | | | 19.200 | | 19 200 |
| West of Old Lucerne Park Road (west end) (7) | 1/9/2018 | 16,214 | 1.01 | 0.94 | 15,394 | 1.0577 | 16,282 | 16,000 | e/u | | 16.000 |
| East of Old Lucerrie Park Road (west end) (1) | 1/9/2018 | 15,212 | 1.01 | 0.94 | 14,442 | 1.0543 | 15,226 | 15,000 | n/a | | 15.000 |
| West of Lucerne Lake Road | 10/1/2019 | 14,506 | 1.03 | 0.94 | 14,045 | 1.0000 | 14,045 | 14,000 | 14,000 | 14,000 | 14.000 |
| East of Lucerne Lake Road | 10/1/2019 | 14,608 | 1.03 | 0.94 | 14,143 | 1.0000 | 14,143 | 14,000 | n/a | | 14.000 |
| West of Old Lucerne Park Road (east end) 121 | 1/9/2018 | 18,070 | 1.01 | 0.94 | 17,156 | 1.0706 | 18,367 | 18,000 | 14,000 | 16,000 | 14,000 (10) |
| East of Old Lucerne Park Road (east end) (7) | 1/9/2018 | 14,682 | 1.01 | 0.94 | 13,939 | 1.0706 | 14,923 | 15,000 | n/a | | 15,000 |
| West of Lake Hamilton Drive/Fairview Village | 10/1/2019 | 22,630 | 1.03 | 0.94 | 21,910 | 1.0000 | 21,910 | 22,000 | n/a | | 22,000 |
| East of Lake Hamilton Drive/Fairview Village | 10/1/2019 | 20,472 | 1.03 | 0.94 | 19,821 | 1.0000 | 19,821 | 20,000 | n/a | | 20,000 |
| West of Brenton Manor Avenue | 10/1/2019 | 23,035 | 1.03 | 0.94 | 22,302 | 1.0000 | 22,302 | 22,000 | n/a | | 22,000 |
| East of Brenton Manor Avenue | 10/1/2019 | 23,127 | 1.03 | 0.94 | 22,392 | 1.0000 | 22,392 | 22,000 | n/a | | 22,000 |
| West of Hide-A-Way Lane (Hidden Cove Entr) | | | 1 | | | | | | 21,000 | | 21.000 |
| West of US 27 | 10/1/2019 | 22,701 | 1.03 | 0.94 | 21,979 | 1.0000 | 21,979 | 22,000 | e/u | | 22,000 |
| East of US 27 | 10/1/2019 | 10,954 | 1.03 | 0.94 | 10,606 | 1.0000 | 10,606 | 11,000 | 11,000 | 11,000 | 11,000 |
| West of SR 17 | 10/1/2019 | 10,500 | 1.03 | 0.94 | 10,166 | 1,0000 | 10,166 | 10,000 | n/a | | 10,000 |
| East of SR 17 | 10/1/2019 | 9,534 | 1.03 | 0.94 | 9,231 | 1.0000 | 9,231 | 9,200 | 8,800 | 000'6 | 000'6 |

⁽²⁾ AF = Axle Adjustment Factor

ADT = Count x SF x AF
 2019 ADT = Count x SF x AF
 2019 ADT (rounded)
 2019 ADT (rounded)
 2019 ADT founded)
 2019 ADT founded)
 2019 ADT count only at this location. The two-way volume website
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume has been greater than 21,000 vpd for the last five years.
 FDOT count station value was used because the AADT volume has been greater than 16,000 vpd for the last five years.
 FDOT count station value was used because the 2018 AADT volume at this permanent count station was equal to 13,600 vpd.

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Page 2-6

Project Traffic Analysis Report FPID: 440273-1-22-01

| Location | Date | Count | SF (1) | AF (2) | AADT (3) | Growth | 2019 AADT (4) | 2019 AADT ⁽⁵⁾ | and the second second | 2019 AADT (8) August | Final 2019 |
|---|-----------|--------|--------|--------|----------|--------|------------------|-----------------------------|-----------------------|-------------------------|------------|
| M. L. King Boulevard West of SR 544 m | 4/17/2018 | 26,560 | 0.96 | | 24 223 | | 24 995 | | 1.0 | afipianu | 1 |
| M. L. King Boulevard East of SR 544 (7) | 4/17/2018 | 13 587 | 0.06 | 1.66 | 1000 | | 000 01 | | 000'02 | ראחיני | 000'02 |
| | 01071111 | 200'01 | 0.30 | 0.80 | 12,381 | BLC0.1 | 12,182 | 13,000 | 13,500 | 13,250 | 13,000 |
| Avenue Y West of SR 544 W | 2/16/2016 | 1,960 | 0.96 | 1.00 | 1,882 | 1.0988 | 2,068 | 2.100 | n/a | | 2 100 |
| Avenue Y East of SR 544 (7) | 2/16/2016 | 2,174 | 0.96 | 1.00 | 2,087 | 1.0988 | 2.293 | 2,300 | n/a | | 0 300 |
| Old Lucerne Park Road (west end) North of SR 544(7) | 1/9/2018 | 3,206 | 1.01 | 0.98 | 3,173 | 1.0560 | 3,351 | 3.400 | e/u | | 3 ADD |
| Lake Smart Estates Drive South of SR 544 ⁽⁷⁾ | 1/9/2018 | 862 | 1.01 | 1.00 | 871 | 1.0000 | 871 | 870 | n/a | | 870 |
| Lucerne Lake Road North of SR 544 | 10/1/2019 | 1,730 | 1.03 | 0.81 | 1,443 | 1.0000 | 1.443 | 1400 | elu | | 1 400 |
| Old Lucerne Park Road (east end) North of SR 544 ⁽⁷⁾ | 1/9/2018 | 5,454 | 1.01 | 0.98 | 5,398 | 1.0706 | 5,779 | 5.800 | n/a | | 5 800 |
| Fairview Village North of SR 544 | 10/1/2019 | 96 | 1.03 | 1.00 | 66 | 1.0000 | 66 | 100 | n/a | | 100 |
| Lake Hamilton Drive South of SR 544 | 10/1/2019 | 3.344 | 1.03 | 1.00 | 3.444 | 1.0000 | 3 444 | 3 400 | ela | | |
| Brenton Manor Avenue South of SR 544 | 10/1/2019 | 2,916 | 1.03 | 0.98 | 2.943 | 1.0000 | 2 943 | UUb C | e/u | | 0000 |
| US 27 North of SR 544 | 10/1/2019 | 45,009 | 1.04 | 0.94 | 44.001 | 1.0000 | 44.001 | 44 000 | AG SOO | AE DEN | AE EUN (B) |
| US 27 South of SR 544 | 10/1/2019 | 34,554 | 1.04 | 0.94 | 33.780 | 1.0000 | 33.780 | 34 000 | 30 500 | 36 760 | 30 600 (9) |
| SR 17 North of SR 544 | 10/1/2019 | 10,764 | 1.03 | 0.95 | 10.533 | 1.0000 | 10.533 | 11 000 | 0 700 | 10 350 | unn nt |
| SR 17 South of SR 544 | 10/1/2019 | 8.680 | 1.03 | 0.95 | 8 493 | 1 0000 | 8 402 | 0 600 | 0000 | 0000 | 000101 |

Table 2-3: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Cross Streets)

Note: Red fort denotes assumed values used for this study.

SF = Weekly Seasonal Adjustment Factor
 AF = Axle Adjustment Factor
 AF = Axle Adjustment Factor
 AF = AADT × Growth Factor
 2019 AADT (counded)
 2019 AADT (counded)
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 ADT count station value was used because the AADT volume has been greater than 34,000 vpd for for in the last four years.
 8 FDOT count station value was used because the AADT volume has been greater than 34,000 vpd for for in the last fore years.

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Project Traffic Analysis Report FPID: 440273-1-22-01

Page 2-7

FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STATISTICS OFFICE 2019 HISTORICAL AADT REPORT

COUNTY: 16 - POLK

SITE: 0096 - SR 544 SOUTH OF CONINE DRIVE, WH

| YEAR | AADT | DIRECTION 1 | DIRECTION 2 | *K FACTOR | D FACTOR | T FACTOR |
|--|--|---|---|---|--|--|
| YEAR 2019 2018 2017 2016 2015 2014 2013 2012 2011 | AADT 19200 C 18100 C 17000 C 15600 C 14400 S 14200 F 14200 S 15100 S | DIRECTION 1 N 9600 N 8500 N 7900 N 7700 N 7100 N 7100 N 7000 N 7000 N 7500 | DIRECTION 2 S 9600 S 9100 S 8500 S 8100 S 7900 S 7300 S 7200 S 7200 S 7200 S 7200 S 7200 | *K FACTOR 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 | D FACTOR 56.00 54.50 53.30 55.70 55.60 55.90 55.80 55.70 | T FACTOR 7.60 7.00 7.00 7.40 7.00 7.50 7.50 7.50 7.50 6.40 |
| 2011 2010 2009 2008 2007 2006 2005 2004 | 15100 F 15300 C 14400 C 15400 C 15900 C 15200 C 144000 C | N 7500 N 7600 N 7100 N 7700 N 7900 N 7600 N 7100 | S 7600 S 7700 S 7300 S 7700 S 8000 S 7600 S 6900 | 9.55 9.36 9.78 9.66 9.62 9.30 9.50 | 56.07 56.35 55.29 55.30 55.83 54.80 55.70 | 6.40 6.40 7.70 7.40 8.10 3.80 3.80 |

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN *K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STATISTICS OFFICE 2019 HISTORICAL AADT REPORT

| COUNTY: 1 | 6 - POLK | | | | | | | | | |
|--|--|-----|---|-------|--|---|---------|--|--|---|
| SITE: 000 | 9 - sr 544 e | OF | WINTER | HAVEN | BOU | LEVARD N O | F LK FA | NNIE | | |
| YEAR | AADT | DIH | RECTION | 1 | DIR | ECTION 2 | *K F | ACTOR | D FACTOR | T FACTOR |
| 2019 2018 2017 2016 2015 2014 2013 2012 2011 2010 2009 2008 2007 2006 2005 2004 | 14000 C 13800 C 12500 C 12600 C 11500 C 10400 F 10400 F 11100 S 11100 F 11300 C 11300 C 13300 C 13300 C 13500 C | | $\begin{array}{c} 7100\\ 7000\\ 6300\\ 5200\\ 5300\\ 5200\\ 5200\\ 5500\\ 5500\\ 5500\\ 5600\\ 5700\\ 6600\\ 5700\\ 6600\\ 5600\\ 6700\\ \end{array}$ | | W W W W W W W W W W W W W W W W | $\begin{array}{c} 6900\\ 6800\\ 6200\\ 5900\\ 5300\\ 5200\\ 5200\\ 5600\\ 5600\\ 5600\\ 5600\\ 5600\\ 5600\\ 5600\\ 6700\\ 5900\\ 6800\\ \end{array}$ | | 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 | $\begin{array}{c} 56.00\\ 54.50\\ 53.30\\ 55.70\\ 55.90\\ 55.80\\ 55.80\\ 55.80\\ 55.29\\ 55.29\\ 55.29\\ 55.29\\ 55.83\\ 55.83\\ 55.83\\ 55.70\\ 55.83\\ 55.70\\ \end{array}$ | 8.60 8.60 9.90 9.10 8.40 9.70 9.70 8.20 8.20 8.20 8.20 9.70 9.10 11.90 3.60 3.60 |

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN *K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

| | | AM P | eak Hour (7:15 - 8:1 | 15) | PMP | eak Hour (4:45 -5: | 45) |
|--|-------------|--------------|----------------------|---------|--------------|--------------------|---------|
| Intersection | Movement | Total Volume | Truck Volume | Truck % | Total Volume | Truck Volume | Truck % |
| | NB LT | 269 | 7 | 2.6% | 299 | 0 | 0.0% |
| | NB TH | 275 | 11 | 4.0% | 413 | 3 | 0.7% |
| | NB RT | 119 | 1 | 0.8% | 139 | 0 | 0.0% |
| | NB APPROACH | 663 | 19 | 2.9% | 851 | 3 | 0.4% |
| | SB LT | 17 | 7 | 41.2% | 23 | 0 | 0.0% |
| | SB TH | 436 | 10 | 2.3% | 353 | 3 | 0.8% |
| | SB RT | 115 | 12 | 10.4% | 180 | 15 | 8.3% |
| and a second second second | SB APPROACH | 568 | 29 | 5.1% | 556 | 18 | 3.2% |
| Martin Luther King Blvd | WBLT | 134 | 5 | 3.7% | 113 | 2 | 1.8% |
| | WB TH | 462 | 10 | 2.2% | 366 | 6 | 1.6% |
| | WB RT | 14 | 2 | 14.3% | 9 | 0 | 0.0% |
| | WB APPROACH | 610 | 17 | 2.8% | 488 | 8 | 1.6% |
| 2 | EB LT | 208 | 12 | 5.8% | 243 | 13 | 5.3% |
| | EB TH | 330 | 7 | 2.1% | 409 | 9 | 2.2% |
| | EB RT | 419 | 6 | 1.4% | 309 | 3 | 1.0% |
| And and a second se | EB APPROACH | 957 | 25 | 2.6% | 961 | 25 | 2.6% |
| | NB LT | 12 | 0 | 0.0% | 13 | 0 | 0.0% |
| | NB TH | 447 | 39 | 8.7% | 735 | 17 | 2.3% |
| | NB RT | 23 | 1 | 4.3% | 41 | 0 | 0.0% |
| | NB APPROACH | 482 | 40 | 8.3% | 789 | 17 | 2.2% |
| | SBLT | 23 | 0 | 0.0% | 18 | 0 | 0.0% |
| | SB TH | 692 | 36 | 5.2% | 423 | 24 | 5.7% |
| | SB RT | 36 | 2 | 5.6% | 18 | 0 | 0.0% |
| (1) | SB APPROACH | 751 | 38 | 5.1% | 459 | 24 | 5.2% |
| Avenue Y (1) | WBLT | 17 | 0 | 0.0% | 13 | 0 | 0.0% |
| 100-00 | WB TH | 15 | 0 | 0.0% | 17 | 0 | 0.0% |
| | WB RT | 25 | 1 | 4.0% | 34 | 1 | 2.9% |
| | WB APPROACH | 57 | 1 | 1.8% | 64 | 1 | 1.6% |
| | EBLT | 19 | 2 | 10.5% | 36 | 2 | 5.6% |
| | EB TH | 10 | 1 | 10.0% | 14 | 0 | 0.0% |
| | EBRT | 8 | 0 | 0.0% | 28 | 0 | 0.0% |
| | EB APPROACH | 37 | 3 | 8.1% | 78 | 2 | 2.6% |
| | NBLT | 32 | 0 | 0.0% | N/A | N/A | N/A |
| | NB TH | 0 | 0 | 0.0% | N/A | N/A | N/A |
| | NB RT | 14 | 0 | 0.0% | N/A | N/A | N/A |
| | NB APPROACH | 46 | 0 | 0.0% | N/A | N/A | N/A |
| | SBLT | 3 | 0 | 0.0% | N/A | N/A | N/A |
| | SB TH | 1 | 0 | 0.0% | N/A | N/A | N/A |
| | SB RT | 149 | 4 | 2.7% | N/A | N/A | N/A |
| Old Lucerne Park Rd | SB APPROACH | 153 | 4 | 2.6% | N/A | N/A | N/A |
| (West End) | WBLT | 4 | 0 | 0.0% | N/A | N/A | N/A |
| ,, | WB TH | 576 | 30 | 5.2% | N/A | N/A | N/A |
| | WB RT | 4 | 0 | 0.0% | N/A | N/A | N/A |
| | WB APPROACH | 584 | 30 | 5.1% | N/A | N/A | N/A |
| | EBLT | 51 | 4 | 7.8% | N/A | N/A | N/A |
| | EB TH | 448 | 26 | 5.8% | N/A | N/A | N/A |
| | EBRT | 14 | 0 | 0.0% | N/A | N/A | N/A |
| | EB APPROACH | 513 | 30 | 5.8% | N/A | N/A | N/A |

Table 2-7: Existing (2019) A.M. and P.M. Peak Hour Truck Volumes and Percentages

A review of the existing a.m. and p.m. peak hour truck volumes indicates that, with one exception, the a.m. peak hour volumes are higher than the p.m. peak hour volumes. The ratio of the a.m. and p.m. peak hour truck volume was calculated for each location and then the overall average ratio for the study corridor was calculated. The average overall ratio was equal to 1.50. A revised estimate of the 2025 and 2045 a.m. peak hour truck volumes was obtained by multiplying the initial estimate of the 2025 and 2045 a.m. peak hour truck volumes by 1.50. The revised 2025 and 2045 a.m. peak hour truck volumes by 1.50. The revised 2025 and 2045 a.m. peak hour truck volumes and percentages are provided in **Table 3-10**. The final recommended 2045 and 2025 peak hour truck volumes and percentages are provided in **Table 3-11** and **Table 3-12**, respectively. Based on these assumptions, the following SR 544 mainline peak hour truck percentages (i.e., T_{PKHP}-factors) are recommended for use in the SR 544 PD&E study:

Opening Year (2025) - AM Peak Hour

- 5.6% from Martin Luther King Boulevard to US 27
- 9.6% from US 27 to SR 17

Opening Year (2025) - PM Peak Hour

- 3.7% from Martin Luther King Boulevard to US 27
- 6.4% from US 27 to SR 17

Design Year (2045) - AM Peak Hour

- 4.5% from Martin Luther King Boulevard to US 27
- 8.1 % from US 27 to SR 17

Design Year (2045) - PM Peak Hour

- 3.0% from Martin Luther King Boulevard to US 27
- 5.4 % from US 27 to SR 17

Project Traffic Analysis Report FPID: 440273-1-22-01

Page 3-20

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

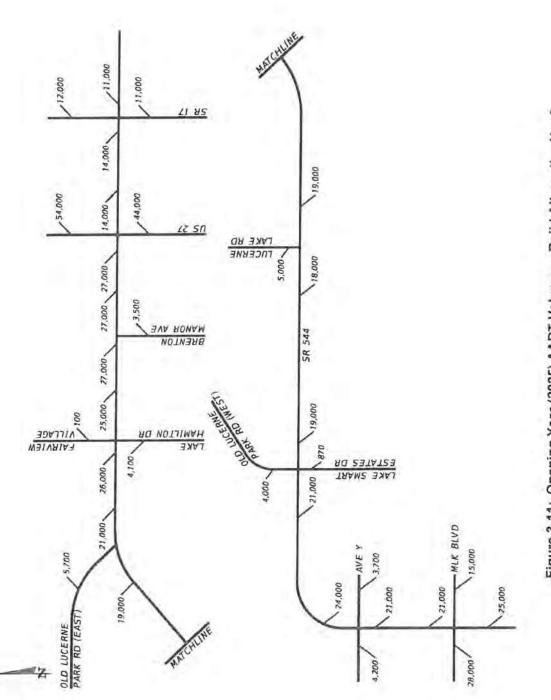


Figure 3-11: Opening Year (2025) AADT Volumes -Build Alternative No. 2

Project Traffic Analysis Report FPID: 440273-1-22-01

Page 3-15

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

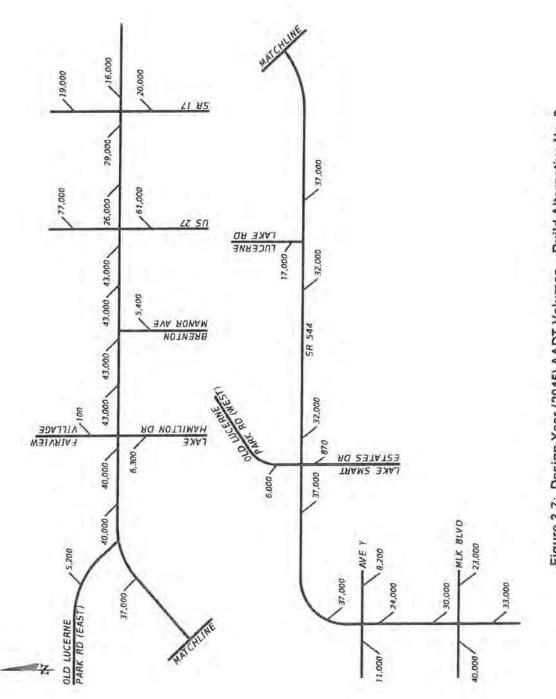
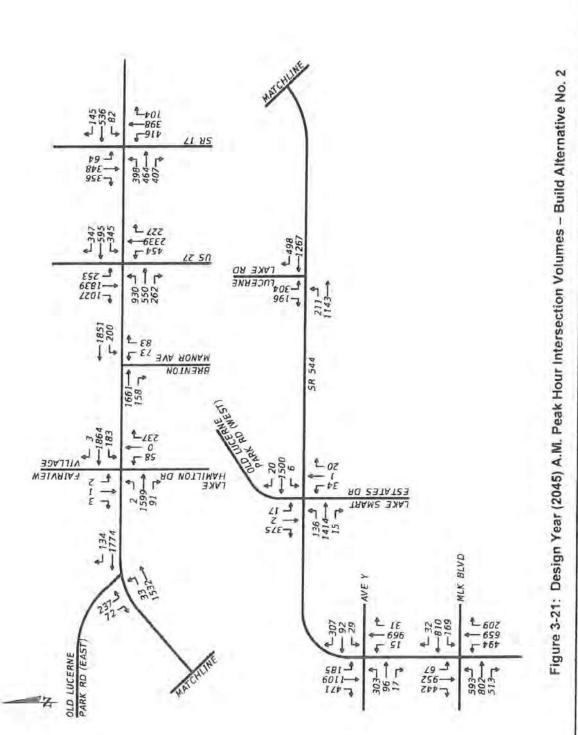


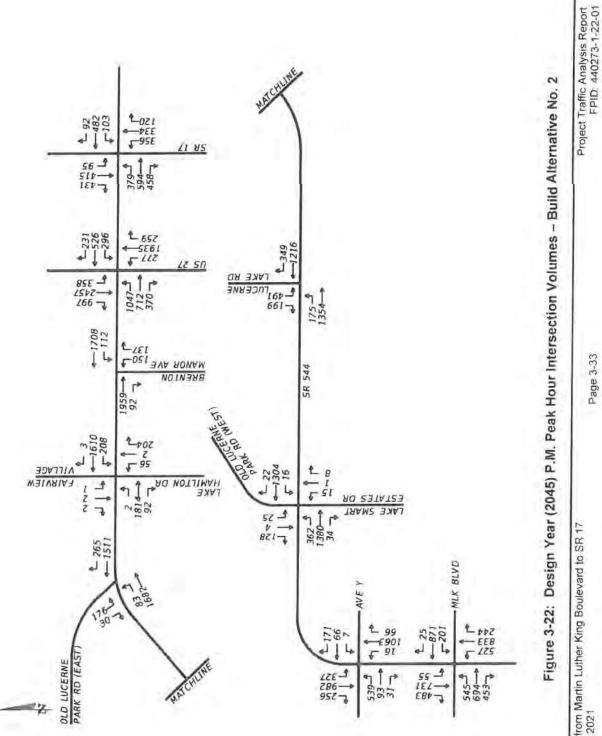
Figure 3-7: Design Year (2045) AADT Volumes - Build Alternative No. 2



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Page 3-32

Project Traffic Analysis Report FPID: 440273-1-22-01



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Page 3-33

| | 0 2013 | | 54571 EART | | | | | | |
|------|---------|------|------------|-----------|---------|-------------|------------|---------|--|
| | | | AN | И РЕАК НО | UR | | | | |
| EB | i LT | EB | TH | EB | RT | E | B APPROAC | Н | |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % | |
| 136 | 0.03 | 1414 | 0.05 | 15 | 0.00 | 1565 | 74.78 | 4.8% | |
| WE | 3 LT | WE | 3 TH | WE | 3 RT | W | /B APPROAG | CH | |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % | |
| 6 | 0.00 | 1500 | 0.05 | 20 | 0.03 | 1526 | 75.6 | 5.0% | |
| | | | PN | и реак но | UR | | | | |
| EB | s LT | EB | TH | EB | RT | EB APPROACH | | | |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % | |
| 362 | 0.03 | 1380 | 0.03 | 34 | 0.00 | 1776 | 52.26 | 2.9% | |
| WE | 3 LT | WE | 3 TH | WE | 3 RT | W | /B APPROAG | СН | |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % | |
| 16 | 0.00 | 1304 | 0.03 | 22 | 0.03 | 1342 | 39.78 | 3.0% | |

OLD LUCERNE PARK ROAD (WEST END) INTERSECTION DESIGN YEAR (2045) PEAK HOUR APPROACH TRUCK PERCENTAGES

| HSMV Reg Agency Re Reporting Form Type Crash Date Crash | Tim City County | Crash Street | Intersecting Street | Offset Dis Offset Di | Crach Tun Vahi | clos Non M | otorict Estalit | ios Injurios | Alcohol | R/ Dictroc | tion Drug F | Relai Estimated |
|---|--|------------------------------------|-----------------------------|----------------------|------------------------|------------|-----------------|--------------|------------|-------------|-------------|---------------------|
| | PM Winter HavPolk | | SR 544 LUCERNE PARK RD | 0 nset_bis onset_bis | Rear End | 2 | | | 1 N | _ne Distrac | N | \$200 |
| • • • | AM Unincorpo Polk | SR544 (LUCERNE PARK RD) | OLD LUCERNE PARK RD(WEST)* | 0 | Left Turn | 2 | 0 | | 2 N | N | N | \$10,000 |
| о , , , | AM Winter HavPolk | SR 544 | OLD LUCERNE PARK RD(WEST)* | 50 East | Rear End | 2 | 0 | | 0 N | N | N | \$7,000 |
| | PM Winter HavPolk | SR 544 | OLD LUCERNE PARK RD(WEST)* | 100 West | Rear End | 2 | 0 | | ON | N | N | \$1,000 |
| | AM Winter HavPolk | | SR 544 | 0 | Rear End | 2 | 0 | | 1 N | N | N | \$3,500 |
| | PM Winter HavPolk | SR 544 | OLD LUCERNE PARK RD(WEST)* | 0 | Rear End | 2 | 0 | | 0 N | N | N | \$3,500 |
| | PM Winter HavPolk | OLD LUCERNE PARK RD(WEST)* | . , | 0 | Rear End | 2 | 0 | - | 0 N | v | N | \$3,000 |
| • • • | PM Winter HavPolk | OLD LUCERNE PARK RD(WEST)* | | 0 | Rear End | 2 | 0 | | 0 N | N | N | \$2,000 |
| | PM Unincorpo Polk | OLD LUCERNE PARK ROAD(WEST) | | 0 | Other | 2 | 0 | · | 1 N | N | N | \$2,000 |
| • • • | PM Winter HavPolk | SR 544 | OLD LUCERNE PARK RD(WEST)* | 0 | Left Turn | 2 | 0 | | 2 N | N | N | \$20,000 |
| o , , | PM Winter HavPolk | | LUCERNE PARK RD | 0 | Rear End | 2 | 0 | | 0 N | N | N | \$400 |
| | PM Winter HavPolk | LUCERNE PARK RD | OLD LUCERNE PARK RD(WEST)* | 92 West | Rear End | 2 | 0 | | 0 N | N | N | \$3,000 |
| | AM Winter HavPolk | LUCERNE PARK RD | OLD LUCERNE PARK RD(WEST)* | 0 J2 West | Other | 2 | 0 | - | ON | N | N | \$8,000 |
| • • • • | PM Winter HavPolk | OLD LUCERNE PARK RD (WEST)* | | 21 North | Other | 2 | 0 | 0 | 1 N | N | N | \$7,000 |
| o , , | AM Winter HavPolk | SR 544 | OLD LUCERNE PARK RD(WEST)* | 122 West | Left Turn | 2 | 0 | | 2 N | N | N | \$8,000 |
| | AM Winter HavPolk | | LUCERNE PARK RD | 122 West | Left Turn | 2 | 0 | | 0 N | N | N | \$5,000 |
| o , , | AM Winter HavPolk | LUCERNE PARK RD | OLD LUCERNE PARK RD(WEST)* | 0 | Left Turn | 2 | 0 | - | 0 N | N | N | \$10,000 |
| | PM Winter HavPolk | OLD LUCERNE PARK RD (WEST)* | | 5 North | Rear End | 2 | 0 | - | ON | v | N | \$1,100 |
| | AM Winter HavPolk | | LUCERNE PARK RD | 0 | Left Turn | 3 | 0 | - | 3 N | N | N | \$12,000 |
| | AM Winter HavPolk | | LUCERNE PARK RD | 0 | Rear End | 2 | 0 | | 0 N | N | N | \$2,000 |
| | PM Winter HavPolk | LUCERNE PARK RD | OLD LUCERNE PARK RD(WEST)* | 163 West | Left Turn | 2 | 0 | - | ON | IN N | N | \$2,000 |
| | PM Winter HavPolk | OLD LUCERNE PARK RD (WEST)* | | 103 West | Angle | 2 | 0 | | 2 N | N | N | \$5,000 |
| • · · | AM Winter HavPolk | | LUCERNE PARK RD | 0 | Other | 2 | 0 | - | 0 N | N | N | \$7,000 |
| | PM Winter HavPolk | LUCERNE PARK RD | OLD LUCERNE PARK RD (WEST)* | 0 | Left Turn | 2 | 0 | | 3 N | IN N | N | \$18,000 |
| • • • | PM Winter HavPolk | OLD LUCERNE PARK RD (WEST)* | | 5 North | Rear End | 2 | 0 | - | 0 N | N N | N | \$4,800 |
| | AM Winter HavPolk | LUCERNE PARK RD (WEST) | LUCERNE PARK RD (WEST)* | 75 North | Rear End | 2 | 0 | - | 1 N | T N | N | \$1,000 |
| • • • | PM Winter HavPolk | | LUCERNE PARK RD (WEST)* | 75 North | Left Turn | 2 | 0 | | 2 N | N | N | |
| о , , , | PM Winter HavPolk | OLD LUCERNE PARK RD(WEST) | LUCERNE PARK RD (WEST)* | 0 | | 2 | 0 | | 1 N | N | N | \$20,000 \$3,000 |
| • • • | | | | 0 | Angle | 2 | 0 | | | IN N | | |
| 0 | PM Winter HavPolk AM Winter HavPolk | LUCERNE PARK RD LUCERNE PARK RD | OLD LUCERNE PARK RD (WEST)* | 0 | Left Turn Left Turn | 2 | 0 | | 1 N 2 N | N | N | \$11,000 |
| | AM Winter HavPolk AM Winter HavPolk | | OLD LUCERNE PARK RD (WEST)* | 0 | | 2 | 0 | | 0 N | IN N | N | \$10,000 |
| | | LUCERNE PARK ROAD | OLD LUCERNE PARK ROAD (WEST | | Left Turn | 2 | 0 | | | IN N | N | \$10,000 |
| 89339701 2019-0798 Winter HayLong 12/7/2019 6:52 | PM Winter HavPolk | LUCERNE PARK RD | OLD LUCERNE PARK RD (WEST)* | 0 | Angle | 2 | U | 0 | 0 N | N | N | \$2,000 |

| Weather_ | Light_Conc Street_Nu | I Crash_Type_D Crash_T | yp Crash_Sev(Within_C | it Manner_of_0 | CFirst_Harmful_First_HE_Locat | ti First_HE_Rela1First_HE_ | V Type_of_Inter Road_Sys | _Type_of_S | Road_Surf | Contrib_Ci Contrib_Ci Contrib_C | i Contrib_Ci Contrib_Ci Contrib_C | i School_Bu | Work_Zon |
|----------|----------------------|------------------------|-----------------------|----------------|-------------------------------|----------------------------|---------------------------|------------|-----------|---------------------------------|-----------------------------------|-------------|----------|
| Clear | Daylight | Rear End S | Injury Y | Front to Rear | Motor Vehicle On Roadway | Intersection N | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Left Entering E | Injury N | Angle | Motor Vehicle On Roadway | Intersection Y | T-Intersection State | Paved | Dry | None | None | N | N |
| Clear | Daylight | Rear End W | Property D Y | Front to Rear | Motor Vehicle On Roadway | Non-Junction N | T-Intersection State | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Rear End | Property D Y | Front to Rear | Motor Vehicle On Roadway | N | T-Intersection State | Unpaved | Dry | | | N | N |
| Clear | Daylight | Rear End W | Injury Y | Front to Rear | Other Non-Fix On Roadway | Non-Junction N | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Rear End | Property D Y | Front to Rear | Motor Vehicle On Roadway | Y | T-Intersection State | Unpaved | Dry | | | N | N |
| Clear | Daylight | Rear End S | Property D Y | Front to Rear | Other Non-Fix On Roadway | Non-Junction N | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Rear End E | Property D Y | Front to Rear | Motor Vehicle On Roadway | Non-Junction N | T-Intersection Local | Unpaved | Dry | | | N | N |
| Clear | Dark - Lighted | Single Vehicle | Injury N | Other | Motor Vehicle On Roadway | Intersection N | Y-Intersection County | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Left Entering E | Injury Y | Angle | Motor Vehicle On Roadway | Non-Junction Y | T-Intersection State | Paved | Dry | None | None | N | N |
| Clear | Daylight | Rear End S | Property D Y | Front to Rear | Motor Vehicle On Roadway | Intersection-R N | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Rear End | Property D Y | Front to Rear | Motor Vehicle On Roadway | Non-Junction N | Not at Interse Local | Curb | Dry | None | None | N | N |
| Clear | Dark - Not Lighted | Other E | Property D Y | Angle | Motor Vehicle On Roadway | Intersection-R N | T-Intersection Local | Unpaved | Dry | Unknown | Unknown | N | N |
| Rain | Daylight | Other E | Injury Y | Angle | Other Non-Fix On Roadway | Intersection-R Y | Y-Intersection Local | Paved | Wet | None | None | N | N |
| Clear | Dark - Unknown Light | ti Left Entering E | Injury Y | Angle | Motor Vehicle On Roadway | Non-Junction N | Not at Interse State | Unpaved | Dry | None | None | N | N |
| Clear | Dawn | Left Entering S | Property D Y | Angle | Other Non-Fix On Roadway | Non-Junction N | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Left Leaving | Property D Y | Angle | Motor Vehicle On Roadway | Non-Junction N | T-Intersection State | Paved | Dry | None | None | N | N |
| Clear | Daylight | Rear End | Property D Y | Angle | Motor Vehicle On Roadway | Non-Junction N | Not at Interse Local | Curb | Dry | None | None | N | N |
| Clear | Daylight | Left Leaving | Injury Y | Angle | Motor Vehicle On Roadway | Non-Junction Y | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Rear End | Property D Y | Front to Rear | Motor Vehicle On Roadway | Non-Junction N | T-Intersection Local | Curb | Dry | None | None | N | N |
| Clear | Daylight | Left Rear | Property D Y | Angle | Motor Vehicle On Roadway | Non-Junction N | Other State | Paved | Dry | None | None | N | N |
| Clear | Dark - Not Lighted | Right Angle SW | Injury Y | Angle | Motor Vehicle On Roadway | Non-Junction N | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Other S | Property D Y | Front to Rear | Motor Vehicle On Roadway | Non-Junction N | T-Intersection Local | Unpaved | Dry | None | Glare | N | N |
| Clear | Daylight | Left Leaving S | Injury Y | Angle | Motor Vehicle On Roadway | Non-Junction N | T-Intersection State | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Rear End S | Property D Y | Front to Rear | Motor Vehicle On Roadway | Non-Junction N | Not at Interse Local | Curb | Dry | None | None | N | N |
| Clear | Daylight | Rear End S | Injury Y | Front to Rear | Motor Vehicle On Roadway | Through Road N | Not at Interse Local | Paved | Dry | None | None | N | N |
| Clear | Daylight | Left Entering N | Injury Y | Angle | Motor Vehicle On Roadway | Non-Junction N | Other Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Right Angle SE | Injury Y | Angle | Motor Vehicle On Roadway | Non-Junction N | T-Intersection State | Unpaved | Dry | None | None | N | N |
| Rain | Daylight | Left Entering E | Injury Y | Angle | Motor Vehicle On Roadway | Intersection N | T-Intersection Local | Paved | Wet | None | Other | Y | N |
| Clear | Daylight | Left Entering S | Injury Y | Other | Motor Vehicle On Roadway | Non-Junction N | T-Intersection State | Paved | Dry | None | None | N | N |
| Clear | Daylight | Left Entering S | Property D Y | Angle | Motor Vehicle On Roadway | Non-Junction N | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Clear | Dark - Not Lighted | Right Angle SE | Property D Y | Angle | Motor Vehicle On Roadway | Non-Junction N | T-Intersection Interstate | Paved | Dry | None | None | N | N |
| | | | | | | | | | | | | | |

| Type_of_VLoc_in_Wt Workers_iLaw_Enfor Mooe Motorcycl Passenger Bicycliss Pedestriam Fatalities_Unjuries_Univarianame 0 | | | | | | | | |
|--|---|---|---|---|---|---|---|---|
| 0 | Type_of_v Loc_in_wc workers_II Law_Enfor Mopeds | | | | | | | |
| 0 | | | | | | | | |
| $\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | | | | |
| $\left \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | | - | | |
| $\left \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | | | | |
| $\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\left \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| $\left \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| $\left \begin{array}{cccccc} 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 &$ | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\left \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| $\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 0 | 0 | | 0 | 0 | 0 | 0 |
| $\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | 0 | | | | 0 | | 0 |
| 0 0 4 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | | | | | | | | |
| $\left(\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | - | | | | | | |
| $\left \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | | | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | - | | | | | | |
| 0 0 2 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<> | | | | | | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | | | | |
| 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | |
| 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 3 0 | | | | | | | | |
| 0 0 1 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | | | | |
| 0 0 3 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 <mark>0 0</mark> 0 0 | | | | | | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 0 4 0 0 0 0 | | 0 | | 0 | | | | |
| | | 0 | 0 | 4 | 0 | 0 | 0 | 0 |

Appendix B

FDOT Traffic Signal Warrant Study



RICK SCOTT GOVERNOR

801 North Broadway Avenue Bartow, FL 33830 MIKE DEW SECRETARY

MEMORANDUM

| April 19, 2018 |
|---|
| Nathan Kautz, P.E., Traffic Services Engineer III |
| Lorraine Edwards, Traffic Specialist IV |
| Tanya King, P.E., Traffic Services Engineer II |
| Signal Warrant Analysis for SR 544 at Old Lucerne Park Road/Lake Smart Estates Drive Roadway Section: 16140-000, M.P. 5.749 |
| |

Upon receiving a request from a citizen, the Traffic Operations Office conducted a signal warrant analysis at the intersection of SR 544 and Old Lucerne Park Road/Lake Smart Estates Drive. Traffic count data and delay studies were conducted at this intersection on February 5, 2018 and February 8, 2018 respectively.

A signal warrant analysis was performed using the procedure outlined in the Manual on Uniform Traffic Control Devices (MUTCD). The 8-hour traffic volumes were analyzed (see attached) for all nine warrants. However, the analysis shows that the 105 volume threshold for Warrant 1A was not met. The eight-hour volumes ranged from 33 vehicles between 7 AM and 8 AM to 8 vehicles between 12 PM and 1 PM. Warrant 1B was also considered, which accounts for delay at the intersection. The department considers excessive delay to be greater than or equal to 60 seconds. The delay at this intersection ranged from 15 seconds in the morning to 24 seconds in the afternoon for the northbound left/through approach and from 12 seconds in the morning to 10 seconds in the afternoon for the southbound approach, therefore Warrant 1B is not met.

Crashes were also evaluated at this intersection for the past three years (2015-2018). The only crashes that are considered correctable by a signal are angle crashes. There has to be five angle crashes per year for a signal to be considered at this intersection. In the past three years, 3 angle crashes occurred at this intersection.

Based on the analysis, the SR 544 at Old Lucerne Park Road/Lake Smart Estates Drive does not meet warrants for a signal.

Summary of Signal Warrant Analysis

| | Warrant | Applicable | Satisfied | Comments |
|------------|---------------------------------------|------------|-----------|--|
| 1A | Minimum Vehicular Volume | Yes | No | The side street traffic volumes do not meet the requirements of this warrant. |
| 1 B | Interruption of Continuous Traffic | No | No | The side street traffic does not suffer excessive delay. Therefore, this Warrant is not applicable. |
| 2 | Four Hour Vehicular Volume | Yes | No | The side street traffic volumes meet the requirements of this warrant. |
| 3 | Peak Hour | No | No | This warrant is not applicable. It is intended to be <i>applied only in unusual cases, such as office complexes, manufacturing plants, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.</i> |
| 4 | Pedestrian Volume | No | No | There were no observed pedestrians crossing SR 544 during the study period. |
| 5 | School Crossing | No | No | This warrant is not applicable. |
| 6 | Coordinated Signal System | No | No | This warrant is not applicable. |
| 7 | Crash Experience | Yes | No | Three correctable (angle) crashes were reported during the required 12-month period, which falls below the 5-crash minimum. Therefore, this warrant is not satisfied. |
| 8 | Roadway Network | No | No | This warrant is not applicable. |
| 9 | Grade Crossing | No | No | This warrant is not applicable. |

None of the standard warrants for signalization are met.

| TR | | a Department of Tran | • | | Form 750-020-(C ENGINEERING - 11/ ⁻ |
|---|---|---|--------------------------------|--|--|
| City:Winter HeCounty:16 – PeDistrict:One | olk | Er | ngineer: Date: | LE April 17, 2018 | |
| Major Street: Minor Street:Lake | SR 544 Smart Estates Dr | | nes: <u>1</u> nes: <u>1</u> | Major Approach Spee Minor Approach Spee | |
| CONCLUSIONS Remarks: None of the warrants fo | or signalization are | met. | | | |
| WARRANTS SATISFIED: | Warrant 1 Warrant 2 Warrant 3 Warrant 4 Warrant 5 Warrant 6 Warrant 7 Warrant 8 Warrant 9 | Not Applicable | | | |

| • | | | | | | | | Eng | - | | LE | | |
|---|---|--|--|--|---|-----------------|--|---|---|--|--------------|-------|---|
| County: District: | | 1 | 6 – Poll One | k | | | | | Date: | | April 17, 20 | 018 | |
| | | | | SD 544 | | | | 1.00 | 001 1 | Mai | or Approach | Speed | |
| Minor Street: | | | Lake S | | | r | | | | | | | |
| TCD Electro | TRAFFIC SIGNAL WA Stret: Winter Heaven ounty: 16 - Polk istrict: Strett: SR 544 Strett: Lake Smart Estates Dr Electronic Reference to Chapter 4: http://mutcd.fhwa.dot. evel Criteria the posted speed or 85th-percentile of major street > 40 m the intersection in a built-up area of an isolated communit. " volume level may be used if Question 1 or 2 above is an WAT 1 - EIGHT-HOUR VEHICULAR VOLUME Warrant 1 is satisfied if Condition A or Condition B Warrant 1 is also satisfied if both Condition A a Warrant 1 is also satisfied if both Condition A a Warrant 1 is also satisfied if both Condition A a Warrant 1 is also satisfied if both Condition A a Warrant 1 is also satisfied if both Condition A a Warrant 1 is also satisfied if both Condition A a Warrant 1 is also satisfied if both Condition A a Warrant 1 is also satisfied if both Condition A a Warrant 1 is also satisfied if both Condition A a Major 100%a Major 100%a Major 100%a Major 100%a 1 500 2 or more 2 or more 2 or more 2 or more 1 600 1 | | | | | | .dot.go | //pdfs/2009 |)r1r2/part4 | .pdf | | | |
| | | | | | | | | · | | | | | |
| | | ed or 85 | th-perce | entile of r | naior st | reet > 4 | 40 mph | (70 km/h)? | > | | ⊡ Yes | □No | |
| - | - | | - | | - | | - | | | 000? | □ Yes | | |
| | | | - | | | | - | | | | | | |
| "70%" volun | ne level i | may be ι | used if C | Question | 1 or 2 a | above i | s answ | ered "Yes" | | | ☑ 70% | 100% | |
| | | | | | | | | | | | | | |
| ARRANT 1 | - EIGH | T-HOU | R VEH | IICULA | R VOL | UME | | | | | | | |
| | County: 16 - Polk Date: April 17, 2018 District: One Date: April 17, 2018 ajor Street: Isko Smart Estates Dr Lanes: 1 Major Approach Speed: 55 ador CD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.aov/pdfs/2009r1/2/part4.ndf Minor Approach Speed: 40 CD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.aov/pdfs/2009r1/2/part4.ndf Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? Ives No 21. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? Ives No No 70% 'volume level may be used if Question 1 or 2 above is answered "Yes" I00% 100% 70% 'volume level may be used if Question 1 or 2 above is answered "Yes" I00% Satisfied. Yes No RRANT 1 - EIGHT-HOUR VEHICULAR VOLUME Warrant 1 is satisfied if both Condition A and Condition B are "80%" satisfied. Yes No Condition A is intended for application at locations where a large volume of theresecting traffic is the principal reason to consider installing a traffic control a0%. Satisfied: Yes No N/A Number of Lanes for moving traffic is 0 both approach Yes No N/A 1 500 400 | | | | | | | | | | | | |
| | Wai | rant 1 is | also sa | tisfied if l | both Co | ndition | A and | Condition E | 3 are "80% | " satisfied | I. 🗌 Yes | ⊡ No | |
| | A A.I! | | | Val | | | | | | | | | |
| Condition A | A - Minir | num Ver | nicular | Volume | | | | | 1000 | | | | |
| | | | • | | | | 0 | | | | | | |
| - | traffic is | the princ | cipal rea | ison to co | onsider | installi | ng a tra | ffic control | 80% | 6 Satisfied | d: 🗌 Yes | 🗹 No | |
| sianal | | | | | | | | | | | | | |
| signal. | | | | | | | | | 70% | 6 Satisfied | d: 🗌 Yes | 🗹 No | [|
| signal. | | | | | | | | | 70% | 6 Satisfied | d: □Yes | ⊡ No | 1 |
| | l anes : | for movi | ng V | | - | | - | Vehicles | | | 7 | ⊡ No | [|
| Number of | | | ng | stree | t (total | of bot | - | | per hour | on minor | 7 | ⊡ No | 1 |
| Number of traffic or | | pproach | ng 1 | stree ar | t (total oproach | of bot nes) | h | street (c | per hour one direct | on minor ion only) | 7 | ⊡ No | 1 |
| Number of traffic or Major | | pproach Minor | ng 1 | stree [°] ar 100% ^a | t (total oproach 80% | of bot nes) | h 70% ^c | street (c 100% ^a | per hour one direct 80% ^b | on minor ion only) 70% ^c | 7 | . No | I |
| Number of traffic or Major 1 2 or more | e each a | ipproach Minor 1 | ng 1 | stree ap 100% ^a 500 600 | t (total proact 80% 400 480 | of both nes) | 70%^c 350 420 | street (c 100% ^a 150 150 | per hour one direct 80% ^b 120 120 | on minor ion only) 70% ^c 105 105 | 7 | √ No | I |
| Number of traffic or Major 1 2 or more | e 2 | Minor 1 1 2 or more | | stree ap 100% ^a 500 600 600 | t (total proach 80% 400 480 480 | of bot nes) | 70%^c 350 420 420 | street (c 100% ^a 150 150 200 | per hour 80% ^b 120 120 160 | on minor ion only) 70% ^c 105 105 140 | 7 | √ No | I |
| Number of traffic or Major 1 2 or more 2 or more 1 | e 2 | Minor 1 1 2 or more 2 or more | | stree ap 100% ^a 500 600 600 | t (total proach 80% 400 480 480 | of bot nes) | 70%^c 350 420 420 | street (c 100% ^a 150 150 200 | per hour 80% ^b 120 120 160 | on minor ion only) 70% ^c 105 105 140 | 7 | √ No | I |
| Number of traffic or Major 1 2 or more 2 or more 1 ° Basic Minim | e 2 num hourly | Minor 1 1 2 or more 2 or more y volume | ng 1 | stree ap 100% ^a 500 600 600 500 | t (total pproach 80% 400 480 480 480 | of both nes) | 70%^c 350 420 420 350 | street (c 100% ^a 150 150 200 200 | per hour one direct 80% ^b 120 120 160 160 | on minor ion only) 70% ^c 105 105 140 | 7 | | 1 |
| Number of traffic or Major 1 2 or more 2 or more 1 ^a Basic Minim ^b Used for cor | e 2 ium hourly mbination | Minor 1 2 or more 2 or more y volume of Condit | ng 1 | stree ap 500 600 500 500 | t (total pproach pproach 80% 400 480 480 480 480 480 480 480 480 480 | of both nes) | 70%^c 350 420 350 350 | street (c 100% ^a 150 150 200 200 emedial mea | per hour 80% ^b 120 120 160 160 | on minor ion only) 70% ^c 105 105 140 140 | | | |
| Number of traffic or Major 1 2 or more 2 or more 1 ^a Basic Minim ^b Used for cor | e 2 ium hourly mbination | Minor 1 2 or more 2 or more y volume of Condit | ng 1 | stree ap 500 600 500 500 | t (total pproach pproach 80% 400 480 480 480 480 480 480 480 480 480 | of both nes) | 70%^c 350 420 350 350 | street (c 100% ^a 150 150 200 200 emedial mea | per hour 80% ^b 120 120 160 160 | on minor ion only) 70% ^c 105 105 140 140 | | | |
| Number of traffic or Major 1 2 or more 2 or more 1 ^a Basic Minim ^b Used for cor ^c May be used | e e 2 e 2 num hourly mbination d when th | Minor 1 2 or more 2 or more y volume of Condit e major-sl | ng n | stree ap 100% ^a 500 600 500 500 md B after ed exceed | t (total pproach 80% 400 480 480 480 480 480 480 480 480 480 | of both nes) | n 70% ^c 350 420 350 f other r an isola | street (c 100% ^a 150 200 200 emedial mea aed commun | per hour one direct 80% ^b 120 120 160 160 asures ity with a po | on minor ion only) 70% ^c 105 105 140 140 140 | less than 10 | | |
| Number of traffic or Major 1 2 or more 2 or more 1 ^a Basic Minim ^b Used for cor ^c May be used | e e 2 e 2 num hourly mbination d when th | Minor 1 2 or more 2 or more y volume of Condit e major-sl | ng n | stree ap 100% ^a 500 600 500 500 nd B after ed exceed | t (total pproach 80% 400 480 480 480 480 480 480 480 480 480 | of both nes) | n 70% ^c 350 420 350 f other r an isola | street (c 100% ^a 150 200 200 emedial mea aed commun | per hour one direct 80% ^b 120 120 160 160 asures ity with a po | on minor ion only) 70% ^c 105 105 140 140 140 | less than 10 | | 1 |
| Number of traffic or Major 1 2 or more 2 or more 1 ^a Basic Minim ^b Used for cor ^c May be used | e e 2 e 2 num hourly mbination d when th | Minor 1 2 or more 2 or more y volume of Condit e major-sl | ng n | stree ap 100% ^a 500 600 500 500 nd B after ed exceed | t (total pproach 80% 400 480 480 480 480 480 480 480 480 480 | of both nes) | n 70% ^c 350 420 350 f other r an isola | street (c 100% ^a 150 200 200 emedial mea aed commun | per hour one direct 80% ^b 120 120 160 160 asures ity with a po | on minor ion only) 70% ^c 105 105 140 140 140 | less than 10 | | |
| Number of traffic or Major 1 2 or more 2 or more 1 ^a Basic Minim ^b Used for cor ^c May be used <i>Record 8 high</i> | e 2 e 2 num hourty mbination d when th | Minor 1 2 or more 2 or more y volume of Condit e major-st s and the | ng n | stree ap 100% ^a 500 600 500 500 nd B after ed exceed onding map nt Highes | t (total pproach 80% 400 480 480 480 480 480 400 adequal ds 40 mp jor-street st Hour | of both nes) | n 70% ^c 350 420 420 350 f other r an isola <i>inor-stre</i> | street (c 100% ^a 150 200 200 200 200 emedial mea ted commun et volumes i | per hour one direct 80% ^b 120 120 160 160 asures ity with a po | on minor ion only) 70% ^c 105 105 140 140 140 | less than 10 | | |
| Number of traffic or Major 1 2 or more 2 or more 1 ^a Basic Minim ^b Used for cor ^c May be used <i>Record 8 high</i> | e 2 e 2 num hourty mbination d when th | Minor 1 2 or more 2 or more y volume of Condit e major-st s and the | ng n | stree ap 100% ^a 500 600 500 500 nd B after ed exceed onding map nt Highes | t (total pproach 80% 400 480 480 480 480 480 400 adequal ds 40 mp jor-street st Hour | of both nes) | n 70% ^c 350 420 420 350 f other r an isola <i>inor-stre</i> | street (c 100% ^a 150 200 200 200 200 emedial mea ted commun et volumes i | per hour one direct 80% ^b 120 120 160 160 asures ity with a po | on minor ion only) 70% ^c 105 105 140 140 140 | less than 10 | | |
| Number of traffic or Major 1 2 or more 2 or more 1 ^a Basic Minim ^b Used for cor ^c May be used <i>Record 8 high</i> | e 2 e 2 num hourty mbination d when th | Minor 1 2 or more 2 or more y volume of Condit e major-st s and the | ng n | stree ap 100% ^a 500 600 500 500 nd B after ed exceed onding map nt Highes | t (total pproach 80% 400 480 480 480 480 480 400 adequal ds 40 mp jor-street st Hour | of both nes) | n 70% ^c 350 420 420 350 f other r an isola <i>inor-stre</i> | street (c 100% ^a 150 200 200 200 200 emedial mea ted commun et volumes i | per hour one direct 80% ^b 120 120 160 160 asures ity with a po | on minor ion only) 70% ^c 105 105 140 140 140 | less than 10 | | |
| Number of traffic or Major 1 2 or more 2 or more 1 ^a Basic Minim ^b Used for cor ^c May be used <i>Record 8 high</i> Street | e 2 e 2 num hourly nbination d when th hest hours | Minor 1 1 2 or more y volume of Condit e major-st s and the | ions A au treet spe correspo Eigh | stree ap 100% ^a 500 600 500 500 nd B after ed exceed anding ma t Higher | t (total pproach 80% 400 480 480 480 480 480 480 480 | of both nes) | n 70% ^c 350 420 350 of other r an isola <i>inor-stree</i> | street (c 100% ^a 150 200 200 200 emedial mea ted commun et volumes i 1,136 | per hour one direct 80% ^b 120 120 160 160 asures ity with a po | on minor ion only) 70% ^c 105 105 140 140 140 | less than 10 | | |
| Number of traffic or Major 1 2 or more 2 or more 1 ^a Basic Minim ^b Used for cor ^c May be used <i>Record 8 high</i> Street | e 2 e 2 num hourly nbination d when th hest hours | Minor 1 1 2 or more y volume of Condit e major-st s and the | ions A au treet spe correspo Eigh | stree ap 100% ^a 500 600 500 500 nd B after ed exceed anding ma t Higher | t (total pproach 80% 400 480 480 480 480 480 480 480 | of both nes) | n 70% ^c 350 420 350 of other r an isola <i>inor-stree</i> | street (c 100% ^a 150 200 200 200 emedial mea ted commun et volumes i 1,136 | per hour one direct 80% ^b 120 120 160 160 asures ity with a po | on minor ion only) 70% ^c 105 105 140 140 140 | less than 10 | | |

State of Florida Department of Transportation TRAFFIC SIGNAL WARRANT SUMMARY

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

| Applicable: | □Yes | 🗹 No | |
|-----------------|------|------|--|
| 100% Satisfied: | Yes | 🗹 No | |
| 80% Satisfied: | Yes | √No | |
| 70% Satisfied: | Yes | No | |

| | nes for moving ch approach | | per hour o t (total of b proaches | ooth | Vehicles per hour on minor- street (one direction only) | | | | |
|-----------|-------------------------------|-------------------|---|------|--|------------------|------------------|--|--|
| Major | Minor | 100% ^a | 80% ^b | 70%° | 100% ^a | 80% ^b | 70% [°] | | |
| 1 | 1 | 750 | 600 | 525 | 75 | 60 | 53 | | |
| 2 or more | 1 | 900 | 720 | 630 | 75 | 60 | 53 | | |
| 2 or more | 2 or more | 900 | 720 | 630 | 100 | 80 | 70 | | |
| 1 | 2 or more | 750 | 600 | 525 | 100 | 80 | 70 | | |

^a Basic Minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

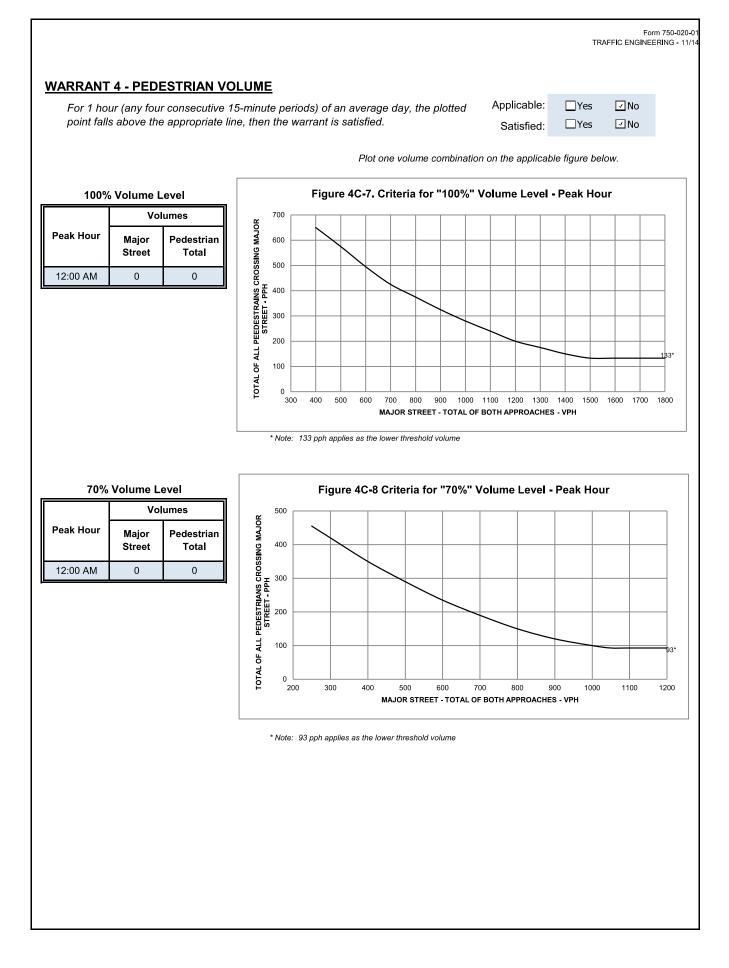
| | | Eiç | ght High | est Hou | rs | | | |
|--------|-------|-----|----------|---------|-------|-------|-------|-------|
| Street | 7-8 | 8-9 | 10-11 | 11-12 | 13-14 | 14-15 | 15-16 | 16-17 |
| Major | 1,057 | 942 | 871 | 893 | 918 | 946 | 1,034 | 1,136 |
| Minor | 33 | 18 | 7 | 9 | 10 | 8 | 13 | 20 |

Existing Volumes

| | ity: | Winter H | | | | | E | Engine | | | | LE | | |
|--------------------------|-----------------|-----------------|------------------------------|----------------------------|--------------|-------------------|-------------------------|----------------|------------------|--------------|------------|----------------------|-------------|-----|
| Cour Distr | | 16 – P One | | | | | | Da | ate: | | A | oril 17, 20 |)18 | |
| | | | SR 544 | 4 | | | | | 4 | | Major | Approach | Speed | |
| Major Stre Minor Stre | | Lake | e Smart Es | | r | | - | anes: anes: | 1 1 | _ | | Approach Approach | - | |
| IUTCD Elect | ronic Refe | rence to Cha | nter 4: | http://m | utcd.fhw | a dot ac | – v/ndfs | /2009 | r1r2/n | - art4 no | łf | | - | |
| | | | | <u></u> | | uluoligi | <u>, mpulo</u> | 12000 | | | <u></u> | | | |
| olume Leve | | eed or 85th-p | orcontilo of | major | troot > / | 10 mnh | (70 km | v/h\2 | | | | 🗹 Yes | No | |
| | | n in a built-up | | - | | | | | ion < 1 | 0 000 | ? | Ves | ⊡ No | |
| | | | | | | - | | | | 0,000 | | | | |
| "70%" vo | lume level | may be used | l if Questio | n 1 or 2 | above i | s answe | red "Y | es" | | | | 🗹 Yes | 🗌 No | |
| VARRANT | 2 - FOUI | R-HOUR VI | EHICULA | | UME | | | | | | | | | |
| | | | | | | ront is a | otiofia | d | | Applic | cable: | 🗹 Yes | 🗌 No | |
| n an ioui | points lie | above the ap | propriate il | ne, men | line war | rant is s | สแรกย | u. | | Sati | sfied: | ☐ Yes | 🗹 No | |
| | | | 1 | | Plot four | volume | combin | ations | on the | | NO-SAN | re below. | | |
| | | | | | | | | | | | | ne Level | | |
| 100% | Volume Le | | | 500 | | | | | | | Volui | IIE Level | |] |
| Four Highest | | imes | HdA | 400 | | | 20 | OR MORE | LANES & 2 | | LANES | | | - |
| Hours | Major Street | Minor Street | ACH - | 200 | | \checkmark | $\left \times \right $ | | | | | | | |
| 7-8 | 1057 | 33 | MINOR STREET MINOR STREET | 300 | | $\langle \rangle$ | \searrow | | | | ELANES & | 1 LANE | | 1 |
| 8-9 | 942 | 18 | | 200 | | | | | $\left[\right]$ | \geq | 1 LANE & | | | |
| 13-14 | 918 | 13 | | 100 - | | | | | \geq | | | | | |
| 14-15 | 946 | 20 | 위 | | | | | | | | | | | *1' |
| | | | | 0 L 300 | 400 | 500 6 | | | | | | 1200 1200 | 1300 14 | 400 |
| | | | * Note: 1 | 15 vph app | | | | | | | | h two or more | e lanes and | |
| | | | 8 | 0 vph appli | es as the lo | ower thresh | old volun | ne thres | hold for a | minor s | treet appi | roach with on | e lane. | |
| | | | | | 51 | | 40-2. | Critor | ia for | "70% | " Volu | me Level | | |
| 70% \ | /olume Le | vel | | | | | | | | | | mph) on Majo | | |
| Four | | imes | | ⁴⁰⁰ н | | | | | | | | | | |
| Highest | Major | Minor | | 2 5 300 | | X | 2 01 | | ANES & 2 (| DR MORE I | | _ | | |
| Hours | Street | Street | | PROA | | | \searrow | 20 | R MORE L | ANES & 1 | LANE | | | |
| 7-8 | 1057 | 33 | | HIGH VOLUME APPROACH - VPH | | | \ltimes | \geq | $ \downarrow $ | | | | | ł |
| 8-9 | 942 | 18 | | VOLU | | | | \uparrow | \neg | _ | 1 LANE 8 | 1 LANE | | ĺ |
| 13-14 | 918 | 13 | | 100 · | | | | + | \rightarrow | | | \geq | | *8 |
| 14-15 | 946 | 20 | | _ | | | | | | | | | | *6 |
| | | | | 0 L 20 | 0 30 | 00 4 | 00 | 500 | 600 | 7 | 00 | 800 9 | 900 10 | 000 |

| | TRAFI | | Department of T | ransportation | RY | Form TRAFFIC ENGINEER | n 750-0 RING - |
|---|--|--|---------------------------------------|--|--------------------------------------|--|-------------------|
| City: County: District: | 16 – Po | | | Engineer: Date: | April | LE 17, 2018 | |
| Major Street: Minor Street: | | SR 544 Smart Estates | | Lanes: 1 Lanes: 1 | Minor App | proach Speed: proach Speed: | 55 40 |
| Volume Level Critt 1. Is the poste 2. Is the inters "70%" volume | eria ed speed or 85th-pero section in a built-up a level may be used if | centile of major s rea of an isolate | street > 40 mph (d community with | 70 km/h)? n a population < 10, | ,000? | ✓ Yes No Yes ✓ No ✓ 70% 100% | |
| WARRANT 3 - F | eria are fulfilled <u>or</u> th ant is satisfied. justifying use of | e plotted point li | | propriate line, | Satisfied: | Yes INO Yes INO | |
| Peak Hour 7 Time Maj 12:00 AM | riteria are fulfilled ig delay or volume rovided. 0% Volume or Vol. Minor Vol. | 600 MINOR STREET HICH VOLUME APPROACH - VPH 100 0 400 - Vote: 150 vph ar | 500 600 700 E MAJOR STR | | CR MORE LANES | ILANE & 1 LANE | *150 *100 |
| 1. Delay on Min *(vehicle Approach Lanes Delay Criteria* Delay* Fulfilled?: 2. Volume on M One-Direction *(ve Approach Lanes Volume Criteria* Volume* | hor Approach hours) 1 2 4.0 5.0 1.5 Yes No inor Approach | | FIGURE 4 | Shold volume threshold for a | o%" Volume | Ach with one lane. | *100 |
| 3. Total Interse Volume *(vehic No. of Approaches Volume Criteria* Volume* Fulfilled?: | • 1 | 0 | MAJOR STREE | 00 700 800 ET - TOTAL OF BOTH APPRO shold volume for a minor strr hold volume threshold for a i | DACHES - VPH eet approach with tv | 1100 1200 1300 vo or more lanes and | *75 |

| Cit Count | | Winter He 16 – Po | | | | | | Engine | eer: ate: | | ۸n | LE ril 17, 20 | 10 | |
|---------------------|-----------------|--------------------------------------|--|-------------|---------------|---------------|---------|-----------|--------------|----------------------------|----------|------------------------------------|---------------|-------------|
| Distrie | | One | лк | | | | | Da | ate. | | Ар | 111 17,20 | 10 | _ |
| Major Stree | | Laka | SR 54 Smart E | | | | _ | Lanes: | 1 | | | Approach Speed: Approach Speed: | | |
| Minor Stree | | | | | | | | Lanes: | 1 | - | anor A | Approach | Speed: | 4 |
| JTCD Electr | onic Refe | rence to Chapt | er 4: <u>ht</u> | tp://mutc | d.thwa.d | ot.gov/p | odts/2 | 009r1r2 | 2/part4 | .pdf | | | | |
| lume Level | | | | | | | | | | | | | | |
| | | eed or 85th-per n in a built-up a | | - | | | | - | n < 10 | 0002 | | ⊡Yes □Yes | □ No ☑ No | |
| | | | | | | - | | - | | ,000. | | | | |
| "70%" voli | ume level | may be used if | Question | n 1 or 2 : | above is | answer | ed "Y | es" | | | | ☑ 70% | ☑ 100% | |
| ARRANT | 4 - PEDE | ESTRIAN VO | LUME | | | | | | | | | | | |
| | | ours of an aver | | the plott | ed points | s lie abo | ove th | е | | Applica | ble: | Yes | 🗹 No | |
| appropriat | te line, the | en the warrant i | s satisfied | d. | | | | | | Satist | fied: | Yes | No | |
| | | | | | DL.(| | | | | | | | | |
| 100% | Volume L | .evel | [| | | | | | | | | gure belov | <i>N.</i> | |
| | | umes | | | Fig | ure 4C- | 5. Cri | iteria fo | or "100 |)%" Vol | ume l | Level | | |
| ur Highest Hours | Major | Pedestrian | | 00 | | | | | | | | | | |
| | Street | Total | | 00 | | | | | | | | | | _ |
| 7-8 8-9 | 1057 | 0 | ROSSII | 00 | | | | | | | | | | |
| 13-14 | 942 918 | 0 | AINS C | | | | | | | | | | | |
| 14-15 | 946 | 0 | DESTR DESTR | 00 | | | | | | | | | | |
| | | · | AL OF ALL PEEDESTRAINS CROSSING MAJOR 11 STREET - PPH 12 75 15 | 00 | | | | | | | <u> </u> | | | <u>1</u> 0; |
| | | | OF AL | 0 | | | | | | | | | | |
| | | | TOTAL | 000 | 400 50 | | | | | 900 10 OTH APPRO | | 1100 120 • VPH | 00 1300 | 140 |
| | | | | lata: 107 p | ph applies a | | | | | | | | | |
| | | | , | vole. 107 p | pri applies a | s the lowe | i unesn | | , | | | | | |
| 70% ۱ | /olume L | evel | | | Fie | aure 40 | -6 Cr | iteria fe | or "70° | %" Volu | ıme L | evel | | |
| ur Highest | | umes | 40 | 00 | | | | | | | | | | _ |
| Hours | Major Street | Pedestrian Total | ONISSO | | | | | | | | | | | |
| 7-8 | 1057 | 0 | NS CRC | 00 | | | | _ | | | | | | |
| 8-9 | 942 | 0 | STRIAN SEET - I | 00 | | \rightarrow | _ | | | | | | | _ |
| 13-14 | 918 | 0 | - ALL PEDESTRIANS CROSSING MAJOR STREET - PPH 11 12 12 12 12 12 12 12 12 12 12 12 12 | | | | | + | \square | | | | | |
| 14-15 | 946 | 0 | | 00 | | | | | \neg | | | | | |
| | | | | | | | | | | | | | | [|



| State of Flor TRAFFIC SIGI | rida Department of ⁻ | | | | TRAFFIC EN | Form 750-020 GINEERING - 1 |
|--|---------------------------------|----------------------|---------------------------|-----------------|------------------------|-------------------------------|
| City: Winter Heaven County: 16 – Polk | | Engineer: Date: | | LE April 17, | 2018 | |
| District: One Major Street: SR 544 Minor Street: Lake Smart Estates Du | r | Lanes: 1 Lanes: 1 | | | ch Speed: ch Speed: | 55 40 |
| MUTCD Electronic Reference to Chapter 4: <u>http://mu</u> | itcd.fhwa.dot.gov/pd | lfs/2009r1r2/pa | art4.pdf | | | |
| WARRANT 5 - SCHOOL CROSSING Record hours where criteria are fulfilled and the co frequency in the boxes provided. The warrant is sa criteria are fulfilled. | | | Applicable: Satisfied: | Yes Yes | ✓ No ✓ No | |
| Cri | iteria | | | | Fulfi | lled? |
| There are a minimum of 20 students crossing the r 1. the highest crossing hour. | | Students: 0 | Ho | ur: | Yes | No X |
| There are fewer adequate gaps in the major street 2. when the children are using the established schoo minutes in the same period. | | g the period | Minutes: | Gaps: | | x |
| The nearest traffic signal along the major street is 3. signal is within 300 ft. (90 m) but the proposed traf traffic. | | | | | | x |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| City: County: District: | Winter Heaven 16 – Polk One | Engineer: Date: | LE April 17, 2 | 018 | |
|---|---|--|---|-------|----------|
| Major Street: Minor Street: //UTCD Electi | SR 544 Lake Smart Estates Dr onic Reference to Chapter 4: <u>http://mutcd.fhwa.dot.gov/p</u> | Lanes: 1 Lanes: 1 odfs/2009r1r2/ | Major Approach Minor Approach part4.pdf | | 55 40 |
| Indicate if if either cri | 6 - COORDINATED SIGNAL SYSTEM he criteria are fulfilled in the boxes provided. The warrant rerion is fulfilled. This warrant should not be applied when gnal spacing would be less than 300 m (1,000 ft.). | | Applicable: □Ye Satisfied: □Ye | | |
| | Criteria | | | Fulfi | lled? |
| | | | | Yes | No |
| | vay street or a street that has traffic predominately in one at they do not provide the necessary degree of vehicle pla | | adjacent signals are sc | | х |
| | ay street, adjacent signals do not provide the necessary of and adjacent signals will collectively provide a progressive | | ooning, and the | | х |
| | | | | | |

| District: One nor Street: Image: | City: | | | Engineer: | | | | | | | | | | |
|--|-----------------|---|--------|-----------|----------|------|---------|----------|------------|-----------|---------|-------|---------------|-----|
| ijor Street: SR 544 Lanes: 1 Major Approach Speed: 55 hor Street: Lake Smart Estates Dr Lanes: 1 Major Approach Speed: 40 TCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf RRANT 7 - CRASH EXPERIENCE Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled. Criteria Move Satisfied Move Satisfied Move Satisfied Move Satisfied: Yes No Satisfied: Yes No Satisfied: Yes No Major Minor Yes No Warrant 1, Condition A (80% satisfied) A Satisfied Satisfied Satisfied Warrant 1, Condition B (80% satisfied) A Satisfied Satisfied Satisfied Warrant 1, Condition B (80% satisfied) A Satisfied Satisfi | | | _ | | | | | Date: | | Apr | il 17,∶ | 2018 | | |
| Interview Int | District. | | _ | | | | | | | | | | | |
| TCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf RRCANT 7 - CRASH EXPERIENCE Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled. Applicable: Yes No Satisfied: Yes No Vector of fulfilled. Warrant 1, Condition A (80% satisfied) Hour Volume Met? Fulfilled? Warrant 1, Condition A (80% satisfied) Auge X X Warrant 1, Condition B (80% satisfied) Auge X X Warrant 1, Condition B (80% satisfied) Auge X X Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. Measure tried: No Adequate trial of other remedial measure has failed to reduce crash frequency. Measure tried: Number of crashes of types susceptible to correction by signal, have occurred within a 12- Chash Angle Number of crashes of crashes of types susceptible to correction by signal, have occurred within a 12- Chash Angle Number of crashes of crashes of types susceptible to criteria Manuple not crashes of crashes of types susceptible to crash | ajor Street: | | | | | | | | | | | | | |
| RRANT 7 - CRASH EXPERIENCE Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled. Applicable: Yes No Satisfied: Yes No Satisfied: Yes No One of the warrant 1, Condition A (80% satisfied) Warrant 1, Condition B (80% satisfied) Image: Colspan="2">Image: Colspan="2">Mo Warrant 1, Condition B (80% satisfied) Image: Colspan="2">Image: Colspan="2">X Warrant 1, Condition B (80% satisfied) Image: Colspan="2">X Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. Image: Colspan="2">X Adequate trial of other remedial measure has failed to reduce crash frequency. Measure tried: Image: Colspan="2">No Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Crash Angle Number of crash | inor Street: | Lake Smart Estates D | ۱r | | | | Lar | nes: | <u>1</u> N | /linor Ap | proac | h Spe | ed: | 40 |
| Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled. Applicable: Yes No Satisfied: Yes No Satisfied: Yes No Satisfied: Yes No Yes No Yes No <tr< td=""><td>JTCD Elect</td><td>ronic Reference to Chapter 4: <u>http://m</u></td><td>utcd.f</td><td>hwa</td><td>.dot</td><td>.gov</td><td>/pdfs/2</td><td>2009r1r2</td><td>2/part4.p</td><td><u>df</u></td><td></td><td></td><td></td><td></td></tr<> | JTCD Elect | ronic Reference to Chapter 4: <u>http://m</u> | utcd.f | hwa | .dot | .gov | /pdfs/2 | 2009r1r2 | 2/part4.p | <u>df</u> | | | | |
| Information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled. Type Induct. Type Induct. Satisfied: Type Induct. Satisfied: Type Induct. Criteria Hour Volume Met? Fulfilled? One of the Warrant 1, Condition A (80% satisfied) Mo X Yes No One of the Warrant 1, Condition B (80% satisfied) Mo X X Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four met. Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for one (1) hour. X X Adequate trial of other remedial measure has failed to reduce crash frequency. No Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Observed Crash Angle Number of crashes and some mean 12 months: | ARRANT | 7 - CRASH EXPERIENCE | | | | | | | | | | | | |
| Information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled. Type Induct. Type Induct. Satisfied: Type Induct. Satisfied: Type Induct. Criteria Hour Volume Met? Fulfilled? One of the Warrant 1, Condition A (80% satisfied) Mo X Yes No One of the Warrant 1, Condition B (80% satisfied) Mo X X Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four met. Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for one (1) hour. X X Adequate trial of other remedial measure has failed to reduce crash frequency. No Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Observed Crash Angle Number of crashes and some mean 12 months: | Record ho | ours where criteria are fulfilled the corre | snond | lina | volu | me | and of | her | | A | | _ | | |
| Criteria Hour Volume Met? Fulfilled? Major Minor Yes No Yes No One of the warrant 1, Condition A (80% satisfied) Maior X X X X Warrant 1, Condition B (80% satisfied) Maior X X X X X Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. Measure tried: X X X X Adequate trial of other remedial measure has failed to reduce crash frequency. Measure tried: No No No No Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Observed Crash Angle Number of crashes and a solution of crashes and a solution of the presence of the presence of trashes and a solution of the presence of th | | | | | | | | | Э | | | | | |
| Criteria Hour Major Minor Yes No One of the warrant 1, Condition A (80% satisfied) Warrant 1, Condition B (80% satisfied) X X X X Warrant 1, Condition B (80% satisfied) Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. K X | are fulfille | d. | | | | | | | | Satisfi | ed: | ∐Yes | s <u>⊡</u> No |) |
| Criteria Hour Major Minor Yes No One of the warrant 1, Condition A (80% satisfied) Warrant 1, Condition B (80% satisfied) X X X X Warrant 1, Condition B (80% satisfied) Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. K X | | | | | | | | | | | | | | |
| Criteria Hour Major Minor Yes No One of the warrant 1, Condition A (80% satisfied) Warrant 1, Condition B (80% satisfied) X X X X Warrant 1, Condition B (80% satisfied) Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. K X | | | | | | | | | Val | | | o+2 | E.J.F. | 642 |
| One of the warrant 1, Condition B (80% satisfied) X X warrants to the right is met. Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. X X Adequate trial of other remedial measure has failed to reduce crash frequency. Measure tried: No Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Observed Crash Angle Number of crashes of the remedial signal for the remedial signa | | Criteria | | | | Но | ur | | | | | | | No |
| the warrant 1, Condition B (80% satisfied) X warrants to the right is met. Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. X Adequate trial of other remedial measure has failed to reduce crash frequency. K Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Crash Angle Number of crashes 3 No | | Warrant 1, Condition A (80% satisfied) | | | | | | | | | | Х | | |
| warrants to the right is met. Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. x X Adequate trial of other remedial measure has failed to reduce crash frequency. Measure tried: No Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Observed Crash Number of crashes Angle 3 No | One of | | | | | | | | 1 | | | X | | |
| No No Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. Adequate trial of other remedial measure has failed to reduce crash frequency. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Observed Crash Angle Number of crashes per 12 months: 3 | the warrants | | | | <u> </u> | | | | | | | ^ | | |
| right is met. volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour. x Adequate trial of other remedial measure has failed to reduce crash frequency. x Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Crash Angle Number of crashes per 12 months: 3 No | to the | Warrant 4, Pedestrian Volume at 80% | of | | | | | | | | | | | Х |
| Adequate trial of other remedial measure has failed to reduce crash frequency. Measure tried: No Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12- Observed Crash Number of crashes of types and the susceptible of th | right is | volume requirements: # ped/hr for four | | | | | | | | | | х | | |
| to reduce crash frequency. tried: The second | met. | (4) hours or # ped/hr for one (1) hour. | | | | | | | | | | | | |
| to reduce crash frequency. tried: The second | | | | | | | | | | | | | | |
| Five or more reported crashes, of types susceptible Observed to correction by signal, have occurred within a 12- Crash Angle Description of the crashes of the correction by signal, have occurred within a 12- Crash Angle Description of the crashes of the correction by signal the correction by sig | Adequate | trial of other remedial measure has faile | d Me | | re | | | | | | | | | No |
| to correction by signal, have occurred within a 12- Crash Angle Per 12 months: 3 No | | | | | | | | | - | | | | | |
| | | | | | /ed | | A | _ | Numbe | r of cras | hes | | | NI- |
| | | | | | | | Angi | е | per 12 r | months: | | 3 | | NO |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

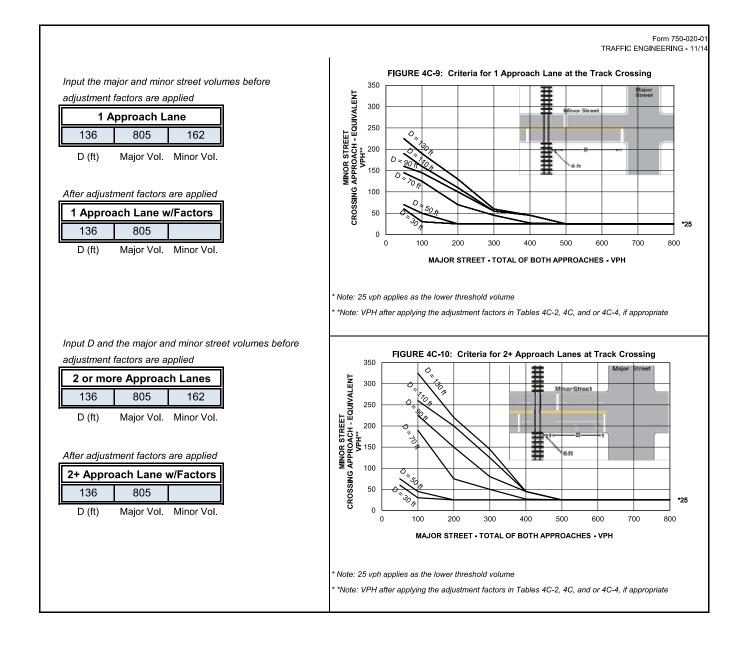
| | TRAF | State of Florid FIC SIGN | • | | • | | RY | | т | RAFFIC EN | Form 75 IGINEERIN |
|--|---|--|--------------|-----------------------|-----------------------------|---------------------|---------|-----------------------|---------------------------|--------------|----------------------|
| City: County: District: | Winter Heave 16 – Polk One | n | | | Engin D | eer: ate: | | | LE 17, 20 ⁻ | 18 | |
| Major Street: Minor Street: MUTCD Electr | | SR 544 hart Estates D r 4: <u>http://m</u> | | a.dot.gov/pdf | Lanes: Lanes: s/2009r | 1 1 1r2/part4 | Mir | ajor App nor App | | | 55 40 |
| Record hou | 8 - ROADWAY NETW urs where criteria are fulfil in the boxes provided. T and if all intersecting route. tics listed. | led, and the co | satisfied if | f at least one | of the c | riteria | | licable: itisfied: | □Y | ïes ☑ | No |
| | | Criteria | | | | | | Me Yes | et? No | Fulfi Yes | No |
| Both of the | a. Total entering volume typical weekday peak | |)00 veh/hr | ⁻ during a | Ente | ring Volı | ume: | | | | Y |
| criteria to the right | b. Five-year projected vo | plumes that sa | atisfy one | Warrant: | 1 | 2 | 3 | | | | Х |
| are met. | or more of Warrants 1 | , 2, or 3. | | Satisfied?: | | | | | | | |
| veh/hr for e | ing volume at least 1,000 each of any 5 hrs of a | | | | | | | ← Ho | our | | x |
| non-norma Sun.) | l business day (Sat. or | | | | | | | ←Vol | ume | | |
| | Charac | teristics of M | laior Rout | tes | | | | Me | et? | Fulfi | led? |
| | onarao | | | | | | | Yes | No | Yes | No |
| | street or highway system • through traffic flow. | that serves as | s the princ | ipal roadway | | Major Minor | | | | | |
| | | | | | | Major | | | | | |
| 2. Rural or su | burban highway outside o | f, entering, or | traversing | a city. | | wajor | Street: | | | | x |

Major Street:

Minor Street:

3. Appears as a major route on an official plan.

| City: | Winter Heaven | | Engineer: | | LE | |
|---|--|-----------------|---|---|---|----------------|
| County: | 16 – Polk | | Date: | A | pril 17, 201 | 8 |
| District: | One | | | | | |
| Major Street: | SR 544 | | Lanes: | 1 Major | Approach S | Speed: 55 |
| Minor Street: | Lake Smart Estates I | Dr | Lanes: | 1 Minor | Approach S | Speed: 40 |
| /UTCD Electronic | Reference to Chapter 4: <u>http://n</u> | nutcd.fhwa.d | dot.gov/pdfs/2009r1r2 | /part4.pdf | | |
| Approach Lane C | | , | - | | | |
| - | approach lanes are there at the tra | • | | | | 2 or mo |
| If there is 1 lan | e. use Figure 4C-9 and if there are | e 2 or more. | use Figure 4C-10. | | Fig 4C-9 | € Fig 4C-1 |
| | INTERSECTION NEAR A GR | | | | | |
| | varrant should be applied only afte I of an alternative has failed to alle | | | - | | |
| Indicate if both | criteria are fulfilled in the boxes p | rovided. The | e warrant is | Applicable: | Yes | ✓ No |
| | n criteria are met. | | | Satisfied: | Yes | ✓ No |
| | | | | | | Fulfilled? |
| | | Criteria | | | | Yes No |
| | g exists on an approach controlled by a ithin 140 feet of the stop line or yield lin | | | of the track nea | rest to the | |
| • • | est traffic volume hour during which the for the existing combination of approa | | | | | |
| , | g tables (4C-2, 4C-3, and 4C-4 to appr | ropriatelv adju | st the minor-street app | roach volume). | | |
| - | | opriacory any. | | | | |
| nputs | | | | • • • • • • • • • • • • • • • | - · · · · · | |
| 6 – – – | | | | Adjustment | Factors from | n Tables |
| | | | | | | n Tables |
| % of High Occupanc | traffic per day y Buses on Minor-Street Approach | 0% | | | Factors from | n Tables |
| % of High Occupanc <u>y</u> Inter D (feet) | y Buses on Minor-Street Approach | 136 | 3 | 1. | 00 | n Tables |
| % of High Occupanc <u>y</u> Enter D (feet) | | | 3 | 1. | | n Tables |
| 6 of High Occupancy Enter D (feet) 6 of Tractor-Trailer T | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of | 136 2.00% | % Table 4C-3. Adjustme | 1. 0. nt Factor for Pe | 00 50 | |
| 6 of High Occupanc <u>:</u> Inter D (feet) 6 of Tractor-Trailer T T able 4C-2. Adjustn | y Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic | 136 2.009 | % Table 4C-3. Adjustme Occ | 1. 0. nt Factor for Pe cupancy Buses | 00 50 | |
| 6 of High Occupancy inter D (feet) 6 of Tractor-Trailer T Fable 4C-2. Adjustn Rail Traffic per I | y Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic Day Adjustment Factor | 136 2.009 | % Table 4C-3. Adjustme | 1. 1. 0. nt Factor for Pe cupancy Buses Buses* on | 00 50 | High- |
| 6 of High Occupancy Inter D (feet) 6 of Tractor-Trailer T Fable 4C-2. Adjustn Rail Traffic per I 1 | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App | 1. 1. 0. nt Factor for Pe cupancy Buses Buses* on | 00 50 rcentage of H djustment Fa | High- |
| 6 of High Occupancy Inter D (feet) 6 of Tractor-Trailer T Fable 4C-2. Adjustn Rail Traffic per I 1 2 | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% | 1. 1. 0. nt Factor for Pe cupancy Buses Buses* on | 00 50 rcentage of H djustment Fa | High- |
| 6 of High Occupancy Inter D (feet) 6 of Tractor-Trailer T Table 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% | 1. 1. 0. nt Factor for Pe cupancy Buses Buses* on | 00 50 rcentage of H djustment Fa 1 1.09 | High- |
| 6 of High Occupancy Inter D (feet) 6 of Tractor-Trailer T Table 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% 4% | 1. 1. 0. nt Factor for Pe cupancy Buses Buses* on | 00 50 rcentage of H djustment Fa 1 1.09 1.19 | High- |
| 6 of High Occupancy inter D (feet) 6 of Tractor-Trailer T Fable 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 9 to 11 | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach ment Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% 4% 6% or more | nt Factor for Pe cupancy Buses Buses* on A roach | 00 50 rcentage of H djustment Fa 1 1.09 1.19 1.32 | High- actor |
| 6 of High Occupancy Inter D (feet) 6 of Tractor-Trailer T Table 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach ment Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% 4% 6% or more A high-occupancy bus i | 1. 1. 0. nt Factor for Pe cupancy Buses Buses* on A roach A s defined as a buse | 00 50 rcentage of H djustment Fa 1 1.09 1.19 1.32 us occupied b | High- actor |
| 6 of High Occupancy Enter D (feet) 6 of Tractor-Trailer 1 Fable 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 9 to 11 | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach ment Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 Table 4C-4. Adjustment | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% 4% 6% or more A high-occupancy bus i | 1. 1. 0. nt Factor for Pe cupancy Buses Buses* on A roach A s defined as a buser-Trailer Trucks | 00 50 rcentage of H djustment Fa 1 1.09 1.19 1.32 us occupied b | High- actor |
| 6 of High Occupancy Enter D (feet) 6 of Tractor-Trailer 1 Fable 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 9 to 11 | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach ment Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 Table 4C-4. Adjustment % of Tractor-Trailer Trucks | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% 4% 6% or more A high-occupancy bus i r Percentage of Tractor Adjustme | 1. 0. nt Factor for Pe cupancy Buses Buses* on A roach A s defined as a bus or-Trailer Trucks or Factor | 00 50 rcentage of H djustment Fa 1.09 1.19 1.32 us occupied b | High- actor |
| 6 of High Occupancy Enter D (feet) 6 of Tractor-Trailer 1 Fable 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 9 to 11 | y Buses on Minor-Street Approach Trucks on Minor-Street Approach ment Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 Table 4C-4. Adjustment % of Tractor-Trailer Trucks Street Approach | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% 4% 6% or more A high-occupancy bus i r Percentage of Tractoc Adjustme D less than 70 feet | nt Factor for Pe cupancy Buses Buses* on A roach A s defined as a buser-Trailer Trucks nt Factor D of 70 feet o | 00 50 rcentage of H djustment Fa 1.09 1.19 1.32 us occupied b | High- actor |
| 6 of High Occupancy Enter D (feet) 6 of Tractor-Trailer 1 Fable 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 9 to 11 | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach ment Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 Table 4C-4. Adjustment % of Tractor-Trailer Trucks Street Approach 0% to 2.5% | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% 4% 6% or more A high-occupancy bus i r Percentage of Tracto Adjustme D less than 70 feet 0.50 | 1. 1. 0. nt Factor for Pe cupancy Buses Buses* on A Coach A S defined as a bus or-Trailer Trucks nt Factor D of 70 feet of 0.50 | 00 50 rcentage of H djustment Fa 1.09 1.19 1.32 us occupied b | High- actor |
| 6 of High Occupancy Enter D (feet) 6 of Tractor-Trailer 1 Fable 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 9 to 11 | ry Buses on Minor-Street Approach Trucks on Minor-Street Approach ment Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 Table 4C-4. Adjustment % of Tractor-Trailer Trucks Street Approach 0% to 2.5% 2.6% to 7.5% | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% 4% 6% or more A high-occupancy bus i r Percentage of Tracto Adjustme D less than 70 feet 0.50 0.75 | 1. 0. nt Factor for Pe cupancy Buses Buses* on A roach A s defined as a bus or-Trailer Trucks nt Factor D of 70 feet of 0.50 0.75 | 00 50 rcentage of H djustment Fa 1.09 1.19 1.32 us occupied b | High- actor |
| % of High Occupancy Enter D (feet) % of Tractor-Trailer 1 Table 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 9 to 11 | y Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 Table 4C-4. Adjustment % of Tractor-Trailer Trucks Street Approach 0% to 2.5% 2.6% to 7.5% 7.6% to 12.5% | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street Appr 0% 2% 4% 6% or more A high-occupancy bus i r Percentage of Tractor Adjustme D less than 70 feet 0.50 0.75 1.00 | Trailer Trucks on Factor for Pe cupancy Buses Buses* on A roach A s defined as a bus or-Trailer Trucks on Factor D of 70 feet on 0.50 0.75 1.00 | 00 50 rcentage of H djustment Fa 1.09 1.19 1.32 us occupied b | High- actor |
| Enter D (feet) % of Tractor-Trailer 1 Table 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 9 to 11 | y Buses on Minor-Street Approach Trucks on Minor-Street Approach ment Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 Table 4C-4. Adjustment % of Tractor-Trailer Trucks Street Approach 0% to 2.5% 2.6% to 7.5% 7.6% to 12.5% 12.6% to 17.5% | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street App 0% 2% 4% 6% or more A high-occupancy bus i r Percentage of Tracto Adjustme D less than 70 feet 0.50 0.75 1.00 2.30 | I. Traiter Trucks a defined as a bus bus defined as a bus bus defined as a bus bus defined as a bus contrailer Trucks bus for 70 feet of 0.50 0.75 1.00 1.15 | 00 50 rcentage of H djustment Fa 1.09 1.19 1.32 us occupied b | High- actor |
| % of High Occupancy Enter D (feet) % of Tractor-Trailer 1 Table 4C-2. Adjustn Rail Traffic per I 1 2 3 to 5 6 to 8 9 to 11 | y Buses on Minor-Street Approach Trucks on Minor-Street Approach nent Factor for Daily Frequency of Rail Traffic Day Adjustment Factor 0.67 0.91 1 1.18 1.25 1.33 Table 4C-4. Adjustment % of Tractor-Trailer Trucks Street Approach 0% to 2.5% 2.6% to 7.5% 7.6% to 12.5% | 136 2.009 | Table 4C-3. Adjustme Occ % of High-Occupancy Minor Street Appr 0% 2% 4% 6% or more A high-occupancy bus i r Percentage of Tractor Adjustme D less than 70 feet 0.50 0.75 1.00 | Trailer Trucks on Factor for Pe cupancy Buses Buses* on A roach A s defined as a bus or-Trailer Trucks on Factor D of 70 feet on 0.50 0.75 1.00 | 00 50 rcentage of H djustment Fa 1.09 1.19 1.32 us occupied b | High- actor |



Appendix C

CAP-X and SPICE Analysis Summary Sheets

Summary Report - Page 1 of 2

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Old Lucerne Park Road (West End) |
| Date: | Design Year (2045) AM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction | East-West |

| | Traffic Volume Demand | | | | | | | | | | | |
|----------------------|-------------------------|------------|---------------|---------------|-----------|-------------------|---------------|--|--|--|--|--|
| | | Volu | ume (Veh/hr) | | | Perce | ent (%) | | | | | |
| | U-Turn | Left | Thru | Right | Heavy ∖ | /ehic l es | Volume Growth | | | | | |
| | • | | | | | | | | | | | |
| Eastbound | 0 | 136 | 1414 | 15 | 3.0 | 0% | 0.00% | | | | | |
| Westbound | 0 | 6 | 1500 | 20 | 3.0 | 0% | 0.00% | | | | | |
| Southbound | 0 | 17 | 2 | 375 | 3.0 | 0% | 0.00% | | | | | |
| Northbound | 0 | 34 | 1 | 20 | 0.0 | 0% | 0.00% | | | | | |
| Adjustment Factor | 0.80 | 0.95 | | 0.85 | | | | | | | | |
| Suggested | 0.80 | 0.95 | | 0.85 | | | | | | | | |
| | Truck to | PCE Factor | | Suggested = | 2.00 | | 2.00 | | | | | |
| FDC | OT Context Zone | | C | 3R-Suburban R | esidentia | al | | | | | | |
| | | 2- | -phase signal | Suggested = | 1800 | | 1800 | | | | | |
| | Lane Volume hreshold | 3- | -phase signal | Suggested = | 1750 | | 1750 | | | | | |
| | | 4- | -phase signal | Suggested = | 1700 | | | | | | | |

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

| TYPE OF INTERSECTION | Overall v/c Ratio | V/C Ranking | Multimodal Score | Pedestrian Accommodation s | Bicycle Accommodation s | Transit Accommodatio ns |
|---|----------------------|----------------|---------------------|----------------------------------|-------------------------------|-------------------------------|
| 2 X 2 | 1.10 | 1 | 5.6 | Fair | Good | Good |
| 1NS X 2EW | 1.16 | 2 | 5.6 | Fair | Good | Good |
| All-Way Stop Control | 2.02 | 3 | 6.7 | Good | Good | Good |
| Two-Way Stop Control E-W | 3.86 | 4 | 3.7 | Poor | Fair | Good |
| Unsignalized Restricted Crossing U- Turn E-W | 4.25 | 5 | 4.4 | Fair | Fair | Fair |
| Unsignalized ThruCut E-W | 10.13 | 6 | 3.3 | Poor | Fair | Fair |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Detailed Report - Page 1 of 4

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Old Lucerne Park Road (West End) |
| Date: | Design Year (2045) AM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction: | East-West |

| | Traffic Volume Demand | | | | | | | | | | | | |
|----------------------|-----------------------|----------|--------|-----------|---------------|----------|----------|---------------|--|--|--|--|--|
| | | 1 | Volume | (Veh/hr) | | | Perce | nt (%) | | | | | |
| | U-Turn | Le | eft | Thru | Right | | | | | | | | |
| | ฦ | + | 1 | Î | | Heavy \ | /ehicles | Volume Growth | | | | | |
| Eastbound | 0 | 13 | 36 | 1414 | 15 | 3.0 | 0% | 0.00% | | | | | |
| Westbound | 0 | 6 | 6 | 1500 | 20 | 3.0 | 0% | 0.00% | | | | | |
| Southbound | 0 | 1 | 7 | 2 | 375 | 3.0 | 0% | 0.00% | | | | | |
| Northbound | 0 | 3 | 4 | 1 | 20 | 0.0 | 0% | 0.00% | | | | | |
| Adjustment Factor | 0.80 | 0.9 | 95 | | 0.85 | | | | | | | | |
| Suggested | 0.80 | 0.9 | 95 | | 0.85 | | | | | | | | |
| | Truck to | PCE Fa | ctor | | Suggested = | 2.00 | | 2.00 | | | | | |
| FDC | OT Context Zone | | | С | 3R-Suburban R | esidenti | al | | | | | | |
| | | | 2-pha | se signal | Suggested = | 1800 | | 1800 | | | | | |
| | Lane Volume | | 3-pha | se signal | Suggested = | 1750 | 1750 | | | | | | |
| | | | 4-pha | se signal | Suggested = | 1700 | | 1700 | | | | | |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

| Number o | of Lanes | for | No | n-re | oun | Idal | oou | t In | ters | sec | tior | IS | | | | | |
|----------------------|------------|--------------|--------|-------------|-----|--------------|------|-------------|------|------------|------|-----|---|-------------|------|------|----|
| TYPE OF INTERSECTION | Sheet | N | orth | bou | nd | Sc | buth | bou | nd | E | astb | oun | d | W | estk | oour | ۱d |
| TTPE OF INTERSECTION | Sheet | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Two-Way Stop Control | E-W | \checkmark | 1 | 1 | 0 | \checkmark | 1 | 1 | 1 | \nearrow | 1 | 2 | 0 | | 1 | 2 | 0 |
| All-Way Stop Control | FULL | \checkmark | 1 | 1 | 0 | \checkmark | 1 | 1 | 1 | \nearrow | 1 | 2 | 0 | | 1 | 2 | 0 |
| Turp | <u>E-W</u> | \checkmark | \sim | \sim | 1 | \checkmark | / | $\ /$ | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 0 |
| Unsignalized ThruCut | E-W | $\mathbf{>}$ | 1 | \setminus | 1 | \setminus | 1 | \setminus | 1 | | 1 | 2 | 0 | \setminus | 1 | 2 | 0 |
| N | Number | of L | .an | es f | or | nte | rch | ang | es | | | | | | | | |
| TYPE OF INTERCHANGE | Sheet | N | orth | bou | nd | Sc | buth | bou | nd | Ш | astb | oun | d | ¥ | estk | noo | nd |
| TTPE OF INTERCHANGE | Sneet | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | Ĺ | Т | R |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

| | R | lesul | ts for | Non | -roun | Idabo | out In | terse | ctior | IS | | | | | |
|---|------------|-------------------|--------------|-------------------|-------------|---------------|-------------|------------------|-------------|--------------------|--------------|----------------------|-----------------------------|--------------------------|--------------------------|
| TYPE OF INTERSECTION | Sheet | Zone 1 (North) | | Zone 2 (South) | | Zone 3 (East) | | Zone 4 (West) | | Zone 5 (Center) | | Overall v/c Ratio | Pedestrian ccommodations | Bicycle ccommodations | Transit ccommodations |
| | | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | | A | ٩ | × |
| Two-Way Stop Control | <u>E-W</u> | / | \mathbf{V} | \bigvee | | | | | / | *** | <u>3.86</u> | 3.86 | Poor | Fair | Good |
| All-Way Stop Control | FULL | \geq | | | | \geq | \geq | \geq | | 3644 | 2.02 | 2.02 | Good | Good | Good |
| Unsignalized Restricted Crossing U-Turn | <u>E-W</u> | 1590 | 4.25 | 1483 | <u>0.47</u> | 1572 | <u>0.11</u> | 1611 | <u>0.06</u> | | | 4.25 | Fair | Fair | Fair |
| Unsignalized ThruCut | <u>E-W</u> | \sim | \sim | \geq | \geq | \nearrow | \nearrow | \angle | | | <u>10.13</u> | 10.13 | Poor | Fair | Fair |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

| | Results for Roundabouts | | | | | | | | | | | | | | | |
|-----------------------|-------------------------|--------|-------------------------|-------------|-------------|--------|-------------|-----------|--------|-------------|-------------|--------|----------------------|----------------------------|-------------------------|-------------------------|
| TYPE OF ROUNDABOUT | Zone 1 (North) | | | z | one 3 (Eas | it) | Zo | ne 2 (Sou | th) | Zc | one 4 (Wes | st) | Overall v/c Ratio | Pedestrian commodations | Bicycle commodations | Transit commodations |
| | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | | Ac | ¥ | Ă |
| <u>1NS X 2EW</u> | <u>1.16</u> | | | <u>0.60</u> | <u>0.65</u> | | <u>0.16</u> | | | <u>0.68</u> | <u>0.72</u> | | 1.16 | Fair | Good | Good |
| <u>2 X 2</u> | 0.07 | 1.10 | <u>0.68</u> <u>0.72</u> | | | | <u>0.12</u> | 0.06 | | <u>0.60</u> | <u>0.65</u> | | 1.10 | Fair | Good | Good |

| | | Results for Interchanges | | | | | | | | | | | | | | _ | |
|---------------------|-------|--------------------------|-----|--------------|--------------|-------------|-----|-------------|-----|--------------|-----|--------------|------------|----------------------|----------------------------|-------------------------|-------------------------|
| TYPE OF INTERCHANGE | Sheet | Zone 1 Mr | | Zone 2 Mi | ! (Lt rg) | Zor (Ctı | | Zor (Ctr | | Zone 5 Mr | • | Zone 6 Mi | (Rt rg) | Overall v/c Ratio | Pedestrian commodations | Bicycle commodations | Transit commodations |
| | | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | | Ac | Ac | Ac |

Summary Report - Page 1 of 2

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Old Lucerne Park Road (West End) |
| Date: | Design Year (2045) PM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction | East-West |

| | | ٦ | Traffic Volume D | emand | | | | |
|----------------------|-----------------|------------|------------------|---------------|-----------|----------|---------------|--|
| | | Volu | me (Veh/hr) | | | Perce | ent (%) | |
| | U-Turn | Left | Thru | Right | | | | |
| | S | 1 | 1 | | Heavy ∖ | /ehicles | Volume Growth | |
| Eastbound | 0 | 362 | 1380 | 34 | 5.0 | 0% | 0.00% | |
| Westbound | 0 | 16 | 1304 | 22 | 5.0 | 0% | 0.00% | |
| Southbound | 0 | 25 | 4 | 128 | 3.0 | 0% | 0.00% | |
| Northbound | 0 | 15 | 1 | 8 | 0.0 | 0% | 0.00% | |
| Adjustment Factor | 0.80 | 0.95 | | 0.85 | | | | |
| Suggested | 0.80 | 0.95 | | 0.85 | | | | |
| | Truck to | PCE Factor | | Suggested = | 2.00 | | 2.00 | |
| FDC | OT Context Zone | | C | 3R-Suburban R | esidentia | al | | |
| | | 2- | ohase signal | Suggested = | 1800 | | 1800 | |
| | Lane Volume | 3-1 | ohase signal | Suggested = | 1750 | 1750 | | |
| | | 4- | ohase signal | Suggested = | 1700 | 1700 | | |

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

| TYPE OF INTERSECTION | Overall v/c Ratio | V/C Ranking | Multimodal Score | Pedestrian Accommodation s | Bicycle Accommodation s | Transit Accommodatio ns |
|---|----------------------|----------------|---------------------|----------------------------------|-------------------------------|-------------------------------|
| 1NS X 2EW | 0.78 | 1 | 5.6 | Fair | Good | Good |
| 2 X 2 | 0.78 | 1 | 5.6 | Fair | Good | Good |
| Unsignalized Restricted Crossing U- Turn E-W | 1.25 | 3 | 4.4 | Fair | Fair | Fair |
| All-Way Stop Control | 1.92 | 4 | 6.7 | Good | Good | Good |
| Two-Way Stop Control E-W | 9.77 | 5 | 3.7 | Poor | Fair | Good |
| Unsignalized ThruCut E-W | 97.60 | 6 | 3.3 | Poor | Fair | Fair |
| | | | | | | |
| | | - | | | | |
| | | | | | | |
| | == | | == | | | |

Detailed Report - Page 1 of 4

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Old Lucerne Park Road (West End) |
| Date: | Design Year (2045) PM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction: | East-West |

| | | | Tra | ffic Volume D | emand | | | | |
|----------------------|-----------------|--------|----------------|---------------|---------------|----------|----------|---------------|--|
| | | ١ | Volume | (Veh/hr) | | | Perce | nt (%) | |
| | U-Turn | Le | eft | Thru | Right | | | | |
| | ฦ | 4 |] | Î | ſ | Heavy \ | /ehicles | Volume Growth | |
| Eastbound | 0 | 36 | 62 | 1380 | 34 | 5.0 | 0% | 0.00% | |
| Westbound | 0 | 1 | 6 | 1304 | 22 | 5.0 | 0% | 0.00% | |
| Southbound | 0 | 25 | | 4 | 128 | 3.0 | 0% | 0.00% | |
| Northbound | 0 | 1 | 5 | 1 | 8 | 0.0 | 0% | 0.00% | |
| Adjustment Factor | 0.80 | 0.9 | 95 | | 0.85 | | | | |
| Suggested | 0.80 | 0.9 | 95 | | 0.85 | | | | |
| | Truck to | PCE Fa | ctor | | Suggested = | 2.00 | | 2.00 | |
| FDC | OT Context Zone | | | С | 3R-Suburban R | esidenti | al | | |
| | | | 2-pha | se signal | Suggested = | 1800 | | 1800 | |
| | Lane Volume | | 3-phase signal | | Suggested = | 1750 | | 1750 | |
| | | | 4-pha | se signal | Suggested = | 1700 | 1700 | | |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

| Number o | of Lanes | for | No | n-re | oun | Idal | oou | t In | ters | sec | tior | IS | | | | | |
|----------------------|----------------------------------|----------------|--------|------|-----|------|------|-----------|------|------------|------|-----|----|---|------|------|----|
| TYPE OF INTERSECTION | Sheet | N | orth | bou | nd | Sc | outh | bou | nd | E | astb | our | ıd | W | estk | oour | ۱d |
| TTPE OF INTERSECTION | Sheet | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Two-Way Stop Control | E-W | \checkmark | 1 | 1 | 0 | | 1 | 1 | 1 | \nearrow | 1 | 2 | 0 | | 1 | 2 | 0 |
| All-Way Stop Control | FULL | \checkmark | 1 | 1 | 0 | | 1 | 1 | 1 | \nearrow | 1 | 2 | 0 | | 1 | 2 | 0 |
| Turp | <u>E-W</u> | \checkmark | \geq | / | 1 | | / | $\ /$ | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 0 |
| Unsignalized ThruCut | <u>E-W</u> | \checkmark | 1 | | 1 | | 1 | \langle | 1 | $\ /$ | 1 | 2 | 0 | | 1 | 2 | 0 |
| | Number of Lanes for Interchanges | | | | | | | | | | | | | | | | |
| TYPE OF INTERCHANGE | Sheet | Sheet Northbou | | | nd | Sc | outh | bou | nd | Е | astb | our | ıd | W | estk | oour | ۱d |
| TTPE OF INTERCHANGE | | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

| | R | lesul | ts for | Non | -roun | Idabo | out In | terse | ctior | IS | | | | | |
|---|------------|--------|---------------|------------|--------------|------------|-------------|------------|-------------|------|---------------|----------------------|-----------------------------|--------------------------|--------------------------|
| TYPE OF INTERSECTION | Sheet | | ne 1 orth) | Zor (So | ne 2 uth) | Zone 3 | e (East) | Zor (We | | | ne 5 nter) | Overall v/c Ratio | Pedestrian ccommodations | Bicycle ccommodations | Transit ccommodations |
| | | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | | A | ¥ | A |
| Two-Way Stop Control | <u>E-W</u> | / | 1/ | 1 | | | | | / | ** | <u>9.77</u> | 9.77 | Poor | Fair | Good |
| All-Way Stop Control | FULL | \geq | | | | \geq | | \geq | | 3460 | <u>1.92</u> | 1.92 | Good | Good | Good |
| Unsignalized Restricted Crossing U-Turn | <u>E-W</u> | 1396 | <u>1.25</u> | 1495 | 0.21 | 1409 | <u>0.04</u> | 1865 | <u>0.12</u> | | | 1.25 | Fair | Fair | Fair |
| Unsignalized ThruCut | <u>E-W</u> | \sim | \sim | \geq | \geq | \nearrow | \nearrow | \angle | / | - | <u>97.60</u> | 97.60 | Poor | Fair | Fair |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 4 of 4

| | | | | | | Re | sults f | or Rou | ndabo | uts | | | | | | |
|----------------------|-------------|-------------|--------|---------------|-------------|--------|----------------|-------------|--------|--------|------------|--------|----------------------|----------------------------|--------------------------|--------------------------|
| TYPE OF OUNDABOUT | Zo | one 1 (Nor | th) | Zone 3 (East) | | | Zone 2 (South) | | | Zo | one 4 (Wes | st) | Overall v/c Ratio | Pedestrian commodations | Bicycle ccommodations | Transit ccommodations |
| | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | | Ă | Ă | Ă |
| <u>1NS X 2EW</u> | <u>0.40</u> | | / | <u>0.71</u> | <u>0.76</u> | / | 0.09 | | | 0.74 | 0.78 | / | 0.78 | Fair | Good | Good |
| <u>2 X 2</u> | <u>0.08</u> | <u>0.32</u> | | 0.74 | 0.78 | / | 0.06 | <u>0.03</u> | | 0.71 | 0.76 | / | 0.78 | Fair | Good | Good |

| | | | | | Re | sults | for l | nterc | hang | ges | | | | | | | |
|---------------------|-------|---|-----|-----|-----|-------|-------|-------------|------|--------------|--------------|-------------|--------------|----------------------|----------------------------|-------------------------|-------------------------|
| TYPE OF INTERCHANGE | Sheet | Zone 1 (Rt Zone 2 (Lt Zone Mrg) Mrg) (Ctr. | | | | | | Zor (Cti | | Zone 5 Mi | 5 (Lt rg) | Zone 6 M | i (Rt rg) | Overall v/c Ratio | Pedestrian commodations | Bicycle commodations | Transit commodations |
| | | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | | Ac | Ř | Ac |

| | | | | | Iministration (FHWA) | | | | | |
|-----------------------|-------------------------|---|------------------|------------------------------|------------------------------------|------------|----------------------|-----------|----------------|----------------------|
| | | | 5 | afety Performance for Inters | ection Control Evaluation sults | n Tool | | | | |
| | | | | Summary of crash prediction | | hue | | | | |
| | | | | | formation | we | | | | |
| Project Name: | CR E44 DDRE Study f | rom MLK Blvd to SR 17 | | Intersection Type | normation | | | r | At Gra | de Intersections |
| Intersection: | | Park Road (West End) | | Opening Year | | | | | ALGIA | 2025 |
| | FDOT District One | rank noau (west chu) | | Design Year | | | | | | 2025 |
| Project Reference: | FPID No.: 440273-1-2 | 2-01 | | Facility Type | | | | c | n Urban a | nd Suburban Arterial |
| City: | Polk County | | | Number of Legs | | | | | | 4-leg |
| State: | Florida | | | 2-way Ir | tersecting 2-way | | | | | |
| Date: | 12/12/2022 | | | | | 5 or fewer | | | | |
| Analyst: | AIM Engineering & S | urveying, Inc. | | Major Street Approach Speed | | | | | Less | than 55 mph |
| | | | | Crash Predic | tion Summary | | | | | |
| | | Crack Tuno Declary Your Declary Your Tetal Brolest Life Cycle Crack Bradiation Band | | | | | SSI Score | | | |
| Control Strategy | Crash Type | Opening Year | Design Year | Total Project Life Cycle | Crash Prediction Rank | Range? | Source of Prediction | Open Year | Design Year | Rank |
| Minor Road Stop | Total | 2.97 | 4.93 | 82.89 | 2 | Yes | Calibrated SPF w/ EB | 41 | 18 | 5 |
| Willion Road Stop | Fatal & Injury | 1.07 | 1.89 | 30.96 | 2 | Tes | Calibrated SFF W/ LB | <u>41</u> | 10 | 5 |
| All Way Stop | Total | 2.53 | 4.27 | 71.26 | 1 | N/A | N/A | <u>86</u> | 77 | 2 |
| | Fatal & Injury | 0.95 | 1.74 | 28.08 | - | | , | 00 | <u></u> | 4 |
| 2-lane Roundabout | Total | 6.07 | 11.14 | 180.01 | 3 | No | Uncalibrated SPF | 89 | 82 | 1 |
| | Fatal & Injury | 1.10 | 2.15 | 33.83 | , | | | | | |
| Unsignalized RCUT | Total | No SPF | No SPF | No SPF | | Yes | Uncalibrated SPF | <u>58</u> | <u>35</u> | 4 |
| | Fatal & Injury Total | No SPF | No SPF | No SPF | | | | | | |
| Unsignalized Thru-Cut | Fatal & Injury | No SPF No SPF | No SPF No SPF | No SPF No SPF | | N/A | N/A | <u>63</u> | <u>39</u> | 3 |
| | Fatal & Injury Total | NO SPF | NO SPF | NO SPF | | | | | | |
| Other 1* | Fatal & Injury | No SPF | No SPF | No SPF | | N/A | CMF | | | |
| | Total | No SPF | No SPF | No SPF | | | | | | |
| Other 2* | Fatal & Injury | No SPF | No SPF | No SPF | | N/A | CMF | | | |

Appendix D

SIDRA Analysis Summary Sheets

| | | | /I Peak Hour | | | | |
|---------------------|-------------|--------------|----------------|--------------|-----------|-----------------|-----------|
| | | Existing Old | Lucerne Park I | Rd Alignment | Realigned | l Old Lucerne l | Park Road |
| Intersection | Movement | V/C | Avg. Delay | LOS | V/C | Avg. Delay | LOS |
| | NB LT | 0.18 | 14.3 | В | 0.22 | 15.1 | С |
| | NB TH | 0.18 | 14.3 | В | 0.22 | 15.1 | С |
| | NB RT | 0.18 | 14.3 | В | 0.22 | 15.1 | С |
| | NB Approach | n/a | 14.3 | В | n/a | 15.1 | С |
| | SB LT | 0.69 | 41.5 | E | 0.68 | 39.5 | E |
| | SB TH | 0.69 | 41.2 | E | 0.68 | 39.1 | E |
| | SB RT | 0.69 | 38.4 | E | 0.68 | 36.5 | E |
| Old Lucerne Park Rd | SB Approach | n/a | 38.6 | E | n/a | 36.7 | E |
| (west end) | WB LT | 0.70 | 13.6 | В | 0.69 | 13.2 | В |
| (west end) | WB TH | 0.70 | 13.7 | В | 0.69 | 13.4 | В |
| | WB RT | 0.70 | 13.6 | В | 0.69 | 13.3 | В |
| | WB Approach | n/a | 13.7 | В | n/a | 13.4 | В |
| | EB LT | 0.62 | 10.2 | В | 0.62 | 10.1 | В |
| | EB TH | 0.62 | 10.2 | В | 0.62 | 10.2 | В |
| | EB RT | 0.62 | 10.1 | В | 0.62 | 10.1 | В |
| | EB Approach | n/a | 10.2 | В | n/a | 10.2 | В |
| | ALL | n/a | 14.9 | В | n/a | 14.6 | В |
| | | PN | /I Peak Hour | | | | |
| | | | Lucerne Park I | Rd Alignment | Realigned | l Old Lucerne l | Park Road |
| Intersection | Movement | V/C | Avg. Delay | LOS | V/C | Avg. Delay | LOS |
| | NB LT | 0.09 | 14.1 | В | 0.15 | 15.0 | С |
| | NB TH | 0.09 | 14.1 | В | 0.15 | 15.0 | С |
| | NB RT | 0.09 | 14.1 | В | 0.15 | 15.0 | С |
| | NB Approach | n/a | 14.1 | В | n/a | 15.0 | С |
| | SB LT | 0.21 | 13.8 | В | 0.22 | 14.2 | В |
| | SB TH | 0.21 | 13.5 | В | 0.22 | 13.9 | В |
| | SB RT | 0.21 | 12.7 | В | 0.22 | 13.0 | В |
| Old Lucerne Park Rd | SB Approach | n/a | 12.9 | В | n/a | 13.2 | В |
| (west end) | WB LT | 0.72 | 16.4 | С | 0.74 | 17.1 | С |
| (west end) | WB TH | 0.72 | 16.5 | С | 0.74 | 17.2 | С |
| | WB RT | 0.72 | 16.5 | С | 0.74 | 17.2 | С |
| | WB Approach | n/a | 16.5 | С | n/a | 17.2 | С |
| | EB LT | 0.69 | 12.1 | В | 0.69 | 12.2 | В |
| | EB TH | 0.69 | 12.1 | В | 0.69 | 12.2 | В |
| | EB RT | 0.69 | 12.0 | В | 0.69 | 12.1 | В |
| | EB Approach | n/a | 12.1 | В | n/a | 12.2 | В |
| | ALL | n/a | 13.9 | В | n/a | 14.3 | В |

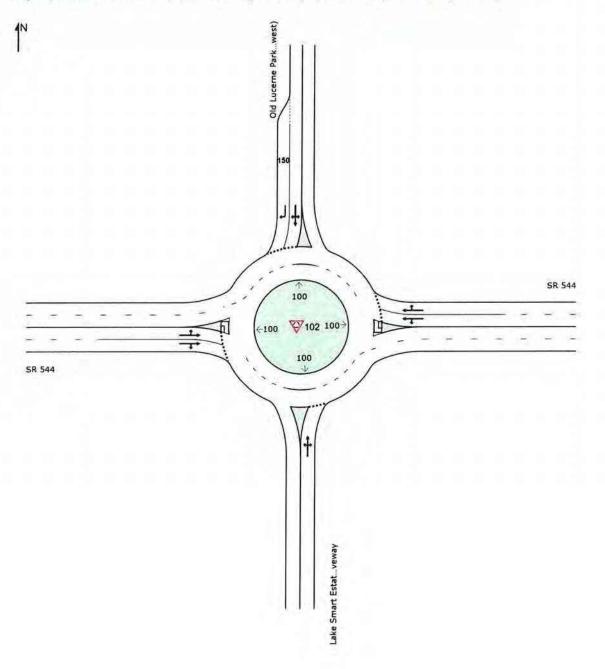
Table 2: Design Year (2045) Peak Hour Operational Analysis Summary - Old Lucerne Park Road (West) Intersection

SITE LAYOUT

V Site: 102 [SR 544/Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Friday, November 4, 2022 12:47:01 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\AM Pk Hr\SR 544_OLP Rd_West_2045 AM Pk Hr_Build Alt.sip9

MOVEMENT SUMMARY

W Site: 102 [SR 544/Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt Site Category: (None) Roundabout

| | Tum | INP | | DEM | | Deg | Aver | Level of | | ACK OF | Prop. | Effective | Aver. | Aver |
|-------|---------|-----------------|----------|----------------|------|-------|-------|----------|------------|----------------|-------|--------------|---------------|-------|
| ID | | VOLU [Total | HV I | FLC Total | HV] | Satn | Delay | Service | QL [Veh | IEUE Dist] | Que | Stop Rate | No. Cycles | Speed |
| - | | veh/h | % | veh/h | % | v/c | sec | 100 | veh | fl | - | | N. Mariana | mph |
| South | h: Lake | Smart E | states D | riveway | | | | | | | | | | |
| 3 | L2 | 34 | 0.0 | 36 | 0.0 | 0.177 | 14.3 | LOS B | 0.6 | 14.0 | 0.80 | 0.80 | 0.80 | 25.8 |
| 8 | T1 | 1 | 0.0 | 1 | 0.0 | 0.177 | 14.3 | LOS B | 0.6 | 14.0 | 0.80 | 0.80 | 0.80 | 25.6 |
| 18 | R2 | 20 | 0.0 | 21 | 0.0 | 0.177 | 14.3 | LOS B | 0.6 | 14.0 | 0.80 | 0.80 | 0.80 | 24.6 |
| Appro | oach | 55 | 0.0 | 58 | 0.0 | 0.177 | 14.3 | LOS B | 0.6 | 14.0 | 0.80 | 0.80 | 0.80 | 25.3 |
| East: | SR 54 | 4 | | | | | | | | | | | | |
| 1 | L2 | 6 | 0.0 | 6 | 0.0 | 0.702 | 13.6 | LOS B | 9.0 | 234.9 | 0.64 | 0.56 | 0.82 | 24.8 |
| 6 | T1 | 1500 | 5.0 | 1579 | 5.0 | 0.702 | 13.7 | LOS B | 9.0 | 234.9 | 0.64 | 0.56 | 0.82 | 31.1 |
| 16 | R2 | 20 | 3.0 | 21 | 3.0 | 0.702 | 13.6 | LOS B | 9.0 | 234.9 | 0.64 | 0.56 | 0.82 | 30.2 |
| Appro | bach | 1526 | 5.0 | 1606 | 5.0 | 0.702 | 13.7 | LOS B | 9.0 | 234.9 | 0.64 | 0.56 | 0.82 | 31.0 |
| North | : Old L | ucerne P | ark Rd (| west) | | | | | | | | | | |
| 7 | L2 | 17 | 3.0 | 18 | 3.0 | 0.692 | 41.5 | LOS E | 3.4 | 86.2 | 0.92 | 1.15 | 1.82 | 22.3 |
| 4 | T1 | 2 | 0.0 | 2 | 0.0 | 0.692 | 41.2 | LOS E | 3.4 | 86.2 | 0.92 | 1.15 | 1.82 | 15.9 |
| 14 | R2 | 375 | 3.0 | 395 | 3.0 | 0.692 | 38.4 | LOS E | 3.5 | 89.6 | 0.91 | 1.14 | 1.82 | 22.5 |
| Appro | bach | 394 | 3.0 | 415 | 3.0 | 0.692 | 38.6 | LOS E | 3.5 | 89.6 | 0.91 | 1.14 | 1.82 | 22.4 |
| West | SR 54 | 4 | | | | | | | | | | | | |
| 5 | L2 | 136 | 3.0 | 143 | 3.0 | 0.623 | 10.2 | LOS B | 5.5 | 141.5 | 0.22 | 0.07 | 0.22 | 32.3 |
| 2 | T1 | 1414 | 5.0 | 1488 | 5.0 | 0.623 | 10.2 | LOS B | 5.5 | 141.5 | 0.22 | 0.07 | 0.22 | 32.4 |
| 12 | R2 | 15 | 0.0 | 16 | 0.0 | 0.623 | 10.1 | LOS B | 5.4 | 140.9 | 0.22 | 0.07 | 0.22 | 26.9 |
| Appro | bach | 1565 | 4.8 | 1647 | 4.8 | 0.623 | 10.2 | LOS B | 5.5 | 141.5 | 0.22 | 0.07 | 0.22 | 32.4 |
| | hicles | 3540 | 4.6 | 3726 | 4.6 | 0.702 | 14.9 | LOS B | 9.0 | 234.9 | 0.49 | 0.41 | 0.67 | 30.3 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

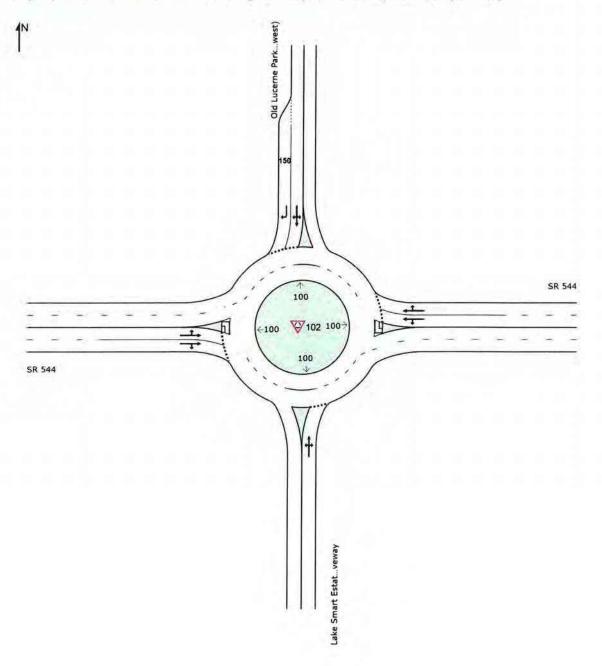
Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Friday, November 4, 2022 12:45:25 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\AM Pk Hr\SR 544_OLP Rd_West_2045 AM Pk Hr_Build Alt.sip9

SITE LAYOUT

V Site: 102 [SR 544/Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Friday, November 4, 2022 12:49:45 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\PM Pk Hr\SR 544_OLP Rd_West_2045 PM Pk Hr_Build Alt.sip9

MOVEMENT SUMMARY

V Site: 102 [SR 544/Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt Site Category: (None) Roundabout

| Mov ID | Turn | INF VOLU | | DEM FLO | | Deg | | Level of | | ACK OF | Prop Oue | Effective | Aver | Ave |
|-----------|---------|------------------|----------|------------------|-----------|-------------|------|----------|--------------|-------------|-------------|--------------|---------------|-------|
| | | (Total veh/h | HV] | [Total veh/h | HV] % | Satn v/c | sec | Service | (Veh veh | Dist] ft | Que | Stop Rate | No. Cycles | Speer |
| Sout | h: Lake | Smart E | states D | riveway | | | | | | | | | | - |
| 3 | L2 | 15 | 0.0 | 15 | 0.0 | 0.086 | 14.1 | LOS B | 0.3 | 6,5 | 0.81 | 0.81 | 0.81 | 25, |
| 3 | T1 | 1 | 0.0 | 1 | 0.0 | 0.086 | 14.1 | LOS B | 0.3 | 6.5 | 0.81 | 0.81 | 0.81 | 25. |
| 18 | R2 | 8 | 0.0 | 8 | 0.0 | 0.086 | 14.1 | LOS B | 0.3 | 6.5 | 0.81 | 0.81 | 0.81 | 24. |
| Appr | oach | 24 | 0.0 | 25 | 0.0 | 0.086 | 14.1 | LOS B | 0.3 | 6.5 | 0.81 | 0.81 | 0.81 | 25.4 |
| East | SR 54 | 4 | | | | | | | | | | | | |
| 1 | L2 | 16 | 0.0 | 16 | 0.0 | 0.722 | 16.4 | LOS C | 10.5 | 268.6 | 0.81 | 1.07 | 1.54 | 23. |
| 5 | T1 | 1304 | 3.0 | 1344 | 3.0 | 0.722 | 16.5 | LOS C | 10.5 | 268.6 | 0.81 | 1.07 | 1.54 | 29. |
| 6 | R2 | 22 | 3.0 | 23 | 3.0 | 0.722 | 16.5 | LOS C | 10.5 | 268.6 | 0.81 | 1.07 | 1.54 | 29. |
| Appro | oach | 1342 | 3.0 | 1384 | 3.0 | 0.722 | 16.5 | LOS C | 10.5 | 268.6 | 0.81 | 1.07 | 1.54 | 29.9 |
| North | : Old L | ucerne P | ark Rd (| west) | | | | | | | | | | |
| , | L2 | 25 | 3.0 | 26 | 3.0 | 0.210 | 13.8 | LOS B | 0.7 | 17.5 | 0.77 | 0.77 | 0.77 | 30.3 |
| 1 | T1 | 4 | 0.0 | 4 | 0.0 | 0.210 | 13.5 | LOS B | 0.7 | 17.5 | 0.77 | 0.77 | 0.77 | 24. |
| 14 | R2 | 128 | 3.0 | 132 | 3.0 | 0.210 | 12.7 | LOS B | 0.7 | 17.5 | 0.75 | 0.75 | 0.75 | 30. |
| Appro | oach | 157 | 2.9 | 162 | 2.9 | 0.210 | 12.9 | LOS B | 0.7 | 17.5 | 0.76 | 0.76 | 0.76 | 30, |
| Vest | SR 54 | 4 | | | | | | | | | | | | |
| 5 | L2 | 362 | 3.0 | 373 | 3.0 | 0.693 | 12.1 | LOS B | 7.3 | 185.7 | 0.36 | 0.15 | 0.36 | 31.0 |
| 2 | T1 | 1380 | 3.0 | 1423 | 3.0 | 0.693 | 12.1 | LOS B | 7.3 | 186.1 | 0.36 | 0.15 | 0.36 | 31.4 |
| 2 | R2 | 34 | 0.0 | 35 | 0.0 | 0.693 | 12.0 | LOS B | 7.3 | 186.1 | 0.36 | 0.15 | 0.36 | 25.9 |
| ppro | bach | 1776 | 2.9 | 1831 | 2.9 | 0.693 | 12.1 | LOS B | 7.3 | 186.1 | 0.36 | 0.15 | 0.36 | 31.3 |
| | hicles | 3299 | 2.9 | 3401 | 2.9 | 0.722 | 13.9 | LOS B | 10.5 | 268.6 | 0.57 | 0.56 | 0.86 | 30.0 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

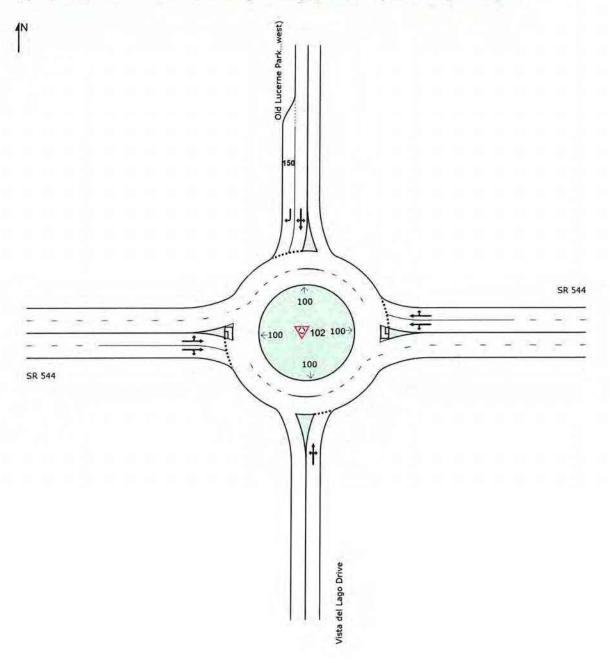
Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Friday, November 4, 2022 12:49:19 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\PM Pk Hr\SR 544_OLP Rd_West_2045 PM Pk Hr_Build Alt.sip9

SITE LAYOUT

V Site: 102 [SR 544/Realigned Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Friday, November 4, 2022 12:48:23 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\AM Pk Hr\SR 544_Realigned OLP Rd_West_2045 AM Pk Hr_Build Alt 2.sip9

MOVEMENT SUMMARY

V Site: 102 [SR 544/Realigned Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

| Mov Turn ID | Turn | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn | Aver. Delay | | | 95% BACK OF QUEUE | | Effective Stop | Aver. No | Aver. Speed |
|----------------|----------|------------------|----------|------------------|------|--------------|----------------|---------|---------------|----------------------|------|-------------------|-------------|----------------|
| | | (Total veh/h | HV] | [Total veh/h | HV] | vic | sec | Gervice | (Veh. veh | Dist] | Que | Rate | Cycles | mph |
| Sout | h: Vista | del Lago | | COM IN | | | 000 | | - Cont | | - | - | | 10.54 |
| 3 | L2 | 35 | 0.0 | 37 | 0.0 | 0.223 | 15.1 | LOS C | 0.7 | 18.0 | 0.81 | 0.82 | 0.83 | 25.5 |
| 8 | T1 | 1 | 0.0 | 1 | 0.0 | 0.223 | 15.1 | LOS C | 0.7 | 18.0 | 0.81 | 0.82 | 0.83 | 25.4 |
| 18 | R2 | 34 | 0.0 | 36 | 0.0 | 0.223 | 15.1 | LOS C | 0.7 | 18.0 | 0.81 | 0.82 | 0.83 | 24.4 |
| Appr | oach | 70 | 0.0 | 74 | 0.0 | 0.223 | 15.1 | LOS C | 0.7 | 18.0 | 0.81 | 0.82 | 0.83 | 25.0 |
| East: | SR 54 | 4 | | | | | | | | | | | | |
| 1 | L2 | 11 | 0.0 | 12 | 0.0 | 0.692 | 13.2 | LOS B | 8.4 | 218.9 | 0.63 | 0.54 | 0.79 | 25.0 |
| 6 | T1 | 1471 | 5.0 | 1548 | 5.0 | 0.692 | 13.4 | LOS B | 8.4 | 218.9 | 0.63 | 0.54 | 0.79 | 31.2 |
| 16 | R2 | 20 | 3.0 | 21 | 3.0 | 0.692 | 13.3 | LOS B | 8.4 | 218.8 | 0.63 | 0.54 | 0.79 | 30.3 |
| Appro | oach | 1502 | 4.9 | 1581 | 4.9 | 0.692 | 13.4 | LOS B | 8.4 | 218.9 | 0.63 | 0.54 | 0.79 | 31.2 |
| North | : Old L | ucerne P | ark Rd (| west) | | | | | | | | | | |
| 7 | L2 | 17 | 3.0 | 18 | 3.0 | 0.678 | 39.5 | LOS E | 3.3 | 83.8 | 0.91 | 1.13 | 1.78 | 22.7 |
| 4 | T1 | 1 | 0.0 | 1 | 0.0 | 0.678 | 39.1 | LOS E | 3.3 | 83.8 | 0.91 | 1.13 | 1.78 | 16.3 |
| 14 | R2 | 377 | 3.0 | 397 | 3.0 | 0.678 | 36.5 | LOS E | 3.4 | 87.0 | 0.91 | 1.13 | 1.77 | 22.9 |
| Appro | oach | 395 | 3.0 | 416 | 3.0 | 0.678 | 36.7 | LOS E | 3.4 | 87.0 | 0.91 | 1.13 | 1.77 | 22.9 |
| West | : SR 54 | 14 | | | | | | | | | | | | |
| 5 | L2 | 137 | 3.0 | 144 | 3.0 | 0.620 | 10.1 | LOS B | 5.4 | 139.0 | 0.24 | 0.08 | 0.24 | 32.3 |
| 2 | T1 | 1403 | 5.0 | 1477 | 5.0 | 0.620 | 10.2 | LOS B | 5.4 | 139.0 | 0.24 | 0.08 | 0.24 | 32.4 |
| 12 | R2 | 11 | 0.0 | 12 | 0.0 | 0.620 | 10.1 | LOS B | 5.3 | 138.4 | 0.24 | 0.08 | 0.24 | 27.0 |
| Appro | bach | 1551 | 4.8 | 1633 | 4.8 | 0.620 | 10.2 | LOS B | 5.4 | 139.0 | 0.24 | 0.08 | 0.24 | 32.4 |
| | hicles | 3518 | 4.6 | 3703 | 4.6 | 0.692 | 14.6 | LOS B | 8.4 | 218.9 | 0.49 | 0.41 | 0.66 | 30.4 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

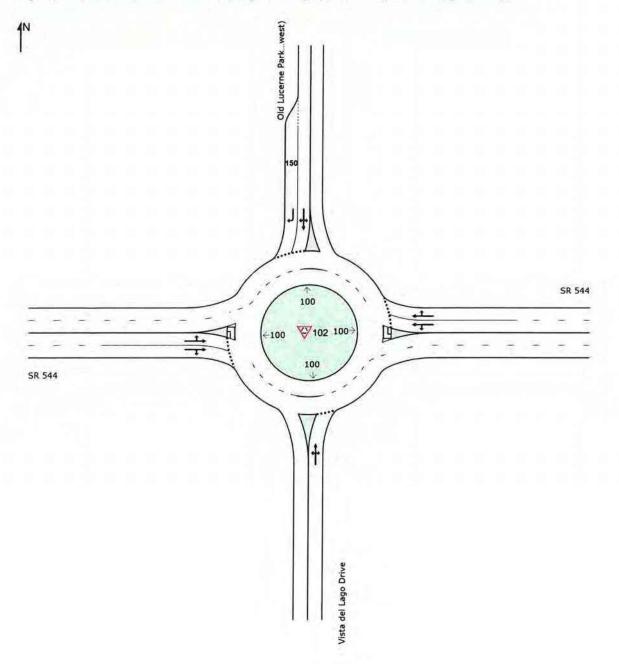
Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Friday, November 4, 2022 12:48:23 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\AM Pk Hr\SR 544_Realigned OLP Rd_West_2045 AM Pk Hr_Build Alt 2.sip9

SITE LAYOUT

V Site: 102 [SR 544/Realigned Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Friday, November 4, 2022 12:33:12 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\PM Pk Hr\SR 544_Realigned OLP Rd_West_2045 PM Pk Hr_Build Alt 2.sip9

MOVEMENT SUMMARY

V Site: 102 [SR 544/Realigned Old Lucerne Park Rd (west end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

| Mov Turn ID | Tum | INPUT VOLUMES | | DEMAND FLOWS | | Deg. Satn | Aver Level of Delay Service | | 95% BACK OF QUEUE | | Prop Que | Effective | Aver | Aver |
|----------------|----------|------------------|-----------|------------------|-----------|--------------|--------------------------------|---------|----------------------|--------------|-------------|--------------|--------------|-----------------------|
| | | Total ven/h | HV] | [Total veh/h | HV] % | v/c | sec | Service | [Veh veh | Dist] ft | GUG | Stop Rate | No Cycles | Speed |
| Sout | h: Vista | del Lago | Drive | - A State And | | | | 2 | and an all | | | | ÷ | and the second second |
| 3 | L2 | 22 | 0.0 | 23 | 0.0 | 0.153 | 15.0 | LOS C | 0.5 | 11.8 | 0.82 | 0.82 | 0.82 | 25.6 |
| 8 | T1 | 1 | 0.0 | 1 | 0.0 | 0.153 | 15.0 | LOS C | 0.5 | 11.8 | 0.82 | 0.82 | 0.82 | 25.5 |
| 18 | R2 | 21 | 0.0 | 22 | 0.0 | 0.153 | 15.0 | LOS C | 0.5 | 11.8 | 0.82 | 0.82 | 0.82 | 24.5 |
| Appr | oach | 44 | 0.0 | 45 | 0.0 | 0.153 | 15.0 | LOS C | 0.5 | 11.8 | 0.82 | 0.82 | 0.82 | 25.1 |
| East | SR 54 | 4 | | | | | | | | | | | | |
| 1 | L2 | 36 | 0.0 | 37 | 0.0 | 0.735 | 17.1 | LOS C | 11.1 | 282.6 | 0.83 | 1.12 | 1.61 | 23.2 |
| 6 | T1 | 1298 | 3.0 | 1338 | 3.0 | 0.735 | 17.2 | LOS C | 11.1 | 282.6 | 0.83 | 1.12 | 1.61 | 29.6 |
| 16 | R2 | 22 | 3.0 | 23 | 3.0 | 0.735 | 17.2 | LOS C | 11.0 | 282.4 | 0.83 | 1.12 | 1.61 | 28.9 |
| Appr | oach | 1356 | 2.9 | 1398 | 2.9 | 0.735 | 17.2 | LOS C | 11.1 | 282.6 | 0.83 | 1.12 | 1.61 | 29.5 |
| North | : Old L | ucerne P | ark Rd (v | west) | | | | | | | | | | |
| 7 | L2 | 25 | 3.0 | 26 | 3.0 | 0.216 | 14.2 | LOS B | 0.7 | 17.9 | 0.78 | 0.78 | 0.78 | 30.1 |
| 4 | T1 | 1 | 0.0 | 1 | 0.0 | 0.216 | 13.9 | LOS B | 0.7 | 17.9 | 0.78 | 0.78 | 0.78 | 24.0 |
| 14 | R2 | 132 | 3.0 | 136 | 3.0 | 0.216 | 13.0 | LOS B | 0.7 | 17.9 | 0.76 | 0.76 | 0.76 | 30.1 |
| Appro | oach | 158 | 3.0 | 163 | 3.0 | 0.216 | 13.2 | LOS B | 0.7 | 17.9 | 0.76 | 0.76 | 0.76 | 30.0 |
| Nest | SR 54 | 4 | | | | | | | | | | | | |
| 5 | L2 | 363 | 3.0 | 374 | 3.0 | 0.691 | 12.2 | LOS B | 7.0 | 178.8 | 0.42 | 0.20 | 0.42 | 30.9 |
| 2 | T1 | 1344 | 3.0 | 1386 | 3.0 | 0.691 | 12.2 | LOS B | 7.0 | 179.2 | 0.42 | 0.20 | 0.42 | 31.4 |
| 12 | R2 | 36 | 0.0 | 37 | 0.0 | 0.691 | 12.1 | LOS B | 7.0 | 179.2 | 0.42 | 0.20 | 0.42 | 25.9 |
| Appro | oach | 1743 | 2.9 | 1797 | 2.9 | 0.691 | 12.2 | LOS B | 7.0 | 179.2 | 0.42 | 0.20 | 0.42 | 31.2 |
| | hicles | 3301 | 2.9 | 3403 | 2.9 | 0.735 | 14.3 | LOS B | 11.1 | 282.6 | 0.61 | 0.61 | 0.93 | 30.4 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / IPC | Processed: Monday, October 10, 2022 1:57:18 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\PM Pk Hr\SR 544_Realigned OLP Rd_West_2045 PM Pk Hr_Build Alt 2.sip9 Appendix E

Preliminary Roundabout Geometric Concepts



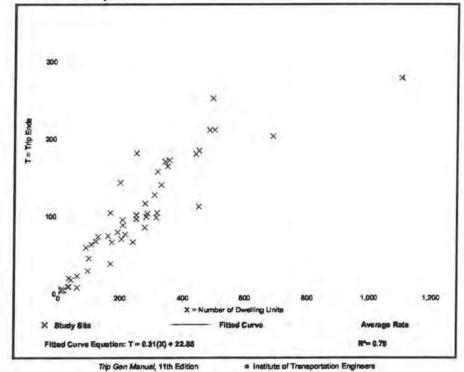


Appendix F

Villas at Lake Smart Trip Generation Estimates

| | | using (Lo tail Transit | | | |
|-------------------------------|---|------------------------------|--|--|--|
| Vehicle 1 | Mp Ends vs: On a: | | djacent Street Traffic, reen 7 and 9 a.m. | | |
| | ng/Location: | | | | |
| Avg. Num. of D | er of Studies: welling Units: I Distribution: | 49 249 24% entering, 7 | 6% exiting | | |
| Vehicle Trip Generation per l | Dwelling Ur | hit | | | |
| Average Rate | Range of | Rates | Standard Deviation | | |
| 0.40 | 0.13-0 | 0.73 | 0 12 | | |

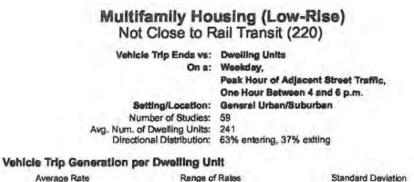
Data Plot and Equation



have been all most to a site in the line of the second second

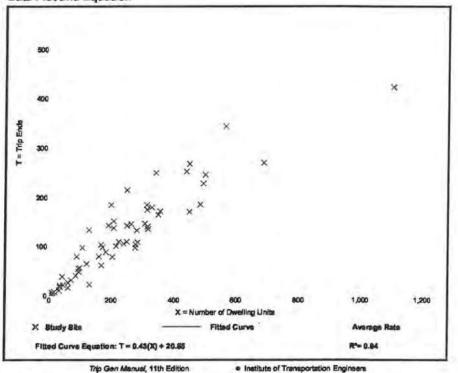
 $T = 0.31(220) + 22.85 \cong 91 \text{ trips}$ T(inbound) = 0.24(91) = 22 T(outbound) = 0.76(91) = 69

https://tatripgen.org/PrintGraph.htm?code=220&Webs/=UNITS220&Umsperiod=TASIDE&x=&edition=63



Average Rate Range of Rates 0.51 0.08 - 1.04 0.15

Data Plot and Equation



Trip Gen Manual, 11th Edition

https://latripgen.org/PrintGraph.htm?code=220&iviabe=UNITS220&timeperiod=TPSIDE&x=&editor=839&locationCode=General Urban/Suburban&c... 1/1

$$T = 0.43(220) + 20.55 = 115 \text{ trips}$$

$$T(\text{inbound}) = 0.63(115) = 72$$

$$T(\text{outbound}) = 0.37(115) = 43$$

CERTIFICATION

AGENCY: Florida Department of Transportation District One 801 North Broadway Avenue Bartow, Florida 33831-1249

I hereby certify that I am a registered professional engineer in the State of Florida and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions and technical advice hereby reported for:

| REPORT: | SR 544/Avenue Y Intersection Control Evaluation (ICE) - Stage 1 | | | | | |
|----------------------|---|--|--|--|--|--|
| PROJECT: | SR 544 Project Development and Environment (PD&E) Study | | | | | |
| LOCATION: | SR 544 from Martin Luther King Boulevard to SR 17 Polk County, Florida | | | | | |
| ROADWAY ID: 16140000 | | | | | | |

MILEPOST No: 4.169

FPID No.: 440273-1-22-01

I acknowledge that the procedures and references used to develop the information contained in this memorandum are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

| Engineer in Responsible Charge: | Anastasiya A. Senyushkina | A A. SEN | |
|---------------------------------|---------------------------|----------------------|---|
| Professional Registration No.: | 82191 | No. 82191 | Anastasiya A Senyushkina 2023.01.17 14 <mark>:4</mark> 6:48-05'00' |
| Date: | 1/17/2023 | - STATE OF CONTINUES | |





AIM Engineering & Surveying, Inc.

Tampa Office 201 E. Kennedy Boulevard, Suite 1800 Tampa, Florida 33602 813-627-4144 www.aimengr.com

| Date: | January 17, 2023 |
|----------|---|
| То: | David C. Turley, P.E. – FDOT District One DEMO Project Manager Abra Horne – FDOT District One Planning and Environmental Administrator |
| From: | Greg Root/Anastasiya Senyushkina, P.E. |
| Subject: | SR 544/Avenue Y Intersection (Polk County) – Revised Stage 1+ Intersection Control Evaluation |

INTRODUCTION/PROJECT BACKGROUND

This memorandum documents the Intersection Control Evaluation (ICE) conducted for the Avenue Y intersection. This analysis was conducted in support of the SR 544 Project Development & Environment (PD&E) Study from Martin Luther King Boulevard to SR 17 in Polk County. The length of this study corridor is approximately 8.1 miles. SR 544 is a two-lane undivided roadway with 12-foot travel lanes both south and north of Avenue Y. South of Avenue Y, the roadway includes four-foot paved shoulders, curb and gutter and sidewalks on both sides of the road. North of Avenue Y, the roadway includes four-foot paved shoulders, curb and gutter or sidewalks. There are no paved shoulders, curb and gutter or sidewalks on Avenue Y.

To minimize the impacts to this lower income historic residential community, the PD&E study is recommending a three-lane typical section for the portion of SR 544 south of Avenue Y. This typical section provides one 12-foot travel lane in each direction, a 12-foot two-way center left-turn lane, curb and gutter, and eight-foot sidewalks on both sides of the road. Eight-foot raised medians are also provided for pedestrian crossing refuge at strategic locations within the Florence Villa neighborhood. The design speed and target speed for this typical section is 35 mph. North of Avenue Y, the proposed four-lane divided typical section consists of two 11-foot inside travel lanes, two 12-foot outside travel lanes, a 22-foot raised median, curb and gutter, and 10-foot shared use paths on both sides of the roadway. The design speed and target speed north of Avenue Y is 45 mph.

This memorandum documents the Stage 1 CAP-X and SPICE analyses, as well as the more detailed traffic operations analyses conducted using the SYNCHRO and SIDRA software. The opening year (2025) and design year (2045) Average Annual Daily Traffic (AADT) volumes documented in the FDOT approved Project Traffic Analysis Report (PTAR) are provided in **Appendix A**, along with the 2045 a.m. and p.m. peak hour volumes documented in this same report.

EXISTING INTERSECTION CHARACTERISTICS

This intersection is a four-legged unsignalized intersection. Avenue Y is the east and west leg of this intersection and is controlled by stop signs. There are churches in the northeast and northwest

quadrants of the intersection. There is also a lawn mower repair business in the southeast quadrant along with three residential dwelling units that are currently unoccupied/abandoned. The land in the southwest quadrant is currently vacant. There are three cross street intersections located in close proximity to the Avenue Y intersection. The Bishop James Cochran Way intersection is on the north side of Avenue Y approximately 110 feet west of SR 544 and the 5th Street NE intersection is on the south side of Avenue Y approximately 200 feet east of SR 544. The 4th Street NE intersection is located on the east side of SR 544 approximately 180 feet south of Avenue Y. An aerial image of the Avenue Y intersection is provided in **Figure 1** in **Appendix A**. The posted speed limits on the south and north legs of the intersection are 35 miles per hour (mph) and 45 mph, respectively. The posted speed limit on the east and west legs of the intersection is 20 mph.

Crash data was provided by District One for the years 2014 through 2019. The data sources were FDOT's Crash Analysis Reporting System (CARS) and Signal Four Analytics. This crash data is included in **Appendix A**. The intersection has experienced 45 crashes over this six-year period, resulting in 29 injuries and no fatalities. The most prevalent crash types are left-turn/angle crashes (26) and rear-end crashes (13). Although there were no crashes involving bicyclists or pedestrians, there is pedestrian and bicycle activity in the vicinity of the intersection. During a 12-hour time period in 2017, 62 pedestrian crossings and 32 bicycle crossings were observed on the four legs of this intersection. In addition, there were 35 pedestrians and 17 bicyclists crossing SR 544 at 4th Street NE during an eighthour time period in 2019. The bicycle and pedestrian crossing data is also provided in **Appendix A**.

INTERSECTION CONTROL EVALUATION

The PD&E study goals are to determine the location and conceptual design of the improvement(s) that satisfy the purpose and need for the project, while also minimizing the impacts to the natural and social environment and satisfying the requirements of the National Environmental Policy Act (NEPA). Although the 2045 traffic volumes support the need for four lanes throughout the entire PD&E study corridor, the two-lane undivided portion of SR 544 between Martin Luther King Boulevard and Avenue Y bisects the historic Florence Villa residential community. The existing land use on either side of SR 544 throughout this portion of the study corridor is primarily lower income residential with dozens of homes having direct driveway access onto SR 544. There are also several churches and convenience stores located adjacent to the roadway. The existing right-of-way width through Florence Villa varies from 50 feet to 84 feet.

Based on the existing churches in the vicinity of the intersection, as well as the lower income residential dwelling units to the south and west of this intersection, the ability to provide significant capacity improvements at this intersection, while at the same time avoiding negative economic impacts to the Florence Villa community, is extremely limited. District One conducted a traffic signal warrant study for the Avenue Y intersection in 2016 and a signal was not proven to be warranted. An additional analysis of this intersection was conducted by FDOT in March 2021 to assess the growth in traffic volumes that has occurred both on SR 544 (2015 – 2019 AADT volumes) and on Avenue Y (2004, 2006, 2009, 2012 and 2016 hourly volumes). The results of this assessment indicated that vehicular volumes on the eastbound and westbound Avenue Y approaches have not seen significant changes since the first traffic study was conducted back in 2004. In addition, the surrounding land uses have also remained constant over time. Based on this, FDOT concluded that if another traffic signal warrant study was to be conducted at this time it would yield results similar to the 2016 study results and a signal would still not be warranted. The March 19, 2021 Historical Traffic Volume Data Analysis memorandum provided by FDOT is included in **Appendix B**. Although a traffic signal is not currently warranted at this location, the design year traffic projections indicate there is a strong likelihood that a signal could be warranted in the future. The 2045 AADT volumes on SR 544 north of Avenue Y and

on Avenue Y west of SR 544 are projected to be 37,000 vehicles per day (vpd) and 11,000 vpd, respectively. In addition, the 2045 peak hour volumes for the eastbound and southbound left-turn movements are projected to exceed 300 vehicles per hour. These high traffic volumes are due to the large amounts of future growth in residential and non-residential land use projected to occur north of Avenue Y.

The following alternative intersection control strategies were initially analyzed for this intersection:

- Two-way stop control
- All-way stop control
- Conventional traffic signal
- Unsignalized Restricted Crossing U-Turn (RCUT)
- Signalized RCUT
- Unsignalized Thru-Cut
- Signalized Thru-Cut
- Median U-Turn (MUT)
- One-lane x one-lane roundabout
- Two-lane (SR 544) x one-lane (Avenue Y) roundabout
- Two-lane x two-lane roundabout

The results of the 2045 CAP-X and SPICE analyses are summarized in **Table 1**. The CAP-X and SPICE analysis summary sheets for this intersection are provided in **Appendix C**. Based on the high v/c ratios estimated for the stop control intersections and the unsignalized RCUT and Thru-Cut intersections, these alternatives were eliminated from any further consideration. The signalized RCUT, signalized Thru-Cut and MUT intersections were also eliminated because they would require additional right-of-way south of 4th Street NE to provide a u-turn lane on SR 544.

| Table 1: Stage 1 ICE Analysis Summary - Avenue Y Intersection | | | | | | | | | |
|---|---|---|---|--|--|--|--|--|--|
| 2045 V/ | C Ratios | Life-Cyc | cle Crashes | SSI Scores | | | | | |
| AM Peak | PM Peak | | | Opening | Design | | | | |
| Hour | Hour | Total | Fatal & Injury | Year | Year | | | | |
| 12.35 | 23.28 | 156 | 58 | 69 | 53 | | | | |
| 2.09 | 2.07 | 93 | 36 | 91 | 83 | | | | |
| 0.88 | 0.82 | 191 | 67 | 81 | 67 | | | | |
| 3.34 | 3.22 | n/a | n/a | 83 | 74 | | | | |
| 1.11 | 1.01 | 384 | 97 | 90 | 85 | | | | |
| 258.26 | 406.41 | n/a | n/a | 83 | 72 | | | | |
| 1.15 | 0.97 | n/a | n/a | 89 | 81 | | | | |
| 1.05 | 1.11 | 162 | 47 | 92 | 86 | | | | |
| 1.57 | 2.39 | 70 | 12 | 93 | 89 | | | | |
| 1.07 | 1.67 | 206 | 33 | 87 | 81 | | | | |
| 0.90 | 1.57 | 206 | 33 | 87 | 81 | | | | |
| | 2045 V/ AM Peak Hour 12.35 2.09 0.88 3.34 1.11 258.26 1.15 1.05 1.57 1.07 | 2045 V/C Ratios AM Peak PM Peak Hour Hour 12.35 23.28 2.09 2.07 0.88 0.82 3.34 3.22 1.11 1.01 258.26 406.41 1.15 0.97 1.05 1.11 1.57 2.39 1.07 1.67 | 2045 V/C Ratios Life-Cyc AM Peak PM Peak Hour Hour 12.35 23.28 2.09 2.07 93 0.88 0.88 0.82 1.11 1.01 3.34 3.22 1.11 1.01 384 258.26 406.41 1.05 1.11 1.67 206 | 2045 V/C Ratios Life-Cycle Crashes AM Peak PM Peak Total Fatal & Injury 12.35 23.28 156 58 2.09 2.07 93 36 0.88 0.82 191 67 3.34 3.22 n/a n/a 1.11 1.01 384 97 258.26 406.41 n/a n/a 1.05 1.11 162 47 1.57 2.39 70 12 1.07 1.67 206 33 | 2045 V/C Ratios Life-Cycle Crashes SSI Stress AM Peak PM Peak Opening Opening Hour Hour Total Fatal & Injury Year 12.35 23.28 156 58 69 2.09 2.07 93 36 91 0.88 0.82 191 67 81 3.34 3.22 n/a n/a 83 1.11 1.01 384 97 90 258.26 406.41 n/a n/a 83 1.15 0.97 n/a n/a 89 1.05 1.11 162 47 92 1.57 2.39 70 12 93 1.07 1.67 206 33 87 | | | | |

Red font denotes a v/c ratio > 1.00

Lowest number of crashes of all alternatives analyzed

n/a = No Safety Performance Function (SPF) available

Design year peak hour SYNCHRO and SIDRA analyses were conducted for the conventional signalized intersection and the two-lane x two-lane roundabout, and a tabular summary of the results is provided in **Table 2.** The conventional signalized intersection is projected to operate with lower overall average delays during both peak hours. In addition, none of the individual movements at the

conventional signalized intersection are projected to operate over capacity. Multiple movements are projected to operate over capacity with the two-lane x two-lane roundabout. The design year SYNCHRO and SIDRA analysis summary sheets are also provided in **Appendix D**.

| Table 2: Design Year (2045) Peak Hour Operational Analysis Summary | | | | | | | | | |
|--|------------|-------------|--------------|-----|--|--|--|--|--|
| Signalized Intersection | | | | | | | | | |
| Intersection | AM Pea | ak Hour | PM Peak Hour | | | | | | |
| Approach | Avg. Delay | LOS | Avg. Delay | LOS | | | | | |
| Northbound | 25.6 | С | 42.2 | D | | | | | |
| Southbound | 34.7 | С | 38.0 | D | | | | | |
| Westbound | 52.0 | D | 39.8 | D | | | | | |
| Eastbound | 93.5 | F | 69.3 | E | | | | | |
| Overall | 41.0 | D | 45.2 | D | | | | | |
| | Two-La | ne Roundabo | ut | | | | | | |
| Intersection | AM Pea | ak Hour | PM Peak Hour | | | | | | |
| Approach | Avg. Delay | LOS | Avg. Delay | LOS | | | | | |
| Northbound | 17.9 | С | 81.6 | F | | | | | |
| Southbound | 66.8 | F | 52.1 | F | | | | | |
| Westbound | 98.2 | F | 38.9 | E | | | | | |
| Eastbound | 19.5 | С | 42.6 | E | | | | | |
| Overall | 51.4 | F | 58.8 | F | | | | | |

Geometric improvement concepts were developed for these two alternatives and are included in **Appendix E**. The original roundabout concept took into consideration the constrained nature of SR 544 south of Avenue Y. This roundabout provided only one southbound departure lane. The single northbound lane on SR 544 south of 4th Street NE was widened to provide a two-lane approach at the roundabout to facilitate the transition from a two-lane typical section (south of Avenue Y) to a four-lane typical section (north of Avenue Y) and to reduce the delays and vehicle queues on northbound SR 544. Both alternatives result in significant right-of-way impacts to the Florence Villa neighborhood including residential relocations and impacts to the Friendship Missionary Baptist Church. In addition, the two-lane roundabout concept also results in significant right-of-way impacts to the St. Paul Holiness Church. To reduce the overall impacts to the Florence Villa community, additional signalized intersection and roundabout concepts were developed. These additional concepts provide less laneage on the intersection approaches and result in smaller right-of-way footprints. The "minimized" signalized intersection concept and the one-lane roundabout concept are also provided in **Appendix E**.

Although the revised concepts would reduce the total right-of-way impacts to the northern end of the Florence Villa neighborhood, they would still result in residential impacts, as well as impacts to the Friendship Missionary Baptist Church and impacts to existing local street access. In addition, the onelane roundabout would also result in significant right-of-way impacts to the St. Paul Holiness Church. Consequently, a one-lane mini-roundabout improvement concept was subsequently developed. This mini-roundabout concept has a 90-foot inscribed circle diameter (ICD) and is also included in **Appendix E**. The National Cooperative Highway Research Program (NCHRP) Report 672 states that "mini-roundabout ICD should generally not exceed 90 feet". A mini-roundabout is often considered as an alternative to a larger one-lane roundabout when right-of-way impact minimization is of paramount importance. As indicated in the improvement concept graphic, the right-of-way impacts associated with a mini-roundabout are limited to four parcels. In addition, there are no right-of-way impacts to the Friendship Missionary Baptist Church and minimal impacts to the St. Paul Holiness Church.

Since this alternative provides less capacity than the previous alternatives, it cannot accommodate the projected 2045 peak hour traffic volumes. Interim year SIDRA analyses were conducted to determine the approximate year when the capacity of the mini-roundabout would be reached. Prior to conducting these analyses, adjustments were made to the a.m. and p.m. peak hour volumes on the northbound SR 544 intersection approach. The northbound approach volumes documented in the approved PTAR assume that 100 percent of the design year peak hour traffic volumes can be processed through the signalized SR 544/Martin Luther King Boulevard intersection. To minimize right-of-way impacts to the existing commercial land uses located in the vicinity of the Martin Luther King Boulevard intersection, as well as to the existing residential land uses located further north and east of this intersection. No additional lanes will be provided on the south, west and east legs of this intersection. Consequently, the total design year peak hour volumes that can be processed through the Martin Luther King Boulevard intersection are significantly lower than the peak volumes documented in the PTAR.

Additional signalized intersection analyses were conducted for the Martin Luther King Boulevard intersection using the SYNCHRO software to estimate the maximum a.m. and p.m. peak hour volumes that could be accommodated at this intersection (and the maximum a.m. and p.m. peak hour northbound departure volumes that could be expected to occur). The constrained northbound departure volumes at the Martin Luther King Boulevard intersection were incorporated into the interim year Avenue Y mini-roundabout analyses. The interim year peak hour mini-roundabout traffic operations are summarized in **Table 3**. The southbound approach is projected to reach capacity by the year 2029, while the northbound approach is projected to have an average delay greater than 50 seconds/vehicle (also resulting in Level of Service F) by the year 2031. The interim year SIDRA analysis summary sheets are also provided in **Appendix D**.

| Table 3: Interim Year Peak Hour Operational Analysis Summary - Mini-Roundabout | | | | | | | | | |
|--|-----------|-------------|----------|--------------|-------------|-----|--|--|--|
| Year 2029 | | | | | | | | | |
| Intersection | | AM Peak Hou | r | | PM Peak Hou | r | | | |
| Approach | V/C Ratio | Avg. Delay | LOS | V/C Ratio | Avg. Delay | LOS | | | |
| Northbound | 0.60 | 11.8 | В | 0.92 | 36.3 | E | | | |
| Southbound | 1.01 | 46.5 | F | 0.79 | 16.4 | С | | | |
| Westbound | 0.09 | 0.0 | А | 0.06 | 0.0 | А | | | |
| Eastbound | 0.34 | 11.6 | В | 0.51 | 13.9 | В | | | |
| Overall | n/a | 29.8 | D | n/a | 21.8 | С | | | |
| | | Y | ear 2031 | | | | | | |
| Intersection | | AM Peak Hou | r | PM Peak Hour | | | | | |
| Approach | V/C Ratio | Avg. Delay | LOS | V/C Ratio | Avg. Delay | LOS | | | |
| Northbound | 0.62 | 12.8 | В | 0.99 | 51.5 | F | | | |
| Southbound | 1.08 | 68.5 | F | 0.85 | 20.9 | С | | | |
| Westbound | 0.10 | 0.0 | А | 0.06 | 0.0 | А | | | |
| Eastbound | 0.39 | 12.4 | В | 0.62 | 18.1 | С | | | |
| Overall | n/a | 42.1 | E | n/a | 29.0 | D | | | |

RECOMMENDED INTERSECTION CONTROL STRATEGY

The implementation of a roundabout at this intersection will help vehicles transition from the 45 mph design speed/target speed proposed for SR 544 north of Avenue Y to the 35 mph design speed/target speed proposed for SR 544 south of Avenue Y. This speed control measure should increase the safety of the pedestrians and bicyclists that are crossing SR 544 at this location. A one-lane roundabout is projected to have the lowest number of fatal and injury crashes and the highest opening year and design year Safe System for Intersections (SSI) scores of all the alternatives evaluated. Given the large number of pedestrians and bicyclists utilizing the portion of SR 544 south of Avenue Y, improving the overall safety of this area for all users (vehicles, bicyclists and pedestrians) is extremely important. Other important considerations are maintaining the integrity of the Florence Villa community and avoiding any potential Environmental Justice (EJ) issues by minimizing the impacts to this lower income minority neighborhood. Consequently, a 90-foot ICD mini-roundabout is recommended for the Avenue Y intersection.

Appendix A

Existing Geometry, Existing/Future Year Traffic Volumes and Historic Crash Data



Figure 1: Existing SR 544/Avenue Y Intersection

Project Traffic Analysis Report FPID: 440273-1-22-01

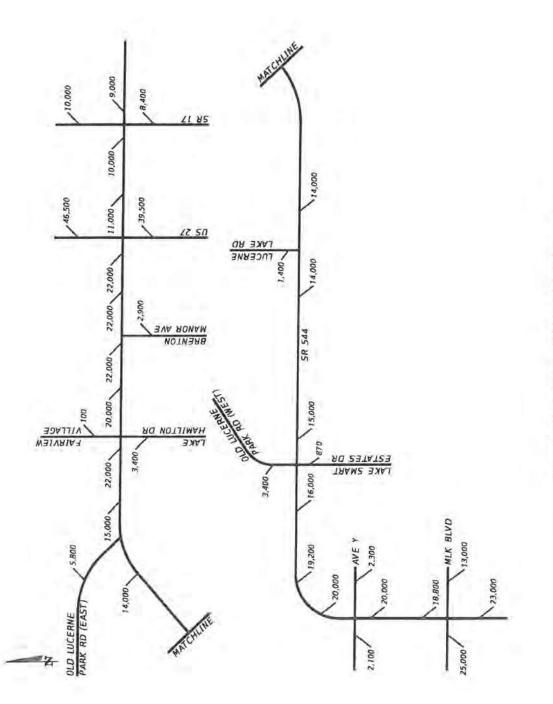


Figure 2-2: Existing (2019) AADT Volumes

Table 2-2: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Mainline)

| Location | Date | Count | SF (1) | AF (2) | AADT (3) | Growth | 2019 AADT (4) | 2019 AADT 2019 AADT 2019 AADT (4) (5) (6) | 2019 AADT (6) | Average | Final 2019 AADT |
|---|-----------|--------|--------|--------|----------|--------|------------------|---|------------------|---------|--------------------|
| South of M. L. King Boulevard (2) | 4/17/2018 | 21,686 | 0.96 | 0.95 | 19,778 | 1.0319 | 20,409 | 20,000 | 23,000 | 21,500 | 23,000 (8) |
| North of M. L. King Boulevard (7) | 4/17/2018 | 17,212 | 0.96 | 0.95 | 15,697 | 1.0319 | 16,198 | 16,000 | 18,800 | 17,400 | 18,800 (9) |
| South of Avenue Y ^[7] | 2/16/2016 | 19.748 | 0.96 | 0.97 | 18,389 | 1.0988 | 20,206 | 20,000 | e/u | | 20.000 |
| North of Avenue Y (2) | 2/16/2016 | 19,936 | 96.0 | 0.97 | 18,564 | 1.0988 | 20,399 | 20,000 | n/a | | 20,000 |
| South of Lake Conine Drive | | | | | | | | | 19.200 | | 19 200 |
| West of Old Lucerne Park Road (west end) (7) | 1/9/2018 | 16,214 | 1.01 | 0.94 | 15,394 | 1.0577 | 16,282 | 16,000 | e/u | | 16.000 |
| East of Old Lucerrie Park Road (west end) (2) | 1/9/2018 | 15,212 | 1.01 | 0.94 | 14,442 | 1.0543 | 15,226 | 15,000 | n/a | | 15.000 |
| West of Lucerne Lake Road | 10/1/2019 | 14,506 | 1.03 | 0.94 | 14,045 | 1.0000 | 14,045 | 14,000 | 14,000 | 14,000 | 14.000 |
| East of Lucerne Lake Road | 10/1/2019 | 14,608 | 1.03 | 0.94 | 14,143 | 1.0000 | 14,143 | 14,000 | n/a | | 14.000 |
| West of Old Lucerne Park Road (east end) 121 | 1/9/2018 | 18,070 | 1.01 | 0.94 | 17,156 | 1.0706 | 18,367 | 18,000 | 14,000 | 16,000 | 14,000 (10) |
| East of Old Lucerne Park Road (east end) (7) | 1/9/2018 | 14,682 | 1.01 | 0.94 | 13,939 | 1.0706 | 14,923 | 15,000 | n/a | | 15,000 |
| West of Lake Hamilton Drive/Fairview Village | 10/1/2019 | 22,630 | 1.03 | 0.94 | 21,910 | 1.0000 | 21,910 | 22,000 | n/a | | 22,000 |
| East of Lake Hamilton Drive/Fairview Village | 10/1/2019 | 20,472 | 1.03 | 0.94 | 19,821 | 1.0000 | 19,821 | 20,000 | n/a | | 20,000 |
| West of Brenton Manor Avenue | 10/1/2019 | 23,035 | 1.03 | 0.94 | 22,302 | 1.0000 | 22,302 | 22,000 | n/a | | 22,000 |
| East of Brenton Manor Avenue | 10/1/2019 | 23,127 | 1.03 | 0.94 | 22,392 | 1.0000 | 22,392 | 22,000 | n/a | | 22,000 |
| West of Hide-A-Way Lane (Hidden Cove Entr) | | | 1 | | | | | | 21,000 | | 21.000 |
| West of US 27 | 10/1/2019 | 22,701 | 1.03 | 0.94 | 21,979 | 1.0000 | 21,979 | 22,000 | e/u | | 22,000 |
| East of US 27 | 10/1/2019 | 10,954 | 1.03 | 0.94 | 10,606 | 1.0000 | 10,606 | 11,000 | 11,000 | 11,000 | 11,000 |
| West of SR 17 | 10/1/2019 | 10,500 | 1.03 | 0.94 | 10,166 | 1,0000 | 10,166 | 10,000 | n/a | | 10,000 |
| East of SR 17 | 10/1/2019 | 9,534 | 1.03 | 0.94 | 9,231 | 1.0000 | 9,231 | 9,200 | 8,800 | 000'6 | 000'6 |

N SF = Weekly Seasonal Adjustment Factor

⁽²⁾ AF = Axle Adjustment Factor

ADT = Count x SF x AF
 2019 ADT = Count x SF x AF
 2019 ADT (rounded)
 2019 ADT (rounded)
 2019 ADT founded)
 2019 ADT founded)
 2019 ADT count only at this location. The two-way volume website
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume has been greater than 21,000 vpd for the last five years.
 FDOT count station value was used because the AADT volume has been greater than 16,000 vpd for the last five years.
 FDOT count station value was used because the 2018 AADT volume at this permanent count station was equal to 13,600 vpd.

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Page 2-6

Project Traffic Analysis Report FPID: 440273-1-22-01

| M. L. King Boulevard West of SR 544 ⁽⁷⁾ 4 M. L. King Boulevard East of SR 544 ⁽⁷⁾ 4 | Date | Count | SF (1) | AF (2) | AADT (3) | Growth | 2019 AADT (4) | 2019 AADT (5) | 2019 AANT (6) | | ii. |
|--|-----------|--------|--------|--------|----------|--------|------------------|------------------|------------------|--------|------------|
| | 4/17/2018 | 26.560 | 0.96 | 0.95 | 54 223 | a | 24 005 | | DE DOD | 41 | |
| | 1471040 | 10 100 | | AGE | | | 1000'12 | 20,000 | 000.62 | 000.62 | 000'92 |
| | 81021114 | 13,582 | 0.96 | 0.85 | 12,387 | 1.0319 | 12,782 | 13,000 | 13,500 | 13.250 | 13.000 |
| | 2/16/2016 | 1,960 | 0.96 | 1.00 | 1,882 | 1.0988 | 2,068 | 2,100 | n/a | | 2.100 |
| Avenue Y East of SR 544 (7) 2 | 2/16/2016 | 2,174 | 0.96 | 1.00 | 2,087 | 1.0988 | 2.293 | 2,300 | n/a | | 2 300 |
| Old Lucerne Park Road (west end) North of SR 544 ⁽⁷⁾ | 1/9/2018 | 3,206 | 1.01 | 0.98 | 3,173 | 1.0560 | 3.351 | 3 400 | elu | | 2 400 |
| Lake Smart Estates Drive South of SR 544 ⁽⁷⁾ | 1/9/2018 | 862 | 1.01 | 1.00 | 871 | 1.0000 | 871 | 870 | n/a | | 870 |
| Lucerne Lake Road North of SR 544 | 10/1/2019 | 1,730 | 1.03 | 0.81 | 1,443 | 1.0000 | 1.443 | 1 400 | elo | | 1 400 |
| Old Lucerne Park Road (east end) North of SR 544 ⁽⁷⁾ | 1/9/2018 | 5,454 | 1.01 | 0.98 | 5,398 | 1.0706 | 5.779 | 5,800 | n/a | | 5 800 |
| Fairview Village North of SR 544 | 10/1/2019 | 96 | 1.03 | 1.00 | 66 | 1.0000 | 66 | 100 | elu | | 100 |
| Lake Hamilton Drive South of SR 544 | 10/1/2019 | 3,344 | 1.03 | 1.00 | 3.444 | 1.0000 | 3 444 | 3 400 | elu | 1 | 2 400 |
| Brenton Manor Avenue South of SR 544 | 10/1/2019 | 2,916 | 1.03 | 0.98 | 2.943 | 1.0000 | 2 943 | 2 900 | ela | | 000 C |
| US 27 North of SR 544 | 10/1/2019 | 45,009 | 1.04 | 0.94 | 44,001 | 1.0000 | 44.001 | 44 000 | AG SOO | AE DEA | AE EDD (8) |
| US 27 South of SR 544 | 10/1/2019 | 34,554 | 1.04 | 0.94 | 33.780 | 1.0000 | 33.780 | 34 000 | 30 500 | 36 760 | 30 600 (9) |
| SR 17 North of SR 544 | 10/1/2019 | 10,764 | 1.03 | 0.95 | 10.533 | 1.0000 | 10.533 | 11 000 | 002.60 | 10 350 | 00004 |
| SR 17 South of SR 544 | 10/1/2019 | 8,680 | 1.03 | 0.95 | 8,493 | 1.0000 | 8.493 | 8 500 | 8 300 | B ADD | 0 400 |

Table 2-3: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Cross Streets)

Note: Red font denotes assumed values used for this study.

SF = Weekly Seasonal Adjustment Factor
 AF = Axle Adjustment Factor
 AF = Axle Adjustment Factor
 ADT = Count's SF x AF
 2019 AADT = AADT x Growth Factor
 2019 AADT founded)
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 AADT obtained from the FDOT Florida Traffic Online website
 2019 Count station value was used because the AADT volume has been greater than 34,000 vpd for the last four years.
 FDOT count station value was used because the AADT volume has been greater than 34,000 vpd for for it last four years.

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Project Traffic Analysis Report FPID: 440273-1-22-01

Page 2-7

FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STATISTICS OFFICE 2019 HISTORICAL AADT REPORT

COUNTY: 16 - POLK

WINTER HAVEN SITE: 5153 - SR 544/1ST ST/LUCERNE PK RD, NE OF AVE U NW

| 法法法法法法法法 正正正 | -1 | 二十二 二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二 | -1 | and the state of t | | | | 1 1 | | |
|---------------------------------------|--|---|---|--|---|--|---|---|--|---|
| | | 9300 | 9300 | 9300 | 0 S 9300 | 0 S 9300 | 0 S 9300 | 0 S 9300 | C N 9500 S 9300 | 0 S 9300 |
| 9.00 | 9.00 | 8700 9.00 | S 8700 9.00 | S 8700 9.00 | s o | s o | s o | s o | C N 9100 S | C N 9100 S |
| 9.00 | 1500 9.00 | 8500 9.00 | S 8500 9.00 | S 8500 9.00 | 0 S | 8800 S 8500 9.00 | 0 S | 0 S | C N 8800 S | C N 8800 S |
| 9.00 | 9.00 | 8700 9.00 | S 8700 9.00 | S 8700 9.00 | 0 | 8600 S 8700 9.00 | 0 | 0 | C N 8600 S | C N 8600 S |
| 9.00 | 1300 9.00 | 8300 9.00 | S 8300 9.00 | S 8300 9.00 | S | S | S | S | 0 C N 8200 S | 0 C N 8200 S |
| 9.00 | 9.00 | 7800 9.00 | S 7800 9.00 | S 7800 9.00 | S 1 | S 1 | S 1 | S 1 | S 1 | S 1 |
| 9.00 | 9.00 | 7700 9.00 | S 7700 9.00 | S 7700 9.00 | S | S | S | S | 0 C N 7300 S | 0 C N 7300 S |
| 9.00 5 | | | | | S 8000 | S 8000 | S 8000 | S 8000 | 0 C N 7900 S 8000 | 0 C N 7900 S 8000 |
| 9.00 55.7 | | | | | S 8000 | S 8000 | S 8000 | S 8000 |) F N 8200 S 8000 |) F N 8200 S 8000 |
| 9.55 56.07 | 9.55 56.07 | 8100 9.55 56.07 | S 8100 9.55 56.07 | S 8100 9.55 56.07 | S | S | S | S | 0 C N 8300 S | 0 C N 8300 S |
| 20.00 24.97 24.97 | 10.00 55.0 56.45 56.45 | 8500 85.00 9.36 75 35 | | | 0 V | 0 V | 2 0 | N 8400 | | |
| 9.36 56.3 | 9.36 56.3 | 8500 9.36 56.3 | | | 5. | co. | 5 | N 8410 | | |
| 9.36 | 9.36 | 8500 9.36 | S READ | C REDA 0 26 C | U. | S | U | N R400 C | 0 11 0100 M | × × × × × × |
| 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | | ດດດດອດ 8500 8700 88000 88000 870000 87000 870000 870000 870000 8700000 8700000 8700000000 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | ດດດດດດດ 8 8700 7 700 8 8 000 7 700 8 8 000 8 1000 8 1000 0 000 8 1000 0 000 8 1000 0 000 | N 8800 N 8600 N 74200 N 74200 N 7300 N 7300 N 7300 N 7300 N 7300 N 7700 N 82000 N 92000 N 920000 N 92000 N 92000000 N 92000000 N 9200000000 N 920000000000000000000000 | 0 C N 8800 0 C N 8600 0 C N 7400 0 C N 7400 0 C N 7400 0 C N 7400 0 C N 7900 0 S 88000 0 S 88000 0 C N 7900 0 S 88000 0 S 8 80000 0 S 8 800000 0 S 8 80000 0 S 8 800000 0 S 8 8000000 0 S 8 80000000000 | 0 C N 8800 0 C N 8600 0 C N 7400 0 C N 7400 0 C N 7400 0 C N 7400 0 C N 7900 0 S 8000 0 S 8000 0 S 8000 0 C N 8200 0 C N 88000 0 C N 7900 0 C N 79000 0 C N 7900000000000000000000000000000000000 |
| ເດັດ ດັດ ດັດ ດັດ ດັດ | | | | | 8500 8700 8700 8700 8700 8700 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 8700 87 | 8500 8700 8700 8300 8300 7700 83000 81000 81000 81000 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 87100 8700 87 | 8500 8700 8300 8300 8300 7700 8300 8100 8100 8100 8100 8100 8100 81 | N 8800 N 8600 N 7400 N 7400 N 7300 N 7300 N 7900 N 8200 S 8700 S 87000 S 87000 S 87000 S 8700 S 8700 S 87000 S 8700 S 8700 S 8700 S 870 | 0 C N 8800 0 C N 8600 0 C N 8200 0 F N 7400 0 C N 7400 0 C N 7300 0 S 8300 0 S 8300 0 S 8300 0 S 8000 0 S 8 80000 0 S 8 8000 0 S 8 8000 0 S 8 80000 0 S 8 80000000000 | 0 C N 8800 0 C N 8600 0 C N 8200 0 F N 7400 0 C N 7400 0 C N 7300 0 S 8300 0 S 8300 0 S 8300 0 S 8300 0 S 8000 0 S 8 80000 0 S 8 8000 0 S 8 8000 0 S 8 80000 0 S 8 80000000000 |
| | 1700 1500 1700 1700 1000 1000 1500 | 8700 8500 8300 7700 8000 8100 8500 | ດດດດດດດດດດດດດດດດດດດດດດດດດດດດດດດດດດດດດ | ດດດດດດດດດດດດດດ 8 8 700 7 7 8 8 700 7 7 700 8 8 000 7 700 7 000 7 00000000 | w w w w w w w w w w | | | NNNNNN 8800 8800 8800 8800 7400 7300 8800 88200 800000 8000000 | 0 C C N N 8800 0 C C N N 8800 0 C 7 N N 8800 0 C 7 7300 0 C 7 7300 0 C 7 7300 0 C 88200 0 C 882000000000000000000000000000000000 | 0 C C N N 9100 0 C C N N 8800 0 C N N 8600 0 C N N 74200 0 C N N 74200 0 C N N 74200 0 C N N N N N N N N N N N N N N N N N N |
| | 1300 1700 1700 1700 1700 1700 1700 1700 | 9300 8700 8500 8700 8700 7700 7700 88000 88000 88000 | 00000000000000000000000000000000000000 | 00000000000000000000000000000000000000 | | | | N N N N N N N N N N N N N N N N N N N | 0 C C N 9500 0 C C N N 9500 0 C C N N 88000 0 C C N N N 882000 0 C C N N N 882000 0 C C N N N N N N N N N N N N N N N N N | 0 C C C C C C C C C C C C C C C C C C C |
| | 1300 1700 1700 1700 1700 1700 1700 1700 | 9300 8700 8500 8300 8300 7700 8300 7700 83000 83000 88000 88000 880000 85000 | 9300 9300 9300 9300 9300 93000 93000 93000 93000 930000 930000 930000 930000 930000 9300000 9300000 9300000 9300000000 | 0000 000 000 000 000 000 000 00 | | | | N 9500 N N N N N 91000 N N N N N 88000 N N N N 74200 N 74300 N 74300 N 77300 N N N N N N N N N N N N N N N N N N N | 0 C C C C C C C C C C C C C C C C C C C | 0 C C N 9500 0 C C N N 9500 0 C C N N 88000 0 C C N N N 88000 0 C C N N N 88000 0 C C N N N 82000 0 C C N N N 82000 0 C C N N N N 92000 0 C C N N N N N N N N N N N N N N N N N |

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN *K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES *K FACTOR:

FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STATISTICS OFFICE 2019 HISTORICAL AADT REPORT

COUNTY: 16 - POLK

SITE: 0096 - SR 544 SOUTH OF CONINE DRIVE, WH

| T FACTOR | Secondary. | 7.60 | 7.00 | 7.00 | 7.40 | 7.00 | 7.50 | 7.50 | 7.50 | 6.40 | 6.40 | 6.40 | 01.70 | 7.40 | 8.10 | 3.80 | 3.80 | |
|-------------|------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|
| D FACTOR | | 56.00 | 54.50 | 54.50 | 53.30 | 55.70 | 55.60 | 55.90 | 55.80 | 55.70 | 56.07 | 56.35 | 55.29 | 55.30 | 55.83 | 54.80 | 55.70 | |
| *K FACTOR | | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9.00 | 9,00 | 9.00 | 9.55 | 9.36 | 9.78 | 9.66 | 9.62 | 9.30 | 9.50 | |
| DIRECTION 2 | | S 9600 | S 9100 | S 8500 | S 8100 | S 7900 | S 7300 | S 7200 | S 7200 | S 7600 | S 7600 | S 7700 | S 7300 | S 7700 | S 8000 | S 7600 | S 6900 | |
| IRECTION 1 | | 9600 | 0006 | 8500 | 7900 | 7700 | 7100 | 7000 | 7000 | 7500 | 7500 | 7600 | 7100 | 7700 | 0064 | 7600 | 7100 | |
| Δ | 1 | Z | Z | 4 | N | 4 | Z | A | 2 | A | 4 | N | Z | 4 | A | N | 2 | |
| AADT | | 19200 0 | 18100 6 | 17000 0 | 16000 C | 15600 0 | 14400 5 | 14200 F | 14200 C | 15100 5 | 15100 F | 15300 0 | 14400 0 | 15400 0 | 15900 0 | 15200 0 | 14000 0 | |
| YEAR | | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | |

AADT FLAGS; C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN *K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES *K FACTOR:

| | | AM P | eak Hour (7:15 - 8:1 | 15) | PMP | eak Hour (4:45 -5: | 45) |
|--|-------------|--------------|----------------------|---------|--------------|--------------------|---------|
| Intersection | Movement | Total Volume | Truck Volume | Truck % | Total Volume | Truck Volume | Truck % |
| | NB LT | 269 | 7 | 2.6% | 299 | 0 | 0.0% |
| | NB TH | 275 | 11 | 4.0% | 413 | 3 | 0.7% |
| | NB RT | 119 | 1 | 0.8% | 139 | 0 | 0.0% |
| | NB APPROACH | 663 | 19 | 2.9% | 851 | 3 | 0.4% |
| | SB LT | 17 | 7 | 41.2% | 23 | 0 | 0.0% |
| | SB TH | 436 | 10 | 2.3% | 353 | 3 | 0.8% |
| | SB RT | 115 | 12 | 10.4% | 180 | 15 | 8.3% |
| and a second second second | SB APPROACH | 568 | 29 | 5.1% | 556 | 18 | 3.2% |
| Martin Luther King Blvd | WBLT | 134 | 5 | 3.7% | 113 | 2 | 1.8% |
| | WB TH | 462 | 10 | 2.2% | 366 | 6 | 1.6% |
| | WB RT | 14 | 2 | 14.3% | 9 | 0 | 0.0% |
| | WB APPROACH | 610 | 17 | 2.8% | 488 | 8 | 1.6% |
| 2 | EB LT | 208 | 12 | 5.8% | 243 | 13 | 5.3% |
| | EB TH | 330 | 7 | 2.1% | 409 | 9 | 2.2% |
| | EB RT | 419 | 6 | 1.4% | 309 | 3 | 1.0% |
| And and a second se | EB APPROACH | 957 | 25 | 2.6% | 961 | 25 | 2.6% |
| | NB LT | 12 | 0 | 0.0% | 13 | 0 | 0.0% |
| | NB TH | 447 | 39 | 8.7% | 735 | 17 | 2.3% |
| | NB RT | 23 | 1 | 4.3% | 41 | 0 | 0.0% |
| | NB APPROACH | 482 | 40 | 8.3% | 789 | 17 | 2.2% |
| | SBLT | 23 | 0 | 0.0% | 18 | 0 | 0.0% |
| | SB TH | 692 | 36 | 5.2% | 423 | 24 | 5.7% |
| | SB RT | 36 | 2 | 5.6% | 18 | 0 | 0.0% |
| (1) | SB APPROACH | 751 | 38 | 5.1% | 459 | 24 | 5.2% |
| Avenue Y (1) | WBLT | 17 | 0 | 0.0% | 13 | 0 | 0.0% |
| 100-00 | WB TH | 15 | 0 | 0.0% | 17 | 0 | 0.0% |
| | WB RT | 25 | 1 | 4.0% | 34 | 1 | 2.9% |
| | WB APPROACH | 57 | 1 | 1.8% | 64 | 1 | 1.6% |
| | EBLT | 19 | 2 | 10.5% | 36 | 2 | 5.6% |
| | EB TH | 10 | 1 | 10.0% | 14 | 0 | 0.0% |
| | EBRT | 8 | 0 | 0.0% | 28 | 0 | 0.0% |
| | EB APPROACH | 37 | 3 | 8.1% | 78 | 2 | 2.6% |
| | NBLT | 32 | 0 | 0.0% | N/A | N/A | N/A |
| | NB TH | 0 | 0 | 0.0% | N/A | N/A | N/A |
| | NB RT | 14 | 0 | 0.0% | N/A | N/A | N/A |
| | NB APPROACH | 46 | 0 | 0.0% | N/A | N/A | N/A |
| | SBLT | 3 | 0 | 0.0% | N/A | N/A | N/A |
| | SB TH | 1 | 0 | 0.0% | N/A | N/A | N/A |
| | SB RT | 149 | 4 | 2.7% | N/A | N/A | N/A |
| Old Lucerne Park Rd | SB APPROACH | 153 | 4 | 2.6% | N/A | N/A | N/A |
| (West End) | WBLT | 4 | 0 | 0.0% | N/A | N/A | N/A |
| ,, | WB TH | 576 | 30 | 5.2% | N/A | N/A | N/A |
| | WB RT | 4 | 0 | 0.0% | N/A | N/A | N/A |
| | WB APPROACH | 584 | 30 | 5.1% | N/A | N/A | N/A |
| | EBLT | 51 | 4 | 7.8% | N/A | N/A | N/A |
| | EB TH | 448 | 26 | 5.8% | N/A | N/A | N/A |
| | EBRT | 14 | 0 | 0.0% | N/A | N/A | N/A |
| | EB APPROACH | 513 | 30 | 5.8% | N/A | N/A | N/A |

Table 2-7: Existing (2019) A.M. and P.M. Peak Hour Truck Volumes and Percentages

A review of the existing a.m. and p.m. peak hour truck volumes indicates that, with one exception, the a.m. peak hour volumes are higher than the p.m. peak hour volumes. The ratio of the a.m. and p.m. peak hour truck volume was calculated for each location and then the overall average ratio for the study corridor was calculated. The average overall ratio was equal to 1.50. A revised estimate of the 2025 and 2045 a.m. peak hour truck volumes was obtained by multiplying the initial estimate of the 2025 and 2045 a.m. peak hour truck volumes by 1.50. The revised 2025 and 2045 a.m. peak hour truck volumes are also provided in **Table 3-9** and Table 3-10. The final recommended 2045 and 2025 peak hour truck volumes and percentages are provided in **Table 3-11** and **Table 3-12**, respectively. Based on these assumptions, the following SR 544 mainline peak hour truck percentages (i.e., T_{PKHP}-factors) are recommended for use in the SR 544 PD&E study:

Opening Year (2025) - AM Peak Hour

- 5.6% from Martin Luther King Boulevard to US 27
- 9.6% from US 27 to SR 17

Opening Year (2025) - PM Peak Hour

- 3.7% from Martin Luther King Boulevard to US 27
- 6.4% from US 27 to SR 17

Design Year (2045) - AM Peak Hour

- 4.5% from Martin Luther King Boulevard to US 27
- 8.1 % from US 27 to SR 17

Design Year (2045) - PM Peak Hour

- 3.0% from Martin Luther King Boulevard to US 27
- 5.4 % from US 27 to SR 17

Project Traffic Analysis Report FPID: 440273-1-22-01

Page 3-20

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

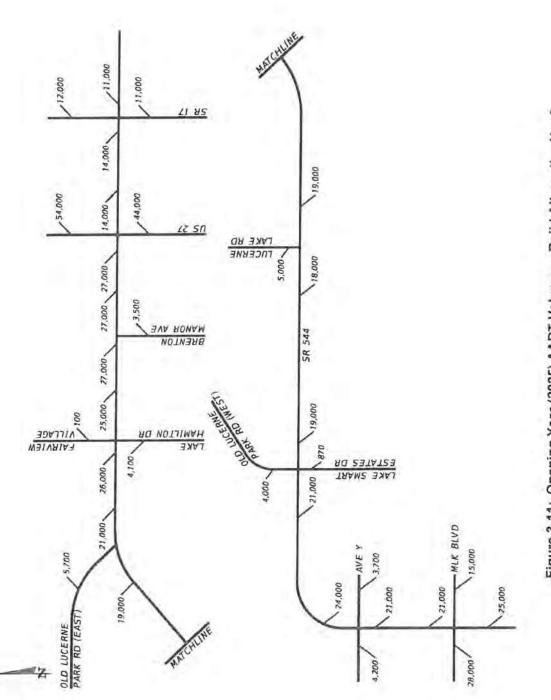


Figure 3-11: Opening Year (2025) AADT Volumes -Build Alternative No. 2

Project Traffic Analysis Report FPID: 440273-1-22-01

Page 3-15

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

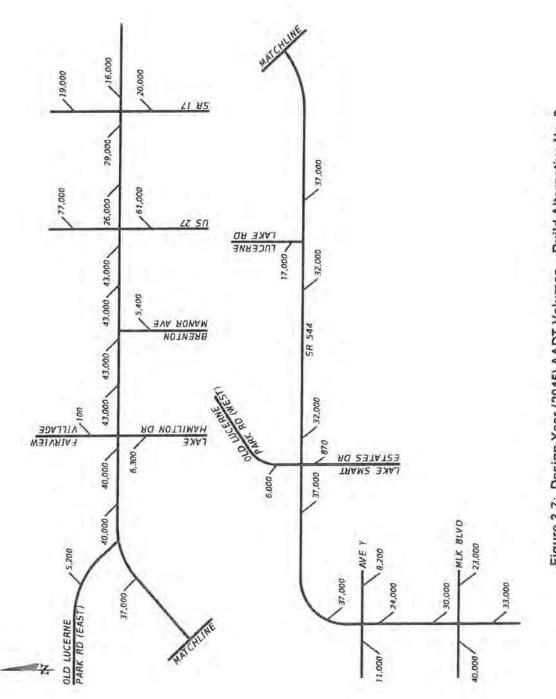
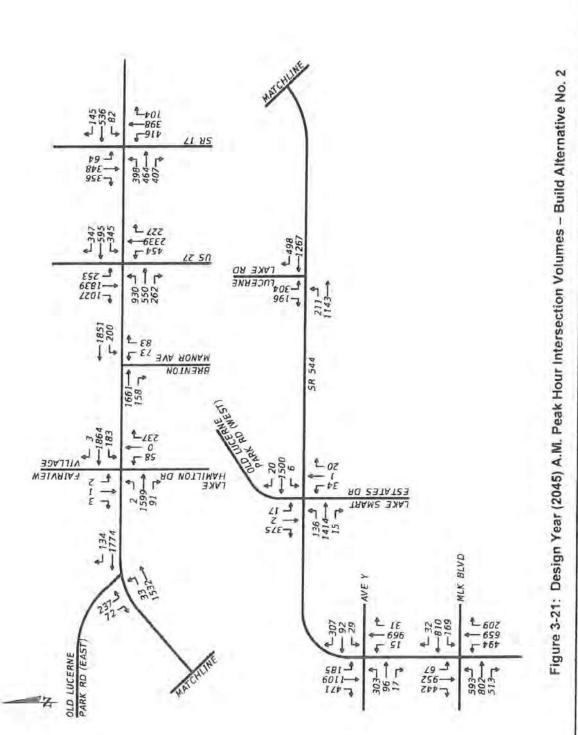


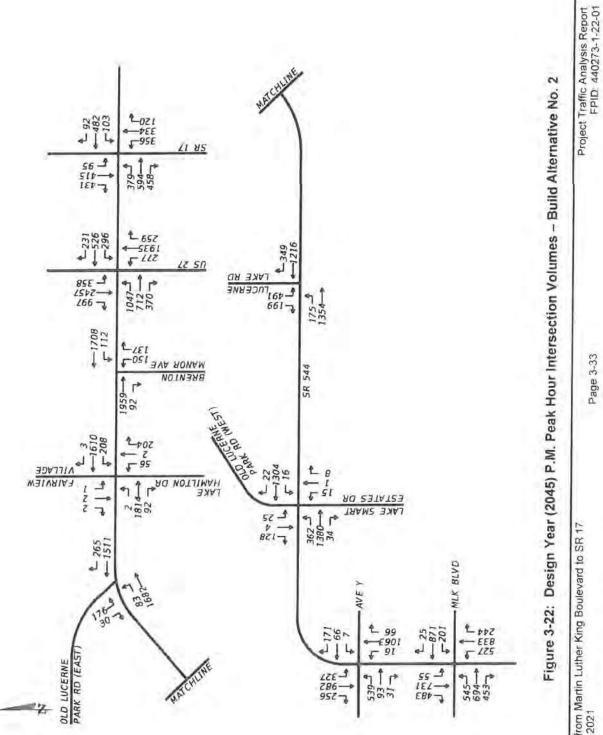
Figure 3-7: Design Year (2045) AADT Volumes - Build Alternative No. 2



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Page 3-32

Project Traffic Analysis Report FPID: 440273-1-22-01



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Page 3-33

| | | | AN | 1 PEAK HC | DUR | | | |
|------|---------|------|---------|-----------|---------|-------|-------------------|---------|
| S | B LT | SE | 3 TH | S | B RT | | SB APPROAC | Н |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % |
| 185 | 0.02 | 1109 | 0.05 | 471 | 0.03 | 1765 | 73.28 | 4.2% |
| N | BLT | N | B TH | N | BRT | 1.000 | NB APPROAC | н |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % |
| 15 | 0.03 | 969 | 0.05 | 31 | 0.02 | 1015 | 49.52 | 4.9% |
| | | | PN | РЕАК НС | DUR | | · · · · · · · · · | |
| S | B LT | SE | 3 TH | SI | BRT | | SB APPROAC | Н |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % |
| 327 | 0.02 | 982 | 0.03 | 256 | 0.03 | 1565 | 43.68 | 2.8% |
| N | BLT | N | 3 TH | N | B RT | 1 | NB APPROAC | н |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % |
| 16 | 0.03 | 1063 | 0.03 | 66 | 0.02 | 1145 | 33.69 | 2.9% |

AVENUE Y INTERSECTION DESIGN YEAR (2045) PEAK HOUR APPROACH TRUCK PERCENTAGES

| HSMV_Rep Agency_Re Reporting_ Form_ | Type Crash_Date | Crash_TimeCity Count | y Crash_Street | Intersecting_Street | Offset_Dist |
|-------------------------------------|-----------------|--------------------------|----------------------------|---------------------|-------------|
| 84292649 2016-0578 Polk Co SO Long | 12/24/2016 | 6:29 PM Unincorpor Polk | S.R. 544 | AVENUE Y NE | 0 |
| 84292663 2016-0563 Polk Co SO Long | 12/15/2016 | 5:00 PM Unincorpor Polk | SR 544 (LUCERNE PARK RD) | AVE Y NE | 0 |
| 84623715 2014-0261 Polk Co SO Long | 6/14/2014 | 5:24 PM Unincorpor Polk | LUCERNE PARK RD | AVENUE Y NE | 0 |
| 84624080 2014-0261 Polk Co SO Long | 6/14/2014 | 5:25 PM Winter Hav Polk | SR 544 | AVY Y NE | 30 |
| 84625090 2014-0352 Polk Co SO Short | 8/14/2014 | 8:30 AM Unincorpor Polk | SR 544 (LUCERNE PARK RD) | AVE Y NE | 50 |
| 84625325 2014-0451 Polk Co SO Short | 10/17/2014 | 11:25 AM Unincorpor Polk | CR 544 (LUCERNE PARK RD) | AVENUE Y NE | 0 |
| 84626321 2014-0483 Polk Co SO Long | 11/7/2014 | 7:25 AM Unincorpor Polk | LUCERNE PARK ROAD | AVE Y | 0 |
| 84876278 FHPC15OFI FHP Long | 9/9/2015 | 7:26 AM Winter Hav Polk | SR-544 | AVENUE Y NE | 0 |
| 84997634 2015-0340 Winter Hav Short | 6/8/2015 | 10:05 AM Winter Hav Polk | SR 544 | AVE Y NE | 0 |
| 84998122 2015-0585 Winter Hav Long | 9/30/2015 | 8:43 PM Winter Hav Polk | AVENUE Y NE | SR 544 | 0 |
| 85687388 2015-0116 Polk Co SO Long | 3/14/2015 | 10:10 PM Unincorpor Polk | LUCERNE PARK ROAD | AVENUE Y NE | 0 |
| 86083167 2015-0393 Polk Co SO Long | 9/5/2015 | 4:55 PM Unincorpor Polk | SR 544 (LUCERNE PARK RD) | AVENUE Y NE | 0 |
| 86084748 2015-0543 Polk Co SO Long | 12/12/2015 | 3:24 PM Unincorpor Polk | LUCERNE PARK RD | AVE Y NE | 0 |
| 86312457 2015-0532 Polk Co SO Long | 12/6/2015 | 12:55 AM Unincorpor Polk | STATE ROAD 544 | AVE Y NE | 0 |
| 86312584 2015-0558 Polk Co SO Long | 12/21/2015 | 3:52 PM Unincorpor Polk | S.R. 544 (LUCERNE PARK RD) | AVENUE Y NE | 0 |
| 86312913 2016-0003 Polk Co SO Long | 1/4/2016 | 11:30 AM Unincorpor Polk | SR 544 | AVE Y NE | 0 |
| 86440338 2016-0209 Winter Hav Long | 4/1/2016 | 4:59 PM Winter Hav Polk | SR 544 | AVENUE Y NE | 0 |
| 86440489 2016-0265 Winter Hav Long | 4/22/2016 | 6:19 PM Winter Hav Polk | AVENUE Y NE | SR 544 | 0 |
| 86440512 2016-0287 Winter Hav Long | 5/1/2016 | 6:48 PM Winter Hav Polk | SR 544 | AVENUE Y NE | 300 |
| 86440627 2016-0347 Winter Hav Long | 5/26/2016 | 9:54 AM Winter Hav Polk | SR 544 | AVE Y NE | 0 |
| 86440733 2016-0390 Winter Hav Long | 6/14/2016 | 8:59 PM Winter Hav Polk | SR 544 | AVE Y NE | 0 |
| 86441582 2016-0818 Winter Hav Long | 12/19/2016 | 4:56 PM Winter Hav Polk | SR 544 | AVENUE Y NE | 50 |
| 86441829 2017-0096 Winter Hav Short | 2/12/2017 | 9:43 PM Winter Hav Polk | SR 544 | AVENUE Y NE | 0 |
| 86443050 2016-0219 Polk Co SO Short | 5/13/2016 | 11:20 PM Unincorpor Polk | SR 544 | AVE Y NE | 0 |
| 86443709 2016-0299 Polk Co SO Long | 7/1/2016 | 5:36 PM Unincorpor Polk | LUCERNE PARK RD | AVENUE Y NE | 0 |
| 86938166 2017-0079 Polk Co SO Long | 2/12/2017 | 9:31 PM Winter Hav Polk | LUCERNE PARK ROAD | AVE Y | 10 |
| 86994843 2017-0438 Polk Co SO Long | 9/26/2017 | 3:44 PM Unincorpor Polk | LUCERNE PARK RD | AVENUE Y NE | 0 |
| 87549566 2017-0845 Winter Hav Long | 12/31/2017 | 5:15 PM Winter Hav Polk | LUCERNE PARK RD | AVENUE Y NE | 133 |
| 87550936 2018-0628 Winter Hav Long | 9/28/2018 | 2:57 PM Winter Hav Polk | LUCERNE PARK RD | AVENUE Y NE | 0 |
| 87666903 2018-0306 Polk Co SO Long | 6/29/2018 | 8:35 PM Unincorpor Polk | STATE ROAD 544 | AVENUE Y NE | 0 |
| 88751223 2018-0491 Polk Co SO Long | 10/18/2018 | 5:41 PM Unincorpor Polk | LUCERNE PARK RD | AVE Y NE | 0 |
| 88753315 2019-3223 Polk Co SO Short | 7/10/2019 | 5:16 PM Unincorpor Polk | LUCERNE PARK RD | AVE Y NE | 0 |
| 89008841 2019-0213 Polk Co SO Long | 5/5/2019 | 1:15 PM Unincorpor Polk | LUCERNE PARK ROAD | AVE Y NE | 0 |
| 89009066 2019-0116 Polk Co SO Long | 3/8/2019 | 7:53 AM Unincorpor Polk | LUCERNE PARK RD (NB) | AVENUE Y NE | 0 |
| 89009507 2019-0136 Polk Co SO Long | 3/20/2019 | 11:07 PM Unincorpor Polk | SR 544 (LUCERNE PARK RD) | AVENUE Y NE | 0 |
| 89010358 2019-0163 Polk Co SO Long | 4/7/2019 | 1:15 AM Unincorpor Polk | LUCERNE PARK RD | AVENUE Y NE | 100 |
| 89010667 2019-0289 Polk Co SO Long | 6/19/2019 | • | LUCERNE PARK ROAD | AVENUE Y NE | 0 |
| 89011448 2019-0254 Polk Co SO Long | 5/29/2019 | | STATE ROAD 544 (LUCERNE PA | R AVENUE Y NE | 0 |
| 89012973 2019-0368 Polk Co SO Long | 8/5/2019 | 1:21 PM Unincorpor Polk | LUCERNE PARK RD | AVENUE Y NE | 0 |
| 89119601 2019-0276 Winter Hav Long | 4/27/2019 | 1:05 PM Winter Hav Polk | LUCERNE PARK RD | AVENUE Y NE | 16 |
| | | | | | |

| 89370302 2019-0435 Polk Co SO Short | 9/19/2019 | 6:59 AM Unincorpor Polk | LUCERNE PARK RD | AVE Y NE | 0 |
|-------------------------------------|------------|-------------------------|-----------------|----------|----|
| 89370306 2019-0426 Polk Co SO Long | 9/12/2019 | 8:27 PM Unincorpor Polk | LUCERNE PARK RD | AVE Y NE | 10 |
| 89372140 2019-0542 Polk Co SO Short | 11/20/2019 | 3:22 PM Unincorpor Polk | LUCERNE PARK RD | AVE Y NE | 0 |

| Offset_Di | re Crash_Type | Vehicles Non_ | Motorist <mark> Fata</mark> | lities Injuries | Alcol | hol_Re Distra | action_Drug_F | elat Estimated_ | Weather | _C Light_Cond Street_ | Nur Crash_Type_D | Crash_Type |
|-----------|---------------|---------------|-----------------------------|-----------------|------------------|---------------|---------------|-----------------|---------|-----------------------|--------------------|------------|
| | Angle | 2 | 0 | 0 | 0 N | Ν | Ν | \$1,500 | Clear | Dark - Lighted | Right Angle | NE |
| | Unknown | 2 | 0 | 0 | 1 N | Ν | N | \$1,001 | Clear | Daylight | Unknown | |
| | Left Turn | 2 | 0 | 0 | 2 N | Y | Ν | \$510 | Rain | Daylight | Left Rear | W |
| North | Rear End | 2 | 0 | 0 | 1 N | Ν | N | \$4,000 | Rain | Daylight | Rear End | S |
| South | Rear End | 2 | 0 | 0 | 0 N | Ν | N | \$1,000 | Clear | Daylight | Rear End | S |
| | Angle | 2 | 0 | 0 | 0 N | Ν | N | \$2,000 | Clear | Daylight | Right Angle | SE |
| South | Rear End | 3 | 0 | 0 | 1 N | Y | Ν | \$12,500 | Cloudy | Daylight | Rear End | S |
| | Angle | 3 | 0 | 0 | 0 N | Ν | Ν | \$7,300 | Clear | Daylight | Right Angle | NE |
| | Unknown | 2 | 0 | 0 | 0 N | Ν | N | \$3,000 | Clear | Daylight | Unknown | _ |
| | Other | 2 | 0 | 0 | 0 N | Ν | Ν | \$300 | Clear | Dark - Lighted | Backed Into | |
| | Unknown | 2 | 0 | 0 | 0 N | Ν | N | \$1,500 | Clear | Dark - Lighted | Unknown | |
| | Rear End | 2 | 0 | 0 | 1 N | Ν | N | \$0 | Rain | Daylight | Rear End | N |
| South | Angle | 2 | 0 | 0 | 0 N | Ν | N | \$1,500 | Clear | Daylight | Right Angle | SW |
| | Angle | 2 | 0 | 0 | 0 N | Ν | Ν | \$17,000 | Clear | Dark - Lighted | Right Angle | SW |
| | Angle | 2 | 0 | 0 | 1 N | Ν | N | \$7,500 | Clear | Daylight | Right Angle | NW |
| | Angle | 3 | 0 | 0 | <mark>2</mark> N | Ν | N | \$6,500 | Clear | Daylight | Right Angle | NE |
| | Angle | 2 | 0 | 0 | 4 N | Ν | Ν | \$5,000 | Clear | Daylight | Right Angle | SW |
| | Angle | 2 | 0 | 0 | 0 N | Ν | Ν | \$5,000 | Clear | Daylight | Right Angle | NE |
| North | Other | 1 | 0 | 0 | 1 N | Ν | N | \$20,000 | Clear | Daylight | Single Vehicle | W |
| | Angle | 2 | 0 | 0 | 0 N | Ν | Ν | \$6,000 | Clear | Daylight | Right Angle | NE |
| | Left Turn | 2 | 0 | 0 | 0 N | Ν | Ν | \$3,000 | Clear | Dark - Lighted | Left Rear | E |
| South | Rear End | 3 | 0 | 0 | 1 N | Ν | N | \$3,500 | Clear | Daylight | Rear End | S |
| | Rear End | 2 | 0 | 0 | 0 N | Ν | N | \$2,000 | Clear | Dark - Lighted | Rear End | |
| | Rear End | 2 | 0 | 0 | 0 N | Ν | N | \$1,000 | | Dark - Lighted | Rear End | S |
| North | Angle | 2 | 0 | 0 | 1 N | Ν | N | \$4,000 | Clear | Daylight | Right Angle | NW |
| North | Left Turn | 2 | 0 | 0 | 1 N | Ν | Ν | \$2,500 | | Dark - Lighted | Left Rear | E |
| | Angle | 2 | 0 | 0 | 1 N | Ν | N | \$8,000 | Clear | Daylight | Right Angle | SW |
| North | Rear End | 2 | 0 | 0 | 1 N | Ν | Ν | \$500 | | Daylight | Rear End | S |
| | Rear End | 2 | 0 | 0 | 0 N | Ν | N | \$1,000 | | Daylight | Rear End | E |
| | Angle | 2 | 0 | 0 | 0 N | Ν | Ν | \$8,500 | | Dark - Lighted | Right Angle | SW |
| | Left Turn | 2 | 0 | 0 | 1 N | Ν | N | \$3,000 | | Daylight | Left Entering | |
| | Right Turn | 2 | 0 | 0 | 0 N | Ν | N | \$1,000 | | Daylight | Right/Through | |
| North | Rear End | 2 | 0 | 0 | 1 N | N | Ν | \$2,000 | | Daylight | Rear End | N |
| | Left Turn | 2 | 0 | 0 | 1 N | Y | Ν | \$5,000 | | Daylight | Left Rear | E |
| | Sideswipe | 2 | 0 | 0 | 0 N | Ν | Ν | \$4,000 | | Dark - Lighted | Same Directio | |
| South | Rear End | 2 | 0 | 0 | 0 N | Ν | Ν | \$2,000 | | Dark - Lighted | Rear End | S |
| North | Angle | 2 | 0 | 0 | 0 N | Ν | Ν | | Clear | Daylight | Right Angle | NE |
| | Other | 2 | 0 | 0 | 2 N | N | Ν | \$10,000 | | Daylight | Other | N |
| | Rear End | 2 | 0 | 0 | 0 N | N | Ν | \$4,800 | | Daylight | Rear End | N |
| South | Angle | 2 | 0 | 0 | 0 N | N | N | \$2,000 | Clear | Daylight | Right Angle | NW |

| | Sideswipe | 2 | 0 | 0 | <mark>0</mark> N | Ν | Ν | \$700 Clear | Dawn | Same Direction S | 3 |
|------|-----------|---|---|---|------------------|---|---|---------------|----------|------------------|----|
| West | Angle | 2 | 0 | 0 | 1 N | Ν | Ν | \$2,000 Clear | Dawn | Right Angle N | NE |
| | Left Turn | 2 | 0 | 0 | 0 N | Ν | Ν | \$1,000 Clear | Daylight | Left Entering E | Ξ |

| Crash_Seve | Within_Cit | Manner_of_Co | First_Harmful_ |
|------------|------------|----------------|----------------|
| Property D | N | Angle | Motor Vehicle |
| Injury | N | Angle | Motor Vehicle |
| Injury | Ν | Angle | Motor Vehicle |
| Injury | Υ | Front to Rear | Motor Vehicle |
| Property D | N | Front to Rear | Motor Vehicle |
| Property D | N | Angle | Motor Vehicle |
| Injury | Ν | Front to Rear | Motor Vehicle |
| Property D | N | Angle | Motor Vehicle |
| Property D | Y | Angle | Motor Vehicle |
| Property D | Y | Front to Rear | Motor Vehicle |
| Property D | N | Angle | Motor Vehicle |
| Injury | Ν | Front to Rear | Motor Vehicle |
| Property D | N | Sideswipe, Op | Motor Vehicle |
| Property D | N | Angle | Motor Vehicle |
| Injury | Ν | Angle | Motor Vehicle |
| Injury | Ν | Angle | Motor Vehicle |
| Injury | Υ | Angle | Motor Vehicle |
| Property D | Y | Front to Rear | Motor Vehicle |
| Injury | Υ | Other | Ran Off Roadw |
| Property D | Y | Angle | Motor Vehicle |
| Property D | Y | Angle | Motor Vehicle |
| Injury | Υ | Front to Rear | Motor Vehicle |
| Property D | N | Front to Rear | Motor Vehicle |
| Property D | N | Front to Rear | Motor Vehicle |
| Injury | Ν | Other | Motor Vehicle |
| Injury | Υ | Angle | Motor Vehicle |
| Injury | Ν | Front to Front | Motor Vehicle |
| Injury | Υ | Front to Rear | Motor Vehicle |
| Property D | Y | Angle | Motor Vehicle |
| Property D | N | Angle | Motor Vehicle |
| Injury | Ν | Angle | Motor Vehicle |
| Property D | N | Angle | Motor Vehicle |
| Injury | Ν | Front to Rear | Motor Vehicle |
| Injury | Ν | Angle | Motor Vehicle |
| Property D | N | Sideswipe, Sar | Motor Vehicle |
| Property D | N | Front to Rear | Motor Vehicle |
| Property D | N | Angle | Motor Vehicle |
| Injury | Ν | Other | Motor Vehicle |
| Property D | N | Front to Rear | Motor Vehicle |
| Property D | Y | Angle | Motor Vehicle |

 Property D: N
 Sideswipe, Sar Motor Vehicle

 Injury
 N
 Angle
 Motor Vehicle

 Property D: N
 Angle
 Motor Vehicle

| Crash Number | Location Mile Post | Roadway Id | Crash Date | Crash Year | On Road | Intersecting Road | First Harmful Event | Manner Of Collision | Light Condition | Weather Condition |
|--------------|--------------------|------------|------------|------------|----------|-------------------|----------------------------|---------------------|-----------------|-------------------|
| 849981220 | 4.169 | 16140000 | 9/30/2015 | 2015 | AVE Y NE | SR 544 | Motor Vehicle In Transport | Front To Rear | Dark-Lighted | Clear |
| 864403380 | 4.169 | 16140000 | 4/1/2016 | 2016 | SR 544 | AVE Y NE | Motor Vehicle In Transport | Angle | Daylight | Clear |

Surface Condition Junction Dry Dry Dry

Non-Junction Non-Junction Site Location Influenced By Intersection At Intersection

No No

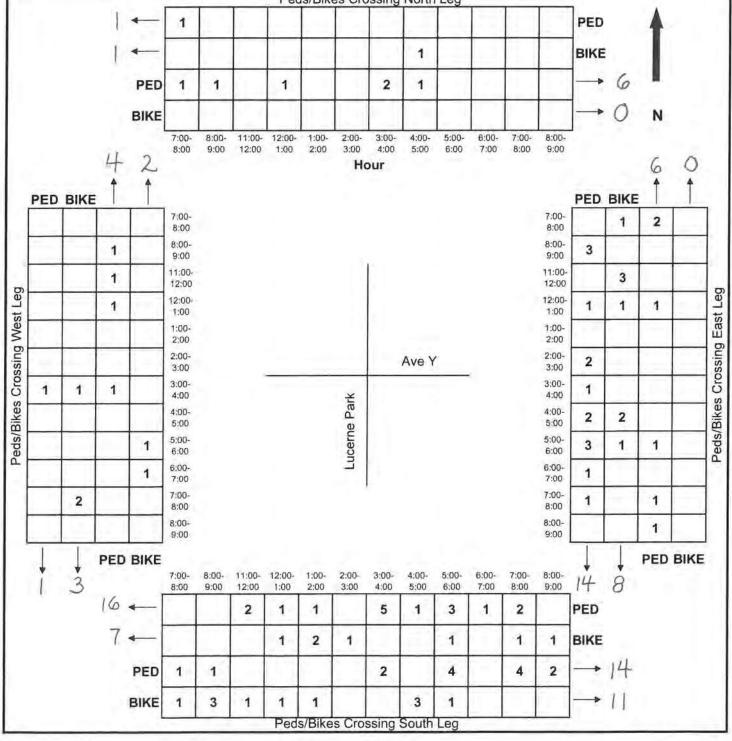
Alcohol Drugs Involvement Number of Fatalities Number of Injured

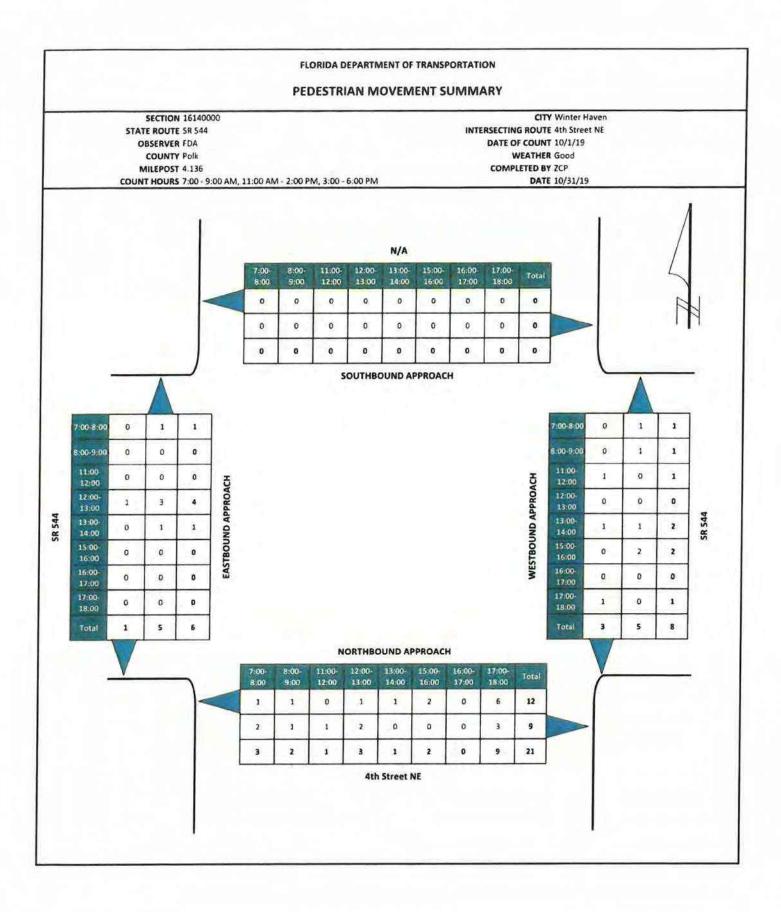
4

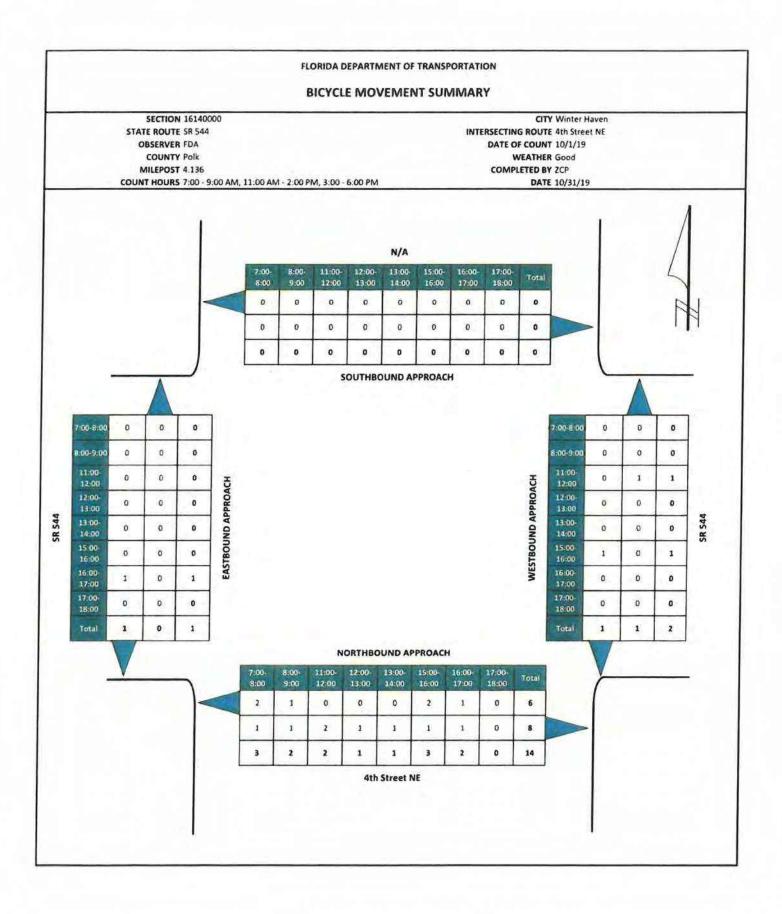
Total Crash Damage Amount 300

Intersection Pedestrian & Bicycle Count

| Date: | 12/12/2017 | Day: Tuesday |
|---------------|--|----------------|
| Count Times: | 7-9am & 11am-9pm | Weather: Clear |
| Intersection: | Lucerne Park Road (SR 544) at Ave Y NE | |
| Comments: | | |
| | Peds/Bikes Crossing Nort | h Leg |







SR 544 Ped-Bicycle Counts FPID 436417-2-32-01, TWO 4

SR 544 at Avenue X NE/Cedie Street

| Street Name | 5 | | vestbo Cedie | | | ich | S | outhe | astbo Avenu | | and the second second | ch | | Nort | hbour Driv | id App eway | roach | | | Wes | tboun SR | d App 544 | roach | | | East | bound SR | l Appr 544 | oach | |
|---------------|-----|-----|-----------------|------|------|-------|-----|-------|----------------|------|-----------------------|-------|-----|------|---------------|----------------|-------|-------|-----|-----|-------------|--------------|-------|-------|-----|------|-------------|---------------|------|------|
| Direction | EB | WB | Total | EB | WB | Total | EB | WB | Total | EB | WB | Total | EB | WB | Total | EB | WB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Tota |
| Туре | Ped | Ped | Ped | Bike | Bike | Bike | Ped | Ped | Ped | Bike | Bike | Bike | Ped | Ped | Ped | Bike | Bike | Bike | Ped | Ped | Ped | Bike | Bike | Bike | Ped | Ped | Ped | Bike | Bike | Bike |
| 7:00 - 8:00 | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 3 | 5 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 - 9:00 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 1 | 3 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 - 12:00 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 12:00 - 13:00 | 0 | 1 | 1 | 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 |
| 13:00 - 14:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 |
| 15:00 - 16:00 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:00 - 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 - 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 6 | 0 | 0 | 0 | 1 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 6 | 3 | 9 | 0 | 0 | 0 | 4 | 8 | 12 | 2 | 3 | 5 | 8 | 6 | 14 | 2 | 2 | 4 | 4 | 1 | 5 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 |

*Although one crosswalk covers both the Avenue X NE and Cedie Street approaches, the pedestrian and bicycle movements were separated as pedestrians and bicyclists were observed leaving the crosswalk to travel on their desired approach.

SR 544 at 4th Street NE

| Street Name | | | hboun 4th Str | | | | | Wes | tboun SR | d Appi 544 | roach | | | East | tbound SR | l Appr 544 | oach | |
|---------------|-----|-----|------------------|------|------|-------|-----|-----|-------------|---------------|-------|-------|-----|------|--------------|---------------|------|-------|
| Direction | EB | WB | Total | EB | WB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total |
| Туре | Ped | Ped | Ped | Bike | Bike | Bike | Ped | Ped | Ped | Bike | Bike | Bike | Ped | Ped | Ped | Bike | Bike | Bike |
| 7:00 - 8:00 | 2 | 1 | 3 | 1 | 2 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 8:00 - 9:00 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 - 12:00 | 1 | 0 | 1 | 2 | 0 | 2 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 - 13:00 | 2 | 1 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 4 | 0 | 0 | 0 |
| 13:00 - 14:00 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 15:00 - 16:00 | 0 | 2 | 2 | 1 | 2 | 3 | 2 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:00 - 17:00 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 17:00 - 18:00 | 3 | 6 | 9 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 9 | 12 | 21 | 8 | 6 | 14 | 5 | 3 | 8 | 1 | 1 | 2 | 5 | 1 | 6 | 0 | 1 | 1 |

SR 544 at Lake Fannie Park Entrance

| Street Name | | | hboun annie l | × 191.0 | | e | | Wes | tboun SR | d Appi 544 | roach | | | East | bound SR | l Appr 544 | oach | |
|---------------|-----|-----|------------------|---------|------|-------|-----|-----|-------------|---------------|-------|-------|-----|------|-------------|---------------|------|------|
| Direction | EB | WB | Total | EB | WB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Total | NB | SB | Tota |
| Туре | Ped | Ped | Ped | Bike | Bike | Bike | Ped | Ped | Ped | Bike | Bike | Bike | Ped | Ped | Ped | Bike | Bike | Bike |
| 7:00 - 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 - 9:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11:00 - 12:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12:00 - 13:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13:00 - 14:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15:00 - 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:00 - 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 - 18:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Appendix B

FDOT Historical Traffic Volume Data Analysis Memorandum

Review of Request for Traffic Signal

SR 544 (Lucerne Park Road) at Avenue Y NE Winter Haven, Polk County, FL Roadway ID: 16140000 MP: 4.161

The subject intersection, SR 544 (Lucerne Park Road) and Avenue Y NE is a 4-legged intersection with existing 2-way Stop Control on the Avenue Y NE approaches. The roadway characteristics are as follows:

<u>SR 544</u>

- East-west roadway, running north-south at the subject intersection. (Directions will be referenced as northbound and southbound),
- 2-lane urban minor arterial,
- Access class: 07,
- Context classification: subject intersection is a transition from C4 (Urban General) to the south and C3C (Suburban Commercial) to the north,
- Posted Speed Limit: 35 MPH (transitions to 45 MPH approximately 500' north of the intersection),
- Turn lanes are not present on the northbound or southbound approaches,
- 5-feet-wide shoulders are present, with curb and gutter to the south and open drainage to the north.

Avenue Y NE

- 2-lane local street serving mostly residential land uses,
- The eastbound approach is a single-lane (shared left/through/right) and is stop-controlled,
- The westbound approach is a stop-controlled shared left/through with a channelized free flow right turn lane.

Historical Data Review

The subject intersection has been studied no fewer than 5 times between 2004 and 2016. These studies include the following:

- Composite Study Traffic Counts (TEI Engineers & Planners, 2004)
- Composite Study Counts & Delay (HNTB, 2006)
- Signal Warrant Analysis (Vanus, 2009)
- Intersection Delay Study (ICON, 2012)
- Signal Warrant Analysis (ICON, 2016)

SR 544 has historical Average Annual Daily Traffic (AADT) volumes as shown in **Table 1** below.

| | | 0 | | | |
|-----------|----------------------------|---|---|---|--|
| | Annual | Annual | | Annual | Annual |
| South Log | Compound | Compound | North Log | Compound | Compound |
| 0 | Growth | Growth | 0 | Growth | Growth |
| [vpu] | Rate | Rate | լտրայ | Rate | Rate |
| | 2015-2019 | 2016-2019 | | 2015-2019 | 2016-2019 |
| 16,500 | | | 15,600 | | |
| 17,300 | | | 16,000 | | |
| 17,300 | 3.32% | 2 8 1 0 / | 17,000 | 5.33% | 6 270/ |
| 17,800 | | 2.01% | 18,100 | | 6.27% |
| 18,800 | | | 19,200 | | |
| | 17,300 17,300 17,800 | South Leg [vpd] Compound Growth Rate 2015-2019 16,500 | South Leg [vpd] Compound Growth Rate Compound Growth 16,500 2015-2019 2016-2019 16,500 2016-2019 2016-2019 17,300 3.32% 2.81% | South Leg [vpd] Compound Growth Rate Compound Growth Rate North Leg [vpd] 16,500 2015-2019 2016-2019 15,600 17,300 3.32% 16,000 17,000 17,800 18,100 18,100 | South Leg [vpd] Compound Growth Rate Compound Growth Rate North Leg [vpd] Compound Growth Rate 2015-2019 2016-2019 1 2015-2019 2015-2019 16,500 15,600 115,600 5.33% 17,300 3.32% 2.81% 16,000 17,800 18,100 5.33% |

Table 1 – Annual Average Daily Traffic (SR 544)

Data source: Florida Traffic Online (Computations by FDOT staff)

Side street approach volumes were taken from the turning movement counts in the previously referenced studies and sorted highest to lowest (1 through 8), without the inclusion of right turning movements. The maximum hourly volumes from either the eastbound approach or westbound approach were selected from each ranked hour to create a composite 8-hour analysis period. This composite analysis satisfies 2 of 8 required hours for Warrant 1- Condition B (Interruption of Continuous Traffic) at the 70% threshold. (Application of the 70% threshold assumes that operating speeds are 40 MPH or greater due to the speed limit transition north of the intersection.) A side street annual (2016 to 2021) compound growth rate of 10.6% would be required to achieve the 70% volume thresholds in Warrant 1 – Condition B for the required 8 hours.

To assess the side street volumes for year-over-year stability, the difference between the maximum and minimum in each analysis hour was determined. The differences range from 7 vehicles per hour (vph) to 11 vph with an average difference of 9.25 vph. These are shown in **Table 2** below.

| | l l | | v |
|------|---------|---------|-------|
| Hour | Maximum | Minimum | Delta |
| | [vph] | [vph] | |
| 1 | 61 | 50 | 11 |
| 2 | 54 | 47 | 7 |
| 3 | 50 | 41 | 9 |
| 4 | 45 | 37 | 8 |
| 5 | 43 | 32 | 11 |
| 6 | 40 | 31 | 9 |
| 7 | 36 | 27 | 9 |
| 8 | 32 | 22 | 10 |

 Table 2 – Hourly Volume Sensitivity

The 24-hour approach counts, as taken from the referenced studies, for the side street approaches (all movements) were assessed for annual compound growth rates. All possible points of comparison were considered. The average annual compound growth rates are as follow:

- Eastbound: -0.39%
- Westbound: -0.91%

Historical Data Analysis March 19, 2021

Crash History

CARS and Signal Four were searched for crashes at the subject intersection for the period January 1, 2016 to March 2021. The associated crash reports were reviewed to determine correctable crashes and to review for fatalities. 22 correctable crashes and 1 fatal crash were identified through the review of crash reports.

The fatal crash (2 fatalities) occurred November 29, 2020. The circumstances of this crash, as indicated in the crash report, are a DUI lane departure head-on crash 500^{2} south of the intersection. The DUI motorist (a fatality) was proceeding southbound and had already cleared the intersection. This crash is not included in the count of correctable crashes.

The correctable crashes have a yearly distribution as follows:

2016: 8 2017: 2 2018: 2 2019: 7 2020: 2 2021: 1 (through March 12)

The subject intersection is within the project limits of FPID: 440273-2, a project to widen SR 544 to a 4-lane section which would be anticipated to improve the operational safety of this intersection.

Adjacent Development

A review of aerial imagery from Google Earth (2004 to 2016) indicates that no significant new development has occurred on either leg of Avenue Y NE. This imagery further reveals that additional development is unlikely without a large-scale redevelopment project as the adjacent land is effectively built out.

Conclusion and Recommendation

The intersection of SR 544 (Lucerne Park Road) and Avenue Y NE in Winter Haven, Polk County, FL has been studied extensively for signalization. The data suggest that vehicular volumes on the Avenue Y NE approaches to SR 544 have not seen significant changes since the first available study was accomplished in 2004. The surrounding land uses have also remained constant over that time. All evidence suggests that a study at this time would yield results similar to the previous studies and a signal would not be warranted.

It is NOT recommended that the subject intersection be evaluated for possible signalization at this time.

R. Scott Leary, EI, RSP₁ March 19, 2021 Appendix C

CAP-X and SPICE Analysis Summary Sheets

Summary Report - Page 1 of 2

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Avenue Y |
| Date: | Design Year (2045) AM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction | North-South |

| | | Ti | affic Volume D | emand | | | |
|----------------------|-----------------|------------|----------------|----------------|---------|----------|---------------|
| | | Volum | ne (Veh/hr) | | | Perce | ent (%) |
| | U-Turn | Left | Thru | Right | | | |
| | Ŋ | 1 | Î | | Heavy ∖ | /ehicles | Volume Growth |
| Eastbound | 0 | 303 | 96 | 17 | 3.0 | 0% | 0.00% |
| Westbound | 0 | 29 | 92 | 307 | 2.0 | 0% | 0.00% |
| Southbound | 0 | 185 | 1109 | 471 | 4.0 | 0% | 0.00% |
| Northbound | 0 | 15 | 969 | 31 | 5.0 | 0% | 0.00% |
| Adjustment Factor | 0.80 | 0.95 | | 0.85 | | \sim | |
| Suggested | 0.80 | 0.95 | | 0.85 | | | |
| | Truck to | PCE Factor | | Suggested = | 2.00 | | 2.00 |
| FDC | OT Context Zone | | C4 | -General Urban | Residen | tial | |
| | | 2-pł | nase signal | Suggested = | 1800 | | 1800 |
| | Lane Volume | 3-pł | nase signal | Suggested = | 1750 | | 1750 |
| | | 4-pł | nase signal | Suggested = | 1700 | | 1700 |

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

| TYPE OF INTERSECTION | Overall v/c Ratio | V/C Ranking | Multimodal Score | Pedestrian Accommodation s | Bicycle Accommodation s | Transit Accommodatio ns |
|---|----------------------|----------------|---------------------|----------------------------------|-------------------------------|-------------------------------|
| Traffic Signal | 0.88 | 1 | 2.4 | Poor | Poor | Fair |
| 2 X 2 | 0.90 | 2 | 2.8 | Poor | Fair | Fair |
| Median U-Turn N-S | 1.05 | 3 | 3.1 | Fair | Fair | Poor |
| 2NS X 1EW | 1.07 | 4 | 2.8 | Poor | Fair | Fair |
| Signalized Restricted Crossing U-Turn N-S | 1.11 | 5 | 3.1 | Fair | Fair | Poor |
| Signalized ThruCut N-S | 1.15 | 6 | 2.6 | Poor | Fair | Poor |
| 1 X 1 | 1.57 | 7 | 3.3 | Fair | Fair | Fair |
| All-Way Stop Control | 2.09 | 8 | 3.3 | Fair | Fair | Fair |
| Unsignalized Restricted Crossing U- Turn N-S | 3.34 | 9 | 2.2 | Poor | Poor | Poor |
| Two-Way Stop Control N-S | 12.35 | 10 | 1.9 | Poor | Poor | Fair |

Detailed Report - Page 1 of 4

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Avenue Y |
| Date: | Design Year (2045) AM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction: | North-South |

| | | | Tra | ffic Volume D | emand | | | |
|----------------------|-----------------|----------|-------|---------------|----------------|---------|----------|---------------|
| | | ۷ | olume | (Veh/hr) | | | Perce | ent (%) |
| | U-Turn | Lef | ťt | Thru | Right | | | |
| | Ŋ | (| | Î | ſ | Heavy \ | /ehicles | Volume Growth |
| Eastbound | 0 | 30 | 3 | 96 | 17 | 3.0 | 0% | 0.00% |
| Westbound | 0 | 29 |) | 92 | 307 | 2.0 | 0% | 0.00% |
| Southbound | 0 | 18 | 5 | 1109 | 471 | 4.0 | 0% | 0.00% |
| Northbound | 0 | 15 | | 969 | 31 | 5.0 | 0% | 0.00% |
| Adjustment Factor | 0.80 | 0.9 | 5 | | 0.85 | | | |
| Suggested | 0.80 | 0.9 | 5 | | 0.85 | | | |
| | Truck to | PCE Fac | tor | | Suggested = | = 2.00 | | 2.00 |
| FDC | OT Context Zone | | | C4 | -General Urban | Residen | tial | |
| | | | 2-pha | se signal | Suggested = | 1800 | | 1800 |
| | Lane Volume | | 3-pha | se signal | Suggested = | 1750 | | 1750 |
| | | | 4-pha | se signal | Suggested = | 1700 | | 1700 |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

| Number of Lanes for Non-roundabout Intersections | | | | | | | | | | | | | | | | | |
|--|------------|--------------|-------------|----------|---------|--------------|----------|----------|---------|--------------|-----------|-------------|---------|--------------|-------------|--------------|---------|
| TYPE OF INTERSECTION | Sheet | N | orthl | bou | nd | Sc | outh | bou | nd | E | astb | our | nd | W | est | oour | ۱d |
| | oneer | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Traffic Signal | FULL | \geq | 1 | 2 | 0 | \geq | 1 | 1 | 1 | \setminus | 2 | 1 | 0 | \geq | 1 | 1 | 1 |
| Two-Way Stop Control | <u>N-S</u> | \geq | 1 | 2 | 0 | \geq | 1 | 1 | 1 | | 1 | 1 | 0 | \geq | 1 | 1 | 1 |
| All-Way Stop Control | FULL | \geq | 1 | 2 | 0 | \geq | 1 | 1 | 1 | | 1 | 1 | 0 | \geq | 1 | 1 | 1 |
| Signalized Restricted Crossing U-Turn | <u>N-S</u> | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | | / | \setminus | 1 | \geq | \setminus | \geq | 1 |
| Turn | <u>N-S</u> | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | | / | / | 1 | \checkmark | / | | 1 |
| Median U-Turn | <u>N-S</u> | 1 | \setminus | 2 | 0 | 1 | | 1 | 1 | | / | 1 | 0 | | \setminus | 1 | 1 |
| Signalized ThruCut | <u>N-S</u> | \geq | 1 | 2 | 0 | \geq | 1 | 1 | 1 | | 2 | \setminus | 1 | \geq | 1 | | 1 |
| Unsignalized ThruCut | <u>N-S</u> | \checkmark | 1 | 2 | 0 | \checkmark | 1 | 1 | 1 | \checkmark | 1 | \nearrow | 1 | \checkmark | 1 | \checkmark | 1 |
| | lumber | of L | .ane | es f | or I | nte | rch | ang | es | | | | | | | | |
| TYPE OF INTERCHANGE | Sheet | No U | orthl | oou T | nd R | Sc U | uth L | bou T | nd R | E | astb L | our T | nd R | W U | esti L | oour T | nd R |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

| | R | lesult | ts for | Non | -roun | Idabo | out In | terse | ctior | IS | | | | | |
|---|------------|-------------------|-------------|------------|------------------|--------------|-------------|------------|-------------|-------------|---------------|----------------------|----------------------------|-------------------------|--------------------------|
| TYPE OF INTERSECTION | Sheet | Zone 1 (North) | | Zor (So | ne 2 uth) | Zone 3 | l (East) | Zor (We | | Zor (Cei | ne 5 nter) | Overall v/c Ratio | Pedestrian commodations | Bicycle commodations | Transit ccommodations |
| | | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | | Ac | Ac | Ac |
| Traffic Signal | FULL | | \langle | | | \checkmark | | | / | 1501 | <u>0.88</u> | 0.88 | Poor | Peer | Fair |
| Two-Way Stop Control | <u>N-S</u> | | | \geq | | | | \geq | / | | 12.35 | 12.35 | Poor | Peer | Fair |
| All-Way Stop Control | FULL | \geq | | \geq | \triangleright | | | | / | 3767 | <u>2.09</u> | 2.09 | Fair | Fair | Fair |
| Signalized Restricted Crossing U-Turn | <u>N-S</u> | 1990 | <u>1.11</u> | 1047 | <u>0.58</u> | 1179 | <u>0.65</u> | 1688 | <u>0.94</u> | / | | 1.11 | Fair | Fair | Poor |
| Unsignalized Restricted Crossing U-Turn | <u>N-S</u> | 1835 | 0.48 | 1066 | <u>0.79</u> | 1395 | 3.34 | 1183 | <u>1.87</u> | / | / | 3.34 | Poor | Poor | Peer |

| Median U-Turn | <u>N-S</u> | 1893 | <u>1.05</u> | 1163 | <u>0.65</u> | \checkmark | \checkmark | | 1749 | <u>0.97</u> | 1.05 | Fair | Fair | Peer |
|----------------------|------------|-----------|-------------|--------|-------------|--------------|--------------|--------|--------|-------------|--------|------|------|------|
| Signalized ThruCut | <u>N-S</u> | \langle | | | | \checkmark | \geq | \geq | 1582 | <u>1.15</u> | 1.15 | Poor | Fair | Peer |
| Unsignalized ThruCut | <u>N-S</u> | \geq | | \geq | \geq | \searrow | \geq | \geq | Ξ. | 258.26 | 258.26 | Poor | Peer | Peer |

Detailed Report - Page 4 of 4

| | | | | | | Re | sults f | or Rou | ndabo | uts | | | | | | |
|-----------------------|-------------|-----------|--------|-------------|-------------|--------|-------------|-------------|--------|-------------|-------------|--------|----------------------|----------------------------|-------------------------|-------------------------|
| TYPE OF ROUNDABOUT | Zo | ne 1 (Nor | th) | z | one 3 (Eas | it) | Zo | ne 2 (Sou | th) | Zo | one 4 (Wes | st) | Overall v/c Ratio | Pedestrian commodations | Bicycle commodations | Transit commodations |
| | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | | Ac | Ac | Ac |
| <u>1 X 1</u> | <u>1.57</u> | / | / | <u>1.29</u> | | | <u>1.46</u> | / | | <u>1.27</u> | | / | 1.57 | Fair | Fair | Fair |
| 2NS X 1EW | <u>0.80</u> | 0.85 | | <u>1.07</u> | | | <u>0.71</u> | <u>0.73</u> | | <u>1.06</u> | | | 1.07 | Poor | Fair | Fair |
| <u>2 X 2</u> | 0.80 | 0.85 | | <u>0.35</u> | <u>0.76</u> | | <u>0.71</u> | <u>0.73</u> | | <u>0.90</u> | <u>0.29</u> | | 0.90 | Poor | Fair | Fair |

| | | | | 1 | Re | sults | for I | nterc | hang | ges | | | | | | | |
|---------------------|-------|--------------|------------|--------------|--------------|-------------|-------|-------------|------|-------------|--------------|-------------|--------------|----------------------|----------------------------|-------------------------|--------------------------|
| TYPE OF INTERCHANGE | Sheet | Zone 1 Mi | (Rt rg) | Zone 2 Mi | ! (Lt rg) | Zor (Ctr | | Zor (Cti | | Zone 5 M | i (Lt rg) | Zone 6 M | ð (Rt rg) | Overall v/c Ratio | Pedestrian commodations | Bicycle commodations | Transit ccommodations |
| | | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | | Ac | Ϋ́ | Ac |

Summary Report - Page 1 of 2

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Avenue Y |
| Date: | Design Year (2045) PM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction | North-South |

| | _ | Т | raffic Volume D | emand | | | |
|----------------------|-------------------------|------------|-----------------|----------------|---------|----------|---------------|
| | | Volur | ne (Veh/hr) | | | Perce | ent (%) |
| | U-Turn | Left | Thru | Right | | | |
| | ŋ | 1 | 1 | ſ | Heavy ∖ | /ehicles | Volume Growth |
| Eastbound | 0 | 539 | 93 | 31 | 3.0 | 0% | 0.00% |
| Westbound | 0 | 7 | 66 | 171 | 2.0 | 0% | 0.00% |
| Southbound | 0 | 327 | 982 | 256 | 3.0 | 0% | 0.00% |
| Northbound | 0 | 16 | 1063 | 66 | 3.0 | 0% | 0.00% |
| Adjustment Factor | 0.80 | 0.95 | | 0.85 | | \sim | |
| Suggested | 0.80 | 0.95 | | 0.85 | | | |
| | Truck to | PCE Factor | | Suggested = | 2.00 | | 2.00 |
| FDC | OT Context Zone | | C4 | -General Urban | Residen | tial | |
| | | 2-р | hase signal | Suggested = | 1800 | | 1800 |
| | Lane Volume hreshold | 3-р | hase signal | Suggested = | 1750 | | 1750 |
| | | 4-р | | 1700 | | | |

Capacity Analysis for Planning of Junctions

Summary Report - Page 2 of 2

| TYPE OF INTERSECTION | Overall v/c Ratio | V/C Ranking | Multimodal Score | Pedestrian Accommodation s | Bicycle Accommodation s | Transit Accommodatio ns |
|---|----------------------|----------------|---------------------|----------------------------------|-------------------------------|-------------------------------|
| Traffic Signal | 0.82 | 1 | 2.4 | Poor | Poor | Fair |
| Signalized ThruCut N-S | 0.97 | 2 | 2.6 | Poor | Fair | Poor |
| Signalized Restricted Crossing U-Turn N-S | 1.01 | 3 | 3.1 | Fair | Fair | Poor |
| Median U-Turn N-S | 1.11 | 4 | 3.1 | Fair | Fair | Poor |
| 2 X 2 | 1.57 | 5 | 2.8 | Poor | Fair | Fair |
| 2NS X 1EW | 1.67 | 6 | 2.8 | Poor | Fair | Fair |
| All-Way Stop Control | 2.07 | 7 | 3.3 | Fair | Fair | Fair |
| 1 X 1 | 2.39 | 8 | 3.3 | Fair | Fair | Fair |
| Unsignalized Restricted Crossing U- Turn N-S | 3.22 | 9 | 2.2 | Poor | Poor | Poor |
| Two-Way Stop Control N-S | 23.28 | 10 | 1.9 | Poor | Poor | Fair |

Detailed Report - Page 1 of 4

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Avenue Y |
| Date: | Design Year (2045) PM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction: | North-South |

| | | | Tra | ffic Volume D | emand | | | |
|----------------------|-----------------|---------|-------|---------------|---------------|---------|----------|---------------|
| | | ۷ | olume | (Veh/hr) | | | Perce | ent (%) |
| | U-Turn | Lef | t | Thru | Right | | | |
| | ŋ | | | Î | | Heavy \ | /ehicles | Volume Growth |
| Eastbound | 0 | 539 | Ð | 93 | 31 | 3.0 | 0% | 0.00% |
| Westbound | 0 | 7 | | 66 | 171 | 2.0 | 0% | 0.00% |
| Southbound | 0 | 327 | 7 | 982 | 256 | 3.0 | 0% | 0.00% |
| Northbound | 0 | 16 | | 1063 | 66 | 3.0 | 0% | 0.00% |
| Adjustment Factor | 0.80 | 0.9 | 5 | | 0.85 | | | |
| Suggested | 0.80 | 0.9 | 5 | | 0.85 | | | |
| | Truck to | PCE Fac | tor | | Suggested = | 2.00 | | 2.00 |
| FDC | OT Context Zone | | | C4- | General Urban | Residen | itial | |
| | | | | se signal | Suggested = | 1800 | | 1800 |
| | Lane Volume | | 3-pha | se signal | Suggested = | 1750 | | 1750 |
| | | | 4-pha | se signal | Suggested = | 1700 | | 1700 |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 2 of 4

| Number o | of Lanes | Number of Lanes for Non-roundabout Intersections | | | | | | | | | | | | | | | |
|---------------------------------------|------------|--|-------------|----------|---------|--------------|----------|----------|---------|--------------|-----------|-------------|---------|--------------|-------------|--------------|---------|
| TYPE OF INTERSECTION | Sheet | N | orthl | bou | nd | Sc | outh | bou | nd | E | astb | our | nd | W | est | oour | ۱d |
| | oneer | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Traffic Signal | FULL | \geq | 1 | 2 | 0 | \geq | 1 | 1 | 1 | \setminus | 2 | 1 | 0 | \geq | 1 | 1 | 1 |
| Two-Way Stop Control | <u>N-S</u> | \geq | 1 | 2 | 0 | \geq | 1 | 1 | 1 | | 1 | 1 | 0 | \geq | 1 | 1 | 1 |
| All-Way Stop Control | FULL | \geq | 1 | 2 | 0 | \geq | 1 | 1 | 1 | | 1 | 1 | 0 | \geq | 1 | 1 | 1 |
| Signalized Restricted Crossing U-Turn | <u>N-S</u> | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | | / | \setminus | 1 | \geq | \setminus | \geq | 1 |
| Turn | <u>N-S</u> | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 1 | | / | / | 1 | \checkmark | / | | 1 |
| Median U-Turn | <u>N-S</u> | 1 | \setminus | 2 | 0 | 1 | | 1 | 1 | | / | 1 | 0 | | \setminus | 1 | 1 |
| Signalized ThruCut | <u>N-S</u> | \geq | 1 | 2 | 0 | \geq | 1 | 1 | 1 | | 2 | \setminus | 1 | \geq | 1 | \langle | 1 |
| Unsignalized ThruCut | <u>N-S</u> | \checkmark | 1 | 2 | 0 | \checkmark | 1 | 1 | 1 | \checkmark | 1 | \nearrow | 1 | \checkmark | 1 | \checkmark | 1 |
| | lumber | of L | .ane | es f | or l | nte | rch | ang | es | | | | | | | | |
| TYPE OF INTERCHANGE | Sheet | No U | orthl | oou T | nd R | Sc U | uth L | bou T | nd R | E | astb L | our T | nd R | W U | esti L | oour T | nd R |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 3 of 4

| | R | lesuli | ts for | Non | -roun | Idabo | out In | terse | ctior | IS | | | | | |
|---|------------|-------------------|-------------|------------|--------------|--------------|-------------|------------|-------------|-------------|-------------|----------------------|----------------------------|-------------------------|--------------------------|
| TYPE OF INTERSECTION | Sheet | Zone 1 (North) | | Zor (So | ne 2 uth) | Zone 3 | i (East) | Zor (We | | Zor (Cer | | Overall v/c Ratio | Pedestrian commodations | Bicycle commodations | Transit ccommodations |
| | | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | | Ac | Ac | Ac |
| Traffic Signal | FULL | / | \langle | | | \checkmark | | | | 1388 | <u>0.82</u> | 0.82 | Poor | Peer | Fair |
| Two-Way Stop Control | <u>N-S</u> | \geq | | \geq | | | | \geq | / | - E. | 23.28 | 23.28 | Poor | Peer | Fair |
| All-Way Stop Control | FULL | \geq | | | | | | | / | 3722 | 2.07 | 2.07 | Fair | Fair | Fair |
| Signalized Restricted Crossing U-Turn | <u>N-S</u> | 1705 | <u>0.95</u> | 1403 | <u>0.78</u> | 1180 | <u>0.66</u> | 1822 | <u>1.01</u> | / | | 1.01 | Fair | Fair | Peer |
| Unsignalized Restricted Crossing U-Turn | <u>N-S</u> | 1612 | 0.23 | 1179 | <u>1.37</u> | 1732 | 3.22 | 1018 | 2.38 | | | 3.22 | Poor | Poor | Peer |

| Median U-Turn | <u>N-S</u> | 1641 | <u>0.91</u> | 1705 | <u>0.95</u> | / | / | / | 2001 | 1.11 | 1.11 | Fair | Fair | Peer |
|----------------------|------------|--------|-------------|--------|-------------|--------|--------|--------|------|---------------|--------|------|------|------|
| Signalized ThruCut | <u>N-S</u> | | | | | \geq | | | 1345 | <u>0.97</u> | 0.97 | Poor | Fair | Poor |
| Unsignalized ThruCut | <u>N-S</u> | \geq | \sim | \geq | \geq | \geq | \geq | \geq | ÷ | <u>406.41</u> | 406.41 | Poor | Peer | Peer |

Detailed Report - Page 4 of 4

| | | | | | | Re | sults f | or Rou | ndabo | uts | | | | | | |
|-----------------------|----------------|-------------|--------|---------------|-------------|--------|----------------|-------------|--------|---------------|-------------|--------|----------------------|----------------------------|-------------------------|-------------------------|
| TYPE OF ROUNDABOUT | Zone 1 (North) | | th) | Zone 3 (East) | | | Zone 2 (South) | | | Zone 4 (West) | | | Overall v/c Ratio | Pedestrian commodations | Bicycle commodations | Transit commodations |
| | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | | Ac | Ac | Ac |
| <u>1 X 1</u> | <u>1.31</u> | / | | 2.01 | | | <u>2.39</u> | / | | <u>1.00</u> | | / | 2.39 | Fair | Fair | Fair |
| 2NS X 1EW | <u>0.67</u> | <u>0.71</u> | | <u>1.67</u> | | | <u>1.12</u> | <u>1.12</u> | | <u>0.79</u> | | | 1.67 | Poor | Fair | Fair |
| <u>2 X 2</u> | <u>0.67</u> | <u>0.71</u> | | 0.28 | <u>0.55</u> | | <u>1.12</u> | <u>1.12</u> | | <u>1.57</u> | <u>0.31</u> | \sim | 1.57 | Poor | Fair | Fair |

| Results for Interchanges | | | | | | | | | | | | | | | | | |
|--------------------------|-------|--------------|------------|-------------|--------------|-------------|-----|-------------|-----|--------------|--------------|-------------|--------------|----------------------|-----------------------------|-------------------------|-------------------------|
| TYPE OF INTERCHANGE | Sheet | Zone 1 Mi | (Rt rg) | Zone 2 M | ? (Lt rg) | Zor (Ctr | | Zor (Ctr | | Zone 5 Mi | s (Lt rg) | Zone 6 M | ð (Rt rg) | Overall v/c Ratio | Pedestrian :commodations | Bicycle commodations | Transit commodations |
| | | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | | Ac | Ac | Ac |

| Intersection: SR 544/A Agency: FDOT Dis | Avenue Y istrict One .: 440273-1-22- | m MLK Blvd to SR 17 | 2 | Summary of crash prediction Project In Intersection Type | sults | | | | | | | |
|--|--|---------------------|------------------|--|------------------------------|----------------------------|--------------------------------|---|-----------------|------------------|--|--|
| Intersection: SR 544/A Agency: FDOT Dis Project Reference: FPID No City: Polk Cou | Avenue Y istrict One .: 440273-1-22- | m MLK Blvd to SR 17 | | Summary of crash prediction Project In Intersection Type | n results for each alternati | ve | | | | | | |
| Intersection: SR 544/A Agency: FDOT Dis Project Reference: FPID No City: Polk Cou | Avenue Y istrict One .: 440273-1-22- | m MLK Blvd to SR 17 | | Project In Intersection Type | | ve | | | | | | |
| Intersection: SR 544/A Agency: FDOT Dis Project Reference: FPID No City: Polk Cou | Avenue Y istrict One .: 440273-1-22- | m MLK Blvd to SR 17 | | Intersection Type | formation | | | | | | | |
| Intersection: SR 544/A Agency: FDOT Dis Project Reference: FPID No City: Polk Cou | Avenue Y istrict One .: 440273-1-22- | m MLK Bivd to SR 17 | | | | | | | | | | |
| Agency: FDOT Dis Project Reference: FPID No.: City: Polk Cou | istrict One .: 440273-1-22- | | | | | | | | At-Gra | de Intersections | | |
| Project Reference: FPID No.: City: Polk Cou | .: 440273-1-22- | | | Opening Year | | | 2025 | | | | | |
| City: Polk Cou | | | | Design Year | | 2045 | | | | | | |
| | | -01 | | Facility Type | | | On Urban and Suburban Arterial | | | | | |
| State: Florida | unty | | | Number of Legs | | | | 4-leg | | | | |
| | | | | 1-Way/2-Way | | | | 2-way Intersecting 2-way | | | | |
| Date: 11/23/20 | | | | # of Major Street Lanes (both | | | | 5 or fewer | | | | |
| Analyst: AIM Engi | gineering & Sur | veying, Inc. | | Major Street Approach Speed | | | | | Less | than 55 mph | | |
| | | | | Crash Predic | tion Summary | | | | | CC1 C | | |
| Control Strategy Cras | ish Type | Opening Year | Design Year | Total Project Life Cycle | Crash Prediction Rank | AADT Within SPF Prediction | Source of Prediction | - | | SSI Score | | |
| Control Strategy Cras | ish Type | Opening Year | Design Year | Total Project Life Cycle | Crash Prediction Rank | Range? | Source of Prediction | Year | Design Year | Rank | | |
| | Total | 6.77 | 11.41 | 190.92 | 6 | Yes | Calibrated SPF | 81 | 67 | 9 | | |
| - Fatal | l & Injury | 2.36 | 4.04 | 67.18 | 0 | 105 | calibrated of f | 01 | <u></u> | | | |
| Minor Road Ston | Total | 5.72 | 9.07 | 155.82 | 5 | No | Calibrated SPF w/ EB | 69 | 53 | 10 | | |
| Fatal | l & Injury | 2.07 | 3.45 | 58.10 | , | | | 100 | <u><u> </u></u> | 10 | | |
| | Total | 3.25 | 5.54 | 92.70 | 3 | N/A | N/A | 91 | <u>83</u> 4 | 4 | | |
| Fatal | l & Injury | 1.23 | 2.16 | 35.65 | , | 14,73 | 14,73 | <u> </u> | 00 | - | | |
| | Total | 2.83 | 3.85 | 70.35 | 1 | No | Uncalibrated SPF | 93 | 89 | 1 | | |
| | l & Injury | 0.45 | 0.66 | 11.76 | | | | | | - | | |
| 2-lane Koundapout | Total | 7.53 | 12.16 | 206.24 | 2 | No | Uncalibrated SPF | B 69 53 1 91 83 1 93 89 1 87 81 1 92 86 1 | 6 | | | |
| | l & Injury | 1.16 | 1.97 | 32.61 | - | | | | - | | | |
| Median U-Turn (MUT) | Total | 5.75 | 9.70 | 162.28 | 4 | N/A | CMF | 92 | 86 | 2 | | |
| Fatal | l & Injury | 1.66 | 2.83 | 47.02 | * | | | l, | | - | | |
| Signalized RCLIT | Total | 12.05 | 24.77 | 384.32 | 7 | Yes | Uncalibrated SPF | 90 | 85 | 3 | | |
| | l & Injury | 2.81 | 6.55 No SPF | 97.20 | | | | _ | | - | | |
| | Total I & Injury | No SPF No SPF | No SPF No SPF | No SPF No SPF | | Yes | Uncalibrated SPF | 83 | 74 | 7 | | |
| т | Total | NO SPF | NO SPF | NO SPF | | | | | | | | |
| Signalized Thru-Cut | l & Injury | No SPF | No SPF | No SPF | | N/A | N/A | <u>89</u> | <u>81</u> | 5 | | |
| т | Total | No SPF | No SPF | No SPF | | | | | | | | |
| | l & Injury | No SPF | No SPF | No SPF | | N/A | N/A | <u>83</u> | <u>72</u> | 8 | | |
| т | Total | No SPF | No SPF | No SPF | | N1/A | 01.45 | | | | | |
| Other 1* | l & Injury | No SPF | No SPF | No SPF | | N/A | CMF | | | | | |
| т | Total | No SPF | No SPF | No SPF | | N. (A | 01.45 | | | | | |
| Other 2* | l & Injury | No SPF | No SPF | No SPF | | N/A | CMF | | | | | |

Appendix D

SYNCHRO and SIDRA Analysis Summary Sheets

04/14/2021

| | ٨ | + | > | 1 | + | * | 1 | 1 | P | 4 | ŧ | 1 |
|--|-------|-------|------|------------|-------|-------|------------|----------|------|-------|----------------------|------------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻሻ | ĵ, | | 5 | 1 | 1 | ٦ | 1 | | Ĭ | 1 | 7 |
| Traffic Volume (vph) | 303 | 96 | 17 | 29 | 92 | 307 | 15 | 969 | 31 | 185 | 1109 | 471 |
| Future Volume (vph) | 303 | 96 | 17 | 29 | 92 | 307 | 15 | 969 | 31 | 185 | 1109 | 471 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 250 | | 0 | 250 | | 250 | 250 | 25020000 | 0 | 250 | . NATIONAL CONTINUES | 0 |
| Storage Lanes | 2 | | 0 | 1 | | 1 | 1 | | 0 | 1 | | 1 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | 0.50 | 25 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.977 | | | | 0.850 | | 0.995 | | | | 0.850 |
| Fit Protected | 0.950 | | | 0.950 | | | 0.950 | - | 1.54 | 0.950 | | |
| Satd. Flow (prot) | 3335 | 1797 | 0 | 1719 | 1863 | 1538 | 1752 | 3424 | 0 | 1770 | 1810 | 1568 |
| Flt Permitted | 0.950 | | | 0.681 | | 1000 | 0.055 | 0121 | | 0.168 | | 1000 |
| Satd. Flow (perm) | 3335 | 1797 | 0 | 1232 | 1863 | 1538 | 101 | 3424 | 0 | 313 | 1810 | 1568 |
| Right Turn on Red | 0000 | 1101 | Yes | TEVE | 1000 | Yes | | | Yes | 010 | | Yes |
| Satd. Flow (RTOR) | | 5 | 100 | | | 65 | | 3 | 100 | | | 312 |
| Link Speed (mph) | | 30 | | | 30 | 00 | | 30 | | | 30 | UTL |
| Link Distance (ft) | | 1362 | | | 1498 | | | 698 | | | 839 | |
| Travel Time (s) | | 31.0 | | - | 34.0 | | | 15.9 | | - | 19.1 | 1.000 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Heavy Vehicles (%) | 5% | 3% | 5% | 5% | 2% | 5% | 3% | 5% | 2% | 2% | 5% | 3% |
| Adj. Flow (vph) | 319 | 101 | 18 | 31 | 97 | 323 | 16 | 1020 | 33 | 195 | 1167 | 496 |
| | 515 | 101 | 10 | 51 | 51 | 525 | 10 | 1020 | 55 | 190 | 1107 | 430 |
| Shared Lane Traffic (%) | 319 | 119 | 0 | 31 | 97 | 323 | 16 | 1053 | 0 | 195 | 1167 | 496 |
| Lane Group Flow (vph) | Prot | NA | 0 | | NA | pm+ov | 111- | NA | 0 | | NA | |
| Turn Type Protected Phases | 7 | 4 | | pm+pt 3 | 8 | 1 | pm+pt 5 | 2 | | pm+pt | 6 | pm+ov 7 |
| Permitted Phases | 1 | 4 | | 8 | 0 | 8 | 2 | 2 | | 1 | 0 | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | 1 | 4 | | 3 | 0 | 1 | 5 | 2 | | 1 | 0 | - 1 |
| State in the second | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | 5.0 | | | | | | | 24.0 | | | | |
| Minimum Split (s) | 11.0 | 24.0 | | 11.0 | 24.0 | 24.0 | 24.0 | | | 24.0 | 24.0 | 11.0 |
| Total Split (s) | 19.0 | 24.0 | | 19.0 | 24.0 | 32.0 | 24.0 | 75.0 | - | 32.0 | 83.0 | 19.0 |
| Total Split (%) | 12.7% | 16.0% | | 12.7% | 16.0% | 21.3% | 16.0% | 50.0% | | 21.3% | 55.3% | 12.7% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 1.5 | 1.5 | | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | | 1.5 | 1.5 | 1.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | Max | | None | Max | None |
| Act Effct Green (s) | 13.1 | 23.0 | | 19.6 | 12.2 | 34.3 | 75.2 | 69.3 | | 91.3 | 86.7 | 105.8 |
| Actuated g/C Ratio | 0.10 | 0.17 | | 0.15 | 0.09 | 0.25 | 0.56 | 0.51 | | 0.68 | 0.64 | 0.79 |
| v/c Ratio | 0.99 | 0.38 | | 0.15 | 0.57 | 0.73 | 0.12 | 0.60 | | 0.51 | 1.00 | 0.38 |
| Control Delay | 107.8 | 55.1 | | 43.8 | 73.4 | 46.4 | 11.9 | 25.9 | | 12.9 | 51.9 | 2.9 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 107.8 | 55.1 | | 43.8 | 73.4 | 46.4 | 11.9 | 25.9 | | 12.9 | 51.9 | 2.9 |
| LOS | F | E | | D | E | D | В | С | | В | D | A |
| Approach Delay | | 93.5 | | | 52.0 | | | 25.6 | | | 34.7 | - |
| Approach LOS | | F | | | D | | | С | | | C | |
| Stops (vph) | 258 | 95 | | 25 | 84 | 221 | 7 | 682 | | 63 | 835 | 53 |

Build Alt. 2 2045 AM Peak

Synchro 11 Report Page 1

04/14/2021

| Lane Group Fuel Used(gal) CO Emissions (g/hr) NOx Emissions (g/hr) VOC Emissions (g/hr) Dilemma Vehicles (#) Queue Length 50th (ft) Queue Length 95th (ft) | EBL 11 789 154 183 0 144 | EBT 3 209 41 48 0 | EBR | WBL 1 51 10 | WBT 3 204 | WBR 8 539 | NBL 0 | NBT 14 | NBR | SBL 2 | SBT 24 | SBF |
|---|--|----------------------------------|-----------|----------------------|-----------------|-----------------|----------|-----------|-----|----------|-----------|------|
| CO Emissions (g/hr) NOx Emissions (g/hr) VOC Emissions (g/hr) Dilemma Vehicles (#) Queue Length 50th (ft) | 789 154 183 0 | 209 41 48 | | 51 10 | 204 | | | | | 2 | 24 | |
| CO Emissions (g/hr) NOx Emissions (g/hr) VOC Emissions (g/hr) Dilemma Vehicles (#) Queue Length 50th (ft) | 154 183 0 | 41 48 | | 10 | | 539 | 1.444 | | | | | |
| NOx Emissions (g/hr) VOC Emissions (g/hr) Dilemma Vehicles (#) Queue Length 50th (ft) | 183 0 | 48 | | | 40 | 000 | 11 | 1012 | | 143 | 1648 | 255 |
| VOC Emissions (g/hr) Dilemma Vehicles (#) Queue Length 50th (ft) | 0 | | | | 40 | 105 | 2 | 197 | | 28 | 321 | 50 |
| Queue Length 50th (ft) | 100 | 0 | | 12 | 47 | 125 | 3 | 235 | | 33 | 382 | 59 |
| | 144 | | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | C |
| | | 93 | | 21 | 82 | 210 | 4 | 325 | | 56 | 846 | 26 |
| | #281 | 171 | | 52 | 151 | 316 | 13 | 487 | | 98 | #1546 | 102 |
| Internal Link Dist (ft) | | 1282 | | | 1418 | _ | | 618 | | | 759 | |
| Turn Bay Length (ft) | 250 | | | 250 | | 250 | 250 | | | 250 | | |
| Base Capacity (vph) | 323 | 311 | | 278 | 249 | 549 | 286 | 1762 | | 494 | 1165 | 1298 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| | 0.99 | 0.38 | | 0.11 | 0.39 | 0.59 | 0.06 | 0.60 | | 0.39 | 1.00 | 0.38 |
| Intersection Summary | | | | | - | | | | | | | 31 |
| Area Type: Othe | r | | | | | | | | | | | |
| Cycle Length: 150 | | | | | | | | | | | | |
| Actuated Cycle Length: 134.7 | | | | | | | | | | | | |
| Natural Cycle: 145 | | | | | | | | | | | | |
| Control Type: Actuated-Uncoordi | nated | | | | | | | | | | | |
| Maximum v/c Ratio: 1.00 | | | | | | | | | | | | |
| Intersection Signal Delay: 41.0 | | | | Int | tersection | LOS: D | | | | | | |
| Intersection Capacity Utilization 9 | 2.8% | | | IC | U Level o | f Service | F | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |
| # 95th percentile volume excee | ds cap | acity, que | eue may l | be longer | | | | | | | | |
| Queue shown is maximum aft | er two | cycles. | | | | | | | | | | |

| Se1 | ↑ ø₂ | √ Ø3 | → Ø4 |
|-----|-------------|--------------|-------------|
| 2.8 | 75.5 | 19 \$ | 245 |
| 05 | ↓ Ø6 | \$ 07 | Ø8 |
| 5 | 33 s | 19 s | 245 |

04/14/2021

| | ۶ | + | > | 1 | + | * | 1 | 1 | P | 1 | ŧ | 1 |
|-------------------------|-------|-------|------|-------|-------|-------|-------------|----------|--------------|-----------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ሻሻ | P | | ٦ | 1 | 1 | ľ, | A | | ٢ | 1 | 1 |
| Traffic Volume (vph) | 539 | 93 | 31 | 7 | 66 | 171 | 16 | 1063 | 66 | 327 | 982 | 256 |
| Future Volume (vph) | 539 | 93 | 31 | 7 | 66 | 171 | 16 | 1063 | 66 | 327 | 982 | 256 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 250 | | 0 | 250 | | 250 | 250 | | 0 | 250 | | 0 |
| Storage Lanes | 2 | | 0 | 1 | | 1 | 1 | | 0 | 1 | | 1 |
| Taper Length (ft) | 25 | | 102 | 25 | | _ | 25 | | | 25 | | |
| Lane Util. Factor | 0.97 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.962 | | _ | | 0.850 | | 0.991 | | | _ | 0.850 |
| Fit Protected | 0.950 | - | | 0.950 | | | 0.950 | | | 0.950 | | 1.1 |
| Satd. Flow (prot) | 3400 | 1775 | 0 | 1752 | 1863 | 1568 | 1752 | 3475 | 0 | 1770 | 1845 | 1568 |
| Flt Permitted | 0.950 | | | 0.675 | 1 | | 0.065 | | | 0.082 | 1 | - 2 |
| Satd. Flow (perm) | 3400 | 1775 | 0 | 1245 | 1863 | 1568 | 120 | 3475 | 0 | 153 | 1845 | 1568 |
| Right Turn on Red | | - | Yes | | | Yes | 1.1.1.1.1.1 | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 9 | | | | 65 | | 5 | 1.00.000.000 | | | 191 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1362 | | | 1498 | | | 698 | | | 839 | |
| Travel Time (s) | | 31.0 | | | 34.0 | | | 15.9 | | | 19.1 | 0.0 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Heavy Vehicles (%) | 3% | 3% | 3% | 3% | 2% | 3% | 3% | 3% | 2% | 2% | 3% | 3% |
| Adj. Flow (vph) | 556 | 96 | 32 | 7 | 68 | 176 | 16 | 1096 | 68 | 337 | 1012 | 264 |
| Shared Lane Traffic (%) | | | | | | | | | | Carlo II. | | |
| Lane Group Flow (vph) | 556 | 128 | 0 | 7 | 68 | 176 | 16 | 1164 | 0 | 337 | 1012 | 264 |
| Turn Type | Prot | NA | | pm+pt | NA | pm+ov | pm+pt | NA | | pm+pt | NA | pm+ov |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | 7 |
| Permitted Phases | | | | 8 | | 8 | 2 | | | 6 | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | 7 |
| Switch Phase | | | | | | | 200 | - | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.0 | 24.0 | | 11.0 | 24.0 | 24.0 | 24.0 | 24.0 | | 24.0 | 24.0 | 11.0 |
| Total Split (s) | 31.0 | 24.0 | | 31.0 | 24.0 | 32.0 | 24.0 | 63.0 | _ | 32.0 | 71.0 | 31.0 |
| Total Split (%) | 20.7% | 16.0% | | 20.7% | 16.0% | 21.3% | 16.0% | 42.0% | | 21.3% | 47.3% | 20.7% |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 1.5 | 1.5 | | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | | 1.5 | 1.5 | 1.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | _ | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | Max | | None | Max | None |
| Act Effct Green (s) | 25.1 | 36.2 | | 15.0 | 10.4 | 38.4 | 63.3 | 57.3 | | 88.2 | 83.4 | 115.9 |
| Actuated g/C Ratio | 0.18 | 0.26 | | 0.11 | 0.07 | 0.28 | 0.46 | 0.41 | | 0.63 | 0.60 | 0.83 |
| v/c Ratio | 0.91 | 0.27 | | 0.04 | 0.49 | 0.37 | 0.13 | 0.81 | | 0.87 | 0.91 | 0.20 |
| Control Delay | 75.9 | 40.5 | | 38.1 | 74.9 | 26.3 | 16.1 | 42.6 | | 59.9 | 40.1 | 1.7 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 75.9 | 40.5 | | 38.1 | 74.9 | 26.3 | 16.1 | 42.6 | | 59.9 | 40.1 | 1.7 |
| LOS | Е | D | | D | E | С | В | D | | Е | D | A |
| Approach Delay | | 69.3 | | | 39.8 | | | 42.2 | | 24.2 | 38.0 | (AVIP |
| Approach LOS | | E | | | D | | | D | | | D | |
| Stops (vph) | 484 | 89 | | 7 | 62 | 82 | 10 | 967 | | 227 | 721 | 19 |

Build Alt. 2 2045 PM Peak

Synchro 11 Report Page 1

04/14/2021

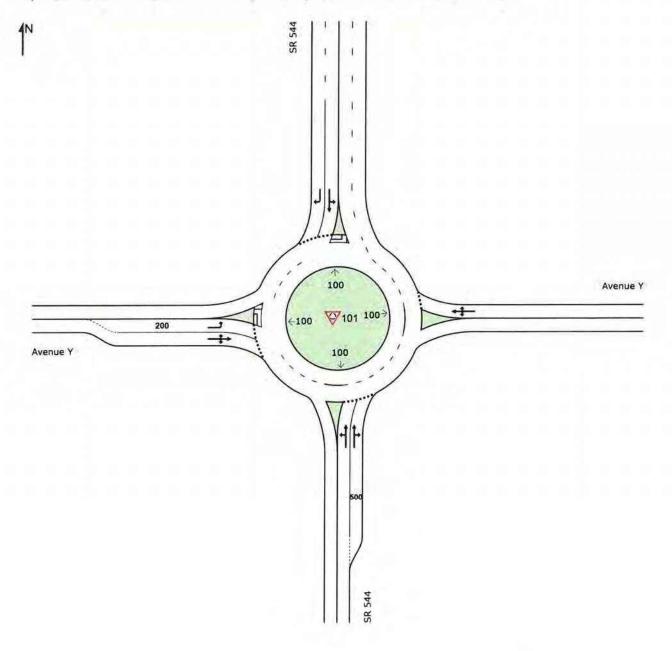
| | ٨ | - | 7 | 1 | - | ~ | 1 | 1 | r | 1 | ŧ | 1 |
|-------------------------------|-------------|------------|-----------|------------|-----------|-----------|------|------|-----|------|-------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBF |
| Fuel Used(gal) | 17 | 3 | | 0 | 2 | 3 | 0 | 21 | | 7 | 18 | 1 |
| CO Emissions (g/hr) | 1170 | 198 | | 12 | 148 | 235 | 14 | 1487 | | 516 | 1289 | 131 |
| NOx Emissions (g/hr) | 228 | 39 | | 2 | 29 | 46 | 3 | 289 | | 100 | 251 | 25 |
| VOC Emissions (g/hr) | 271 | 46 | | 3 | 34 | 55 | 3 | 345 | | 120 | 299 | 30 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | (|
| Queue Length 50th (ft) | 265 | 84 | | 5 | 62 | 79 | 5 | 506 | | 237 | 739 | ę |
| Queue Length 95th (ft) | #391 | 159 | | 17 | 114 | 146 | 16 | 631 | | #427 | #1318 | 43 |
| Internal Link Dist (ft) | | 1282 | | | 1418 | | | 618 | | | 759 | |
| Turn Bay Length (ft) | 250 | | | 250 | | 250 | 250 | | | 250 | | |
| Base Capacity (vph) | 615 | 469 | | 397 | 242 | 494 | 277 | 1436 | | 401 | 1107 | 1326 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | C |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | C |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.90 | 0.27 | | 0.02 | 0.28 | 0.36 | 0.06 | 0.81 | | 0.84 | 0.91 | 0.20 |
| Intersection Summary | | | | | | | | | | | - | |
| Area Type: | Other | | | | | | | | | | | |
| Cycle Length: 150 | | | | | | | | | | | | |
| Actuated Cycle Length: 138 | 3.9 | | | | | | | | | | | |
| Natural Cycle: 145 | | | | | | | | | | | | |
| Control Type: Actuated-Und | coordinated | | | | | | | | | | | |
| Maximum v/c Ratio: 0.91 | | | | | | | | | | | | |
| Intersection Signal Delay: 4 | 5.2 | | | Int | ersection | LOS: D | | | | | | |
| Intersection Capacity Utiliza | ation 92.9% | | | IC | U Level o | f Service | F | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |
| # 95th percentile volume e | exceeds cap | acity, que | eue may b | be longer. | | | | | | | | |
| of bour percentate retained | | | | | | | | | | | | |

| Se 1 | ↑ ø2 | 1 03 | |
|-------------|-------------|--------------|------|
| 32.5 | 63.5 | 31 s | 24 5 |
| 1 Ø5 | | \$ 07 | Ø8 |
| 4 5 | 715 | 31 5 | 24 5 |

W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Tuesday, April 13, 2021 4:01:51 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\AM Pk Hr\SR 544_Ave Y_2045 AM Pk Hr_Build Alt 2_Rev.sip9

MOVEMENT SUMMARY

V Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

| Mov | Turn | INP VOLL | | DEM FLO | | Deg Satn | Aver | Level of Service | and the second second second second | ACK OF | Prop. Que | Effective Stop | Aver No | Aver Speed |
|--------|----------|-------------|-----|------------|------|-------------|-------|---------------------|-------------------------------------|--------|--------------|-------------------|------------|---------------|
| ID | | [Total | HV] | [Total | HV] | | Delay | Service | [Veh. | Dist] | Que | Rate | Cycles | |
| | | veh/h | % | veh/h | % | v/c | SEC | | veh | ft | - | | | mph |
| Sout | h: SR 5 | | | | | | | | | | | | | |
| 3 | L2 | 15 | 3.0 | 16 | 3.0 | 0.693 | 18.5 | LOS C | 6.8 | 176.2 | 0.80 | 1.08 | 1.59 | 29.2 |
| 8 | T1 | 969 | 5.0 | 1020 | 5.0 | 0.693 | 18.0 | LOS C | 7.0 | 181.5 | 0.79 | 1.07 | 1.58 | 29.3 |
| 18 | R2 | 31 | 2.0 | 33 | 2.0 | 0.693 | 17.2 | LOS C | 7.0 | 181.5 | 0.79 | 1.07 | 1.57 | 28.8 |
| Appr | oach | 1015 | 4.9 | 1068 | 4.9 | 0.693 | 17.9 | LOS C | 7.0 | 181,5 | 0.79 | 1.07 | 1.58 | 29.3 |
| East | Avenu | eΥ | | | | | | | | | | | | |
| 1 | L2 | 29 | 2.0 | 31 | 2.0 | 1.078 | 98.2 | LOS F | 22.0 | 558.2 | 1.00 | 2.31 | 5.87 | 14.3 |
| 6 | T1 | 92 | 2.0 | 97 | 2.0 | 1.078 | 98.2 | LOS F | 22.0 | 558.2 | 1.00 | 2.31 | 5.87 | 14.3 |
| 16 | R2 | 307 | 2.0 | 323 | 2.0 | 1.078 | 98.2 | LOS F | 22.0 | 558.2 | 1.00 | 2.31 | 5.87 | 14.1 |
| Appr | oach | 428 | 2.0 | 451 | 2.0 | 1.078 | 98.2 | LOS F | 22.0 | 558.2 | 1.00 | 2.31 | 5.87 | 14.2 |
| North | h: SR 54 | 44 | | | | | | | | | | | | |
| 7 | L2 | 185 | 2.0 | 195 | 2.0 | 1.137 | 88.5 | LOS F | 128.4 | 3327.3 | 1.00 | 2.35 | 3.68 | 15.4 |
| 4 | T1 | 1109 | 5.0 | 1167 | 5.0 | 1.137 | 88.6 | LOS F | 128.4 | 3327.3 | 1.00 | 2.35 | 3.68 | 15.3 |
| 14 | R2 | 471 | 3.0 | 496 | 3.0 | 0.408 | 7.0 | LOSA | 2.3 | 59.1 | 0.36 | 0.22 | 0.36 | 33.0 |
| Appr | oach | 1765 | 4.2 | 1858 | 4.2 | 1.137 | 66.8 | LOS F | 128.4 | 3327.3 | 0.83 | 1.78 | 2.80 | 17.8 |
| West | t: Avenu | ie Y | | | | | | | | | | | | |
| 5 | L2 | 303 | 3.0 | 319 | 3.0 | 0.514 | 19.5 | LOS C | 2.4 | 62.4 | 0.81 | 0.95 | 1.29 | 27.4 |
| 2 | T1 | 96 | 3.0 | 101 | 3.0 | 0.514 | 19.5 | LOS C | 2.4 | 62.4 | 0.81 | 0.95 | 1.29 | 28.0 |
| 12 | R2 | 17 | 3.0 | 18 | 3.0 | 0.514 | 19.5 | LOS C | 2.4 | 62.4 | 0.81 | 0.95 | 1.29 | 27.3 |
| Appr | oach | 416 | 3.0 | 438 | 3.0 | 0.514 | 19.5 | LOS C | 2.4 | 62.4 | 0.81 | 0.95 | 1.29 | 27.5 |
| AII 14 | ehicles | 3624 | 4.0 | 3815 | 4.0 | 1,137 | 51.4 | LOS F | 128.4 | 3327.3 | 0.84 | 1.55 | 2.65 | 20.3 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

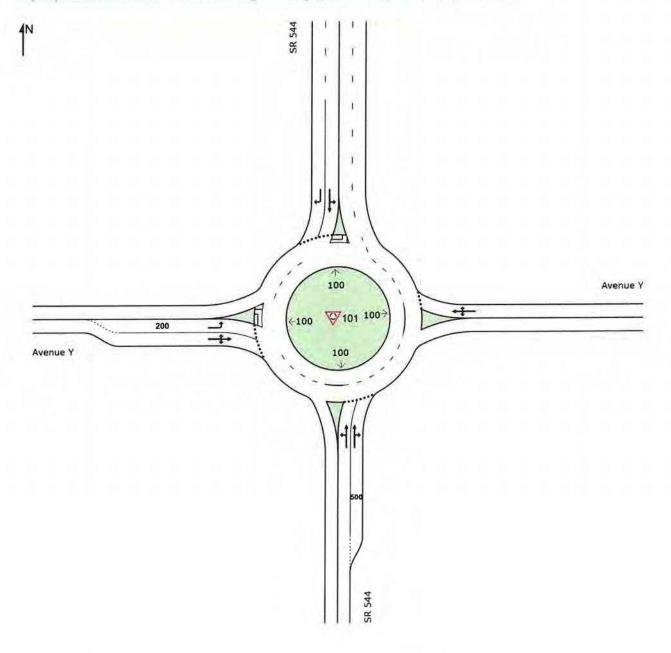
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Tuesday, April 13, 2021 4:01:00 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\AM Pk Hr\SR 544_Ave Y_2045 AM Pk Hr_Build Alt 2_Rev.sip9

W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Tuesday, April 13, 2021 4:07:39 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\PM Pk Hr\SR 544_Ave Y_2045 PM Pk Hr_Build Alt 2_Rev.sip9

MOVEMENT SUMMARY

W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

| | Tum | INP | | DEM | | Deg. | Aver. | Level of | | ACK OF | Prop. | Effective | Aver | Aver |
|-------|----------|-----------------|------|----------------|------|-------|-------|----------|-------|----------------|-------|--------------|--------------|-------|
| ID | | VOLL (Total | HV J | FLO [Total | HV] | Satn | Delay | Service | [Veh | IEUE Dist] | Que | Stop Rate | No Cycles | Speed |
| 0 | OD 5 | veh/h | % | veh/h | % | v/c | sec | | veh | ft | - | | | mph |
| 24.02 | h: SR 5 | | | | | | | | | | | | | |
| 3 | L2 | 16 | 3.0 | 16 | 3.0 | 1.059 | 83.8 | LOS F | 25.9 | 661.9 | 1.00 | 2.35 | 5.57 | 15.9 |
| 8 | T1 | 1063 | 3.0 | 1096 | 3.0 | 1.059 | 81.7 | LOS F | 28.3 | 724.1 | 1.00 | 2.40 | 5.70 | 16.1 |
| 18 | R2 | 66 | 2.0 | 68 | 2.0 | 1.059 | 79.7 | LOS F | 28.3 | 724.1 | 1.00 | 2.45 | 5.82 | 16.1 |
| Appr | oach | 1145 | 2.9 | 1180 | 2.9 | 1.059 | 81.6 | LOS F | 28.3 | 724.1 | 1.00 | 2.40 | 5.71 | 16.1 |
| East | Avenu | eΥ | | | | | | | | | | | | |
| 1 | L2 | 7 | 2.0 | 7 | 2.0 | 0.739 | 38.9 | LOS E | 4.1 | 104.8 | 0.92 | 1.19 | 1.97 | 23.0 |
| 6 | T1 | 66 | 2.0 | 68 | 2.0 | 0.739 | 38.9 | LOS E | 4.1 | 104.8 | 0.92 | 1.19 | 1.97 | 23.0 |
| 16 | R2 | 171 | 2.0 | 176 | 2.0 | 0.739 | 38.9 | LOS E | 4.1 | 104.8 | 0.92 | 1.19 | 1.97 | 22.5 |
| Appr | oach | 244 | 2.0 | 252 | 2.0 | 0.739 | 38.9 | LOS E | 4.1 | 104.8 | 0.92 | 1.19 | 1.97 | 22.7 |
| North | n: SR 54 | 44 | | | | | | | | | | | | |
| 7 | L2 | 327 | 2.0 | 337 | 2.0 | 1.063 | 61.3 | LOS F | 109.5 | 2797.1 | 1.00 | 1.31 | 2.18 | 18.8 |
| 4 | T1 | 982 | 3.0 | 1012 | 3.0 | 1.063 | 61.3 | LOS F | 109.5 | 2797.1 | 1.00 | 1.31 | 2.18 | 18.7 |
| 14 | R2 | 256 | 3.0 | 264 | 3.0 | 0.208 | 4.6 | LOSA | 0.9 | 24.3 | 0.23 | 0.11 | 0.23 | 34.2 |
| Appro | oach | 1565 | 2.8 | 1613 | 2.8 | 1.063 | 52.1 | LOS F | 109.5 | 2797.1 | 0.87 | 1.12 | 1.86 | 20.2 |
| West | Avenu | ie Y | | | | | | | | | | | | |
| 5 | L2 | 539 | 3.0 | 556 | 3.0 | 0.825 | 42.6 | LOS E | 6.6 | 168.3 | 0.92 | 1.33 | 2.41 | 21.6 |
| 2 | T1 | 93 | 3.0 | 96 | 3.0 | 0.825 | 42.6 | LOS E | 6.6 | 168.3 | 0.92 | 1.33 | 2.41 | 21.7 |
| 12 | R2 | 31 | 3.0 | 32 | 3.0 | 0.825 | 42.6 | LOS E | 6.6 | 168.3 | 0.92 | 1.33 | 2.41 | 21.3 |
| Appro | oach | 663 | 3.0 | 684 | 3.0 | 0.825 | 42.6 | LOS E | 6.6 | 168.3 | 0.92 | 1.33 | 2.41 | 21.6 |
| | ehicles | 3617 | 2.8 | 3729 | 2.8 | 1.063 | 58.8 | LOS F | 109.5 | 2797.1 | 0.93 | 1.57 | 3.19 | 19.0 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

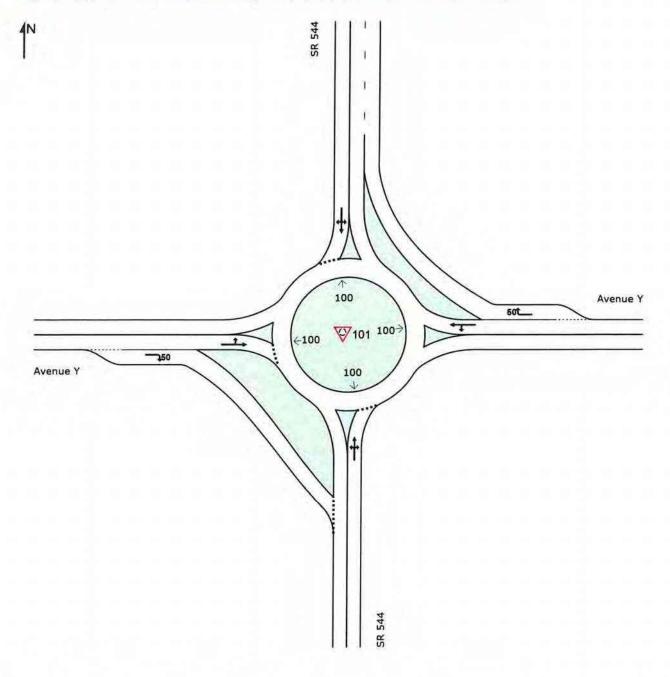
SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Tuesday, April 13, 2021 4:06:59 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\PM Pk Hr\SR 544_Ave Y_2045 PM Pk Hr_Build Alt 2_Rev.sip9

V Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2029) AM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Tuesday, November 22, 2022 3:39:09 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_Ave Y_2029 AM Pk Hr_Mini_Roundabout.sip9

Constrained NB Volumes

MOVEMENT SUMMARY

V Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2029) AM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

| Mov ID | Tum | INF VOLL | | DEM FLO | | Deg. Satn | | Level of Service | | BACK OF | Prop. Que | Effective Stop | Aver No | Aver |
|-----------|----------|------------------|----------|------------------|-----------|--------------|------|---------------------|--------------|--------------|--------------|-------------------|------------|------|
| | | (Total veh/h | HV] % | [Total veh/h | HV] % | v/c | sec | Controls | [Veh veh | Dist.) ft | auc | Rate | Cycles | mph |
| Sout | h: SR 5 | 44 | | | | | | | | | | | | |
| 3 | L2 | 14 | 3.0 | 15 | 3.0 | 0.595 | 11.7 | LOS B | 5.8 | 149.8 | 0.66 | 0.65 | 0.88 | 31.9 |
| 8 | T1 | 519 | 5.0 | 546 | 5.0 | 0.595 | 11.8 | LOS B | 5.8 | 149.8 | 0.66 | 0.65 | 0.88 | 31.8 |
| 18 | R2 | 27 | 2.0 | 28 | 2.0 | 0.595 | 11.7 | LOS B | 5.8 | 149.8 | 0.66 | 0.65 | 0.88 | 31.0 |
| Appr | oach | 560 | 4.8 | 589 | 4.8 | 0.595 | 11.8 | LOS B | 5.8 | 149.8 | 0.66 | 0.65 | 0.88 | 31.8 |
| East | Avenu | e Y | | | | | | | | | | | | |
| 1 | L2 | 22 | 2.0 | 23 | 2.0 | 0.037 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.1 |
| 6 | T1 | 45 | 2.0 | 47 | 2.0 | 0.037 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.1 |
| 16 | R2 | 134 | 2.0 | 141 | 2.0 | 0.086 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.1 |
| Appr | oach | 201 | 2.0 | 212 | 2.0 | 0.086 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.1 |
| North | n: SR 54 | 44 | | | | | | | | | | | | |
| 7 | L2 | 86 | 2.0 | 91 | 2.0 | 1.008 | 46.4 | LOS F | 80.5 | 2083.8 | 1.00 | 0.97 | 1.63 | 21.3 |
| 4 | T1 | 843 | 5.0 | 887 | 5.0 | 1.008 | 46.5 | LOS F | 80.5 | 2083.8 | 1.00 | 0.97 | 1.63 | 21.3 |
| 14 | R2 | 229 | 3.0 | 241 | 3.0 | 1.008 | 46.4 | LOS F | 80.5 | 2083.8 | 1.00 | 0.97 | 1.63 | 20.9 |
| Appr | oach | 1158 | 4.4 | 1219 | 4.4 | 1.008 | 46.5 | LOS E | 80.5 | 2083.8 | 1.00 | 0.97 | 1.63 | 21.2 |
| West | : Avenu | e Y | | | | | | | | | | | | |
| 5 | L2 | 129 | 3.0 | 136 | 3.0 | 0.340 | 11.9 | LOS B | 1.4 | 36.0 | 0.70 | 0.75 | 0.86 | 30.1 |
| 2 | T1 | 43 | 3.0 | 45 | 3.0 | 0.340 | 11.9 | LOS B | 1.4 | 36.0 | 0.70 | 0.75 | 0.86 | 30.1 |
| 12 | R2 | 11 | 3.0 | 12 | 3.0 | 0.020 | 6.5 | LOSA | 0.1 | 1.7 | 0.60 | 0.53 | 0.60 | 33.3 |
| Appro | oach | 183 | 3.0 | 193 | 3.0 | 0.340 | 11.6 | LOS B | 1.4 | 36.0 | 0.70 | 0.74 | 0.84 | 30.3 |
| | ehicles | 2102 | 4.1 | 2213 | 4.1 | 1.008 | 29.8 | LOS D | 80.5 | 2083.8 | 0.79 | 0.77 | 1.20 | 25.2 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

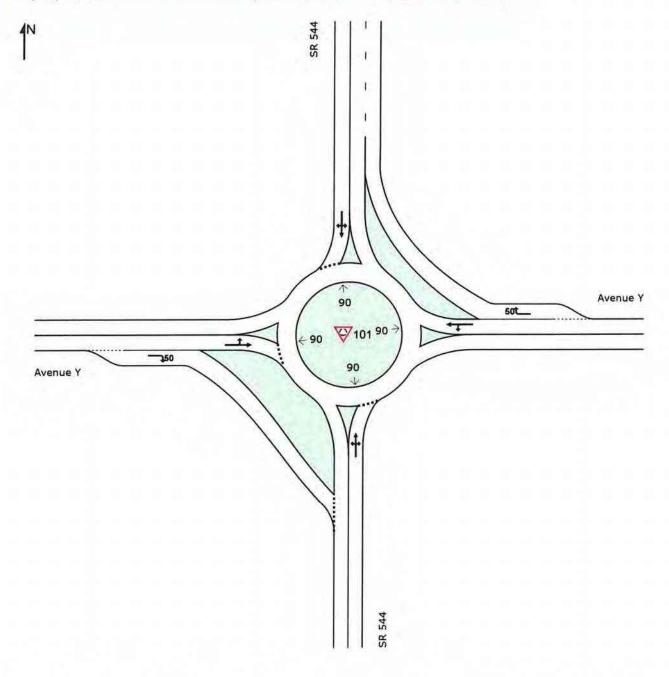
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Tuesday, November 22, 2022 3:39:09 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_Ave Y_2029 AM Pk Hr_Mini_Roundabout.sip9

V Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2029) PM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Tuesday, November 22, 2022 3:42:01 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_Ave Y_2029 PM Pk Hr_Mini_Roundabout.sip9

Constrained NB Volumes

MOVEMENT SUMMARY

W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2029) PM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

| | Turn | INF | UT JMES | DEM FLO | | Deg. Satn | Aver. Delav | Level of Service | | ACK OF | Prop. Que | Effective Stop | Aver No. | Aver Speed |
|-------------|--------------|------------------|---------------------|--------------------|--|--------------|----------------|-----------------------|-------------|--------------|--------------|-------------------|-------------|---------------|
| ID | | [Total veh/h | HV] % | (Total veh/h | HV % | v/c. | sec | Service | (Veh veh | Dist ft | Que | Rate | Cycles | mpt |
| Sout | h: SR 5 | 44 | | | | | | 1. 1. 1. | | | - | | | |
| 3 | L2 | 14 | 3.0 | 14 | 3.0 | 0.917 | 36.3 | LOS E | 24.4 | 623,4 | 1.00 | 1.78 | 3.03 | 23.5 |
| 8 | T1 | 687 | 3.0 | 708 | 3.0 | 0.917 | 36.3 | LOS E | 24.4 | 623.4 | 1.00 | 1.78 | 3.03 | 23.5 |
| 18 | R2 | 43 | 2.0 | 44 | 2.0 | 0.917 | 36.3 | LOS E | 24.4 | 623.4 | 1.00 | 1.78 | 3.03 | 23.1 |
| Appr | oach | 744 | 2.9 | 767 | 2.9 | 0.917 | 36.3 | LOS E | 24.4 | 623.4 | 1.00 | 1.78 | 3.03 | 23.5 |
| East | Avenu | еY | | | | | | | | | | | | |
| 1 | L2 | 11 | 2.0 | 11 | 2.0 | 0.025 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.1 |
| 6 | T1 | 36 | 2.0 | 37 | 2.0 | 0.025 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.1 |
| 16 | R2 | 87 | 2.0 | 90 | 2.0 | 0.055 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.0 |
| Appr | oach | 134 | 2.0 | 138 | 2.0 | 0.055 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.0 |
| North | : SR 5 | 44 | | | | | | | | | | | | |
| 7 | L2 | 137 | 2.0 | 141 | 2.0 | 0.786 | 16.3 | LOS C | 11.2 | 285.8 | 0.60 | 0.29 | 0.60 | 29.4 |
| 4 | T1 | 711 | 3.0 | 733 | 3.0 | 0.786 | 16.4 | LOS C | 11.2 | 285.8 | 0.60 | 0.29 | 0.60 | 29.4 |
| 14 | R2 | 110 | 3.0 | 113 | 3.0 | 0.786 | 16.4 | LOS C | 11.2 | 285.8 | 0.60 | 0.29 | 0.60 | 28.8 |
| Appr | oach | 958 | 2.9 | 988 | 2.9 | 0.786 | 16.4 | LOS C | 11.2 | 285.8 | 0.60 | 0.29 | 0.60 | 29.4 |
| West | Avenu | ie Y | | | | | | | | | | | | |
| 5 | L2 | 255 | 3.0 | 263 | 3.0 | 0.514 | 14.7 | LOS B | 2.9 | 74.8 | 0.75 | 0.88 | 1.18 | 28.7 |
| 2 | T1 | 45 | 3.0 | 46 | 3.0 | 0.514 | 14.7 | LOS B | 2.9 | 74.8 | 0.75 | 0.88 | 1.18 | 28.7 |
| 12 | R2 | 30 | 3.0 | 31 | 3.0 | 0.045 | 5.7 | LOSA | 0.2 | 4.0 | 0.56 | 0.51 | 0.56 | 33.5 |
| Appro | bach | 330 | 3.0 | 340 | 3.0 | 0.514 | 13.9 | LOS B | 2.9 | 74.8 | 0.73 | 0.85 | 1.12 | 29.1 |
| All Ve | hicles | 2166 | 2.9 | 2233 | 2.9 | 0.917 | 21.8 | LOS C | 24.4 | 623.4 | 0.72 | 0.87 | 1.48 | 27.3 |
| 100 N 10.00 | and a second | 100 110 10 | Construction of the | Contraction of the | and a second sec | oracles and | Second Color | and the second second | | | | | | |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

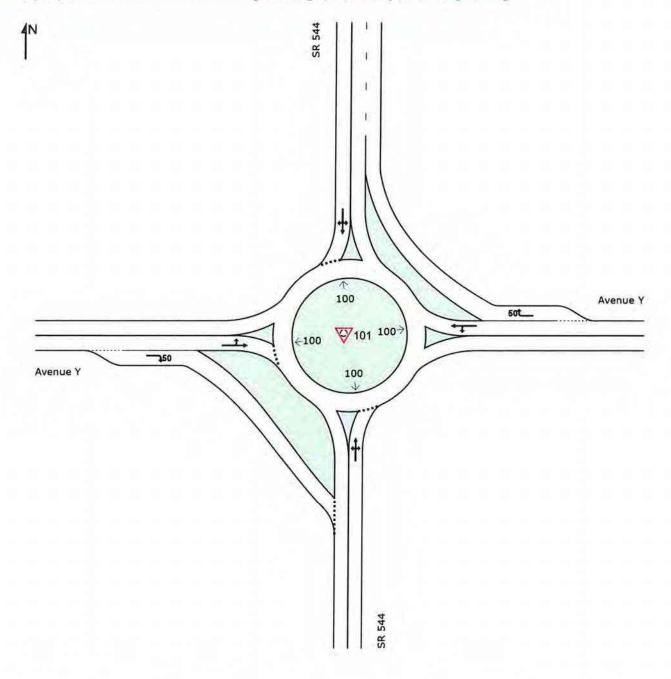
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Tuesday, November 22, 2022 3:41:44 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_Ave Y_2029 PM Pk Hr_Mini_Roundabout.sip9

W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2031) AM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Tuesday, November 22, 2022 3:32:53 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_Ave Y_2031 AM Pk Hr_Mini_Roundabout.sip9

Constrained NB Volumes

MOVEMENT SUMMARY

Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2031) AM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

| Mov ID | Turn | INF VOLU | | DEM FLO | | Deg Satn | Aver. Delay | Level of Service | and the second second | ACK OF | Prop. Oue | Effective Stop | Aver. No. | Aver |
|-----------|----------|----------------|-----|------------------|-----------|-------------|----------------|---------------------|-----------------------|--------|--------------|-------------------|--------------|---------|
| | | Total veh/h | HV] | [Total veh/h | HV] % | v/c | sec | Service | Veh. | Dist] | Que | Rate | Cycles | Speed |
| Sout | h: SR 5 | - Albertante | 70 | venin | | | 900 | | VCII | - | | | | 100/5/3 |
| 3 | L2 | 14 | 3.0 | 15 | 3.0 | 0.618 | 12.7 | LOS B | 6.6 | 172.6 | 0.71 | 0.76 | 1.04 | 31.4 |
| 8 | T1 | 519 | 5.0 | 546 | 5.0 | 0.618 | 12.8 | LOS B | 6.6 | 172.6 | 0.71 | 0.76 | 1.04 | 31.4 |
| 18 | R2 | 27 | 2.0 | 28 | 2.0 | 0.618 | 12.7 | LOS B | 6.6 | 172.6 | 0.71 | 0.76 | 1.04 | 30.6 |
| Appr | oach | 560 | 4.8 | 589 | 4.8 | 0.618 | 12.8 | LOS B | 6.6 | 172.6 | 0.71 | 0.76 | 1.04 | 31.4 |
| East | Avenu | еY | | | | | | | | | | | | |
| 1 | L2 | 23 | 2.0 | 24 | 2.0 | 0.041 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.2 |
| 6 | T1 | 51 | 2.0 | 54 | 2.0 | 0.041 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.1 |
| 16 | R2 | 156 | 2.0 | 164 | 2.0 | 0.100 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.1 |
| Appr | oach | 230 | 2.0 | 242 | 2.0 | 0.100 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.1 |
| North | n: SR 54 | 44 | | | | | | | | | | | | |
| 7 | L2 | 98 | 2.0 | 103 | 2.0 | 1.081 | 68.4 | LOS F | 115.3 | 2981.9 | 1.00 | 1.50 | 2.42 | 17.7 |
| 4 | T1 | 876 | 5.0 | 922 | 5.0 | 1.081 | 68.5 | LOS F | 115.3 | 2981.9 | 1.00 | 1.50 | 2.42 | 17.7 |
| 14 | R2 | 259 | 3.0 | 273 | 3.0 | 1.081 | 68.4 | LOS F | 115.3 | 2981.9 | 1.00 | 1.50 | 2.42 | 17.4 |
| Appro | oach | 1233 | 4.3 | 1298 | 4.3 | 1.081 | 68.5 | LOS F | 115.3 | 2981.9 | 1.00 | 1.50 | 2.42 | 17.6 |
| West | Avenu | e Y | | | | | | | | | | | | |
| 5 | L2 | 151 | 3.0 | 159 | 3.0 | 0.391 | 12.8 | LOS B | 1.7 | 44.6 | 0.71 | 0.79 | 0.96 | 29.8 |
| 2 | T1 | 50 | 3.0 | 53 | 3.0 | 0.391 | 12.8 | LOS B | 1.7 | 44.6 | 0.71 | 0.79 | 0.96 | 29.8 |
| 12 | R2 | 12 | 3.0 | 13 | 3.0 | 0.021 | 6.3 | LOSA | 0.1 | 1.8 | 0.59 | 0.52 | 0.59 | 33.4 |
| Appro | oach | 213 | 3.0 | 224 | 3.0 | 0.391 | 12.4 | LOS B | 1.7 | 44.6 | 0.71 | 0.77 | 0.94 | 30.0 |
| | hicles | 2236 | 4.1 | 2354 | 4.1 | 1.081 | 42.1 | LOS E | 115.3 | 2981.9 | 0.80 | 1.09 | 1.68 | 22.1 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

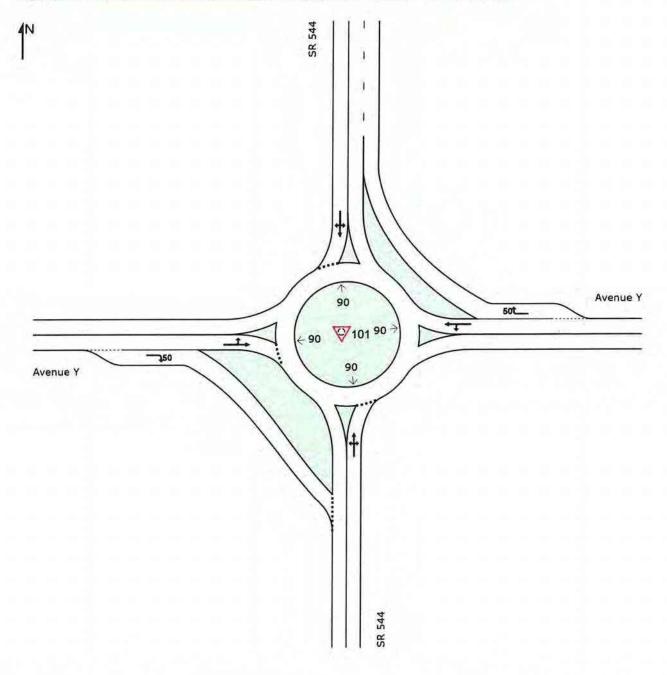
SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Tuesday, November 22, 2022 3:32:54 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_Ave Y_2031 AM Pk Hr_Mini_Roundabout.sip9

W Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2031) PM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Tuesday, November 22, 2022 3:01:16 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_Ave Y_2031 PM Pk Hr_Mini_Roundabout.sip9

Construined NB volumes

MOVEMENT SUMMARY

🗑 Site: 101 [SR 544/Avenue Y Intersection (Site Folder: General)]

Interim Year (2031) PM Peak Hour - Mini-Roundabout Site Category: (None) Roundabout

| Mov | Turn | INF VOLU | | DEM FLO | | Deg. Satn | Aver. Delay | Level of Service | | ACK OF | Prop. Que | Effective Stop | Aver No. | Ave |
|-------|----------|-------------|------|------------|-----|--------------|----------------|---------------------|-------|--------|--------------|-------------------|-------------|-------|
| (2) | | (Tota) | HV] | (Total | HV] | Sam | Delay | Dervice | (Veh | Dist 1 | que | Rate | Cycles | opeer |
| - | - | veh/h | % | veh/h | % | v/c | SEC | 2000 Cont | veh | ft | 1.00 | Tomas | all and | mpl |
| Sout | h: SR 5 | 44 | | | | | | | | | | | | |
| 3 | L2 | 14 | 3.0 | 14 | 3.0 | 0.985 | 51.5 | LOS F | 30.7 | 785.4 | 1.00 | 2.09 | 3.97 | 20. |
| в | T1 | 687 | 3.0 | 708 | 3.0 | 0.985 | 51.5 | LOS F | 30.7 | 785.4 | 1.00 | 2.09 | 3.97 | 20.3 |
| 18 | R2 | 43 | 2.0 | 44 | 2.0 | 0.985 | 51.5 | LOS F | 30.7 | 785.4 | 1.00 | 2.09 | 3.97 | 20.0 |
| Appr | oach | 744 | 2.9 | 767 | 2.9 | 0.985 | 51,5 | LOS F | 30.7 | 785.4 | 1.00 | 2.09 | 3.97 | 20.3 |
| East | Avenu | e Y | | | | | | | | | | | | |
| 1 | L2 | 11 | 2.0 | 11 | 2.0 | 0.027 | 0.0 | LOS A | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.3 |
| 3 | T1 | 40 | 2.0 | 41 | 2.0 | 0.027 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37. |
| 16 | R2 | 98 | 2.0 | 101 | 2.0 | 0.062 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37.0 |
| Appr | oach | 149 | 2.0 | 154 | 2.0 | 0.062 | 0.0 | LOSA | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 37. |
| North | n: SR 54 | 44 | | | | | | | | | | | | |
| 7 | L2 | 161 | 2.0 | 166 | 2.0 | 0.852 | 20.8 | LOS C | 15.1 | 386.8 | 0.78 | 0.39 | 0.78 | 27.8 |
| 4 | T1 | 745 | 3.0 | 768 | 3.0 | 0.852 | 20.9 | LOS C | 15.1 | 386.8 | 0.78 | 0.39 | 0.78 | 27.8 |
| 14 | R2 | 128 | 3.0 | 132 | 3.0 | 0.852 | 20.9 | LOS C | 15.1 | 386.8 | 0.78 | 0.39 | 0.78 | 27.2 |
| Appro | oach | 1034 | 2.8 | 1066 | 2.8 | 0.852 | 20.9 | LOS C | 15.1 | 386.8 | 0.78 | 0.39 | 0.78 | 27.7 |
| Nest | Avenu | e Y | | | | | | | | | | | | |
| 5 | L2 | 291 | 3.0 | 300 | 3.0 | 0.619 | 19.2 | LOS C | 4.1 | 104.0 | 0.80 | 1.00 | 1.45 | 27.2 |
| 2 | T1 | 51 | 3.0 | 53 | 3.0 | 0.619 | 19.2 | LOS C | 4.1 | 104.0 | 0.80 | 1.00 | 1.45 | 27.2 |
| 12 | R2 | 30 | 3.0 | 31 | 3.0 | 0.047 | 5.9 | LOS A | 0.2 | 4.2 | 0.57 | 0.52 | 0.57 | 33.4 |
| Appro | oach | 372 | 3.0 | 384 | 3.0 | 0.619 | 18.1 | LOS C | 4.1 | 104.0 | 0.78 | 0.96 | 1.38 | 27.6 |
| | hicles | 2299 | 2.8 | 2370 | 2.8 | 0.985 | 29.0 | LOS D | 30.7 | 785.4 | 0.80 | 1.01 | 1.86 | 25.1 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

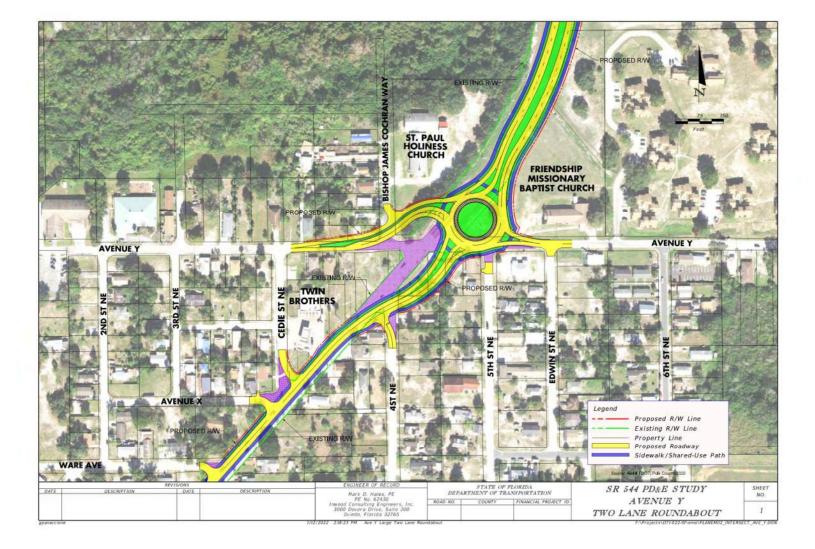
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

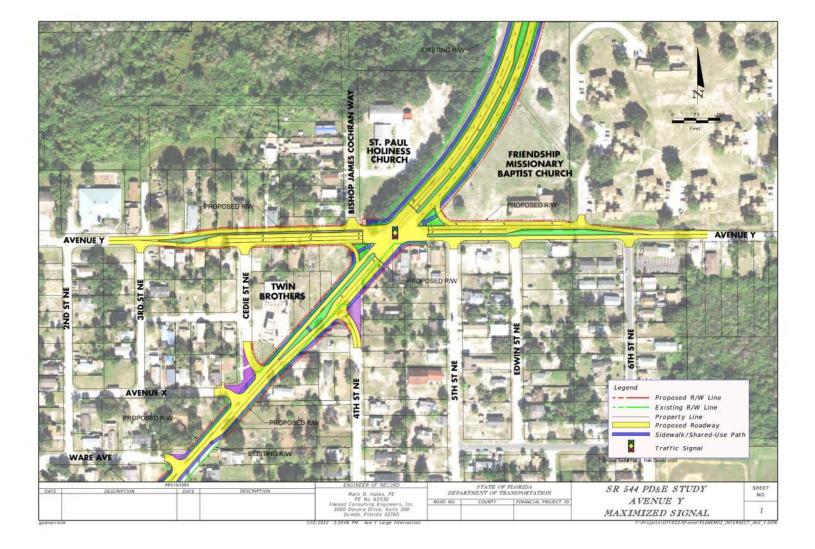
SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

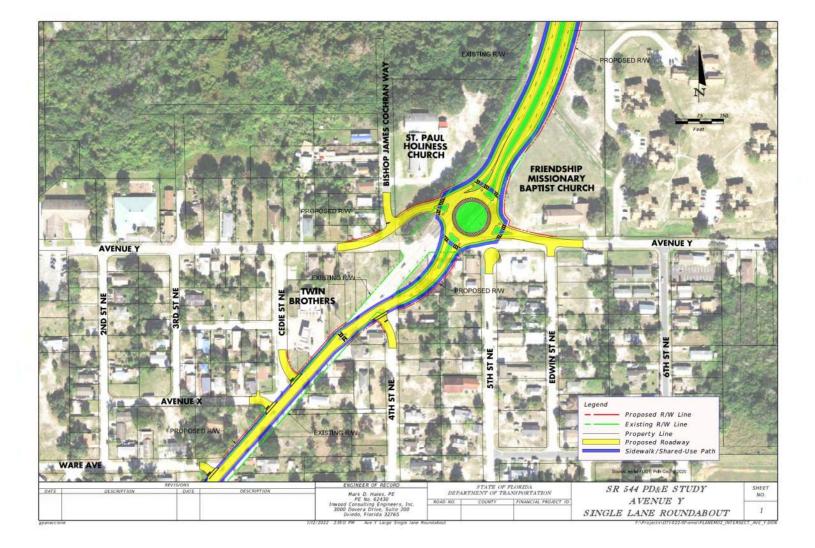
Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Tuesday, November 22, 2022 3:00:41 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_Ave Y_2031 PM Pk Hr_Mini_Roundabout.sip9

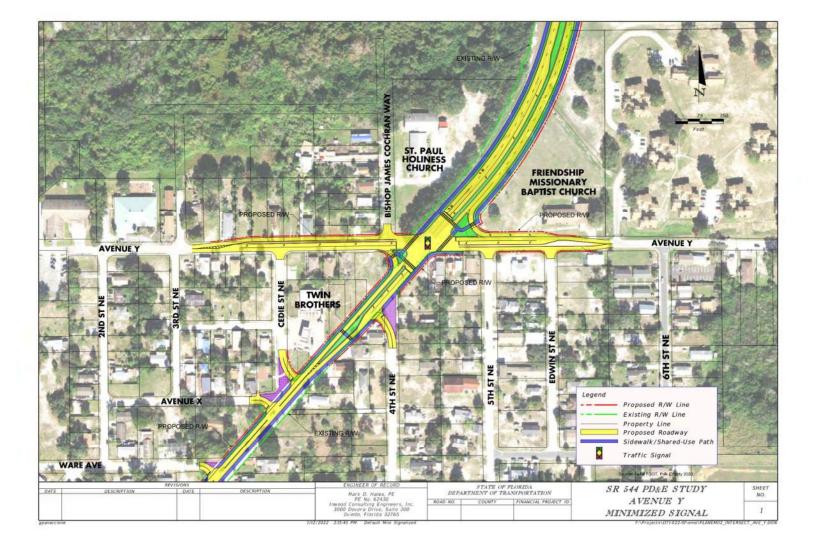
Appendix E

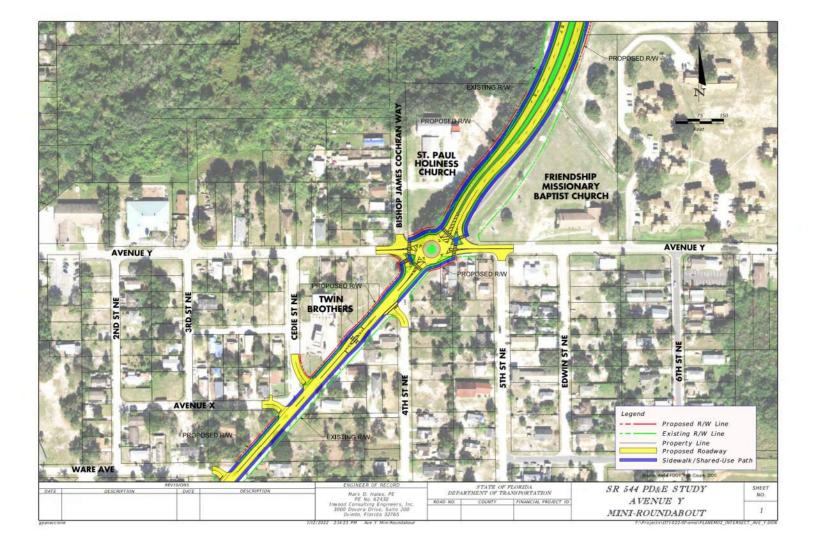
Preliminary Geometric Concepts











CERTIFICATION

AGENCY: Florida Department of Transportation District One 801 North Broadway Avenue Bartow, Florida 33831-1249

I hereby certify that I am a registered professional engineer in the State of Florida and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions and technical advice hereby reported for:

| REPORT: | SR 544/Lake Hamilton Drive Intersection Control Evaluation (ICE) - Stage 1 |
|-------------|--|
| PROJECT: | SR 544 Project Development and Environment (PD&E) Study |
| LOCATION: | SR 544 from Martin Luther King Boulevard to SR 17 Polk County, Florida |
| ROADWAY ID: | 16140000 |

MILEPOST No: 9.156

FPID No.: 440273-1-22-01

I acknowledge that the procedures and references used to develop the information contained in this memorandum are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

| Engineer in Responsible Charge: | Anastasiya A. Senyushkina | ICENS ST | |
|---------------------------------|---------------------------|--------------|--|
| Professional Registration No.: | 82191 | No. 82191 | Anastasiya A Senyushkina 2022.12.13 16:29:05-05'00' |
| Date: | 12/13/2022 | - CORIDACINI | |

| _ | | _ | | |
|---|---|-------|-----|------|
| | | DEAL | | V/ I |
| | | RA | UII | VII. |
| | _ | | - | |



AIM Engineering & Surveying, Inc.

Tampa Office 201 E. Kennedy Boulevard, Suite 1800 Tampa, Florida 33602 813-627-4144 www.aimengr.com

| Date: | December 13, 2022 |
|----------|---|
| То: | David C. Turley, P.E. – FDOT District One DEMO Project Manager Abra Horne – FDOT District One Planning and Environmental Administrator |
| From: | Greg Root/Anastasiya Senyushkina, P.E. |
| Subject: | SR 544/Lake Hamilton Drive Intersection (Polk County) — Stage 1+ Intersection Control Evaluation |

INTRODUCTION/PROJECT BACKGROUND

This memorandum documents the Intersection Control Evaluation (ICE) conducted for the Lake Hamilton Drive intersection. This analysis was conducted in support of the SR 544 Project Development & Environment (PD&E) Study from Martin Luther King Boulevard to SR 17 in Polk County. The length of this study corridor is approximately 8.1 miles. This memorandum documents the Stage 1 CAP-X and SPICE analyses, as well as the more detailed traffic operations analyses conducted using the SYNCHRO software. The opening year (2025) and design year (2045) Average Annual Daily Traffic (AADT) volumes documented in the FDOT approved Project Traffic Analysis Report (PTAR) are provided in **Appendix A**, along with the 2045 a.m. and p.m. peak hour volumes documented in this same report.

EXISTING INTERSECTION CHARACTERISTICS

This intersection is a four-legged two-way stop control intersection and Lake Hamilton Drive is the southern leg. Lake Hamilton Drive extends from Country Club Drive to SR 544, a distance of approximately 2.8 miles and provides access to single family homes. There is a commercial strip center (i.e., Park Place) located in the southwest guadrant of the intersection and a trucking company (i.e., Moeller Trucking) located in the southeast quadrant. Park Place has driveways on both SR 544 and Lake Hamilton Drive. The only access to/from Moeller Trucking is via Lake Hamilton Drive. This roadway also provides access to several other light industrial businesses. The northern leg of this intersection is East Street and provides the only access to Fairview Village, a small mobile home community. Two-way circulation currently exists within Fairview Village. The Lake Hamilton Drive intersection is located approximately 110 feet west of Sunrise Drive/Sunset Drive, which provides the only access to/from Lakeside Ranch, a slightly larger mobile home community located on the north side of SR 544. One-way (counterclockwise) circulation currently exists within Lakeside Ranch. There are no connections between Fairview Village and Lakeside Ranch. Lake Hamilton Drive, East Street and Sunrise Drive/Sunset Drive all intersect SR 544 at 90-degree angles; however, there is a horizontal curve on SR 544 approximately 400 feet to the west of Lake Hamilton Drive. An aerial image depicting the Lake Hamilton Drive intersection is provided in **Figure 1**, while **Figure 2** provides an aerial of the surrounding area. Both of these aerials are included in Appendix A.

The posted speed limit on SR 544 in the vicinity of the intersection is 50 miles per hour (mph). The posted speed limit on Lake Hamilton Drive is 45 mph. The posted speed limit within the mobile home communities is 15 mph. SR 544 is a two-lane undivided roadway with 12-foot travel lanes and 5-foot paved shoulders on the west side of Lake Hamilton Drive. There are no paved shoulders on the east side of Lake Hamilton Drive. There are no sidewalks in the immediate vicinity of the intersection.

Crash data was provided by District One for the years 2014 through 2019. The data sources were the FDOT's Crash Analysis Reporting System (CARS) and Signal Four Analytics. The crash data is included in **Appendix A**. This intersection has experienced 16 crashes over this period, resulting in six injuries and no fatalities. Five of these crashes were left-turn/angle crashes. There were no bicycle or pedestrian crashes.

INTERSECTION CONTROL EVALUATION

The PD&E study goals are to determine the location and conceptual design of the improvement(s) that satisfy the purpose and need for the project, while also minimizing the impacts to the natural and social environment and satisfying the requirements of the National Environmental Policy Act (NEPA). The proposed SR 544 typical section in this area is a four-lane divided roadway that consists of two 11-foot inside travel lanes, two 12-foot outside travel lanes, a 22-foot raised median and 10-foot shared use paths on both sides of the road. The design speed and target speed is 45 mph.

An evaluation was conducted using the October 2019 traffic count data provided by District One to determine whether these volumes satisfy Traffic Signal Warrant No. 1 of the Manual on Uniform Traffic Control Devices. The results indicated the eight highest hourly volumes did satisfy Condition B (Interruption of Continuous Traffic) of Warrant No. 1. This evaluation is provided in **Appendix B**.

The following alternative intersection control strategies were initially analyzed for this intersection:

- Two-way stop control
- All-way stop control
- Conventional traffic signal
- Unsignalized Restricted Crossing U-Turn (RCUT) intersection
- Signalized RCUT intersection
- Median U-Turn (MUT) intersection
- Unsignalized Thru-Cut
- Signalized Thru-Cut
- Two-lane (SR 544) x one-lane (East Street) roundabout
- Two-lane x two-lane roundabout

The results of the CAP-X and SPICE analyses are summarized in **Table 1**. The CAP-X and SPICE analysis summary sheets for this intersection are provided in **Appendix C**. Based on the high v/c ratios estimated for the two-way stop control, all-way stop control, unsignalized RCUT, and unsignalized thrucut intersections, these alternatives were eliminated from any further consideration. The roundabout alternatives were also eliminated from further consideration due to right-of-way impacts. The implementation of this type of improvement would result in right-of-way impacts to either the Park Place and Moeller Trucking parking lots (on the south side of SR 544) or Fairview Village (on the north side of SR 544).

| Table 1: Stage | 1 ICE Analys | is Summary | - Lake Ham | ilton Drive I | ntersection | |
|-----------------------------|----------------|---------------|------------|---------------|-------------|--------|
| | 2045 V/ | C Ratios | Life-Cycl | e Crashes | SSI S | cores |
| | AM Peak | PM Peak | | Fatal & | Opening | Design |
| Intersection Type | Hour | Hour | Total | Injury | Year | Year |
| Two-Way Stop Control | 263.37 | 337.95 | 107 | 46 | 47 | 27 |
| All-Way Stop Control | 2.83 | 2.74 | 80 | 33 | 86 | 78 |
| Traffic Signal | 0.79 | 0.84 | 212 | 76 | 66 | 47 |
| Unsignalized RCUT | 4.04 | 4.85 | n/a | n/a | 61 | 43 |
| Signalized RCUT | 0.67 | 0.70 | 381 | 77 | 77 | 64 |
| Median U-Turn | 0.73 | 0.70 | 180 | 53 | 85 | 75 |
| Unsignalized Thru-Cut | 212.55 | 305.71 | n/a | n/a | 68 | 50 |
| Signalized Thru-Cut | 0.86 | 0.92 | n/a | n/a | 80 | 65 |
| Roundabout (2EW x 1NS) | 0.95 | 0.99 | 218 | 42 | 86 | 79 |
| Roundabout (2 x 2) | 0.89 | 0.93 | 218 | 42 | 86 | 79 |
| Red font denotes a v/c rat | io > 1.00 | | | | | |
| Lowest number of crashes of | of all alterna | tives analyze | ed | | | |
| | | | | | | |

n/a = No Safety Performance Function (SPF) available

Design year peak hour SYNCHRO analyses were conducted for the four signalized alternatives. These results are summarized in **Table 2**. All four alternatives are projected to operate at Level of Service C overall during the a.m. peak hour. In the p.m. peak hour, three of the four alternatives are also projected to operate at Level of Service C overall during the p.m. peak hour. The conventional traffic signal (i.e., signalized full median opening) is projected to operate at Level of Service D overall. The design year SYNCHRO analysis summary sheets are provided in **Appendix D**.

| | | | | | AM | Peak Hour | | | | | | |
|--------------|-------------|--------------|-----|-------------|--------------|-----------|-------------|---------------|-----|-------------|---------------------------|-----|
| Intersection | Si | ignalized FM | 0 | Si | gnalized RCL | ΙT | Sigr | halized Thru- | Cut | S | ignalized MU ⁻ | r |
| Approach | Max V/C (1) | Avg. Delay | LOS | Max V/C (1) | Avg. Delay | LOS | Max V/C (1) | Avg. Delay | LOS | Max V/C (1) | Avg. Delay | LOS |
| Northbound | 0.65 | 21.3 | С | 0.67 | 33.0 | С | 0.59 | 23.5 | С | 0.85 | 54.9 | D |
| Southbound | 0.06 | 41.8 | D | 0.01 | 0.0 | А | 0.03 | 0.2 | А | 0.02 | 19.5 | В |
| Westbound | 0.85 | 22.0 | С | 0.96 | 30.1 | С | 0.85 | 23.4 | С | 0.98 | 32.3 | С |
| Eastbound | 0.98 | 42.7 | D | 0.89 | 23.0 | С | 0.96 | 38.2 | D | 0.88 | 20.3 | С |
| Overall | 0.87 | 30.7 | С | 0.75 | 27.3 | С | 0.81 | 29.6 | С | 0.87 | 28.6 | С |
| | | | | | PM | Peak Hour | | | | | | |
| Intersection | Si | ignalized FM | 0 | Si | gnalized RCL | Т | Sigr | halized Thru- | Cut | S | ignalized MU⁻ | r |
| Approach | Max V/C (1) | Avg. Delay | LOS | Max V/C (1) | Avg. Delay | LOS | Max V/C (1) | Avg. Delay | LOS | Max V/C (1) | Avg. Delay | LOS |
| Northbound | 0.66 | 25.5 | С | 0.58 | 29.2 | С | 0.53 | 28.1 | С | 0.83 | 53.8 | D |
| Southbound | 0.05 | 44.6 | D | 0.01 | 0.0 | А | 0.03 | 0.2 | А | 0.01 | 22.0 | С |
| Westbound | 0.99 | 22.8 | С | 0.79 | 18.7 | В | 0.88 | 19.1 | В | 0.82 | 15.1 | В |
| Eastbound | 1.01 | 48.8 | D | 0.97 | 32.3 | С | 0.97 | 40.5 | D | 0.94 | 24.1 | С |
| Overall | 0.92 | 35.4 | D | 0.79 | 25.8 | С | 0.89 | 29.9 | С | 0.86 | 22.0 | С |

⁽¹⁾ Highest volume-to-capacity ratio for the individual movements on this approach

The signalized RCUT, Thru-Cut and MUT intersections all require u-turn movements to be made on SR 544. These u-turn movements would be made at the Old Lucerne Park Road intersection (west of Lake Hamilton Drive) and the Hide-A-Way Lane intersection (east of Lake Hamilton Drive). Most of these alternatives would result in u-turn volumes less than or equal to 60 vehicles during both peak hours; however, the u-turn volumes at the Old Lucerne Park Road intersection are projected to be equal to 185 vehicles (in the a.m. peak hour) and 209 vehicles (in the p.m. peak hour) with the signalized MUT intersection. Although the design year eastbound-to-westbound u-turn volumes for the RCUT

alternative are approximately 60 vehicles during each peak hour, some of these vehicles are trucks. These trucks would be required to make u-turns at the Hide-A-Way Lane intersection. Hide-A-Way Lane provides the only access to the Hidden Cove retirement community. The mix of older drivers and trucks at this intersection was viewed as a potential safety issue that should be avoided (if another alternative was available). Also, it appears that additional right-of-way would need to be acquired from the WEL Companies property located in the northwest quadrant of this intersection, to accommodate the truck u-turn movements.

RECOMMENDED INTERSECTION CONTROL STRATEGY

The signalized Thru-Cut intersection is recommended for the SR 544/Lake Hamilton Drive intersection for the PD&E phase only. This intersection control strategy eliminates the north/south through movements across the intersection, eliminates the need for trucks to make u-turn movements east and west of the intersection, avoids the situation where truck u-turn movements would be co-located with outbound left-turn movements made from the Hidden Cove 55+ residential community, and minimizes the total u-turn volumes. This control strategy also eliminates the need to acquire right-of-way in the northwest quadrant of the Hide-A-Way Lane intersection and has the second highest SSI scores of the four signalized alternatives. It should be noted that a Benefit/Cost (B/C) analysis and a Net Present Value (NPV) analysis will be conducted during the Stage 2 final design ICE analysis. This analysis will be conducted for a conventional signalized intersection, a signalized Thru-Cut intersection and a signalized RCUT intersection.

A geometric improvement concept was developed for the recommended PD&E control strategy, and this is provided in **Appendix E**. The recommended PD&E improvement concept also includes a reconfiguration of the inbound and outbound access for the Fairview Village and Lakeside Ranch mobile home communities. The two separate entrance/exit roadways providing access to these residential communities are combined to provide one single entrance/exit. This single access point eliminates the two existing access points that are separated by a distance of approximately 110 feet. This will eliminate the need for eastbound SR 544 vehicles and northbound Lake Hamilton Drive vehicles that are destined for Lakeside Ranch to travel approximately 0.25 miles to the east of Lake Hamilton Drive and make a u-turn. This will also eliminate the need for southbound vehicles exiting Lakeside Ranch to cross two lanes on westbound SR 544 in approximately 50 feet to turn left onto Lake Hamilton Drive or make a u-turn to head east on SR 544.

Appendix A

Existing Geometry, Existing/Future Year Traffic Volumes and Historic Crash Data



Figure 1: Existing SR 544 / Lake Hamilton Drive Intersection

Figure 2: Surrounding Land Uses



Project Traffic Analysis Report FPID: 440273-1-22-01

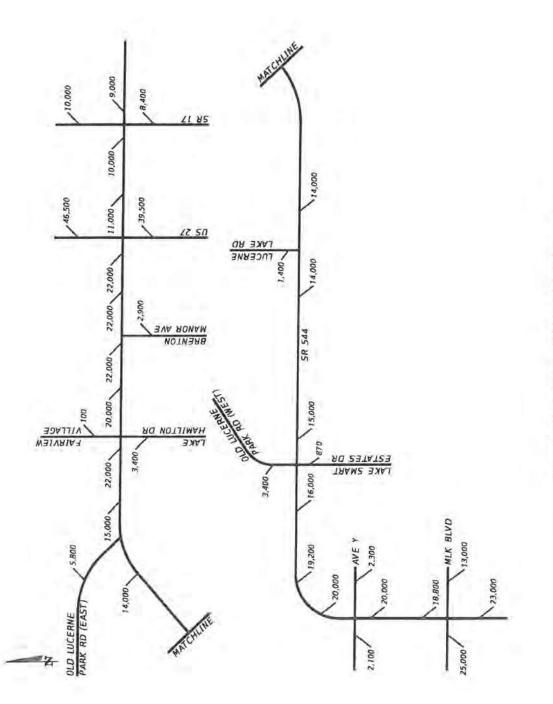


Figure 2-2: Existing (2019) AADT Volumes

Table 2-2: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Mainline)

| Location | Date | Count | SF (1) | AF (2) | AADT (3) | Growth Factor | 2019 AADT (4) | 2019 AADT 2019 AADT 2019 AADT (4) (5) (6) | 2019 AADT (6) | Average | Final 2019 AADT |
|---|-----------|--------|--------|--------|----------|------------------|------------------|---|------------------|---------|--------------------|
| South of M. L. King Boulevard (2) | 4/17/2018 | 21,686 | 0.96 | 0.95 | 19,778 | 1.0319 | 20,409 | 20,000 | 23,000 | 21,500 | 23,000 (8) |
| North of M. L. King Boulevard (7) | 4/17/2018 | 17,212 | 0.96 | 0.95 | 15,697 | 1.0319 | 16,198 | 16,000 | 18,800 | 17,400 | 18,800 (9) |
| South of Avenue Y ^[7] | 2/16/2016 | 19.748 | 0.96 | 0.97 | 18,389 | 1.0988 | 20,206 | 20,000 | e/u | | 20.000 |
| North of Avenue Y (2) | 2/16/2016 | 19,936 | 96.0 | 0.97 | 18,564 | 1.0988 | 20,399 | 20,000 | n/a | | 20,000 |
| South of Lake Conine Drive | | | | | | | | | 19.200 | | 19 200 |
| West of Old Lucerne Park Road (west end) (7) | 1/9/2018 | 16,214 | 1.01 | 0.94 | 15,394 | 1.0577 | 16,282 | 16,000 | e/u | | 16.000 |
| East of Old Lucerrie Park Road (west end) (2) | 1/9/2018 | 15,212 | 1.01 | 0.94 | 14,442 | 1.0543 | 15,226 | 15,000 | n/a | | 15.000 |
| West of Lucerne Lake Road | 10/1/2019 | 14,506 | 1.03 | 0.94 | 14,045 | 1.0000 | 14,045 | 14,000 | 14,000 | 14,000 | 14.000 |
| East of Lucerne Lake Road | 10/1/2019 | 14,608 | 1.03 | 0.94 | 14,143 | 1.0000 | 14,143 | 14,000 | n/a | | 14.000 |
| West of Old Lucerne Park Road (east end) 121 | 1/9/2018 | 18,070 | 1.01 | 0.94 | 17,156 | 1.0706 | 18,367 | 18,000 | 14,000 | 16,000 | 14,000 (10) |
| East of Old Lucerne Park Road (east end) (7) | 1/9/2018 | 14,682 | 1.01 | 0.94 | 13,939 | 1.0706 | 14,923 | 15,000 | n/a | | 15,000 |
| West of Lake Hamilton Drive/Fairview Village | 10/1/2019 | 22,630 | 1.03 | 0.94 | 21,910 | 1.0000 | 21,910 | 22,000 | n/a | | 22,000 |
| East of Lake Hamilton Drive/Fairview Village | 10/1/2019 | 20,472 | 1.03 | 0.94 | 19,821 | 1.0000 | 19,821 | 20,000 | n/a | | 20,000 |
| West of Brenton Manor Avenue | 10/1/2019 | 23,035 | 1.03 | 0.94 | 22,302 | 1.0000 | 22,302 | 22,000 | n/a | | 22,000 |
| East of Brenton Manor Avenue | 10/1/2019 | 23,127 | 1.03 | 0.94 | 22,392 | 1.0000 | 22,392 | 22,000 | n/a | | 22,000 |
| West of Hide-A-Way Lane (Hidden Cove Entr) | | | 1 | | | | | | 21,000 | | 21.000 |
| West of US 27 | 10/1/2019 | 22,701 | 1.03 | 0.94 | 21,979 | 1.0000 | 21,979 | 22,000 | e/u | | 22,000 |
| East of US 27 | 10/1/2019 | 10,954 | 1.03 | 0.94 | 10,606 | 1.0000 | 10,606 | 11,000 | 11,000 | 11,000 | 11,000 |
| West of SR 17 | 10/1/2019 | 10,500 | 1.03 | 0.94 | 10,166 | 1,0000 | 10,166 | 10,000 | n/a | | 10,000 |
| East of SR 17 | 10/1/2019 | 9,534 | 1.03 | 0.94 | 9,231 | 1.0000 | 9,231 | 9,200 | 8,800 | 000'6 | 000'6 |

" SF = Weekly Seasonal Adjustment Factor

⁽²⁾ AF = Axle Adjustment Factor

ADT = Count x SF x AF
 2019 ADT = Count x SF x AF
 2019 ADT (rounded)
 2019 ADT (rounded)
 2019 ADT founded)
 2019 ADT founded)
 2019 ADT count only at this location. The two-way volume website
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 Approach count only at this location. The two-way volume has been greater than 21,000 vpd for the last five years.
 FDOT count station value was used because the AADT volume has been greater than 16,000 vpd for the last five years.
 FDOT count station value was used because the 2018 AADT volume at this permanent count station was equal to 13,600 vpd.

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Page 2-6

Project Traffic Analysis Report FPID: 440273-1-22-01

| 24.223 1.0319 24.995 25.000 73.250 73.250 3.250 3.250 3.250 3.250 3.250 3.250 3.250 3.250 3.250 3.250 3.250 3.2750 3.770 3.770 3.770 3.770 3.770 3.770 3.770 3.770 3.700 1.0 | Location | Date | Count | SF (1) | AF (2) | AADT (3) | Growth | 2019 AADT (4) | 2019 AADT (5) | 2019 AADT (6) | | i. |
|--|---|------------|--------|--------|--------|----------|--------|------------------|------------------|------------------|----------|------------|
| 4/17/2018 13,582 0.96 0.85 12,387 1.0319 27,000 25,000 25,000 25,000 25,000 25,000 13,550 13,256 13,266 13,266 13,266< | M. L. King Boulevard West of SR 544 (7) | 4/17/2018 | 26.560 | 0.96 | 0.95 | 24 223 | a | 24 005 | | DE DOD | afipianu | |
| 41/1/2016 1.3.592 0.95 12.387 1.0319 12.782 13,000 13,500 13,250 13,250 2116/2016 1.960 0.96 1.00 1.882 1.0988 2.068 2.100 n/a 2116/2016 2.174 0.96 1.00 2.087 1.0988 2.293 2.300 n/a 44 ⁽¹⁾ 1/9/2018 3.206 1.01 0.96 3,173 1.0560 3,351 3.400 n/a 667 1.09/2018 3.206 1.01 0.98 1.0500 871 870 n/a 6787 544 ⁽¹⁾ 1/9/2019 1.730 1.03 0.81 1.443 1.000 n/a n/a 6787 544 ⁽¹⁾ 1/9/2019 5.454 1.01 1.900 3.444 1.400 n/a 10/1/2019 96 1.03 0.81 1.443 1.400 n/a 10/1/2019 3.344 1.001 3.444 1.000 3.444 3.400 n/a | M 1 Kinn Routevard East of CD 544 (7) | ALATION D | | | AGE | | 2.222 | 000123 | 20,000 | 000.62 | 000.02 | 000'07 |
| Z/16/Z016 1.960 0.96 1.00 1.882 1.0988 Z/06 $1/6$ $1/6$ Z/15/Z016 2.174 0.96 1.00 2.087 1.0988 2.203 2.300 n/a $2/16/Z016$ 2.174 0.96 1.00 2.087 1.0988 2.203 2.300 n/a $4^{4/0}$ 1/9/Z018 3.206 1.01 0.96 3.173 1.0560 3.351 3.400 n/a $4^{4/0}$ 1/9/Z019 1.730 1.01 0.96 3.173 1.0500 871 870 n/a $0'5 1/9/Z019 5.454 1.01 0.96 1.000 871 1.0000 n/a n/a 0'5 7.01 0.91 1.443 1.0000 3.444 3.400 n/a 0'5 8.01 3.344 1.000 3.444 3.400 n/a 0'1/2019 3.344 1.0000 2.943 1.0000 n/a n/a 10/1/2019$ | m ming bourdrain cast of on 344 | 4/1/1/2018 | 13,582 | 0.96 | 0.85 | 12,387 | 1.0319 | 12,782 | 13,000 | 13,500 | 13.250 | 13.000 |
| $2/16/2016$ 2.174 0.96 1.00 2.087 1.0988 2.293 2.300 n/a n/a $44^{(1)}$ $1/9/2018$ 3.206 1.01 0.96 3.173 1.0560 3.351 3.400 n/a n/a $44^{(1)}$ $1/9/2018$ 862 1.01 1.00 871 1.0000 871 870 n/a n/a $10/1/2019$ 1.730 1.03 0.81 1.443 1.0000 871 870 n/a n/a $0/588544^{(1)}$ $1/9/2019$ 5.454 1.01 0.98 1.0000 871 870 n/a n/a $0/588544^{(1)}$ $1/9/2019$ 5.454 1.01 0.98 1.0000 99 1.000 n/a n/a $0/58754^{(1)}$ $1/9/2019$ 5.454 1.01 0.99 1.0000 99 1.00 n/a n/a $10/1/2019$ 3.454 1.03 0.94 | Avenue Y West of SR 544 (/) | 2/16/2016 | 1,960 | 0.96 | 1.00 | 1,882 | 1.0988 | 2,068 | 2,100 | n/a | | 2.100 |
| Iof SR 54 ⁽¹⁾ 1/9/2018 3.206 1.01 0.96 3,173 1.0560 3,351 3,400 n/a n/a 44 ⁽¹⁾ 1/9/2018 862 1.01 100 871 1.0000 871 870 n/a n/a of SR 544 ⁽¹⁾ 1/9/2019 1.730 1.03 0.81 1,443 1.0000 871 870 n/a n/a of SR 544 ⁽¹⁾ 1/9/2019 5.454 1.01 0.98 5.398 1.0000 99 1.000 n/a n/a of SR 544 ⁽¹⁾ 1/9/2019 5.454 1.01 0.98 5.739 1.400 n/a n/a of SR 544 ⁽¹⁾ 1/9/2019 5.454 1.01 0.98 5.398 1.0000 39 1.400 n/a n/a of SR 54 ⁽¹⁾ 1/9/2019 3.45 1.01 0.99 1.0000 3.444 3.400 n/a n/a 10/1/2019 3.344 1.0000 2.943 1.00000 2.943 3.400 | Avenue Y East of SR 544 (7) | 2/16/2016 | - | 0.96 | 1.00 | 2,087 | 1.0988 | 2.293 | 2.300 | n/a | | 0 300 |
| 44 ⁽⁷⁾ 1/9/2018 862 1.01 1.00 871 1.0000 871 870 n/a n/a of SR 544 ⁽⁷⁾ 1/9/2018 5,454 1.01 0.91 1,443 1,0000 8,719 8,700 n/a n/a of SR 544 ⁽⁷⁾ 1/9/2018 5,454 1.01 0.98 5,398 1,0706 5,779 5,800 n/a n/a of SR 544 ⁽⁷⁾ 1/9/2019 96 1.01 0.98 5,090 $1/a$ n/a n/a 10/1/2019 96 1.03 0.98 5,394 1.0000 3,444 3,400 n/a n/a 10/1/2019 2.916 1.03 0.98 2.943 1.0000 2943 2900 n/a n/a 10/1/2019 2.916 1.03 0.98 2.943 1.0000 2943 2900 n/a n/a 10/1/2019 2.916 1.03 0.94 33.780 1.0000 34,000 35.00 n/a | Old Lucerne Park Road (west end) North of SR 544 ⁽⁷⁾ | 1/9/2018 | 3,206 | 1.01 | 0.98 | 3,173 | 1.0560 | 3.351 | 3 400 | elu | | 3 400 |
| or SR 544 ⁽⁷⁾ 10/12019 1,730 1.03 0.81 1,443 1.0000 1,443 1,400 n/a m/a or SR 544 ⁽⁷⁾ 1/9/2018 5,454 1.01 D.98 5,398 1.0706 5,779 5,800 n/a n/a 10/12019 96 1.03 1.00 99 1.0706 5,474 3,400 n/a n/a 10/1/2019 3.344 1.03 1.00 3.444 3,400 n/a n/a 10/1/2019 2.916 1.03 1.00 3.444 1.000 3.443 3,400 n/a 10/1/2019 2.916 1.03 0.98 2.943 1.0000 2.943 2.900 n/a 10/1/2019 2.916 1.03 0.98 2.943 1.0000 3.4,000 n/a 1.7 10/1/2019 2.916 1.03 0.94 33.780 1.0000 3.4,000 3.6,00 3.6,00 3.6,00 10/1/2019 3.456 1.04 0.090 | Lake Smart Estates Drive South of SR 544 ⁽⁷⁾ | 1/9/2018 | 862 | 1.01 | 1.00 | 871 | 1.0000 | 871 | 870 | n/a | | 870 |
| of SR 544 ⁽⁷⁾ 1/9/2018 5,454 1.01 D.948 5,338 1.0706 5,779 5,800 n/a a 10/1/2019 96 1.03 1.00 99 1.0000 99 100 n/a n/a 10/1/2019 3.344 1.03 1.00 3.444 1.000 3.444 3.400 n/a 10/1/2019 2.916 1.03 0.98 2.943 1.0000 2.444 3.400 n/a 10/1/2019 2.916 1.03 0.98 2.943 1.0000 2.943 2.900 n/a 10/1/2019 45.009 1.04 0.94 3.780 1.0000 2.943 1.000 45.500 45.250 10/1/2019 34.554 1.04 0.94 33.780 1.0000 34,000 35.500 36.750 10/1/2019 10.764 1.03 0.95 1.0000 10.533 11,000 9.700 35.700 10/1/2019 8.680 1.03 0.053 1.0000 | m | 10/1/2019 | 1,730 | 1.03 | 0.81 | 1,443 | 1.0000 | 1.443 | 1 400 | elo | | 1 400 |
| 10/1/2019 96 1.03 1.00 99 1.00 n/a n/a 10/1/2019 3.344 1.03 1.00 3.444 1.0000 3.444 3.400 n/a n/a 10/1/2019 2.916 1.03 1.00 3.444 1.0000 2.943 2.900 n/a 10/1/2019 2.916 1.03 0.94 44.001 1.0000 2.943 2.900 n/a 10/1/2019 45.009 1.04 0.94 44.001 1.0000 45.500 45.250 10/1/2019 34.554 1.04 0.94 33.780 1.0000 33.780 34.000 35.500 36.750 10/1/2019 10.764 1.03 0.95 1.0000 10.533 11.000 9.700 10.350 10/1/2019 8.680 1.03 0.95 8.493 1.0000 8.493 8.000 8.400 8.400 | Old Lucerne Park Road (east end) North of SR 544 ⁽⁷⁾ | 1/9/2018 | 5,454 | 1.01 | 0.98 | 5,398 | 1.0706 | 5,779 | 5,800 | n/a | | 5 800 |
| 10/1/2019 3.344 1.00 3.444 1.0000 3.444 3.400 n/a 10/1/2019 2.916 1.03 0.98 2.943 1.0000 2.943 2.900 n/a 10/1/2019 2.916 1.03 0.98 2.943 1.0000 2.943 2.900 n/a 10/1/2019 45.009 1.04 0.94 44.001 1.0000 46.000 45.500 45.250 10/1/2019 34.554 1.04 0.94 33.780 1.0000 33.780 39.500 36.750 10/1/2019 10.764 1.03 0.95 10.000 10.533 11.000 9.700 10.350 10/1/2019 8.680 1.03 0.95 8.493 1.0000 8.493 8.600 8.300 8.400 | Fairview Village North of SR 544 | 10/1/2019 | 96 | 1.03 | 1.00 | 66 | 1.0000 | 66 | 100 | ela | | 100 |
| 10/1/2019 2.916 1.03 0.918 2.943 1.0000 2.943 2.900 n/a 10/1/2019 45.009 1.04 0.94 44,001 1.0000 44,000 45,500 45,500 45,250 10/1/2019 34,564 1.04 0.94 44,001 1.0000 33,780 39,500 35,500 36,750 10/1/2019 34,554 1.03 0.94 33,780 1.0000 33,700 39,500 36,750 10/1/2019 10,764 1.03 0.95 10,533 11,000 9,700 10,350 10/1/2019 8,680 1.03 0.95 8,493 1,0000 8,493 8,000 8,300 8,400 | Lake Hamilton Drive South of SR 544 | 10/1/2019 | 3,344 | 1.03 | 1.00 | 3,444 | 1.0000 | 3 444 | 3 400 | elu | Y | a Ann |
| 10/1/2019 45.009 1.04 0.94 44.001 1.0000 44.001 44.000 45.500 45.250 10/1/2019 34.554 1.04 0.94 33.780 1.0000 34.000 45.500 45.250 35.750 10/1/2019 34.554 1.04 0.94 33.780 1.0000 33,700 39.500 35.750 36.750 10/1/2019 10.764 1.03 0.95 10.533 11,000 9.700 10.350 10/1/2019 8.680 1.03 0.95 8.493 1.0000 8.493 8.700 8.300 8.400 | Brenton Manor Avenue South of SR 544 | 10/1/2019 | 2,916 | 1.03 | 0.98 | 2.943 | 1.0000 | 2.943 | 0 ann | e/c | | 0000 |
| 10/1/2019 34.554 1.04 0.94 33.780 1.0000 33.780 34.000 39.500 36.750 36.750 10/1/2019 10.764 1.03 0.95 10.533 1.0000 10.533 11.000 9.700 10.350 10/1/2019 8,680 1.03 0.95 8.493 1.0000 8.493 8.500 8.300 8.400 | US 27 North of SR 544 | 10/1/2019 | 45,009 | 1.04 | 0.94 | 44,001 | 1.0000 | 44.001 | 44 000 | AG SOO | AE DEA | AE END (B) |
| 10/1/2019 10.764 1.03 0.95 10.533 1.0000 10.503 17.000 9.700 10.735 10/1/2019 8,680 1.03 0.95 8,493 1.0000 8,493 8,500 8,300 8,400 | US 27 South of SR 544 | 10/1/2019 | 34,554 | 1.04 | 0.94 | 33.780 | 1.0000 | 33 780 | 34 000 | 30 600 | 36 760 | 20 EAD (9) |
| 10/1/2019 8,680 1.03 0.95 8.493 1.0000 8.493 8.500 8.300 8.400 | SR 17 North of SR 544 | 10/1/2019 | | 1.03 | 0.95 | 10.533 | 1.0000 | 10.533 | 11 000 | 002.60 | 10 350 | 1000 |
| | SR 17 South of SR 544 | 10/1/2019 | | 1.03 | 0.95 | 8,493 | 1.0000 | 8.493 | 8 500 | 8 300 | B ADD | DUN,UT |

Table 2-3: Twenty-Four Hour Volume Counts and Existing (2019) AADT Volumes (SR 544 Cross Streets)

Note: Red font denotes assumed values used for this study.

SF = Weekly Seasonal Adjustment Factor
 AF = Axle Adjustment Factor
 AF = Axle Adjustment Factor
 ADT = Count x SF x AF
 2019 ADT (nunded)
 2019 ADT (nunded)
 2019 ADT obtained from the FDOT Florida Traffic Online website
 2019 ADT obtained from the FDOT Florida Traffic Online website
 2019 ADT count only at this location. The two-way volume was assumed to be equal to twice the approach volume.
 FDOT count station value was used because the ADT volume has been greater than 34,000 vpd for the last four years.
 FDOT count station value was used because the ADT volume has been greater than 34,000 vpd for for ithe last four years.

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Project Traffic Analysis Report FPID: 440273-1-22-01

Page 2-7

FLORIDA DEPARTMENT OF TRANSPORTATION TRANSPORTATION STATISTICS OFFICE 2021 HISTORICAL AADT REPORT

| COUNTY: 16 - POLK | | | | | |
|--|---|--|--|---|--|
| SITE: 3106 - SR 544 | W OF HIDDEN COVE, | 0.5 MI W OF SR | 25/US 27 | | |
| YEAR AADT | DIRECTION 1 | DIRECTION 2 | *K FACTOR | D FACTOR | T FACTOR |
| 2021 25000 C 2020 19900 C 2019 21000 C 2018 21000 C 2017 19500 C 2016 16900 C 2015 16100 C 2013 14800 F 2012 14800 C 2011 15900 S 2010 16100 F 2009 16300 C 2008 14800 C 2007 16300 C 2006 16500 C | $\begin{array}{cccc} & 12500\\ E & 10000\\ E & 10500\\ E & 9800\\ E & 8400\\ E & 7900\\ E & 7500\\ E & 7400\\ E & 8100\\ E & 8100\\ E & 8100\\ E & 8200\\ E & 8300\\ \end{array}$ | W 12500 W 9900 W 10500 W 9700 W 8500 W 8200 W 7400 W 7400 W 7400 W 7400 W 7400 W 7400 W 8000 W 8100 W 8200 W 8100 W 8100 W 8100 | $\begin{array}{c} 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.00\\ 9.66\\ 9.62\\ 9.62\\ \end{array}$ | $\begin{array}{c} 55.30\\ 53.40\\ 56.00\\ 54.50\\ 53.30\\ 55.70\\ 55.60\\ 55.80\\ 55.80\\ 55.70\\ 56.07\\ 56.35\\ 55.29\\ 55.30\\ 55.30\\ 55.83\end{array}$ | $\begin{array}{c} 10.00\\ 8.40\\ 7.60\\ 9.40\\ 8.80\\ 10.70\\ 9.30\\ 9.50\\ 9.50\\ 9.50\\ 9.10\\ 9.20\\ 9.20\\ 10.40\\ 10.30\\ 9.70\\ \end{array}$ |

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN *K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

| | | | ak Hour (7:15 - | | | eak Hour (4:45 - | | | 2025/20 |
|--|-------------|--------------|-----------------|-----------|---|--|---------|-----------------|---------|
| Intersection | Movement | Total Volume | Truck Volume | Truck % | Total Volume | Truck Volume | Truck % | Avg. Truck % | Truck ! |
| | NBLT | 269 | 7 | 2.6% | 299 | 0 | 0.0% | 1 | - |
| | NB TH | 275 | 11 | 4.0% | 413 | 3 | 0.7% | | |
| | NB RT | 119 | 1 | 0.8% | 139 | 0 | 0.0% | 1 | |
| | NB APPROACH | 663 | 19 | 2,9% | 851 | 3 | 0.4% | 1.6% | 2.0% |
| | WBLT | 134 | 5 | 3.7% | 113 | 2 | 1.8% | | |
| | W8 TH | 462 | 10 | 2.2% | 366 | 6 | 1.6% | | |
| Martin Luther King Blvd | WBRT | 14 | 2 | 14.3% | 9 | 0 | 0.0% | | |
| | WB APPROACH | 610 | 17 | 2.8% | 488 | 8 | 1.6% | 2.2% | 2.0% |
| | EBLT | 208 | 12 | 5.8% | 243 | 13 | 5.3% | | |
| | EB TH | 330 | 7 | 2.1% | 409 | 9 | 2.2% | | |
| | EBRT | 419 | 6 | 1.4% | 309 | 3 | 1.0% | 1 | |
| | EB APPROACH | 957 | 25 | 2.6% | 961 | 25 | 2.6% | 2.6% | 3.0% |
| | WBLT | 17 | 0 | 0.0% | 13 | 0 | 0.0% | | 1 |
| | WBTH | 15 | o | 0.0% | 17 | 0 | 0.0% | | |
| | WBRT | 25 | 1 | 4.0% | 34 | 1 | 2.9% | | |
| | WB APPROACH | 57 | 1 | 1.8% | 64 | 1 | 1.6% | 1.7% | 2.0% |
| Avenue Y(1) | EBLT | 19 | 2 | 10.5% | 36 | 2 | 5.6% | | |
| | EBTH | 10 | 1 | 10.0% | 14 | ō | 0.0% | | |
| | EB RT | 8 | 0 | 0.0% | 28 | 0 | 0.0% | | |
| | EB APPROACH | 37 | 3 | 8.1% | 78 | 2 | 2.6% | 2.6% (2) | 3.0% |
| 1-1 | NB TH | 0 | 0 | 0.0% | N/A | N/A | N/A | | 5.07 |
| | NB RT | 14 | 0 | 0.0% | N/A N/A | N/A N/A | N/A | | |
| | | | 0 | | | | | 0.0% (3) | 0.001 |
| Old Lucerne Park Rd | NB APPROACH | 14 | | 0.0% | N/A | N/A | N/A | 0.0% | 0.0% |
| (West End) | S8 LT | 3 | 0 | 0.0% | N/A | N/A | N/A | | |
| A CONTRACTOR OF A | SBTH | 1 | 0 | 0.0% | N/A | N/A | N/A | | |
| Lucerne Lake Rd | SBRT | 149 | 4 | 2.7% | N/A | N/A | N/A | | |
| - | SB APPROACH | 153 | 4 | 2.6% | N/A | N/A | N/A | 2.6% 11 | 3.0% |
| | SB LT | 16 | 11 | 68.8% | 17 | 8 | 47.1% | | |
| Lucerne Lake Rd | SB RT | 25 | 9 | 36.0% | 24 | 8 | 33,3% | | |
| | SB APPROACH | 41 | 20 | 48.8% | 41 | 16 | 39.0% | 43,9% | 44.0% |
| Old Lucerne Park Rd | SB LT | 174 | 13 | 7.5% | 126 | 8 | 6.3% | | |
| (Eest End) (4) | SB RT | 4 | 0 | 0.0% | 4 | 0 | 0.0% | Contract of the | |
| (cest chu) | 5B APPROACH | 178 | 13 | 7.3% | 130 | 8 | 6.2% | 6.7% | 7.0% |
| | NBLT | 14 | 1 | 7.1% | 19 | 1 | 5.3% | | |
| | NB TH | D | 0 | 0.0% | 1 | 0 | 0.0% | | |
| | NB RT | 134 | 6 | 4.5% | 105 | 2 | 1.9% | | - |
| Lake Hamilton Dr | NB APPROACH | 148 | 7 | 4.7% | 125 | 3 | 2.4% | 3.6% | 4.0% |
| Lake Hallincon Di | SB LT | 0 | 0 | 0.0% | 1 | 0 | 0.0% | | |
| | SB TH | 0 | 0 | 0.0% | 0 | D | 0.0% | | |
| | SB RT | 2 | 0 | 0.0% | 1 | 0 | 0.0% | | |
| | SB APPROACH | 2 | 0 | 0.0% | 2 | 0 | 0.0% | 0,0% | 0.0% |
| and the second second | NB LT | 58 | 5 | 8.6% | 65 | 2 | 3.1% | | |
| Brenton Manor Ave | NB RT | 75 | 5 | 6.7% | 42 | 0 | 0.0% | | - |
| | NB APPROACH | 133 | 10 | 7.5% | 107 | 2 | 1.9% | 4.7% | 5.0% |
| in the second | NBLT | 238 | 5 | 2.1% | 165 | 8 | 4.8% | | |
| | NB TH | 1,075 | 80 | 7.4% | 1,060 | 78 | 7.4% | | |
| | NB RT | 76 | 6 | 7.9% | 110 | 1 | 0.9% | | |
| 10000 | NB APPROACH | 1,389 | 91 | 6.6% | 1,335 | 87 | 6.5% | 6.5% | (5) |
| US 27 | SBLT | 79 | 13 | 16.5% | 138 | 10 | 7.2% | | |
| | SB TH | 762 | 88 | 11.5% | 1,157 | 62 | 5.4% | | |
| and the second sec | SB RT | 500 | 31 | 6.2% | 541 | 25 | 4.6% | | |
| | SB APPROACH | 1,341 | 132 | 9.8% | 1,836 | 97 | 5.3% | 7.6% | [5] |
| | NBLT | 79 | | 9.8% | and the second se | 6 | 9.8% | 7.0% | 232 |
| | | | 9 | 101201000 | 61 | 10 million (10 mil | | | |
| | NB TH | 244 | 6 | 2,5% | 180 | 5 | 2.8% | | |
| 1.1.1 | NB RT | 57 | 2 | 3.5% | 76 | 3 | 3.9% | | 10.0 |
| SR 17 | NB APPROACH | 380 | 17 | 4.5% | 317 | 14 | 4.4% | 4.4% | 15) |
| 20.41 | SB LT | 55 | 5 | 9.1% | 77 | 0 | 0.0% | | |
| | SB TH | 217 | 10 | 4.6% | 251 | 6 | 2.4% | | |
| | S8 RT | 92 | 14 | 15.2% | 141 | 6 | 4.3% | 1 | - |
| | SB APPROACH | 364 | 29 | 8.0% | 469 | 12 | 2.6% | 5.3% | (5) |

Table 3-17: SR 544 Cross Streets Existing and Future Year Peak Hour Truck Percentages

⁽¹⁾ Turning movement count data was not available for the 7:15 to 8:15 a.m. time period. The 8:00 to 9:00 a.m. time period was used for this lacation.
⁽²⁾ Average peak hour truck percentage not calculated due to disparity in peak hour approach volumes. P.M. peak hour percentage recommended for use.

¹³ A.M. peak hour percentages only.

(4) Turning movement count data was not available for the 4:45 to 5:45 p.m. time period. The 4:00 to 5:00 p.m. time period was used for this location.

⁽⁵⁾ Alternate methodologies were used to derve the recommended a.m. and p.m. peak hour truck percentages for US 27 and SR 17.

A review of the existing a.m. and p.m. peak hour truck volumes indicates that, with one exception, the a.m. peak hour volumes are higher than the p.m. peak hour volumes. The ratio of the a.m. and p.m. peak hour truck volume was calculated for each location and then the overall average ratio for the study corridor was calculated. The average overall ratio was equal to 1.50. A revised estimate of the 2025 and 2045 a.m. peak hour truck volumes was obtained by multiplying the initial estimate of the 2025 and 2045 a.m. peak hour truck volumes by 1.50. The revised 2025 and 2045 a.m. peak hour truck volumes are also provided in **Table 3-9** and Table 3-10. The final recommended 2045 and 2025 peak hour truck volumes and percentages are provided in **Table 3-11** and **Table 3-12**, respectively. Based on these assumptions, the following SR 544 mainline peak hour truck percentages (i.e., T_{PKHP}-factors) are recommended for use in the SR 544 PD&E study:

Opening Year (2025) - AM Peak Hour

- 5.6% from Martin Luther King Boulevard to US 27
- 9.6% from US 27 to SR 17

Opening Year (2025) - PM Peak Hour

- 3.7% from Martin Luther King Boulevard to US 27
- 6.4% from US 27 to SR 17

Design Year (2045) - AM Peak Hour

- 4.5% from Martin Luther King Boulevard to US 27
- 8.1 % from US 27 to SR 17

Design Year (2045) - PM Peak Hour

- 3.0% from Martin Luther King Boulevard to US 27
- 5.4 % from US 27 to SR 17

Project Traffic Analysis Report FPID: 440273-1-22-01

Page 3-20

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

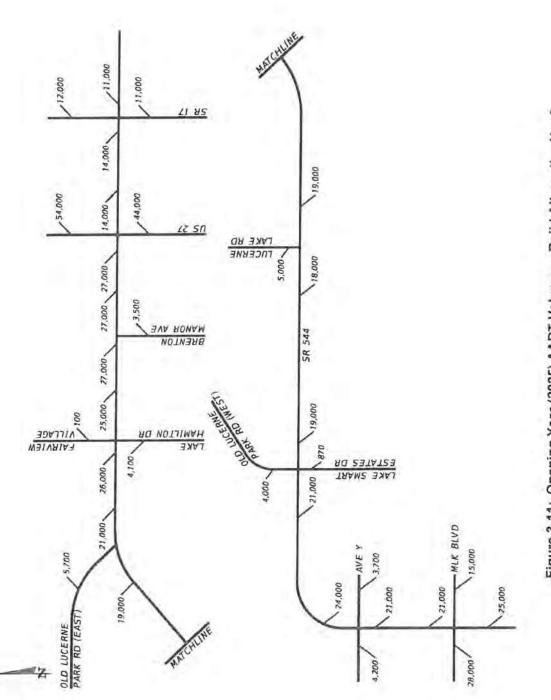


Figure 3-11: Opening Year (2025) AADT Volumes -Build Alternative No. 2

Project Traffic Analysis Report FPID: 440273-1-22-01

Page 3-15

SR 544 from Martin Luther King Boulevard to SR 17 January 2021

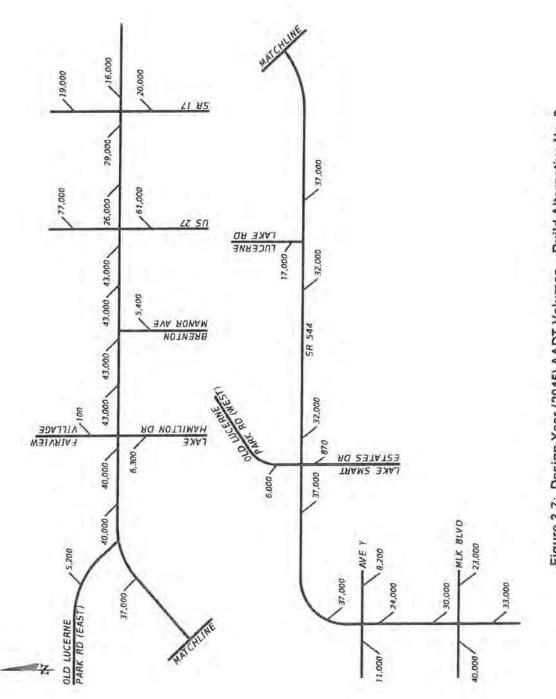
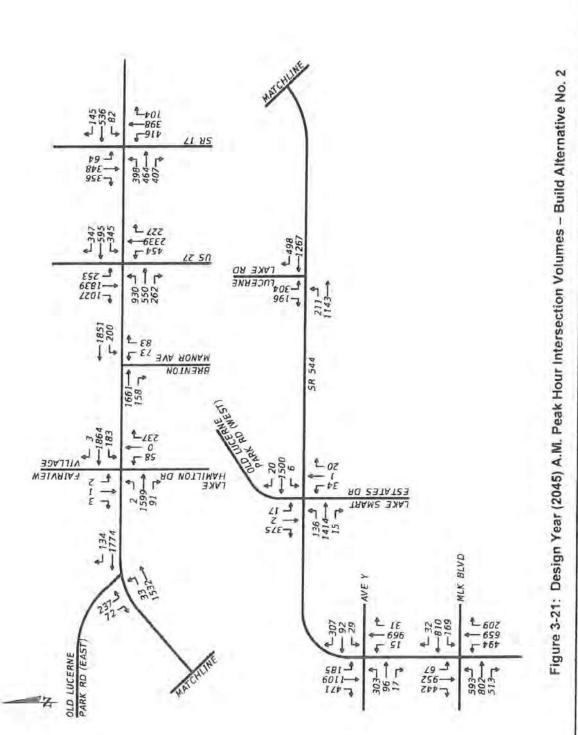


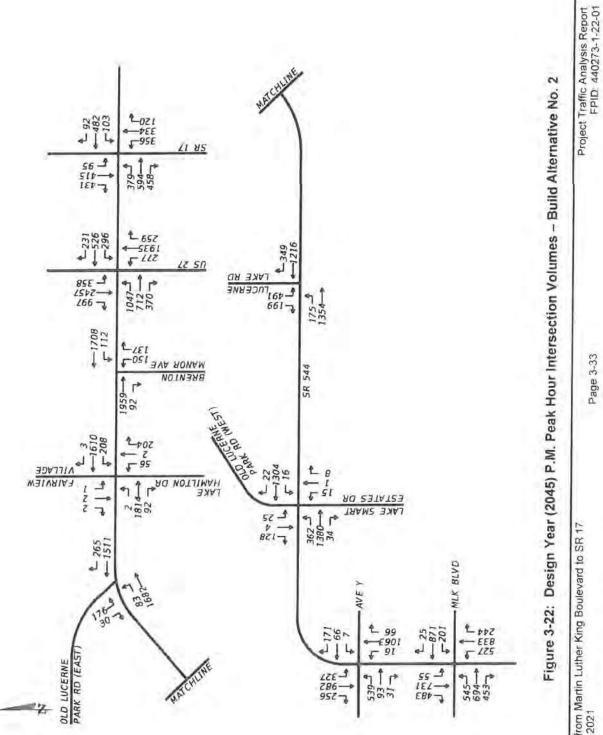
Figure 3-7: Design Year (2045) AADT Volumes - Build Alternative No. 2



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Page 3-32

Project Traffic Analysis Report FPID: 440273-1-22-01



SR 544 from Martin Luther King Boulevard to SR 17 January 2021

Page 3-33

| | 0 2010 | | | | | CR FERCENTAGES | | | | | |
|------|---------|------|---------|-----------|---------|-------------------------|-------------|---------|--|--|--|
| | | | AN | И РЕАК НО | UR | | | | | | |
| EB | LT | EB | TH | EB | RT | E | B APPROAC | H | | | |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % | | | |
| 2 | 0.00 | 1599 | 0.05 | 91 | 0.04 | 1692 | 83.59 | 4.9% | | | |
| WE | 3 LT | WB | 3 TH | WE | 3 RT | V | WB APPROACH | | | | |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % | | | |
| 183 | 0.04 | 1864 | 0.05 | 3 | 0.00 | 2050 | 100.52 | 4.9% | | | |
| NE | B LT | NB | TH | NB | RT | Ν | IB APPROAC | Ή | | | |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % | | | |
| 58 | 0.04 | 0 | 0.00 | 237 | 0.04 | 295 | 11.8 | 4.0% | | | |
| | | | PN | A PEAK HO | UR | | | | | | |
| EB | LT | EB | TH | EB | RT | E | B APPROAC | Ή | | | |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % | | | |
| 2 | 0.00 | 1814 | 0.03 | 92 | 0.04 | 1908 | 58.1 | 3.0% | | | |
| WE | 3 LT | WB | 3 TH | WE | B RT | V | VB APPROA | CH | | | |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. | Truck Vol. | Truck % | | | |
| 208 | 0.04 | 1610 | 0.03 | 3 | 0.00 | 1821 | 56.62 | 3.1% | | | |
| NE | B LT | NB | TH | NB | RT | Ν | NB APPROACH | | | | |
| Vol. | Truck % | Vol. | Truck % | Vol. | Truck % | Vol. Truck Vol. Truck % | | | | | |
| 56 | 0.04 | 2 | 0.00 | 204 | 0.04 | 262 | 10.4 | 4.0% | | | |

LAKE HAMILTON DRIVE INTERSECTION DESIGN YEAR (2045) PEAK HOUR APPROACH TRUCK PERCENTAGES

| HSMV_Ret Agency_Re Repo | ting_Form_Typ∈Crash_Date | Crash_Tim City | County | Crash_Street | Intersecting_Street | Offset_Disi Offset_Di | r Crash_Typ | Vehicles N | lon_Motorist Fa | talities Injuries | Alcoh | ol_R∈Distrac | tion Drug_F | Rela1Estimated_ |
|--------------------------|--------------------------|------------------|----------|----------------------------|--------------------------|-----------------------|-------------------|------------|-----------------|-------------------|-------|--------------|-------------|-----------------|
| 84998054 2015-0555 Winte | er Hav Long 9/18/2015 | 2:45 PM Winter I | Hav Polk | SR544 | LAKE HAMILTON DR W | 0 | Left Turn | 3 | 0 | 0 | 0 N | N | N | \$6,500 |
| 85386994 FHPC16OF FHP | Long 12/22/2016 | 5:48 PM Auburne | dal-Polk | STATE ROAD 544 (LUCERNE PA | RW LAKE HAMILTON DRIVE | 25 East | Rear End | 2 | 0 | 0 | 0 N | Y | N | \$4,000 |
| 86443202 2016-0215 Polk | to SO Long 5/11/2016 | 5:19 PM Unincor | po Polk | LAKE HAMLITON DR | LUCERNE PARK RD | 0 North | Left Turn | 2 | 0 | 0 | 0 N | N | N | \$3,000 |
| 86444167 2016-0413 Polk | Co SO Long 9/6/2016 | 10:12 PM Winter | Hav Polk | LUCERN PARK RD | LAKE HAMILTON RD | 0 East | Other | 2 | 0 | 0 | 0 N | N | N | \$2,000 |
| 86445048 2016-0418 Polk | to SO Long 9/10/2016 | 3:35 PM Unincor | po Polk | LAKE HAMILTON DRIVE WEST | LUCERNE PARK RD | 0 North | Other | 1 | 0 | 0 | 0 N | N | N | \$20,000 |
| 86938244 2017-0187 Polk | to SO Long 4/22/2017 | 11:45 AM Unincor | po Polk | LUCERNE PARK RD | LAKE HAMILTON DR W | 0 | Other | 2 | 0 | 0 | 1 N | N | N | \$7,000 |
| 86938443 2017-0317 Polk | to SO Long 7/12/2017 | 2:10 PM Unincor | po Polk | LAKE HAMILTON DR W | SR 544 (LUCERNE PARK RD) | 10 South | Rear End | 2 | 0 | 0 | 1 N | N | N | \$1,100 |
| 87333319 2017-0530 Polk | Co SO Long 11/21/2017 | 12:07 PM Unincor | po Polk | SR544 (LUCERNE PARK RD) | LAKE HAMILTON DR W | 10 North | Left Turn | 2 | 0 | 0 | 0 N | N | N | \$9,000 |
| 87549903 2018-0166 Winte | er Hav Long 3/13/2018 | 8:48 AM Unincor | po Polk | LUCERNE PARK RD | W LAKE HAMILTON DR | 0 | Other | 2 | 0 | 0 | 0 N | N | N | \$6,000 |
| 87870507 2018-0335 Polk | Co SO Short 7/12/2018 | 11:20 AM Unincor | po Polk | LAKE HAMILTON DR WEST | SR 544 (LUCERNE PARK RD) | 0 | Other | 2 | 0 | 0 | 0 N | N | N | \$1,000 |
| 88751911 2018-0537 Polk | Co SO Long 11/17/2018 | 9:35 AM Unincor | po Polk | LUCERNE PARK RD | W. LAKE HAMILTON DR. | 100 East | Rear End | 3 | 0 | 0 | 2 N | N | N | \$17,000 |
| 88752107 2018-0540 Polk | Co SO Long 11/19/2018 | 3:30 PM Unincor | po Polk | LUCERNE PARK RD | W LAKE HAMILTON DR | 20 | Unknown | 2 | 0 | 0 | 0 N | N | N | \$1,000 |
| 88752523 2018-0597 Polk | Co SO Long 12/21/2018 | 12:39 PM Unincor | po Polk | LAKE HAMILTON DR W | SR544 (LUCERNE PARK RD) | 15 South | Rear End | 2 | 0 | 0 | 2 N | N | N | \$650 |
| 89009685 2019-0233 Polk | Co SO Long 5/17/2019 | 11:15 AM Unincor | po Polk | LUCERNE PARK RD | W. LAKE HAMILTON DR | 0 | Right Turn | 2 | 0 | 0 | 0 N | N | N | \$6,000 |
| 89010153 2019-0170 Polk | Co SO Long 4/11/2019 | 4:54 PM Unincor | po Polk | LAKE HAMILTON DRIVE | LUCERNE PARK RD | 0 North | Head On | 3 | 0 | 0 | 0 N | N | N | \$600 |
| 89372733 2019-0571 Polk | to SO Short 12/11/2019 | 1:50 PM Unincor | po Polk | SR-544 | LAKE HAMILTON DR | 0 | Right Turn | 2 | 0 | 0 | 0 N | N | N | \$600 |
| | | | | | | | | | | | | | | |

| Weather | _(Light_Conc Street_N | uı Crash_Type_D Crash_T | yp Crash_Sev Within | _Cit Manner_of_C <first_harmful_first_he_loca< th=""><th>ti First_HE_Rela1First_HE</th><th>_V Type_of_Inter Road_Sys</th><th>_Type_of_S</th><th>6 Road_Su</th><th>rf_. Contrib_Ci Contrib_Ci Cor</th><th>trib_Ci Contrib_Ci Contrib_</th><th>Ci Contrib_Ci School_</th><th>Bu: Work_Z</th></first_harmful_first_he_loca<> | ti First_HE_Rela1First_HE | _V Type_of_Inter Road_Sys | _Type_of_S | 6 Road_Su | rf _. Contrib_Ci Contrib_Ci Cor | trib_Ci Contrib_Ci Contrib_ | Ci Contrib_Ci School_ | Bu: Work_Z |
|---------|------------------------|-------------------------|---------------------|---|---------------------------|---------------------------|------------|-----------|---|-----------------------------|-----------------------|------------|
| Clear | Daylight | Left Leaving N | Property D Y | Front to Rear Motor Vehicle On Roadway | Intersection-R Y | T-Intersection State | Unpaved | Dry | None | None | N | N |
| Clear | Dusk | Rear End W | Property D N | Front to Rear Motor Vehicle On Roadway | Non-Junction N | Not at Interse State | Paved | Dry | None | None | N | N |
| Clear | Daylight | Left Entering S | Property D N | Angle Motor Vehicle On Roadway | Intersection N | T-Intersection Local | Paved | Dry | None | None | N | N |
| Clear | Dark - Lighted | Parked Vehicle E | Property D N | Sideswipe, Op Motor Vehicle Off Roadway | Non-Junction N | Not at Interse State | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Single Vehicle N | Property D N | Unknown Motor Vehicle On Roadway | Non-Junction N | Not at Interse Local | Paved | Dry | None | None | N | N |
| Clear | Daylight | Other N | Injury N | Angle Motor Vehicle On Roadway | Intersection-R N | Four-Way Inte County | Paved | Dry | None | None | N | N |
| Clear | Daylight | Rear End N | Injury N | Front to Rear Motor Vehicle On Roadway | Intersection-R N | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Rain | Daylight | Left Entering N | Property D N | Angle Motor Vehicle On Roadway | Intersection N | Y-Intersection State | Unpaved | Wet | None | None | N | N |
| Clear | Daylight | Other | Property D Y | Angle Motor Vehicle On Roadway | Intersection N | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Backed Into N | Property D N | Front to Rear Motor Vehicle On Roadway | Non-Junction N | T-Intersection Local | Paved | Dry | None | None | N | N |
| Clear | Daylight | Rear End W | Injury N | Front to Rear Motor Vehicle On Roadway | Non-Junction N | Not at Interse Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Unknown S | Property D N | Front to Rear Motor Vehicle On Roadway | Non-Junction N | T-Intersection Local | Paved | Dry | None | None | N | N |
| Rain | Daylight | Rear End N | Injury N | Front to Rear Motor Vehicle On Roadway | Non-Junction N | Not at Interse Local | Unpaved | Wet | None | None | N | N |
| Clear | Daylight | Right/Through N | Property D N | Angle Motor Vehicle On Roadway | Intersection N | T-Intersection Local | Unpaved | Dry | None | None | N | N |
| Clear | Daylight | Head On NS | Property D N | Front to Front Motor Vehicle On Roadway | Non-Junction N | Four-Way Inte County | Paved | Dry | None | None | N | N |
| Cloudy | Daylight | Right/Through N | Property D N | Angle Motor Vehicle On Roadway | Intersection N | T-Intersection Local | Unpaved | Dry | None | None | N | N |

Type_of_V Loc_in_Wc Workers_ii Law_Enfor Mopeds Motorcyclk Passenger Bicyclists Pedestrian: Fatalities_Linjuries_Ui 0

Appendix B

Traffic Signal Warrant No. 1 Evaluation

| op Time | 24:00 |
|---------|---------|
| | |
| | op Time |

Location : SR 544, West of Lake Hamilton Drive

| 15 28 19 21 31 31 67 127 195 185 147 143 17 30 14 16 17 17 24 74 186 183 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 140 153 141 151 16 17 18 19 20 21 22 22 23 151 170 174 206 168 249 142 104 144 28 445 177 132 176 146 149 144 22 123 144 151 16 17 186 143 144 | 1-Oct-19 | | | | | Eas | ibound voi | ume for La | ner | | | | |
|---|---|----------|-------|--|--|---------|--|--|-------|-------|---|-------|-------|
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | End Time | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | 15 | 28 | 19 | 21 | 31 | 31 | 67 | 127 | 195 | 185 | 147 | 143 | 173 |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | 30 | 14 | 16 | 17 | 17 | 24 | 74 | 186 | 231 | 163 | 140 | 158 | 173 |
| Hr Total 78 67 78 109 137 361 665 893 701 568 600 665 End Time 12 13 14 15 16 17 18 19 20 21 22 22 23 15 189 174 176 174 176 171 222 160 111 94 69 48 43 30 151 170 174 126 166 131 130 64 61 37 70 48 44 28 45 177 176 201 186 186 131 130 64 61 37 335 278 177 133 Hour Total 11.314 A PM Reak Volume 893 AM Peak Hour Factor $= 0.8$ 0.8 9 10 11 15 17 183 144 144 144 144 144 144 144 <td>45</td> <td>16</td> <td>14</td> <td>23</td> <td>29</td> <td>42</td> <td>102</td> <td>164</td> <td>245</td> <td>170</td> <td>160</td> <td>171</td> <td>163</td> | 45 | 16 | 14 | 23 | 29 | 42 | 102 | 164 | 245 | 170 | 160 | 171 | 163 |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | 00 | 20 | 18 | 17 | 32 | 40 | 118 | 188 | 222 | 183 | 121 | 128 | 154 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | Hr Total | 78 | 67 | 78 | 109 | 137 | 361 | 665 | 893 | 701 | 568 | 600 | 663 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | | | | | | | | | | | |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | End Time | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | | and the second se | | 23 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | 15 | 189 | 174 | 176 | 172 | 171 | 222 | 160 | 111 | 94 | 69 | 48 | 42 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | 30 | 151 | 170 | 174 | 206 | 168 | 249 | 149 | 124 | 104 | 78 | 44 | 28 |
| Hr Total 669 715 702 743 721 868 582 471 335 276 177 133 Hour Total : 11.314 A AM Peak Hour begins : 0.9 I-Oct-19 Wethbound Volume for Lane 2 M Peak Hour Factor : 0.9 I-Oct-19 Wethbound Volume for Lane 2 0.9 10 11 30 31 21 11 21 19 28 89 183 224 137 147 166 30 36 22 19 31 27 50 115 187 186 146 149 177 00 19 12 15 37 45 77 146 173 136 139 125 177 181 18 19 20 21 22 23 <th< td=""><td>45</td><td>177</td><td>192</td><td>176</td><td>164</td><td>196</td><td>211</td><td>142</td><td>106</td><td>73</td><td>70</td><td>48</td><td>32</td></th<> | 45 | 177 | 192 | 176 | 164 | 196 | 211 | 142 | 106 | 73 | 70 | 48 | 32 |
| Hour Total 11.314 AM Peak Hour Begins 7.00 AM Peak Volume 893 AM Peak Hour Factor 0.93 Hour begins 16.45 PM Peak Volume 1868 PM Peak Hour Factor 0.8 Hour begins 16.45 PM Peak Volume 1868 PM Peak Hour Factor 0.8 Hour Total 11 21 19 28 89 183 224 137 147 164 130 36 22 19 31 27 50 115 187 186 146 148 144 144 144 144 144 144 144 144 144 144 144 144 144 144 144 144 15 110 120 113 145 177 146 173 136 139 122 177 HT Total 11 15 16 17 18 19 20 21 22 22 164 139 125 177 1 | 00 | 152 | 179 | 176 | 201 | 186 | 186 | 131 | 130 | 64 | 61 | 37 | 31 |
| Af Peak Hour begins 7:00 A Peak Hour begins 7:00 I6:45 AM Peak Volume : 893 PM Peak Volume AM Peak Hour Factor : 0.9 PM Peak Volume : < | Hr Total | 669 | 715 | 702 | 743 | 721 | 868 | 582 | 471 | 335 | 278 | 177 | 133 |
| End Time 00 01 02 03 04 05 06 07 08 09 10 11 15 31 21 11 21 19 28 89 183 224 137 147 163 30 36 22 19 31 27 50 115 187 186 1446 148 144 45 30 19 23 40 39 57 110 200 197 163 149 125 177 00 19 12 15 37 45 77 146 173 136 139 125 177 Hr Total 116 74 68 129 130 212 460 743 743 585 569 666 End Time 12 13 14 15 16 17 18 19 20 21 22 23 15 150 127 126 186 128 125 149 15 107 97 </th <th>4 Peak Hou 4 Peak Hour</th> <th>r begins</th> <th>7:00</th> <th></th> <th></th> <th>PM Peak</th> <th>Volume</th> <th>; 868</th> <th>ne 2</th> <th></th> <th>5 (1997) (1978) (1978) (1978)</th> <th></th> <th>0.91</th> | 4 Peak Hou 4 Peak Hour | r begins | 7:00 | | | PM Peak | Volume | ; 868 | ne 2 | | 5 (1997) (1978) (1978) (1978) | | 0.91 |
| 15 31 21 11 21 19 28 89 183 224 137 147 166 30 36 22 19 31 27 50 115 187 186 146 148 144 45 30 19 23 40 39 57 110 200 197 163 149 147 00 19 12 15 37 45 77 146 173 136 139 125 177 Hr Total 116 74 68 129 130 212 460 743 743 585 569 666 End Time 12 13 14 15 16 17 18 19 20 21 22 23 30 179 158 172 185 184 217 123 10 82 48 335 224 135 | 1-0(1-13 | | | | | | | | | | | | - |
| 30 36 22 19 31 27 50 115 187 186 146 148 144 45 30 19 23 40 39 57 110 200 197 163 149 177 Hr Total 116 74 68 129 130 212 460 743 743 585 569 669 End Time 12 13 14 15 16 17 18 19 20 21 22 23 15 139 157 213 195 211 226 186 132 110 82 48 235 30 179 158 172 185 184 217 186 132 110 82 48 235 00 159 160 191 185 229 187 113 89 67 34 43 H rotal 1316 | and the second se | | | | | | | | | | | | - |
| 45 30 19 23 40 39 57 110 200 197 163 149 $17.$ 00 19 12 15 37 45 77 146 173 136 139 125 $17.$ Hr Total 116 74 68 129 130 212 460 743 743 585 569 661 $Trotal$ 116 74 68 129 121 220 21 22 22 23 30 121 226 116 $17.$ 18 19 20 21 22 23 30 179 158 172 100 120 110 82 48 332 110 82 48 23 107 57 35 00 159 160 191 185 229 198 1 | | - | - | the state of the s | | | | | | | | | 169 |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | | | | | | | | | | | 146 |
| Hr Total 116 74 68 129 130 212 460 743 743 585 569 664 End Time 12 13 14 15 16 17 18 19 20 21 22 23 15 139 157 213 195 211 226 186 128 125 89 65 42 30 179 158 172 185 172 185 115 107 97 57 35 45 152 172 200 190 201 255 145 115 107 97 57 35 00 159 160 191 185 229 198 127 123 89 67 54 43 Hour Total : 11,316 AM Peak Volume ? 784 AM Peak Hour Factor : 0.8 A Peak Hour begins : 16:45 | | | | | | - | | | | | | | 174 |
| Instruction Instruction Instruction Instruction Instruction Instruction End Time 12 13 14 15 16 17 18 19 20 21 22 23 15 139 157 213 195 211 226 186 128 125 89 65 442 30 179 158 172 185 184 217 186 132 110 82 48 35 00 159 160 191 185 229 198 127 123 89 67 54 43 Hour Total : 11,316 A A Peak Hour begins : 16:45 PM Peak Volume : 784 AM Peak Hour Factor : 0.8 0.9 Hour begins : 16:45 PM Peak Volume : 927 PM PeaK Hour Factor : 0.9 0.9 10 11 15 59 40 32 52 50 95 216 378 409 284 290 34 30 50 38 36 48 51 124 301 | 00 | 19 | 12 | 15 | 37 | 45 | 77 | | | | | | 179 |
| Is 139 157 213 195 211 226 186 128 125 89 65 442 30 179 158 172 185 184 217 186 132 110 82 48 35 45 152 172 200 190 201 255 145 115 107 97 57 35 00 159 160 191 185 229 198 127 123 89 67 54 43 Hr Total 629 647 776 755 825 896 644 498 431 335 224 195 Hour Total : 11,316 AM Peak Volume : 784 AM Peak Hour Factor : 0.8 A Peak Hour begins : 16:45 PM Peak Volume : 927 PM PeaK Hour Factor : 0.9 1-Oct-19 Total Volume for All Lanes 1104 < | Hr Total | 116 | 74 | 68 | 129 | 130 | 212 | 460 | 743 | 743 | 585 | 569 | 668 |
| Is 139 157 213 195 211 226 186 128 125 89 65 442 30 179 158 172 185 184 217 186 132 110 82 48 35 45 152 172 200 190 201 255 145 115 107 97 57 35 00 159 160 191 185 229 198 127 123 89 67 54 43 Hr Total 629 647 776 755 825 896 644 498 431 335 224 195 Hour Total : 11,316 AM Peak Volume : 784 AM Peak Hour Factor : 0.8 A Peak Hour begins : 16:45 PM Peak Volume : 927 PM PeaK Hour Factor : 0.9 1-Oct-19 Total Volume for All Lanes 1104 < | | | | | | | | | | | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | End Time | 12 | 13 | | | | | | | | | | 23 |
| 45 152 172 200 190 201 255 145 115 107 97 57 355 00 159 160 191 185 229 198 127 123 89 67 54 43 Hr Total 629 647 776 755 825 896 644 498 431 335 224 155 Hour Total : 11,316 A APeak Hour begins : 7.15 AM Peak Volume : 927 PM Peak Hour Factor : 0.8 A Peak Hour begins : 16:45 PM Peak Volume : 927 PM Peak Hour Factor : 0.9 LOct-19 Total Volume for All Lanes Itans 11 124 301 418 349 286 306 315 45 46 33 46 69 81 159 274 445 367 323 320 333 00 <td>15</td> <td>139</td> <td>157</td> <td>213</td> <td>195</td> <td>211</td> <td>226</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>42</td> | 15 | 139 | 157 | 213 | 195 | 211 | 226 | | | | | | 42 |
| OO 159 160 191 185 229 198 127 123 89 67 54 43 Hr Total 629 647 776 755 825 896 644 498 431 335 224 155 Hour Total : 11.316 AM Peak Hour begins ? 715 AM Peak Volume ? 784 AM Peak Hour Factor : 0.8 A Peak Hour begins : 16:45 PM Peak Volume : 927 PM Peak Hour Factor : 0.9 1-Oct-19 Total Volume for All Lanes 11 15 59 40 32 52 50 95 216 378 409 284 290 342 30 50 38 36 48 51 124 301 418 349 286 306 319 45 46 33 46 69 81 159 274 445 367 323 | 30 | 179 | | | | | | | | | | | 39 |
| Hr Total 629 647 776 755 825 896 644 498 431 335 224 155 Hour Total : 11.316 A A Peak Hour begins : 7.15 AM Peak Volume : 784 AM Peak Hour Factor : 0.8 A Peak Hour begins : 16:45 PM Peak Volume : 927 PM Peak Hour Factor : 0.8 I-Oct-19 Total Volume for All Lanes Total Volume for All Lanes 0.9 10 11 15 59 40 32 52 50 95 216 378 409 284 290 34 30 50 38 36 48 51 124 301 418 349 286 306 313 320 333 320 333 320 331 320 333 320 333 333 333 333 333 333 333 333 333 333 333 333 333 335 256 <t< td=""><td>45</td><td>152</td><td></td><td></td><td>and the second se</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<> | 45 | 152 | | | and the second se | | | | | | | | |
| Hour Total : 11.316 A Peak Hour begins : 7.15 AM Peak Volume : 784 AM Peak Hour Factor : 0.8 A Peak Hour begins : 16:45 PM Peak Volume : 927 PM Peak Hour Factor : 0.9 1-Oct-19 Total Volume for All Lanes End Time 00 01 02 03 04 05 06 07 08 09 10 11 15 59 40 32 52 50 95 216 378 409 284 290 344 30 50 38 36 48 51 124 301 418 349 286 306 315 45 46 33 46 69 81 159 274 445 367 323 320 333 90 30 32 69 85 195 334 395 319 260 253 333 90 303 328 346 391 352 466 235 256 214 160 92 | 00 | 159 | | | | | | | | | | | _ |
| A Peak Hour begins : 7:15 AM Peak Volume : 784 AM Peak Hour Factor : 0.8 A Peak Hour begins : 16:45 PM Peak Volume : 927 PM Peak Hour Factor : 0.8 I-Oct-19 Total Volume for All Lanes Total Volume for All Lanes End Time 00 01 02 03 04 05 06 07 08 09 10 11 15 59 40 32 52 50 95 216 378 409 284 290 34: 30 50 38 36 48 51 124 301 418 349 286 306 313 45 46 33 46 69 81 159 274 445 367 323 320 250 333 4r Total 194 141 146 238 267 573 1,125 1,636 1,444 1,153 1,169 1,333 15 328 331 389 367 <th< td=""><td>Hr Total</td><td>629</td><td>647</td><td>776</td><td>755</td><td>825</td><td>896</td><td>644</td><td>498</td><td>431</td><td>335</td><td>224</td><td>159</td></th<> | Hr Total | 629 | 647 | 776 | 755 | 825 | 896 | 644 | 498 | 431 | 335 | 224 | 159 |
| Link S9 40 32 52 50 95 216 378 409 284 290 344 30 50 38 36 48 51 124 301 418 349 286 306 315 45 46 33 46 69 81 159 274 445 367 323 320 333 00 39 30 32 69 85 195 334 395 319 260 253 333 Hr Total 194 141 146 238 267 573 1,125 1,636 1,444 1,153 1,169 1,33 End Time 12 13 14 15 16 17 18 19 20 21 22 23 15 328 331 389 367 382 448 346 239 219 158 113 84 30 328 334 397 466 335 256 214 160 <td< td=""><td>M Peak Hour A Peak Hour</td><td>begins</td><td>7:15</td><td></td><td></td><td>PM Peak</td><td>Volume</td><td>: 927</td><td>nes</td><td></td><td></td><td></td><td></td></td<> | M Peak Hour A Peak Hour | begins | 7:15 | | | PM Peak | Volume | : 927 | nes | | | | |
| 15 59 40 32 52 50 95 216 378 409 284 290 34,333 30 50 38 36 48 51 124 301 418 349 286 306 315 45 46 33 46 69 81 159 274 445 367 323 320 337 00 39 30 32 69 85 195 334 395 319 260 253 333 Hr Total 194 141 146 238 267 573 1,125 1,636 1,444 1,153 1,169 1,333 End Time 12 13 14 15 16 17 18 19 20 21 22 23 15 328 331 389 367 382 448 346 239 219 158 113 84 30 328 346 391 352 466 335 256 214 < | End Time | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 |
| 30 50 38 36 48 51 124 301 418 349 286 306 319 45 46 33 46 69 81 159 274 445 367 323 320 33' 00 39 30 32 69 85 195 334 395 319 260 253 33' 00 39 30 32 69 85 195 334 395 319 260 253 33' Hr Total 194 141 146 238 267 573 1,125 1,636 1,444 1,153 1,169 1,33 End Time 12 13 14 15 16 17 18 19 20 21 22 23 15 328 331 389 367 382 448 346 239 219 158 113 84 30 330 328 346 391 352 466 335 256 | | | | | | 50 | 95 | 216 | 378 | 409 | 284 | 290 | 342 |
| OC 39 30 32 69 85 195 334 395 319 260 253 333 Hr Total 194 141 146 238 267 573 1,125 1,636 1,444 1,153 1,169 1,33 End Time 12 13 14 15 16 17 18 19 20 21 22 23 15 328 331 389 367 382 448 346 239 219 158 113 84 30 330 328 346 391 352 466 335 256 214 160 92 67 45 329 364 376 354 397 466 287 221 180 167 105 67 00 311 339 367 386 415 384 258 253 153 128 91 74 <tr< td=""><td></td><td></td><td>38</td><td></td><td>48</td><td>51</td><td>124</td><td>301</td><td>418</td><td>349</td><td>286</td><td>306</td><td>319</td></tr<> | | | 38 | | 48 | 51 | 124 | 301 | 418 | 349 | 286 | 306 | 319 |
| 00 39 30 32 69 85 195 334 395 319 260 253 333 Hr Total 194 141 146 238 267 573 1,125 1,636 1,444 1,153 1,169 1,33 End Time 12 13 14 15 16 17 18 19 20 21 22 23 15 328 331 389 367 382 448 346 239 219 158 113 84 30 330 328 346 391 352 466 335 256 214 160 92 67 45 329 364 376 354 397 466 287 221 180 167 105 67 00 311 339 367 386 415 384 258 253 153 128 91 74 <tr< td=""><td></td><td>46</td><td>33</td><td>46</td><td>69</td><td>81</td><td>159</td><td>274</td><td>445</td><td>367</td><td>323</td><td></td><td>337</td></tr<> | | 46 | 33 | 46 | 69 | 81 | 159 | 274 | 445 | 367 | 323 | | 337 |
| End Time 12 13 14 15 16 17 18 19 20 21 22 23 15 328 331 389 367 382 448 346 239 219 158 113 84 30 330 328 346 391 352 466 335 256 214 160 92 67 45 329 364 376 354 397 466 287 221 180 167 105 67 00 311 339 367 386 415 384 258 253 153 128 91 74 Hr Total 1,298 1,362 1,478 1,498 1,546 1,764 1,226 969 766 613 401 292 Hour Total : | | | | | 69 | 85 | 195 | 334 | 395 | 319 | 260 | 253 | 333 |
| 15 328 331 389 367 382 448 346 239 219 158 113 84 30 330 328 346 391 352 466 335 256 214 160 92 67 45 329 364 376 354 397 466 287 221 180 167 105 67 00 311 339 367 386 415 384 258 253 153 128 91 74 Hr Total 1,298 1,362 1,478 1,498 1,546 1,764 1,226 969 766 613 401 292 Hour Total 22,630 22.630 24.630 24.630 24.630 24.630 24.630 | Hr Total | 194 | 141 | 146 | 238 | 267 | 573 | 1,125 | 1,636 | 1,444 | 1,153 | 1,169 | 1,331 |
| 15 328 331 389 367 382 448 346 239 219 158 113 84 30 330 328 346 391 352 466 335 256 214 160 92 67 45 329 364 376 354 397 466 287 221 180 167 105 67 00 311 339 367 386 415 384 258 253 153 128 91 74 Hr Total 1,298 1,362 1,478 1,498 1,546 1,764 1,226 969 766 613 401 292 Hour Total 22,630 22.630 24.630 24.630 24.630 24.630 24.630 | | | | | 1.2 | 1 | 1.5- | | | | | | |
| 30 330 328 346 391 352 466 335 256 214 160 92 67 45 329 364 376 354 397 466 287 221 180 167 105 67 00 311 339 367 386 415 384 258 253 153 128 91 74 Hr Total 1,298 1,362 1,478 1,498 1,546 1,764 1,226 969 766 613 401 292 Hour Total : 22,630 530 | the second se | | | | | | | | | | | | 23 |
| 45 329 364 376 354 397 466 287 221 180 167 105 67 00 311 339 367 386 415 384 258 253 153 128 91 74 Hr Total 1,298 1,362 1,478 1,498 1,546 1,764 1,226 969 766 613 401 292 Hour Total : 22,630 : : 22,630 : <td:< td=""> : <td:< td=""></td:<></td:<> | | | | | | | | | | | | | |
| OO 311 339 367 386 415 384 258 253 153 128 91 74 Hr Total 1,298 1,362 1,478 1,498 1,546 1,764 1,226 969 766 613 401 292 Hour Total : 22,630 : : 22,630 : <td:< td=""> <td:< td=""> : <t< td=""><td></td><td></td><td></td><td></td><td>and the second sec</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td:<></td:<> | | | | | and the second sec | | | | | | | | |
| Hr Total 1,298 1,362 1,478 1,498 1,546 1,764 1,226 969 766 613 401 292 Hour Total : 22,630 : <td:< td=""> : <td:< td=""> <td:< td=""></td:<></td:<></td:<> | | | | | | | | | | | | | |
| Hour Total : 22,630 | | | | and the second se | the second se | | Contraction of the local division of the loc | The second s | - | | the second s | | |
| | Hr Total | 1,298 | 1,362 | 1,478 | 1,498 | 1,546 | 1,764 | 1,226 | 969 | 766 | 613 | 401 | 292 |
| M Peak Hour begins : 7:15 AM Peak Volume : 1,667 AM Peak Hour Factor : 0.5 | Hr Total | 1,298 | 1,362 | 1,478 | 1,498 | 1,546 | 1,764 | 1.226 | 969 | 766 | 613 | 401 | 29 |

| Start Date | : October 1, 2019 | Start Time | 00:00 |
|---------------|-------------------|------------|-------|
| Stop Date | : October 2, 2019 | Stop Time | 24:00 |
| · · · · · · · | N -11 | | |

County : Polk Location : SR 544, East of Sunset Drive

| | | | | | East | tbound Vol | ume for Lai | ne 1 | | | | |
|--|---|---|--|--|---|--|---|--|---|--|---|---|
| End Time | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 1 11 |
| 15 | 29 | 18 | 18 | 23 | 24 | 60 | 112 | 167 | 164 | 135 | 135 | 165 |
| 30 | 14 | 14 | 18 | 15 | 21 | 63 | 169 | 203 | 149 | 129 | 146 | 160 |
| 45 | 15 | 14 | 21 | 22 | 30 | 94 | 125 | 209 | 157 | 149 | 161 | 148 |
| 00 | 21 | 18 | 16 | 28 | 40 | 101 | 160 | 199 | 163 | 112 | 120 | 139 |
| Hr Total | 79 | 64 | 73 | 88 | 115 | 318 | 566 | 778 | 633 | 525 | 562 | 612 |
| | 1.1 | | | | | | | | - | 1.1.1 | | |
| End Time | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 15 | 173 | 157 | 160 | 151 | 150 | 199 | 151 | 100 | 89 | 66 | 44 | 42 |
| 30 | 138 | 157 | 164 | 185 | 149 | 233 | 137 | 104 | 95 | 77 | 41 | 24 |
| 45 | 159 | 166 | 166 | 146 | 178 | 195 | 133 | 94 | 69 | 65 | 47 | 30 |
| 00 | 135 | 160 | 163 | 181 | 166 | 168 | 121 | 123 | 57 | 59 | 38 | 31 |
| Hr Total | 605 | 640 | 653 | 663 | 643 | 795 | 542 | 421 | 310 | 267 | 170 | 127 |
| 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 | rbegins | : 10,249 : 7:00 : 17:00 | | | AM Peak | Volume | : 778 : 795 ume for La | 2003 | | Hour Facto Hour Facto | | 0.9 |
| 1-001-19 | - | | - | | 1000 | | | | | | - | |
| End Time | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 |
| 15 | 27 | 20 | 9 | 19 | 19 | 29 | 83 | 158 | 196 | 131 | 131 | 153 |
| 30 | 34 | 20 | 17 | 27 | 26 | 48 | 109 | 173 | 171 | 146 | 133 | 147 |
| 45 | 28 | 17 | 23 | 39 | 37 | 54 | 102 | 171 | 172 | 153 | 139 | 153 |
| 00 | 18 | 11 | 14 | 35 | 42 | 66 | 128 | 153 | 134 | 126 | 120 | 171 |
| Hr Total | 107 | 68 | 63 | 120 | 124 | 197 | 422 | 655 | 673 | 556 | 523 | 624 |
| | | | | | | | | | | | | |
| End Time | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 15 | 135 | 144 | 191 | 167 | 185 | 200 | 163 | 117 | 111 | 83 | 49 | 39 |
| 30 | 155 | 140 | 158 | 158 | 172 | 188 | 159 | 116 | 96 | 79 | 45 | 35 |
| 45 | 132 | 170 | 177 | 177 | 186 | 228 | 128 | 105 | 100 | 83 | 51 | 32 |
| 00 | 140 | 143 | 170 | 170 | 204 | 173 | 110 | 106 | 74 | 59 | 52 | 36 |
| Hr Total | 562 | 597 | 696 | 672 | 747 | 789 | 560 | 444 | 381 | 304 | 197 | 142 |
| | | | | | | | | | | | | |
| 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 | begins : | 10,223 7:15 16:45 | | | AM Peak \ PM Peak \ To | /olume | : 693 : 820 for All Lan | es | | Hour Facto Hour Facto | | 0.88 |
| 4 Hour Total M Peak Hour M Peak Hour | begins : | 7:15 | 02 | 03 | PM Peak \ | /olume | : 820 | es 07 | | | | 0.90 |
| 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 | begins : begins : | 7:15 16:45 01 38 | 27 | 42 | PM Peak \ To 04 .43 | Volume tal Volume 05 89 | : 820 for All Lan 06 195 | 07 325 | PM PeaK | Hour Facto | 10 10 266 | 0.90 |
| 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time | begins : begins : 00 | 7:15 16:45 01 | | | PM Peak \ To 04 43 47 | Volume tal Volume 05 89 111 | : 820 for All Lan 06 195 278 | 07 325 376 | PM PeaK | 09 266 275 | 10 266 279 | 0.90 11 318 307 |
| 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 | begins : begins : 00 56 48 43 | 7:15 16:45 01 38 34 31 | 27 35 44 | 42 42 61 | PM Peak V To 04 43 47 67 | /olume tal Volume 05 89 111 148 | : 820 for All Lan 06 195 278 227 | 07 325 376 380 | 08 360 320 329 | 09 266 275 302 | 10 266 279 300 | 0.90 11 318 307 301 |
| 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 | begins : begins : 00 56 48 43 39 | 7:15 16:45 01 38 34 31 29 | 27 35 44 30 | 42 42 61 63 | PM Peak V To 04 43 47 67 82 | /olume tal Volume 05 89 111 148 167 | : 820 for All Lan 06 195 278 227 288 | 07 325 376 380 352 | PM PeaK 0 08 360 320 329 297 | 09 266 275 302 238 | 10 266 279 300 240 | 0.90 11 318 307 301 310 |
| 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 | begins : begins : 00 56 48 43 | 7:15 16:45 01 38 34 31 | 27 35 44 | 42 42 61 | PM Peak V To 04 43 47 67 | /olume tal Volume 05 89 111 148 | : 820 for All Lan 06 195 278 227 | 07 325 376 380 | 08 360 320 329 | 09 266 275 302 | 10 266 279 300 | 0.90 11 318 307 301 310 |
| 4 Hour Total M Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total | begins begins 00 56 48 43 39 186 | 7:15 16:45 01 38 34 31 29 132 | 27 35 44 30 136 | 42 42 61 63 208 | PM Peak V To 04 43 47 67 82 239 | /olume tal Volume 05 89 111 148 167 515 | : 820 for All Lan 06 195 278 227 288 988 | 07 325 376 380 352 1.433 | 08 360 320 329 297 1,306 | 09 266 275 302 238 1,081 | 10 266 279 300 240 1,085 | 0,90 11 318 307 301 310 1,236 |
| 4 Hour Total M Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total End Time | begins : begins : 00 : 56 : 48 : 39 : 186 : | 7:15 16:45 01 38 34 31 29 132 | 27 35 44 30 136 14 | 42 42 61 63 208 | PM Peak V To 04 43 47 67 82 239 16 | /olume tal Volume 05 89 111 148 167 515 17 | : 820 for All Lan 06 195 278 227 288 988 988 | 07 325 376 380 352 1.433 | PM PeaK 1 08 360 320 329 297 1,306 20 | 09 266 275 302 238 1,081 21 | 10 266 279 300 240 1,085 | 0,90 11 318 307 301 310 1,236 23 |
| 4 Hour Total M Peak Hour Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 | begins : begins : 00 56 48 43 39 186 12 308 | 7:15 16:45 01 38 34 31 29 132 13 301 | 27 35 44 30 136 14 351 | 42 42 61 63 208 15 318 | PM Peak \ To 04 43 47 67 82 239 16 335 | /olume tal Volume 05 89 111 148 167 515 17 399 | : 820 for All Lan 06 195 278 227 288 988 988 18 314 | 07 325 376 380 352 1.433 19 217 | PM PeaK 1 08 360 320 329 297 1,306 20 200 | 09 266 275 302 238 1,081 21 149 | 10 266 279 300 240 1,085 | 0.90 11 318 307 301 310 1,236 23 81 |
| 4 Hour Total M Peak Hour Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30 | begins : begins : 00 56 48 43 39 186 12 308 293 | 7:15 16:45 01 38 34 31 29 132 13 301 297 | 27 35 44 30 136 14 351 322 | 42 42 61 63 208 15 318 343 | PM Peak \ To 04 43 47 67 82 239 16 335 321 | Volume tal Volume 05 89 111 148 167 515 17 399 421 | : 820 for All Lan 06 195 278 227 288 988 988 18 314 296 | 07 325 376 380 352 1,433 19 217 220 | PM PeaK 1 08 360 320 329 297 1,306 20 200 191 | 09 266 275 302 238 1,081 21 149 156 | 10 266 279 300 240 1,085 22 93 86 | 0.90 11 318 307 301 310 1,236 23 81 59 |
| 4 Hour Total M Peak Hour Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30 45 30 45 | begins : begins : 00 : 56 : 43 : 39 : 186 : 308 : 293 : | 7:15 16:45 01 38 34 31 29 132 13 29 132 13 297 336 | 27 35 44 30 136 14 351 322 343 | 42 42 61 63 208 15 318 343 323 | PM Peak N To 04 43 47 67 82 239 16 335 321 364 | /olume 05 89 111 148 167 515 17 399 421 423 | : 820 for All Lan 06 195 278 227 288 988 988 18 314 296 261 | 07 325 376 380 352 1.433 19 217 220 199 | PM Peak 1 08 360 320 297 1,306 20 200 191 169 | 09 266 275 302 238 1,081 21 149 156 148 | 10 266 279 300 240 1,085 22 93 86 98 | 0.90 11 318 307 301 1,236 23 81 59 62 |
| 4 Hour Total M Peak Hour Peak Hour I-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30 | begins : begins : 00 56 48 43 39 186 12 308 293 | 7:15 16:45 01 38 34 31 29 132 13 301 297 | 27 35 44 30 136 14 351 322 | 42 42 61 63 208 15 318 343 | PM Peak \ To 04 43 47 67 82 239 16 335 321 | Volume tal Volume 05 89 111 148 167 515 17 399 421 | : 820 for All Lan 06 195 278 227 288 988 988 18 314 296 | 07 325 376 380 352 1,433 19 217 220 | PM PeaK 1 08 360 320 329 297 1,306 20 200 191 | 09 266 275 302 238 1,081 21 149 156 | 10 266 279 300 240 1,085 22 93 86 | 0.90 11 318 307 301 310 1,236 23 81 59 |

| Start Date | : October 1, 2019 | Start Time | 00:00 |
|------------|-------------------|------------|-------|
| Stop Date | : October 2, 2019 | Stop Time | 24:00 |
| County | : Polk | | |

Location : Fairview Village, North of SR 544

| | | | | | | | Construction of the | | | | | _ |
|--|---|--|---|--|--|---|--|---|---|---|---|--|
| End Time | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 1 |
| 00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| Hr Total | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 6 | 7 |
| | | | | | | | | | | | | |
| End Time | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 15 | 2 | 1 | 3 | 3 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 30 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | 1 | 2 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 00 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Hr Total | 5 | 4 | 4 | 6 | 3 | 4 | 0 | 3 | 0 | 0 | 0 | 0 |
| Hour Total M Peak Hour A Peak Hour | | 46 10:30 13:15 | | 1 | AM Peak \ PM Peak \ | | : 8 : 6 | | | Hour Facto Hour Facto | | 0.6 |
| 1-Oct-19 | | | | | South | bound Vo | lume for La | ne 2 | | | | |
| End Time | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 |
| 15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 3 |
| 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 2 | 0 | 2 |
| 00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| Hr Total | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 5 | 6 | 4 | 5 |
| | | | | 1.1 | | | | | | | | |
| End Time | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 15 | 1 | 1 | 2 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 30 | 3 | 1 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | 0 | 0 | 0 | 1 - | 0 | 0 | 0 | 1 | 0 | 0 | D | 0 |
| 00 | 2 | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Hr Total | 6 | 2 | 4 | 8 | 4 | 1 | 1 | 2 | 0 | 0 | 0 | 0 |
| | | 50 | | | AM Peak V PM Peak V | | : 7 | | | Hour Factor Hour Factor | | 0.58 |
| Hour Total M Peak Hour M Peak Hour 1-Oct-19 | | 10:45 15:00 | | | | | for All Lan | | | | | |
| 4 Peak Hour 4 Peak Hour 1-Oct-19 | | | 02 | 03 | | | | | 08 | 09 | 10 | n |
| / Peak Hour 1 Peak Hour 1-Oct-19 | begins : | 15:00 | 02 0 | 03 | То | tal Volume | for All Lan | es | 08 1 | 09 1 | 10 4 | 11 |
| M Peak Hour M Peak Hour 1-Oct-19 End Time | begins : 00 | 15:00 | | the second s | To | tal Volume 05 | for All Lan | es 07 | | | | |
| 4 Peak Hour 4 Peak Hour 1-Oct-19 End Time 15 | begins : 00 0 | 15:00 01 0 | 0 | 0 | 04 0 | tal Volume 05 0 | for All Lan | 07 0 | 1 | 1 | 4 | 3 |
| 4 Peak Hour 4 Peak Hour 1-Oct-19 End Time 15 30 | 00 0 0 | 15:00 01 0 | 0 | 0 | 04 0 0 | 05 0 | for All Lan | 07 0 0 | 1 | 1 3 | 4 | 3 |
| A Peak Hour A Peak Hour I-Oct-19 End Time 15 30 45 00 | 00 0 0 0 0 | 15:00 01 0 0 | 0 0 0 | 0 | 04 0 0 0 | 05 0 0 0 | for All Lan | 07 0 0 2 | 1 1 3 | 1 3 2 | 4 1 3 | 3 5 3 |
| A Peak Hour A Peak Hour I-Oct-19 End Time 15 30 45 00 | 00 0 0 0 0 0 0 0 0 0 0 0 0 0 | 01 0 0 0 0 0 | 0 0 0 | 0 0 0 0 | 04 0 0 0 0 0 | 05 0 0 0 0 0 | for All Lan 06 1 0 0 1 | 07 0 0 2 0 | 1 1 3 0 | 1 3 2 2 | 4 1 3 2 | 3 5 3 |
| M Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time End Time | 00 0 0 0 0 0 0 0 12 | 15:00 0 0 0 0 13 | 0 0 0 0 0 | 0 0 0 0 0 | To 04 0 0 0 0 0 | 05 0 0 0 0 0 0 0 17 | for All Lan 06 1 0 1 2 18 | es 07 0 2 0 2 0 2 19 | 1 1 3 0 5 | 1 3 2 2 8 | 4 1 3 2 10 22 | 3 5 3 1 12 23 |
| A Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 | 00 0 0 0 0 0 0 0 0 12 3 | 15:00 0 0 0 0 0 13 2 | 0 0 0 0 14 5 | 0 0 0 0 15 6 | To 04 0 0 0 0 0 0 0 16 2 | 05 0 0 0 0 0 0 0 0 17 2 | for All Lan 06 1 0 1 2 18 1 1 | es 07 0 2 0 2 2 19 1 | 1 1 3 0 5 20 0 | 1 3 2 2 8 2 8 | 4 1 3 2 10 22 0 | 3 5 3 1 12 23 0 |
| A Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 Hr Total End Time 15 30 | 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 15:00 0 0 0 0 0 13 2 1 | 0 0 0 0 14 5 1 | 0 0 0 0 15 6 4 | To 04 0 0 0 0 0 0 0 0 16 2 2 | tal Volume 05 0 0 0 0 0 17 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | for All Lan 06 1 0 1 2 18 1 0 | es 07 0 2 0 2 19 1 0 | 1 1 3 0 5 20 0 0 0 | 1 3 2 2 8 8 21 0 0 | 4 1 3 2 10 22 0 0 | 3 5 3 1 12 23 0 0 |
| M Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 45 End Time 15 30 45 | 00 0 0 0 0 0 0 0 12 3 5 1 | 15:00 0 0 0 0 13 1 2 | 0 0 0 0 14 5 1 1 | 0 0 0 0 15 6 4 2 | To 04 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | tal Volume 05 0 0 0 0 0 17 2 0 2 | for All Lan 06 1 0 1 2 18 1 0 0 0 | es 07 0 2 0 2 2 0 2 2 19 1 0 1 | 1 1 3 0 5 20 0 0 0 0 | 1 3 2 2 8 2 8 21 0 0 0 0 | 4 1 3 2 10 22 0 0 0 0 | 3 5 3 1 12 23 0 0 0 0 |
| A Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30 45 00 45 00 45 00 45 00 45 00 00 15 15 15 15 15 15 15 15 15 15 | 00 0 0 0 0 0 0 0 0 0 0 0 12 3 5 1 2 2 | 15:00 0 0 0 0 13 2 1 2 1 1 | 0 0 0 0 0 14 5 1 1 1 | 0 0 0 0 0 15 6 4 2 2 | To 04 0 0 0 0 0 16 2 1 2 1 2 | tal Volume 05 0 0 0 0 0 17 2 0 2 1 | for All Lan 06 1 0 1 2 18 1 0 0 0 0 | es 07 0 2 0 2 19 1 0 1 3 | 1 1 3 0 5 20 0 0 0 0 0 0 | 1 3 2 2 8 2 8 2 1 0 0 0 0 0 0 | 4 1 3 2 10 22 0 0 0 0 0 | 3 5 3 1 12 23 0 0 0 0 0 0 |
| M Peak Hour A Peak Hour 1-Oct-19 End Time 15 30 45 End Time 15 30 45 | 00 0 0 0 0 0 0 0 12 3 5 1 | 15:00 0 0 0 0 13 1 2 | 0 0 0 0 14 5 1 1 | 0 0 0 0 15 6 4 2 | To 04 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | tal Volume 05 0 0 0 0 0 17 2 0 2 | for All Lan 06 1 0 1 2 18 1 0 0 0 | es 07 0 2 0 2 2 0 2 2 19 1 0 1 | 1 1 3 0 5 20 0 0 0 0 | 1 3 2 2 8 2 8 21 0 0 0 0 | 4 1 3 2 10 22 0 0 0 | 3 5 3 1 12 23 0 0 0 0 |

| Start Date | : October 1, 2019 | Start Time | 00:00 |
|------------|-------------------|------------|-------|
| Stop Date | : October 2, 2019 | Stop Time | 24:00 |
| County | : Polk | | |

Location : Lake Hamilton Drive, South of SR 544

| | | | | | 0.000 | - | | | | | | |
|--|--|---|---|---|---|--|---|---|--|---|---|--|
| End Time | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 |
| 15 | 2 | 2 | 3 | 9 | 7 | 11 | 21 | 39 | 27 | 23 | 18 | 21 |
| 30 | 1 | 2 | 0 | 3 | 5 | 12 | 24 | 40 | 32 | 20 | 20 | 24 |
| 45 | 1 | 0 | 3 | 9 | 13 | 11 | 43 | 46 | 29 | 24 | 19 | 22 |
| 00 | 2 | 1 | 2 | 6 | 3 | 22 | 32 | 35 | 32 | 12 | 17 | 24 |
| Hr Total | 6 | 5 | 8 | 27 | 28 | 56 | 120 | 160 | 120 | 79 | 74 | 91 |
| | | | | | | | | | | | | |
| End Time | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 15 | 32 | 21 | 26 | 29 | 29 | 37 | 23 | 20 | 11 | 6 | 4 | 1 |
| 30 | 18 | 18 | 24 | 34 | 38 | 30 | 16 | 24 | 11 | 8 | 4 | 5 |
| 45 | 20 | 33 | 27 | 26 | 31 | 27 | 14 | 13 | 10 | 7 | 2 | 3 |
| 00 | 23 | 23 | 23 | 35 | 31 | 26 | 14 | 11 | 11 | 4 | 2 | 0 |
| Hr Total | 93 | 95 | 100 | 124 | 129 | 120 | 67 | 68 | 43 | 25 | 12 | 9 |
| 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 | | : 1,659 : 7:00 : 16:15 | | | AM Peak PM Peak | Volume | : 160 : 137 Iume for La | | | Hour Facto Hour Facto | | 0.8 0.9 |
| 1-001-19 | | | | | Sout | nbouna vo | lume for La | ne z | | | | |
| End Time | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 |
| 15 | 7 | 2 | 2 | 3 | 0 | 3 | 13 | 36 | 35 | 18 | 26 | 21 |
| 30 | 3 | 2 | 3 | 5 | 3 | 3 | 14 | 30 | 33 | 12 | 22 | 13 |
| 45 | 3 | 1 | 1 | 3 | 3 | 6 | 12 | 41 | 42 | 27 | 20 | 27 |
| 00 | 2 | 2 | 2 | 3 | 5 | 17 | 23 | 32 | 15 | 19 | 17 | 20 |
| Hr Total | 15 | 7 | 8 | 14 | n | 29 | 62 | 139 | 125 | 76 | 85 | 81 |
| End Time 15 | 12 18 | 13 18 | 14 28 | 15 34 | 16 35 | 17 38 | 18 35 | 19 17 | 20 19 | 21 9 | 22 15 | 23 |
| 30 | 29 | 22 | 29 | 38 | 33 | 43 | 31 | 20 | 16 | 11 | 4 | 5 |
| 45 | 24 | 10 | 36 | 20 | 26 | 37 | 22 | 13 | 13 | 16 | 7 | 4 |
| 45 | | | 30 | 31 | 37 | 35 | 20 | 19 | 19 | 10 | 5 | 7 |
| 00 | 21 | 20 | | | 131 | 163 | 100 | | | | | 1 |
| | 21 92 | 20 70 | 123 | 123 | 151 | 153 | 108 | 69 | 67 | 46 | 31 | 20 |
| 00 | 92 begins | | 123 | 123 | AM Peak PM Peak | Volume Volume | : 142 : 155 for All Lan | | AM Peak I | 46 Hour Facto Hour Facto | 31 | 0.8 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 | 92 begins begins | 70 1.685 7:45 16:45 | | | AM Peak PM Peak To | Volume Volume Ital Volume | : 142 : 155 for All Lan | 25 | AM Peak I PM PeaK I | Hour Facto Hour Facto | 31 | 0.8 0.9 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time | 92 begins begins | 70 1.685 7:45 16:45 | 02 | 03 | AM Peak PM Peak Tc 04 | Volume Volume Ital Volume | : 142 : 155 for All Lan | es 07 | AM Peak I PM PeaK I 08 | Hour Facto Hour Facto 09 | 31 | 0.8: 0.9(|
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 | 92 begins : begins : 00 9 | 70 1.685 7:45 16:45 01 4 | 02 | 03 12 | AM Peak PM Peak Tc 04 7 | Volume Volume tal Volume 05 14 | : 142 : 155 for All Land 06 34 | es 07 75 | AM Peak I PM PeaK I 08 62 | Hour Facto Hour Facto 09 41 | 31 10 44 | 0.8 0.9 11 42 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 | 92 begins : begins : 00 9 4 | 70 1.685 7:45 16:45 01 4 4 | 02 5 3 | 03 12 8 | AM Peak PM Peak Tc 04 7 8 | Volume Volume Ital Volume 05 14 15 | : 142 : 155 for All Land 06 34 38 | es 07 75 70 | AM Peak I PM PeaK I 08 62 65 | Hour Facto Hour Facto 09 41 32 | 31 10 44 42 | 20 0.8: 0.90 11 42 37 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 | 92 begins : begins : 00 9 4 4 | 70 1.685 7:45 16:45 01 4 4 1 | 02 5 3 4 | 03 12 8 12 | AM Peak PM Peak Tc 04 7 8 16 | Volume Volume tal Volume 05 14 15 17 | : 142 : 155 for All Land 06 34 38 55 | es 07 75 70 87 | AM Peak I PM PeaK I 08 62 65 71 | Hour Facto Hour Facto 09 41 32 51 | 31 10 44 42 39 | 20 0.8: 0.90 11 42 37 49 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 | 92 begins : begins : 00 9 4 4 4 4 | 70 1.685 7:45 16:45 01 4 4 1 3 | 02 5 3 4 4 | 03 12 8 12 9 | AM Peak PM Peak Tc 04 7 8 16 8 | Volume Volume tal Volume 05 14 15 17 39 | : 142 : 155 for All Land 06 34 38 55 55 | 07 75 70 87 67 | AM Peak I PM PeaK I 08 62 65 71 47 | Hour Facto Hour Facto 09 41 32 51 31 | 31 10 44 42 39 34 | 20 0.8: 0.90 11 42 37 49 44 |
| 00 Hr Total 4 Hour Total M Peak Hour V Peak Hour 1-Oct-19 End Time 15 30 45 | 92 begins : begins : 00 9 4 4 | 70 1.685 7:45 16:45 01 4 4 1 | 02 5 3 4 | 03 12 8 12 | AM Peak PM Peak Tc 04 7 8 16 | Volume Volume tal Volume 05 14 15 17 | : 142 : 155 for All Land 06 34 38 55 | es 07 75 70 87 | AM Peak I PM PeaK I 08 62 65 71 | Hour Facto Hour Facto 09 41 32 51 | 31 10 44 42 39 | 20 0.8: 0.90 11 42 37 49 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total | 92 begins : begins : 9 4 4 4 21 | 70 1.685 7:45 16:45 01 4 1 3 12 | 02 5 3 4 4 16 | 03 12 8 12 9 41 | AM Peak PM Peak Tc 04 7 8 16 8 39 | Volume Volume 05 14 15 17 39 85 | : 142 : 155 for All Land 06 34 38 55 55 182 | 07 75 70 87 67 299 | AM Peak 1 PM Peak 1 08 62 65 71 47 245 | Hour Facto Hour Facto 09. 41 32 51 31 155 | 31 10 44 42 39 34 159 | 0.8: 0.9(11 42 37 49 44 172 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time | 92 begins : begins : 9 4 4 4 21 12 | 70 1.685 7:45 16:45 01 4 1 3 12 13 | 02 5 3 4 4 16 | 03 12 8 12 9 41 | AM Peak PM Peak V Tc 04 7 8 16 8 39 | Volume Volume 14 15 17 39 85 17 | : 142 : 155 for All Land 06 34 38 55 55 182 18 | 07 75 70 87 67 299 19 | AM Peak I PM Peak I 62 65 71 47 245 20 | Hour Facto Hour Facto 09 41 32 51 31 155 21 | 31 10 44 42 39 34 159 22 | 0.8: 0.9(11 42 37 49 44 172 23 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 | 92 begins : begins : 9 9 4 4 4 4 21 12 50 | 70 1.685 7:45 16:45 01 4 4 1 3 12 13 39 | 02 5 3 4 4 4 16 | 03 12 8 12 9 41 15 63 | AM Peak PM Peak V Tc 04 7 8 16 8 39 16 64 | Volume Volume 05 14 15 17 39 85 17 75 | : 142 : 155 for All Land 06 34 38 55 55 182 18 18 58 | 07 75 70 87 67 299 | AM Peak I PM Peak I 62 65 71 47 245 20 30 | Hour Facto Hour Facto 09 41 32 51 31 155 21 15 | 31 10 44 42 39 34 159 22 19 | 20 0.85 0.90 11 42 37 49 44 172 23 5 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30 | 92 begins : begins : 9 4 4 4 21 12 50 47 | 70 1.685 7:45 16:45 01 4 4 1 3 12 13 39 40 | 02 5 3 4 4 4 16 | 03 12 8 12 9 41 15 63 72 | AM Peak PM Peak Y Tc 04 7 8 16 8 39 16 64 71 | Volume /olume 05 14 15 17 39 85 17 75 73 | : 142 : 155 for All Land 06 34 38 55 55 182 18 18 58 47 | 25 07 75 70 87 67 299 19 37 44 | AM Peak I PM Peak I 08 62 65 71 47 245 20 30 27 | Hour Facto Hour Facto 09 41 32 51 31 155 21 15 19 | 31 10 44 42 39 34 159 22 19 8 | 0.8: 0.9(11 42 37 49 44 172 23 5 10 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30 45 | 92 begins : begins : 9 4 4 4 21 12 50 47 44 | 70 1.685 7:45 16:45 01 4 4 1 3 12 13 39 40 43 | 02 5 3 4 16 14 54 53 63 | 03 12 8 12 9 41 15 63 72 46 | AM Peak PM Peak Tc 04 7 8 16 8 39 39 16 64 71 57 | Volume Volume 05 14 15 17 39 85 17 85 17 73 64 | : 142 : 155 for All Land 06 34 38 55 55 182 18 18 18 58 47 36 | 25 07 75 70 87 67 299 19 37 44 26 | AM Peak I PM Peak I 08 62 65 71 47 245 20 30 27 23 | Hour Facto Hour Facto 09 41 32 51 31 155 21 15 19 23 | 31 10 44 42 39 34 159 22 19 8 9 | 0.8 0.8 0.9 11 42 37 49 44 172 23 5 10 7 |
| 00 Hr Total 4 Hour Total M Peak Hour M Peak Hour 1-Oct-19 End Time 15 30 45 00 Hr Total End Time 15 30 | 92 begins : begins : 9 4 4 4 21 12 50 47 | 70 1.685 7:45 16:45 01 4 4 1 3 12 13 39 40 | 02 5 3 4 4 4 16 | 03 12 8 12 9 41 15 63 72 | AM Peak PM Peak Y Tc 04 7 8 16 8 39 16 64 71 | Volume /olume 05 14 15 17 39 85 17 75 73 | : 142 : 155 for All Land 06 34 38 55 55 182 18 18 58 47 | 25 07 75 70 87 67 299 19 37 44 | AM Peak I PM Peak I 08 62 65 71 47 245 20 30 27 | Hour Facto Hour Facto 09 41 32 51 31 155 21 15 19 | 31 10 44 42 39 34 159 22 19 8 | 0.8: 0.9(11 42 37 49 44 172 23 5 10 |

| | | - | TRAF | State o | | | | of Tran | | | ARY | | TRAFFIC EN | 1750-020-01 GINEERING October 2020 |
|--|-------------------------|-------------------------|------------------------------|-------------------|--------------------------------|--------------------------------|-----------|-----------|--------------|------------------|---|--------------------------|------------|--|
| City: County: District: | | Wir | nter Hav 6 – Poll One | ven | | | | | Engin | | All | M Enginee une 29, 20 | | |
| Major Street: Minor Street: | | | Lake | SR 544 Hamilto | | • | | | anes anes | | | r Approach r Approach | | 50 45 |
| MUTCD Electron | nic Refe | rence to | Chapter | 4: <u>http</u> | <u>://mutc</u> | d.fhwa. | dot.gov | //pdfs/20 | 09r1 | <u>r2/part4.</u> | .pdf | | | |
| Volume Level C | | | | | | | | | | | | _ | _ | |
| 1. Is the pos | | | - | | - | | | | | | | ⊡Yes | No | |
| 2. Is the inte | ersectior | n in a bui | lt-up are | ea of an i | solated | comm | unity wi | ith a pop | oulati | on < 10, | 000? | Yes | ✓ No | |
| "70%" volun | ne level | may be ι | used if C | Question | 1 or 2 a | above i | s answe | ered "Ye | s" | | Y | 70% | 100% | |
| WARRANT 1 | - EIGH | T-HOU | R VEH | ICULA | r vol | UME | | | | | | | | |
| | | | | | | | | | | | ight hours. | ⊡ Yes | □No | |
| (should only i | | | an adeq | uate tria | l of othe | er alteri | natives | that cou | ld ca | use less | 6" satisfied delay and problems). | Yes | √No | |
| | Warrar | nt 1 is sa | | | | | | | | • | ight hours. | √Yes | No | |
| Condition A | <mark>A - Mini</mark> r | num Vel | nicular ' | <u>Volume</u> | _ | | | | | | - | | | |
| | | | | | | | | | | | Applicable: | 🗹 Yes | No | |
| Condition A | | | | | | | • | | | 100% | 6 Satisfied: | | ⊡ No | |
| intersecting signal. | traffic is | the prind | cipal rea | son to co | onsider | installii | ng a tra | ffic cont | rol | 80% | 6 Satisfied: | | . INO | |
| signal. | | | | | | | | | | 70% | 6 Satisfied: | Yes | ⊡No | |
| Number of traffic or | | | ng | | per hou t (total oproacl | of botł | - | | | | on minor- on only) | | | |
| Major | | Minor | | 100% ^a | 80% | b - | 70%° | 100% | а | 80% ^b | 70% [°] | | | |
| 1 | | 1 | | 500 | 400 |) | 350 | 150 | | 120 | 105 | | | |
| 2 or more | е | 1 | | 600 | 480 |) | 420 | 150 | | 120 | 105 | | | |
| 2 or more | e 2 | 2 or more | e | 600 | 480 |) | 420 | 200 | | 160 | 140 | | | |
| 1 | | 2 or more | Э | 500 | 400 |) | 350 | 200 | | 160 | 140 | J | | |
| ^a Basic Minim ^b Used for cor ^c May be usec <u>Record 8 hig</u> | nbination d when th | of Condit e major-si | treet spe <i>correspo</i> | ed exceed | ds 40 mr <i>jor-stree</i> | oh or in a <u>t and m</u> i | an isolat | ted comm | nunity | with a po | - | | 000 | |
| | am | am | шd | шd | mq | шd | шd | шd | | | | | | |
| Street | am - 8 a | am - 9 a | n - 12 | - 2 | ۳ ۲ | 4 | pm - 5 p | pm - 6 p | | | | | | |
| | 7 aı | 8 aı | 11 am | 1 pm | 2 pm | 3 pm | 4 pi | 5 pi | | | | | | |
| Major | 1,548 | 1,374 | 1,287 | 1,312 | 1,398 | 1,415 | 1,468 | 1,657 | Ex | isting V | olumes | | | |
| Minor | 160 | 120 | 91 | 95 | 100 | 124 | 129 | 120 | | | | | | |

Form 750-020-01 TRAFFIC ENGINEERING October 2020

State of Florida Department of Transportation TRAFFIC SIGNAL WARRANT SUMMARY

| Condition B - Interruption of Continuous Traffic | Applicable: | Yes | 🗌 No | |
|--|-----------------|------|------|--|
| Condition B is intended for application where Condition A is not satisfied and the | 100% Satisfied: | √Yes | No | |
| traffic volume on a major street is so heavy that traffic on the minor intersecting | 80% Satisfied: | ⊡Yes | 🗌 No | |
| street suffers excessive delay or conflict in entering or crossing the major street. | 70% Satisfied: | √Yes | No | |
| | | | | |

| | nes for moving ch approach | | per hour o t (total of t oproaches | ooth | | per hour o one directi | on minor- on only) |
|-----------|-------------------------------|-------------------|--|------|-------------------|---------------------------|-----------------------|
| Major | Minor | 100% ^a | 80% ^b | 70%° | 100% ^a | 80% ^b | 70%° |
| 1 | 1 | 750 | 600 | 525 | 75 | 60 | 53 |
| 2 or more | 1 | 900 | 720 | 630 | 75 | 60 | 53 |
| 2 or more | 2 or more | 900 | 720 | 630 | 100 | 80 | 70 |
| 1 | 2 or more | 750 | 600 | 525 | 100 | 80 | 70 |

^a Basic Minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

| Pocord 8 highest hours and the co | rroeponding major_stroot and r | minor-street volumes in the Instructions Sheet. |
|-----------------------------------|--------------------------------|---|
| necolu o nignest nouis anu the co | inesponding major-succi and i | |

| | | Eiç | ght High | est Hou | rs | | | |
|--------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|
| Street | 7 am - 8 am | 8 am - 9 am | 11 am - 12 pm | 1 pm - 2 pm | 2 pm - 3 pm | 3 pm - 4 pm | 4 pm - 5 pm | 5 pm - 6 pm |
| Major | 1,548 | 1,374 | 1,287 | 1,312 | 1,398 | 1,415 | 1,468 | 1,657 |
| Minor | 160 | 120 | 91 | 95 | 100 | 124 | 129 | 120 |

Existing Volumes

Appendix C

CAP-X and SPICE Analysis Summary Sheets

Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Lake Hamilton Drive |
| Date: | Design Year (2045) AM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction | East-West |

| | | | Tra | ffic Volume D | emand | | | | |
|----------------------|-----------------|--------|--------|---------------|----------------|---------|-----------|---------------|--|
| | | 1 | Volume | (Veh/hr) | | | Perce | nt (%) | |
| | U-Turn | Le | eft | Thru | Right | | | | |
| | ŋ | ¥ | 1 | | | Heavy \ | /ehicles | Volume Growth | |
| Eastbound | 0 | 2 | 2 | 1599 | 91 | 5.0 | 0% | 0.00% | |
| Westbound | 0 | 18 | 33 | 1864 | 3 | 5.0 | 0% | 0.00% | |
| Southbound | 0 | 2 | 2 | 1 | 3 | 0.00% | | 0.00% | |
| Northbound | 0 | 5 | 8 | 0 | 237 | 4.0 | 0% | 0.00% | |
| Adjustment Factor | 0.80 | 0.9 | 95 | | 0.85 | | | | |
| Suggested | 0.80 | 0.9 | 95 | | 0.85 | | | | |
| | Truck to | PCE Fa | ctor | | Suggested = | 2.00 | 2.00 2.00 | | |
| FDC | OT Context Zone | | | C | 3C-Suburban Co | ommerci | al | | |
| | | | 2-pha | se signal | Suggested = | 1800 | 1800 | | |
| | Lane Volume | | 3-pha | se signal | Suggested = | 1750 | | 1750 | |
| | | | 4-pha | se signal | Suggested = | 1700 | | 1700 | |

| Capacit | y Analys | sis for | Plannin | g of Junct | ions | |
|---|----------------------|----------------|---------------------|----------------------------------|-------------------------------|-------------------------------|
| | Sur | nmary Repo | ort - Page 2 of | 2 | | |
| | | | | | | |
| TYPE OF INTERSECTION | Overall v/c Ratio | V/C Ranking | Multimodal Score | Pedestrian Accommodation s | Bicycle Accommodation s | Transit Accommodatio ns |
| Signalized Restricted Crossing U-Lurn E-W | 0.67 | 1 | 6.3 | Good | Good | Fair |
| Median U-Turn E-W | 0.73 | 2 | 6.3 | Good | Good | Fair |
| Traffic Signal | 0.79 | 3 | 4.8 | Fair | Fair | Good |
| Signalized ThruCut E-W | 0.86 | 4 | 5.2 | Fair | Good | Fair |
| 2 X 2 | 0.89 | 5 | 5.6 | Fair | Good | Good |
| 1NS X 2EW | 0.95 | 6 | 5.6 | Fair | Good | Good |
| All-Way Stop Control | 2.83 | 7 | 6.7 | Good | Good | Good |
| Unsignalized Restricted Crossing U- Turn F-W | 4.04 | 8 | 4.4 | Fair | Fair | Fair |
| Unsignalized ThruCut E-W | 212.55 | 9 | 3.3 | Poor | Fair | Fair |
| Two-Way Stop Control E-W | 263.37 | 10 | 3.7 | Poor | Fair | Good |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Lake Hamilton Drive |
| Date: | Design Year (2045) AM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction: | East-West |

| | | | Tra | ffic Volume D | emand | | | | | |
|----------------------|-----------------|---------|--------|---------------|----------------|-------------|----------|---------------|--|--|
| | | ١ | /olume | (Veh/hr) | | Percent (%) | | | | |
| | U-Turn | Le | ft | Thru | Right | | | | | |
| | ŋ | Ļ |] | | | Heavy \ | /ehicles | Volume Growth | | |
| Eastbound | 0 | 2 | | 1599 | 91 | 5.0 | 0% | 0.00% | | |
| Westbound | 0 | 18 | 3 | 1864 | 3 | 5.0 | 0% | 0.00% | | |
| Southbound | 0 | 2 | | 1 | 3 | 0.00% | | 0.00% | | |
| Northbound | 0 | 58 | 3 | 0 | 237 | 4.0 | 0% | 0.00% | | |
| Adjustment Factor | 0.80 | 0.9 | 95 | | 0.85 | | \sim | | | |
| Suggested | 0.80 | 0.9 | 5 | | 0.85 | | | | | |
| | Truck to | PCE Fac | ctor | | Suggested = | = 2.00 | 2.00 | | | |
| FDC | OT Context Zone | | | C | 3C-Suburban Co | ommerc | ial | | | |
| | | - | 2-pha | se signal | Suggested = | 1800 | | 1800 | | |
| | Lane Volume | | 3-pha | se signal | Suggested = | 1750 | | 1750 | | |
| | | | 4-pha | se signal | Suggested = | 1700 | | 1700 | | |

Capacity Analysis for Planning of Junctions Detailed Report - Page 2 of 4

| Number c | flance | for | No | n-re | our | dak | | t In | tore | 2001 | lion | | | | | | |
|---------------------------------------|-------------|--------------|--------------|-----------|-----|--|-----|------|------|------|--------------|-----|----|---|--------|------|----|
| | Sheet | | | bou | | | | bou | | | | oun | nd | W | est | oour | nd |
| TTPE OF INTERSECTION | Sileet | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | ٦ | Т | R |
| Traffic Signal | FULL | \sim | 1 | 1 | 0 | $\mathbf{>}$ | 0 | 1 | 0 | | 1 | 2 | 0 | | 1 | 2 | 0 |
| Two-Way Stop Control | <u>E-W</u> | | 1 | 1 | 0 | | 0 | 1 | 0 | | 1 | 2 | 0 | | 1 | 2 | 0 |
| All-Way Stop Control | FULL | \checkmark | 1 | 1 | 0 | | 0 | 1 | 0 | | 1 | 2 | 0 | | 1 | 2 | 0 |
| Signalized Restricted Crossing U-Turn | <u>E-W</u> | \checkmark | \checkmark | \langle | 1 | | / | | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 0 |
| Turn | <u>E-W</u> | \checkmark | / | | 1 | | / | | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 0 |
| Median U-Turn | <u>E-W</u> | \checkmark | | 1 | 0 | | / | 1 | 0 | 1 | \checkmark | 2 | 0 | 1 | \sim | 2 | 0 |
| Signalized ThruCut | E-W | \checkmark | 1 | | 1 | | 1 | | 0 | | 1 | 2 | 0 | | 1 | 2 | 0 |
| Unsignalized ThruCut | <u>E-W</u> | \checkmark | 1 | | 1 | $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $ | 1 | | 0 | | 1 | 2 | 0 | | 1 | 2 | 0 |
| Ν | lumber | of L | .ane | es f | or | nte | rch | ang | es | | | | | | | | |
| | Sheet | | | boul | | | | bou | | E | astb | oun | nd | W | est | oour | nd |
| TYPE OF INTERCHANGE | Sneet | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |

Capacity Analysis for Planning of Junctions Detailed Report - Page 3 of 4

| | F | lesuli | ts for | Non | -rour | idabo | out In | terse | ction | IS | | | | | |
|---|------------|--------|---------------|------|--------------|--------------|-------------|------------|-------------|------|---------------|----------------------|----------------------------|--------------------------|---------------------------|
| TYPE OF INTERSECTION | Sheet | | ne 1 orth) | | ne 2 uth) | Zone 3 | i (East) | Zor (We | | 1000 | ne 5 nter) | Overall v/c Ratio | Pedestrian commodations | Bicycle ccommodations | Transit Accommodations |
| | | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | | Ac | Ac | Ac |
| Traffic Signal | FULL | | | | | \checkmark | | \nearrow | / | 1336 | <u>0.79</u> | 0.79 | Fair | Fair | Good |
| Two-Way Stop Control | <u>E-W</u> | \geq | | | | | | \geq | / | *** | 263.37 | 263.37 | Poor | Fair | Good |
| All-Way Stop Control | FULL | \geq | | | | | | \geq | | 4241 | 2.83 | 2.83 | Good | Good | Good |
| Signalized Restricted Crossing U-Turn | <u>E-W</u> | 1016 | 0.56 | 1201 | 0.67 | 1151 | 0.64 | 892 | 0.50 | / | | 0.67 | Good | Good | Fair |
| Unsignalized Restricted Crossing U-Turn | <u>E-W</u> | 2019 | 0.12 | 1730 | <u>4.04</u> | 2152 | <u>0.33</u> | 1777 | <u>0.01</u> | / | / | 4.04 | Fair | Fair | Fair |
| Median U-Turn | <u>E-W</u> | | | | | 1154 | <u>0.64</u> | 1131 | <u>0.63</u> | 1322 | <u>0.73</u> | 0.73 | Good | Good | Fair |
| Signalized ThruCut | <u>E-W</u> | | | | | | | | / | 1192 | 0.86 | 0.86 | Fair | Good | Fair |
| Unsignalized ThruCut | E-W | | | | | | | | / | - | 212.55 | 212.55 | Poor | Fair | Fair |

| | | | | | | | | | Page 4 c | | f Jur | | | | | |
|-----------------------|-------------|------------------------------|--------|----------------|-------------|----------------|-----------------|-------------|------------------------|----------------|-------------|------------------------------|---------------------------|------------------------------|---------------------------|---------------------------|
| | | | | | | Re | sults f | or Roı | Indabo | uts | | | | | | |
| TYPE OF ROUNDABOUT | Zo | Zone 1 (North) Zone 3 (East) | | st) | Zo | one 2 (Sou | ıth) | z | Zone 4 (West) Ove F | | | Pedestrian Accommodations | Bicycle Accommodations | Transit Accommodations | | |
| | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | | Acc | Acc | Ac |
| <u>1NS X 2EW</u> | <u>0.03</u> | | | <u>0.78</u> | <u>0.82</u> | | <u>0.95</u> | | | <u>0.83</u> | <u>0.89</u> | | 0.95 | Fair | Good | Good |
| <u>2 X 2</u> | <u>0.02</u> | <u>0.02</u> | | <u>0.83</u> | <u>0.89</u> | | <u>0.22</u> | <u>0.76</u> | | <u>0.78</u> | <u>0.82</u> | / | 0.89 | Fair | Good | Good |
| | | | | | | | | | | | | | | _ | | |
| | | - | | | | Re | sults f | or inte | rchang | jes | | | | | - | |
| TYPE OF INTERCHANC | | E | Sheet | Zone 1 Mrg) | (Rt Zon | e2 (Lt Mrg) | Zone (Ctr. 1 | | Zone 4 (Ctr. 2) | Zone 5 Mrg) | (Lt Zone | ∌6 (Rt Mrg) | Overall v/c Ratio | Pedestrian Accommodations | Bicycle Accommodations | Transit Accommodations |
| | | | | CLV | V/C CL | v v/c | CLV | V/C CL | v v/c | CLV | V/C CL\ | v v/c | | Ř | Ř | ¥ |

Capacity Analysis for Planning of Junctions

Summary Report - Page 1 of 2

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Lake Hamilton Drive |
| Date: | Design Year (2045) PM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction | East-West |

| | | | Tra | ffic Volume D | emand | | | | | |
|----------------------|-----------------|---------|--------|---------------|----------------|-----------|----------|---------------|--|--|
| | | 1 | Volume | (Veh/hr) | | | Perce | nt (%) | | |
| | U-Turn | Le | eft | Thru | Right | | | | | |
| | ŋ | | 1 | | | Heavy \ | /ehicles | Volume Growth | | |
| Eastbound | 0 | 2 | 2 | 1814 | 92 | 3.0 | 0% | 0.00% | | |
| Westbound | 0 | 20 |)8 | 1610 | 3 | 3 3.0 | | 0.00% | | |
| Southbound | 0 | | 1 | 2 | 2 | 0.00% | | 0.00% | | |
| Northbound | 0 | 5 | 6 | 2 | 204 | 4.0 | 0% | 0.00% | | |
| Adjustment Factor | 0.80 | 0.9 | 95 | | 0.85 | | | | | |
| Suggested | 0.80 | 0.9 | 95 | | 0.85 | | | | | |
| | Truck to | PCE Fa | ctor | | Suggested = | 2.00 | | 2.00 | | |
| FDC | OT Context Zone | | | C | 3C-Suburban Co | ommercial | | | | |
| | | | 2-pha | se signal | Suggested = | 1800 | | 1800 | | |
| | Lane Volume | | 3-pha | se signal | Suggested = | 1750 | | 1750 | | |
| | | | 4-pha | se signal | Suggested = | 1700 | 1700 | | | |

| Capacit | y Analys | sis for | Plannin | g of Junct | ions | |
|---|----------------------|----------------|---------------------|----------------------------------|-------------------------------|-------------------------------|
| | Sur | nmary Repo | ort - Page 2 of | 2 | | |
| | | | | | | |
| TYPE OF INTERSECTION | Overall v/c Ratio | V/C Ranking | Multimodal Score | Pedestrian Accommodation s | Bicycle Accommodation s | Transit Accommodatio ns |
| Signalized Restricted Crossing U-Turn E-W | 0.70 | 1 | 6.3 | Good | Good | Fair |
| Median U-Turn E-W | 0.70 | - | 6.3 | Good | Good | Fair |
| Traffic Signal | 0.84 | 3 | 4.8 | Fair | Fair | Good |
| Signalized ThruCut E-W | 0.92 | 4 | 5.2 | Fair | Good | Fair |
| 2 X 2 | 0.93 | 5 | 5.6 | Fair | Good | Good |
| 1NS X 2EW | 0.99 | 6 | 5.6 | Fair | Good | Good |
| All-Way Stop Control | 2.74 | 7 | 6.7 | Good | Good | Good |
| Unsignalized Restricted Crossing U- Turn E-W | 4.85 | 8 | 4.4 | Fair | Fair | Fair |
| Unsignalized ThruCut E-W | 305.71 | 9 | 3.3 | Poor | Fair | Fair |
| Two-Way Stop Control E-W | 337.95 | 10 | 3.7 | Poor | Fair | Good |

Capacity Analysis for Planning of Junctions

Detailed Report - Page 1 of 4

| Project Name: | SR 544 PD&E Study from MLK Boulevard to SR 17 |
|------------------------------|---|
| Project Number: | FPID No. 440273-1-22-01 |
| Location: | SR 544/Lake Hamilton Drive |
| Date: | Design Year (2045) PM Peak Hour |
| Number of Intersection Legs: | 4 |
| Major Street Direction: | East-West |

| | | | Tra | ffic Volume D | emand | | | | | |
|----------------------|-------------------------|--------|--------|---------------|----------------|----------|-------------|---------------|--|--|
| | | ١ | Volume | (Veh/hr) | | | Percent (%) | | | |
| | U-Turn | Le | eft | Thru | Right | Heavy \ | /ehicles | Volume Growth | | |
| | ↓ | | | | | Ticavy (| CTILOICO | Volume Crowin | | |
| Eastbound | 0 | 2 | 2 | 1814 | 92 | 3.0 | 0% | 0.00% | | |
| Westbound | 0 | 20 |)8 | 1610 | 3 | 3.0 | 0% | 0.00% | | |
| Southbound | 0 | 1 | l | 2 | 2 0.00 | | 0% | 0.00% | | |
| Northbound | 0 | 5 | 6 | 2 | 204 | 4.0 | 0% | 0.00% | | |
| Adjustment Factor | 0.80 | 0.9 | 95 | | 0.85 | | | | | |
| Suggested | 0.80 | 0.9 | 95 | | 0.85 | | | | | |
| | Truck to | PCE Fa | ctor | | Suggested = | 2.00 | | 2.00 | | |
| FDC | OT Context Zone | | | C | 3C-Suburban Co | ommerc | ial | | | |
| | | | 2-pha | se signal | Suggested = | 1800 | 1800 | | | |
| | Lane Volume preshold | | 3-pha | se signal | Suggested = | 1750 | | 1750 | | |
| | | | 4-pha | se signal | Suggested = | 1700 | 1700 | | | |

Capacity Analysis for Planning of Junctions Detailed Report - Page 2 of 4

| Number c | flance | for | No | n-r | 2011 | dał | | t In | tore | 2001 | lion | | | | | | |
|---------------------------------------|-------------|--------------|-----|----------|------|------------|-----------|------|-----------|-----------|--------------|---|-----------|-----------|---|----|----|
| | Sheet | | | rthbound | | Southbound | | | Eastbound | | | | Westbound | | | nd | |
| TTPE OF INTERSECTION | oneer | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |
| Traffic Signal | FULL | \sim | 1 | 1 | 0 | | 0 | 1 | 0 | | 1 | 2 | 0 | | 1 | 2 | 0 |
| Two-Way Stop Control | <u>E-W</u> | | 1 | 1 | 0 | | 0 | 1 | 0 | | 1 | 2 | 0 | | 1 | 2 | 0 |
| All-Way Stop Control | FULL | \checkmark | 1 | 1 | 0 | | 0 | 1 | 0 | | 1 | 2 | 0 | | 1 | 2 | 0 |
| Signalized Restricted Crossing U-Turn | | | | | | | \langle | | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 0 |
| Turn | <u>E-W</u> | \checkmark | / | | 1 | | | | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 2 | 0 |
| Median U-Turn | <u>E-W</u> | \checkmark | / | 1 | 0 | | | 1 | 0 | 1 | \checkmark | 2 | 0 | 1 | | 2 | 0 |
| Signalized ThruCut | <u>E-W</u> | | 1 | | 1 | | 1 | | 0 | | 1 | 2 | 0 | | 1 | 2 | 0 |
| Unsignalized ThruCut | <u>E-W</u> | \checkmark | 1 | | 1 | | 1 | | 0 | | 1 | 2 | 0 | | 1 | 2 | 0 |
| Ν | lumber | of L | ane | es f | or l | nte | rch | ang | es | | | | | | | | |
| | Sheet | | | boui | | Southbound | | | | Eastbound | | | | Westbound | | | ۱d |
| TYPE OF INTERCHANGE | Sneet | U | L | Т | R | U | L | Т | R | U | L | Т | R | U | L | Т | R |

Capacity Analysis for Planning of Junctions Detailed Report - Page 3 of 4

| | F | Resul | ts for | Non | -rour | idabc | out In | terse | ction | IS | | | | | |
|---|-------------|-------------------|-------------|-------------------|-------------|---------------|-------------|------------|-------------|--------------------|-------------|----------------------|----------------------------|--------------------------|---------------------------|
| TYPE OF INTERSECTION | Sheet | Zone 1 (North) | | Zone 2 (South) | | Zone 3 (East) | | Zor (We | | Zone 5 (Center) | | Overall v/c Ratio | Pedestrian commodations | Bicycle ccommodations | Transit Accommodations |
| | | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | CLV | V/C | | Aci | Ac | 40 |
| Traffic Signal | <u>FULL</u> | | | \sim | | \sim | | | / | 1421 | 0.84 | 0.84 | Fair | Fair | Good |
| Two-Way Stop Control | <u>E-W</u> | \geq | | | | | | | / | ** | 337.95 | 337.95 | Poor | Fair | Good |
| All-Way Stop Control | <u>FULL</u> | \geq | | | | | | \geq | | 4117 | 2.74 | 2.74 | Good | Good | Good |
| Signalized Restricted Crossing U-Turn | <u>E-W</u> | 864 | 0.48 | 1255 | <u>0.70</u> | 1013 | 0.56 | 986 | 0.55 | | | 0.70 | Good | Good | Fair |
| Unsignalized Restricted Crossing U-Turn | <u>E-W</u> | 1719 | <u>0.06</u> | 1918 | <u>4.85</u> | 1875 | <u>0.24</u> | 1965 | <u>0.01</u> | / | | 4.85 | Fair | Fair | Fair |
| Median U-Turn | <u>E-W</u> | / | | | | 1013 | <u>0.56</u> | 1251 | <u>0.70</u> | 1197 | 0.66 | 0.70 | Good | Good | Fair |
| Signalized ThruCut | <u>E-W</u> | \geq | | | | | | | / | 1277 | <u>0.92</u> | 0.92 | Fair | Good | Fair |
| Unsignalized ThruCut | E-W | r⁄ | | \sim | | | | | / | - | 305.71 | 305.71 | Poor | Fair | Fair |

| | | | | | | | | | anni Page 4 c | | | | | | | |
|--------------------------------------|-------------|-------------|---------------|----------------|-------------|----------------|-----------------|-------------|--------------------|----------------|-----------------------------|----------------------|------------------------------|------------------------------|---------------------------|---------------------------|
| | | | | | | Re | sults f | or Rou | Indabo | uts | | | | | | |
| TYPE OF Zone 1 (North) ROUNDABOUT | | th) | Zone 3 (East) | | | Zo | Zone 2 (South) | | | one 4 (Wes | st) | Overall v/c Ratio | Pedestrian Accommodations | Bicycle Accommodations | Transit Accommodations | |
| | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | Lane 1 | Lane 2 | Lane 3 | | Acc | , | Acc |
| <u>1NS X 2EW</u> | <u>0.02</u> | | | 0.88 | <u>0.93</u> | | <u>0.99</u> | | | <u>0.73</u> | 0.78 | | 0.99 | Fair | Good | Good |
| <u>2 X 2</u> | <u>0.01</u> | <u>0.01</u> | | <u>0.73</u> | <u>0.78</u> | | <u>0.26</u> | <u>0.77</u> | | <u>0.88</u> | <u>0.93</u> | / | 0.93 | Fair | Good | Good |
| | | | | | | | | | | | | | | _ | | |
| | | - | | | | Re | sults f | or inte | rchang | jes | | | | | - | |
| TYPE OF INTE | RCHANG | E | Sheet | Zone 1 Mrg) | (Rt Zon | e2 (Lt Mrg) | Zone (Ctr. 1 | | Zone 4 (Ctr. 2) | Zone 5 Mrg) | one 5 (Lt Zone 6 Mrg) Mi | | Overall v/c Ratio | Pedestrian Accommodations | Bicycle Accommodations | Transit Accommodations |
| | | | | CLV | V/C CL | v v/c | CLV | V/C CL | v v/c | CLV | V/C CL\ | v v/c | | Ř | ě | ¥ |

| | | | | | Iministration (FHWA) | | | | | |
|-----------------------|----------------------|-----------------------|-------------|-------------------------------|-----------------------|----------------------------|----------------------|-----------|----------------|----------------------|
| | | | | Safety Performance for Inters | | 1 Tool | | | | |
| | | | | | sults | | | | | |
| | | | | Summary of crash predictio | | ive | | | | |
| | | | | , , | formation | | | | | |
| Project Name: | | rom MLK Blvd to SR 17 | | Intersection Type | | | | | At-Gra | de Intersections |
| Intersection: | SR 544/Lake Hamilto | n Drive | | Opening Year | | | | | | 2025 |
| Agency: | FDOT District One | | | Design Year | | | | | | 2045 |
| Project Reference: | FPID No.: 440273-1-2 | 22-01 | | Facility Type | | | | 0 | n Urban a | nd Suburban Arterial |
| City: | Polk County | | | Number of Legs | | | | | | 4-leg |
| State: | Florida | | | 1-Way/2-Way | | | | | 2-way Ir | tersecting 2-way |
| Date: | 12/2/2022 | | | # of Major Street Lanes (both | directions) | | | | 1 | or fewer |
| Analyst: | AIM Engineering & S | urveying, Inc. | | Major Street Approach Speed | | | | | Less | than 55 mph |
| | | | | Crash Predic | tion Summary | | | · | | |
| | | | | | | AADT Within SPF Prediction | | | | SSI Score |
| Control Strategy | Crash Type | Opening Year | Design Year | Total Project Life Cycle | Crash Prediction Rank | Range? | Source of Prediction | Open Year | Design Year | Rank |
| Traffic Signal | Total | 7.16 | 13.15 | 211.97 | 5 | Yes | Calibrated SPF | 66 | 47 | 7 |
| Tramic Signal | Fatal & Injury | 2.51 | 4.79 | 75.98 | 5 | res | Calibrated SPF | 00 | 47 | / |
| Minor Road Stop | Total | 3.89 | 6.31 | 107.03 | 3 | Yes | Calibrated SPF | 47 | 27 | 9 |
| winor koad stop | Fatal & Injury | 1.63 | 2.79 | 46.29 | 5 | res | Calibrated SPF | <u>47</u> | 27 | 9 |
| All Way Stop | Total | 2.87 | 4.78 | 80.16 | 1 | N/A | N/A | 86 | 78 | 2 |
| All Way Stop | Fatal & Injury | 1.13 | 2.01 | 32.73 | 1 | 1974 | N/A | <u>80</u> | 70 | 2 |
| 2-lane Roundabout | Total | 7.58 | 13.25 | 217.92 | 2 | No | Uncalibrated SPF | 86 | 79 | 1 |
| 2-lane Roundabout | Fatal & Injury | 1.41 | 2.61 | 41.88 | 2 | NU | Uncalibrated SFF | 00 | 15 | 1 |
| Median U-Turn (MUT) | Total | 6.09 | 11.18 | 180.17 | 4 | N/A | CMF | 85 | 75 | 3 |
| Wedian 0-Turn (WOT) | Fatal & Injury | 1.76 | 3.35 | 53.18 | 4 | N/A | CIVIF | <u>co</u> | <u>75</u> | 5 |
| Signalized RCUT | Total | 12.05 | 24.75 | 381.15 | 6 | Yes | Uncalibrated SPF | 77 | 64 | 5 |
| Signalized RCOT | Fatal & Injury | 2.36 | 5.07 | 76.64 | 0 | 163 | officationated SFT | <u> </u> | 04 | J |
| Unsignalized RCUT | Total | No SPF | No SPF | No SPF | | Yes | Uncalibrated SPF | 61 | 43 | 8 |
| onsignalized RCOT | Fatal & Injury | No SPF | No SPF | No SPF | | 165 | oncanorated SFF | <u>01</u> | | U |
| Signalized Thru-Cut | Total | No SPF | No SPF | No SPF | | N/A | N/A | 80 | 65 | 4 |
| Signanced Thru-cut | Fatal & Injury | No SPF | No SPF | No SPF | | 11/1 | 14/4 | <u></u> | 55 | - |
| Unsignalized Thru-Cut | Total | No SPF | No SPF | No SPF | | N/A | N/A | 68 | 50 | 6 |
| | Fatal & Injury | No SPF | No SPF | No SPF | | 1975 | 1975 | <u> </u> | 5 | U |
| Other 1* | Total | No SPF | No SPF | No SPF | | N/A | CMF | | | |
| ould 1 | Fatal & Injury | No SPF | No SPF | No SPF | | 11/1 | Civil | | | |
| Other 2* | Total | No SPF | No SPF | No SPF | | N/A | CMF | | - | |
| ould z | Fatal & Injury | No SPF | No SPF | No SPF | | N/A | CIVII | | | |

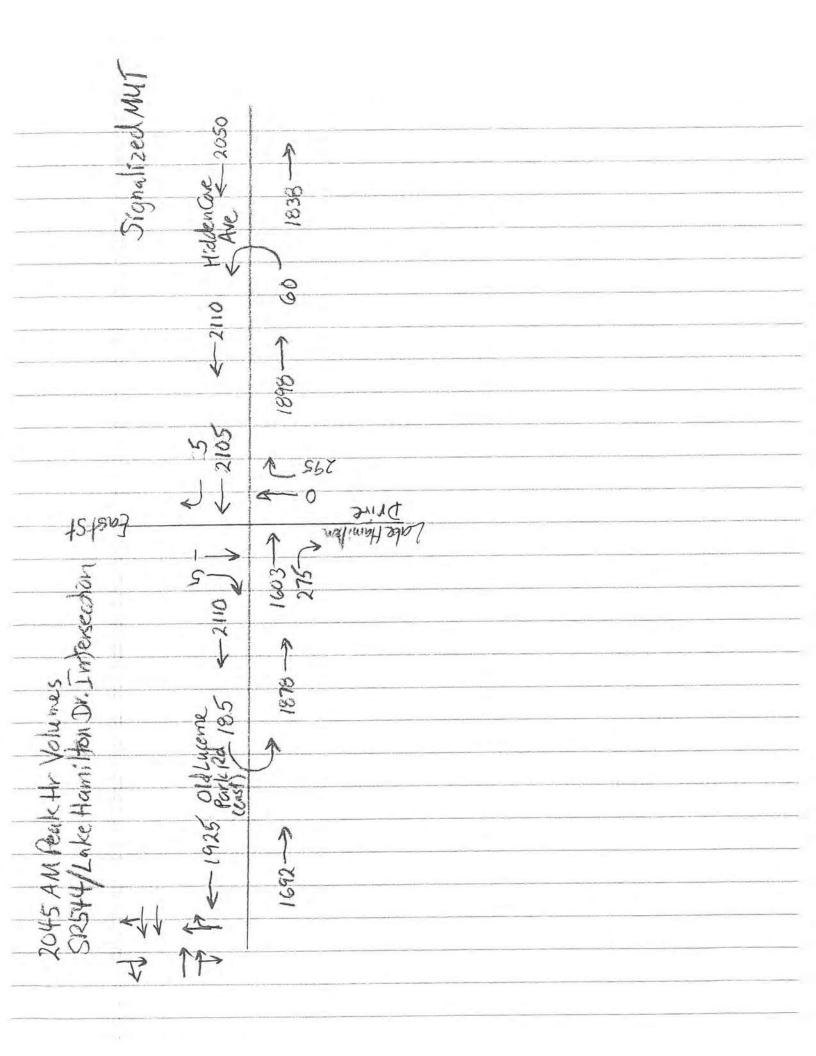
Appendix D

SYNCHRO Analysis Summary Sheets

| | | | | | 4 | M Peak Hou | r | | | | | | |
|------------------|-------------|------|---------------|-----|------|---------------|-----|------|---------------|-----|------|---------------|-----|
| | | 9 | Signalized FM | 0 | S | ignalized RCL | Л | Sig | nalized Thru- | Cut | | Signalized ML | т |
| Intersection | Movement | V/C | Avg. Delay | LOS |
| | NB LT | 0.41 | 56.2 | E | n/a | n/a | n/a | 0.38 | 53.6 | D | n/a | n/a | n/a |
| | NB TH | 0.65 | 12.8 | В | n/a | n/a | n/a | n/a | n/a | n/a | 0.85 | 54.9 | D |
| | NB RT | 0.65 | 12.8 | В | 0.67 | 33.0 | С | 0.59 | 16.1 | В | 0.85 | 54.9 | D |
| | NB Approach | n/a | 21.3 | С | n/a | 33.0 | С | n/a | 23.5 | С | n/a | 54.9 | D |
| | SB LT | 0.06 | 41.8 | D | n/a | n/a | n/a | 0.03 | 0.2 | А | n/a | n/a | n/a |
| | SB TH | 0.06 | 41.8 | D | n/a | n/a | n/a | n/a | n/a | n/a | 0.02 | 19.5 | В |
| | SB RT | 0.06 | 41.8 | D | 0.01 | 0.0 | А | 0.03 | 0.2 | А | 0.02 | 19.5 | В |
| | SB Approach | n/a | 41.8 | D | n/a | 0.0 | А | n/a | 0.2 | А | n/a | 19.5 | В |
| Lake Hamilton Dr | WB LT | 0.78 | 47.3 | D | 0.72 | 33.2 | С | 0.85 | 59.0 | E | n/a | n/a | n/a |
| | WB TH | 0.85 | 19.5 | В | 0.96 | 29.8 | С | 0.85 | 19.9 | В | 0.98 | 32.3 | С |
| | WB RT | 0.85 | 19.5 | В | 0.96 | 29.8 | С | 0.85 | 19.9 | В | 0.98 | 32.3 | С |
| | WB Approach | n/a | 22.0 | С | n/a | 30.1 | С | n/a | 23.4 | С | n/a | 32.3 | С |
| | EB LT | 0.01 | 7.0 | А | 0.01 | 3.0 | А | 0.01 | 7.0 | А | n/a | n/a | n/a |
| | EB TH | 0.98 | 42.8 | D | 0.89 | 23.1 | С | 0.96 | 38.3 | D | 0.88 | 20.3 | С |
| - | EB RT | 0.98 | 42.8 | D | 0.89 | 23.1 | С | 0.96 | 38.3 | D | 0.88 | 20.3 | С |
| | EB Approach | n/a | 42.7 | D | n/a | 23.0 | С | n/a | 38.2 | D | n/a | 20.3 | С |
| | ALL | 0.87 | 30.7 | С | 0.75 | 27.3 | С | 0.81 | 29.6 | С | 0.87 | 28.6 | С |
| | | | | | P | M Peak Hou | r | | | | | | |
| | | 9 | Signalized FM | 0 | S | ignalized RCL | JT | Sig | nalized Thru- | Cut | | Signalized ML | т |
| Intersection | Movement | V/C | Avg. Delay | LOS |
| | NB LT | 0.40 | 56.1 | E | n/a | n/a | n/a | 0.41 | 65.9 | E | n/a | n/a | n/a |
| | NB TH | 0.66 | 17.1 | В | n/a | n/a | n/a | n/a | n/a | n/a | 0.83 | 53.8 | D |
| | NB RT | 0.66 | 17.1 | В | 0.58 | 29.2 | С | 0.53 | 17.8 | В | 0.83 | 53.8 | D |
| | NB Approach | n/a | 25.5 | С | n/a | 29.2 | С | n/a | 28.1 | С | n/a | 53.8 | D |
| | SB LT | 0.05 | 44.6 | D | n/a | n/a | n/a | 0.03 | 0.2 | Α | n/a | n/a | n/a |
| | SB TH | 0.05 | 44.6 | D | n/a | n/a | n/a | n/a | n/a | n/a | 0.01 | 22.0 | С |
| | SB RT | 0.05 | 44.6 | D | 0.01 | 0.0 | А | 0.03 | 0.2 | А | 0.01 | 22.0 | С |
| | SB Approach | n/a | 44.6 | D | n/a | 0.0 | А | n/a | 0.2 | А | n/a | 22.0 | С |
| Lake Hamilton Dr | WB LT | 0.99 | 89.5 | F | 0.78 | 39.0 | D | 0.88 | 71.5 | E | n/a | n/a | n/a |
| | WB TH | 0.70 | 14.2 | В | 0.79 | 16.2 | В | 0.66 | 12.4 | В | 0.82 | 15.1 | В |
| | WB RT | 0.70 | 14.2 | В | 0.79 | 16.2 | В | 0.66 | 12.4 | В | 0.82 | 15.1 | В |
| | WB Approach | n/a | 22.8 | С | n/a | 18.7 | В | n/a | 19.1 | В | n/a | 15.1 | В |
| | EB LT | 0.01 | 6.5 | А | 0.01 | 3.0 | А | 0.01 | 6.0 | А | n/a | n/a | n/a |
| | EB TH | 1.01 | 48.9 | D | 0.97 | 32.3 | С | 0.97 | 40.5 | D | 0.94 | 24.1 | С |
| | EB RT | 1.01 | 48.9 | D | 0.97 | 32.3 | С | 0.97 | 40.5 | D | 0.94 | 24.1 | С |
| | EB Approach | n/a | 48.8 | D | n/a | 32.3 | С | n/a | 40.5 | D | n/a | 24.1 | С |
| | ALL | 0.92 | 35.4 | D | 0.79 | 25.8 | С | 0.89 | 29.9 | С | 0.86 | 22.0 | С |

Table 2: Design Year (2045) Peak Hour Operational Analysis Summary - Lake Hamilton Drive Intersection AM Peak Hour

3254 SR544 -2050 2050 いい 1000 1838 \$ Stang lized FMO HiddenGve Signalized Thru-Signalized 2168 200 - 2050 0 1838 18387 896 -1922 - 1864 -1864 -183 3 LEY 127 85 25 568 SVIN 507 ralimo Hariller 2045 AM Peak Hr Volumes SR544/Lake Hamilton Dr Intersecher 25 4 927 9 -1091 N 539 1599-え 5 -1928 1926 1693-1925 695 3 k Rd (ewst) 1692 EV.N reast Park Rul MG Park - (925 1692 1692 4



Signalized Thru-Cut 5125 44 4525 -5535-Signalized ROUT Sigralized FMO 1231-Hidden Gvec- 1821 1821 2419-1 Hidden Core 2019 2019 09 -1823 Taci r V 3021 2079 -208 1 1668 - tor - r - 99 <-1610 √-208 NI I 908 50 Drid Defe Hamilton ts fsm3 177 + 2045 PM Peak Hr Volumes SRSPH/Lake Hamilton Dr.Interschön 2. 92-200 -1670 - 1673 1910 1913 Plat Lucenze old Lucene Park RU (east) ×-1668 +1668 -9061 500 V 8061

-1821 icy mailized HEDden Cont 2019 28 -1629 V 2077 47.91 10 097 Under Hamilton 2 t ME COL 1-1131 E 300 1 nterser 201 2045 PM Reak Mr Volumes 2117 tor 5 9 Garn a ション A - 1668 SRSH 1908 V

| Lanes, Volumes, Timings | | |
|--------------------------------|---------------------------------|---|
| 17: Lake Hamilton Dr./Fairview | Village/Lakeside Ranch & SR 544 | 4 |

| | ٩ | -> | 7 | 1 | - | * | 4 | Ť | 1 | 1 | ŧ | 1 |
|-------------------------------------|------------|----------|-------|-------|----------|-----------------------|-------|-------------|----------|-------|--|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ٦ | 14% | 1 | 1 | 14 | | 1 | 4 | | | 4 | - |
| Traffic Volume (vph) | 2 | 1599 | 91 | 183 | 1864 | 3 | 58 | 0 | 237 | 2 | - 1 | 3 |
| Future Volume (vph) | 2 | 1599 | 91 | 183 | 1864 | 3 | 58 | 0 | 237 | 2 | 1 | 3 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 60 | 1.01010 | 0 | 500 | | 0 | 200 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 0 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.992 | 0.00 | | 0.00 | | | 0.850 | | | 0.932 | |
| Fit Protected | 0.950 | 0.001 | | 0.950 | | | 0.950 | 0.000 | | | 0.984 | |
| Satd. Flow (prot) | 1805 | 3412 | 0 | 1736 | 3438 | 0 | 1736 | 1553 | 0 | 0 | 1742 | 0 |
| Flt Permitted | 0.063 | UTIL | U | 0.058 | 0100 | Ū | 0.950 | 1000 | | U | 0.984 | Ŭ |
| Satd. Flow (perm) | 120 | 3412 | 0 | 106 | 3438 | 0 | 1736 | 1553 | 0 | 0 | 1742 | 0 |
| Right Turn on Red | 120 | 0112 | Yes | 100 | 0100 | Yes | 1100 | 1000 | Yes | J | 47.11 | Yes |
| Satd. Flow (RTOR) | | 7 | 100 | | | 103 | | 272 | 103 | | 3 | 103 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1011 | | | 109 | | | 657 | | | 126 | |
| | | 23.0 | | | 2.5 | | | 14.9 | | | 2.9 | - |
| Travel Time (s) Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| | | | | | 5% | 0.95 | 4% | - 0% | 4% | 0.95 | 0.95 | |
| Heavy Vehicles (%) | 0% | 5% | 4% | 4% | | and the second second | | Carlo Carlo | | | Contraction of the local distance of the loc | 0% |
| Adj. Flow (vph) | 2 | 1683 | 96 | 193 | 1962 | 3 | 61 | 0 | 249 | 2 | 1 | 3 |
| Shared Lane Traffic (%) | 0 | 4770 | 0 | 100 | 4005 | 0 | 04 | 040 | 0 | • | 0 | 0 |
| Lane Group Flow (vph) | 2 | 1779 | 0 | 193 | 1965 | 0 | 61 | 249 | 0 | 0 | 6 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | _ | | 0 | | | 0 | _ |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | N E1020201 | 00 -2020 | | | 10.02000 | - | | 1112121 | 12112121 | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | 10000 | 9 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | | 1 | 2 | |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | | 20 | 100 | | 20 | 100 | | 20 | 100 | - |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | 20 | 6 | | 20 | 6 | |
| Detector 1 Type | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | CI+Ex | | | CI+Ex | | | CI+Ex | | | CI+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | | pm+pt | NA | | Split | NA | | Split | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 2 | 2 | | 6 | 6 | |

2045 Build Alt. 2 AM Peak Lake Hamilton Full Median Opening

| Lanes, Volumes, Timings | |
|--|---|
| 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544 | 4 |

| | ٨ | - | > | * | + | * | 4 | Ť | 1 | 6 | ţ | 1 |
|---|-------|-----------|-----|-------|-----------|-----|-----------|-----------|-----|--------|-----------|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Permitted Phases | 4 | | 200 | 8 | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 2 | 2 | | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 11.0 | 24.5 | | 11.0 | 24.5 | | 21.0 | 21.0 | | 15.0 | 15.0 | |
| Total Split (s) | 16.0 | 64.0 | | 20.0 | 68.0 | | 21.0 | 21.0 | | 15.0 | 15.0 | |
| Total Split (%) | 13.3% | 53.3% | | 16.7% | 56.7% | | 17.5% | 17.5% | | 12.5% | 12.5% | |
| Maximum Green (s) | 10.0 | 58.0 | | 14.0 | 62.0 | | 15.0 | 15.0 | | 9.0 | 9.0 | |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| All-Red Time (s) | 1.5 | 1.5 | | 1.5 | 1.5 | | 1.5 | 1.5 | | 1.5 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | | 6.0 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | 0.0 | 0.0 | | | 0.0 | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | None | | None | None | | Min | Min | | Min | Min | |
| Act Effct Green (s) | 63.7 | 58.2 | | 75.9 | 73.7 | | 9.4 | 9.4 | | IVIIII | 5.9 | |
| Actuated g/C Ratio | 0.58 | 0.53 | | 0.69 | 0.67 | | 0.09 | 0.09 | | | 0.05 | |
| v/c Ratio | 0.00 | 0.98 | | 0.78 | 0.85 | | 0.03 | 0.65 | | | 0.06 | |
| Control Delay | 7.0 | 42.8 | | 47.3 | 19.5 | | 56.2 | 12.8 | | | 41.8 | |
| and the second | 0.0 | 42.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Queue Delay | | | | | | | | | | | | |
| Total Delay LOS | 7.0 | 42.8 | | 47.3 | 19.5 | | 56.2 E | 12.8 | | | 41.8 | |
| and the second se | А | D 42.7 | | D | B 22.0 | | E | B 21.3 | | | D 41.8 | |
| Approach Delay | | | | | | | | | | | | - |
| Approach LOS | E 7 | D | | 11.0 | C | | 44.0 | C | | 0.0 | D | |
| 90th %ile Green (s) | 5.7 | 58.0 | | 14.0 | 66.3 | | 14.2 | 14.2 | | 6.8 | 6.8 | - |
| 90th %ile Term Code | Gap | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 70th %ile Green (s) | 0.0 | 58.0 | | 14.0 | 78.0 | | 10.7 | 10.7 | | 6.1 | 6.1 | |
| 70th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 50th %ile Green (s) | 0.0 | 58.0 | | 13.3 | 77.3 | | 9.2 | 9.2 | | 5.6 | 5.6 | |
| 50th %ile Term Code | Skip | Max | | Gap | Hold | | Gap | Gap | | Gap | Gap | |
| 30th %ile Green (s) | 0.0 | 58.0 | | 10.4 | 74.4 | | 7.8 | 7.8 | | 5.5 | 5.5 | |
| 30th %ile Term Code | Skip | Max | | Gap | Hold | | Gap | Gap | | Gap | Gap | |
| 10th %ile Green (s) | 0.0 | 58.0 | | 7.6 | 71.6 | | 5.8 | 5.8 | | 5.5 | 5.5 | _ |
| 10th %ile Term Code | Skip | Max | | Gap | Hold | | Gap | Gap | | Gap | Gap | |
| Stops (vph) | 1 | 1393 | | 111 | 1230 | | 52 | 22 | | _ | 7 | _ |
| Fuel Used(gal) | 0 | 36 | | 6 | 53 | | 1 | 2 | | | 0 | |
| CO Emissions (g/hr) | 2 | 2498 | | 430 | 3684 | | 87 | 136 | | | 7 | |
| NOx Emissions (g/hr) | 0 | 486 | | 84 | 717 | | 17 | 27 | | | 1 | |
| VOC Emissions (g/hr) | 0 | 579 | | 100 | 854 | | 20 | 32 | | | 2 | |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Queue Length 50th (ft) | 0 | 624 | | 84 | 449 | | 42 | 0 | | | 2 | |
| Queue Length 95th (ft) | 3 | #911 | | #197 | #956 | | 86 | 58 | | | 16 | |
| Internal Link Dist (ft) | | 931 | | | 29 | | | 577 | | | 46 | |
| Turn Bay Length (ft) | 60 | | | 500 | | | 200 | | | | | |
| Base Capacity (vph) | 229 | 1818 | | 282 | 2319 | | 238 | 448 | | | 146 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |

2045 Build Alt. 2 AM Peak Lake Hamilton Full Median Opening

| Lanes, Volumes, Timings | |
|--|--------------------------|
| 17: Lake Hamilton Dr./Fairview Village | /Lakeside Ranch & SR 544 |

| | ٨ | | 7 | 1 | - | 1 | 1 | 1 | 1 | 1 | ¥ | 1 |
|------------------------------|--------------|----------|------------|-----------|------------|------------|------|------|-----|-----|------|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Reduced v/c Ratio | 0.01 | 0.98 | | 0.68 | 0.85 | | 0.26 | 0.56 | | | 0.04 | |
| Intersection Summary | | | | | | | | - | | | | |
| Area Type: | Other | | | | | | | | | | | |
| Cycle Length: 120 | | | | | | | | | | | | |
| Actuated Cycle Length: 10 | 9.3 | | | | | | | | | | | |
| Natural Cycle: 120 | | | | | | | | | | | | |
| Control Type: Actuated-Un | coordinated | | | | | | | | | | | |
| Maximum v/c Ratio: 0.98 | | | | | | | | | | | | |
| Intersection Signal Delay: | | | | | tersection | | | | | | | |
| Intersection Capacity Utiliz | ation 86.9% | | | IC | U Level o | of Service | E | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |
| 90th %ile Actuated Cycle: * | | | | | | | | | | | | |
| 70th %ile Actuated Cycle: | | | | | | | | | | | | |
| 50th %ile Actuated Cycle: * | | | | | | | | | | | | |
| 30th %ile Actuated Cycle: 1 | | | | | | | | | | | | _ |
| 10th %ile Actuated Cycle: 1 | | | A line | | | | | | | | | |
| # 95th percentile volume | | | eue may l | be longer | 16 | | | | | | | _ |
| Queue shown is maxim | um after two | cycles. | | | | | | | | | | |
| | | | | | | | | | | | | |
| Splits and Phases: 17: L | ake Hamiltor | Dr./Fair | view Villa | ge/Lakesi | de Ranch | 1 & SR 54 | 4 | _ | | | | |
| N Ø2 | № Ø6 | 10 | 33 | - | -04 | | | | | | | 1.1 |

| ØZ | ♥ Ø6 | ▼ Ø3 | |
|------|-------------|-------------|------|
| 21.4 | 15.5 | 20 a | |
| | | A | 4- |
| | | - Ø7 | ₹ Ø8 |
| | | 16 * | 58 S |

06/27/2022

| | ١ | -> | ~ | 1 | - | * | 1 | Ť | 1 | 1 | 4 | 1 |
|--|-------|-------|--------|--------------------|---------|---------|-----------------------|-----------|-------------|--------------|-------|---------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ٦ | 14 | - | 1 1 | 1 | | 1 | 4 | 1 | / | \$ | / |
| Traffic Volume (vph) | 2 | 1814 | 92 | 208 | 1610 | 3 | 56 | 2 | 204 | 1 | 2. | 2 |
| Future Volume (vph) | 2 | 1814 | 92 | 208 | 1610 | 3 | 56 | 2 | 204 | 1 | 2 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 60 | | 0 | 500 | | 0 | 200 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 1 | | 0 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.993 | | Line of the second | 0000000 | | | 0.851 | SILVANDOUTO | Unistro | 0.946 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | | 0.990 | |
| Satd. Flow (prot) | 1805 | 3479 | 0 | 1736 | 3505 | 0 | 1736 | 1555 | 0 | 0 | 1779 | 0 |
| Flt Permitted | 0.096 | | | 0.055 | | | 0.950 | | | | 0.990 | |
| Satd. Flow (perm) | 182 | 3479 | 0 | 100 | 3505 | 0 | 1736 | 1555 | 0 | 0 | 1779 | 0 |
| Right Turn on Red | | | Yes | 11225 | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 6 | 105050 | | | 10.0101 | | 210 | 0.000 | | 2 | 1005075 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1011 | | | 109 | | | 657 | | | 126 | |
| Travel Time (s) | | 23.0 | | | 2.5 | | | 14.9 | | | 2.9 | |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Heavy Vehicles (%) | 0% | 3% | 4% | 4% | 3% | 0% | 4% | 0% | 4% | 0% | - 0% | - 0% |
| Adj. Flow (vph) | 2 | 1870 | 95 | 214 | 1660 | 3 | 58 | 2 | 210 | 1 | 2 | 2 |
| Shared Lane Traffic (%) | - | 1070 | 00 | 214 | 1000 | U | 00 | | 210 | - | 5 | - |
| Lane Group Flow (vph) | 2 | 1965 | 0 | 214 | 1663 | 0 | 58 | 212 | 0 | 0 | 5 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | Lon | 12 | rugin | Lon | 12 | rugin | Lon | 12 | rugin | Lon | 12 | ragin |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | 10 | | | 10 | | | 10 | | | 10 | |
| Headway 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 |
| Turning Speed (mph) | 1.00 | 1.00 | 9 | 15 | 1.00 | 9 | 15 | 1.00 | 9 | 1.00 | 1.00 | 9 |
| Number of Detectors | 13 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 5 | 10 | 2 | 3 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Thru | |
| I Description of the process and the local distribution of the local d | 20 | 100 | | 20 | 100 | | 20 | 100 | | 20 | 100 | - |
| Leading Detector (ft) Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | |
| | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | - |
| Detector 1 Position(ft) | 20 | 6 | | 20 | 6 | | 20 | 6 | | 20 | 6 | - |
| Detector 1 Size(ft) | | | | | | | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | - |
| Detector 1 Type | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | | UITEX | UTEX | | UPEX | UITEX | |
| Detector 1 Channel | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | - |
| Detector 1 Extend (s) | 0.0 | 0.0 | | | 0.0 | | and the second second | 0.0 | | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | | | 0.0 | | | 0.0 | | | | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 94 | | 0.0 | 94 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 6 | | | | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | | | | 6 | |
| Detector 2 Type | | CI+Ex | | | CI+Ex | | | CI+Ex | | | CI+Ex | _ |
| Detector 2 Channel | | | | | 0.0 | | | 0.0 | | | 0.0 | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | 0.00 | 0.0 | | A 111 | 0.0 | |
| Turn Type | pm+pt | NA | | pm+pt | NA | | Split | NA | | Split | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 2 | 2 | | 6 | 6 | |

2045 Build Alt. 2 PM Peak Lake Hamilton Full Median Opening

| Lanes, Volumes, Timings | |
|--------------------------------|---------------------------------|
| 17: Lake Hamilton Dr./Fairview | Village/Lakeside Ranch & SR 544 |

| | ٨ | -> | Y | 1 | + | * | 4 | Ť | P | 4 | ŧ | 1 |
|-------------------------|-------|--|-----|-------|-------|-----|-------|-------|-----|-------|-------|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Permitted Phases | 4 | - | | 8 | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 2 | 2 | | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 11.0 | 24.5 | | 11.0 | 24.5 | | 11.0 | 11.0 | | 11.0 | 11.0 | |
| Total Split (s) | 16.0 | 68.0 | | 16.0 | 68.0 | | 21.0 | 21.0 | | 15.0 | 15.0 | |
| Total Split (%) | 13.3% | 56.7% | | 13.3% | 56.7% | | 17.5% | 17.5% | | 12.5% | 12.5% | |
| Maximum Green (s) | 10.0 | 62.0 | | 10.0 | 62.0 | | 15.0 | 15.0 | | 9.0 | 9.0 | |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| All-Red Time (s) | 1.5 | 1.5 | | 1.5 | 1.5 | | 1.5 | 1.5 | | 1.5 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | 6.0 | 6.0 | | | 6.0 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | None | | None | None | | Min | Min | | Min | Min | |
| Act Effct Green (s) | 67.6 | 62.0 | | 77.7 | 75.8 | | 9.4 | 9.4 | | | 5.9 | |
| Actuated g/C Ratio | 0.61 | 0.56 | | 0.70 | 0.68 | | 0.08 | 0.08 | | | 0.05 | |
| v/c Ratio | 0.01 | 1.01 | | 0.99 | 0.70 | | 0.40 | 0.66 | | | 0.05 | |
| Control Delay | 6.5 | 48.9 | | 89.5 | 14.2 | | 56.1 | 17.1 | | | 44.6 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Total Delay | 6.5 | 48.9 | | 89.5 | 14.2 | | 56.1 | 17.1 | | | 44.6 | |
| LOS | A | D | | F | B | | E | В | | | D | |
| Approach Delay | Л | 48.8 | | | 22.8 | | _ | 25.5 | | | 44.6 | |
| Approach LOS | | 40.0 D | | | C | | | C | | | D | |
| 90th %ile Green (s) | 5.7 | 62.0 | | 10.0 | 66.3 | | 14.3 | 14.3 | | 6.7 | 6.7 | |
| 90th %ile Term Code | Gap | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 70th %ile Green (s) | 0.0 | 62.0 | | 10.0 | 78.0 | | 10.5 | 10.5 | | 6.0 | 6.0 | |
| 70th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 50th %ile Green (s) | 0.0 | 62.0 | | 10.0 | 78.0 | | 9.0 | 9.0 | | 5.6 | 5.6 | |
| 50th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 30th %ile Green (s) | 0.0 | 62.0 | | 10.0 | 78.0 | | 7.7 | 7.7 | | 5.5 | 5.5 | |
| 30th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 10th %ile Green (s) | 0.0 | 62.0 | | 10.0 | 78.0 | | 5.8 | 5.8 | | 5.5 | 5.5 | |
| 10th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| Stops (vph) | 1 | 1601 | | 114 | 956 | | 50 | 30 | | oup | 7 | |
| Fuel Used(gal) | 0 | 43 | | 9 | 43 | | 1 | 2 | | | 0 | |
| 10 . | 2 | 2994 | | 609 | 3019 | | 84 | 135 | | | 6 | |
| CO Emissions (g/hr) | 0 | 582 | | 118 | 587 | | 16 | 26 | | | 1 | |
| NOx Emissions (g/hr) | 0 | 694 | | 141 | 700 | | 19 | 31 | | | 1 | |
| VOC Emissions (g/hr) | | and the second sec | | 0 | 0 | | 0 | 0 | | | 0 | |
| Dilemma Vehicles (#) | 0 | 0 | | 107 | 307 | | 40 | 1 | | | 2 | |
| Queue Length 50th (ft) | 0 | ~712 | | #286 | 627 | | 82 | 74 | | | 15 | |
| Queue Length 95th (ft) | 3 | #1002 - | | #200 | 29 | | 02 | 577 | | | 46 | |
| Internal Link Dist (ft) | 00 | 931 | | 500 | 29 | | 200 | 511 | | | 40 | |
| Turn Bay Length (ft) | 60 | 1014 | | 500 | 0207 | | 200 | 204 | | | 145 | |
| Base Capacity (vph) | 263 | 1941 | | 217 | 2387 | | 234 | 391 | | | | - |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 0 | | | 0 | |

2045 Build Alt. 2 PM Peak Lake Hamilton Full Median Opening

1 t Lane Group EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR 0.03 0.01 1.01 0.99 0.70 0.25 0.54 Reduced v/c Ratio Intersection Summary Area Type: Other Cycle Length: 120 Actuated Cycle Length: 111.3 Natural Cycle: 100 Control Type: Actuated-Uncoordinated Maximum v/c Ratio: 1.01 Intersection Signal Delay: 35.4 Intersection LOS: D Intersection Capacity Utilization 92.3% ICU Level of Service F Analysis Period (min) 15 90th %ile Actuated Cycle: 117 70th %ile Actuated Cycle: 112.5 50th %ile Actuated Cycle: 110.6 30th %ile Actuated Cycle: 109.2 10th %ile Actuated Cycle: 107.3 ~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles. # 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

Splits and Phases: 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

| 1 Ø2 | ↓ Ø6 | √ Ø3 | |
|---|-------------|------------------------|-------------|
| 21.5 | Ma | lis | 68 S |
| | | ▲ _{Ø7} | ≪ Ø8 |
| And A state of the second s | | 16 s | 58 s |

06/27/2022

06/27/2022

| | ۶ | - | > | - | ← | * | 1 | 1 | P | 1 | ÷. | 1 |
|---|-------|-----------|---------|-------|-------|-------|-------|------|-------|---------|--------------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ň. | 41 | / | 1 | 141 | / | / | | 11 | 1 | | 1 |
| Traffic Volume (vph) | 2 | 1601 | 92 | 183 | 1922 | 3 | 0 | 0 | 295 | 0 | 0 | 6 |
| Future Volume (vph) | 2 | 1601 | 92 | 183 | 1922 | 3 | 0 | 0 | 295 | 0 | 0 | 6 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 60 | | 0 | 500 | | 0 | 200 | | 0 | 0 | 10 100000000 | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 1 | 0 | | 1 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.992 | | | 212.2 | 2020 | 10398 | | 0.865 | 0.07177 | 108.5 | 0.865 |
| FIt Protected | 0.950 | | 1.1.1.1 | 0.950 | | | | | | | | |
| Satd. Flow (prot) | 1805 | 3412 | 0 | 1736 | 3438 | 0 | 0 | 0 | 1580 | 0 | 0 | 1644 |
| Flt Permitted | 0.077 | UTIL | U | 0.074 | 0100 | Ū | • | U | 1000 | Ū | • | 1011 |
| Satd. Flow (perm) | 146 | 3412 | 0 | 135 | 3438 | 0 | 0 | 0 | 1580 | 0 | 0 | 1644 |
| Right Turn on Red | 140 | UTIL . | Yes | 100 | 0100 | Yes | · · | v | Yes | | v | Yes |
| Satd. Flow (RTOR) | | 11 | 100 | | | 100 | | | 36 | | | 36 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | 00 | | 30 | 00 |
| Link Distance (ft) | | 1011 | | | 109 | | | 657 | | | 126 | |
| Travel Time (s) | | 23.0 | | | 2.5 | | | 14.9 | | | 2.9 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Heavy Vehicles (%) | 0.35 | 5% | 4% | 4% | 5% | 0% | 4% | 0% | 4% | 0.00 | 0% | 0% |
| Adj. Flow (vph) | 2 | 1685 | 97 | 193 | 2023 | 3 | 0 | 0 | 311 | 0 | 0 | 6 |
| Shared Lane Traffic (%) | 2 | 1005 | 97 | 195 | 2023 | 5 | U | U | 511 | 0 | 0 | 0 |
| Construction of the second s | 2 | 1782 | 0 | 193 | 2026 | 0 | 0 | 0 | 311 | 0 | 0 | 6 |
| Lane Group Flow (vph) Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| CALIFY DATA AND STREAM AND A CONTRACT AND A | | Left | | | Left | | Left | Left | | Left | Left | |
| Lane Alignment | Left | 12 | Right | Left | 12 | Right | Leit | | Right | Len | Len 0 | Right |
| Median Width(ft) | | | | | | | | 0 | | | | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 16 | - |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 10 | |
| Two way Left Turn Lane | 1.00 | 4.00 | 4.00 | 4.00 | 4.00 | 1.00 | 4.00 | 1.00 | 4.00 | 4.00 | 1.00 | 4 00 |
| Headway 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 |
| Turning Speed (mph) | 15 | - | 9 | 15 | • | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | | | 1 | | | 1 |
| Detector Template | Left | Thru | | Left | Thru | | | | Right | | | Right |
| Leading Detector (ft) | 20 | 100 | | 20 | 100 | | | | 20 | | | 20 |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | | | 20 | | | 20 |
| Detector 1 Type | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | | | | CI+Ex | | | CI+Ex |
| Detector 1 Channel | | 01010-000 | | | | _ | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | | 0.0 | | | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 1 | 0.0 | 0.0 | | | | 0.0 | | | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | | 0.0 | | | 0.0 |
| Detector 2 Position(ft) | | 94 | | | 94 | | | | | | | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | | | | | |
| Detector 2 Type | | CI+Ex | | | CI+Ex | | | | | | | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | | - | | | |
| Furn Type | pm+pt | NA | | pm+pt | NA | | | | Perm | | | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | | | | | | |

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized RCUT

| Lane Group | Ø2 | Ø6 | | |
|----------------------------|------|----|--|--|
| Lane Configurations | | | | |
| Traffic Volume (vph) | | | | |
| Future Volume (vph) | | | | |
| Ideal Flow (vphpl) | | | | |
| Storage Length (ft) | | | | |
| Storage Lanes | | | | |
| Taper Length (ft) | | | | |
| Lane Util. Factor | | | | |
| Frt | | | | |
| Fit Protected | | | | |
| Satd. Flow (prot) | | | | |
| Flt Permitted | | | | |
| Satd. Flow (perm) | | | | |
| Right Turn on Red | | | | |
| Satd. Flow (RTOR) | | | | |
| Link Speed (mph) | | | | |
| Link Distance (ft) | | | | |
| Travel Time (s) | | | | |
| Peak Hour Factor | | | | |
| | | | | |
| Heavy Vehicles (%) | | | | |
| Adj. Flow (vph) | | | | |
| Shared Lane Traffic (%) | | | | |
| Lane Group Flow (vph) | | | | |
| Enter Blocked Intersection | | | | |
| Lane Alignment | | | | |
| Median Width(ft) | | | | |
| Link Offset(ft) | | | | |
| Crosswalk Width(ft) | | | | |
| Two way Left Turn Lane | | | | |
| Headway Factor | | | | |
| Turning Speed (mph) | | | | |
| Number of Detectors | | | | |
| Detector Template | | | | |
| Leading Detector (ft) | | | | |
| Trailing Detector (ft) | | | | |
| Detector 1 Position(ft) | | | | |
| Detector 1 Size(ft) | | | | |
| Detector 1 Type | | | | |
| Detector 1 Channel | | | | |
| Detector 1 Extend (s) | | | | |
| Detector 1 Queue (s) | | | | |
| Detector 1 Delay (s) | | | | |
| Detector 2 Position(ft) | | | | |
| Detector 2 Size(ft) | | | | |
| Detector 2 Type | | | | |
| Detector 2 Channel | | | | |
| Detector 2 Extend (s) | | | | |
| Turn Type | 1 22 | | | |
| Protected Phases | 2 | 6 | | |

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized RCUT

| Lanes, Volumes, Timings | | |
|--------------------------------|--------------------------------|---|
| 17: Lake Hamilton Dr./Fairview | Village/Lakeside Ranch & SR 54 | 4 |

| | ٨ | - | > | 1 | + | * | 1 | Ť | P | 1 | Ļ | 1 |
|--------------------------|----------|-----------|-----|-----------------------|--------------|-----|-----|-----------|-----------|-----|-----|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Permitted Phases | 4 | | | 8 | | | | | 273 | | | 673 |
| Detector Phase | 7 | 4 | | 3 | 8 | | | | 273 | | | 673 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | | | | | | |
| Minimum Split (s) | 11.0 | 24.5 | | 11.0 | 24.5 | | | | | | | |
| Total Split (s) | 17.0 | 58.0 | | 17.0 | 58.0 | | | | | | | |
| Total Split (%) | 18.9% | 64.4% | | 18.9% | 64.4% | | | | | | | |
| Maximum Green (s) | 11.0 | 52.0 | | 11.0 | 52.0 | | | | | | | |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | | | | | |
| All-Red Time (s) | 1.5 | 1.5 | | 1.5 | 1.5 | | | | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | | | | | |
| Total Lost Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | | | | | | _ |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | - |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | | | | | | 100 |
| Recall Mode | None | None | | None | None | | | | | | | |
| Act Effct Green (s) | 58.9 | 51.8 | | 63.6 | 54.2 | | | | 24.5 | | | 24.5 |
| Actuated g/C Ratio | 0.67 | 0.59 | | 0.72 | 0.61 | | | | 0.28 | | | 0.28 |
| v/c Ratio | 0.01 | 0.89 | | 0.72 | 0.96 | | | | 0.67 | | | 0.01 |
| Control Delay | 3.0 | 23.1 | | 33.2 | 29.8 | | | | 33.0 | | | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | | 0.0 | | | 0.0 |
| Total Delay | 3.0 | 23.1 | | 33.2 | 29.8 | | | | 33.0 | | | 0.0 |
| LOS | 3.0 A | 23.1 C | | 00.2 C | 23.0 C | | | | 00.0 C | | | A |
| Approach Delay | ~ | 23.0 | | U | 30.1 | | | 33.0 | U | | | ~ |
| Approach LOS | | 23.0 C | | | 50.1 C | | | 00.0 C | | | | - |
| 90th %ile Green (s) | 11.0 | 52.0 | | 11.0 | 52.0 | | | U | | | | |
| 90th %ile Term Code | Max | Max | | Max | Max | | | | | | | |
| 70th %ile Green (s) | 8.1 | 52.0 | | 11.0 | 54.9 | | | | | | | |
| 70th %ile Term Code | Gap | Max | | Max | Hold | | | | | | | |
| E TRUE TRUE TRUE TRUE TR | 5.5 | 52.0 | | 10.6 | 57.1 | | | | | | | |
| 50th %ile Green (s) | | | | and the second second | | | | | | | | |
| 50th %ile Term Code | Gap | Max | | Gap 8.3 | Hold 54.8 | | | | | | | |
| 30th %ile Green (s) | 5.5 | 52.0 | | | | | | | | | | - |
| 30th %ile Term Code | Gap | Max | | Gap | Hold | | | | | | | |
| 10th %ile Green (s) | 5.5 | 50.9 | | 6.6 | 52.0 | | | | | | | |
| 10th %ile Term Code | Gap | Hold | | Gap 95 | Max | | | | 000 | | | 0 |
| Stops (vph) | 1 | 1338 | | | 1513 | | | | 229 | | | 0 |
| Fuel Used(gal) | 0 | 29 | | 6 | 60 | | | | 5 | | | 0 |
| CO Emissions (g/hr) | 2 | 2005 | | 387 | 4174 | | | | 333 | | | 0 |
| NOx Emissions (g/hr) | 0 | 390 | | 75 | 812 | | | | 65 | | | 0 |
| VOC Emissions (g/hr) | 0 | 465 | | 90 | 967 | | | | 77 | | | 0 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |
| Queue Length 50th (ft) | 0 | 427 | | 50 | 478 | | | | 136 | | | 0 |
| Queue Length 95th (ft) | 2 | #580 | | #142 | #787 | | | | 227 | | | 0 |
| Internal Link Dist (ft) | | 931 | | | 29 | | | 577 | | | 46 | |
| Turn Bay Length (ft) | 60 | 0015 | | 500 | | | | | | | | |
| Base Capacity (vph) | 310 | 2015 | | 299 | 2109 | | | | 491 | | | 509 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized RCUT

| Lane Group | Ø2 | Ø6 |
|-------------------------|--------|------|
| Permitted Phases | | - |
| Detector Phase | | |
| Switch Phase | | |
| Minimum Initial (s) | 5.0 | 5.0 |
| Minimum Split (s) | 21.0 | 21.0 |
| Total Split (s) | 15.0 | 15.0 |
| Total Split (%) | 17% | 17% |
| Maximum Green (s) | 9.0 | 9.0 |
| Yellow Time (s) | 4.5 | 4.5 |
| All-Red Time (s) | 1.5 | 1.5 |
| Lost Time Adjust (s) | 1.0 | 1.0 |
| Total Lost Time (s) | | |
| Lead/Lag | | |
| Lead-Lag Optimize? | | |
| Vehicle Extension (s) | 3.0 | 3.0 |
| Recall Mode | Min | Min |
| Act Effct Green (s) | IVIIII | WIT |
| | | |
| Actuated g/C Ratio | | |
| v/c Ratio | | |
| Control Delay | | |
| Queue Delay | | |
| Total Delay | | |
| LOS | | |
| Approach Delay | | |
| Approach LOS | | |
| 90th %ile Green (s) | 9.0 | 9.0 |
| 90th %ile Term Code | Max | Hold |
| 70th %ile Green (s) | 9.0 | 9.0 |
| 70th %ile Term Code | Max | Hold |
| 50th %ile Green (s) | 9.0 | 9.0 |
| 50th %ile Term Code | Max | Hold |
| 30th %ile Green (s) | 9.0 | 9.0 |
| 30th %ile Term Code | Max | Hold |
| 10th %ile Green (s) | 9.0 | 9.0 |
| 10th %ile Term Code | Max | Hold |
| Stops (vph) | | |
| Fuel Used(gal) | | |
| CO Emissions (g/hr) | | |
| NOx Emissions (g/hr) | | |
| VOC Emissions (g/hr) | | |
| Dilemma Vehicles (#) | | |
| Queue Length 50th (ft) | | |
| Queue Length 95th (ft) | | |
| Internal Link Dist (ft) | | |
| Turn Bay Length (ft) | | |
| Base Capacity (vph) | | |
| Starvation Cap Reductn | | |
| Spillback Cap Reductn | | |
| Storage Cap Reductn | | |
| otorage oup reductin | | |

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized RCUT

06/27/2022

| | 1 | - | > | 1 | + | 4 | 1 | 1 | P | 1 | ŧ | 1 |
|------------------------------|--------------|----------|-------------|-----------|------------|------------|-----|-----|------|-----|-----|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Reduced v/c Ratio | 0.01 | 0.88 | | 0.65 | 0.96 | | | | 0.63 | | | 0.01 |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |
| Cycle Length: 90 | | | | | | | | | | | | |
| Actuated Cycle Length: 88 | .3 | | | | | | | | | | | |
| Natural Cycle: 90 | | | | | | | | | | | | |
| Control Type: Actuated-Un | coordinated | | | | | | | | | | | |
| Maximum v/c Ratio: 0.96 | | | | | | | | | | | | |
| Intersection Signal Delay: | 27.3 | | | In | tersectior | LOS: C | | | | | | |
| Intersection Capacity Utiliz | ation 75.4% | | | IC | U Level o | of Service | D | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |
| 90th %ile Actuated Cycle: | | | | | | | | | | | | |
| 70th %ile Actuated Cycle: | | | | | | | | | | | | |
| 50th %ile Actuated Cycle: | | | | | | | | | | | | |
| 30th %ile Actuated Cycle: | | | | | | | | | | | | |
| 10th %ile Actuated Cycle: | | | | | | | | | | | | |
| # 95th percentile volume | | | eue may | be longer | 8 0 | | | | | | | |
| Queue shown is maxim | um after two | cycles. | | | | | | | | | | |
| | | | | | | | | | | | | |
| Splits and Phases: 17: L | ake Hamiltor | Dr./Fair | view Villa | ge/Lakesi | ide Ranch | n & SR 54 | .4 | _ | | | | |
| Ø2 | Ø3 | | -04 | | | | | | | | | |
| 15,5 | \$ | 1200 | 58.5 | | | | | | | | | |
| Ø6 | Ø7 | | ★ Ø8 | | | | | | | | | |
| 15 5 | | | 53 5 | | | | | - | _ | | | |

Lanes, Volumes, Timings 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

| 06 | 127 | 120 | 122 |
|-----|-----|-----|-----|
| 001 | 21 | 120 | 166 |

| | × | -> | V | 1 | - | * | 1 | Ť | r | 1 | ŧ | 1 |
|--|-------|---------|--------|-------|---------------|-------|-------|---------------|-------|--|------|--------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | 7 | 14% | / | 1 | 1 | 1 | / | | 1 | / | | 1 |
| Traffic Volume (vph) | 2 | | 94 | 208 | 1668 | 5 | 0 | 0 | 262 | 0 | 0 | 5 |
| Future Volume (vph) | 2 | 1817 | 94 | 208 | 1668 | 5 | 0 | 0 | 262 | 0 | 0 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 60 | | 0 | 500 | 110-07200-000 | 0 | 200 | 10 Statistics | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 1 | 0 | | 1 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.993 | | | | | | | 0.865 | | | 0.865 |
| Fit Protected | 0.950 | | | 0.950 | | | | | | | | |
| Satd. Flow (prot) | 1805 | 3479 | 0 | 1736 | 3505 | 0 | 0 | 0 | 1580 | 0 | 0 | 1644 |
| FIt Permitted | 0.077 | | | 0.072 | | | | | | | | |
| Satd. Flow (perm) | 146 | 3479 | 0 | 132 | 3505 | 0 | 0 | 0 | 1580 | 0 | 0 | 1644 |
| Right Turn on Red | | | Yes | | | Yes | 197 | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 10 | | | 1 | | | | 36 | | | 36 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1011 | | | 109 | | | 657 | | | 126 | |
| Travel Time (s) | | 23.0 | 7 | 1 | 2.5 | | | 14.9 | | | 2.9 | |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Heavy Vehicles (%) | 0% | 3% | 4% | 4% | 3% | 0% | 4% | 0% | 4% | 0% | 0% | 0% |
| Adj. Flow (vph) | 2 | 1873 | 97 | 214 | 1720 | 5 | 0 | 0 | 270 | 0 | 0 | 5 |
| Shared Lane Traffic (%) | | TOTO | U. | | 1120 | | | | | , in the second se | | |
| Lane Group Flow (vph) | 2 | 1970 | 0 | 214 | 1725 | 0 | 0 | 0 | 270 | 0 | 0 | 5 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | Lon | 12 | rugitt | Lon | 12 | rugin | Lon | 0 | rugin | Lon | 0 | rugitt |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | 10 | | | 10 | | | 10 | | | 10 | |
| Headway 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 |
| Turning Speed (mph) | 15 | 1.00 | 9 | 15 | 1.00 | 9 | 15 | 1.00 | 9 | 15 | 1.00 | 9 |
| Number of Detectors | 10 | 2 | J | 1 | 2 | 0 | 10 | | 1 | 10 | | 1 |
| Detector Template | Left | Thru | | Left | Thru | | | | Right | | | Right |
| Leading Detector (ft) | 20 | 100 | | 20 | 100 | | | | 20 | | | 20 |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | | | 20 | | | 20 |
| Detector 1 Type | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | | | | CI+Ex | - | | CI+Ex |
| Detector 1 Channel | UNLA | OFLA | | OFFER | UNLA | | | | OFER | | | OILA |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | | 0.0 | | | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | | 0.0 | | | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | | 0.0 | | | 0.0 |
| A CALCULAR DE LA CALCULAR | 0.0 | 94 | | 0.0 | 94 | | | | 0.0 | | | 0.0 |
| Detector 2 Position(ft) | | 94 6 | | | 94 6 | | | | | | | - |
| Detector 2 Size(ft) | | | | | | | | | | | | |
| Detector 2 Type | | CI+Ex | | | CI+Ex | | | | | | | |
| Detector 2 Channel | | 0.0 | | | 0.0 | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | | Derry | | | Desire |
| Turn Type | pm+pt | NA | | pm+pt | NA | | 12.00 | | Perm | | | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | | | | | | |

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized RCUT

| Lane Group | Ø2 | Ø6 |
|--|------------|-------|
| Lane Configurations | | |
| Traffic Volume (vph) | | |
| Future Volume (vph) | | |
| Ideal Flow (vphpl) | | |
| Storage Length (ft) | | |
| Storage Lanes | | |
| Taper Length (ft) | | |
| Lane Util. Factor | | |
| the second se | | |
| Frt | | |
| Fit Protected | | |
| Satd. Flow (prot) | | |
| Flt Permitted | | |
| Satd. Flow (perm) | | |
| Right Turn on Red | | |
| Satd. Flow (RTOR) | | |
| Link Speed (mph) | | |
| Link Distance (ft) | | |
| Travel Time (s) | | |
| Peak Hour Factor | | |
| Heavy Vehicles (%) | | |
| Adj. Flow (vph) | | |
| Shared Lane Traffic (%) | | |
| Lane Group Flow (vph) | | |
| Enter Blocked Intersection | | |
| Lane Alignment | | |
| Median Width(ft) | | |
| Link Offset(ft) | | |
| Crosswalk Width(ft) | | |
| Two way Left Turn Lane | | |
| Headway Factor | | |
| Turning Speed (mph) | | |
| Number of Detectors | | |
| the service of the se | | |
| Detector Template | | |
| Leading Detector (ft) | | |
| Trailing Detector (ft) | | |
| Detector 1 Position(ft) | | |
| Detector 1 Size(ft) | | |
| Detector 1 Type | | |
| Detector 1 Channel | | |
| Detector 1 Extend (s) | | |
| Detector 1 Queue (s) | | |
| Detector 1 Delay (s) | | |
| Detector 2 Position(ft) | | |
| Detector 2 Size(ft) | | |
| Detector 2 Type | | |
| Detector 2 Channel | | |
| Detector 2 Extend (s) | | |
| Turn Type | | 1.000 |
| Protected Phases | 2 | 6 |
| Trolecteu Fllases | 3 6 | 0 |

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized RCUT

| Lanes, Volumes, Timings |
|--|
| 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544 |

| | ۶ | -> | 7 | * | - | 4 | 1 | Ť | P | 6 | Ļ | 1 |
|---|------------|-----------|-----|-------|-------|-----|-----|-----------|---------|-----|-----|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Permitted Phases | 4 | - | | 8 | | | - | | 273 | | | 673 |
| Detector Phase | 7 | 4 | | 3 | 8 | | | | 273 | | | 673 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | | | | | | |
| Minimum Split (s) | 11.0 | 24.5 | | 11.0 | 24.5 | | | | | | | |
| Total Split (s) | 17.0 | 58.0 | | 17.0 | 58.0 | | | | | | | |
| Total Split (%) | 18.9% | 64.4% | | 18.9% | 64.4% | | | | | | | |
| Maximum Green (s) | 11.0 | 52.0 | | 11.0 | 52.0 | | | | | | | |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | | | | | |
| All-Red Time (s) | 1.5 | 1.5 | | 1.5 | 1.5 | | | | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | | | | | |
| Total Lost Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | | | | | | _ |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | | | | | | |
| Recall Mode | None | None | | None | None | | | | | | | |
| Act Effct Green (s) | 58.5 | 52.0 | | 65.4 | 55.4 | | | | 24.9 | | | 24.9 |
| Actuated g/C Ratio | 0.66 | 0.58 | | 0.74 | 0.62 | | | | 0.28 | | | 0.28 |
| v/c Ratio | 0.01 | 0.97 | | 0.78 | 0.79 | | | | 0.58 | | | 0.01 |
| Control Delay | 3.0 | 32.3 | | 39.0 | 16.2 | | | | 29.2 | | | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | | 0.0 | | | 0.0 |
| Total Delay | 3.0 | 32.3 | | 39.0 | 16.2 | | | | 29.2 | | | 0.0 |
| LOS | 3.0 A | 02.0 C | | 00.0 | B | | | | C | | | A |
| Approach Delay | A | 32.3 | | U | 18.7 | | | 29.2 | U | | | ~ |
| Approach LOS | | 52.5 C | | | B | | | 23.2 C | | | | |
| 90th %ile Green (s) | 10.4 | 52.0 | | 11.0 | 52.6 | | | U | | | | |
| 90th %ile Term Code | Gap | Max | | Max | Hold | | | | | | | |
| Sconner Wither and a scheme and a scheme of | 5.5 | 52.0 | | 11.0 | 57.5 | | | | | | | - |
| 70th %ile Green (s) | | Max | | Max | Hold | | | | | | | |
| 70th %ile Term Code | Gap | 52.0 | | 11.0 | 57.5 | | | | | | | |
| 50th %ile Green (s) 50th %ile Term Code | 5.5 | | | Max | Hold | | | | | | | |
| WE REAL TO MANAGEMENT AND A COMPANY AND A COMPANY | Gap 5.5 | Max 52.0 | | 9.5 | 56.0 | | | | | | | |
| 30th %ile Green (s) | | | | | | | | | | | | |
| 30th %ile Term Code | Gap | Max | | Gap | Hold | | | | | | | |
| 10th %ile Green (s) 10th %ile Term Code | 5.5 | 52.0 | | 7.2 | 53.7 | | | | | | | - |
| NATIONAL WORKSHARE INVESTIGATION OF LOW AND | Gap | Max | | Gap | Hold | | | | 192 | | | 0 |
| Stops (vph) | 1 | 1562 | | 112 | 1177 | | | | 2.52.52 | | | 0 |
| Fuel Used(gal) | 0 | 36 | | 7 | 46 | | | | 4 | | | 0 |
| CO Emissions (g/hr) | 2 | 2536 | | 458 | 3249 | | | | 277 | | | 0 |
| NOx Emissions (g/hr) | 0 | 493 | | 89 | 632 | | | | 54 | | | 0 |
| VOC Emissions (g/hr) | 0 | 588 | | 106 | 753 | | | | 64 | | | 0 |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |
| Queue Length 50th (ft) | 0 | 528 | | 64 | 328 | | | | 112 | | | 0 |
| Queue Length 95th (ft) | 2 | #744 | | #173 | 498 | | | | 192 | | 10 | 0 |
| Internal Link Dist (ft) | | 931 | | | 29 | | | 577 | | | 46 | - |
| Turn Bay Length (ft) | 60 | | | 500 | | | | | 10- | | | |
| Base Capacity (vph) | 308 | 2038 | | 297 | 2185 | | | | 487 | | | 506 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | | 0 | | | 0 |

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized RCUT

| Lane Group | Ø2 | Ø6 |
|-------------------------|------------|------|
| Permitted Phases | | |
| Detector Phase | | |
| Switch Phase | | |
| Minimum Initial (s) | 5.0 | 5.0 |
| Minimum Split (s) | 17.0 | 17.0 |
| Total Split (s) | 15.0 | 15.0 |
| Total Split (%) | 17% | 17% |
| Maximum Green (s) | 9.0 | 9.0 |
| Yellow Time (s) | 4.5 | 4.5 |
| All-Red Time (s) | 4.5 | 1.5 |
| Lost Time Adjust (s) | 1.0 | 1.5 |
| | | |
| Total Lost Time (s) | | |
| Lead/Lag | | |
| Lead-Lag Optimize? | 20 | 20 |
| Vehicle Extension (s) | 3.0 Mip | 3.0 |
| Recall Mode | Min | Min |
| Act Effct Green (s) | | |
| Actuated g/C Ratio | | |
| v/c Ratio | | |
| Control Delay | | |
| Queue Delay | | |
| Total Delay | | |
| LOS | | |
| Approach Delay | | |
| Approach LOS | | |
| 90th %ile Green (s) | 9.0 | 9.0 |
| 90th %ile Term Code | Max | Hold |
| 70th %ile Green (s) | 9.0 | 9.0 |
| 70th %ile Term Code | Max | Hold |
| 50th %ile Green (s) | 9.0 | 9.0 |
| 50th %ile Term Code | Max | Hold |
| 30th %ile Green (s) | 9.0 | 9.0 |
| 30th %ile Term Code | Max | Hold |
| 10th %ile Green (s) | 9.0 | 9.0 |
| 10th %ile Term Code | Max | Hold |
| Stops (vph) | | |
| Fuel Used(gal) | | |
| CO Emissions (g/hr) | | |
| NOx Emissions (g/hr) | | |
| VOC Emissions (g/hr) | | |
| Dilemma Vehicles (#) | | |
| Queue Length 50th (ft) | | |
| | | |
| Queue Length 95th (ft) | | |
| Internal Link Dist (ft) | | |
| Turn Bay Length (ft) | | |
| Base Capacity (vph) | | |
| Starvation Cap Reductn | | |
| Spillback Cap Reductn | | |
| Storage Cap Reductn | | |

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized RCUT

Lanes, Volumes, Timings

17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

| | ٠ | -> | 7 | 1 | - | * | 1 | Ť | P | 1 | ¥. | 1 |
|-------------------------------|-------------|------------------------|-----------|-----------|------------|------------|-----|-----|------|-----|-----|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBF |
| Reduced v/c Ratio | 0.01 | 0.97 | | 0.72 | 0.79 | | | | 0.55 | | | 0.0 |
| Intersection Summary | | | | 122 | | | | | | | - | |
| Area Type: | Other | | | | | | | | | | | |
| Cycle Length: 90 | | | | | | | | | | | | |
| Actuated Cycle Length: 88.9 |) | | | | | | | | | | | |
| Natural Cycle: 90 | | | | | | | | | | | | |
| Control Type: Actuated-Unc | oordinated | | | | | | | | | | | |
| Maximum v/c Ratio: 0.97 | | | | | | | | | | | | |
| Intersection Signal Delay: 2 | 5.8 | | | In | tersection | LOS: C | | | | | | |
| Intersection Capacity Utiliza | tion 79.4% | | | IC | U Level o | of Service | D | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |
| 90th %ile Actuated Cycle: 90 | | | | | | | | | | | | |
| 70th %ile Actuated Cycle: 90 | | | | | | | | | | | | - |
| 50th %ile Actuated Cycle: 90 | | | | | | | | | | | | |
| 30th %ile Actuated Cycle: 88 | | | | | | | | | | | | |
| 10th %ile Actuated Cycle: 86 | | - | | - | | | | | | | | |
| # 95th percentile volume e | | Contract of the second | eue may l | be longer | e | | | | | | | |
| Queue shown is maximu | m after two | cycles. | | | | | | | | | | |

| Ø2 | 1 Ø3 | → Ø4 | |
|------|-------------|----------------|--|
| 15% | 17 8 | 58 s | |
| Ø6 | <i>▶</i> 07 | 4 Ø8 | |
| 15.4 | 27.6 | 55 K | |

06/27/2022

| | 14 | |
|---|----------|-----|
| - | 2 | 1 |
| - | 06/27/20 | 122 |

| | ٨ | -> | 7 | 1 | - | * | 4 | 1 | P | 1 | ŧ | 1 |
|---|-------------|---------|-----------|-----------|---------|-------|-----------|-----------|--------|---|-----------|----------------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ٦ | 1 10 | | 1 | 1 | , | J. | ર્ન | 1 | 1 | 4 | TE |
| Traffic Volume (vph) | 2 | 1599 | 92 | 183 | 1864 | 3 | 58 | 0 | 237 | 2 | 1º | 4 |
| Future Volume (vph) | 2 | 1599 | 92 | 183 | 1864 | 3 | 58 | 0 | 237 | 2 | 0 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 60 | | 0 | 500 | | 0 | 200 | | 0 | 0 | agested a | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | . A depende | 0.992 | 029359550 | - 00.8959 | | | 0.0.0.0.0 | | 0.850 | | 0.910 | |
| Fit Protected | 0.950 | | | 0.950 | | | | 0.950 | | | 0.984 | |
| Satd. Flow (prot) | 1805 | 3412 | 0 | 1736 | 3438 | 0 | 0 | 1736 | 1553 | 0 | 1701 | 0 |
| Flt Permitted | 0.062 | | | 0.056 | | | | 0.950 | | | 0.984 | |
| Satd. Flow (perm) | 118 | 3412 | 0 | 102 | 3438 | 0 | 0 | 1736 | 1553 | 0 | 1701 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | , in the second s | | Yes |
| Satd. Flow (RTOR) | | 7 | | | | | | | 160 | | 136 | 100 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | 100 | | 30 | |
| Link Distance (ft) | | 1011 | | | 109 | | | 657 | | | 126 | |
| Travel Time (s) | | 23.0 | | | 2.5 | | | 14.9 | | | 2.9 | - |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Heavy Vehicles (%) | 0% | 5% | 4% | 4% | 5% | 0% | 4% | 0% | 4% | 0.00 | - 0% | 0.95 |
| Adj. Flow (vph) | 2 | 1683 | 97 | 193 | 1962 | 3 | 61 | 0 | 249 | 2 | 0 | 4 |
| Shared Lane Traffic (%) | 2 | 1005 | 51 | 100 | 1302 | 5 | 01 | U | 245 | 2 | U | 4 |
| Lane Group Flow (vph) | 2 | 1780 | 0 | 193 | 1965 | 0 | 0 | 61 | 249 | 0 | 6 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | Lon | 12 | rugin | Len | 12 | right | Len | 0 | Tayin | Len | 0 | Right |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | - |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | - |
| Two way Left Turn Lane | | 10 | | | 10 | | | 10 | | | 10 | |
| Headway 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 |
| Turning Speed (mph) | 1.00 | 1.00 | 9 | 15 | 1.00 | 9 | 15 | 1.00 | 9 | 15 | 1.00 | THE STATISTICS |
| Number of Detectors | 10 | 2 | 9 | 10 | 2 | 9 | 15 | 2 | 9 | 15 | 2 | 9 |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | | Left | Z Thru | 1 |
| | 20 | 100 | | | | | Note: | | Right | | | - |
| Leading Detector (ft) Trailing Detector (ft) | 20 | 0 | | 20 0 | 100 | | 20 0 | 100 | 20 | 20 | 100 | |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | - |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | CI+Ex | CI+Ex | CI+Ex | - |
| Detector 1 Channel | CITEX | UTEX | | CITEX | CITEX | | GITEX | UITEX | CITEX | CITEX | CITEX | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| | 0.0 | 94 | | 0.0 | 94 | | 0.0 | 94 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 6 | | | 94 6 | | | | | | 94 | |
| Detector 2 Size(ft) | | | | | | | | 6 CHEX | | | 6 | |
| Detector 2 Type | | CI+Ex | | | CI+Ex | | | CI+Ex | | | CI+Ex | - |
| Detector 2 Channel | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Detector 2 Extend (s) | mm tak | 0.0 | | | 0.0 | | 0 | 0.0 | | 0.11 | 0.0 | |
| Turn Type | pm+pt | NA | | pm+pt | NA | | Split | | custom | Split | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 2 | 2 | | 6 | 6 | |

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized Thru-CUT

06/27/2022

| | × | - | 7 | 1 | - | 4 | 1 | Î | P | 1 | ţ | 1 |
|-------------------------|-------|-------|-----|-------|-------|-----|-------|-------|-----------|-------|-------|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Permitted Phases | 4 | | | 8 | | | | | 23 | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 2 | 2 | 23 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 11.0 | 24.5 | | 11.0 | 24.5 | | 21.0 | 21.0 | | 16.0 | 16.0 | |
| Total Split (s) | 17.0 | 66.0 | | 17.0 | 66.0 | | 21.0 | 21.0 | | 16.0 | 16.0 | |
| Total Split (%) | 14.2% | 55.0% | | 14.2% | 55.0% | | 17.5% | 17.5% | | 13.3% | 13.3% | |
| Maximum Green (s) | 11.0 | 60.0 | | 11.0 | 60.0 | | 15.0 | 15.0 | | 10.0 | 10.0 | |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| All-Red Time (s) | 1.5 | 1.5 | | 1.5 | 1.5 | | 1.5 | 1.5 | | 1.5 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | | 6.0 | | | 6.0 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | None | | None | None | | Min | Min | | Min | Min | |
| Act Effct Green (s) | 65.7 | 60.1 | | 76.6 | 74.5 | | | 10.3 | 21.0 | | 5.5 | |
| Actuated g/C Ratio | 0.59 | 0.54 | | 0.69 | 0.67 | | | 0.09 | 0.19 | | 0.05 | _ |
| v/c Ratio | 0.01 | 0.96 | | 0.85 | 0.85 | | | 0.38 | 0.59 | | 0.03 | |
| Control Delay | 7.0 | 38.3 | | 59.0 | 19.9 | | | 53.6 | 16.1 | | 0.2 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | 7.0 | 38.3 | | 59.0 | 19.9 | | | 53.6 | 16.1 | | 0.2 | |
| LOS | A | D | | E | В | | | D | В | | A | |
| Approach Delay | | 38.2 | | - | 23.4 | | | 23.5 | - And And | | 0.2 | |
| Approach LOS | | D | | | С | | | C | | | A | |
| 90th %ile Green (s) | 5.7 | 60.0 | | 11.0 | 65.3 | | 15.0 | 15.0 | | 5.5 | 5.5 | _ |
| 90th %ile Term Code | Gap | Max | | Max | Hold | | Max | Max | | Gap | Gap | - |
| 70th %ile Green (s) | 0.0 | 60.0 | | 11.0 | 77.0 | | 13.1 | 13.1 | | 5.5 | 5.5 | |
| 70th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 50th %ile Green (s) | 0.0 | 60.0 | | 11.0 | 77.0 | | 10.4 | 10.4 | | 5.5 | 5.5 | |
| 50th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 30th %ile Green (s) | 0.0 | 60.0 | | 11.0 | 77.0 | | 7.8 | 7.8 | | 5.5 | 5.5 | |
| 30th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 10th %ile Green (s) | 0.0 | 60.0 | | 9.2 | 75.2 | | 5.8 | 5.8 | | 5.5 | 5.5 | |
| 10th %ile Term Code | Skip | Max | | Gap | Hold | | Gap | Gap | | Gap | Gap | |
| Stops (vph) | 1 | 1404 | | 104 | 1240 | | oup | 51 | 79 | oup | 0 | |
| Fuel Used(gal) | 0 | 34 | | 7 | 53 | | | 1 | 2 | | 0 | - |
| CO Emissions (g/hr) | 2 | 2395 | | 458 | 3697 | | | 85 | 170 | | 0 | |
| NOx Emissions (g/hr) | 0 | 466 | | 89 | 719 | | | 16 | 33 | | 0 | |
| VOC Emissions (g/hr) | 0 | 555 | | 106 | 857 | | | 20 | 39 | | 0 | |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | | 0 | 0 | | 0 | 1 |
| Queue Length 50th (ft) | 0 | 608 | | 89 | 467 | | | 42 | 43 | | 0 | |
| Queue Length 95th (ft) | 3 | #867 | | #231 | #948 | | | 85 | 107 | | 0 | |
| Internal Link Dist (ft) | 0 | 931 | | ILO I | 29 | | | 577 | 101 | | 46 | |
| Turn Bay Length (ft) | 60 | 001 | | 500 | 20 | | | U.I. | | | τu | |
| Base Capacity (vph) | 243 | 1857 | | 233 | 2316 | | | 235 | 487 | | 277 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | 407 | | 0 | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | 0 | | 0 | |
| | 0 | | | 0 | 0 | | | 0 | 0 | | | |
| Storage Cap Reductn | U | 0 | | 0 | U | - | | U | 0 | | 0 | |

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized Thru-CUT

Lanes, Volumes, Timings 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

| 06/27/2022 |
|------------|
| |

| | 1 | -> | 7 | 1 | - | * | 1 | Ť | P | 1 | ÷. | 1 |
|--------------------------------|-------------|-----------------------|------------|-----------|------------|------------|-----|------|------|-----|------|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Reduced v/c Ratio | 0.01 | 0.96 | | 0.83 | 0.85 | | | 0.26 | 0.51 | | 0.02 | |
| Intersection Summary | | | | | and the | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |
| Cycle Length: 120 | | | | | | | | | | | | |
| Actuated Cycle Length: 110. | .6 | | | | | | | | | | | |
| Natural Cycle: 120 | | | | | | | | | | | | |
| Control Type: Actuated-Unc | oordinated | | | | | | | | | | | |
| Maximum v/c Ratio: 0.96 | | | | | | | | | | | | |
| Intersection Signal Delay: 29 | 9.6 | | | In | tersection | LOS: C | | | | | | |
| Intersection Capacity Utilizat | tion 81.0% | | | IC | U Level o | of Service | D | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |
| 90th %ile Actuated Cycle: 11 | | | | | | | | | | | | |
| 70th %ile Actuated Cycle: 11 | | | | | | | | | | | | |
| 50th %ile Actuated Cycle: 11 | | | | | | | | | | | | |
| 30th %ile Actuated Cycle: 10 | | | | | | | | | | | | |
| 10th %ile Actuated Cycle: 10 | | | | | | | | | | | | |
| # 95th percentile volume e | | | eue may | be longer | (j) | | | | | | | |
| Queue shown is maximur | m after two | cycles. | | | | | | | | | | |
| | | D / C / | | | | 0.00.54 | | | | | | |
| Splits and Phases: 17: La | ke Hamiltor | Dr./Fair | view Villa | ge/Lakesi | de Rancr | 1 & SR 54 | 4 | | | | | - 1 |
| N ø2 | Ø 6 | 1 | Ø3 | 2 | 04 | | | | | | _ | - |

| NØ2 | ♥ Ø6 | ♥ Ø3 | | |
|------|-------------|-------------|-------|--|
| 24.4 | 16 8 | 17 5 | 66.9 | |
| | | ▲ Ø7 | Ø8 | |
| | | 17 9 | 0.0.5 | |

| 1 | 71 | 1 |
|---|--------|-----|
| | | |
| 0 | 5727/2 | 022 |

| | ٨ | -> | 7 | 1 | + | 4 | 4 | 1 | P | 1 | ŧ | 1 |
|--|---------|------------|------------|-----------|------------|---------|----------|------------|--------|-------------|-------|-----------------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | -NBR | SBL | SBT | SBR |
| Lane Configurations | 7 | ≜ ⊅ | | 7 | ≜ î | _ | C | र्भ | 7 |) | (4) |) |
| Traffic Volume (vph) | 2 | 1814 | 94 | 208 | 1610 | 5 | 56 | 0 | | 1 | O | 4 |
| Future Volume (vph) | 2 | 1814 | 94 | 208 | 1610 | 5 | 56 | 0 | 206 | 1 | 0 | 4 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 60 | | 0 | 500 | | 0 | 200 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 0 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.993 | 487.468045 | 11.448438 | 2.0.242 | 2005000 | 1000.505 | 11445-55 | 0.850 | 0.000033904 | 0.892 | UNDERS: |
| Fit Protected | 0.950 | | | 0.950 | | | | 0.950 | | | 0.990 | |
| Satd. Flow (prot) | 1805 | 3479 | 0 | 1736 | 3505 | 0 | 0 | 1736 | 1553 | 0 | 1678 | 0 |
| Flt Permitted | 0.111 | | | 0.046 | | | | 0.950 | | | 0.990 | |
| Satd. Flow (perm) | 211 | 3479 | 0 | 84 | 3505 | 0 | 0 | 1736 | 1553 | 0 | 1678 | 0 |
| Right Turn on Red | | 2.1.0 | Yes | | | Yes | · · | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 6 | | | | 100 | | | 133 | | 117 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | 100 | | 30 | |
| Link Distance (ft) | | 1011 | | | 109 | | | 657 | | | 126 | |
| Travel Time (s) | | 23.0 | | | 2.5 | | | 14.9 | | | 2.9 | - |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Heavy Vehicles (%) | 0% | 3% | 4% | 4% | 3% | 0% | 4% | 0% | 4% | 0% | 0% | 0% |
| Adj. Flow (vph) | 2 | 1870 | 97 | 214 | 1660 | 5 | 58 | 070 | 212 | 1 | 078 | 4 |
| Shared Lane Traffic (%) | 2 | 1070 | 51 | 214 | 1000 | 5 | 50 | U | 212 | - | 0 | 4 |
| | 2 | 1967 | 0 | 214 | 1665 | 0 | 0 | 58 | 212 | 0 | 5 | 0 |
| Lane Group Flow (vph) Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | 0 No |
| HOW HEARS IN HIR OF HOUSE PORTAGE AND THE COMPANY ME | Left | Left | | Left | Left | | Left | 100000 | | | | The late of the |
| Lane Alignment | Leit | 12 | Right | Leit | 12 | Right | Len | Left 0 | Right | Left | Left | Right |
| Median Width(ft) | | | | | | | | 10000 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | _ |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | 1 00 | 1.00 | 4.00 | 1.00 | 1.00 | 1.00 | 4.00 | 1.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | 0 | 9 | 15 | 0 | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | | 1 | 2 | | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | | Left | Thru | | Left | Thru | Right | Left | Thru | - |
| Leading Detector (ft) | 20 | 100 | | 20 | 100 | | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | | 20 | 6 | | 20 | 6 | 20 | 20 | 6 | _ |
| Detector 1 Type | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | | CI+Ex | CI+Ex | CI+Ex | CI+Ex | CI+Ex | |
| Detector 1 Channel | NHA MAR | | | | 021150 | | 100 M | CARCOLINET | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | _ |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | CI+Ex | | | CI+Ex | | | CI+Ex | | | CI+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | | pm+pt | NA | | Split | NA | custom | Split | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 2 | 2 | | 6 | 6 | - |

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized Thru-CUT

| Lanes, Volumes, Timings | |
|--------------------------------|---------------------------------|
| 17: Lake Hamilton Dr./Fairview | Village/Lakeside Ranch & SR 544 |

| | ٦ | -> | > | - | + | * | 1 | 1 | 1 | 1 | Ļ | 1 |
|---|-------|-------|-----|-------|-------|-----|--------|-------|------|--------|-------|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Permitted Phases | 4 | | | 8 | | | | 1. | 23 | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 2 | 2 | 23 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 11.0 | 24.5 | | 11.0 | 24.5 | | 21.0 | 21.0 | | 16.0 | 16.0 | |
| Total Split (s) | 21.0 | 82.0 | | 21.0 | 82.0 | | 21.0 | 21.0 | | 16.0 | 16.0 | |
| Total Split (%) | 15.0% | 58.6% | | 15.0% | 58.6% | | 15.0% | 15.0% | | 11.4% | 11.4% | |
| Maximum Green (s) | 15.0 | 76.0 | | 15.0 | 76.0 | | 15.0 | 15.0 | | 10.0 | 10.0 | |
| Yellow Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| All-Red Time (s) | 1.5 | 1.5 | | 1.5 | 1.5 | | 1.5 | 1.5 | | 1.5 | 1.5 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 1.0 | 0.0 | - L | 1.0 | 0.0 | 1 |
| Total Lost Time (s) | 6.0 | 6.0 | | 6.0 | 6.0 | | | 6.0 | | | 6.0 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | - | | 0.0 | | | 0.0 | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Recall Mode | None | None | | None | None | | Min | Min | | Min | Min | |
| Act Effct Green (s) | 81.6 | 76.1 | | 96.3 | 94.1 | | IVIIII | 10.5 | 24.8 | IVIIII | 5.5 | |
| Actuated g/C Ratio | 0.63 | 0.58 | | 0.74 | 0.72 | | | 0.08 | 0.19 | | 0.04 | |
| v/c Ratio | 0.03 | 0.58 | | 0.74 | 0.66 | | | 0.08 | | | | - |
| And the second se | | | | | | | | | 0.53 | | 0.03 | |
| Control Delay | 6.0 | 40.5 | | 71.5 | 12.4 | | | 65.9 | 17.8 | | 0.2 | _ |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | |
| Total Delay | 6.0 | 40.5 | | 71.5 | 12.4 | | | 65.9 | 17.8 | | 0.2 | _ |
| LOS | А | D | - | Е | В | | | E | В | | A | |
| Approach Delay | | 40.5 | | | 19.1 | | | 28.1 | | | 0.2 | |
| Approach LOS | | D | | | В | | | С | | | A | |
| 90th %ile Green (s) | 5.7 | 76.0 | | 15.0 | 85.3 | | 15.0 | 15.0 | | 5.5 | 5.5 | |
| 90th %ile Term Code | Gap | Max | | Max | Hold | | Max | Max | | Gap | Gap | |
| 70th %ile Green (s) | 0.0 | 76.0 | | 15.0 | 97.0 | | 13.4 | 13.4 | | 5.5 | 5.5 | |
| 70th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 50th %ile Green (s) | 0.0 | 76.0 | | 15.0 | 97.0 | | 10.6 | 10.6 | | 5.5 | 5.5 | |
| 50th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 30th %ile Green (s) | 0.0 | 76.0 | | 15.0 | 97.0 | | 8.2 | 8.2 | | 5.5 | 5.5 | |
| 30th %ile Term Code | Skip | Max | | Max | Hold | | Gap | Gap | | Gap | Gap | |
| 10th %ile Green (s) | 0.0 | 76.0 | | 11.5 | 93.5 | | 6.0 | 6.0 | | 5.5 | 5.5 | |
| 10th %ile Term Code | Skip | Max | | Gap | Hold | | Gap | Gap | | Gap | Gap | |
| Stops (vph) | 1 | 1594 | | 133 | 833 | | | 52 | 68 | | 0 | |
| Fuel Used(gal) | 0 | 40 | | 8 | 42 | | | 1 | 2 | | 0 | |
| CO Emissions (g/hr) | 2 | 2767 | | 563 | 2932 | | | 93 | 152 | | 0 | |
| NOx Emissions (g/hr) | 0 | 538 | | 109 | 570 | | | 18 | 30 | | 0 | |
| VOC Emissions (g/hr) | 0 | 641 | | 130 | 680 | | | 21 | 35 | | 0 | |
| Dilemma Vehicles (#) | 0 | 0 | | 0 | 0 | | | 0 | 0 | | 0 | |
| Queue Length 50th (ft) | 0 | 809 | | 132 | 325 | | | 48 | 47 | | 0 | |
| Queue Length 95th (ft) | 3 | #1089 | | #287 | 605 | | | 94 | 113 | | 0 | |
| nternal Link Dist (ft) | | 931 | | | 29 | | | 577 | | | 46 | |
| Turn Bay Length (ft) | 60 | | | 500 | | | | | | | | |
| Base Capacity (vph) | 330 | 2031 | | 252 | 2529 | | | 199 | 460 | | 236 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | 0 | | 0 | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | 0 | | 0 | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | | | 0 | 0 | | 0 | |

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized Thru-CUT

| Lanes, Volumes, Timings | |
|--|--|
| 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544 | |

| | × | -> | 7 | 1 | -> | * | 1 | 1 | P | 6 | ţ | 1 |
|------------------------------|--------------|------------|---------|-----------|------------|------------|-----|------|------|-----|------|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBF |
| Reduced v/c Ratio | 0.01 | 0.97 | | 0.85 | 0.66 | | | 0.29 | 0.46 | | 0.02 | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |
| Cycle Length: 140 | | | | | | | | | | | | |
| Actuated Cycle Length: 13 | 30.4 | | | | | | | | | | | |
| Natural Cycle: 140 | | | | | | | | | | | | |
| Control Type: Actuated-Ur | ncoordinated | | | | | | | | | | | |
| Maximum v/c Ratio: 0.97 | | | | | | | | | | | | |
| Intersection Signal Delay: | 29.9 | | | In | tersection | LOS: C | | | | | | |
| Intersection Capacity Utiliz | ation 89.4% | | | IC | U Level o | of Service | E | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |
| 90th %ile Actuated Cycle: | 135.5 | | | | | | | | | | | |
| 70th %ile Actuated Cycle: | 133.9 | | | | | | | | | | | |
| 50th %ile Actuated Cycle: | 131.1 | | | | | | | | | | | |
| 30th %ile Actuated Cycle: | 128.7 | | | | | | | | | | | |
| 10th %ile Actuated Cycle: | 123 | | | | | | | | | | | |
| # 95th percentile volume | exceeds cap | acity, qui | eue may | be longer | | | | | | | | |
| Queue shown is maxim | um after two | cycles. | | | | | | | | | | |

Splits and Phases: 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

| √ ø₂ | ₩ø6 | 1 03 | → Ø4 |
|-------------|------|-----------------|------------------|
| 21.e | 16 s | 215 | 825 |
| | | ▶ ₀₇ | 4 − Ø8 |
| | | 21.5 | 82's |

06/27/2022

| Lanes, Volumes, Timings | | | |
|--------------------------------|------------------|---------|--------|
| 17: Lake Hamilton Dr./Fairview | Village/Lakeside | Ranch & | SR 544 |

| | ٨ | - | > | 1 | - | * | 1 | Ť | 1 | 1 | ŧ | 1 |
|----------------------------|---|-------------|---------------|-------|------------|--------------|----------|----------|--------|------|-------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | A 16 | / / | 1. | ≜ ₽ | 1 | / | ب | | | Â | - |
| Traffic Volume (vph) | 0 | 1603 | 275 | 0 | 2105 | 5 | 0 | 1 | 295 | 0 | 1 | 5 |
| Future Volume (vph) | 0 | 1603 | 275 | 0 | 2105 | 5 | 0 | 1 | 295 | 0 | 1 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 60 | | 0 | 500 | | 0 | 200 | | 0 | 0 | | C |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | | C |
| Taper Length (ft) | 25 | | 9 <u>5</u> (C | 25 | | | 25 | | | 25 | | |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.1.2.2 | 0.978 | 201022 | 0.000 | 20.010 | 1181/3-515-6 | 19102121 | 0.865 | 10,500 | | 0.887 | |
| Flt Protected | | 0.010 | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 3367 | 0 | 0 | 3438 | 0 | 0 | 1580 | 0 | 0 | 1685 | 0 |
| Flt Permitted | | 0001 | U | | 0100 | | | 1000 | | | 1000 | |
| Satd. Flow (perm) | 0 | 3367 | 0 | 0 | 3438 | 0 | 0 | 1580 | 0 | 0 | 1685 | 0 |
| Right Turn on Red | , in the second s | 0001 | Yes | | 0.00 | Yes | | | Yes | | 1000 | Yes |
| Satd. Flow (RTOR) | | 38 | 100 | | | 100 | | 31 | 100 | | 5 | 100 |
| Link Speed (mph) | | 30 | | | 30 | _ | | 30 | - | | 30 | |
| Link Distance (ft) | | 1011 | | | 109 | | | 657 | | | 126 | |
| Travel Time (s) | | 23.0 | | | 2.5 | | | 14.9 | | - | 2.9 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| | 0.95 | 5% | 4% | 4% | 5% | 0.95 | 4% | 0.95 | 4% | 0.95 | 0.95 | 0.95 |
| Heavy Vehicles (%) | 1 Pro 011 | | | | | | | 1 | 311 | | | |
| Adj. Flow (vph) | 0 | 1687 | 289 | 0 | 2216 | 5 | 0 | 1 | 311 | 0 | 1 | 5 |
| Shared Lane Traffic (%) | 0 | 4070 | 0 | 0 | 0004 | • | 0 | 040 | 0 | 0 | • | 0 |
| Lane Group Flow (vph) | 0 | 1976 | 0 | 0 | 2221 | 0 | 0 | 312 | 0 | 0 | 6 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | _ | | 0 | - |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | 1110 3 EV220 | 10 2121 | | | | | | | | | | |
| Headway 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 |
| Turning Speed (mph) | 15 | | 9 | 15 | 321 | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | | 2 | | | 2 | | | 2 | | | 2 | - |
| Detector Template | | Thru | | | Thru | | | Thru | | | Thru | _ |
| Leading Detector (ft) | | 100 | | | 100 | | | 100 | | - | 100 | |
| Trailing Detector (ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Detector 1 Position(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Detector 1 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 1 Type | | CI+Ex | | | CI+Ex | | | CI+Ex | | | CI+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Detector 1 Queue (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Detector 1 Delay (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | CI+Ex | | | CI+Ex | | | CI+Ex | | | CI+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | | NA | | | NA | | | NA | | | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | - | | 6 | |

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized MUT

| Lanes, Volumes, Timings | |
|--|---|
| 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544 | ł |

| | ٨ | -> | > | 1 | + | A | ٩ | Ť | P | 1 | ţ | 1 |
|--|----------------|-----------|----------|-----|--------------|-----|-----|-------|-----------------------|-----|-------|------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Permitted Phases | and the second | | State of | | | | | | - | | | |
| Detector Phase | | 4 | | | 8 | | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 5.0 | | | 5.0 | | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | 24.5 | | | 24.5 | | | 21.0 | | | 21.0 | |
| Total Split (s) | | 70.0 | | | 70.0 | | | 30.0 | | | 30.0 | |
| Total Split (%) | | 70.0% | | | 70.0% | | | 30.0% | | | 30.0% | |
| Maximum Green (s) | | 64.0 | | | 64.0 | | | 24.0 | | | 24.0 | |
| Yellow Time (s) | | 4.5 | | | 4.5 | | | 4.5 | | | 4.5 | |
| All-Red Time (s) | | 1.5 | | | 1.5 | | | 1.5 | | | 1.5 | _ |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 6.0 | | | 6.0 | | | 6.0 | | _ | 6.0 | |
| Lead/Lag | | | | | | | | | | | 1.1.1 | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | | | 3.0 | | | 3.0 | 1000 |
| Recall Mode | | None | | | None | | | Min | | | Min | |
| Act Effct Green (s) | | 64.1 | | | 64.1 | | | 21.1 | | | 21.1 | |
| Actuated g/C Ratio | | 0.66 | | | 0.66 | | | 0.22 | | | 0.22 | _ |
| v/c Ratio | | 0.88 | | | 0.98 | | | 0.85 | | | 0.02 | |
| Control Delay | | 20.3 | | | 32.3 | | | 54.9 | | | 19.5 | |
| Queue Delay | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Total Delay | | 20.3 | | | 32.3 | | | 54.9 | | | 19.5 | |
| LOS | | 20.0 C | | | C | | | D | | | B | |
| Approach Delay | | 20.3 | | | 32.3 | | | 54.9 | | | 19.5 | |
| Approach LOS | | 20.5 C | | | C | | | D | | | B | |
| 90th %ile Green (s) | | 64.0 | | | 64.0 | | | 24.0 | | | 24.0 | |
| 90th %ile Term Code | | Max | | | Max | | | Max | | | Hold | - |
| 70th %ile Green (s) | | 64.0 | | | 64.0 | | | 24.0 | | | 24.0 | |
| 70th %ile Term Code | | Max | | | Max | | | Max | | | Hold | |
| 50th %ile Green (s) | | 64.0 | | | 64.0 | | | 23.8 | | | 23.8 | |
| 50th %ile Term Code | | Max | | | Max | | | Gap | | | Hold | - |
| | | 64.0 | | | 64.0 | | | 19.7 | | | 19.7 | |
| 30th %ile Green (s) 30th %ile Term Code | | Max | | | Max | | | Gap | | | Hold | - |
| | | 64.0 | | | 64.0 | | | 14.4 | | | 14.4 | |
| 10th %ile Green (s) 10th %ile Term Code | | Hold | | | Max | | | Gap | | | Hold | |
| THE REPORT OF A DESCRIPTION OF A DESCRIP | | 1398 | | | 1662 | | | 244 | | | 4 | |
| Stops (vph) | | 30 | | | 67 | | | 6 | | | 0 | |
| Fuel Used(gal) | | 2116 | | | 4651 | | | 432 | | | 4 | |
| CO Emissions (g/hr) | | 412 | | | 905 | | | 84 | | | 1 | |
| NOx Emissions (g/hr) | | 412 | | | 1078 | | | 100 | | | 1 | |
| VOC Emissions (g/hr) | | | | | | | | 0 | | | 0 | - |
| Dilemma Vehicles (#) | | 0 509 | | | 0 ~698 | | | 169 | | | 1 | |
| Queue Length 50th (ft) | | #664 | | | ~698 #924 | | | #299 | | | 11 | - |
| Queue Length 95th (ft) | | | | | #924 | | | #299 | | | 46 | |
| Internal Link Dist (ft) | | 931 | | | 29 | | | 5// | | | 40 | - |
| Turn Bay Length (ft) | | 0000 | | | 0007 | | | 414 | | | 420 | |
| Base Capacity (vph) | | 2233 | - | | 2267 | | | | | | | - |
| Starvation Cap Reductn | | 0 | | | 0 | | | 0 | | | 0 | |
| Spillback Cap Reductn | | 0 | | | 0 | | | 0 | | | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | | | 0 | and the second second | | 0 | |

2045 Build Alt. 2 AM Peak Lake Hamilton Signalized MUT

| Lanes, Volumes, Timings | |
|--------------------------------|---------------------------------|
| 17: Lake Hamilton Dr./Fairview | Village/Lakeside Ranch & SR 544 |

| | ٨ | -> | 7 | 1 | - | 4 | 1 | Ť | P | 1 | ¥ | 1 |
|--|-----------|-----------|--------------|-----------|------------|-----------|-----|------|-----|-----|------|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBF |
| Reduced v/c Ratio | | 0.88 | | | 0.98 | | | 0.75 | | | 0.01 | |
| Intersection Summary | | | | | | | | | | | | |
| Area Type: Ot | her | | | | | | | | | | | |
| Cycle Length: 100 | | | | | | | | | | | | |
| Actuated Cycle Length: 97.2 | | | | | | | | | | | | |
| Natural Cycle: 90 | | | | | | | | | | | | |
| Control Type: Actuated-Uncoo | rdinated | | | | | | | | | | | |
| Maximum v/c Ratio: 0.98 | | | | | | | | | | | | |
| Intersection Signal Delay: 28.6 | 3 | | | In | tersection | LOS: C | | | | | | |
| Intersection Capacity Utilizatio | n 86.7% | | | IC | U Level o | f Service | E | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |
| 90th %ile Actuated Cycle: 100 | | | | | | | | | | | | |
| 70th %ile Actuated Cycle: 100 | | | | | | | | | | | | |
| 50th %ile Actuated Cycle: 99.8 | 3 | | | | | | | | | | | |
| 30th %ile Actuated Cycle: 95.7 | | | | | | | | | | | | |
| 10th %ile Actuated Cycle: 90.4 | | | | | | | | | | | | |
| Volume exceeds capacity, | queue is | theoretic | ally infinit | e. | | | | | | | | |
| Queue shown is maximum | after two | cycles. | | | | | | | | | | |
| # 95th percentile volume exc | | | eue may l | be longer | 10 | | | | | | | |
| Queue shown is maximum | | | | | | | | | | | | |

Splits and Phases: 17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

| ¶ø₂ | → Ø4 | |
|-------------|----------------|--|
| 30. ş | 70 s | |
| ↓ Ø6 | ← Ø8 | |
| 30 s | 70 s | |

06/27/2022

| | ٨ | | 7 | 1 | - | * | 1 | 1 | 1 | 1 | ¥ | 1 |
|---|--------|----------|----------|-------|---------------|----------|------|-------------|-------|----------|-----------|-------|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | 1¢ | 11 | | ↑ ₽́ | 1 | / | Þ | / / | | 4 | |
| Traffic Volume (vph) | 0 | 1817 | 300 | 0 | 1874 | 5 | 0 | 2 | 260 | 0 | 2 | 3 |
| Future Volume (vph) | 0 | 1817 | 300 | 0 | 1874 | 5 | 0 | 2 | 260 | 0 | 2 | 3 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 60 | | 0 | 500 | and the state | 0 | 200 | Date: Note: | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 |
| Taper Length (ft) | 25 | | | 25 | | | 25 | | | 25 | | _ |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 10.000 | 0.979 | 18402180 | 10000 | 1000000 | 05007455 | | 0.866 | | 0.000000 | 0.919 | |
| Fit Protected | | | | | | | | | | | | |
| Satd. Flow (prot) | 0 | 3427 | 0 | 0 | 3505 | 0 | 0 | 1583 | 0 | 0 | 1746 | 0 |
| Flt Permitted | | | | | | 10-744 | | | | | | |
| Satd. Flow (perm) | 0 | 3427 | 0 | 0 | 3505 | 0 | 0 | 1583 | 0 | 0 | 1746 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 43 | 100 | | 1 | | | 22 | | | 3 | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1011 | | | 109 | | | 657 | | | 126 | |
| Travel Time (s) | | 23.0 | | | 2.5 | | | 14.9 | | - | 2.9 | |
| Peak Hour Factor | 0.97/ | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Heavy Vehicles (%) | 0% | 3% | 4% | 4% | - 3% | 0% | 4% | 0% | 4% | 0% | 0% | 0% |
| A CONTRACT OF A | 0/8 | 1873 | 309 | 4 /0 | 1932 | 5 | 0 | 2 | 268 | 0 | 2 | 3 |
| Adj. Flow (vph) | 0 | 1075 | 309 | 0 | 1992 | 5 | U | 2 | 200 | 0 | 2 | 5 |
| Shared Lane Traffic (%) | 0 | 2182 | 0 | 0 | 1937 | 0 | 0 | 270 | 0 | 0 | 5 | 0 |
| Lane Group Flow (vph) | No | No | No | No | No | No | No | No | No | No | No | No |
| Enter Blocked Intersection | | Left | | Left | Left | | Left | Left | Right | Left | Left | Right |
| Lane Alignment | Left | 0 | Right | Leit | 0 | Right | Leit | 0 | Right | Len | 0 | Right |
| Median Width(ft) | | | | | 0 | | | 0 | | | 0 | |
| Link Offset(ft) | | 0 16 | | | 16 | | | 16 | | | 16 | - |
| Crosswalk Width(ft) | | 10 | | | 10 | | | 10 | | | 10 | |
| Two way Left Turn Lane | 4.00 | 1.00 | 1.00 | 1.00 | 4.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Headway 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 |
| Turning Speed (mph) | 15 | 0 | 9 | 15 | 0 | 9 | 15 | 0 | 9 | 15 | 0 | 9 |
| Number of Detectors | | 2 | | | 2 | | | 2 | | | 2 Thru | |
| Detector Template | | Thru | | | Thru | | | Thru | | | Thru | - |
| Leading Detector (ft) | | 100 | | | 100 | | | 100 | | | 100 | |
| Trailing Detector (ft) | | 0 | | | 0 | | | 0 | | | 0 | _ |
| Detector 1 Position(ft) | | 0 | | - | 0 | | | 0 | _ | | 0 | 100 |
| Detector 1 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | _ |
| Detector 1 Type | | CI+Ex | | | CI+Ex | | | CI+Ex | | | CI+Ex | |
| Detector 1 Channel | | | | | 0.0 | | | 0.0 | | | 0.0 | |
| Detector 1 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Detector 1 Queue (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Detector 1 Delay (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | _ | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | CI+Ex | | | CI+Ex | | | CI+Ex | | | CI+Ex | |
| Detector 2 Channel | | agore of | | | A STREET | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | | NA | | | NA | | | NA | | | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized MUT

| Lanes, Volumes, Timings | |
|-------------------------------------|-----------------------------|
| 17: Lake Hamilton Dr./Fairview Vill | age/Lakeside Ranch & SR 544 |

| | ٨ | -> | 7 | 1 | 4 | * | - | Ť | P | 1 | ¥ | 1 |
|-------------------------|-----|-----------|-----|-------|----------|-----|-----|--------|-----|-----|--------|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Permitted Phases | | | | 1.1.1 | | | | | | | | |
| Detector Phase | | 4 | | | 8 | | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 5.0 | | | 5.0 | | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | 24.5 | | | 24.5 | | | 21.0 | | | 21.0 | |
| Total Split (s) | | 65.0 | | | 65.0 | | | 25.0 | | | 25.0 | |
| Total Split (%) | | 72.2% | | | 72.2% | | | 27.8% | | | 27.8% | |
| Maximum Green (s) | | 59.0 | | | 59.0 | | | 19.0 | | | 19.0 | _ |
| Yellow Time (s) | | 4.5 | | | 4.5 | | | 4.5 | | | 4.5 | |
| All-Red Time (s) | | 1.5 | | | 1.5 | | | 1.5 | | | 1.5 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 6.0 | | | 6.0 | | | 6.0 | | | 6.0 | |
| Lead/Lag | | | | | | | | | | | | 1 |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | | 3.0 | | | 3.0 | | | 3.0 | | | 3.0 | |
| Recall Mode | | None | | | None | | | Min | | | Min | |
| Act Effct Green (s) | | 59.1 | | | 59.1 | | | 17.1 | | | 17.1 | |
| Actuated g/C Ratio | | 0.67 | | | 0.67 | | | 0.19 | | | 0.19 | |
| v/c Ratio | | 0.94 | | | 0.82 | | | 0.83 | | | 0.01 | |
| Control Delay | | 24.1 | | | 15.1 | | | 53.8 | | | 22.0 | |
| Queue Delay | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Total Delay | | 24.1 | | | 15.1 | | | 53.8 | | | 22.0 | |
| LOS | | С | | | В | | | D | | | С | |
| Approach Delay | | 24.1 | | | 15.1 | | | 53.8 | | | 22.0 | |
| Approach LOS | | С | | | В | | | D | | | С | 100 |
| 90th %ile Green (s) | | 59.0 | | | 59.0 | | | 19.0 | | | 19.0 | |
| 90th %ile Term Code | | Max | | | Max | | | Max | | | Hold | |
| 70th %ile Green (s) | | 59.0 | | | 59.0 | | | 19.0 | | | 19.0 | |
| 70th %ile Term Code | | Max | | | Max | | | Max | | | Hold | |
| 50th %ile Green (s) | | 59.0 | | | 59.0 | | | 19.0 | | | 19.0 | _ |
| 50th %ile Term Code | | Max | | | Max | | | Max | | | Hold | |
| 30th %ile Green (s) | | 59.0 | | | 59.0 | | | 16.7 | | | 16.7 | |
| 30th %ile Term Code | | Max | | | Hold | | | Gap | | | Hold | |
| 10th %ile Green (s) | | 59.0 | | | 59.0 | | | 12.1 | | | 12.1 | |
| 10th %ile Term Code | | Max | | | Hold | | | Gap | | | Hold | |
| Stops (vph) | | 1611 | | | 1325 | | | 217 | | | 4 | |
| Fuel Used(gal) | | 36 | | | 52 | | | 5 | | | 0 | |
| CO Emissions (g/hr) | | 2514 | | | 3623 | | | 378 | | | 3 | |
| NOx Emissions (g/hr) | | 489 | | | 705 | | | 74 | | | 1 | |
| VOC Emissions (g/hr) | | 583 | | | 840 | | | 88 | | | 1 | |
| Dilemma Vehicles (#) | | 0 | | | 0 | | | 0 | | | 0 | |
| Queue Length 50th (ft) | | 536 | | | 395 | | | 134 | | | 1 | |
| Queue Length 95th (ft) | | #796 | | | 512 | | | #255 | | | 10 | |
| Internal Link Dist (ft) | | 931 | | | 29 | | | 577 | | | 46 | |
| Turn Bay Length (ft) | | CONTRACT. | | | 177457A1 | | | 371532 | | | 2.1980 | |
| Base Capacity (vph) | | 2309 | | | 2348 | | | 358 | | | 378 | |
| Starvation Cap Reductn | | 0 | | | 0 | | | 0 | | | 0 | |
| Spillback Cap Reductn | | 0 | | | 0 | | | 0 | | | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | | | 0 | | | 0 | |

2045 Build Alt. 2 PM Peak Lake Hamilton Signalized MUT

| Lanes, | Volumes, | Timings | |
|--------|----------|---------|--|
| | | | |

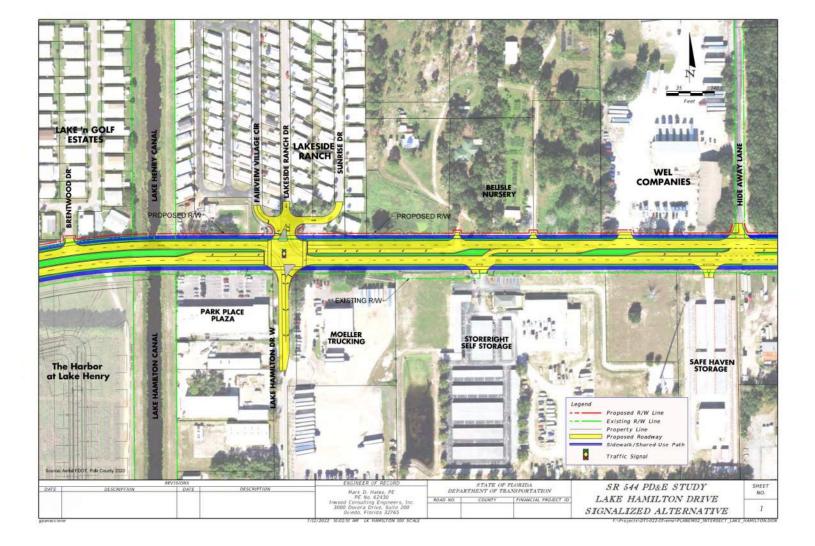
17: Lake Hamilton Dr./Fairview Village/Lakeside Ranch & SR 544

| | ٨ | - | > | 1 | - | * | 1 | Ť | 1 | 1 | ţ | 1 |
|-------------------------------|--------------|------------|------------|------------|------------|------------|-----|------|-----|-----|------|-----|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Reduced v/c Ratio | | 0.94 | | | 0.82 | | 1 | 0.75 | | | 0.01 | |
| Intersection Summary | | | - | | | | | | | | | |
| Area Type: | Other | | | | | | | | | | | |
| Cycle Length: 90 | | | | | | | | | | | | |
| Actuated Cycle Length: 88. | .2 | | | | | | | | | | | |
| Natural Cycle: 90 | | | | | | | | | | | | |
| Control Type: Actuated-Un | coordinated | | | | | | | | | | | |
| Maximum v/c Ratio: 0.94 | | | | | | | | | | | | |
| Intersection Signal Delay: 2 | | | | | tersection | | | | | | | |
| Intersection Capacity Utiliza | ation 86.0% | | | IC | U Level o | of Service | E | | | | | |
| Analysis Period (min) 15 | | | | | | | | | | | | |
| 90th %ile Actuated Cycle: 9 | | | | | | | | | | | | |
| 70th %ile Actuated Cycle: 9 | | | | | | | | | | | | |
| 50th %ile Actuated Cycle: 9 | | | | | | | | | | | | |
| 30th %ile Actuated Cycle: 8 | | | | | | | | | | | | _ |
| 10th %ile Actuated Cycle: 8 | | | | | | | | | | | | |
| # 95th percentile volume | | | eue may | be longer | ži. | | | | | | | |
| Queue shown is maximu | um after two | cycles. | | | | | | | | | | |
| 0. III | | | 1 | and always | de Devel | | | | | | | |
| Splits and Phases: 17: La | ake Hamilton | h Dr./Fair | view villa | ge/Lakes | ide Ranci | 1 & SK 54 | 4 | _ | | | | |
| Tø2 | 1.1.1 | -04 | | | | | | | | | | |
| S 1 | | 65 s | | | | | | | | | | |
| | | - | | | | | | | | | | |
| V Ø6 | | Ø8 | _ | | | _ | | _ | _ | _ | | |

06/27/2022

Appendix E

Signalized Intersection Preliminary Geometric Concept



CERTIFICATION

AGENCY: Florida Department of Transportation District One 801 North Broadway Avenue Bartow, Florida 33831-1249

I hereby certify that I am a registered professional engineer in the State of Florida and that I have supervised the preparation of, and approved the analysis, findings, opinions, conclusions and technical advice hereby reported for:

| REPORT: | SR 544/Old Lucerne Park Road (East End) Intersection Control Evaluation (ICE) - Stage 2 |
|-------------|---|
| PROJECT: | SR 544 Project Development and Environment (PD&E) Study |
| LOCATION: | SR 544 from Martin Luther King Boulevard to SR 17 Polk County, Florida |
| ROADWAY ID: | 16140000 |

MILEPOST No: 8.965

FPID No.: 440273-1-22-01

I acknowledge that the procedures and references used to develop the information contained in this memorandum are standard to the professional practice of transportation engineering as applied through professional judgement and experience.

| Engineer in Responsible Charge: | Anastasiya A. Senyushkina | |
|---------------------------------|---|------|
| Professional Registration No.: | 82191 No. 82191 Anastasiya A Senyushkina 2023.03 09:26:29-0 | .20 |
| Date: | 3/20/2023 | 0100 |

MEMORANDUM



AIM Engineering & Surveying, Inc.

Tampa Office 201 E. Kennedy Boulevard, Suite 1800 Tampa, Florida 33602 813-627-4144 www.aimengr.com

| Date: | March 20, 2023 |
|----------|---|
| То: | David C. Turley, P.E. – FDOT District One DEMO Project Manager Abra Horne – FDOT District One Planning and Environmental Administrator |
| From: | Greg Root/Anastasiya Senyushkina, P.E. |
| Subject: | SR 544/Old Lucerne Park Road (east end) Intersection (Polk County) — Stage 2 Intersection Control Evaluation |

INTRODUCTION/PROJECT BACKGROUND

This memorandum documents the Stage 2 Intersection Control Evaluation (ICE) conducted for the Old Lucerne Park Road (east end) intersection. This analysis was conducted in support of the SR 544 Project Development & Environment (PD&E) Study from Martin Luther King Boulevard to SR 17 in Polk County. The PD&E study goals are to determine the location and conceptual design of the improvement(s) that satisfy the purpose and need for the project, while also minimizing the impacts to the natural and social environment and satisfying the requirements of the National Environmental Policy Act (NEPA).

A Stage 1+ ICE Technical Memorandum and Stage 1 ICE Form were submitted to District One on February 22, 202. The Stage 1 evaluation recommended that a conventional signalized intersection and a two-lane roundabout be advanced to a Stage 2 evaluation. This recommendation was approved by the District Traffic Operations Engineer and the District Design Engineer on 3/13/2023 and 3/14/2023, respectively. This memorandum documents the Stage 2 Benefit/Cost (B/C) analysis and Net Present Value (NPV) Costs.

EXISTING INTERSECTION CHARACTERISTICS

The east end of Old Lucerne Park Road intersects SR 544 at a T- intersection. This roadway curves to the right approximately 125 feet northwest of the intersection stop bar and intersects SR 544 at a 90degree angle. The north leg is controlled by a stop sign. A Chevron gas station/convenience store is located in the northwest auadrant of the intersection and Lake 'n Golf Estates is located on the north side of SR 544 and Old Lucerne Park Road. Access to and from this manufactured home community is provided on both SR 544 (via Brentwood Drive) and on Old Lucerne Park Road (via Westchester Drive). Brentwood Drive is located approximately 400 feet east of the Old Lucerne Park Road intersection, while Westchester Drive is located approximately 325 feet northwest of this intersection. An aerial depicting the Old Lucerne Park Road intersection (Figure 1) is provided in Appendix A.

Approximately 175 feet east of Brentwood Drive, there is a bridge over the Lake Hamilton canal. Although the land on the south side of SR 544 is currently undeveloped, there is a residential development (i.e., The Harbor at Lake Henry) currently going through the permit approval process. The proposed entrance/exit for this residential development is located approximately 950 feet southwest of the Old Lucerne Park Road intersection. Another future residential development (i.e., Tuscany Village) is located between SR 544 and Old Lucerne Park Road. This development proposes access to both SR 544 and Old Lucerne Park Road. In addition, Duke Energy is currently in the process of acquiring an easement for the construction of a 230-kilovolt transmission line to be located on the south side of SR 544. An aerial image depicting the Old Lucerne Park Road intersection, the two proposed residential developments, the Lake Hamilton canal, and the Lake Hamilton Drive intersection (**Figure 2**) is also provided in **Appendix A**. The posted speed limit on SR 544 in the vicinity of this intersection is 50 miles per hour (mph). The posted speed limit on Old Lucerne Park Road is 40 mph; however, there is a 15 mph advisory speed sign in the southbound direction in advance of the horizontal curve.

STAGE 2 INTERSECTION CONTROL EVALUATION

Opening year (2025) and design year (2045) peak hour SYNCHRO and SIDRA analyses were conducted for the conventional signalized intersection and the roundabout. These analyses were conducted using the peak hour volumes documented in the FDOT approved Project Traffic Analysis Report (*January 2021*). These volumes are provided in **Appendix B**. The operational analysis results are summarized in **Table 1**. Both alternatives are projected to operate with v/c ratios less than 1.00 during both peak hours.

| Table 1: Pe | ak Hour Operat | - | | | Road (East) Inte | rsection | |
|-------------|------------------------------------|---------------------|---------------|------------------------|------------------|----------|--|
| | | Open | ing Year (202 | 25) | | | |
| Peak Hour | Signa | alized Intersection | on | Roundabout | | | |
| AM | Max V/C ⁽¹⁾ | Avg. Delay | LOS | Max V/C ⁽¹⁾ | Avg. Delay | LOS | |
| Alvi | 0.67 | 13.5 | В | 0.40 | 6.7 | А | |
| Peak Hour | Signalized Intersection Roundabout | | | | | | |
| PM | Max V/C ⁽¹⁾ | Avg. Delay | LOS | Max V/C ⁽¹⁾ | Avg. Delay | LOS | |
| | 0.57 | 11.4 | В | 0.42 | 6.9 | А | |
| | | Desi | gn Year (204 | 5) | | | |
| Peak Hour | Signa | alized Intersectio | on | Roundabout | | | |
| 4.5.4 | Max V/C ⁽¹⁾ | Avg. Delay | LOS | Max V/C ⁽¹⁾ | Avg. Delay | LOS | |
| AM | 0.94 | 22.9 | С | 0.79 | 19.6 | С | |
| Peak Hour | Signalized Intersection Roundabout | | | | | | |
| PM | Max V/C ⁽¹⁾ | Avg. Delay | LOS | Max V/C ⁽¹⁾ | Avg. Delay | LOS | |
| | 0.80 | 15.6 | В | 0.81 | 16.4 | С | |

⁽¹⁾ Highest volume-to-capacity ratio of all the individual movements.

The average delay for the southbound roundabout approach is projected to be 50.2 seconds per vehicle in the design year a.m. peak hour. The maximum delay for Level of Service E is 50.0 seconds per vehicle. Consequently, the year of failure is estimated to be 2045. The opening year and design year SYNCHRO and SIDRA analysis summary sheets are provided in **Appendix C**. The total number of crashes and the total number of fatal and injury crashes that were previously estimated for these two control strategies using the SPICE software (and documented in the FDOT approved Stage 1+ ICE Technical Memorandum) are provided in **Appendix D**.

Geometric improvement concepts were developed for both of these alternatives, and these are provided in **Appendix E**. The roundabout improvement concept impacts six parcels, requires approximately 0.70 acres of right-of-way and results in one business relocation (i.e., the Chevron gas station). In comparison, the conventional signalized intersection impacts five parcels, requires approximately 0.08 acres of right-of-way and does not result in any business relocations. Right-of-way cost estimates and roadway construction cost estimates were prepared for both alternatives and were provided by District One. Wetland mitigation cost estimates and reimbursable utility relocation cost estimates were provided by Inwood Consulting Engineers. The cost estimates are summarized in **Table 2**, while the supporting information is provided in **Appendix F**.

| Table 2: Cost Comparison - Old Lucerne Park Road (East) Intersection | | | | | | |
|--|-------------------------------|-------------------------|--|--|--|--|
| | Intersection Control Strategy | | | | | |
| Estimated Present Day Costs | Roundabout | Signalized Intersection | | | | |
| Design | \$279,000 | \$55,000 | | | | |
| Right-of-Way | 4,225,000 | \$520,000 | | | | |
| Reimbursable Utility Relocation | \$25,900 | \$3 <i>,</i> 800 | | | | |
| Wetland Mitigation | \$13,500 | \$13,500 | | | | |
| Roadway Construction | \$1,858,000 | \$369,000 | | | | |
| Construction Engineering & Inspection | \$223,000 | \$44,000 | | | | |
| Total | \$6,624,400 | \$1,005,300 | | | | |

The design costs were assumed to be equal to 15% of the roadway construction costs, while the Construction Engineering & Inspection costs were assumed to be equal to 12% of the roadway construction costs. The wetland mitigation cost was estimated based on a value of \$135,000 per acre.

The Stage 2 B/C analysis and NPV costs were calculated using the FDOT's ICE Tool that was downloaded from the FDOT Traffic Studies/Intersection Operations website. Compared to the conventional signalized intersection, the roundabout has a B/C ratio equal to 3.96 and a NPV equal to \$7,774,263. The Stage 2 ICE analysis summary is provided in **Appendix G**.

RECOMMENDED INTERSECTION CONTROL STRATEGY

The implementation of a roundabout at the SR 544/Old Lucerne Park Road (east) intersection would provide positive speed control and result in a lower number of fatal and injury crashes as compared to a conventional signalized intersection. Although the current posted speed limit in the vicinity of this intersection is 50 mph, the proposed SR 544 typical section and horizontal alignment is based on a 45 mph target speed. A roundabout would help to facilitate slower vehicle speeds east and west of this intersection. A roundabout is estimated to have significantly higher SSI scores as compared to a conventional signalized intersection. Compared to the conventional signalized intersection, the roundabout has a B/C ratio equal to 3.96 and a NPV equal to \$7,774,263. Consequently, a two-lane roundabout is the recommended intersection control; strategy for the Old Lucerne Park Road (east) intersection.

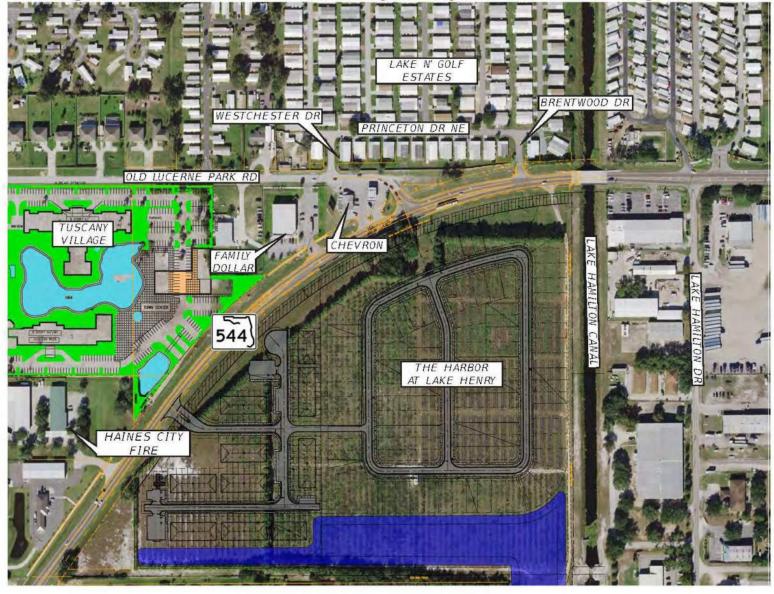
Appendix A

Existing Intersection Aerials



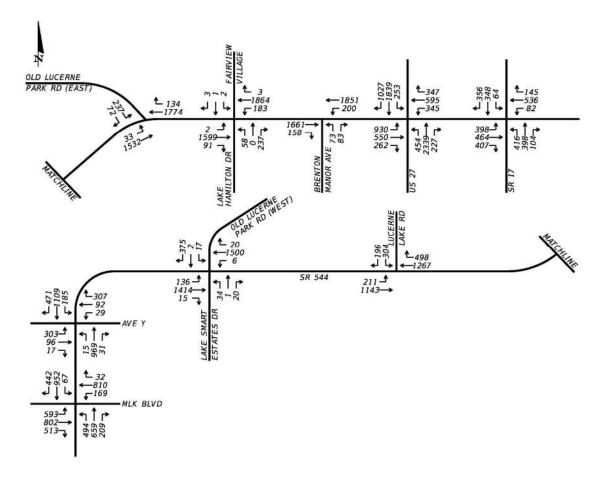
Figure 1: Existing SR 544/Old Lucerne Park Road (East End) Intersection

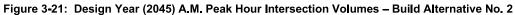
Figure 2: SR 544/Old Lucerne Park Road (East End) Intersection Surrounding Area



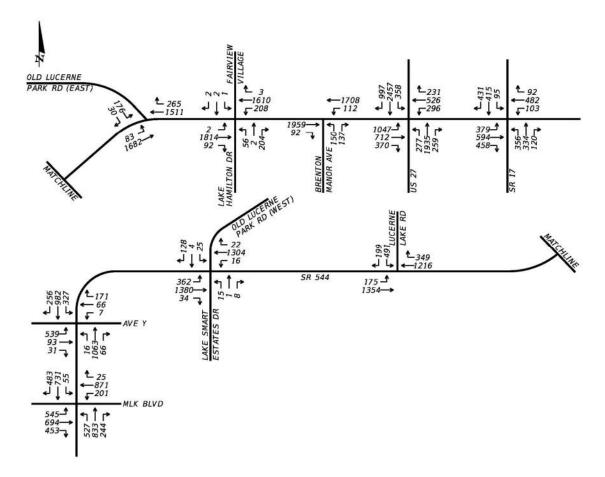
Appendix B

Future Year Peak Hour Traffic Volumes



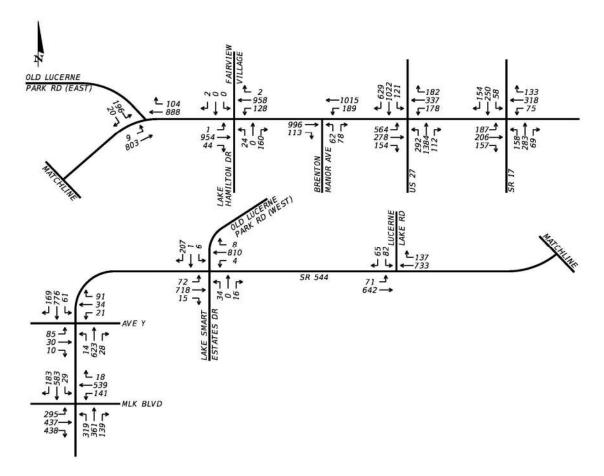


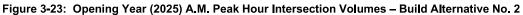
Page 3-32



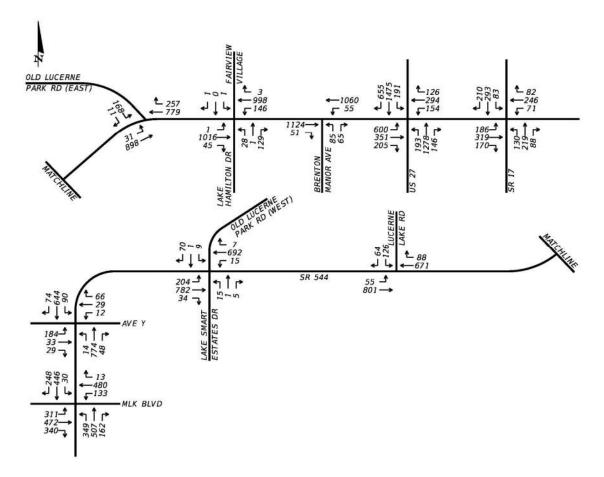


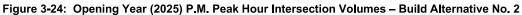
Page 3-33





Page 3-34





Page 3-35

Appendix C

SYNCHRO and SIDRA Analysis Summary Sheets

| | Signa | lized Intersecti | on | | Roundabout | |
|-------------|---------------------|------------------|-----|---------------------|------------|-----|
| Movement | V/C Ratio | Avg. Delay | LOS | V/C Ratio | Avg. Delay | LOS |
| EB LT | 0.03 | 6.4 | А | 0.40 | 7.8 | А |
| EB TH | 0.51 | 9.5 | А | 0.40 | 7.5 | А |
| EB APPROACH | $0.51^{(1)}$ | 9.5 | А | 0.40 ⁽¹⁾ | 7.5 | А |
| WB TH | 0.67 | 16.3 | В | 0.39 | 5.3 | А |
| WB RT | 0.08 | 0.9 | А | 0.39 | 5.4 | А |
| WB APPROACH | 0.67 ⁽¹⁾ | 14.7 | В | 0.39 ⁽¹⁾ | 5.3 | А |
| SB LT | 0.53 | 24.6 | С | 0.23 | 10.7 | В |
| SB RT | 0.03 | 5.5 | А | 0.23 | 10.2 | В |
| SB APPROACH | 0.53 ⁽¹⁾ | 22.8 | С | 0.23 ⁽¹⁾ | 10.6 | В |
| OVERALL | 0.67 ⁽¹⁾ | 13.5 | В | 0.40 ⁽¹⁾ | 6.7 | А |

Table 1A: Peak Hour Operational Analysis Summary - Old Lucerne Park Road (East) Intersection

Opening Year (2025) AM Peak Hour

Opening Year (2025) PM Peak Hour

| | Signa | lized Intersecti | ion | | Roundabout | |
|-------------|---------------------|------------------|-----|---------------------|------------|-----|
| Movement | V/C Ratio | Avg. Delay | LOS | V/C Ratio | Avg. Delay | LOS |
| EB LT | 0.09 | 6.7 | А | 0.42 | 8.0 | А |
| EB TH | 0.54 | 9.5 | А | 0.42 | 7.5 | А |
| EB APPROACH | 0.54 ⁽¹⁾ | 9.4 | А | 0.42 ⁽¹⁾ | 7.5 | А |
| WB TH | 0.57 | 14.6 | В | 0.40 | 6.0 | А |
| WB RT | 0.20 | 0.9 | А | 0.40 | 6.3 | А |
| WB APPROACH | 0.57 ⁽¹⁾ | 11.2 | В | 0.40 ⁽¹⁾ | 6.1 | А |
| SB LT | 0.46 | 23.8 | С | 0.16 | 8.3 | А |
| SB RT | 0.01 | 6.2 | А | 0.16 | 7.9 | А |
| SB APPROACH | 0.46 ⁽¹⁾ | 22.8 | С | 0.16 ⁽¹⁾ | 8.2 | А |
| OVERALL | 0.57 ⁽¹⁾ | 11.4 | В | 0.42 ⁽¹⁾ | 6.9 | А |

⁽¹⁾ Highest movement volume-to-capacity ratio

01/17/2023

| | Y | | + | × | 1 | 4 |
|----------------------------|-----------------|--------------------------------|------------------|----------------|--------------------|------------------------|
| Lane Group | EBL | EBT | WBT | WBR | SEL | SER |
| Lane Configurations |) J | | | | JLL I | |
| Traffic Volume (vph) | 9 | 803 | 888 | 104 | 196 | |
| Future Volume (vph) | 9 | 803 | 888 | 104 | 196 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 190 | |
| | 425 | 1900 | 1900 | 250 | 1900 | |
| Storage Length (ft) | 425 | | | 250 | 1 | 200 |
| Storage Lanes | 25 | | | 1 | 25 | |
| Taper Length (ft) | | 0.05 | 0.05 | 1.00 | | 1.00 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frt | 0.050 | | | 0.850 | 0.050 | 0.850 |
| Fit Protected | 0.950 | 2400 | 0400 | 4500 | 0.950 | 1500 |
| Satd. Flow (prot) | 1687 | 3438 | 3438 | 1509 | 1687 | 1509 |
| Flt Permitted | 0.163 | 0.400 | 0.100 | 1500 | 0.950 | 1500 |
| Satd. Flow (perm) | 289 | 3438 | 3438 | 1509 | 1687 | 1509 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | 109 | | 21 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 9058 | 1011 | | 169 | |
| Travel Time (s) | | 205.9 | 23.0 | | 3.8 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Heavy Vehicles (%) | 7% | 5% | 5% | 7% | 7% | 7% |
| Adj. Flow (vph) | 9 | 845 | 935 | 109 | 206 | 21 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 9 | 845 | 935 | 109 | 206 | 21 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| | Leit | 0 | 0 | right | 0 | Nym |
| Median Width(ft) | | 0 | 0 | | 0 | |
| Link Offset(ft) | | | | | | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | 11-11- | | 9 | 15 | 9 |
| Number of Detectors | 1 | 2 | 2 | 1 | 1 | 1 |
| Detector Template | Left | Thru | Thru | Right | Left | Right |
| Leading Detector (ft) | 20 | 100 | 100 | 20 | 20 | 20 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Size(ft) | 20 | 6 | 6 | 20 | 20 | 20 |
| Detector 1 Type | CI+Ex | CI+Ex | CI+Ex | CI+Ex | CI+Ex | CI+Ex |
| Detector 1 Channel | 15 COLUMN DALLY | Constant and the second second | Mozali constrati | 199251 3151905 | Contraction of the | anagina ang katalan ka |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(ft) | 0.0 | 94 | 94 | 0.0 | 0.0 | 0.0 |
| | | 94 | 94 | | | |
| Detector 2 Size(ft) | | | | | | |
| Detector 2 Type | | CI+Ex | CI+Ex | | | |
| Detector 2 Channel | | 0.0 | 0.0 | | | |
| Detector 2 Extend (s) | July 1 | 0.0 | 0.0 | | 1 | 1 1 |
| Turn Type | pm+pt | NA | NA | pm+ov | | pm+ov |
| Protected Phases | 7 | 4 | 8 | 5 | 5 | 7 |

2025 Opening Year AM Peak

01/17/2023

| - | ٢ | - | - | ĸ | 1 | 4 |
|--|-------|-------|-------|-------|-------|-------|
| Lane Group | EBL | EBT | WBT | WBR | SEL | SER |
| Permitted Phases | 4 | 201 | mon | 8 | OLL | 5 |
| Detector Phase | 4 | 4 | 8 | 5 | 5 | 7 |
| Switch Phase | 1 | 4 | 0 | 5 | 5 | 1 |
| the state we want to be a weather state of the | 5.0 | 5.0 | 5.0 | 5.0 | EO | 5.0 |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.0 | 24.0 | 24.0 | 17.0 | 17.0 | 17.0 |
| Total Split (s) | 17.0 | 48.0 | 31.0 | 22.0 | 22.0 | 17.0 |
| Total Split (%) | 24.3% | 68.6% | 44.3% | 31.4% | 31.4% | 24.3% |
| Maximum Green (s) | 10.5 | 41.5 | 24.5 | 15.5 | 15.5 | 10.5 |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead | | Lag | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | Min | Min | None |
| Act Effct Green (s) | 24.0 | 24.0 | 20.1 | 43.7 | 11.5 | 24.7 |
| Actuated g/C Ratio | 0.48 | 0.48 | 0.41 | 0.88 | 0.23 | 0.50 |
| | | | | | | |
| v/c Ratio | 0.03 | 0.51 | 0.67 | 0.08 | 0.53 | 0.03 |
| Control Delay | 6.4 | 9.5 | 16.3 | 0.9 | 24.6 | 5.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 6.4 | 9.5 | 16.3 | 0.9 | 24.6 | 5.5 |
| LOS | А | А | В | А | С | А |
| Approach Delay | | 9.5 | 14.7 | | 22.8 | |
| Approach LOS | | А | В | | С | |
| 90th %ile Green (s) | 6.3 | 37.3 | 24.5 | 15.5 | 15.5 | 6.3 |
| 90th %ile Term Code | Gap | Hold | Max | Max | Max | Gap |
| 70th %ile Green (s) | 6.0 | 37.0 | 24.5 | 15.0 | 15.0 | 6.0 |
| 70th %ile Term Code | Gap | Hold | Max | Gap | Gap | Gap |
| 50th %ile Green (s) | 0.0 | 20.3 | 20.3 | 11.0 | 11.0 | 0.0 |
| 50th %ile Term Code | Skip | Hold | Gap | Gap | Gap | Skip |
| 30th %ile Green (s) | 0.0 | 16.9 | 16.9 | 9.3 | 9.3 | 0.0 |
| | | | | | | |
| 30th %ile Term Code | Skip | Hold | Gap | Gap | Gap | Skip |
| 10th %ile Green (s) | 0.0 | 13.1 | 13.1 | 7.0 | 7.0 | 0.0 |
| 10th %ile Term Code | Skip | Hold | Gap | Gap | Gap | Skip |
| Stops (vph) | 6 | 462 | 657 | 7 | 156 | 7 |
| Fuel Used(gal) | 1 | 61 | 14 | 1 | 2 | 0 |
| CO Emissions (g/hr) | 48 | 4251 | 949 | 61 | 147 | 6 |
| NOx Emissions (g/hr) | 9 | 827 | 185 | 12 | 29 | 1 |
| VOC Emissions (g/hr) | 11 | 985 | 220 | 14 | 34 | 1 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (ft) | 1 | 74 | 84 | 0 | 45 | 0 |
| Queue Length 95th (ft) | 7 | 129 | 230 | 10 | 133 | 11 |
| Internal Link Dist (ft) | 18 | 8978 | 931 | | 89 | Cont. |
| Turn Bay Length (ft) | 425 | 0010 | 001 | 250 | 00 | 200 |
| Base Capacity (vph) | 459 | 2892 | 1834 | 1332 | 569 | 917 |
| | | | | | | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |

2025 Opening Year AM Peak

| | Y | | - | × | 1 | 2 | |
|--------------------------|------------------|------|----------|------|------------|-----------|--|
| Lane Group | EBL | EBT | WBT | WBR | SEL | SER | |
| Reduced v/c Ratio | 0.02 | 0.29 | 0.51 | 0.08 | 0.36 | 0.02 | |
| Intersection Summary | | | | | | | |
| Area Type: | Other | | | | | | |
| Cycle Length: 70 | | | | | | | |
| Actuated Cycle Length | 49.5 | | | | | | |
| Natural Cycle: 60 | | | | | | | |
| Control Type: Actuated | -Uncoordinated | | | | | | |
| Maximum v/c Ratio: 0.6 | 57 | | | | | | |
| Intersection Signal Dela | ay: 13.5 | | | In | tersection | LOS: B | |
| Intersection Capacity U | tilization 46.2% | | | IC | U Level o | Service A | |
| Analysis Period (min) 1 | 5 | | | | | | |
| 90th %ile Actuated Cyc | le: 65.8 | | | | | | |
| 70th %ile Actuated Cyc | le: 65 | | | | | | |
| 50th %ile Actuated Cyc | le: 44.3 | | | | | | |
| 30th %ile Actuated Cyc | le: 39.2 | | | | | | |
| 10th %ile Actuated Cyc | | | | | | | |

Splits and Phases: 15: SR 544 & Old Lucerne Park Rd. (East)

| | — •ø4 | | |
|------|--------------|----------------|---|
| | 48.5 | | A CONTRACTOR OF |
| 205 | ¥ 07 | ≪ Ø8 | |
| 22.9 | 17/S | 31.6 | |

01/17/2023

01/17/2023

| | 3 | - | - | - ×_ | 5 | <u>د</u> |
|--|----------|------------------------|---------------|--|----------------------|----------|
| Lane Group | EBL | EBT | WB | T WBR | SEL | L SER |
| Lane Configurations | 1 | | | | | |
| Traffic Volume (vph) | 31 | | | | | |
| Future Volume (vph) | 31 | | | | | |
| Ideal Flow (vphpl) | 1900 | | | | | |
| Storage Length (ft) | 425 | | 1900 | 250 | | |
| Storage Lanes | 425 | | | | | |
| | | | | 1 | | |
| Taper Length (ft) Lane Util, Factor | 25 | 0.05 | 0.01 | | 25 | |
| | 1.00 | 0.95 | 0.95 | | 1.00 | |
| Frt | | | | 0.850 | - | 0.850 |
| Flt Protected | 0.950 | | | | 0.950 | |
| Satd. Flow (prot) | 1687 | 3505 | 3505 | 1509 | 1687 | |
| Flt Permitted | 0.216 | | | | 0.950 | |
| Satd. Flow (perm) | 384 | 3505 | 3505 | 1509 | 1687 | 1509 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | 265 | | 11 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 9058 | 1011 | | 169 | |
| Travel Time (s) | | 205.9 | 23.0 | | 3.8 | |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | | 0.97 | 0.97 |
| Heavy Vehicles (%) | 7% | 3% | 3% | | 7% | |
| Adj. Flow (vph) | 32 | 926 | 803 | | | |
| | 32 | 920 | 803 | 265 | 173 | 11 |
| Shared Lane Traffic (%) | | 000 | | | | |
| Lane Group Flow (vph) | 32 | 926 | 803 | 265 | 173 | 11 |
| Enter Blocked Intersection | No | No | No | and the second sec | No | No |
| Lane Alignment | Left | Left | Left | • | Left | Right |
| Median Width(ft) | | 0 | 0 | | 0 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | 10000 | | 9 | 15 | 9 |
| Number of Detectors | 1 | 2 | 2 | 1 | 1 | 1 |
| Detector Template | Left | Thru | Thru | Right | Left | |
| Leading Detector (ft) | 20 | 100 | 100 | 20 | 20 | Right |
| Trailing Detector (ft) | 20 | and an a second second | and the state | | 1.00 | 20 |
| | | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Size(ft) | 20 | 6 | 6 | 20 | 20 | 20 |
| Detector 1 Type | CI+Ex | CI+Ex | CI+Ex | CI+Ex | CI+Ex | CI+Ex |
| Detector 1 Channel | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(ft) | | 94 | 94 | | | |
| Detector 2 Size(ft) | | 6 | 6 | | | |
| Detector 2 Type | | CI+Ex | CI+Ex | | | |
| Detector 2 Channel | | UI. LA | ULLA | | | |
| Detector 2 Extend (s) | | 0.0 | 0.0 | | | |
| | new late | 0.0 | 0.0 | - | - | () |
| Turn Type | pm+pt | NA | NA | pm+ov | and the state of the | pm+ov |
| Protected Phases | 7 | 4 | 8 | 5 | 5 | 7 |

2025 Opening Year PM Peak

01/17/2023

| | 3 | | - | ĸ | 1 | 4 |
|---|-------|-------|-------|-------|-----------|-----------|
| Lane Group | EBL | EBT | WBT | WBR | SEL | SER |
| Permitted Phases | 4 | | | 8 | | 5 |
| Detector Phase | 7 | 4 | 8 | 5 | 5 | 7 |
| Switch Phase | | | 2 | | J | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.0 | 24.0 | 24.0 | 17.0 | 17.0 | 17.0 |
| Total Split (s) | 17.0 | 48.0 | 31.0 | 22.0 | 22.0 | 17.0 |
| Total Split (%) | 24.3% | 68.6% | 44.3% | 31.4% | 31.4% | 24.3% |
| Maximum Green (s) | 10.5 | 41.5 | 24.5 | 15.5 | 15.5 | 10.5 |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 2.0 | 2.0 | 2.0 |
| Total Lost Time (s) | | | 0.0 | 0.0 | 0.0 | 0.0 |
| | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 | 6.5 |
| Lead/Lag | Lead | | Lag | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | Min | Min | None |
| Act Effct Green (s) | 23.9 | 23.9 | 19.9 | 43.0 | 10.9 | 24.6 |
| Actuated g/C Ratio | 0.49 | 0.49 | 0.41 | 0.88 | 0.22 | 0.50 |
| v/c Ratio | 0.09 | 0.54 | 0.57 | 0.20 | 0.46 | 0.01 |
| Control Delay | 6.7 | 9.5 | 14.6 | 0.9 | 23.8 | 6.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 6.7 | 9.5 | 14.6 | 0.9 | 23.8 | 6.2 |
| LOS | A | A | В | A | C | A |
| Approach Delay | 1.1 | 9.4 | 11.2 | ~ | 22.8 | ~ |
| Approach LOS | | A | B | | 22.0 C | |
| 90th %ile Green (s) | 7.4 | 38.4 | 24.5 | 15.5 | 15.5 | 7.4 |
| 90th %ile Term Code | Gap | Hold | Max | | | 1.12 3.14 |
| 70th %ile Green (s) | | | | Max | Max | Gap |
| | 6.8 | 37.6 | 24.3 | 13.5 | 13.5 | 6.8 |
| 70th %ile Term Code | Gap | Hold | Gap | Gap | Gap | Gap |
| 50th %ile Green (s) | 0.0 | 20.3 | 20.3 | 11.2 | 11.2 | 0.0 |
| 50th %ile Term Code | Skip | Hold | Gap | Gap | Gap | Skip |
| 30th %ile Green (s) | 0.0 | 16.1 | 16.1 | 8.2 | 8.2 | 0.0 |
| 30th %ile Term Code | Skip | Gap | Hold | Gap | Gap | Skip |
| 10th %ile Green (s) | 0.0 | 12.6 | 12.6 | 6.4 | 6.4 | 0.0 |
| 10th %ile Term Code | Skip | Gap | Hold | Gap | Gap | Skip |
| Stops (vph) | 14 | 522 | 541 | 13 | 132 | 4 |
| Fuel Used(gal) | 2 | 68 | 11 | 2 | 2 | 0 |
| CO Emissions (g/hr) | 161 | 4757 | 800 | 150 | 123 | 4 |
| NOx Emissions (g/hr) | 31 | 925 | 156 | 29 | 24 | 1 |
| VOC Emissions (g/hr) | 37 | 1102 | 186 | 35 | 29 | 1 |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | 0 |
| Queue Length 50th (ft) | 4 | 83 | 68 | 0 | 37 | 0 |
| Queue Length 95th (ft) | 15 | 143 | 194 | 17 | | |
| nternal Link Dist (ft) | 10 | | | 17 | 115 | 8 |
| and the second se | 105 | 8978 | 931 | 050 | 89 | 000 |
| Furn Bay Length (ft) | 425 | 0044 | 100- | 250 | | 200 |
| Base Capacity (vph) | 491 | 2944 | 1907 | 1351 | 580 | 910 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |

2025 Opening Year PM Peak

Synchro 11 Report Page 2

| | 3 | | - | * | 1 | \$ |
|-----------------------------------|----------|------|------|------|-----------|-------------|
| Lane Group | EBL | EBT | WBT | WBR | SEL | SER |
| Reduced v/c Ratio | 0.07 | 0.31 | 0.42 | 0.20 | 0.30 | 0.01 |
| Intersection Summary | 1 | | | | | |
| Area Type: Oti | her | | | | | |
| Cycle Length: 70 | | | | | | |
| Actuated Cycle Length: 49 | | | | | | |
| Natural Cycle: 60 | | | | | | |
| Control Type: Actuated-Uncool | rdinated | | | | | |
| Maximum v/c Ratio: 0.57 | | | | | | |
| Intersection Signal Delay: 11.4 | | | | Int | ersection | LOS: B |
| Intersection Capacity Utilization | n 45.9% | | | IC | U Level o | f Service A |
| Analysis Period (min) 15 | | | | | | |
| 90th %ile Actuated Cycle: 66.9 | | | | | | |
| 70th %ile Actuated Cycle: 64.1 | | | | | | |
| 50th %ile Actuated Cycle: 44.5 | | | | | | |
| 30th %ile Actuated Cycle: 37.3 | | | | | | |
| 10th %ile Actuated Cycle: 32 | | | | | | |

Splits and Phases: 15: SR 544 & Old Lucerne Park Rd. (East)

| | - * Ø4 | | |
|------|------------------------|----------------|--|
| | 18.5 | | |
| 505 | D ₀₇ | ≪ Ø8 | |
| 22.8 | 175 | 616 | |

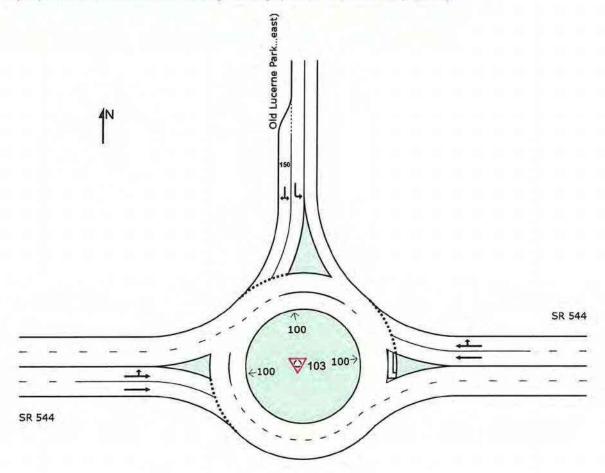
01/17/2023

SITE LAYOUT

♥ Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Opening Year (2025) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



SIDRA INTERSECTION 9.1 | Copyright © 2000-2022 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Saturday, February 25, 2023 12:51:18 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_OLP Rd_East_2025 AM Pk Hr_Build Alt 2.sip9

MOVEMENT SUMMARY

Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection

(Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Opening Year (2025) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

| Vehic | cle Mo | ovement | Perfor | man | | | | | | e della | | - | - | Con the second | - |
|-----------|--------|--------------|----------|-------|-------|----------------------------|--------------------|----------------------|---------------------|---------|--------------------------------|-------------|---------------------|---------------------------|----------------------|
| Mov ID | Turn | Mov Class | F | | | rival lows HV] % | Deg Satn v/c | Aver Delay sec | Level of Service | | Back Of ieue Dist] ft | Prop Que | Eff Stop Rate | Aver. No. of Cycles | Aver Speed mpt |
| East: | SR 54 | 4 | VENIT | 70 | VEIMI | 20 | V/C | 360 | | ven | 15 | | | | |
| 6 | T1 | All MCs | 935 | 5.0 | 935 | 5.0 | 0.390 | 5.3 | LOSA | 2.3 | 60.7 | 0.08 | 0.01 | 0.08 | 33.7 |
| 16 | R2 | All MCs | 109 | 7.0 | 109 | 7.0 | 0.390 | 5.4 | LOSA | 2.3 | 60.6 | 0.08 | 0.01 | 0.08 | 33.3 |
| Appro | ach | | 1044 | 5.2 | 1044 | 5.2 | 0.390 | 5.3 | LOSA | 2.3 | 60.7 | 0.08 | 0.01 | 0.08 | 33.7 |
| North: | Old L | ucerne Pa | ark Rd (| east) | | | | | | | | | | | |
| 7 | L2 | All MCs | 206 | 7.0 | 206 | 7.0 | 0.231 | 10.7 | LOS B | 0.7 | 19.2 | 0.65 | 0.64 | 0.65 | 28.8 |
| 14 | R2 | All MCs | 21 | 7.0 | 21 | 7.0 | 0.231 | 10.2 | LOS B | 0.7 | 18.6 | 0.64 | 0.63 | 0.64 | 29.4 |
| Appro | ach | | 227 | 7.0 | 227 | 7.0 | 0.231 | 10.6 | LOS B | 0.7 | 19.2 | 0.65 | 0.64 | 0.65 | 28.8 |
| West: | SR 54 | 14 | | | | | | | | | | | | | |
| 5 | L2 | All MCs | 9 | 7.0 | 9 | 7.0 | 0.398 | 7.8 | LOSA | 2.0 | 52.6 | 0.45 | 0.27 | 0.45 | 31.9 |
| 2 | T1 | All MCs | 845 | 5.0 | 845 | 5.0 | 0.398 | 7.5 | LOSA | 2.0 | 52.6 | 0.44 | 0.26 | 0.44 | 32.7 |
| Appro | ach | | 855 | 5.0 | 855 | 5.0 | 0.398 | 7.5 | LOSA | 2.0 | 52.6 | 0.44 | 0.26 | 0.44 | 32.7 |
| All Vel | hicles | | 2126 | 5.3 | 2126 | 5.3 | 0.398 | 6.7 | LOSA | 2.3 | 60.7 | 0.29 | 0.18 | 0.29 | 32.7 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2022 Akcelik and Associates Pty Ltd | sidrasolutions.com

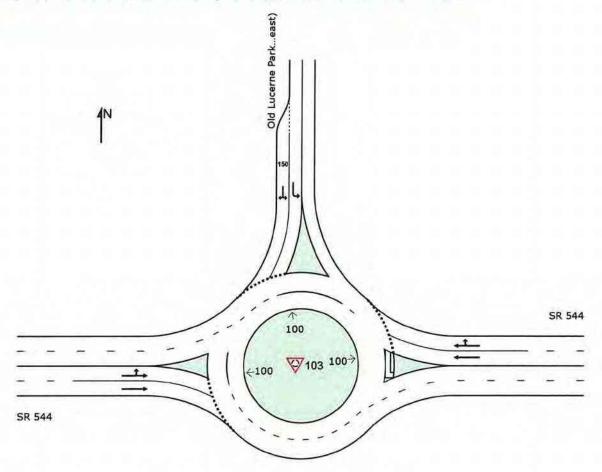
Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Tuesday, January 17, 2023 3:45:16 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_OLP Rd_East_2025 AM Pk Hr_Build Alt 2.sip9

SITE LAYOUT

♡ Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Opening Year (2025) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SIDRA INTERSECTION 9.1 | Copyright © 2000-2022 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Saturday, February 25, 2023 12:56:06 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_OLP Rd_East_2025 PM Pk Hr_Build Alt 2.sip9

MOVEMENT SUMMARY

Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection

(Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.1.200

Opening Year (2025) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

| Mov ID | Tum | Mov Class | | nand lows | | rrival Iows | Deg. Satn | Aver Delay | Level of Service | | Back Of eue | Prop. Que | Eff. Stop | Aver. No. of | Aver Speed |
|-----------|--------|--------------|------------------|--------------|------|----------------|--------------|---------------|---------------------|--------------|----------------|--------------|--------------|-----------------|---------------|
| | | | [Total veh/h | HV] | | | v/c | sec | | [Veh veh | Dist] ft | | Rate | Cycles | mph |
| East: | SR 54 | 4 | | | | | | | | | | | | | |
| 6 | T1 | All MCs | 803 | 3.0 | 803 | 3.0 | 0.404 | 6.0 | LOSA | 2.5 | 63.3 | 0.18 | 0.05 | 0.18 | 33.4 |
| 16 | R2 | All MCs | 265 | 7.0 | 265 | 7.0 | 0.404 | 6.3 | LOS A | 2.4 | 63.0 | 0.18 | 0.05 | 0.18 | 32.9 |
| Appro | ach | | 1068 | 4.0 | 1068 | 4.0 | 0.404 | 6.1 | LOS A | 2.5 | 63.3 | 0.18 | 0.05 | 0.18 | 33.3 |
| North | Old L | ucerne Pa | ark Rd (| east) | | | | | | | | | | | |
| 7 | L2 | All MCs | 173 | 7.0 | 173 | 7.0 | 0.160 | 8.3 | LOSA | 0.5 | 13.5 | 0.60 | 0.56 | 0.60 | 29.6 |
| 14 | R2 | All MCs | 11 | 7.0 | 11 | 7.0 | 0.160 | 7.9 | LOSA | 0.5 | 13.1 | 0.59 | 0.55 | 0.59 | 30.2 |
| Аррго | ach | | 185 | 7.0 | 185 | 7.0 | 0.160 | 8.2 | LOS A | 0.5 | 13.5 | 0.60 | 0.56 | 0.60 | 29.6 |
| West: | SR 54 | 4 | | | | | | | | | | | | | |
| 5 | L2 | All MCs | 32 | 7.0 | 32 | 7.0 | 0.422 | 8.0 | LOS A | 2.3 | 59.1 | 0.43 | 0.24 | 0.43 | 31.7 |
| 2 | T1 | All MCs | 926 | 3.0 | 926 | 3.0 | 0.422 | 7.5 | LOS A | 2.3 | 59.1 | 0.42 | 0.24 | 0.42 | 32.7 |
| Appro | ach | | 958 | 3.1 | 958 | 3.1 | 0.422 | 7.5 | LOS A | 2.3 | 59.1 | 0.42 | 0.24 | 0.42 | 32.6 |
| All Ve | hicles | | 2210 | 3.9 | 2210 | 3.9 | 0.422 | 6.9 | LOSA | 2.5 | 63.3 | 0.32 | 0.17 | 0.32 | 32.6 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

SIDRA INTERSECTION 9.1 | Copyright © 2000-2022 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Tuesday, January 17, 2023 3:48:56 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Interim Years\SR 544_OLP Rd_East_2025 PM Pk Hr_Build Alt 2.sip9

| | Signa | lized Intersecti | on | | Roundabout | |
|-------------|---------------------|------------------|-----|---------------------|------------|-----|
| Movement | V/C Ratio | Avg. Delay | LOS | V/C Ratio | Avg. Delay | LOS |
| EB LT | 0.19 | 7.5 | А | 0.79 | 19.6 | С |
| EB TH | 0.69 | 11.0 | В | 0.79 | 19.0 | С |
| EB APPROACH | 0.69 ⁽¹⁾ | 11.0 | В | 0.79 ⁽¹⁾ | 19.0 | С |
| WB TH | 0.94 | 30.8 | С | 0.77 | 15.1 | С |
| WB RT | 0.11 | 0.5 | А | 0.77 | 15.2 | С |
| WB APPROACH | 0.94 ⁽¹⁾ | 28.6 | С | 0.77 ⁽¹⁾ | 15.1 | С |
| SB LT | 0.79 | 55.5 | E | 0.71 | 51.3 | F |
| SB RT | 0.16 | 22.3 | С | 0.71 | 46.7 | E |
| SB APPROACH | 0.79 ⁽¹⁾ | 47.7 | D | 0.71 ⁽¹⁾ | 50.2 | F |
| OVERALL | 0.94 ⁽¹⁾ | 22.9 | С | 0.79 ⁽¹⁾ | 19.6 | С |

 Table 1B: Peak Hour Operational Analysis Summary - Old Lucerne Park Road (East) Intersection

Design Year (2045) AM Peak Hour

Design Year (2045) PM Peak Hour

| | Signa | lized Intersecti | on | | Roundabout | |
|-------------|---------------------|------------------|-----|---------------------|------------|-----|
| Movement | V/C Ratio | Avg. Delay | LOS | V/C Ratio | Avg. Delay | LOS |
| EB LT | 0.38 | 11.8 | В | 0.81 | 19.4 | С |
| EB TH | 0.73 | 10.9 | В | 0.81 | 18.8 | С |
| EB APPROACH | 0.73 ⁽¹⁾ | 10.9 | В | $0.81^{(1)}$ | 18.8 | С |
| WB TH | 0.80 | 20.1 | С | 0.73 | 13.6 | В |
| WB RT | 0.21 | 0.7 | А | 0.73 | 13.8 | В |
| WB APPROACH | 0.80 ⁽¹⁾ | 17.2 | В | 0.73 ⁽¹⁾ | 13.6 | В |
| SB LT | 0.63 | 45.8 | D | 0.34 | 19.1 | С |
| SB RT | 0.06 | 12.7 | В | 0.34 | 17.6 | С |
| SB APPROACH | 0.63 ⁽¹⁾ | 41.0 | D | 0.34 ⁽¹⁾ | 18.9 | С |
| OVERALL | 0.80 ⁽¹⁾ | 15.6 | В | 0.81 ⁽¹⁾ | 16.4 | С |

⁽¹⁾ Highest movement volume-to-capacity ratio

01/05/2021

| | 3 | -> | - | × | 1 | \$ |
|-------------------------|---------|------------|-----------|--------|--------|--------|
| Lane Group | EBL | EBT | WBT | WBR | SEL | SER |
| Lane Configurations | <u></u> | † † | ** | WDIN M | JEL Y | 1 |
| Traffic Volume (vph) | 33 | 1532 | 1774 | 134 | 237 | 72 |
| | 33 | 1532 | 1774 | 134 | 237 | 72 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 425 | 1900 | 1900 | 250 | 1900 | 200 |
| Storage Length (ft) | | - | | 250 | 1 | 200 |
| Storage Lanes | 1 | | | 1 | | 1 |
| Taper Length (ft) | 25 | 0.05 | 0.05 | 1.00 | 25 | 1.00 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Frt | 0.050 | | | 0.850 | 0.050 | 0.850 |
| Flt Protected | 0.950 | | | 1500 | 0.950 | 1500 |
| Satd. Flow (prot) | 1687 | 3438 | 3438 | 1509 | 1687 | 1509 |
| Flt Permitted | 0.067 | | | - | 0.950 | |
| Satd. Flow (perm) | 119 | 3438 | 3438 | 1509 | 1687 | 1509 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | 141 | | 8 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 9058 | 1011 | | 169 | |
| Travel Time (s) | | 205.9 | 23.0 | | 3.8 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Heavy Vehicles (%) | 7% | 5% | 5% | 7% | 7% | 7% |
| Adj. Flow (vph) | 35 | 1613 | 1867 | 141 | 249 | 76 |
| Shared Lane Traffic (%) | 00 | 1010 | 1001 | 111 | 210 | |
| Lane Group Flow (vph) | 35 | 1613 | 1867 | 141 | 249 | 76 |
| Turn Type | pm+pt | NA | NA | pm+ov | Prot | pm+ov |
| Protected Phases | 7 | 4 | 8 | 5 | 5 | 7 |
| | | 4 | 0 | 8 | 5 | 5 |
| Permitted Phases | 4 | | 8 | o 5 | 5 | э 7 |
| Detector Phase | 7 | 4 | 8 | 5 | 5 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 11.0 | 24.0 | 24.0 | 24.0 | 24.0 | 11.0 |
| Total Split (s) | 15.0 | 74.0 | 59.0 | 26.0 | 26.0 | 15.0 |
| Total Split (%) | 15.0% | 74.0% | 59.0% | 26.0% | 26.0% | 15.0% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | Lead | 201,438 | Lag | 049034 | 101032 | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | None | None | None | Min | Min | None |
| Act Effct Green (s) | 63.5 | 63.5 | 53.9 | 78.8 | 17.4 | 29.8 |
| Actuated g/C Ratio | 0.68 | 0.68 | 0.58 | 0.85 | 0.19 | 0.32 |
| | | 0.69 | 0.94 | 0.05 | 0.79 | 0.16 |
| v/c Ratio | 0.19 | | | | | 22.3 |
| Control Delay | 7.5 | 11.0 | 30.8 | 0.5 | 55.5 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 7.5 | 11.0 | 30.8 | 0.5 | 55.5 | 22.3 |
| LOS | А | В | С | A | E | С |
| Approach Delay | | 11.0 | 28.6 | | 47.7 | |
| Approach LOS | | В | С | | D | |
| Stops (vph) | 10 | 851 | 1404 | 4 | 212 | 44 |

Build Alt. 2 2045 AM Peak

Synchro 11 Report Page 1

| | 3 | | -> | × | 1 | 2 | |
|-----------------------------------|-------------|------|------|------|------------|-------------|-----|
| Lane Group | EBL | EBT | WBT | WBR | SEL | SER | |
| Fuel Used(gal) | 2 | 116 | 33 | 1 | 4 | 1 | |
| CO Emissions (g/hr) | 170 | 8132 | 2296 | 76 | 291 | 46 | |
| NOx Emissions (g/hr) | 33 | 1582 | 447 | 15 | 57 | 9 | |
| VOC Emissions (g/hr) | 39 | 1885 | 532 | 18 | 67 | 11 | |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | 0 | |
| Queue Length 50th (ft) | 6 | 287 | 571 | 0 | 145 | 29 | |
| Queue Length 95th (ft) | 16 | 362 | #786 | 9 | #262 | 64 | |
| Internal Link Dist (ft) | | 8978 | 931 | | 89 | | |
| Turn Bay Length (ft) | 425 | | | 250 | | 200 | |
| Base Capacity (vph) | 234 | 2537 | 1991 | 1310 | 366 | 533 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.15 | 0.64 | 0.94 | 0.11 | 0.68 | 0.14 | |
| Intersection Summary | | | - 22 | - | and a | | 100 |
| Area Type: | Other | | | | | | |
| Cycle Length: 100 | | | | | | | |
| Actuated Cycle Length: 93 | | | | | | | |
| Natural Cycle: 90 | | | | | | | |
| Control Type: Actuated-Un | coordinated | | | | | | |
| Maximum v/c Ratio: 0.94 | | | | | | | |
| Intersection Signal Delay: 2 | 22.9 | | | In | tersection | LOS: C | |
| Intersection Capacity Utilization | ation 72.2% | | | IC | U Level o | f Service C | |

Intersection Capacity Utilization 72.2% ICU Analysis Period (min) 15 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 15: SR 544 & Old Lucerne Park Rd. (East)

| | - b Ø4 | | |
|-----|-----------------|----------------|--|
| | 74 s | | |
| 105 | 2 ₀₇ | ← Ø8 | |
| 55 | 15 s | 59 s | |

01/05/2021

| | 3 | | - | × | 1 | \$ |
|---|-------|----------|-----------|----------|-----------|-----------|
| Lane Group | EBL | EBT | WBT | WBR | SEL | SER |
| Lane Configurations | EDL | ^ | ** | WDR | SLL 1 | ULK I |
| • | 83 | 1682 | 1511 | 265 | 176 | 30 |
| Traffic Volume (vph) | 83 | 1682 | 1511 | 265 | 176 | 30 |
| Future Volume (vph) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Ideal Flow (vphpl) | 425 | 1900 | 1900 | 250 | 1900 | 200 |
| Storage Length (ft) | 425 | | | 250 | 1 | 200 |
| Storage Lanes | 25 | | | 1 | 25 | 1 |
| Taper Length (ft) | 1.00 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Lane Util. Factor | 1.00 | 0.95 | 0.95 | 0.850 | 1.00 | 0.850 |
| Frt | 0.050 | | | 0.650 | 0.050 | 0.000 |
| Fit Protected | 0.950 | 2505 | 2505 | 1500 | 0.950 | 1509 |
| Satd. Flow (prot) | 1687 | 3505 | 3505 | 1509 | 1687 | 1203 |
| Flt Permitted | 0.075 | 0505 | 0505 | 4500 | 0.950 | 4500 |
| Satd. Flow (perm) | 133 | 3505 | 3505 | 1509 | 1687 | 1509 |
| Right Turn on Red | | | | Yes | | Yes |
| Satd. Flow (RTOR) | | | | 273 | | 20 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 9058 | 1011 | | 169 | |
| Travel Time (s) | | 205.9 | 23.0 | | 3.8 | |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Heavy Vehicles (%) | 7% | 3% | 3% | 7% | 7% | 7% |
| Adj. Flow (vph) | 86 | 1734 | 1558 | 273 | 181 | 31 |
| Shared Lane Traffic (%) | | | - | | - | |
| Lane Group Flow (vph) | 86 | 1734 | 1558 | 273 | 181 | 31 |
| Turn Type | pm+pt | NA | NA | pm+ov | Prot | pm+ov |
| Protected Phases | 7 | 4 | 8 | 5 | 5 | 7 |
| Permitted Phases | 4 | 1 | U | 8 | Ű | 5 |
| Detector Phase | 7 | 4 | 8 | 5 | 5 | 7 |
| Switch Phase | | . т | U | J | U | - |
| | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Initial (s) | | | | | | 11.0 |
| Minimum Split (s) | 11.0 | 24.0 | 24.0 | 24.0 | 24.0 | |
| Total Split (s) | 15.0 | 74.0 | 59.0 | 26.0 | 26.0 | 15.0 |
| Total Split (%) | 15.0% | 74.0% | 59.0% | 26.0% | 26.0% | 15.0% |
| Yellow Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| All-Red Time (s) | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Lead/Lag | Lead | | Lag | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | None | None | None | Min | Min | None |
| Act Effct Green (s) | 57.4 | 57.4 | 47.3 | 70.1 | 14.5 | 28.4 |
| Actuated g/C Ratio | 0.68 | 0.68 | 0.56 | 0.83 | 0.17 | 0.34 |
| v/c Ratio | 0.38 | 0.73 | 0.80 | 0.21 | 0.63 | 0.06 |
| Control Delay | 11.8 | 10.9 | 20.1 | 0.7 | 45.8 | 12.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| and the second se | 11.8 | 10.9 | 20.1 | 0.0 | 45.8 | 12.7 |
| Total Delay | | | 20.1 C | 0.7 A | 45.6 D | 12.7 B |
| LOS Approach Delay | В | B | 17.2 | A | 41.0 | D |
| Approach Delay | | 10.9 | | | | |
| Approach LOS | | В | В | | D | 10 |
| Stops (vph) | 27 | 949 | 1130 | 7 | 154 | 12 |

Build Alt. 2 2045 PM Peak

.

Synchro 11 Report Page 1

| | 3 | | - | ×_ | 1 | \$ | |
|--------------------------|--------------|------|------|------|------|------|--|
| Lane Group | EBL | EBT | WBT | WBR | SEL | SER | |
| Fuel Used(gal) | 6 | 128 | · 24 | 2 | 3 | 0 | |
| CO Emissions (g/hr) | 434 | 8930 | 1701 | 151 | 191 | 13 | |
| NOx Emissions (g/hr) | 84 | 1738 | 331 | 29 | 37 | 2 | |
| VOC Emissions (g/hr) | 101 | 2070 | 394 | 35 | 44 | 3 | |
| Dilemma Vehicles (#) | 0 | 0 | 0 | 0 | 0 | 0 | |
| Queue Length 50th (ft) | 13 | 265 | 356 | 0 | 102 | 5 | |
| Queue Length 95th (ft) | 44 | 409 | 526 | 14 | 175 | 24 | |
| Internal Link Dist (ft) | | 8978 | 931 | | 89 | | |
| Turn Bay Length (ft) | 425 | | | 250 | | 200 | |
| Base Capacity (vph) | 265 | 2766 | 2311 | 1338 | 422 | 554 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.32 | 0.63 | 0.67 | 0.20 | 0.43 | 0.06 | |
| Intersection Summary | | | - | 200 | 2 | | |
| Area Type: | Other | | | | | | |
| Cycle Length: 100 | | | | | | | |
| Actuated Cycle Length: 8 | 4.6 | | | | | | |
| Natural Cycle: 75 | | | | | | | |
| Control Type: Actuated-U | ncoordinated | | | | | | |
| Maximum v/c Ratio: 0.80 | | | | | | | |

| Maximum v/c Ratio: 0.80 | | |
|---|------------------------|--|
| Intersection Signal Delay: 15.6 | Intersection LOS: B | |
| Intersection Capacity Utilization 71.1% | ICU Level of Service C | |
| Analysis Period (min) 15 | | |

Splits and Phases: 15: SR 544 & Old Lucerne Park Rd. (East)

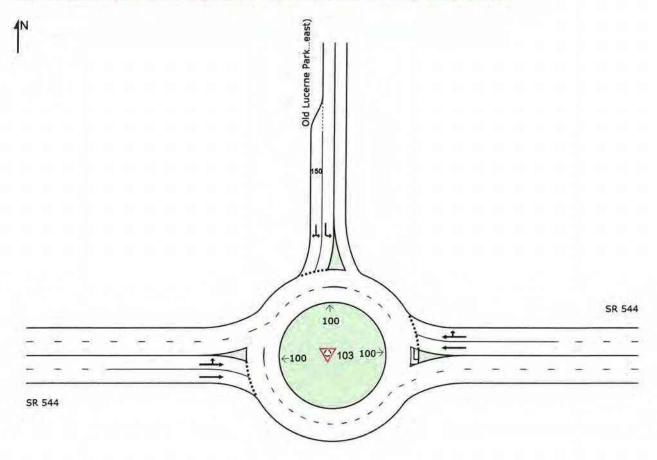
| | -04 | | |
|------|-------|------|--|
| | 74 \$ | | |
| 505 | ¥ @7 | ←Ø8 | |
| 26.9 | 15.5 | 59 s | |

SITE LAYOUT

V Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Monday, January 18, 2021 12:33:41 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\AM Pk Hr\SR 544_OLP Rd_East_2045 AM Pk Hr_Build Alt 2.sip9

MOVEMENT SUMMARY

V Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Design Year (2045) AM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

| Vehi Mov | Turn | INF | IUhr | DEM | AND | Deg. | Aver | Level of | 95% B | ACK OF | Prop | Effective | Aver | Aver |
|-------------|----------------|-----------------|----------|----------------|-----|-------|-------|----------|--|---------------|------|-----------|---------------|-------|
| ID | . ann | VOLL [Total | | FLO [Total | | Satn | Delay | Service | and the second sec | EUE Dist] | Que | Stop | No. Cycles | Speed |
| 1 | and the second | veh/h | % | veh/h | % | v/c | sec | | veh | ft | _ | | 1.4.4 | mph |
| East | : SR 54 | 4 | | | | | | | | | | | | |
| 6 | T1 | 1774 | 5.0 | 1867 | 5.0 | 0.769 | 15.1 | LOS C | 9.6 | 250.5 | 0.38 | 0.15 | 0.38 | 30.5 |
| 16 | R2 | 134 | 7.0 | 141 | 7.0 | 0.769 | 15.2 | LOS C | 9.5 | 248.8 | 0.38 | 0.15 | 0.38 | 29.6 |
| Appr | oach | 1908 | 5.1 | 2008 | 5.1 | 0.769 | 15.1 | LOS C | 9.6 | 250.5 | 0.38 | 0.15 | 0.38 | 30.4 |
| North | h: Old L | ucerne P | ark Rd (| east) | | | | | | | | | | |
| 7 | L2 | 237 | 7.0 | 249 | 7.0 | 0.710 | 51.3 | LOS F | 3.2 | 84.6 | 0.93 | 1.18 | 1.92 | 19.9 |
| 14 | R2 | 72 | 7.0 | 76 | 7.0 | 0.710 | 46.7 | LOS E | 3.2 | 84.6 | 0.93 | 1.18 | 1.92 | 20.4 |
| Appr | oach | 309 | 7.0 | 325 | 7.0 | 0.710 | 50.2 | LOS F | 3.2 | 84.6 | 0.93 | 1.18 | 1.92 | 20.0 |
| West | t: SR 54 | 4 | | | | | | | | | | | | |
| 5 | L2 | 33 | 7.0 | 35 | 7.0 | 0.791 | 19.6 | LOS C | 17.1 | 445.2 | 0.82 | 1.09 | 1.65 | 28.7 |
| 2 | T1 | 1532 | 5.0 | 1613 | 5.0 | 0.791 | 19.0 | LOS C | 17.4 | 453.5 | 0.81 | 1.07 | 1.63 | 28.9 |
| Appr | oach | 1565 | 5.0 | 1647 | 5.0 | 0.791 | 19.0 | LOS C | 17.4 | 453.5 | 0.81 | 1.07 | 1.63 | 28.9 |
| | ehicles | 3782 | 5.3 | 3981 | 5.3 | 0.791 | 19.6 | LOS C | 17.4 | 453.5 | 0.60 | 0.61 | 1.02 | 28.6 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

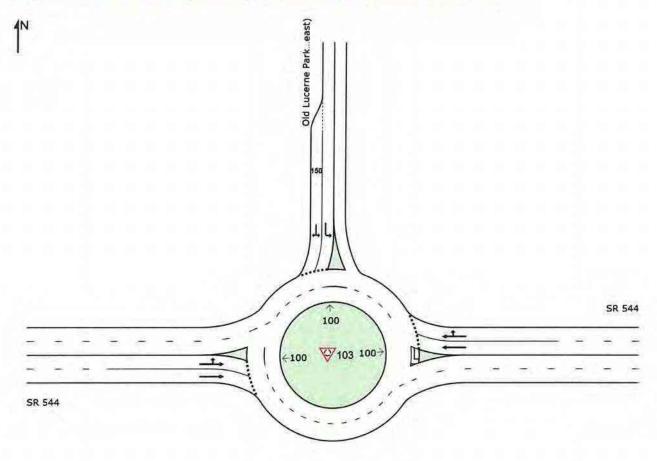
Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Monday, January 18, 2021 12:33:03 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\AM Pk Hr\SR 544_OLP Rd_East_2045 AM Pk Hr_Build Alt 2.sip9

SITE LAYOUT

W Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings



SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Created: Monday, January 18, 2021 12:36:50 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\PM Pk Hr\SR 544_OLP Rd_East_2045 PM Pk Hr_Build Alt 2.sip9

MOVEMENT SUMMARY

V Site: 103 [SR 544/Old Lucerne Park Rd (east end) Intersection (Site Folder: General)]

Design Year (2045) PM Peak Hour - Build Alt 2 Site Category: (None) Roundabout

| Mov ID | Turn | INF VOLU | | DEM. FLO | | Deg. Satn | Aver. Delav | Level of Service | | ACK OF EUE | Prop. Que | Effective Stop | Aver. No. | Aver Speed |
|-----------|---------|-----------------|-----------|------------------|-----------|--------------|----------------|---------------------|---------------|---------------|--------------|-------------------|--------------|---------------|
| | | (Total veh/h | HV] % | [Total veh/h | HV J % | v/c | sec | | [Veh. veh | Dist] ft | | Rate | Cycles | mph |
| East | SR 54 | 4 | | | | | | | | | | | | Lin Collage |
| 6 | T1 | 1511 | 3.0 | 1558 | 3.0 | 0.726 | 13.6 | LOS B | 7.7 | 195.9 | 0.53 | 0.29 | 0.53 | 31.1 |
| 16 | R2 | 265 | 7.0 | 273 | 7.0 | 0.726 | 13.8 | LOS B | 7.4 | 191.4 | 0.53 | 0.29 | 0.53 | 30.1 |
| Appr | oach | 1776 | 3.6 | 1831 | 3.6 | 0.726 | 13.6 | LOS B | 7.7 | 195.9 | 0.53 | 0.29 | 0.53 | 31.0 |
| North | : Old L | ucerne P | ark Rd (e | east) | | | | | | | | | | |
| 7 | L2 | 176 | 7.0 | 181 | 7.0 | 0.338 | 19.1 | LOS C | 1.2 | 30.7 | 0.82 | 0.88 | 1.06 | 27.4 |
| 14 | R2 | 30 | 7.0 | 31 | 7.0 | 0.338 | 17.6 | LOS C | 1.2 | 30.7 | 0.81 | 0.87 | 1.05 | 27.3 |
| Appro | oach | 206 | 7.0 | 212 | 7.0 | 0.338 | 18.9 | LOS C | 1.2 | 30.7 | 0.82 | 0.88 | 1.06 | 27.4 |
| West | : SR 54 | 4 | | | | | | | | | | | | |
| 5 | L2 | 83 | 7.0 | 86 | 7.0 | 0.805 | 19.4 | LOSC | 20.4 | 523.7 | 0.82 | 0.96 | 1.45 | 28.7 |
| 2 | T1 | 1682 | 3.0 | 1734 | 3.0 | 0.805 | 18.8 | LOS C | 20.4 | 523.1 | 0.81 | 0.93 | 1.42 | 29.0 |
| Appro | bach | 1765 | 3.2 | 1820 | 3.2 | 0.805 | 18.8 | LOS C | 20.4 | 523.7 | 0.81 | 0.93 | 1.42 | 29.0 |
| All Ve | hicles | 3747 | 3.6 | 3863 | 3.6 | 0.805 | 16.4 | LOSC | 20.4 | 523.7 | 0.68 | 0.63 | 0.98 | 29.8 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6). Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SIDRA INTERSECTION 9.0 | Copyright © 2000-2020 Akcelik and Associates Pty Ltd | sidrasolutions.com

Organisation: AIM ENGINEERING AND SURVEYING | Licence: NETWORK / 1PC | Processed: Monday, January 18, 2021 12:36:48 PM Project: T:\PROJECTS\2 - DISTRICT 1\D1_SR 544\Traffic\Roundabouts\Design Year 2045\PM Pk Hr\SR 544_OLP Rd_East_2045 PM Pk Hr_Build Alt 2.sip9

Appendix D

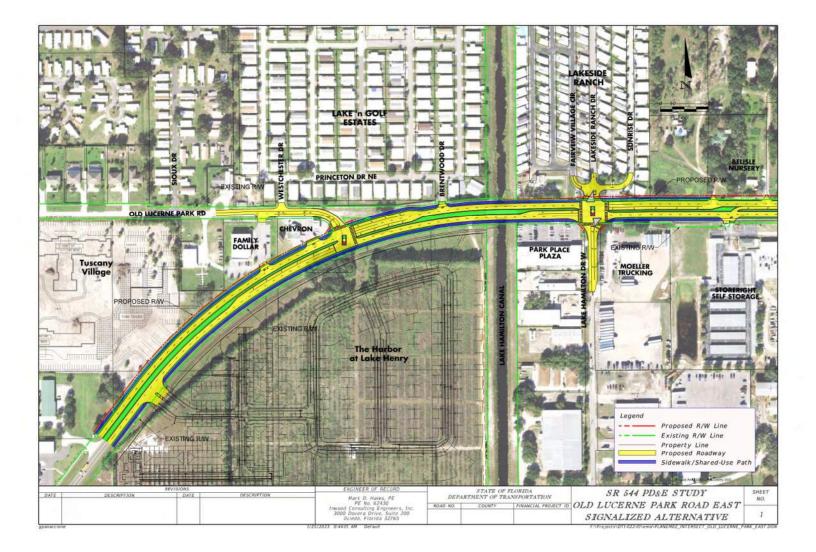
SPICE Analysis Summary Sheet

| | Federal Highway Administration (FHWA) Safety Performance for Intersection Control Evaluation Tool | | | | | | | | | | | | | |
|--------------------------|--|-----------------------|------------------|-------------------------------|-------------------------------------|--------|----------------------|-----------|----------------|----------------------|--|--|--|--|
| | | | | | section Control Evaluation sults | n Tool | | | | | | | | |
| | | | | Summary of crash predictio | | hua | | | | | | | | |
| | | | | | nformation | ive | | | | | | | | |
| Project Name: | CR E44 DDR E Study f | rom MLK Blvd to SR 17 | | Intersection Type | normation | | | r | At Gra | de Intersections | | | | |
| Intersection: | SR 544/Old Lucerne | | | - | Al-Ola | 2025 | | | | | | | | |
| Agency: | FDOT District One | raik Koau (East Eliu) | | Opening Year Design Year | | | | | | 2025 | | | | |
| Project Reference: | FPID No.: 440273-1-2 | 22.01 | | Facility Type | | | | | n Urban a | nd Suburban Arterial | | | | |
| City: | Polk County | 12-01 | | Number of Legs | | | | | ii orbair a | 3-leg | | | | |
| State: | Florida | | | 1-Way/2-Way | | | | | 2-way Ir | tersecting 2-way | | | | |
| Date: | 12/19/2022 | | | # of Major Street Lanes (both | directions) | | | | | or fewer | | | | |
| Analyst: | AIM Engineering & S | urveying, Inc. | | Major Street Approach Speed | | | | | | than 55 mph | | | | |
| Crash Prediction Summary | | | | | | | | | | | | | | |
| | ADT Within SPF Prediction SSI Score | | | | | | | | | | | | | |
| Control Strategy | Crash Type | Opening Year | Design Year | Total Project Life Cycle | Crash Prediction Rank | Range? | Source of Prediction | Open Year | Design Year | Rank | | | | |
| Traffic Signal | Total | 5.59 | 10.96 | 173.69 | 7 | Yes | Calibrated SPF | 71 | <u>52</u> | 5 | | | | |
| Traffic Signal | Fatal & Injury | 1.95 | 3.65 | 58.89 | / | Tes | Calibrated SFF | <u>/1</u> | <u>32</u> | 5 | | | | |
| Minor Road Stop | Total | 2.29 | 4.30 | 69.26 | 2 | Yes | Calibrated SPF | <u>49</u> | 26 | 7 | | | | |
| inner neda stop | Fatal & Injury | 0.74 | 1.39 | 22.45 | 2 | 165 | cultorated of t | | 20 | / | | | | |
| All Way Stop | Total | 2.56 | 3.98 | 68.98 | 1 | N/A | N/A | 87 | 78 | 1 | | | | |
| | Fatal & Injury | 0.71 | 1.07 | 18.80 | - | | | <u></u> | <u>70</u> | - | | | | |
| 2-lane Roundabout | Total | 6.59 | 11.84 | 192.94 | 3 | No | Uncalibrated SPF | 86 | 75 | 2 | | | | |
| | Fatal & Injury | 1.21 | 2.42 | 37.83 | , | | | | 10 | 4 | | | | |
| Median U-Turn (MUT) | Total | 4.76 | 9.31 | 147.63 | 4 | N/A | CMF | | | | | | | |
| | Fatal & Injury | 1.37 | 2.56 | 41.22 | - | , | • | | - | | | | | |
| Signalized RCUT | Total | 5.95 | 11.77 | 186.20 | 6 | Yes | Uncalibrated SPF | 77 | 61 | 3 | | | | |
| - | Fatal & Injury | 1.86 | 3.53 No SPF | 56.80 | - | | | | _ | | | | | |
| Unsignalized RCUT | Total Fatal & Injury | No SPF No SPF | No SPF No SPF | No SPF No SPF | | Yes | Uncalibrated SPF | <u>69</u> | <u>50</u> | 6 | | | | |
| Continuous Green-T | Total | 5.37 | 10.52 | 166.74 | _ | | | | | | | | | |
| Intersection | Fatal & Injury | 1.66 | 3.10 | 50.05 | 5 | N/A | CMF | <u>78</u> | <u>61</u> | 4 | | | | |
| Other 1* | Total | No SPF | No SPF | No SPF | | N/A | CMF | | | | | | | |
| Other 1 | Fatal & Injury | No SPF | No SPF | No SPF | | IN/A | CIVIF | | | | | | | |
| Other 2* | Total | No SPF | No SPF | No SPF | | N/A | CMF | | | | | | | |
| 0.0012 | Fatal & Injury | No SPF | No SPF | No SPF | | | 0.411 | | - | - | | | | |

Appendix E

Roundabout and Signalized Intersection Preliminary Geometric Concepts





Appendix F

Preliminary Cost Estimates

Appendix F1

Preliminary Right-of-Way Cost Estimates

<u>CONCEPTUAL ESTIMATE, ALTERNATES / SEGMENTS: PHASE COSTS SUMMARY</u> <u>The costs below are not based on an appraisal of values!</u>

** EXEMPT FROM PUBLIC DISCLOSURE - FS: 337.168 **

<u>ITEM SEG: , 4402731,</u>

LIMITS: SR 544, Lucerne Park Rd, MLK to SR 17

COST ESTIMATE NUMBER: 22030 & 23003

FOR: D. Turley, PE, FDOT Project Development

BY: J. Harper, FDOT Right of Way

COUNTY: , Polk,

Alternate / Segment: Alternatives at Eastern Terminus of Old Lucerne Park Rd at SR 544; Bulb Out at Hideaway Dr

| Description: | Size Acres: | Parcels | Relo.Cnt | Phase: 4B | Phase: 41 | Phase: 43 | Phase: 45 | Total: |
|-----------------------------------|-------------|---------|----------|-------------|-----------|--------------|-----------|--------------|
| Alt. 1 - Old LP East RAB | 1.047 | 7 | 0 | \$260,000 | \$84,000 | \$7,406,000 | \$0 | \$7,750,000 |
| Alt. 2- Old LP East RAB | 1.143 | 10 | 0 | \$330,000 | \$120,000 | \$5,220,000 | \$0 | \$5,670,000 |
| Alt. 3 - Old LP East 180' RAB | 0.693 | 6 | 0 | \$220,000 | \$72,000 | \$3,933,000 | \$0 | \$4,225,000 |
| Alt. 4 - Old LP East Signal | 0.076 | 5 | 0 | \$170,000 | \$60,000 | \$290,000 | \$0 | \$520,000 |
| Lake Hamilton @ Hideaway Bulb Out | 0.287 | 1 | 0 | \$75,000 | \$12,000 | \$368,000 | \$0 | \$455,000 |
| | | | | | | | | |
| | | | | | | | | |
| Total All Sheets: | 3.246 | 29 | 0 | \$1,055,000 | \$348,000 | \$17,217,000 | \$0 | \$18,620,000 |

S:\ROW\EST\a-Estimates\Polk_16\23004 4402731 SR 544 Lucerne Park, MLK to SR 17 Seg 7\[23004 4402731 SR 544 Old LP Rd East RAB - 180 feet.xlsm]Inflate

DATE: 1/23/2023

<u>Notes</u>

Contiguous PD&E parcels with similar ownerships are considered one parcel for Right of Way estimating.

Parcel 255 - Giant Oil Inc. - Single billboard with four signs, not illuminuted, six poles. 100% impact in Alternatives 1 and 2.

Alternative 1 considers Parcels 252 and 255 as 100% damaged; Alternative 2 considers only 255 as 100% damaged.



Appendix F2

Preliminary Construction Cost Estimates

Date: 10/8/2019 4:43:23 PM

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: TEMPLT-R-00-03 | | | Letting Da | te: 01/2099 | | | |
|--|---|------------------------------------|---|--------------------|--|--|--|
| Description: Roundabout 2 X 2 (4 Lane - 4 Lane) | | | | | | | |
| District: 09 Contract Class: | County: 99 DISTRICT/STATE WIDE Lump Sum Project: N | Market Area: 99 Design/Build: N | Units: English Project Length: (|).142 MI | | | |
| Project Manager: | Project Manager: Template | | | | | | |
| Version 1-P Project Grand Total Description: Roundabout 2 X 2 (4 Lane - 4 Lane) | | | \$1, | 857,886.62 | | | |
| Sequence: 1 NDR - New Construction, Divided, Rural | | | Net Length: | 0.057 MI 301 LF | | | |
| Description: 4-Lane Approach | | | | | | | |

| EARTHWO | ORK C | OMPC | NFNT |
|---------|-------|------|-------------|
| | | | |

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.70 |
| Alignment Number | 1 |
| Distance | 0.057 |
| Top of Structural Course For Begin Section | 100.00 |
| Top of Structural Course For End Section | 100.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 5.00 % / 5.00 % |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |
| | |

| Pay Items Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|-----------------------|--|---------------|----------------|--------------|
| 110-1-1 | CLEARING & GRUBBING | 0.70 AC | \$25,150.58 | \$17,605.41 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
| 120-1 | REGULAR EXCAVATION | 500.00 CY | \$15.94 | \$7,970.00 |
| | Comment: 27000 ft X 0.5 ft deep / 2 | 7 = 500 CY | | |
| 120-6 | EMBANKMENT | 500.00 CY | \$19.58 | \$9,790.00 |
| | Comment: 27000 ft X 0.5 ft deep / 2 | 7 = 500 CY | | |
| | Earthwork Component Total | | | \$35,365.41 |
| | | | | |

ROADWAY COMPONENT

User Input Data

| Description | Value |
|-----------------------------|---------------|
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |
| Structural Spread Rate | 220 |
| Friction Course Spread Rate | 110 |

| A-nems Pay item | Description | Quantity Unit | Linit Price Ex | tended Amount | |
|----------------------------------|---|-----------------|----------------|---------------|--|
| 160-4 | TYPE B STABILIZATION | 2,200.00 SY | \$7.36 | \$16,192.00 | |
| 100-4 | Comment: 4-Lane Leg: 19785 sf/9=2198 SY use 2200 SY | | | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,950.00 SY | \$26.69 | \$52,045.50 | |
| | Comment: 4-Lane Leg: measure approx. | , | | +, | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 215.00 TN | \$122.10 | \$26,251.50 | |
| | Comment: 2" Superpave Traffic C (1950 = 215 TN | X 110 X 2)/2000 | | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 108.00 TN | \$163.55 | \$17,663.40 | |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN | (1950 X | | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.20 GM | \$1,004.99 | \$201.00 | |
| 710-11-102 | PAINTED PAVT MARK,STD,WHITE,SOLID,8" | 0.04 GM | \$1,343.10 | \$53.72 | |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 115.00 LF | \$0.75 | \$86.25 | |
| 710-11-124 | PAINTED PAVT MARK,STD,WHITE,SOLID, 18" | 30.00 LF | \$1.13 | \$33.90 | |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 198.00 LF | \$1.44 | \$285.12 | |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$560.34 | \$11.21 | |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$2,911.00 | \$29.11 | |
| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 2.00 EA | \$49.78 | \$99.56 | |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 4.00 EA | \$29.55 | \$118.20 | |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,010.52 | \$151.58 | |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 55.00 LF | \$1.14 | \$62.70 | |
| Pavement Marking Subcomponent | | | | | |
| Description | | Value | | | |
| Include Thermo/ Pavement Type | Tape/Other | ۱ Asphal | | | |
| | of Paint Applications | | ונ 2 | | |
| Solid Stripe No. | | | 4 | | |
| | of Paint Applications | | 2 | | |
| Skip Stripe No. of Stripes 0 | | | | | |
| | Roadway Component Total | | | \$113,284.75 | |

SHOULDER COMPONENT

| User Input Data | |
|---|---------------|
| Description | Value |
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |
| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Exte | nded Amount |
|----------|--|-------------------|-----------------|-------------|
| 285-701 | OPTIONAL BASE, BASE GROUP 01 | 154.00 SY | \$16.17 | \$2,490.18 |
| | Comment: 4-Lane Leg: 130 ft X 5.33 ft wid 154 SY | le X 2 sides /9 = | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 10.00 TN | \$163.55 | \$1,635.50 |
| | Comment: 1" thick FC: (154 SY X 110)/200 use 10 TN | 00 = 8.47 TN | | |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$47.24 | \$20,785.60 |
| 527-2 | DETECTABLE WARNINGS | 104.00 SF | \$29.23 | \$3,039.92 |
| 570-1-2 | PERFORMANCE TURF, SOD | 380.00 SY | \$3.74 | \$1,421.20 |

Erosion Control

107-2

| Pay Items | | |
|-----------|------------------|---------------|
| Pay item | Description | Quantity Unit |
| 104-10-3 | SEDIMENT BARRIER | 600.00 LF |
| 107-1 | LITTER REMOVAL | 0.25 AC |

MOWING Shoulder Component Total

\$30,494.76

\$1,098.00

\$9.24

\$15.12

Unit Price Extended Amount

\$1.83

\$36.96

\$60.47

0.25 AC

MEDIAN COMPONENT

User Input Data

| Description | Value |
|----------------------------------|-------------|
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips ï¿1⁄2No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Exte | ended Amount |
|----------|-----------------------------------|---------------|-----------------|--------------|
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 240.00 LF | \$24.31 | \$5,834.40 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 350.00 LF | \$27.84 | \$9,744.00 |
| 527-2 | DETECTABLE WARNINGS | 40.00 SF | \$29.23 | \$1,169.20 |
| 570-1-2 | PERFORMANCE TURF, SOD | 120.00 SY | \$3.74 | \$448.80 |

\$17,196.40

DRAINAGE COMPONENT

| X-Items | | | | |
|-------------|--|---------------|----------------|--------------|
| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
| 425-1-361 | INLETS, CURB, TYPE P-6, <10' | 2.00 EA | \$5,799.60 | \$11,599.20 |
| 425-2-41 | MANHOLES, P-7, <10' | 1.00 EA | \$4,321.64 | \$4,321.64 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 224.00 LF | \$97.28 | \$21,790.72 |
| | Drainage Component Total | | | \$37,711.56 |

SIGNING COMPONENT

| Pay Items Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|-----------------------|---------------------------------------|---------------|----------------|--------------|
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 7.00 AS | \$351.13 | \$2,457.91 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 AS | \$4,616.27 | \$4,616.27 |
| | Signing Component Total | | | \$7,074.18 |

LIGHTING COMPONENT

| Rural Lighting Description Multiplier (Numl Pay Items | Subcomponent | | | Value 3 |
|--|--|---------------|---------------|----------------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 800.00 LF | \$7.88 | \$6,304.00 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 4.00 EA | \$682.87 | \$2,731.48 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 2,400.00 LF | \$2.22 | \$5,328.00 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 4.00 EA | \$584.15 | \$2,336.60 |
| | Subcomponent Total | | | \$16,700.08 |
| X-Items | | | | |
| Pay item | Description | Quantity l | Jnit Unit P | rice Extended Amount |
| 715-511-140 | LIGHT POLE COMP,F&I,SGL ARM SM, AL,40' | 4.00 E | EA \$14,382 | 2.46 \$57,529.84 |
| | Lighting Component Total | | | \$74,229.92 |
| Sequence 1 To | otal | | | \$315,356.98 |

| Sequence: 2 NDR - New Construction, Divided, Rural | Net Length: | 0.057 MI 301 LF |
|--|-------------|--------------------|
| Description: Roundabout Central Island, includes landscaping and irrigation system | | |
| | | |

EARTHWORK COMPONENT

| | g and Grubbing Limits L/R g and Grubbing Area | | | Value 0.00 / 0.00 0.50 |
|--|--|---------------|----------------------------------|--|
| Top of Structural Horizontal Elevat | Course For Begin Section Course For End Section ion For Begin Section ion For End Section Cross Slope L/R Cross Slope L/R | | | $\begin{array}{c} 1\\ 0.057\\ 100.00\\ 100.00\\ 100.00\\ 100.00\\ 6 \ to \ 1 \ / \ 6 \ to \ 1\\ 6 \ to \ 1 \ / \ 6 \ to \ 1\\ 5.00 \ \% \ / \ 5.00 \ \%\\ 6.00 \ \% \ / \ 6.00 \ \%\\ 2.00 \ \% \ / \ 2.00 \ \% \end{array}$ |
| Pay Items | | | | |
| Pay item 110-1-1 | Description CLEARING & GRUBBING | • | Unit Price \$25,150.58 | Extended Amount \$12,575.29 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 480.00 CY | \$15.94 | \$7,651.20 |
| | Comment: 26000 ft x 0.5 ft deep / 27 = 487 CY | 1 CY use 480 | | |
| 120-6 | EMBANKMENT | 480.00 CY | \$19.58 | \$9,398.40 |
| | Comment: 26000 ft x 0.5 ft deep / 27 = 48° CY | 1 CY use 480 | | |
| | Earthwork Component Total | | | \$29,624.89 |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |
| Structural Spread Rate | 220 |
| Friction Course Spread Rate | 110 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Exten | ded Amount |
|----------------|--|---------------|------------------|-------------|
| 160 - 4 | TYPE B STABILIZATION | 2,200.00 SY | \$7.36 | \$16,192.00 |
| | Comment: measure (25578-6175)SF /9 = 2 2200 SY | 2156 SY use | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,300.00 SY | \$26.69 | \$34,697.00 |
| | Comment: measure (25578-10477)SF /9 = 1300 SY | = 1294 SY use | | |

| Page 6 of 20 |
|--------------|
| |
| |

| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 143.00 TN | \$122.10 | \$17,460.30 |
|-------------------|--|-------------------|---------------|---------------|
| | Comment: 2" Superpave Traffic C (1300 | 0 X 110 X 2)/2000 | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 72.00 TN | \$163.55 | \$11,775.60 |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 | 2 (1300 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.05 GM | \$1,004.99 | \$50.25 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.05 GM | \$560.34 | \$28.02 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 8.00 EA | \$29.55 | \$236.40 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.07 GM | \$1,010.52 | \$70.74 |
| Pavement Mark | ing Subcomponent | | | |
| Description | | Value | e | |
| Include Thermo/ | /Tape/Other | ١ | ١ | |
| Pavement Type | | Asphal | lt | |
| Solid Stripe No. | of Paint Applications | | 2 | |
| Solid Stripe No. | - | 4 | | |
| | of Paint Applications | | 2 | |
| Skip Stripe No. | of Stripes | (| C | |
| | Roadway Component Total | | | \$80,510.31 |
| | SHOULDER COM | IPONENT | | |
| User Input Data | 1 | | | |
| Description | | Value | 9 | |
| - | noulder Width L/R | 10.00 / 10.00 | | |
| | noulder Perf. Turf Width L/R | 2.67 / 2.67 | | |
| Paved Outside S | Shoulder Width L/R | 5.00 / 5.00 | | |
| Structural Sprea | ld Rate | 11(| | |
| Friction Course | | 80 | C | |
| Total Width (T) / | | - | Г | |
| Rumble Strips i | ¹ / ₂ No. of Sides | (| C | |
| Erosion Contro | 1 | | | |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,801.75 | \$2,801.75 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$36.96 | \$9.24 |
| 107-2 | MOWING | 0.25 AC | \$60.47 | \$15.12 |
| | Shoulder Component Total | | | \$2,826.11 |
| | | | | |

MEDIAN COMPONENT

Value 0.00

| User Input Data | | |
|--------------------|--|--|
| Description | | |
| Total Median Width | | |

https://fdotwp1.dot.state.fl.us/LongRangeEstimating/estimates/LREAESR04R3E.asp

| Performance Turf Width | 0.00 |
|----------------------------------|-------------|
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|-----------|--|---------------|----------------|--------------|
| 350-30-13 | CONC PAVEMENT FOR ROUNDABOUT APRON, 12" | 480.00 SY | \$91.15 | \$43,752.00 |
| 520-2-4 | CONCRETE CURB, TYPE D | 280.00 LF | \$26.72 | \$7,481.60 |
| 520-2-8 | CONCRETE CURB, TYPE RA | 370.00 LF | \$23.95 | \$8,861.50 |
| 570-1-2 | PERFORMANCE TURF, SOD | 700.00 SY | \$3.74 | \$2,618.00 |
| | Median Component Total | | | \$62,713.10 |

SIGNING COMPONENT

| Description | Quantity Unit | Unit Price Exte | ended Amount |
|-------------------------------------|-------------------------------------|---|--|
| SINGLE POST SIGN, F&I GM, <12 SF | 4.00 AS | \$351.13 | \$1,404.52 |
| Signing Component Total | | | \$1,404.52 |
| | SINGLE POST SIGN, F&I GM, <12 SF | SINGLE POST SIGN, F&I GM, <12 4.00 AS SF | SINGLE POST SIGN, F&I GM, <12 4.00 AS \$351.13 SF |

LIGHTING COMPONENT

| X-Items | | | | |
|-----------------|---|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 639-1-112 | ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON | 1.00 AS | \$2,779.45 | \$2,779.45 |
| 715-7-11 | LOAD CENTER, F&I, SECONDARY VOLTAGE | 1.00 EA | \$12,834.87 | \$12,834.87 |
| | Lighting Component Total | | | \$15,614.32 |
| User Input Data | LANDSCAPING CO | MPONENT | | |

| \$40,000.00 |
|-------------|
| |

Sequence 2 Total

\$232,693.25

| Sequence: 3 NDR - New Construction, Divided, Rural | Net L |
|--|-------|
| | |

Length: 0.057 MI 301 LF

Description: 4-Lane Approach

| | EARTHWORK COM | IPONENT | | |
|------------------|---|-----------------|-------------|-----------------|
| User Input Data | a | | | |
| Description | | | | Value |
| Standard Cleari | ng and Grubbing Limits L/R | | | 0.00 / 0.00 |
| Incidental Clear | ing and Grubbing Area | | | 0.70 |
| Alignment Num | ber | | | 1 |
| Distance | | | | 0.057 |
| Top of Structura | I Course For Begin Section | | | 100.00 |
| Top of Structure | I Course For End Section | | | 100.00 |
| Horizontal Eleva | ation For Begin Section | | | 100.00 |
| Horizontal Eleva | ation For End Section | | | 100.00 |
| Front Slope L/R | | | | 6 to 1 / 6 to 1 |
| Median Slope L | | | | 6 to 1 / 6 to 1 |
| | er Cross Slope L/R | | | 5.00 % / 5.00 % |
| | er Cross Slope L/R | | | 6.00 % / 6.00 % |
| Roadway Cross | Slope L/R | | | 2.00 % / 2.00 % |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amoun |
| 110-1-1 | CLEARING & GRUBBING | 0.70 AC | \$25,150.58 | \$17,605.41 |
| | | | <i>,</i> | <i> </i> |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amoun |
| 120-1 | REGULAR EXCAVATION | 500.00 CY | \$15.94 | \$7,970.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 5 | 500 CY | | |
| 120-6 | EMBANKMENT | 500.00 CY | \$19.58 | \$9,790.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 5 | 500 CY | | |
| | Earthwork Component Total | | | \$35,365.41 |
| | ROADWAY COMP | PONENT | | |
| User Input Data | a | | | |
| Description | | Valu | | |
| Number of Lane | | | 2 | |
| Roadway Paver | | 12.00 / 12.00 | | |
| Structural Sprea | | 22 | | |
| Friction Course | Spread Rate | 11 | 0 | |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 160-4 | TYPE B STABILIZATION | 2,200.00 SY | \$7.36 | \$16,192.00 |
| | Comment: 4-Lane Leg: 19785 sf/9=2198 | SY use 2200 SY | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,950.00 SY | \$26.69 | \$52,045.50 |
| | Comment: 4-Lane Leg: measure approx. | | | , |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 215.00 TN | \$122.10 | \$26,251.50 |
| | Comment: 2" Superpave Traffic C (1950) = 215 TN | X 110 X 2)/2000 | | |

| 337-7-82 | ASPH CONC FC, TRAFFIC C, FC- | 108.00 TN | \$163.55 | \$17,663.40 |
|----------------------------------|--|---------------|------------|--------------|
| | 9.5,PG 76-22 Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN | (1950 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.20 GM | \$1,004.99 | \$201.00 |
| 710-11-102 | PAINTED PAVT MARK,STD,WHITE,SOLID,8" | 0.04 GM | \$1,343.10 | \$53.72 |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 115.00 LF | \$0.75 | \$86.25 |
| 710-11-124 | PAINTED PAVT MARK,STD,WHITE,SOLID, 18" | 30.00 LF | \$1.13 | \$33.90 |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 198.00 LF | \$1.44 | \$285.12 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$560.34 | \$11.21 |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$2,911.00 | \$29.11 |
| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 2.00 EA | \$49.78 | \$99.56 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 4.00 EA | \$29.55 | \$118.20 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,010.52 | \$151.58 |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 55.00 LF | \$1.14 | \$62.70 |
| Pavement Mark | king Subcomponent | | | |
| Description | | Value | 9 | |
| Include Thermo | | - | N | |
| Pavement Type | | Asphal | | |
| | of Paint Applications | | 2 | |
| Solid Stripe No. | | | 4 | |
| | of Paint Applications | 2 0 | | |
| Skip Stripe No. | or Stripes | (| J | |
| | Roadway Component Total | | | \$113,284.75 |
| | SHOULDER COM | PONENT | | |
| User Input Data | 3 | | | |
| Description | | Value | 9 | |
| - | houlder Width L/R | 10.00 / 10.00 | - | |
| | houlder Perf. Turf Width L/R | 2.67 / 2.67 | - | |
| Paved Outside Shoulder Width L/R | | 5.00 / 5.00 | | |
| Structural Sprea | ad Rate | 11(|) | |
| Friction Course | | 80 | | |
| Total Width (T) / | | | Г | |
| Rumble Strips i | , | |)) | |
| | | | | |
| X-Items | | | | |

| Pay item | Description | Quantity Unit | Unit Price Exter | nded Amount |
|----------|---|-------------------|------------------|-------------|
| 285-701 | OPTIONAL BASE, BASE GROUP 01 | 154.00 SY | \$16.17 | \$2,490.18 |
| | Comment: 4-Lane Leg: 130 ft X 5.33 ft wi 154 SY | de X 2 sides /9 = | | |
| 337-7-82 | ASPH CONC FC, TRAFFIC C, FC- | 10.00 TN | \$163.55 | \$1,635.50 |

| | 9.5,PG 76-22 | | | |
|----------------|--|-------------------|----------------|--------------|
| | Comment: 1" thick FC: (154 SY X 11 use 10 TN | 0)/2000 = 8.47 TN | | |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$47.24 | \$20,785.60 |
| 527-2 | DETECTABLE WARNINGS | 104.00 SF | \$29.23 | \$3,039.92 |
| 570-1-2 | PERFORMANCE TURF, SOD | 380.00 SY | \$3.74 | \$1,421.20 |
| Erosion Contro | 1 | | | |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
| 104-10-3 | SEDIMENT BARRIER | 600.00 LF | \$1.83 | \$1,098.00 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$36.96 | \$9.24 |
| 107-2 | MOWING | 0.25 AC | \$60.47 | \$15.12 |
| | Shoulder Component Total | | | \$30,494.76 |

MEDIAN COMPONENT

| User Input Data | |
|----------------------------------|-------------|
| Description | Value |
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pav item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|-----------|-----------------------------------|---------------|----------------|--------------|
| i ay item | • | Quantity Onit | | chaca Amount |
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 240.00 LF | \$24.31 | \$5,834.40 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 350.00 LF | \$27.84 | \$9,744.00 |
| 527-2 | DETECTABLE WARNINGS | 40.00 SF | \$29.23 | \$1,169.20 |
| 570-1-2 | PERFORMANCE TURF, SOD | 120.00 SY | \$3.74 | \$448.80 |
| | Median Component Total | | | \$17,196.40 |

DRAINAGE COMPONENT

| X-Items | | | | |
|-------------|--|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 425-1-361 | INLETS, CURB, TYPE P-6, <10' | 2.00 EA | \$5,799.60 | \$11,599.20 |
| 425-2-41 | MANHOLES, P-7, <10' | 1.00 EA | \$4,321.64 | \$4,321.64 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 224.00 LF | \$97.28 | \$21,790.72 |
| | Drainage Component Total | | | \$37,711.56 |

| | SIGINING CO | | | |
|---------------------------------|--|---------------|---------------|-----------------------|
| Pay Items | | | | |
| Pay item | Description | Quantity l | Jnit Unit F | Price Extended Amoun |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 7.00 / | AS \$35 | 51.13 \$2,457.91 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 A | AS \$4,61 | 6.27 \$4,616.27 |
| | Signing Component Total | | | \$7,074.18 |
| Pural Lighting | LIGHTING CO Subcomponent | MPONENT | | |
| | Supcomponent | | | Mahua |
| Description Multiplier (Numb | per of Poles) | | | Value 3 |
| Pay Items | | | | 5 |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 800.00 LF | \$7.88 | \$6,304.00 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 4.00 EA | \$682.87 | \$2,731.48 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 2,400.00 LF | \$2.22 | \$5,328.00 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 4.00 EA | \$584.15 | \$2,336.60 |
| | Subcomponent Total | | | \$16,700.08 |
| X-Items | | | | |
| Pay item | Description | Quantity l | Jnit Unit F | Price Extended Amount |
| 715-511-140 | LIGHT POLE COMP,F&I,SGL ARM SM, AL,40' | 4.00 E | EA \$14,38 | 32.46 \$57,529.84 |
| | Lighting Component Total | | | \$74,229.92 |
| Sequence 3 To | otal | | | \$315,356.98 |

SIGNING COMPONENT

Net Length: 0.057 MI 301 LF

Description: 4-Lane Approach

| | EARTHWORK COM | IPONENT | | |
|-------------------|---|-----------------|--------------------------|---|
| User Input Data | | | | |
| Description | | | | Value |
| Standard Cleari | ng and Grubbing Limits L/R | | | 0.00 / 0.00 |
| Incidental Cleari | ng and Grubbing Area | | | 0.70 |
| Alignment Numb | ber | | | 1 |
| Distance | | | | 0.057 |
| Top of Structura | I Course For Begin Section | | | 100.00 |
| | Course For End Section | | | 100.00 |
| Horizontal Eleva | ation For Begin Section | | | 100.00 |
| Horizontal Eleva | ation For End Section | | | 100.00 |
| Front Slope L/R | | | | 6 to 1 / 6 to 1 |
| Median Slope L | | | | 6 to 1 / 6 to 1 |
| | er Cross Slope L/R | | | 5.00 % / 5.00 % |
| | er Cross Slope L/R | | | 6.00 % / 6.00 % |
| Roadway Cross | Slope L/R | | | 2.00 % / 2.00 % |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 110-1-1 | CLEARING & GRUBBING | 0.70 AC | \$25,150.58 | \$17,605.41 |
| | | | <i>420,100100</i> | ¢11,000111 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 500.00 CY | \$15.94 | \$7,970.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 5 | 00 CY | | |
| 120-6 | EMBANKMENT | 500.00 CY | \$19.58 | \$9,790.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 5 | 600 CY | | |
| | Earthwork Component Total | | | \$35,365.41 |
| | ROADWAY COMP | ONENT | | |
| User Input Data | 1 | | | |
| Description | | Value | | |
| Number of Lane | | | 2 | |
| Roadway Paver | | 12.00 / 12.00 | | |
| Structural Sprea | | 220 | | |
| Friction Course | Spread Rate | 110 | J | |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 160-4 | TYPE B STABILIZATION | 2,200.00 SY | \$7.36 | \$16,192.00 |
| | Comment: 4-Lane Leg: 19785 sf/9=2198 | SY use 2200 SY | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,950.00 SY | \$26.69 | \$52,045.50 |
| | Comment: 4-Lane Leg: measure approx. | | , | , |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, | 215.00 TN | \$122.10 | \$26,251.50 |
| | TRAFFIC C | | ψιΖΖ.10 | Ψ20,201.00 |
| | Comment: 2" Superpave Traffic C (1950 = 215 TN | X 110 X 2)/2000 | | |

= 215 TN

| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 108.00 TN | \$163.55 | \$17,663.40 |
|-------------------|--|---------------|------------|--------------|
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN | : (1950 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.20 GM | \$1,004.99 | \$201.00 |
| 710-11-102 | PAINTED PAVT MARK,STD,WHITE,SOLID,8" | 0.04 GM | \$1,343.10 | \$53.72 |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 115.00 LF | \$0.75 | \$86.25 |
| 710-11-124 | PAINTED PAVT MARK,STD,WHITE,SOLID, 18" | 30.00 LF | \$1.13 | \$33.90 |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 198.00 LF | \$1.44 | \$285.12 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$560.34 | \$11.21 |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$2,911.00 | \$29.11 |
| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 2.00 EA | \$49.78 | \$99.56 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 4.00 EA | \$29.55 | \$118.20 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,010.52 | \$151.58 |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 55.00 LF | \$1.14 | \$62.70 |
| Pavement Mark | ing Subcomponent | | | |
| Description | | Value | e | |
| Include Thermo/ | Tape/Other | Ν | ١ | |
| Pavement Type | | Aspha | lt | |
| Solid Stripe No. | of Paint Applications | | 2 | |
| Solid Stripe No. | of Stripes | 4 | 1 | |
| Skip Stripe No. o | of Paint Applications | | 2 | |
| Skip Stripe No. o | of Stripes | (|) | |
| | Roadway Component Total | | | \$113,284.75 |
| | SHOULDER COM | PONENT | | |
| User Input Data | I | | | |
| Description | | Value | 2 | |
| • | noulder Width L/R | 10.00 / 10.00 | - | |
| | houlder Perf. Turf Width L/R | 2.67 / 2.67 | - | |
| | Shoulder Width L/R | 5.00 / 5.00 | | |
| Structural Sprea | | 3.00 / 3.00 | | |
| Friction Course 3 | | 80 | | |
| Total Width (T) / | | | | |

| Description | Va |
|---|-------------|
| Total Outside Shoulder Width L/R | 10.00 / 10. |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2. |
| Paved Outside Shoulder Width L/R | 5.00 / 5. |
| Structural Spread Rate | 1 |
| Friction Course Spread Rate | |
| Total Width (T) / 8" Overlap (O) | |
| Rumble Strips �No. of Sides | |
| | |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Exte | nded Amount |
|----------|--|------------------|-----------------|-------------|
| 285-701 | OPTIONAL BASE, BASE GROUP 01 | 154.00 SY | \$16.17 | \$2,490.18 |
| | Comment: 4-Lane Leg: 130 ft X 5.33 ft wid 154 SY | e X 2 sides /9 = | | |
| 337-7-82 | ASPH CONC FC, TRAFFIC C, FC- | 10.00 TN | \$163.55 | \$1,635.50 |

Т 0

| | Shoulder Component Total | | | \$30,494.76 |
|---|--|-------------------|----------------|--------------|
| 107-2 | MOWING | 0.25 AC | \$60.47 | \$15.12 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$36.96 | \$9.24 |
| 104-10-3 | SEDIMENT BARRIER | 600.00 LF | \$1.83 | \$1,098.00 |
| Erosion Contro Pay Items Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
| 570-1-2 | PERFORMANCE TURF, SOD | 380.00 SY | \$3.74 | \$1,421.20 |
| 527 - 2 | DETECTABLE WARNINGS | 104.00 SF | \$29.23 | \$3,039.92 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$47.24 | \$20,785.60 |
| | 9.5,PG 76-22 Comment: 1" thick FC: (154 SY X 11 use 10 TN | 0)/2000 = 8.47 TN | | |

MEDIAN COMPONENT

| User Input Data | |
|----------------------------------|-------------|
| Description | Value |
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Exte | ended Amount |
|----------|-----------------------------------|---------------|-----------------|--------------|
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 240.00 LF | \$24.31 | \$5,834.40 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 350.00 LF | \$27.84 | \$9,744.00 |
| 527-2 | DETECTABLE WARNINGS | 40.00 SF | \$29.23 | \$1,169.20 |
| 570-1-2 | PERFORMANCE TURF, SOD | 120.00 SY | \$3.74 | \$448.80 |
| | Median Component Total | | | \$17,196.40 |

DRAINAGE COMPONENT

| X-Items | | | | |
|-------------|--|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 425-1-361 | INLETS, CURB, TYPE P-6, <10' | 2.00 EA | \$5,799.60 | \$11,599.20 |
| 425-2-41 | MANHOLES, P-7, <10' | 1.00 EA | \$4,321.64 | \$4,321.64 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 224.00 LF | \$97.28 | \$21,790.72 |
| | Drainage Component Total | | | \$37,711.56 |

| Pay Items | | | | |
|---------------------------------|--|---------------|---------------|-----------------------|
| Pay item | Description | Quantity l | Jnit Unit | Price Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 7.00 / | AS \$3 | \$51.13 \$2,457.91 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 / | AS \$4,6 | 16.27 \$4,616.27 |
| | Signing Component Total | | | \$7,074.18 |
| Pural Lighting | LIGHTING CO Subcomponent | MPONENT | | |
| | Subcomponent | | | \/_b |
| Description Multiplier (Numb | ver of Poles) | | | Value 3 |
| Pay Items | Jer OF Foles) | | | 5 |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 800.00 LF | \$7.88 | \$6,304.00 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 4.00 EA | \$682.87 | \$2,731.48 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 2,400.00 LF | \$2.22 | \$5,328.00 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 4.00 EA | \$584.15 | \$2,336.60 |
| | Subcomponent Total | | | \$16,700.08 |
| X-Items | | | | |
| Pay item | Description | Quantity l | Jnit Unit | Price Extended Amount |
| 715-511-140 | LIGHT POLE COMP,F&I,SGL ARM SM, AL,40' | 4.00 E | EA \$14,3 | 82.46 \$57,529.84 |
| | Lighting Component Total | | | \$74,229.92 |
| Sequence 4 Tc | otal | | | \$315,356.98 |

SIGNING COMPONENT

|--|

Net Length: 0.057 MI 301 LF

Description: 4-Lane Approach

| | EARTHWORK COM | PONENT | | |
|-------------------------------------|--|----------------|-------------|------------------------------------|
| User Input Data | | | | |
| Description | | | | Value |
| - | g and Grubbing Limits L/R | | | 0.00 / 0.00 |
| Incidental Clearin | g and Grubbing Area | | | 0.70 |
| Alignment Numbe | er | | | 1 |
| Distance | | | | 0.057 |
| Top of Structural | Course For Begin Section | | | 100.00 |
| | Course For End Section | | | 100.00 |
| | on For Begin Section | | | 100.00 |
| | on For End Section | | | 100.00 |
| Front Slope L/R | | | | 6 to 1 / 6 to 1 |
| Median Slope L/F | | | | 6 to 1 / 6 to 1 |
| Median Shoulder Outside Shoulder | - | | | 5.00 % / 5.00 % 6.00 % / 6.00 % |
| Roadway Cross S | • | | | 2.00 % / 2.00 % |
| Roadway Cross C | | | | 2.00 /8/ 2.00 /8 |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 110-1-1 | CLEARING & GRUBBING | 0.70 AC | \$25,150.58 | \$17,605.41 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 500.00 CY | \$15.94 | \$7,970.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 50 | | | ÷., |
| 120-6 | EMBANKMENT | 500.00 CY | \$19.58 | \$9,790.00 |
| 120 0 | Comment: 27000 ft X 0.5 ft deep / 27 = 50 | | Q10.00 | \$0,700.00 |
| | | | | |
| | Earthwork Component Total | | | \$35,365.41 |
| | ROADWAY COMP | ONENT | | |
| User Input Data | | | | |
| Description | | Valu | e | |
| Number of Lanes | | | 2 | |
| Roadway Paveme | | 12.00 / 12.0 | | |
| Structural Spread | | 22 | | |
| Friction Course S | pread Rate | 11 | U | |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 160-4 | TYPE B STABILIZATION | 2,200.00 SY | \$7.36 | \$16,192.00 |
| | Comment: 4-Lane Leg: 19785 sf/9=2198 | SY use 2200 SY | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,950.00 SY | \$26.69 | \$52,045.50 |
| | Comment: 4-Lane Leg: measure approx. | | | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 215.00 TN | \$122.10 | \$26,251.50 |

Comment: 2" Superpave Traffic C (1950 X 110 X 2)/2000

= 215 TN

| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 108.00 TN | \$163.55 | \$17,663.40 |
|---------------------|---|---------------|------------|--------------|
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN | (1950 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.20 GM | \$1,004.99 | \$201.00 |
| 710-11-102 | PAINTED PAVT MARK,STD,WHITE,SOLID,8" | 0.04 GM | \$1,343.10 | \$53.72 |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 115.00 LF | \$0.75 | \$86.25 |
| 710-11-124 | PAINTED PAVT MARK,STD,WHITE,SOLID, 18" | 30.00 LF | \$1.13 | \$33.90 |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 198.00 LF | \$1.44 | \$285.12 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$560.34 | \$11.21 |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$2,911.00 | \$29.11 |
| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 2.00 EA | \$49.78 | \$99.56 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 4.00 EA | \$29.55 | \$118.20 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,010.52 | \$151.58 |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 55.00 LF | \$1.14 | \$62.70 |
| Pavement Mark | king Subcomponent | | | |
| Description | | Value | • | |
| Include Thermo | /Tape/Other | Ν | 1 | |
| Pavement Type | | Asphal | t | |
| Solid Stripe No. | of Paint Applications | 2 | 2 | |
| Solid Stripe No. | - | 2 | | |
| | of Paint Applications | | 2 | |
| Skip Stripe No. | of Stripes | (|) | |
| | Roadway Component Total | | | \$113,284.75 |
| | SHOULDER COM | PONENT | | |
| User Input Data | а | | | |
| Description | | Value | - | |
| | houlder Width L/R | 10.00 / 10.00 | - | |
| | houlder Perf. Turf Width L/R | 2.67 / 2.67 | | |
| | Shoulder Width L/R | 5.00 / 5.00 | | |
| Structural Sprea | | 11(| | |
| Friction Course | • | 80 | | |
| Total Width (T) | / 8" Overlap (O) | ٦ | Γ | |
| " مساسل ملما مسير ا | | (| ۱ ۱ | |

X-Items

Rumble Strips ï¿1/2No. of Sides

| Pay item | Description | Quantity Unit | Unit Price Extend | ded Amount |
|----------|--|------------------|-------------------|------------|
| 285-701 | OPTIONAL BASE, BASE GROUP 01 | 154.00 SY | \$16.17 | \$2,490.18 |
| | Comment: 4-Lane Leg: 130 ft X 5.33 ft wid 154 SY | e X 2 sides /9 = | | |
| 337-7-82 | ASPH CONC FC, TRAFFIC C, FC- | 10.00 TN | \$163.55 | \$1,635.50 |

0

| | 9.5,PG 76-22 | | | |
|-----------------|--|-------------------|----------------|--------------|
| | Comment: 1" thick FC: (154 SY X 11 use 10 TN | 0)/2000 = 8.47 TN | | |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$47.24 | \$20,785.60 |
| 527-2 | DETECTABLE WARNINGS | 104.00 SF | \$29.23 | \$3,039.92 |
| 570-1-2 | PERFORMANCE TURF, SOD | 380.00 SY | \$3.74 | \$1,421.20 |
| Erosion Control | | | | |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
| 104-10-3 | SEDIMENT BARRIER | 600.00 LF | \$1.83 | \$1,098.00 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$36.96 | \$9.24 |
| 107-2 | MOWING | 0.25 AC | \$60.47 | \$15.12 |
| | Shoulder Component Total | | | \$30,494.76 |
| | | | | |

MEDIAN COMPONENT

| User Input Data | |
|----------------------------------|-------------|
| Description | Value |
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Exte | ended Amount |
|----------|-----------------------------------|---------------|-----------------|--------------|
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 240.00 LF | \$24.31 | \$5,834.40 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 350.00 LF | \$27.84 | \$9,744.00 |
| 527-2 | DETECTABLE WARNINGS | 40.00 SF | \$29.23 | \$1,169.20 |
| 570-1-2 | PERFORMANCE TURF, SOD | 120.00 SY | \$3.74 | \$448.80 |
| | Median Component Total | | | \$17,196.40 |

DRAINAGE COMPONENT

| X-Items | | | | |
|-------------|--|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 425-1-361 | INLETS, CURB, TYPE P-6, <10' | 2.00 EA | \$5,799.60 | \$11,599.20 |
| 425-2-41 | MANHOLES, P-7, <10' | 1.00 EA | \$4,321.64 | \$4,321.64 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 224.00 LF | \$97.28 | \$21,790.72 |
| | Drainage Component Total | | | \$37,711.56 |

| Pay Items | | | | |
|--|--|---------------|---------------|----------------------|
| Pay item | Description | Quantity l | Jnit Unit P | rice Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 7.00 / | AS \$35 | 1.13 \$2,457.91 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 / | AS \$4,61 | 6.27 \$4,616.27 |
| | Signing Component Total | | | \$7,074.18 |
| Pural Lighting | LIGHTING CO | MPONENT | | |
| | Subcomponent | | | Mahaa |
| Description Multiplier (Numb | per of Poles) | | | Value 3 |
| Pay Items | Jer of Foles) | | | 5 |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 800.00 LF | \$7.88 | \$6,304.00 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 4.00 EA | \$682.87 | \$2,731.48 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 2,400.00 LF | \$2.22 | \$5,328.00 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 4.00 EA | \$584.15 | \$2,336.60 |
| | Subcomponent Total | | | \$16,700.08 |
| X-Items | | | | |
| Pay item | Description | - | | rice Extended Amount |
| 715-511-140 | LIGHT POLE COMP,F&I,SGL ARM SM, AL,40' | 4.00 E | EA \$14,38 | 2.46 \$57,529.84 |
| | Lighting Component Total | | | \$74,229.92 |
| Sequence 5 Tc | otal | | | \$315,356.98 |

SIGNING COMPONENT

| Date: 10/8/2019 FDC | 9 4:43:24 PM OT Long Range Estimation R3: Project Details by S | • • | |
|-------------------------------|--|------------------------------------|--|
| Project: TEMF | PLT-R-00-03 | | Letting Date: 01/2099 |
| Description: | Roundabout 2 X 2 (4 Lane - 4 Lane) | | |
| District: 09 Contract Clas | County: 99 DISTRICT/STATE WIDE s: Lump Sum Project: N | Market Area: 99 Design/Build: N | Units: English Project Length: 0.142 MI |
| Project Manag | ger: Template | | |
| | roject Grand Total coundabout 2 X 2 (4 Lane - 4 Lane) | | \$1,857,886.62 |
| Project Seque | ences Subtotal | | \$1,494,121.17 |
| 102-1 | Maintenance of Traffic | 10.00 % | \$149,412.12 |
| 101-1 | Mobilization | 10.00 % | \$164,353.33 |
| Project Seque | ences Total | | \$1,807,886.62 |
| Project Unknov | wns | 0.00 % | \$0.00 |
| Design/Build | | 0.00 % | \$0.00 |
| Non-Bid Com | ponents: | | |
| Pay item | Description | Quantity Unit U | nit Price Extended Amount |
| 999-25 | INITIAL CONTINGENCY AMOUNT (DO NOT BID) | LS \$50 | 0,000.00 \$50,000.00 |
| Project Non-E | Bid Subtotal | | \$50,000.00 |
| Version 1-P P | roject Grand Total | | \$1,857,886.62 |

| Segment | Description | Sequence | Version 1 | Signalization Component | Version 2 |
|---------|--|----------|------------------|-------------------------|------------------|
| | MLK to Ave Y (Includes MLK/SR 544 Signal) | 1 | \$ 2,666,232.33 | | \$ 2,903,508.31 |
| 1 | Mini Roundabout (Includes SR 544/Ave Y Signal) | 2 | \$ 676,231.71 | \$ 394,822.05 | \$ 683,984.43 |
| 1 | 2 Lane Approach | 3 | \$ 285,615.79 | | \$ 302,349.73 |
| | 2 Lane Approach | 4 | \$ 241,381.05 | | \$ 261,804.47 |
| 2 | Ave Y to Lake Conine Canal | 5 | \$ 6,543,751.44 | | \$ 6,691,679.66 |
| | Lake Conine Canal to OLP West (Includes SR 544/OLP West Signal) | 6 | \$ 10,727,987.27 | \$ 295,825.99 | \$ 10,727,987.27 |
| 3 | OLP West Roundabout | 7 | \$ 316,219.29 | | \$ 316,219.29 |
| 3 | 2 Lane Approach | 8 | \$ 287,433.84 | | \$ 287,433.84 |
| | 2 Lane Approach | 9 | \$ 285,615.79 | | \$ 285,615.79 |
| | OLP West to Lake Hamilton Canal (Includes both signal alternatives) | 10 | \$ 25,649,732.12 | \$ 591,651.98 | \$ 25,649,732.12 |
| | Lucerne Loop Roundabout | 11 | \$ 430,030.50 | | \$ 430,030.50 |
| | (3) 2 Lane Approach | 12 | \$ 431,150.76 | | \$ 431,150.76 |
| 4 | (3) 2 Lane Approach | 13 | \$ 431,150.76 | | \$ 431,150.76 |
| | OLP East Roundabout | 14 | \$ 295,623.36 | | \$ 295,623.36 |
| | 2 Lane Approach | 15 | \$ 287,433.84 | | \$ 287,433.84 |
| | 2 Lane Approach | 16 | \$ 287,433.84 | | \$ 287,433.84 |
| | Lake Hamilton Canal to Brenton Manor (Includes both signal alternatives) | 17 | \$ 6,351,297.28 | \$ 591,651.98 | \$ 6,351,297.28 |
| 5 | Brenton Manor Roundabout | 18 | \$ 310,766.41 | | \$ 310,766.41 |
| 5 | 2 Lane Approach | 19 | \$ 287,433.84 | | \$ 287,433.84 |
| | 2 Lane Approach | 20 | \$ 287,433.84 | | \$ 287,433.84 |
| | Brenton Manor to La Vista Drive (Includes US 27/SR 544 Signal) | 21 | \$ 12,141,700.26 | \$ 496,052.51 | \$ 12,141,700.26 |
| 6 | NW Quadrant Roadway (Includes NW Quadrant & US 27 Signal) | 22 | \$ 2,709,083.51 | | \$ 2,709,083.51 |
| 0 | US 27 Frontage Roads (Includes SPUI Signal) | 23 | \$ 4,651,930.98 | | \$ 4,651,930.98 |
| | US 27 Overpass/Bridge (SPUI) | 24 | \$ 16,164,523.65 | | \$ 16,164,523.65 |
| | La Vista Drive to SR 17 (Includes SR 17/SR 544 Signal) | 25 | \$ 4,376,330.69 | \$ 295,825.99 | \$ 4,376,330.69 |
| 7 | SR 17 Roundabout | 26 | \$ 327,398.31 | | \$ 327,398.31 |
| | 2 Lane Approach | 27 | \$ 276,086.44 | | \$ 276,086.44 |
| | 2 Lane Approach | 28 | \$ 314,902.30 | | \$ 314,902.30 |

| Total | \$ 98,041,911.20 | Total | \$ 98,472,025.48 |
|-----------------------|-------------------|-----------------------|-------------------|
| | | | |
| MOT (10%) | \$ 9,804,191.12 | MOT (10%) | \$ 9,847,202.55 |
| MOB (8%) | \$ 8,627,688.19 | MOB (8%) | \$ 8,665,538.24 |
| | | | |
| Total | \$ 116,473,790.51 | Total | \$ 116,984,766.27 |
| | | | |
| Project Unknowns (5%) | \$ 5,823,689.53 | Project Unknowns (5%) | \$ 5,849,238.31 |
| Initial Contingency | \$ 150,000.00 | Initial Contingency | \$ 150,000.00 |
| | | | |
| Grand Total | \$ 122,447,480.03 | Grand Total | \$ 122,984,004.58 |
| | | | |

| Old Lucerne Park Road (east e | Old Lucerne Park Road (east end) Cost Estimate | | | |
|-------------------------------|--|---------------|--|--|
| Description | Т | raffic Signal | | |
| Roadway Cost | \$ | 295,825.99 | | |
| Maintenance of Traffic (10%) | \$ | 29,582.60 | | |
| Mobilization (8%) | \$ | 26,032.69 | | |
| | | | | |
| Sub Total | \$ | 351,441.28 | | |
| | | | | |
| Project Unknowns (5%) | \$ | 17,572.06 | | |
| | | | | |
| Roadway Construction Total | \$ | 369,013.34 | | |
| Rounded Value (Nearest 100) | \$ | 369,000.00 | | |
| <u></u> | • | | | |

Appendix F3

Preliminary Utility Relocation Cost Estimates

| | Impacted Utility Facilities for Each SR 544 Alternative | | | | | | | | | | | |
|---------------------------------------|---|------------|-----------|-------------------------------|------------|----------|------------------------------|------------|-----------|-------------------------------|------------|---------|
| Intersection | Old Lucerne Park Road (east end) | | | | | | | | | | | |
| Alternative | Roundabout | | | | | | Signalized Intersection | | | | | |
| Utility | Non-Reimbursable (in ROW) | Unit Price | Total | Reimbursable (in Easement) | Unit Price | Total | Non-Reimbursable (in ROW) | Unit Price | Total | Reimbursable (in Easement) | Unit Price | Total |
| Winter Haven 12" Water Main | 1112 | \$85 | \$94,520 | 0 | \$85 | \$0 | 1112 | \$85 | \$94,520 | 0 | \$85 | \$0 |
| Winter Haven 8" Water Main | 432 | \$65 | \$28,080 | 0 | \$65 | \$0 | 432 | \$65 | \$28,080 | 0 | \$65 | \$0 |
| Winter Haven City Fiber | 617 | \$50 | \$30,850 | 75 | \$50 | \$3,750 | 617 | \$50 | \$30,850 | 75 | \$50 | \$3,750 |
| Winter Haven Gravity Sewer | 175 | \$130 | \$22,750 | 170 | \$130 | \$22,100 | 175 | \$130 | \$22,750 | 0 | \$130 | \$0 |
| Winter Haven 8" Force Main | 852 | \$65 | \$55,380 | 0 | \$65 | \$0 | 852 | \$65 | \$55,380 | 0 | \$65 | \$0 |
| Frontier Buried Fiber Optic Cables | 680 | \$100 | \$68,000 | 0 | \$100 | \$0 | 1388 | \$100 | \$138,800 | 0 | \$100 | \$0 |
| Dist. Poles | 6 | \$10,000 | \$60,000 | 0 | \$10,000 | \$0 | 4 | \$10,000 | \$40,000 | 0 | \$10,000 | \$0 |
| Total Relocation Cost | | | \$359,580 | | | \$25,850 | | | \$410,380 | | | \$3,750 |

Appendix G

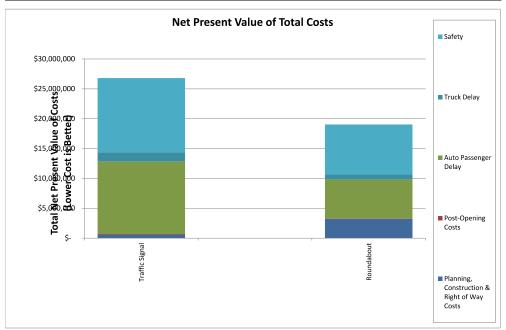
Benefit/Cost and Net Present Costs Summary Sheet

| Agency: | FDOT District One |
|---|--|
| Project Name: | SR 544 PD&E Study |
| Project Reference: | FPID No. 440273-1-22-01 |
| Intersection: | SR 544 at Old Lucerne Park Road (East End) |
| City: | Winter Haven |
| State: | Florida |
| Performing Department or Organization: | AIM Engineering & Surveying, Inc. |
| Date: | 3/14/2023 |
| Analyst: | GSR |
| Analysis Type | At-Grade Intersection |

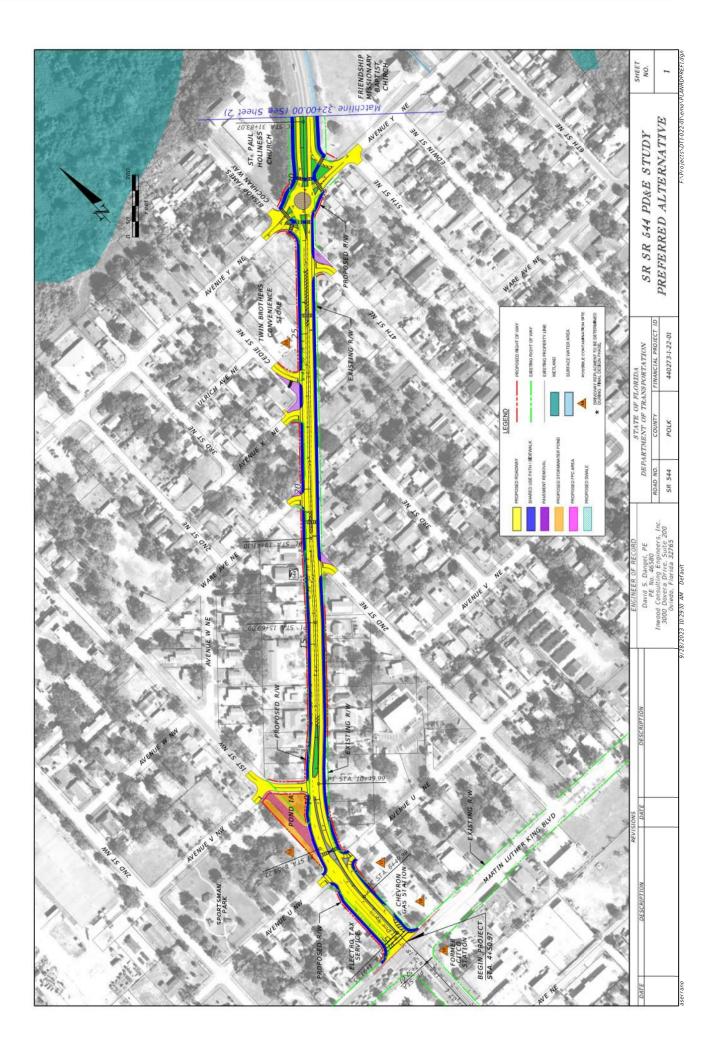
Analysis Summary

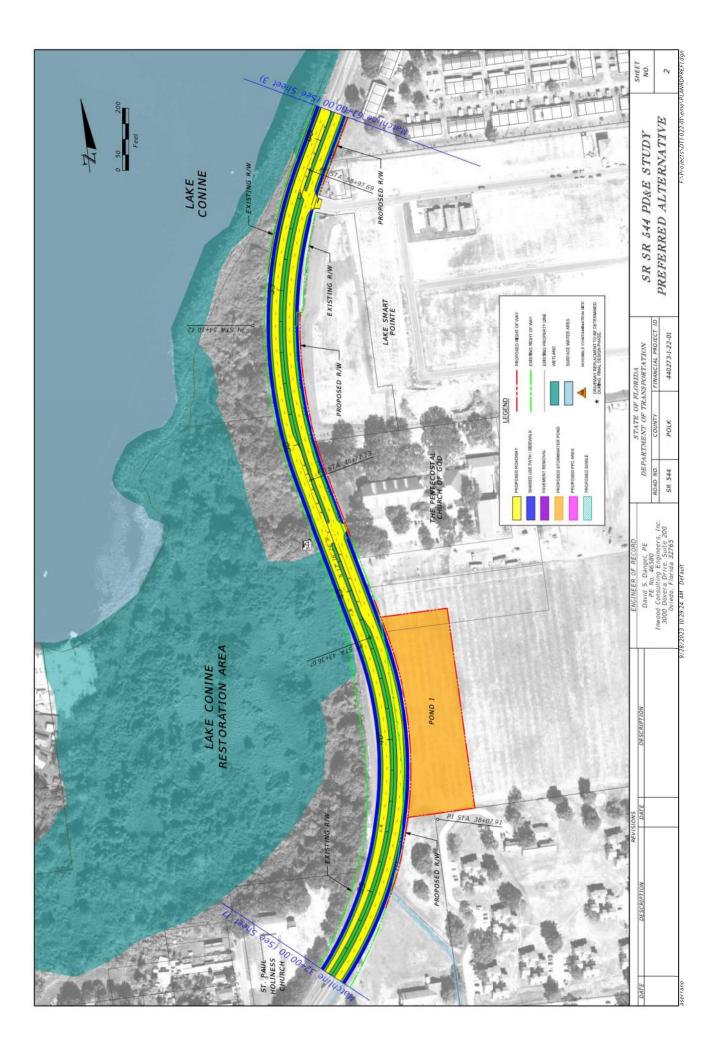
| Cost Categories | | Net Present Value of Costs | | | | | | | |
|---|----|-------------------------------|----|----------------|--|------------|--------------|--|--|
| | | Base Case - Traffic Signal | | Traffic Signal | | Roundabout | | | |
| Planning, Construction & Right of Way Costs | \$ | 589,300 | \$ | 589,300 | | \$ | 3,244,400 | | |
| Post-Opening Costs | \$ | 98,229 | \$ | 98,229 | | \$ | 72,952 | | |
| Auto Passenger Delay | \$ | 12,177,590 | \$ | 12,177,590 | | \$ | 6,519,554 | | |
| Truck Delay | \$ | 1,507,825 | \$ | 1,507,825 | | \$ | 807,069 | | |
| Safety | \$ | 12,432,928 | \$ | 12,432,928 | | \$ | 8,387,633 | | |
| Total cost | | \$26,805,872 | | \$26,805,872 | | | \$19,031,608 | | |

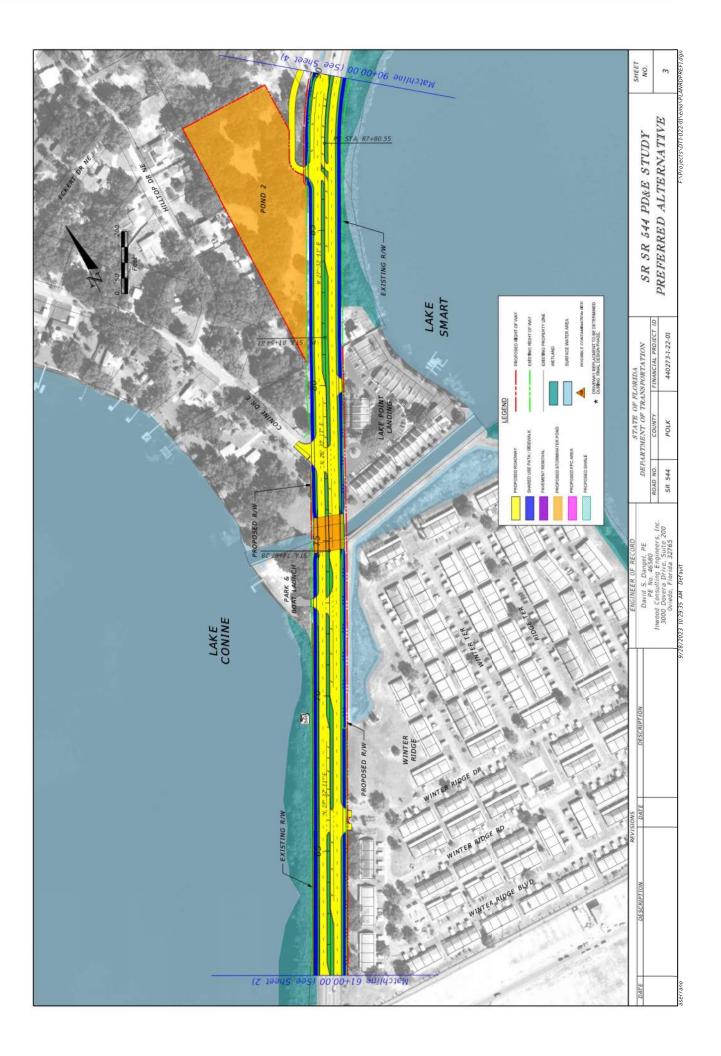
| Select Base Case for Benefit-Cost Comparison: (Choose from list) | Traffic Signal | | | | | | |
|---|---|--|---------------|--|--|--|--|
| | Net Present Value of Benefits Relative to Base Case | | | | | | |
| Benefit Categories | Traffic Signal | | Roundabout | | | | |
| Auto Passenger Delay | | | \$ 5,658,035 | | | | |
| Truck Delay | | | \$ 700,756 | | | | |
| Safety | | | \$ 4,045,295 | | | | |
| Net Present Value of Benefits | | | \$ 10,404,087 | | | | |
| Net Present Value of Costs | | | \$ 2,629,823 | | | | |
| Net Present Value of Improvement | | | \$ 7,774,263 | | | | |
| Benefit-Cost (B/C) Ratio | | | 3.96 | | | | |
| Delay B/C | | | 2.42 | | | | |
| Safety B/C | | | 1.54 | | | | |

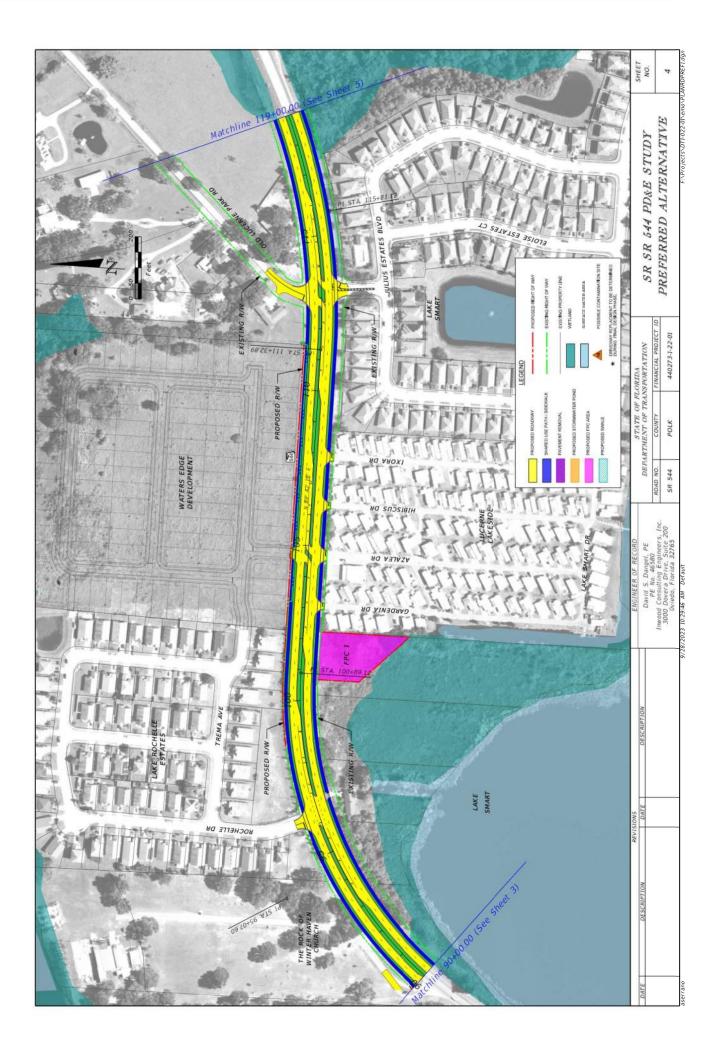


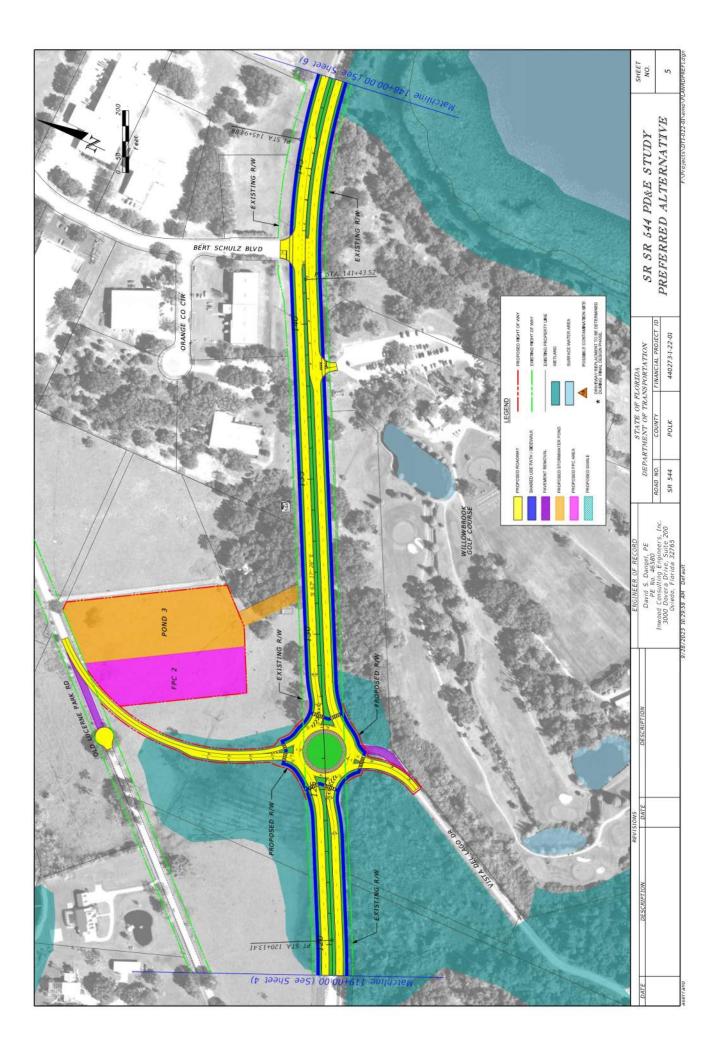
Appendix B Preliminary Concept Plans

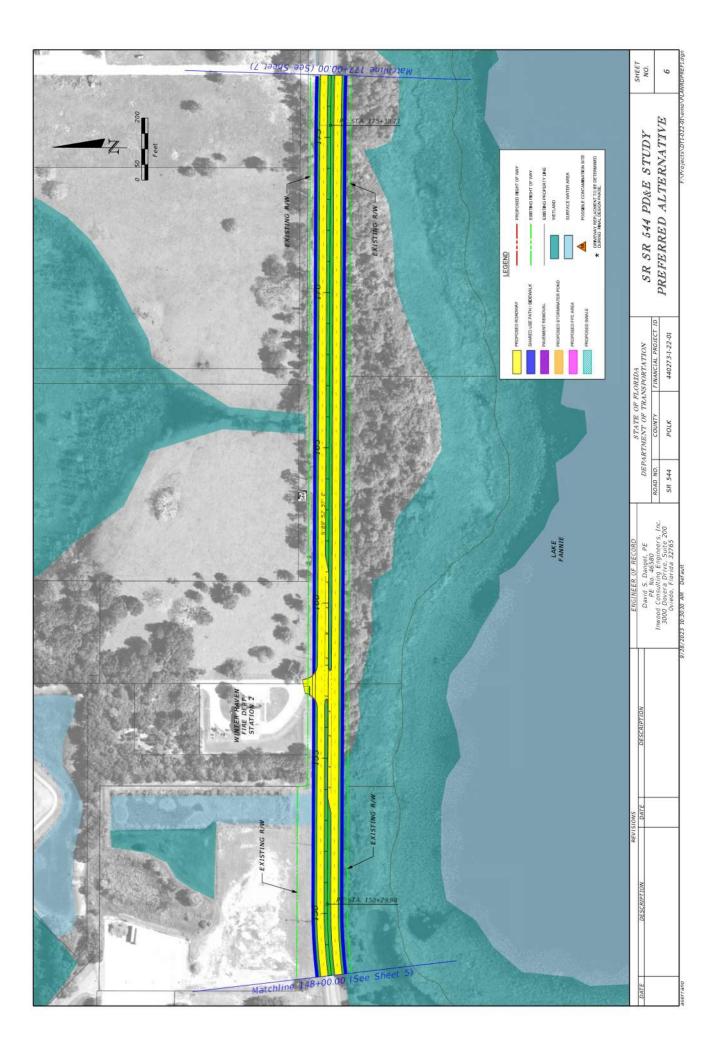


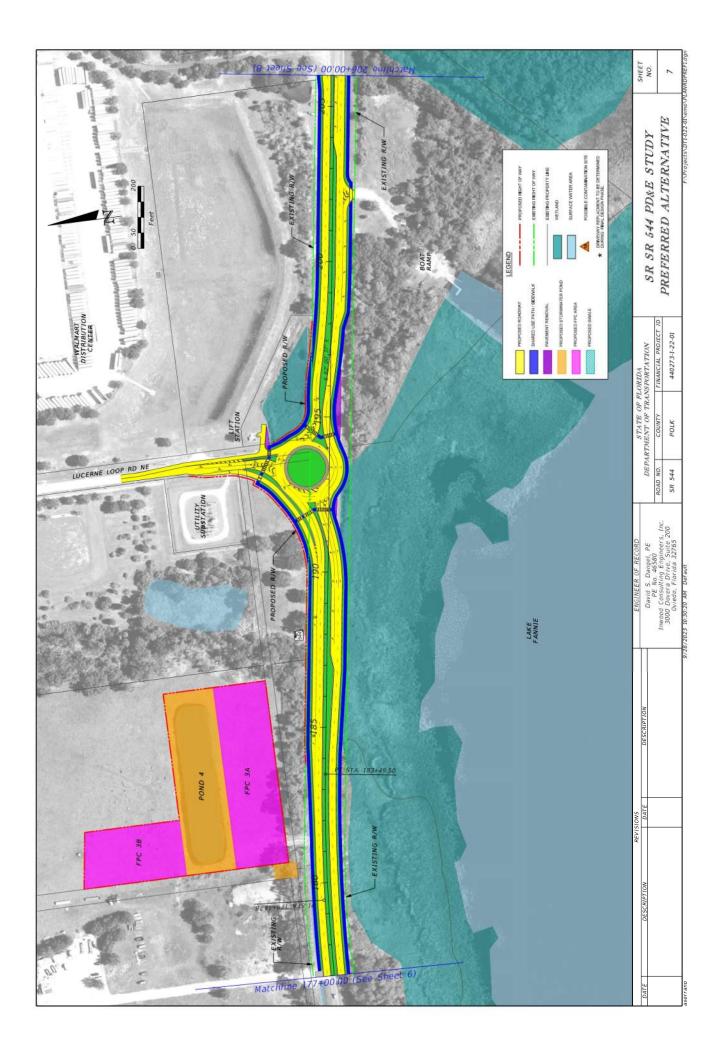


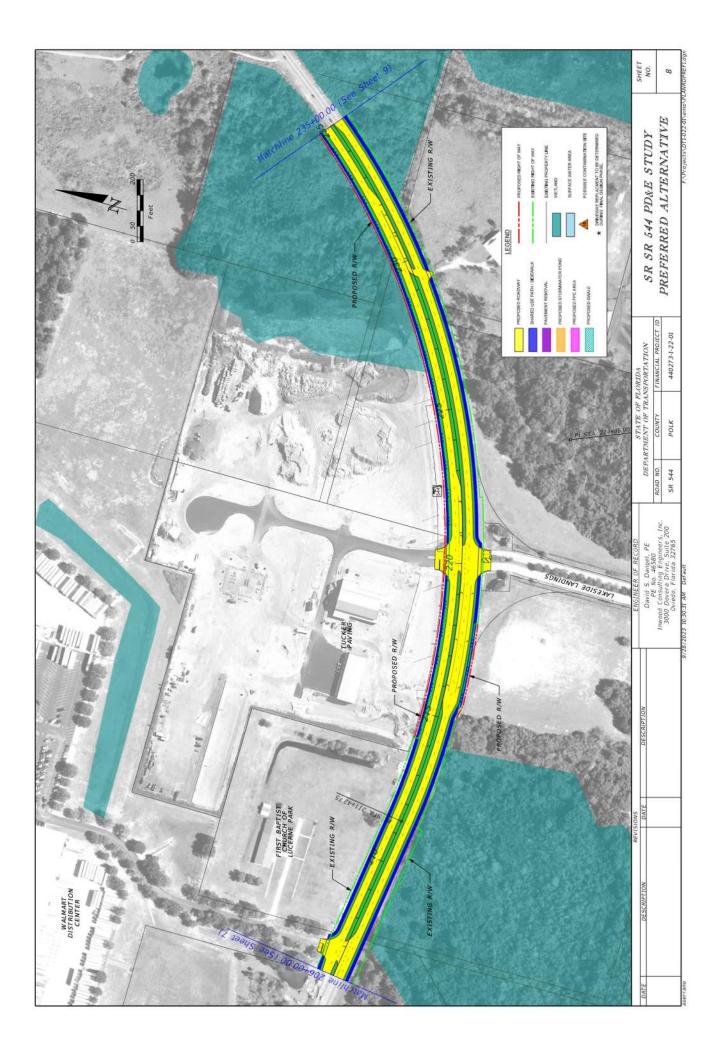


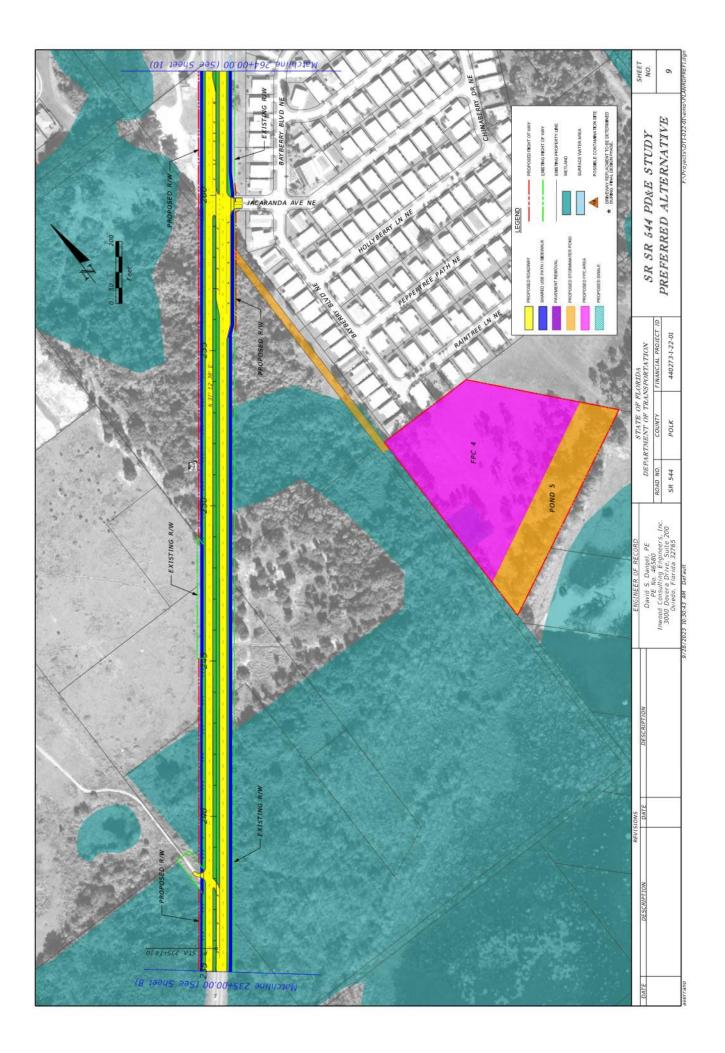


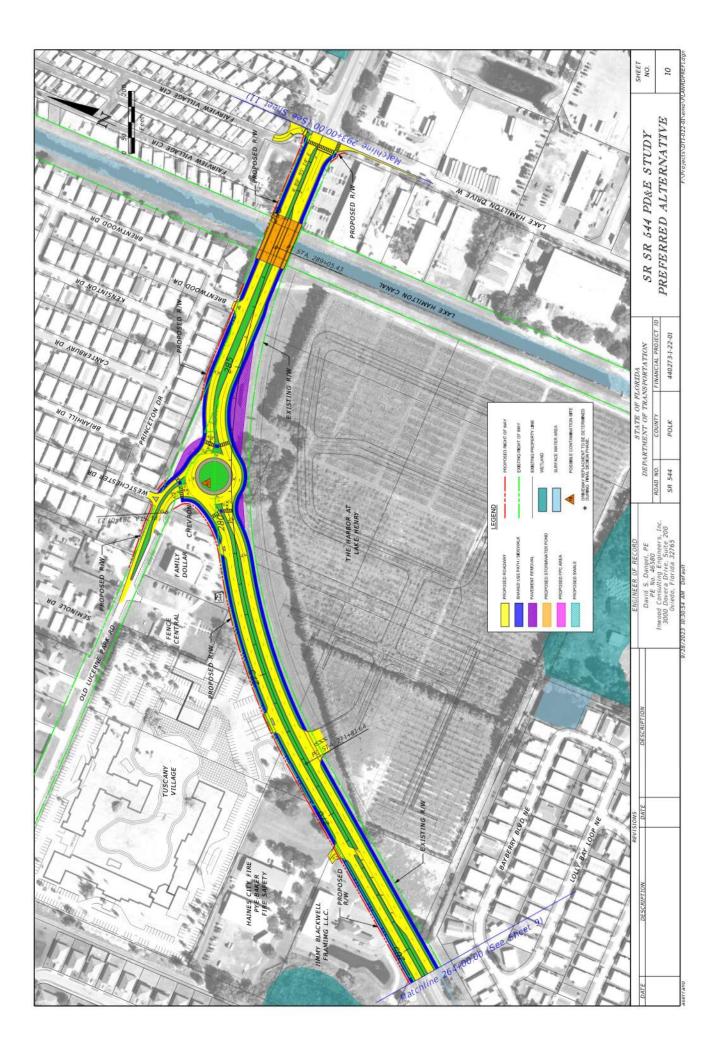


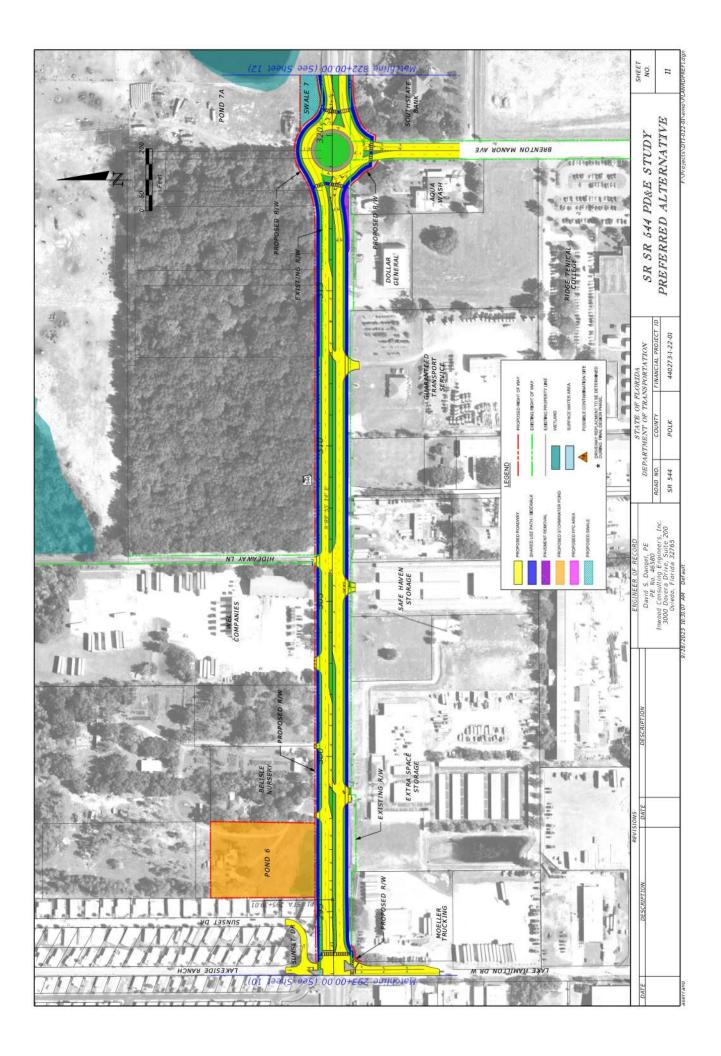


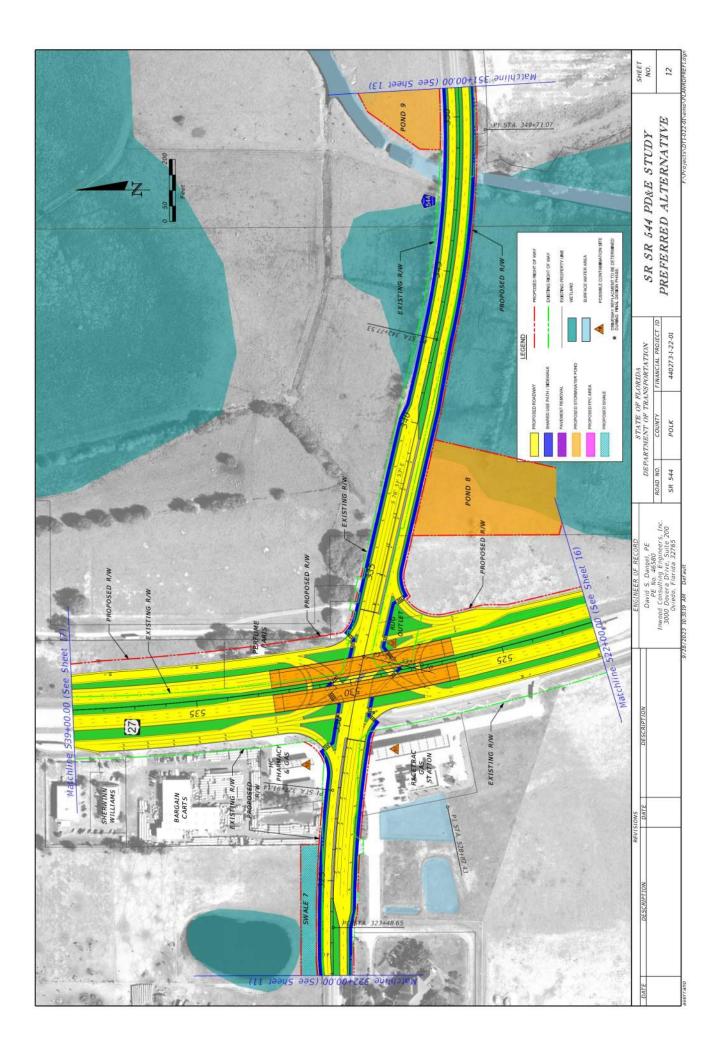


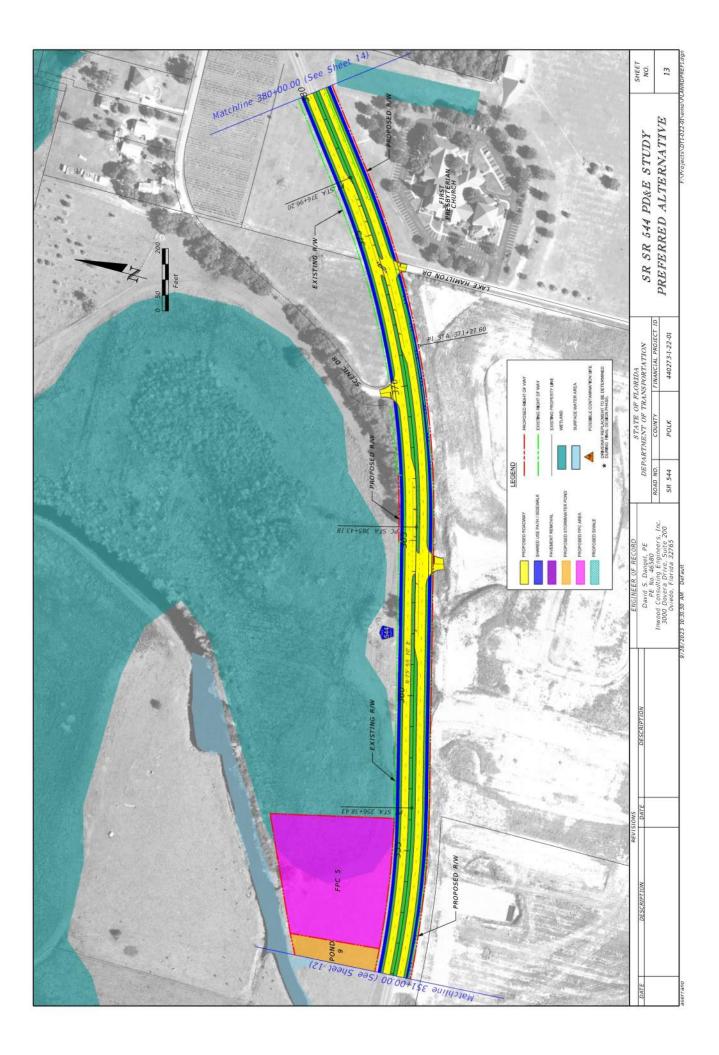


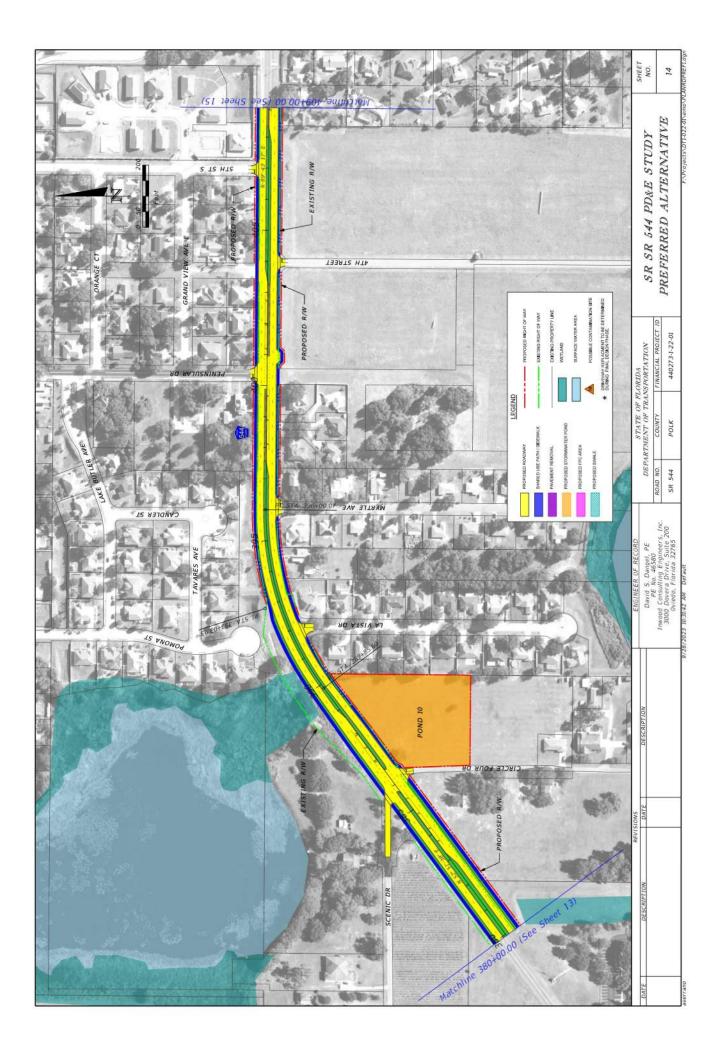


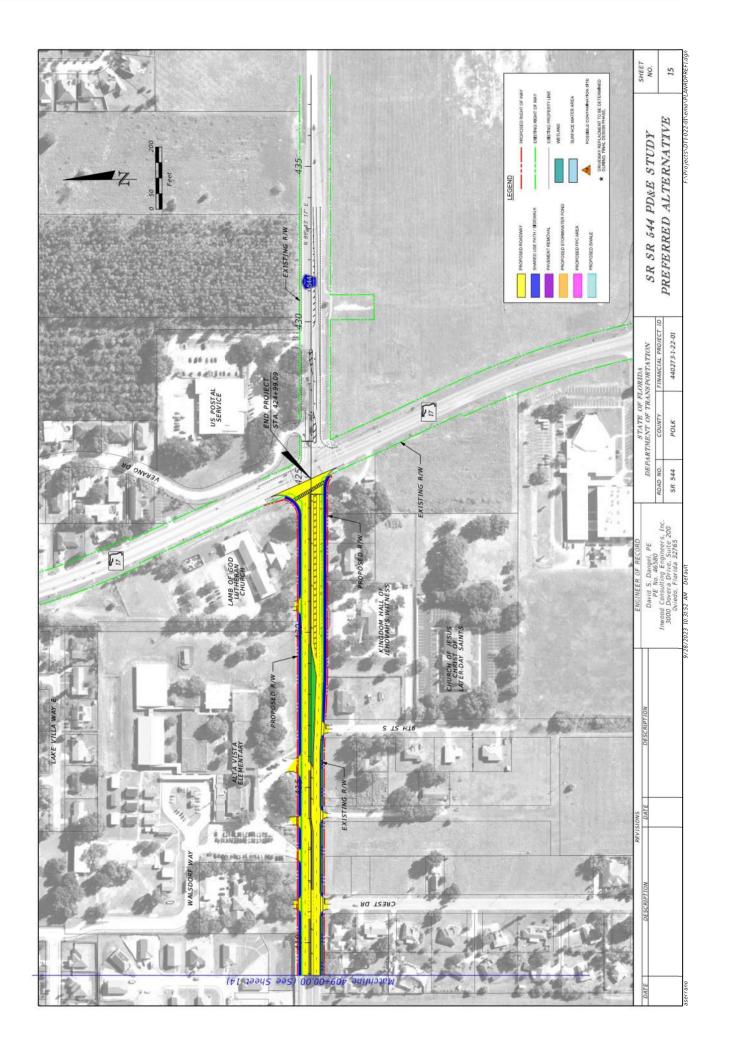


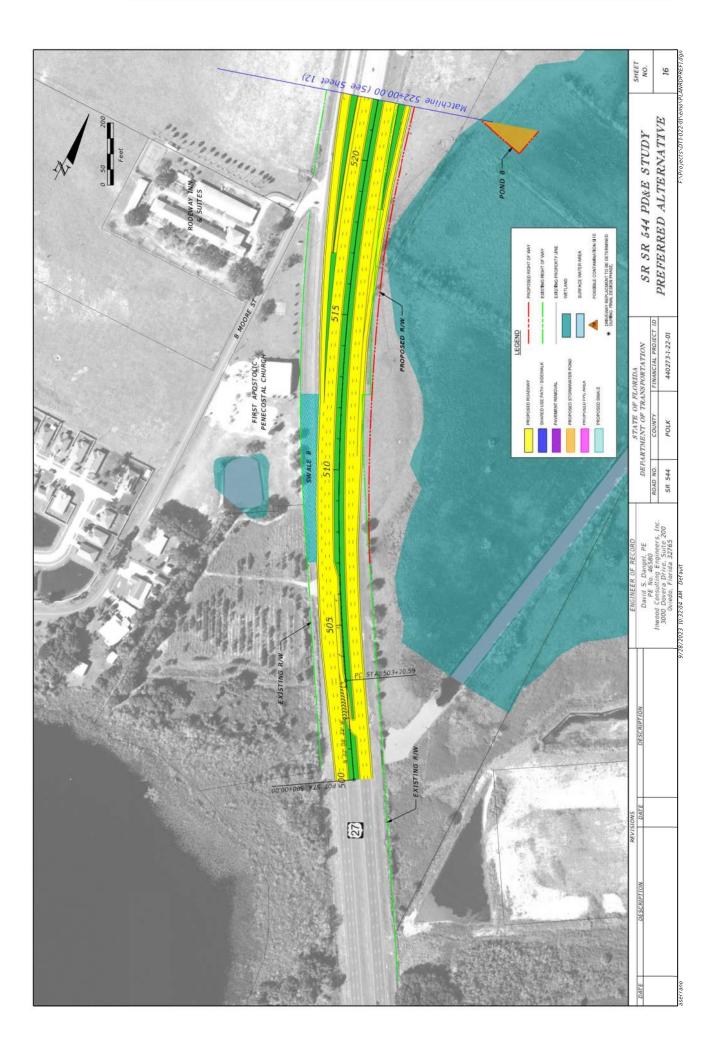


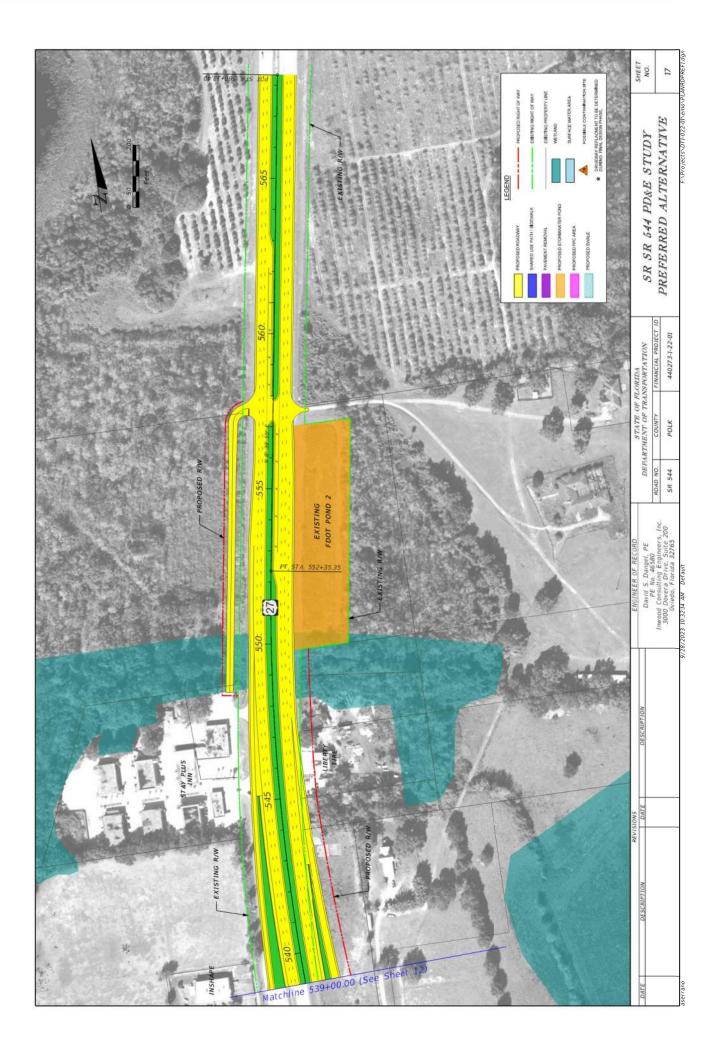












Appendix C Design Variation Memo

| To: Kevin S. Ingle, P.E. | Date: ^{08/31/2023} |
|--|--|
| District or Turnpike Design Engineer | |
| Financial Project ID: 440273-1-22-01 New Const. | RRR Other |
| Federal Aid Number: <u>N/A</u> | |
| Project Name: SR 544 from Martin Luther King Blvd. to SR | 17 |
| State Road Number: SR 544 Co./Sec./Sub. Polk (161 | 40) |
| Begin Project MP: 3.693 End Project MP: 11.647 | |
| Request for: Design Variation | |
| Design Element MP: Beg-End Existing Proposed Reg | uired Attr. Crashes Approved Denied Addl. Docum. |
| 1. Bike Lanes $3.693-4.169 \longrightarrow 4' \\ 11.034-11.647 \longrightarrow 0' 0' 7'$ | |
| Justification: | |

Project Design Variation Memorandum Form 122-B

Mile Post 3.693 to MP 4.169

The existing typical section consists of a two-lane, two-way roadway with 4-foot bike lanes, curb and gutter, and 6-foot back of curb sidewalks. The proposed typical section (Appendix A) is a three-lane typical section with 12-foot travel lanes, a 12-foot bi-directional left turn lane, no bike lanes, curb and gutter, and a wider 8-foot back of curb sidewalk. The existing and proposed speed is 35 mph.

Per FDM criteria 223.2.1.1, the width of the bicycle facility for new construction projects is a standard 7-foot buffered bicycle lane with a double-6-inch white edge line separating the bicycle lane and the adjacent travel lane. Although R/W is being proposed (See concept plan – Appendix B) to accommodate these improvements, consideration was given to not physically impact residences, churches, and businesses within this historic minority neighborhood.

Three bicycle crashes have been identified in the past five years (Appendix C), from MP 3.693 to MP 4.169. The first crash occurred at the conflict point between SR 544 and the Chevron driveway, where bike lanes are not present in the existing condition (HSMV Crash Report # 24049531). The second crash occurred when a bicyclist failed to stop at a stop sign at the intersection of Avenue Y and SR 544 (HSMV Crash Report # 25108522). The third crash also occurred at the Avenue Y and SR 544 intersection when a bicyclist entered the intersection, failing to yield to a vehicle traveling north on SR 544 (HSMV Crash Report # 89841847).

The proposed 8-foot sidewalks on both sides of the roadway, raised median refuge areas at the mid-block crosswalk locations, 'T-ing' up 1st Street NW to SR 544, and the proposed mini-roundabout at Avenue Y will enhance overall safety.

Mile Post 11.034 to MP 11.647

The existing typical section consists of a four-lane, undivided roadway, no bike lanes (See FDM 223.2.1.1), curb and gutter, and intermittent 5-foot sidewalks. The existing posted speed is 45 mph. The proposed typical section (Appendix A) is a four-lane divided roadway with 11-foot travel lanes, a 15.5-foot median, no bike lanes, curb and gutter, and a wider 8-foot back of curb sidewalk. The proposed design speed is 40 mph.

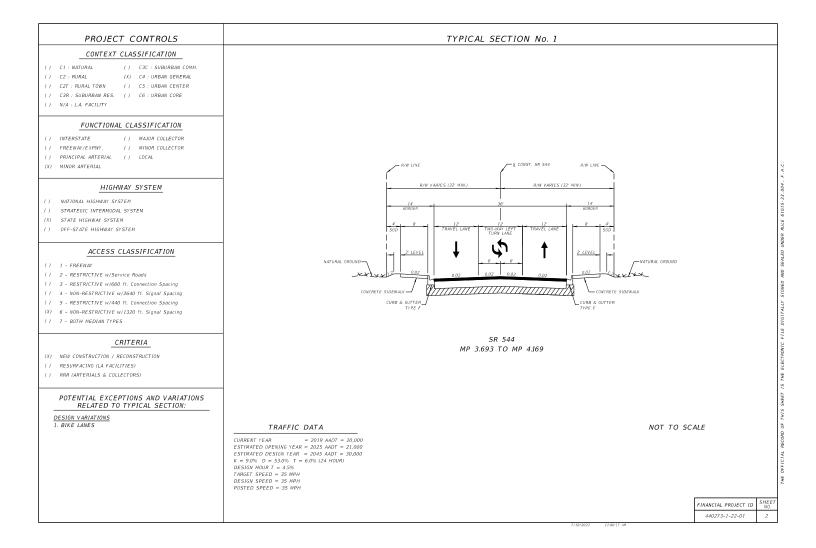
Per FDM criteria 223.2.1.1, the width of the bicycle facility for new construction projects is a standard 7-foot buffered bicycle lane with a double-6-inch white edge line separating the bicycle lane and the adjacent travel lane. Although R/W is being proposed (See concept plan – Appendix B), to accommodate these improvements, consideration was given to not physically impact residences, churches, and businesses along this segment of SR 544.

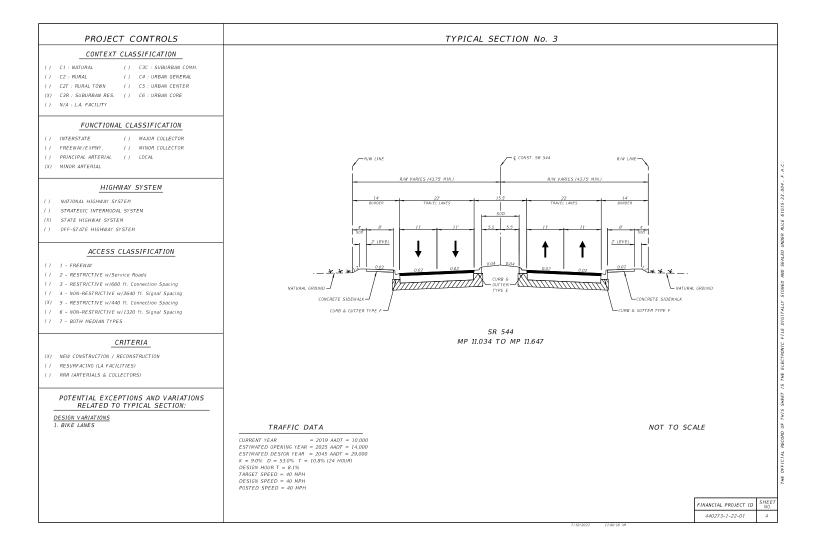
In the previous five years, no bicycle-related crashes were identified within this segment of SR 544.

The proposed 8-foot sidewalks on both sides of the roadway, raised median, and slower speeds will enhance overall safety.

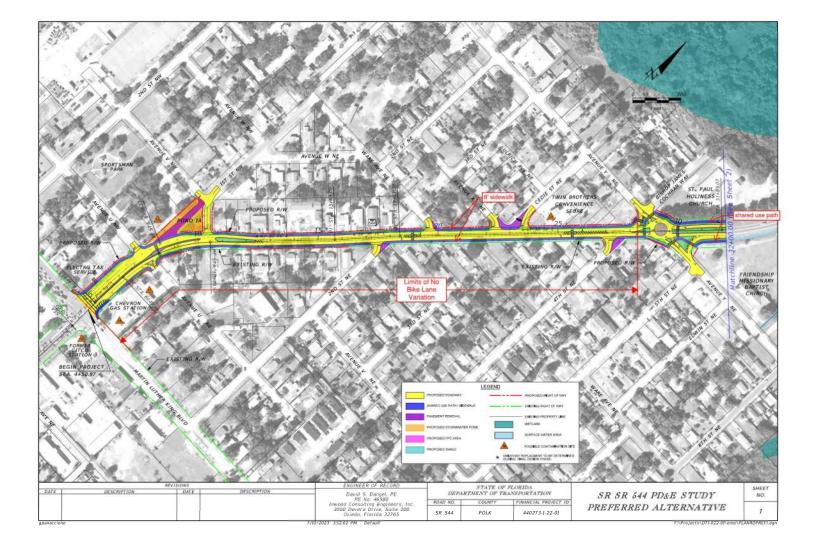
| Design Element | MP: Beg-End | Existing Propos | ed Required | Attr. Crashe | s Appro | oved Denied | Addl. Docum. |
|---|--|-----------------|--|---|--|---|--|
| 2 | <u> </u> | | | | | | |
| Justification: | | | | | | | |
| | | | | | | | |
| Appendices: Ye Recommended by: Mark Hales, I Name: Responsible Professi | Dau | | oncept Plan) rash Data - Lc | ong Forms) | | (Seal) | |
| 202 | raffic Operations En in Ingle 3.09.13 20:58-04'00' Date | | The second secon | RK D. HA ICENS No 62430 * STATE OF CORID STONAL ENG | 11111111111111111111111111111111111111 | SIGNED AND S Mark D I 2023.09 08:38:37 ON THE DATE PRINTED COPI NOT CONSIDE AND THE SIGN ON ANY ELECT INWOOD CONS 3000 DOVERA OVIEDO, FLOR | Hales .13 7-04'00' adjacent to the seal red signed and sealed ature must be verifie ronic copies. Sulting engineers drive, suite 200 |

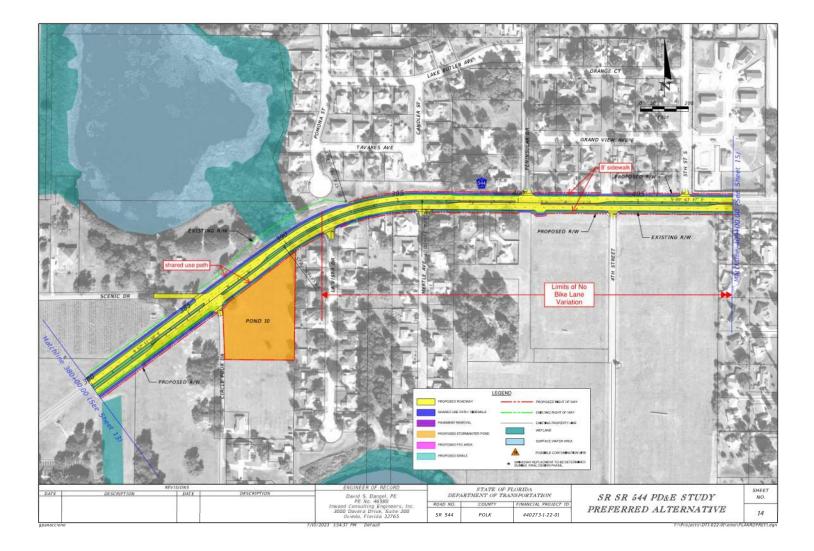
Appendix A (Draft Typical Section)

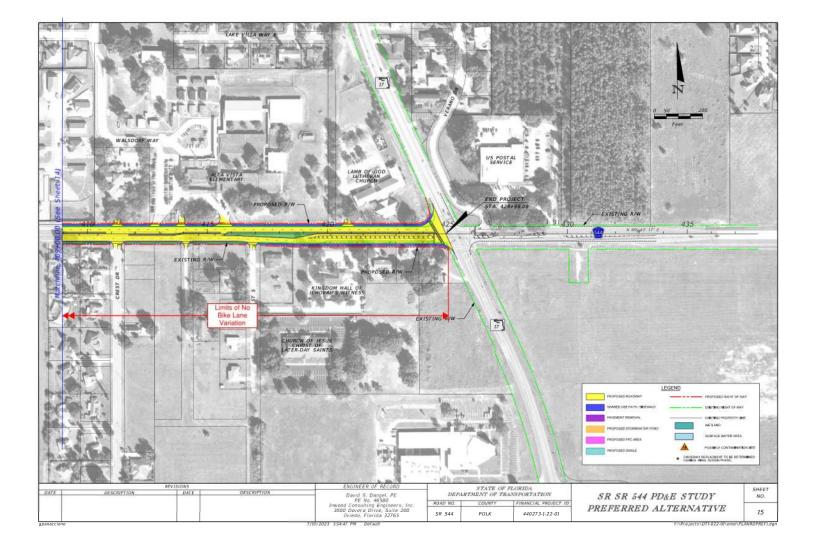




Appendix B (Concept Plan)







Appendix C (Crash Data - Long Forms)

HIGHWAY SAFETY & MOTOR VEHICLES, TRAFFIC CRASH RECORDS NEIL KIRKMAN BUILDING, TALLAHASSEE, FL 32399-0537

| | ic Version) | | NI BOILDING, TALLAHASSEE, FL 32399 | -0337 |
|---|---|---|--|--|
| Date of Crash Time of Crash 14/Jul/2020 10:13 AM 14/Jul/2020 10 | Date of Report 14/Jul/2020 12:00 AM | Invest. Agency Report Number 2020-03496 | HSMV Crash Report Number 24049531 | |
| CRASH IDENTIFIERS | 1 | · | | |
| County Code City Code County of 62 | POLK | Place or City of Crash WINTER HAVEN | Yes 14/Jul/2020 1 10:14 AM | e Dispatched 4/Jul/2020 10:16 AM |
| 14/Jul/2020 14/Jul/2020 10:23 AM 11:08 AM | npleted Reason (if Investigation N Yes | OT Completed) | Notified By Law Enford | cement |
| ROADWAY INFORMATION Crash Occured On Street, Road, Highway | | At Street Address# | At Lattitude and Long | gitude |
| | TREET N | | | |
| 105 No | orth | MLK BLVD NE | Or From Mile | post # |
| Road System Identifier 5 Local | Type Of Shoulder | 1 Paved | Type Of Intersection 1 Not at Intersection | |
| CRASH INFORMATION (Check if Pict | tures Taken) | | | |
| light Condition Weather Cor 1 Daylight | ndition Roadway Surfac | | Manner Of Collision 77 Other, Explain in N | larrative |
| | | t Harmful Event Location With | n Interchange First Harmful Event Relation to | Junction |
| Contributing Circumstances: Road | Contributing Circum | 1 On Roadway stances: Road | No 1 Non.Junction Contributing Circumstances: Road | |
| 1 None Contributing Circumstances: Environment | Contributing Circum | stances: Environment | Contributing Circumstances: Environment | |
| 1 None Work Zone Related Crash In Work Zone | Type Of W | Vork Zone W | orkers In Work Zone Law Enforcement In Wo | ork Zone |
| 1 No VEHICLE (Check if Commercial) | | | | |
| Vehicle Motor Vehicle Type Hit and I | Run Veh License Number | State Reg. Expires F | ermanent Reg. VIN | |
| | No ZI05C Color Extent of Damage | FL 22/Jan/2021 Est. Damage Towed Due To Da | 1B7HF16Y5TJ1187 | |
| 1996 DODG LARAMIE PK | MAR Minor | 250 No | | Driver |
| | | Insurance Policy Number | 109911024694001 | 7.0 |
| Name of Vehicle Owner (Check Box If Busine JOHN WILLIAM LOWE JR | 613 | ess (Number and Street) WEST BLVD N | City and State DAVENPORT FL | Zip Code 33837 |
| Trailer License Number State Re | eg. Expires Permanent Reg. VI | N | Year Make Length | Axles |
| Trailer License Number State Re Two: | eg. Expires Permanent Reg. VI | N | Year Make Length | Axles |
| Vehicle Direction On Street, Road, | | | At Est. Speed Posted Speed | Total Lanes |
| Traveling: North CMV Configuration | Cargo Body Type | REET N Area | of Initial Impact Most Damaged A | rea 1 |
| Comm GVWR/GCWR | Trailer Type (trailer one) | Trailer Type (trailer two) | 18. Undercarriage | 18. Undercarriage |
| Haz. Mat. Release Haz Mat. Placard N | lumber Cla | ss 1 (15 ((16 | | 19. Overturn 20. Windshield |
| Motor Carrier Name | US DO | T Number | 11 10 9 21. Trailer 14 13 12 11 10 9 2 | 21. Trailer |
| Motor Carrier Address | 3 | City and State | Zip Code Phon | e Number |
| | | • | · | |
| Comm/Non-Commercial Vehicle Body Typ 3 Pick | up 1 None | Vehicle Defects (two) | | ial Function |
| Vehicle Maneuver Action 5 Turning Right 4 Two-Way, | Roadway Grade Divided, 1 Level | Roadway Alignment Most H 1 Straight | armful Event Most Harmful Event I 2 Collision with 10 Pedest | |
| Traffic Control Device For This Vehicle First | | ond (2) Sequence of Events Third (3) | Non-Fixed Object Sequence of Events Fourth (4) Sequence of | of Events |
| 1 No Controls | 2 Collision with Non-Fixed Object | | | |
| | 10 Pedestrian | | | |
| PERSON RECORD Person# Description Veh | icle # Name | Date | of Birth Sex Phone Number | Re-Exam |
| 1 1 Driver Address | | | /Jan/1967 1 Male 8639683830 Zip Code | |
| 613 WEST BLVD N | DAVENPORT | FL | 33837 | |
| Driver License Number State | FL Expires 22/Jan/2022 | DL Type Req. End. 5 E/Operator 2 No | | Ejected |
| Restraint System Air Bag Deployed 3 Shoulder and 2 Not Deplo | Helmet Use Ey | e Protection Seating Location Seating Location Seating Location | | tion Other pplicable |
| Lap Belt Used Drivers Actions at Time of Crash (first) | | ime of Crash (second) | Driver Distracted By Vision Obstruction | on |
| 77 Other Contributing Actio Drivers Actions at Time of Crash (third) | | ime of Crash (fourth) | 1 Not Distracted 1 Vision Not Drivers Condition at Time of Crash | Obscured |
| Suspected Alcohol Use Alcohol Tested | Alcohol Test Type Alcohol Tes | t Result BAC Suspected Drug Us | e Drug Tested Drug Test Type Drug | Test Result |
| 1 No Source of Transport to Medical Facility | EMS Agency Name or ID | EMS Run Number | Medical Facility Transported To | |
| 1 Not Transported | | | | |
| PERSON RECORD Person# Description Name | | Date of Birth | Sex Injury Severity Phone N | umber |
| 2 2 Non-Motorist | JOSEPH J SAINT ELO | 01/Nov/1944 | 1 Male 4 Incapacitating | |
| Address 3RD ST NE | City WINTER HAVEN | State | Zip Code 33881 | |
| Non-Motorist Description Detail 3 Bicyclist | | Cycling Along Roadway Against | Non-Motorist Location at Time of Crash 77 Other, Explain in Narrative | |
| Non-Motorist Actions/Circumstance (First) | | (in or adjacent to travel lane) | • | |
| 2 Dart/Dash | 12 Wrong-Way Riding or V | | | |

| Date of Report | Invest. Agency Report Number | HSMV Crash Report Number |
|--|--|---|
| 14/Jul/2020 12:00 AM | 2020-03496 | 24049531 |
| d Alcohol Test Type Alcohol Test I | Result BAC Suspected Drug Use | Drug Tested Drug Test Type Drug Test Re |
| EMS Agency Name or ID POLK COUNTY FIRE RESC | EMS Run Number UE MD329 | Medical Facility Transported To LAKELAND REGIONAL MEDICAL CENTEI |
| | | |
| Address 929 GLOUCESTER CT | City KISSIMMEE | State Zip Code FL 34758 |
| | 14/Jul/2020 12:00 AM d Alcohol Test Type Alcohol Test I EMS Agency Name or ID POLK COUNTY FIRE RESC | 14/Jul/2020 12:00 AM 2020-03496 Id Alcohol Test Type Alcohol Test Result BAC Suspected Drug Use EMS Agency Name or ID EMS Run Number MD329 Address City |

NARRATIVE

On 07/14/2020 at approximately 1016 hours I responded to the area of 1st Street N/MLK Blvd NE in Winter Haven, Polk County, Florida in reference to a report of a traffic crash. PCSO Dispatch advised that it involved a truck versus a pedestrian (bicyclist) and occurred right in front of the Chevron located at 2100 1st Street N, Winter Haven, FL. Upon arrival, I made contact with the driver of the vehicle while EMS tended to the bicyclist.

The driver of the 1996 Dodge Laramie advised that he was exiting the Chevron turning right onto 1st Street N. He advised that he edged out as he looked both ways multiple times to ensure he was clear to turn. He advised that upon seeing a clearing in traffic he turned right and as he was turning he heard a thump. He advised that he immediately reversed his vehicle some so he could exit his vehicle and check what he had struck. He advised that upon exiting his vehicle to check what it was he saw the cyclist on the ground. He advised that he never saw anyone on the sidewalk or in the roadway as he was turning.

I then made contact with a witness, Amy Velazquez, who advised that she did not observe what happened leading up to the incident. She advised that she was pumping gas at Pump 3 at the Chevron when she heard someone scream. She advised she immediately looked over and observed a truck turning out of the gas station run over a cyclist and then reverse back over the cyclist. She advised that it appeared as if the driver of the vehicle did not initially realize they had struck something.

I collected photographs of the scene of the crash. I then obtained video footage from Chevron. Upon reviewing footage, I observed the truck edging out from the Chevron to make a right hand turn onto 1st Street N. For a short period of time, I observed the truck stopped in the way of the sidewalk with the front end slightly in the roadway waiting to make the turn. I observed the bicyclist coming southbound on the sidewalk against the direction of traffic at a steady speed. As the truck goes to make the right hand turn, I observed the cyclist exit the sidewalk onto the roadway in front of the truck still heading southbound against traffic as if to quickly go around the truck. At this point, I observe the front passenger side of the truck collide with the rear wheel of the bicycle. The bicycle and cyclist then go under the front passenger wheel of the truck and are dragged momentarily. The truck is then observed reversing back over the bicycle and cyclist before it comes to a stop.

I was unable to speak with the bicyclist as he was transported to Lakeland Regional Medical Center (LRMC) and upon my arrival later at LRMC he was intubated. I spoke with the trauma surgeon, Doctor Sontchi, who advised that the bicyclist incurred a broken pelvis and one broken rib on the right side from the accident along with multiple abrasions. Dr. Sontchi further advised that the bicyclist had an internal bleed occurring either in his belly or near where his pelvis was broken. At this time, his condition was considered guarded meaning that he was not stable but was not critical. The bicyclist was relocated to room C2264 in TICU prior to my departure.

The bicyclist's phone rang multiple times while at LRMC in which I obtained several phone numbers from in hopes to reach a family member. I was able to make contact via landline with his daughter, Afania Saint Eloi, and notified her that her father was currently in the TICU at LRMC due to an accident he was involved in.

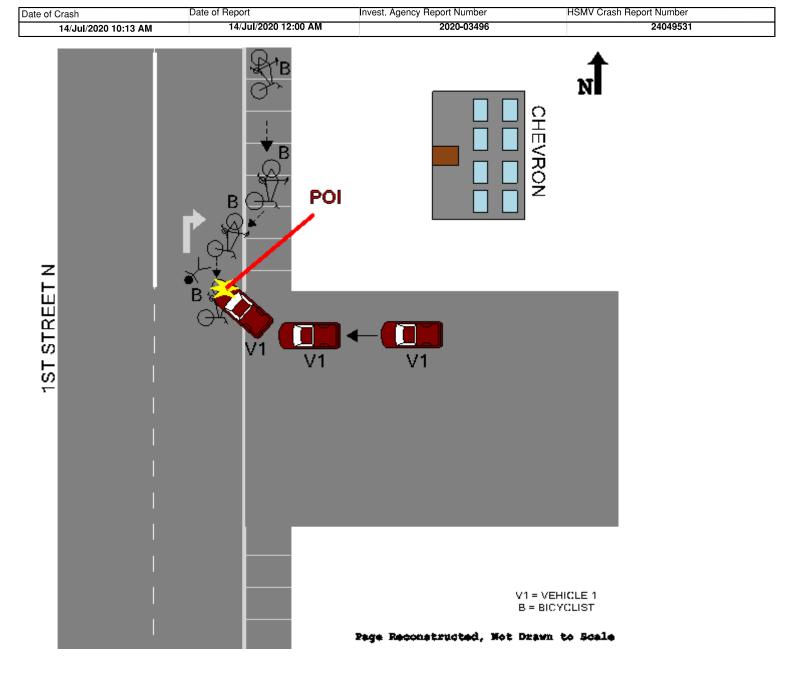
This crash report is complete however there is further investigation to be completed regarding the condition of the bicyclist and needing to conduct an interview with him.

On Thursday, July 23, 2020, at approximately 1039 hours I responded to Lakeland Regional Medical Center in an attempt to conduct an interview with the bicyclist (Joseph Saint Eloi). I had been advised that Saint Eloi had been transferred to a regular room at the hospital (room C3222).

Upon arrival, Saint Eloi was sitting in a chair in the room groaning in pain. I made contact with Saint Eloi's assigned registered nurse, Melissa Rothman, who advised that some days he is completely alert and can hold a conversation while other days he is in a lot of pain. Due to the amount of pain Saint Eloi was in, the nurse administered him pain medication which rendered him unable to be interviewed. It is unknown at this time when Saint Eloi will be discharged from the hospital. His current injuries are still consistent with what was originally reported.

REPORTING OFFICER

| ID/Badge # | Rank and Name | Department | Type of Department |
|------------|--------------------|--------------------------|--------------------|
| W645 | Off. Austynn Clark | Winter Haven Police Dept | PD |



FLORIDA TRAFFIC CRASH REPORT

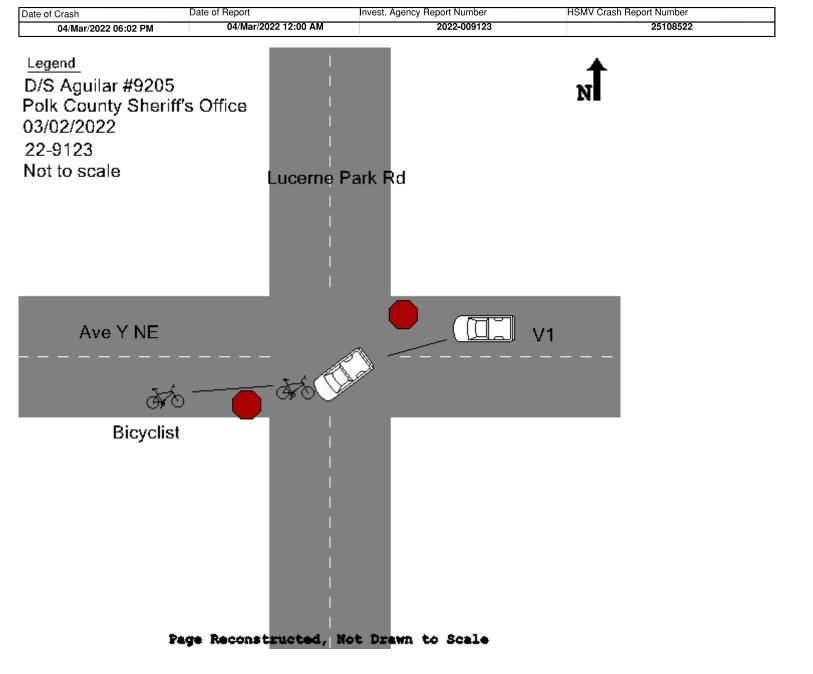
HIGHWAY SAFETY & MOTOR VEHICLES, TRAFFIC CRASH RECORDS NEIL KIRKMAN BUILDING, TALLAHASSEE, FL 32399-0537

| | | (Elec | tronic Versio | on) | | | | | | | | 022,123 | 2000-0007 |
|---------------------------------------|--|-------------------------------------|-------------------------|------------------------|---------------------------|--------------------------------|------------------------|-----------------------|--------------------------------------|------------------------------|----------------------|----------------------------------|--|
| Date of Crash 04/Mar/202 | h 22 06:02 PM | Time of Cras 04/Mar/20 | sh 22 06:02 PM | Date of 04/Ma | Report ar/2022 12:00 / | Invest. Age | ency Repo 20 | rt Numbe 22-0091 | er 23 | HSMV (| Crash Repo | rt Number 25108522 | |
| CRASH IDE | | | | | | | | | - | | | | |
| County Code 05 | City Coo | le Cou 0 | unty of Crash | POLK | | Place or City UI | of Crash NINCORP | ORATED | | nin City Limits No | 04 | Reported /Mar/2022 6:02 PM | Time Dispatched 04/Mar/2022 06:04 PM |
| Time on Scer 04/Mar/20 06:07 PM | 22 04 | eared Scene /Mar/2022 7:27 PM | Completed Yes | Reason | (if Investigation | NOT Complete | ed) | | | | Ν | Notified By Law E | nforcement |
| ROADWAY | | | | | | | t Otro ot Ar | ldvo o o # | | | udo | and | Longitudo |
| Crash Occure | | ĽUC | ÉRNE PARK | | | | t Street Ac | aress# | | At Lattit | ude | | Longitude |
| At Feet 0 | Or Miles | s Dire | ection | | | Street, Road, H | | E Y NE | | | | Or From | Milepost # |
| Road System | | 5 Local | | Ту | pe Of Shoulder | 1 Pave | ed | | Туре | Of Intersectic 2 | | Intersectio | n |
| CRASH INF | ORMATIO | N (Check if | Pictures Ta | aken) | X | | | | | | | | |
| light Condition | n Daylight | Weathe | r Condition 1 Clear | | | face Condition 1 Dry | School | Bus Rela | ated 1 No | | Manner Of (77 Ot | | n in Narrative |
| First Harmful | | F | irst Harmful E | vent 10 | | irst Harmful Ev | | | Within Interc | | | Event Relati | on to Junction |
| Contributing (| | | | | ontributing Circu | umstances: Roa | Roadway ad | y | No Contri | b buting Circur | nstances: F | 2 Intersec load | tion |
| Contributing (| Circumstance | | nt | Cc | ontributing Circu | umstances: Env | ironment | | Contri | buting Circur | nstances: E | nvironment | |
| Work Zone R 1 No | elated Cra | 1 None sh In Work Zo | one | | Туре О | f Work Zone | | | Workers I | n Work Zone | Law E | nforcement | In Work Zone |
| VEHICLE (0 | Check if Co | ommercial) | | | | | | | | | | | |
| Vehicle Moto | or Vehicle Ty Vehicle in T r | | and Run 1 No | Veh Lice | ense Number 36CAAE | State | | g. Expire 13/Jan/2 | | ent Reg. VIN | | TFX1ET0DF | D54893 |
| Year Mak | | Style | Color | NHI E | xtent of Damag Minor | e Est. Dam | | | ue To Damage No | Vehicle Re | | R | otation Driver |
| Insurance Co | mpany | | | | | | isurance P | olicy Nur | | D355198 | | | Driver |
| Name of Vehi | icle Owner (C | heck Box If B | AL AUTOMOI Susiness) | | Current Ac | dress (Number | | | | City a | nd State | | Zip Code |
| | ANDREW DA nse Number | State | Reg. Expir | res Per | 2302 DC rmanent Reg. | ovewood es ⁻ Vin | IATES CI | | | VALH Year | Make | Length | 33594 Axles |
| One: Trailer Lice Two: | nse Number | State | Reg. Expir | res Per | rmanent Reg. | VIN | | | | Year | Make | Length | Axles |
| | Direction West | On Street, R | oad, Highway | / | ۸ | ve Y NE | | | | At Est | . Speed F | Posted Spee | d Total Lanes 2 |
| CMV Configu | | | | Cargo B | Body Type | VETNE | | | Area of Initia | Impact | | Most Damag | |
| Comm GVWF | R/GCWR | | Tr | ailer Type | e (trailer one) | Trailer Type | (trailer two | <u>,</u> | | 7 18. Under | arriage | 3 4 5 6 | 7 18. Undercarriage |
| Haz Mat Re | ease Haz | Mat. Placard | Number | | 0 | Class | | | 15 16 17 | 8 19. Overtu 20. Winds | | 5 16 17 | 8 19. Overturn 20. Windshield |
| Motor Carrier | Name | | | | USI | OT Number | | ¹ | 4 13 12 11 10 | 9 21. Traile | r 14 1 | 3 12 11 10 | 9 21. Trailer |
| | Мо | tor Carrier Ad | dress | | | | City a | and State | 1 | | Zip C | ode | Phone Number |
| Comm/Non-C | | Vehicle Body | | Vob | icle Defects (or | 20) | Vehicle De | | | Emorgonov | | | Function of MV |
| | | 3 | Pickup | | 1 Noi | ne | | | , | | 1 No | 1 No 9 | Special Function |
| | ing Left | | ay, Not Divid | ed | dway Grade 1 Level | | ay Alignme 1 Straig | ht | Non-F | Ilision with ixed Object | | | edestrian |
| Traffic Contro | ol Device For 6 Stop Sign | | 2 C Non- | ollision v Fixed Ob | with bject | econd (2) Seque 10 Peo | ence of Ev destrian | rents | Third (3) Sequei | nce of Events | s Four | th (4) Seque | ence of Events |
| PERSON R | FCORD | | 14 Motor V | enicle in | Transport | | | | | | | | |
| Person# Des | cription | | Vehicle # | Name | | | | | Date of Birth | Sex | | e Number | Re-Exam |
| 1 Address | 1 Dri | ver | 1 City | | AND | DREW D SPICE | tate | | 13/Jan/19 | | a le Code | | |
| 2302 D Driver Licens | | ESTATES CT Sta | | Evr | VALRICO Dires | DL Type | | Reg. E | FL nd | Injury Sever | | 33594 Ejectior | |
| | 26004980130 |) | FL | Helmet | 13/Jan/2030 | 5 E/O | perator | En | 3 No Req dorsement cation Seat | | None | 1 | Not Ejected |
| 3 Shou | Ider and Ider and It Used | Air Bag Dep 2 Not I | oyea Deployed | | No Helmet | 3 Not Applic | | | Left | | Front | | Location Other Iot Applicable |
| Drivers Action | ns at Time of | Crash (first) ntributing Ac | tion | D | rivers Actions a | at Time of Crash | ו (second) | | Drive | r Distracted 1 Not Dist | | Vision Obs 1 Vision | truction n Not Obscured |
| Drivers Action | | | | D | rivers Actions a | at Time of Crash | n (fourth) | | Drive | ers Condition | at Time of (| | |
| Suspected Al | cohol Use No | Alcohol Test | ed Alcohol | Test Type | e Alcohol T | est Result B | AC Su | | Drug Use Drug No | g Tested | Drug Te | | Drug Test Result |
| Source of Tra | | | EMS Ag | gency Nar | me or ID | E | MS Run N | | | Medical Fac | ility Transpo | orted To | |
| PERSON R | | | | | | | | | | | | | |
| Person# Des 2 | cription 3 Passe | enger | Vehicle # 1 | Name | CAR | SON WALLA | CE | | Date of Birth 13/Aug/19 | 98 Sex | | Severity 1 None | Ejection 1 Not Ejected |
| Address | | 407 57 17 | | | City | | | | | | State | | Zip Code |
| | item Ider and It Used | 127 PRAD Air Bag Dep 2 Not I | | Helmet 3 N | Use No Helmet | Eye Protection 3 Not Applic | Se | LAKELA ating Loc | AND cation Seat 3 | Seating Loc | ation Row 1 | FL Seating | 33803 Location Other 1 |

| Date of Crash | Invest. Agency | Report Number | HSM | HSMV Crash Report Number | | | |
|---|---|---|------------------------------------|---------------------------------------|---|--|--|
| 04/Mar/2022 06:02 PM | 04/Mar/2022 12:00 AM | | 2022-009123 | | 25108522 | | |
| Source of Transport to Medical Facility 1 Not Transported | EMS Agency Name or ID | EMS | Run Number | Medical F | acility Transported To |) | |
| PERSON RECORD | · · · · | | | | | | |
| 3 2 Non-Motorist | ame TODD DAVIS | | Date of Birth 06/Jan/1966 | 1 Male | jury Severity 2 Possible | Phone Number 8638778769 | |
| Address 2414 1ST ST NE | City WINTER HAVEN | State | | Z | Zip Code 33 | 3881 | |
| Non-Motorist Description Detail 3 Bicyclist | 3 Walk | tion Prior to Crash king/Cycling Along ic (in or adiacent t | Roadway with | | ocation at Time of Cra ersection - Unmarke | | |
| Non-Motorist Actions/Circumstance (Firs 3 Failure to Yield Right-of-Way | | nce (Second) No raffic | on-Motorist Safety Equip 1 None | oment (One) | Non-Motorist Safety | Equipment (Two) | |
| Suspected Alcohol Use Alcohol Teste 1 No | ed Alcohol Test Type Alcohol T | est Result BAC | Suspected Drug Use 1 No | U U | Drug Test Type | Ŭ | |
| Source of Transport to Medical Facility 2 EMS | EMS Agency Name or ID POLK COUNTY EM | | Run Number FS220021159 | Medical Fa | acility Transported To WINTER HAVEN | | |
| WITNESSES | | | | | | | |
| Name ANDRESEA ALLEN | Address 510 AVE K NW APT 4 | City | WINTER HA | VEN | State FL | Zip Code 33881 | |
| NARRATIVE | | | | | • - | | |
| On 03/02/2022 at approximately 1802 | hours, I responded to Lucerne Park | Rd/Avenue Y NE, | Winter Haven, in refer | ence to a vehicle | e crash. | | |
| Andrew Spicer (D1) is the driver of a v | vhite 2013 Ford F150 tag #36CAAE | (V1). V1 was carry | ing boat #FL5704MM t | railer tag #03980 | az. | | |
| Todd Davis (P3) is the bicyclist. | | | | | | | |
| Prior to my arrival EMS was on scene | assisting P3 with his back pain. | | | | | | |
| V1 was at a complete stop at the inter sign and proceeded to travel eastbou bicycle in the rear tire, causing P3 to | ind on Ave Y NE. V1 attempted to a | void striking the b | icycle, but there was a | l on Lucerne Pai nother vehicle ir | rk Rd when P3 failed n the northbound la | d to stop at the stop nd. V1 struck the | |
| I made contact with witness Andresea Allen stated the bicyclist traveling ea | | | | | | Lucerne Park Rd. | |
| EMS transported P3 to the Winter Hav | en Hospital with minor injuries. | | | | | | |
| A check was conducted through the C license. | Crime Information Center (CIC) of V | 1, D1, and P3 for a | ny wants/warrants. All | searches result | ed in negative. D1 h | ad a valid driver's | |
| Nine photos were taken of the inciden | it and uploaded to photo lab. | | | | | | |
| P3 is at fault. | | | | | | | |

REPORTING OFFICER

| ID/Badge # | Rank and Name | Department | Type of Department |
|------------|------------------|----------------|--------------------|
| 9205 | Kimberly Aguilar | Polk County SO | SO |



FLORIDA TRAFFIC CRASH REPORT

LONG FORM X SHORT FORM UPDATE

HIGHWAY SAFETY & MOTOR VEHICLES, TRAFFIC CRASH RECORDS NEIL KIRKMAN BUILDING, TALLAHASSEE, FL 32399-0537

| | nic Version) | | | | | | |
|---|---------------------------|---|---|--|--------------------------------------|--|---------------------------------------|
| Date of Crash Time of Crash 04/Mar/2020 06:35 PM 04/Mar/2020 0 | | e of Report I/Mar/2020 12:00 AM | Invest. Agency Rep | oort Number 2020-011225 | HSMV Crash | Report Number 89841847 | |
| CRASH IDENTIFIERS | | | | | | | |
| | of Crash POI | | Place or City of Crash UNINCORPORATE | D (WINTER HAVEN) | Within City Limits No | 04/Mar/2020 | Time Dispatched 04/Mar/2020 |
| Time on Scene Time Cleared Scene Co 04/Mar/2020 04/Mar/2020 | mpleted Rea Yes | son (if Investigation N | OT Completed) | . , | | 06:42 PM Notified By | 06:48 PM |
| 07:05 PM 07:48 PM ROADWAY INFORMATION | | | | | | | |
| Crash Occured On Street, Road, Highway | | | At Street A | Address# | At Lattitude | and | Longitude |
| | ERNE PARK R | D) n Intersection With Sti | | | | | Milepost # |
| 0 | | | | | <u> </u> | | |
| Road System Identifier 3 State | | Type Of Shoulder | 1 Paved | I | ype Of Intersection 2 Fou | r-Way Intersection | n |
| CRASH INFORMATION (Check if Pic | tures Taken) |) X | | | | | |
| light Condition Weather Co | ndition 1 Clear | Roadway Surfac | | ol Bus Related 1 No | | er Of Collision | in Newstine |
| | Harmful Event | | t Harmful Event Loca | tion Within I | nterchange First Ha | 77 Other, Explain armful Event Relation | on to Junction |
| Contributing Circumstances: Road | 11 | Contributing Circums | 1 On Roadw stances: Road | | No Contributing Circumstar | 2 Intersec ices: Road | tion |
| 1 None Contributing Circumstances: Environment | | | | | - | | |
| 1 None | | , i i i i i i i i i i i i i i i i i i i | stances: Environmen | | contributing Circumstar | | |
| Work Zone Related Crash In Work Zone | | Type Of W | /ork Zone | Work | ers In Work Zone | Law Enforcement I | n Work Zone |
| VEHICLE (Check if Commercial) |] | I | | | | | |
| Vehicle Motor Vehicle Type Hit and | | License Number | | | manent Reg. VIN | | 470755 |
| 21 Vehicle in Transport2YearMakeModelStyle | 2 Yes Color | Z019VL Extent of Damage | FL Est. Damage | 02/Nov/2020 Towed Due To Dama | age Vehicle Remove | 3FAFP07Z16R ed By Ro | 170750 Ditation |
| 2006 FORD FUS 4D | MAR | Functional | 1000 | No Policy Number | | IVER | Driver |
| | CE INSURANC | | | , | ABFL-26236 | | |
| Name of Vehicle Owner (Check Box If Busir MIKAYLA SIERRA KEELAN | iess) | | ess (Number and Str 20 4TH ST NE | eet) | City and St WINTER HAV | | Zip Code 33881 |
| | Reg. Expires | Permanent Reg. VI | N | | Year Mał | ke Length | Axles |
| | Reg. Expires | Permanent Reg. VIN | N | | Year Mał | ke Length | Axles |
| Vehicle Direction On Street, Road | , Highway | | | | At Est. Spe | | |
| Traveling: North CMV Configuration | Card | SR 544 (Luce go Body Type | erne Park Rd). | Area of | Initial Impact | 45 Most Damag | ed Area |
| | | | Tueilen Turee (tueilen tu | 0 3 4 5 | | | 18. Undercarriage |
| Comm GVWR/GCWR | | , | Trailer Type (trailer tv | | 17 8 19. Overturn | 1 (15)(16 17 | 8 19. Overturn |
| Haz. Mat. Release Haz Mat. Placard | Number | Clas | SS | 14 13 12 11 | 20. Windshield 10 9 21. Trailer | 14 13 12 11 10 | 20. Windshield 9 21. Trailer |
| Motor Carrier Name | | US DO | T Number | | | | |
| Motor Carrier Addres | S | | City | v and State | | Zip Code | Phone Number |
| Comm/Non-Commercial Vehicle Body Ty | pe | Vehicle Defects (one) | Vehicle | Defects (two) | Emergency Vehi | cle Use Special F | Function of MV |
| Vehicle Maneuver Action Trafficway | ger Car | 1 None Roadway Grade | Roadway Alignr | ment Most Har | mful Event | Most Harmful Ev | vent Detail |
| 1 Straight Ahead 1 Two-Way, | | 1 Level | 1 Strai | ight | 2 Collision with | | dalcycle |
| Traffic Control Device For This Vehicle Firs | | | ond (2) Sequence of I | | on-Fixed Object equence of Events | Fourth (4) Seque | nce of Events |
| 1 No Controls | 2 Collisio Non-Fixed | | | | | | |
| | 11 Peda | | | | | | |
| PERSON RECORD | biolo # | | | | Disth O | Dhane Numb | D |
| Person# Description Ve 2 1 Driver | hicle # Nam 2 | | LA S KEELAN | Date of E 02/No | Birth Sex Dv/1998 2 Female | Phone Number 8138302561 | Re-Exam |
| Address 2220 4TH ST NE | City | WINTER HAVEN | State | FL | Zip Code | 9 33881 | |
| Driver License Number State | EI | Expires | DL Type | Req. End. | Injury Severity | Ejection | |
| K450557989020 | FL | 02/Nov/2023 | 5 E/Operator | 3 No Req Endorsemen | | | Not Ejected |
| Restraint System Air Bag Deploye 3 Shoulder and 2 Not Dep | | | e Protection S 3 Not Applicable | Seating Location Seat 1 Left | Seating Location 1 Fron | | _ocation Other ot Applicable |
| Lap Belt Used Drivers Actions at Time of Crash (first) | | | ime of Crash (secon | | Driver Distracted By | Vision Obst | •• |
| 1 No Contributing Action | 1 | | , | , | 1 Not Distracte | d 1 Visior | Not Obscured |
| Drivers Actions at Time of Crash (third) | | | ime of Crash (fourth) | | | pparently Normal | |
| Suspected Alcohol Use Alcohol Tested 1 No | Alcohol Test | Type Alcohol Test | t Result BAC S | Suspected Drug Use 1 No | Drug Tested D | rug Test Type | Drug Test Result |
| Source of Transport to Medical Facility 1 Not Transported | EMS Agency | Name or ID | EMS Run | | Medical Facility T | ransported To | |
| PERSON RECORD | | | | | | | |
| Person# Description Name | | | | ate of Birth Se | ex Injury Se | verity Pho | ne Number |
| 1 2 Non-Motorist Address | UN City | KNOWN UNKNOW | N State | | 1 Male 1 Zip Code | None | |
| UNKNOWN | Uniy | UK | | | • | | |
| Non-Motorist Description Detail 3 Bicyclist | | Non-Motorist Actior | Prior to Crash 1 Crossing Roadwa | | Non-Motorist Location 3 In | at Time of Crash tersection - Other | |
| Non-Motorist Actions/Circumstance (First) | Non-Motorist | Actions/Circumstance | | lotorist Safety Equipm 1 None | nent (One) Non-M | lotorist Safety Equi | pment (Two) |

| Date of Crash | | Date of Report | | Invest. Ager | icy Re | port Number | | HSMV Crash Report Number | | |
|--|----------------|--|----------------|--------------|--------|----------------------------|----------|--------------------------|--------------------|--------------------------|
| 04/Mar/2020 06 | :35 PM | 04/Mar/2020 12: | 00 AM | | | 2020-011225 | | 89841847 | | 17 |
| Suspected Alcohol Use 1 No | Alcohol Teste | d Alcohol Test Type | Alcohol Test I | Result BA | C | Suspected Drug Use 1 No | Drug Tes | sted | Drug Test Type | Drug Test Result |
| Source of Transport to Me 1 Not Trans | | EMS Agency Name c | or ID | EM | IS Ru | n Number | Med | ical Facility | / Transported To | |
| WITNESSES | | | | | | | | | | |
| Name ROBERT WHITC | HARD | Address 1107 3RD ST | SW STE #5 | Cit | у | WINTER HAVE | IN | S | State FL | Zip Code 33880 |
| NARRATIVE | | | | | | | | · · · · · | | |
| | | Road 544 (Lucerne Park Road 544 (Lucerne Park | | | | | on Avenu | ie Y NE., W | Vinter Haven, FL | 33881. Person 1 |
| Person 1 struck vehicle | 2 on the front | passenger fender causir | na damage to t | he windshie | eld of | vehicle 2. Vehicle 2 ir | nmediate | elv stopped | d to attempt to re | nder aid to persor |

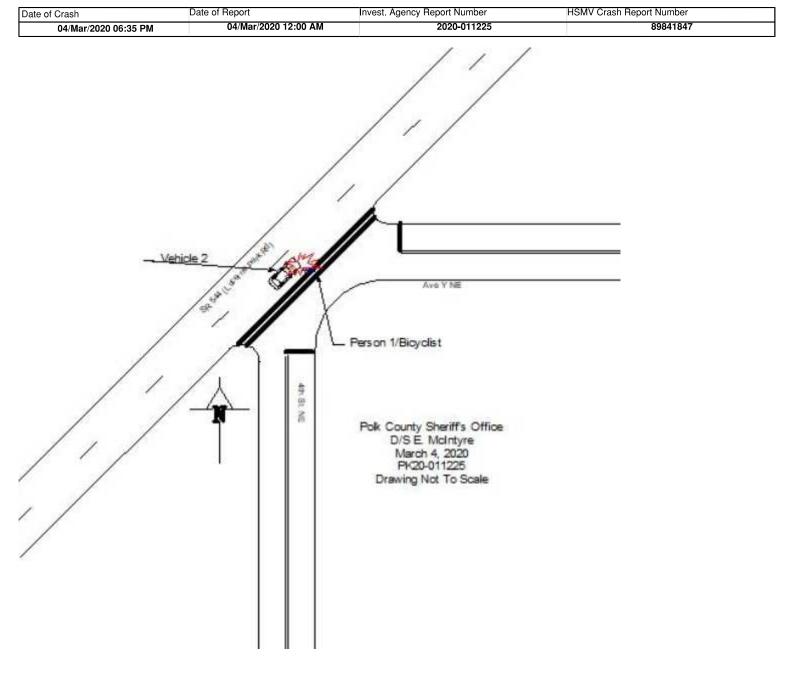
Person 1 struck vehicle 2 on the front passenger fender causing damage to the windshield of vehicle 2. Vehicle 2 immediately stopped to attempt to render aid to person 1. Person 1 stated he was fine and left the scene. Person 1 was described as a young black male, approximately 12 to 16 years of age, unknown clothing.

A witness observed the incident. The witness attempted to catch up to person 1, but was unsuccessful and stated he lost sight of person 1 on Avenue Y, NE. Polk County EMS responded to the scene and assisted in the search for person 1. The search was conducted with negative results. Local hospitals were contacted in an attempt to locate person 1. Local hospitals advised there were no persons fitting this description of at their facilities.

Person 1/Bicyclist was the violator in this crash but could not be located.

REPORTING OFFICER

| ID/Badge # | Rank and Name | Department | Type of Department |
|------------|----------------------|----------------|--------------------|
| 6364 | Dep. ELBERT MCINTYRE | Polk County SO | SO |



Appendix D FDOT Long Range Estimates

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273-4 | 4-52-01 | | | Le | etting Da | te : 07/2027 |
|---|---|---|-----------------------------------|---|------------------|--|
| Description: SR | 544 (LUCERNE PARK) FROM MI | _K BLVD TO AVENU | ΕY | | | |
| District: 01 Contract Class: | County: 16 POLK 1 Lump Sum Project: N | Market Area: 08 Design/Build: N | | s: English ect Length: | 0.619 MI | |
| Project Manager | : NEM-KSJ-JLF | | | | | |
| Version 5 Project Description: Marc | | \$13, | 309,808.01 | | | |
| - | J - New Construction, Divided, Urb | ban | | Net L | ength: | 0.104 MI 550 LF |
| Description: MLK | Intersection to 1st St. | | | | | |
| | EARTHWO | ORK COMPONENT | | | | |
| User Input Data | _, | | | | | |
| Description Standard Clearing | g and Grubbing Limits L/R g and Grubbing Area | | | | 69.0 | Value 0 / 32.00 0.00 |
| Top of Structural Horizontal Elevati | Course For Begin Section Course For End Section ion For Begin Section ion For End Section Cross Slope L/R | | | | 4.00 % 2.00 % | 1 0.104 102.00 100.00 100.00 1/6 to 1 / 4.00 % / 2.00 % / 2.00 % |
| Pay Items Pay item 110-1-1 120-6 | Description CLEARING & GRUBBING EMBANKMENT | Quantity 1.27 3,291.47 | AC | Unit Price \$56,512.73 \$15.04 | 9 | e d Amount \$71,771.17 \$49,503.71 |
| | Earthwork Component Total | | | | \$ | 121,274.88 |
| | ROADWA | AY COMPONENT | | | | |
| User Input Data Description Number of Lanes Roadway Paveme Structural Spread Friction Course S | ent Width L/R I Rate | 55.00 / | Value 6 24.00 275 165 | | | |
| Pay Items Pay item 160-4 285-709 | Description TYPE B STABILIZATION OPTIONAL BASE,BASE GROUF | 5,460.19 | SY | Unit Price \$15.74 \$23.27 | \$ | ed Amount \$85,943.39 112,378.28 |

| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 664.03 TN | \$192.26 | \$127,666.41 |
|----------|---|-----------|----------|--------------|
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 398.42 TN | \$208.69 | \$83,146.27 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 4 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|---|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 70.00 EA | \$4.35 | \$304.50 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.42 GM | \$1,261.74 | \$529.93 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 0.42 GM | \$544.18 | \$228.56 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 0.42 GM | \$5,295.89 | \$2,224.27 |
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 0.42 GM | \$1,568.63 | \$658.82 |
| | Roadway Component Total | | | \$413,080.43 |

SHOULDER COMPONENT

| User Input Data | |
|---|---------------|
| Description | Value |
| Total Outside Shoulder Width L/R | 14.25 / 14.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 4.00 / 4.00 |
| Sidewalk Width L/R | 8.00 / 8.00 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 550.18 LF | \$46.28 | \$25,462.33 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 550.18 LF | \$46.28 | \$25,462.33 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 978.09 SY | \$71.53 | \$69,962.78 |
| 570-1-1 | PERFORMANCE TURF | 489.05 SY | \$4.80 | \$2,347.44 |

Erosion Control

| Pay Items | | | | |
|-----------|--|---------------|------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 104-10-3 | SEDIMENT BARRIER | 1,100.35 LF | \$2.70 | \$2,970.94 |
| 104-11 | FLOATING TURBIDITY BARRIER | 26.05 LF | \$12.79 | \$333.18 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 26.05 LF | \$6.43 | \$167.50 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 104-18 | INLET PROTECTION SYSTEM | 6.00 EA | \$123.06 | \$738.36 |
| 107-1 | LITTER REMOVAL | 2.65 AC | \$50.09 | \$132.74 |

| MEDIAN COMPONENT | | | | | | | |
|------------------|-----------------------------------|---------------|------------|-----------------|--|--|--|
| User Input Data | | | | | | | |
| Description | | Value | | | | | |
| Total Median Wie | dth | 22.00 | | | | | |
| Performance Tu | f Width | 0.00 | 1 | | | | |
| | | | | | | | |
| Pay Items | | | | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount | | | |
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 1,100.35 LF | \$38.76 | \$42,649.57 | | | |
| 520-5-11 | TRAF SEP CONC-TYPE I, 4' WIDE | 550.00 LF | \$88.18 | \$48,499.00 | | | |
| | | | | | | | |
| | Median Component Total | | | \$91,148.57 | | | |

DRAINAGE COMPONENT

| Pay Items | | | | |
|-------------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 4.00 EA | \$7,474.89 | \$29,899.56 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 2.00 EA | \$11,817.04 | \$23,634.08 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 1.00 EA | \$7,391.69 | \$7,391.69 |
| 425-2-41 | MANHOLES, P-7, <10' | 1.00 EA | \$6,130.30 | \$6,130.30 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 280.00 LF | \$189.12 | \$52,953.60 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 24.00 LF | \$306.37 | \$7,352.88 |
| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 528.00 LF | \$318.06 | \$167,935.68 |
| 570-1-1 | PERFORMANCE TURF | 31.68 SY | \$4.80 | \$152.06 |
| | Drainage Component Total | | | \$295,449.85 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 3.00 AS | \$449.95 | \$1,349.85 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 1.00 AS | \$1,607.97 | \$1,607.97 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 1.00 AS | \$7,587.77 | \$7,587.77 |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 1.00 AS | \$16,710.53 | \$16,710.53 |
| | Signing Component Total | | | \$27,256.12 |

SIGNALIZATIONS COMPONENT

Type Multiplier Description

MLK and 544

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-----------|---|---------------|-------------|-----------------|
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 750.00 LF | \$19.30 | \$14,475.00 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 250.00 LF | \$36.03 | \$9,007.50 |
| 632-7-1 | SIGNAL CABLE- NEW OR RECO, FUR & INSTALL | 1.00 Pl | \$10,834.31 | \$10,834.31 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 16.00 EA | \$1,363.63 | \$21,818.08 |
| 639-1-112 | ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON | 1.00 AS | \$3,860.30 | \$3,860.30 |
| 639-2-1 | ELECTRICAL SERVICE WIRE, F&I | 60.00 LF | \$9.92 | \$595.20 |
| 649-21-10 | STEEL MAST ARM ASSEMBLY, F&I, 60' | 4.00 EA | \$81,339.84 | \$325,359.36 |
| 650-1-14 | VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W | 12.00 AS | \$1,499.43 | \$17,993.16 |
| 653-1-11 | PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY | 8.00 AS | \$770.15 | \$6,161.20 |
| 660-1-102 | LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 12.00 EA | \$639.54 | \$7,674.48 |
| 660-2-106 | LOOP ASSEMBLY, F&I, TYPE F | 12.00 AS | \$1,368.89 | \$16,426.68 |
| 665-1-11 | PEDESTRIAN DETECTOR, F&I, STANDARD | 8.00 EA | \$239.20 | \$1,913.60 |
| 670-5-111 | TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT | 1.00 AS | \$51,964.94 | \$51,964.94 |
| 700-3-101 | SIGN PANEL, F&I GM, UP TO 12 SF | 4.00 EA | \$299.79 | \$1,199.16 |
| | Signalizations Component Total | | | \$489,282.97 |

LIGHTING COMPONENT

Conventional Lighting Subcomponent

| Description Spacing Pay Items | | | | Value MIN |
|-------------------------------------|---|---------------|------------|---------------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 550.18 LF | \$19.30 | \$10,618.47 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 109.20 LF | \$36.03 | \$3,934.48 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 4.00 EA | \$1,363.63 | \$5,454.52 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 2,009.39 LF | \$3.77 | \$7,575.40 |
| 715-61-342 | LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L | 4.00 EA | \$8,402.83 | \$33,611.32 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 4.00 EA | \$768.21 | \$3,072.84 |
| | Subcomponent Total | | | \$64,267.03 |
| | Lighting Component Total | | | \$64,267.03 |

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 32.00 / 32.00 |
| Incidental Clearing and Grubbing Area | 0.00 |
| Alignment Number | 1 |
| Distance | 0.339 |
| Top of Structural Course For Begin Section | 102.00 |
| Top of Structural Course For End Section | 102.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 2 to 1 / 2 to 1 |
| Outside Shoulder Cross Slope L/R | 2.00 % / 2.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |
| | |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---------------------------|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 2.63 AC | \$56,512.73 | \$148,628.48 |
| 120-6 | EMBANKMENT | 6,475.53 CY | \$15.04 | \$97,391.97 |
| | Earthwork Component Total | | | \$246,020.45 |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 3 |
| Roadway Pavement Width L/R | 18.00 / 18.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------------|---|---------------|------------|-----------------|
| 160 - 4 | TYPE B STABILIZATION | 8,185.90 SY | \$15.74 | \$128,846.07 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 7,159.68 SY | \$23.27 | \$166,605.75 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 984.46 TN | \$192.26 | \$189,272.28 |
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 590.67 TN | \$208.69 | \$123,266.92 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 2 |

Pay Items

| Pay item | Description |
|----------|---------------------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B |

| Quantity Unit | Unit Price | Extended Amount |
|---------------|------------|-----------------|
| 183.00 EA | \$4.35 | \$796.05 |

| | Roadway Component Total | | | \$619,142.16 |
|------------|---|---------|------------|--------------|
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 0.68 GM | \$1,568.63 | \$1,066.67 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 1.36 GM | \$5,295.89 | \$7,202.41 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 0.68 GM | \$544.18 | \$370.04 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 1.36 GM | \$1,261.74 | \$1,715.97 |

SHOULDER COMPONENT

| User Input Data | |
|---|---------------|
| Description | Value |
| Total Outside Shoulder Width L/R | 14.25 / 14.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 4.00 / 4.00 |
| Sidewalk Width L/R | 8.00 / 8.00 |
| | |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 1,789.92 LF | \$46.28 | \$82,837.50 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 1,789.92 LF | \$46.28 | \$82,837.50 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 3,182.08 SY | \$71.53 | \$227,614.18 |
| 570-1-1 | PERFORMANCE TURF | 1,591.04 SY | \$4.80 | \$7,636.99 |

Erosion Control

| Pay Items | |
|-----------|--|
|-----------|--|

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 3,579.84 LF | \$2.70 | \$9,665.57 |
| 104-11 | FLOATING TURBIDITY BARRIER | 84.75 LF | \$12.79 | \$1,083.95 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 84.75 LF | \$6.43 | \$544.94 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 104-18 | INLET PROTECTION SYSTEM | 18.00 EA | \$123.06 | \$2,215.08 |
| 107-1 | LITTER REMOVAL | 4.11 AC | \$50.09 | \$205.87 |
| 107-2 | MOWING | 4.11 AC | \$83.03 | \$341.25 |
| | Shoulder Component Total | | | \$417,671.89 |

DRAINAGE COMPONENT

| Pay Items | | | | |
|-------------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 13.00 EA | \$7,474.89 | \$97,173.57 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 4.00 EA | \$11,817.04 | \$47,268.16 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 2.00 EA | \$7,391.69 | \$14,783.38 |
| 425-2-41 | MANHOLES, P-7, <10' | 2.00 EA | \$6,130.30 | \$12,260.60 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 792.00 LF | \$189.12 | \$149,783.04 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 72.00 LF | \$306.37 | \$22,058.64 |

| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 1,696.00 LF | \$318.06 | \$539,429.76 | |
|----------------------|---|---------------|-------------|-----------------|--|
| Retention Basi | n 1 | | | | |
| Description | | Value | e | | |
| Size | | .5 AC | | | |
| Multiplier | 1 | | | | |
| Depth Description | 3.50 Pond 1A | | | | |
| Description | Folia IA | | | | |
| Pay Items | | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount | |
| 110-1-1 | CLEARING & GRUBBING | 0.50 AC | \$56,512.73 | \$28,256.36 | |
| 120-1 | REGULAR EXCAVATION | 2,823.33 CY | \$18.27 | \$51,582.24 | |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 | |
| 425-2-71 | MANHOLES, J - 7, <10' | 1.00 EA | \$7,689.71 | \$7,689.71 | |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$355.79 | \$19,924.24 | |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$715.27 | \$143,054.00 | |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 600.00 LF | \$33.16 | \$19,896.00 | |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,668.52 | \$4,668.52 | |
| 570-1-1 | PERFORMANCE TURF | 2,420.00 SY | \$4.80 | \$11,616.00 | |
| | | | | | |
| | Drainage Component Total | | | \$1,175,909.27 | |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|---|---------------|------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 7.00 AS | \$449.95 | \$3,149.65 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 1.00 AS | \$1,607.97 | \$1,607.97 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 1.00 AS | \$7,587.77 | \$7,587.77 |
| | Signing Component Total | | | \$12,345.39 |

LIGHTING COMPONENT

| Conventional Lighting Subcomponent | | | | |
|-------------------------------------|---|---------------|------------|-----------------|
| Description Spacing Pay Items | | | | Value MIN |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 1,789.92 LF | \$19.30 | \$34,545.46 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 355.27 LF | \$36.03 | \$12,800.38 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 12.00 EA | \$1,363.63 | \$16,363.56 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 6,537.28 LF | \$3.77 | \$24,645.55 |
| 715-61-342 | LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L | 12.00 EA | \$8,402.83 | \$100,833.96 |
| | | | | |

| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL Subcomponent Total | 12.00 EA | \$768.21 | \$9,218.52 \$198,407.42 |
|------------|--|----------|----------|----------------------------|
| , | Lighting Component Total | | | \$198,407.43 |
| Sequence 2 | Total | | | \$2,669,496.59 |

EARTHWORK COMPONENT

| | EARTHWORK CO | MPONENT | | |
|-------------------|--|---------------|-------------|------------------|
| User Input Data | I | | | |
| Description | | | | Value |
| - | ng and Grubbing Limits L/R | | | 68.00 / 68.00 |
| Incidental Cleari | ng and Grubbing Area | | | 0.00 |
| | | | | |
| Alignment Numb | ber | | | 1 |
| Distance | | | | 0.036 |
| | l Course For Begin Section l Course For End Section | | | 102.00 102.00 |
| | ition For Begin Section | | | 100.00 |
| | ition For End Section | | | 100.00 |
| Front Slope L/R | | | | 2 to 1 / 2 to 1 |
| Median Shoulde | r Cross Slope L/R | | | 2.00 % / 2.00 % |
| | er Cross Slope L/R | | | 2.00 % / 2.00 % |
| Roadway Cross | Slope L/R | | | 2.00 % / 2.00 % |
| | | | | |
| Pay Items | | | | |
| Pay item | Description | - | | Extended Amount |
| 110-1-1 | CLEARING & GRUBBING | 0.59 AC | \$56,512.73 | \$33,342.51 |
| 120-6 | EMBANKMENT | 819.74 CY | \$15.04 | \$12,328.89 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 320.00 CY | \$18.27 | |
| | Earthwork Component Total | | | \$51,517.80 |
| , | ROADWAY COM | PONENT | | |
| User Input Data | | | | |
| Description | | Value | 9 | |
| Number of Lane | S | 2 | | |
| Roadway Paven | nent Width L/R | 12.00 / 12.00 |) | |
| Structural Sprea | | 275 | | |
| Friction Course | Spread Rate | 165 | i | |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 160 - 4 | TYPE B STABILIZATION | 724.84 SY | \$15.74 | \$11,408.98 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 506.88 SY | \$23.27 | \$11,795.10 |
| | SUPERPAVE ASPHALTIC CONC, | | | |
| 334-1-13 | TRAFFIC C | 69.70 TN | \$192.26 | \$13,400.52 |
| 337-7-83 | ASPH CONC FC, TRAFFIC C, FC- | 41.82 TN | \$208.69 | \$8,727.42 |
| | 12.5,PG 76-22 | | +==0.00 | ¥0,1 21112 |
| X-Items | | | | |
| A-ILCIIIS | | _ | | |

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|----------|--|---------------|----------------|--------------|
| 160-4 | TYPE B STABILIZATION | 960.00 SY | \$15.74 | \$15,110.40 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 680.00 SY | \$23.27 | \$15,823.60 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 75.00 TN | \$192.26 | \$14,419.50 |

| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 38.00 TN | \$208.69 | \$7,930.22 |
|--|---|--|---|--|
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.07 GM | \$1,299.67 | \$90.98 |
| Pavement Mar | king Subcomponent | | | |
| Description | | Value | | |
| Include Thermo | • | Y | | |
| Pavement Type | | Asphalt | | |
| Solid Stripe No. | of Paint Applications | 1 | | |
| | of Paint Applications | 1 | | |
| Skip Stripe No. | | 0 | | |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 5.00 EA | \$4.35 | \$21.75 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.14 GM | \$1,261.74 | \$176.64 |
| 711-15-101 | THERMOPLASTIC, STD-OP, WHITE, SOLID, 6" | 0.14 GM | \$5,999.99 | \$840.00 |
| | Roadway Component Total | | | \$99,745.11 |
| | houlder Width L/R houlder Perf. Turf Width L/R h L/R | 19.25 / 19.25 9.00 / 9.00 | | |
| Pay Items | | 8.00 / 8.00 | | |
| | | 8.00 / 8.00 | | |
| Pay item | | | Unit Price | Extended Amount |
| Pay item 520-1-10 | Description CONCRETE CURB & GUTTER, TYPE F | | Unit Price \$46.28 | |
| 520-1-10 | Description CONCRETE CURB & GUTTER, | Quantity Unit | | \$8,796.90 |
| 520-1-10 520-1-10 | Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, | Quantity Unit 190.08 LF | \$46.28 | \$8,796.90 \$8,796.90 |
| 520-1-10 520-1-10 522-1 | Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND | Quantity Unit 190.08 LF 190.08 LF | \$46.28 \$46.28 | \$8,796.90 \$8,796.90 \$24,171.42 |
| 520-1-10 520-1-10 522-1 570-1-1 Erosion Contro | Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF | Quantity Unit 190.08 LF 190.08 LF 337.92 SY | \$46.28 \$46.28 \$71.53 | \$8,796.90 \$8,796.90 \$24,171.42 |
| 520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items | Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF | Quantity Unit 190.08 LF 190.08 LF 337.92 SY 380.16 SY | \$46.28 \$46.28 \$71.53 \$4.80 | \$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 |
| 520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items Pay item | Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF ol Description | Quantity Unit 190.08 LF 190.08 LF 337.92 SY 380.16 SY Quantity Unit | \$46.28 \$46.28 \$71.53 \$4.80 Unit Price | \$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount |
| 520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items Pay item 104-10-3 | Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF ol Description SEDIMENT BARRIER | Quantity Unit 190.08 LF 190.08 LF 337.92 SY 380.16 SY Quantity Unit 380.16 LF | \$46.28 \$46.28 \$71.53 \$4.80 Unit Price \$2.70 | \$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount \$1,026.43 |
| 520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items | Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF ol Description SEDIMENT BARRIER FLOATING TURBIDITY BARRIER STAKED TURBIDITY BARRIER- | Quantity Unit 190.08 LF 190.08 LF 337.92 SY 380.16 SY Quantity Unit | \$46.28 \$46.28 \$71.53 \$4.80 Unit Price | \$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount \$1,026.43 \$115.11 |
| 520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items Pay item 104-10-3 104-11 | Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF ol Description SEDIMENT BARRIER FLOATING TURBIDITY BARRIER STAKED TURBIDITY BARRIER NYL REINF PVC SOIL TRACKING PREVENTION | Quantity Unit 190.08 LF 190.08 LF 337.92 SY 380.16 SY Quantity Unit 380.16 LF 9.00 LF | \$46.28 \$46.28 \$71.53 \$4.80 Unit Price \$2.70 \$12.79 | \$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount \$1,026.43 \$115.11 \$57.87 |
| 520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items 104-10-3 104-11 104-12 | DescriptionCONCRETE CURB & GUTTER, TYPE FCONCRETE CURB & GUTTER, TYPE FCONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURFOIDescriptionSEDIMENT BARRIER FLOATING TURBIDITY BARRIER STAKED TURBIDITY BARRIER- NYL REINF PVC SOIL TRACKING PREVENTION DEVICE | Quantity Unit 190.08 LF 190.08 LF 337.92 SY 380.16 SY Quantity Unit 380.16 LF 9.00 LF 9.00 LF 1.00 EA | \$46.28 \$46.28 \$71.53 \$4.80 Unit Price \$2.70 \$12.79 \$6.43 \$2,689.06 | Extended Amount \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount \$1,026.43 \$115.11 \$57.87 \$2,689.06 \$246.12 |
| 520-1-10 520-1-10 522-1 570-1-1 Erosion Contro Pay Items Pay item 104-10-3 104-11 104-12 104-15 | Description CONCRETE CURB & GUTTER, TYPE F CONCRETE CURB & GUTTER, TYPE F CONCRETE SIDEWALK AND DRIVEWAYS, 4" PERFORMANCE TURF ol Description SEDIMENT BARRIER FLOATING TURBIDITY BARRIER STAKED TURBIDITY BARRIER NYL REINF PVC SOIL TRACKING PREVENTION | Quantity Unit 190.08 LF 190.08 LF 337.92 SY 380.16 SY Quantity Unit 380.16 LF 9.00 LF 9.00 LF | \$46.28 \$46.28 \$71.53 \$4.80 Unit Price \$2.70 \$12.79 \$6.43 | \$8,796.90 \$8,796.90 \$24,171.42 \$1,824.77 Extended Amount \$1,026.43 \$115.11 \$57.87 |

Shoulder Component Total

MEDIAN COMPONENT

| User Input Data | a | | | |
|-----------------|--|---------------|-----------------|--------------|
| Description | | Value | | |
| Total Median W | idth | 0.00 | | |
| Performance Tu | ırf Width | 0.00 | | |
| | | | | |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price Exte | ended Amount |
| 350-30-13 | CONC PAVEMENT FOR ROUNDABOUT APRON. 12" | 270.00 SY | \$316.70 | \$85,509.00 |

| | Median Component Total | | | \$85,509.00 |
|-----------|--|-----------|----------|-------------|
| 350-30-13 | CONC PAVEMENT FOR ROUNDABOUT APRON, 12" | 270.00 SY | \$316.70 | \$85,509.00 |

DRAINAGE COMPONENT

| Pay Items | | | | |
|-------------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 2.00 EA | \$7,474.89 | \$14,949.78 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 1.00 EA | \$11,817.04 | \$11,817.04 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 1.00 EA | \$7,391.69 | \$7,391.69 |
| 425-2-41 | MANHOLES, P-7, <10' | 1.00 EA | \$6,130.30 | \$6,130.30 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 96.00 LF | \$189.12 | \$18,155.52 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 16.00 LF | \$306.37 | \$4,901.92 |
| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 184.00 LF | \$318.06 | \$58,523.04 |
| 570-1-1 | PERFORMANCE TURF | 10.94 SY | \$4.80 | \$52.51 |
| | | | | |
| | Drainage Component Total | | | \$121,921.80 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|-------------------------------------|---------------|----------------|--------------|
| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 4.00 AS | \$449.95 | \$1,799.80 |
| | Signing Component Total | | | \$1,799.80 |

LIGHTING COMPONENT

Conventional Lighting Subcomponent

| Description | Value |
|-------------|-------|
| Spacing | MIN |

X-Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-----------|---|---------------|-------------|--------------------------|
| 639-1-112 | ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON | 1.00 AS | \$3,860.30 | \$3,860.30 |
| 715-7-11 | LOAD CENTER, F&I, SECONDARY VOLTAGE | 1.00 EA | \$17,701.36 | \$17,701.36 |
| | | | | • • · · • • · • • |

Lighting Component Total

\$21,561.66

LANDSCAPING COMPONENT

| User Input Data | | |
|-----------------------------|-----------|--|
| Description | Value | |
| Lump Sum | 40,000.00 | |
| Cost % | 0.00 | |
| Component Detail | N | |
| Landscaping Component Total | | |

Sequence 3 Total

\$40,000.00

\$469,902.22

Description: 2-Lane Approach (Ave. Y)

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.50 |
| Alignment Number | 1 |
| Distance | 0.026 |
| Top of Structural Course For Begin Section | 102.00 |
| Top of Structural Course For End Section | 102.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---------------------------|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.50 AC | \$56,512.73 | \$28,256.36 |
| 120-6 | EMBANKMENT | 256.76 CY | \$15.04 | \$3,861.67 |
| | Earthwork Component Total | | | \$32,118.04 |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
|------------------|---|---------------|---------------|---------------|
| 160 - 4 | TYPE B STABILIZATION | 671.15 SY | \$15.74 | \$10,563.90 |
| 285 - 709 | OPTIONAL BASE, BASE GROUP 09 | 376.15 SY | \$23.27 | \$8,753.01 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 50.34 TN | \$192.26 | \$9,678.37 |
| 337-7-81 | ASPH CONC FC,TRAFFIC B,FC- 12.5,PG 76-22 | 30.20 TN | \$789.82 | \$23,852.56 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|---|---------------|------------|-----------------|
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.15 GM | \$1,261.74 | \$189.26 |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 60.00 LF | \$1.07 | \$64.20 |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 90.00 LF | \$2.01 | \$180.90 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$693.88 | \$13.88 |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$1,175.81 | \$11.76 |

| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 1.00 EA | \$59.36 | \$59.36 |
|------------|---|----------|------------|----------|
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,299.67 | \$194.95 |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 50.00 LF | \$1.66 | \$83.00 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 2 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 1 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|---|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 4.00 EA | \$4.35 | \$17.40 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.05 GM | \$1,261.74 | \$63.09 |
| 710-11-231 | PAINTED PAVT MARK,STD,YELLOW,SKIP,6" | 0.03 GM | \$560.16 | \$16.80 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 0.05 GM | \$5,295.89 | \$264.79 |
| 711-16-231 | THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6" | 0.03 GM | \$1,890.90 | \$56.73 |
| | Roadway Component Total | | | \$54,063.96 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |
| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price E | xtended Amount |
|----------|--|---------------|--------------|----------------|
| 285-704 | OPTIONAL BASE, BASE GROUP 04 | 162.60 SY | \$64.97 | \$10,564.12 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 20.97 TN | \$192.26 | \$4,031.69 |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 12.58 TN | \$1,326.97 | \$16,693.28 |
| 570-1-1 | PERFORMANCE TURF | 81.45 SY | \$4.80 | \$390.96 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Exte | ended Amount |
|----------|--|---------------|-----------------|--------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 375.00 LF | \$46.28 | \$17,355.00 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$71.53 | \$31,473.20 |
| 527-2 | DETECTABLE WARNINGS | 104.00 SF | \$35.35 | \$3,676.40 |

| Erosion Contro | I | | | |
|-----------------|--|---------------|--------------|-----------------|
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price I | Extended Amount |
| 104-10-3 | SEDIMENT BARRIER | 356.93 LF | \$2.70 | \$963.71 |
| 104-11 | FLOATING TURBIDITY BARRIER | 6.50 LF | \$12.79 | \$83.14 |
| 104 - 12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 6.50 LF | \$6.43 | \$41.80 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 107-1 | LITTER REMOVAL | 0.32 AC | \$50.09 | \$16.03 |
| 107-2 | MOWING | 0.32 AC | \$83.03 | \$26.57 |
| | Shoulder Component Total | | | \$88,004.96 |

DRAINAGE COMPONENT

| Pay Items | | | | |
|---------------------|--|---------------|----------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ext | tended Amount |
| 430-174-124 | PIPE CULV, OPT MATL, ROUND,24"SD | 24.00 LF | \$487.61 | \$11,702.64 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 8.00 LF | \$306.37 | \$2,450.96 |
| 570-1-1 | PERFORMANCE TURF | 18.30 SY | \$4.80 | \$87.84 |
| X-Items Pay item | Description | Quantity Unit | Unit Price Ext | tended Amount |
| 425-1-361 | INLETS, CURB, TYPE P-6, <10' | 2.00 EA | \$9,440.85 | \$18,881.70 |
| | Drainage Component Total | | | \$33,123.14 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|---------------------------------------|---------------|--------------|----------------|
| Pay item | Description | Quantity Unit | Unit Price E | xtended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 1.00 AS | \$449.95 | \$449.95 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 1.00 AS | \$1,607.97 | \$1,607.97 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 AS | \$5,718.61 | \$5,718.61 |
| | Signing Component Total | | | \$7,776.53 |
| | | | | |

Sequence 4 Total

\$215,086.63

Description: 2-Lane Approach (Ave. Y)

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.50 |
| Alignment Number | 1 |
| Distance | 0.026 |
| Top of Structural Course For Begin Section | 102.00 |
| Top of Structural Course For End Section | 102.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---------------------------|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.50 AC | \$56,512.73 | \$28,256.36 |
| 120-6 | EMBANKMENT | 256.76 CY | \$15.04 | \$3,861.67 |
| | Earthwork Component Total | | | \$32,118.04 |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
|------------------|---|---------------|---------------|---------------|
| 160 - 4 | TYPE B STABILIZATION | 671.15 SY | \$15.74 | \$10,563.90 |
| 285 - 709 | OPTIONAL BASE, BASE GROUP 09 | 376.15 SY | \$23.27 | \$8,753.01 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 50.34 TN | \$192.26 | \$9,678.37 |
| 337-7-81 | ASPH CONC FC,TRAFFIC B,FC- 12.5,PG 76-22 | 30.20 TN | \$789.82 | \$23,852.56 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price E | Extended Amount |
|------------|---|---------------|--------------|-----------------|
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.15 GM | \$1,261.74 | \$189.26 |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 60.00 LF | \$1.07 | \$64.20 |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 90.00 LF | \$2.01 | \$180.90 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$693.88 | \$13.88 |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$1,175.81 | \$11.76 |

| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 1.00 EA | \$59.36 | \$59.36 |
|------------|---|----------|------------|----------|
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,299.67 | \$194.95 |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 50.00 LF | \$1.66 | \$83.00 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 2 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 1 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price Exter | nded Amount |
|------------|---|---------------|------------------|-------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 4.00 EA | \$4.35 | \$17.40 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.05 GM | \$1,261.74 | \$63.09 |
| 710-11-231 | PAINTED PAVT MARK,STD,YELLOW,SKIP,6" | 0.03 GM | \$560.16 | \$16.80 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 0.05 GM | \$5,295.89 | \$264.79 |
| 711-16-231 | THERMOPLASTIC, STD-OTH, YELLOW, SKIP, 6" | 0.03 GM | \$1,890.90 | \$56.73 |
| | Roadway Component Total | | | \$54,063.96 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |
| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price E | xtended Amount |
|----------|--|---------------|--------------|----------------|
| 285-704 | OPTIONAL BASE, BASE GROUP 04 | 162.60 SY | \$64.97 | \$10,564.12 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 20.97 TN | \$192.26 | \$4,031.69 |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 12.58 TN | \$1,326.97 | \$16,693.28 |
| 570-1-1 | PERFORMANCE TURF | 81.45 SY | \$4.80 | \$390.96 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Exte | ended Amount |
|----------|--|---------------|-----------------|--------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 375.00 LF | \$46.28 | \$17,355.00 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$71.53 | \$31,473.20 |
| 527-2 | DETECTABLE WARNINGS | 104.00 SF | \$35.35 | \$3,676.40 |

| Erosion Contro | l | | | |
|-----------------|--|---------------|------------|-----------------|
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 104-10-3 | SEDIMENT BARRIER | 356.93 LF | \$2.70 | \$963.71 |
| 104-11 | FLOATING TURBIDITY BARRIER | 6.50 LF | \$12.79 | \$83.14 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 6.50 LF | \$6.43 | \$41.80 |
| 104 - 15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 107-1 | LITTER REMOVAL | 0.32 AC | \$50.09 | \$16.03 |
| 107-2 | MOWING | 0.32 AC | \$83.03 | \$26.57 |
| | Shoulder Component Total | | | \$88,004.96 |

DRAINAGE COMPONENT

| Pay Items | | | | |
|---------------------|--|---------------|----------------|--------------|
| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
| 430-174-124 | PIPE CULV, OPT MATL, ROUND,24"SD | 24.00 LF | \$487.61 | \$11,702.64 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 8.00 LF | \$306.37 | \$2,450.96 |
| 570-1-1 | PERFORMANCE TURF | 18.30 SY | \$4.80 | \$87.84 |
| X-Items Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
| 425-1-361 | INLETS, CURB, TYPE P-6, <10' | 2.00 EA | \$9.440.85 | \$18.881.70 |
| | Drainage Component Total | | <i>,</i> | \$33,123.14 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|---------------------------------------|---------------|--------------|----------------|
| Pay item | Description | Quantity Unit | Unit Price E | xtended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 1.00 AS | \$449.95 | \$449.95 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 1.00 AS | \$1,607.97 | \$1,607.97 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 AS | \$5,718.61 | \$5,718.61 |
| | Signing Component Total | | | \$7,776.53 |
| | | | | |

Sequence 5 Total

\$215,086.63

\$509,944.23

Description: 4 Lane Approach (SR 544) to N. of Ave Y (Pentecostal Church)

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 56.00 / 56.00 |
| Incidental Clearing and Grubbing Area | 0.00 |
| Alignment Number | 1 |
| Distance | 0.383 |
| Top of Structural Course For Begin Section | 102.00 |
| Top of Structural Course For End Section | 102.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 2 to 1 / 2 to 1 |
| Median Shoulder Cross Slope L/R | 4.00 % / 4.00 % |
| Outside Shoulder Cross Slope L/R | 2.00 % / 2.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |
| | |

| Pay Items | | | | |
|-----------|---------------------|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 110-1-1 | CLEARING & GRUBBING | 5.20 AC | \$56,512.73 | \$293,866.20 |
| 120-6 | EMBANKMENT | 14,366.89 CY | \$15.04 | \$216,078.03 |

Earthwork Component Total

ROADWAY COMPONENT

User Input Data

| Description | Value |
|-----------------------------|---------------|
| Number of Lanes | 4 |
| Roadway Pavement Width L/R | 23.00 / 23.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---|---------------|------------|-----------------|
| 160-4 | TYPE B STABILIZATION | 12,654.73 SY | \$15.74 | \$199,185.45 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 10,335.89 SY | \$23.27 | \$240,516.16 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 1,421.19 TN | \$192.26 | \$273,237.99 |
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 852.71 TN | \$208.69 | \$177,952.05 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 2 |

Pay Items

Pay item Description

| 706-1-3 | RAISED PAVMT MARK, TYPE B | 155.00 EA | \$4.35 | \$674.25 |
|------------|---|-----------|------------|--------------|
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 1.53 GM | \$1,261.74 | \$1,930.46 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 0.77 GM | \$544.18 | \$419.02 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 1.53 GM | \$5,295.89 | \$8,102.71 |
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 0.77 GM | \$1,568.63 | \$1,207.85 |
| | Roadway Component Total | | | \$903,225.94 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 22.25 / 22.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 10.00 / 10.00 |
| Sidewalk Width L/R | 10.00 / 10.00 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 2,022.24 LF | \$46.28 | \$93,589.27 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 2,022.24 LF | \$46.28 | \$93,589.27 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 4,493.87 SY | \$71.53 | \$321,446.52 |
| 570-1-1 | PERFORMANCE TURF | 4,493.87 SY | \$4.80 | \$21,570.58 |

Erosion Control

| Pay Items | | | | |
|-----------|--|---------------|------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 104-10-3 | SEDIMENT BARRIER | 4,044.48 LF | \$2.70 | \$10,920.10 |
| 104-11 | FLOATING TURBIDITY BARRIER | 95.75 LF | \$12.79 | \$1,224.64 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 95.75 LF | \$6.43 | \$615.67 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 104-18 | INLET PROTECTION SYSTEM | 20.00 EA | \$123.06 | \$2,461.20 |
| 107-1 | LITTER REMOVAL | 9.75 AC | \$50.09 | \$488.38 |
| 107-2 | MOWING | 9.75 AC | \$83.03 | \$809.54 |
| | Shoulder Component Total | | | \$549,404.23 |

MEDIAN COMPONENT

User Input Data

| Description | Value |
|------------------------|-------|
| Total Median Width | 22.00 |
| Performance Turf Width | 17.50 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|-----------------------------------|---------------|------------|-----------------|
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 4,044.48 LF | \$38.76 | \$156,764.04 |
| 570-1-1 | PERFORMANCE TURF | 3,932.13 SY | \$4.80 | \$18,874.22 |

PIPE CULV, OPT MATL, ROUND,

FENCING, TYPE B, 5.1-6.0',

B,SLIDE/CANT,18.1-20'OPEN PERFORMANCE TURF

Drainage Component Total

60"S/CD

STANDARD FENCE GATE, TYP

430-175-160

550-10-220

550-60-234

570-1-1

| Pay Items | | | | |
|----------------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 14.00 EA | \$7,474.89 | \$104,648.46 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 4.00 EA | \$11,817.04 | \$47,268.16 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 2.00 EA | \$7,391.69 | \$14,783.38 |
| 425-2-41 | MANHOLES, P - 7, <10' | 2.00 EA | \$6,130.30 | \$12,260.60 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 1,016.00 LF | \$189.12 | \$192,145.92 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 96.00 LF | \$306.37 | \$29,411.52 |
| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 1,920.00 LF | \$318.06 | \$610,675.20 |
| 570-1-1 | PERFORMANCE TURF | 116.43 SY | \$4.80 | \$558.86 |
| Retention Basi | n 1 | | | |
| Description | | Value | e | |
| Size | | 1 AC | 2 | |
| Multiplier | | | 3 | |
| Depth | | 5.00 |) | |
| Description | Pond 1 | | | |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 110-1-1 | CLEARING & GRUBBING | 3.00 AC | \$56,512.73 | \$169,538.19 |
| 120-1 | REGULAR EXCAVATION | 24,200.01 CY | \$18.27 | \$442,134.18 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 3.00 EA | \$6,465.04 | \$19,395.12 |
| 425-2-71 | MANHOLES, J-7, <10' | 3.00 EA | \$7,689.71 | \$23,069.13 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 168.00 LF | \$355.79 | \$59,772.72 |

DRAINAGE COMPONENT

SIGNING COMPONENT

600.00 LF

2,520.00 LF

14,520.00 SY

3.00 EA

\$715.27

\$33.16

\$4.80

\$4,668.52

\$429,162.00

\$83,563.20

\$14,005.56

\$69,696.00

\$2,322,088.20

| Pay Items | | | | |
|-----------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 10.00 AS | \$449.95 | \$4,499.50 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 1.00 AS | \$1,607.97 | \$1,607.97 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 1.00 AS | \$7,587.77 | \$7,587.77 |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 1.00 AS | \$16,710.53 | \$16,710.53 |

| Conventional | Lighting Subcomponent | | | |
|-------------------------------|---|---------------|------------|---------------------|
| Description Spacing | | | | Value MIN |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 2,022.24 LF | \$19.30 | \$39,029.23 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 401.38 LF | \$36.03 | \$14,461.72 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 14.00 EA | \$1,363.63 | \$19,090.82 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 7,385.77 LF | \$3.77 | \$27,844.35 |
| 715-61-342 | LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L | 14.00 EA | \$8,402.83 | \$117,639.62 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 14.00 EA | \$768.21 | \$10,754.94 |
| | Subcomponent Total | | | \$228,820.69 |
| | Lighting Component Total | | | \$228,820.68 |
| r | | | | |

LIGHTING COMPONENT

Sequence 6 Total

\$4,719,527.31

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273 | Project: 440273-4-52-01 Letting Date: 07/2027 | | | | |
|--|--|------------------------------------|------------------------|-------|-----------------|
| Description: SR 544 (LUCERNE PARK) FROM MLK BLVD TO AVENUE Y | | | | | |
| District: 01 Contract Class | County: 16 POLK s: 1 Lump Sum Project: N | Market Area: 08 Design/Build: N | Units: Er Project L | • | 0.619 MI |
| Project Manag | er: NEM-KSJ-JLF | | | | |
| Version 5 Proje Description: Ma | e ct Grand Total arch 2024 Unit Cost Updates from Ve | ersion 4P - 3/5/24 | | | \$13,309,808.01 |
| Project Seque | nces Subtotal | | | | \$9,921,345.93 |
| 102-1 | Maintenance of Traffic | 15.00 % | | | \$1,488,201.89 |
| 101-1 | Mobilization | 10.00 % | | | \$1,140,954.78 |
| Project Seque | nces Total | | | | \$12,550,502.60 |
| Project Unknow | ns | 5.00 % | | | \$627,525.13 |
| Design/Build | | 0.00 % | | | \$0.00 |
| Non-Bid Comp | oonents: | | | | |
| Pay item | Description | Quantity U | nit Unit | Price | Extended Amount |
| 999-25 | INITIAL CONTINGENCY AMOUNT (DO NOT BID) | LS | 5 \$131,7 | 80.28 | \$131,780.28 |
| Project Non-B | id Subtotal | | | | \$131,780.28 |
| Version 5 Proj | ect Grand Total | | | | \$13,309,808.01 |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273- | 1-22-01 | | | Le | etting Da | ate: 01/2099 |
|---|--|--|---------------------------|----------------------------------|----------------------|--|
| Description: SR | 8 544 (LUCERNE PARK RD) FRO | OM MARTIN LUTHER | KING | BLVD TO SF | R 17 | |
| District: 01 Contract Class: | County: 16 POLK 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | | s: English ect Length: | 7.950 M | I |
| Project Manage | r: JMK-AEH-DCT | | | | | |
| Version 33 Proje Description: ^{Seg} Brid | e ct Grand Total gment 2-N. of Ave. Y to east side lge) - June 2024 Unit Cost Updat | of Lake Conine Canal es from Version 32 - 6 | (inc l uc /3/24 | ding the Lake | \$9 Conine | , 457,953.58 Canal |
| Sequence: 5 ND | U - New Construction, Divided, U | rban | | Net L | ength: | 0.598 MI 3,157 LF |
| Description: Sec | gment 2-N. of Ave. Y to east side lge) | of Lake Conine Canal | (inc l uo | ding the Lake | e Conine | Canal |
| , | EARTHW | ORK COMPONENT | | | | |
| User Input Data | | | | | | |
| Description | | | | | | Value |
| | ng and Grubbing Limits L/R | | | | 56.0 | 0 / 56.00 |
| Incidental Cleari | ng and Grubbing Area | | | | | 0.00 |
| Alignment Numb | er | | | | | 1 |
| Distance | | | | | | 0.598 |
| Top of Structural | Course For Begin Section | | | | | 102.00 |
| | Course For End Section | | | | | 102.00 |
| | tion For Begin Section | | | | | 100.00 |
| | tion For End Section | | | | . | 100.00 |
| Front Slope L/R 2 to 1 | | | | | | |
| | r Cross Clana L /D | | | | 4 00 0/ | |
| Median Shoulde | r Cross Slope L/R | | | | | 5 / 4.00 % |
| Median Shoulde | r Cross Slope L/R | | | | 2.00 % | 5 / 4.00 % 5 / 2.00 % 5 / 2.00 % |
| Median Shoulde Outside Shoulde | r Cross Slope L/R | | | | 2.00 % | o / 2.00 % |
| Median Shoulde Outside Shoulde Roadway Cross | r Cross Slope L/R | Quantity | [,] Unit | Unit Price | 2.00 % 2.00 % | o / 2.00 % o / 2.00 % |
| Median Shoulde Outside Shoulde Roadway Cross Pay Items | r Cross Slope L/R Slope L/R | Quantity 8.12 | | Unit Price \$56,017.69 | 2.00 % 2.00 % | o / 2.00 % o / 2.00 % |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 4 |
| Roadway Pavement Width L/R | 23.00 / 23.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------------|---|---------------|------------|-----------------|
| 160 - 4 | TYPE B STABILIZATION | 19,755.25 SY | \$10.73 | \$211,973.83 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 16,135.33 SY | \$20.06 | \$323,674.72 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 2,218.61 TN | \$193.64 | \$429,611.64 |
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 1,331.16 TN | \$207.93 | \$276,788.10 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-----------|---------------------------------------|---------------|------------|-----------------|
| 339-1 | MISCELLANEOUS ASPHALT PAVEMENT | 50.00 TN | \$433.49 | \$21,674.50 |
| 455-133-3 | SHEET PILING STEEL, F&I PERMANENT | 10,000.00 SF | \$65.80 | \$658,000.00 |
| 515-2-111 | PED/BICYCLE RAILING,NS, 42" TYPE 1 | 1,500.00 LF | \$110.70 | \$166,050.00 |
| 536-1-1 | GUARDRAIL- ROADWAY, GEN TL-3 | 1,500.00 LF | \$27.96 | \$41,940.00 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 2 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---------------------------|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 242.00 EA | \$4.36 | \$1,055.12 |

| | Roadway Component Total | | | \$2,149,657.84 |
|------------|---|---------|------------|----------------|
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 1.20 GM | \$1,616.01 | \$1,939.21 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 2.39 GM | \$5,558.07 | \$13,283.79 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 1.20 GM | \$546.91 | \$656.29 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 2.39 GM | \$1,259.68 | \$3,010.64 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 22.25 / 22.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 10.00 / 10.00 |
| Sidewalk Width L/R | 10.00 / 10.00 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 3,156.91 LF | \$46.67 | \$147,332.99 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 3,156.91 LF | \$46.67 | \$147,332.99 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 7,015.36 SY | \$65.70 | \$460,909.15 |
| 570-1-1 | PERFORMANCE TURF | 7,015.36 SY | \$4.62 | \$32,410.96 |

Erosion Control

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 6,313.82 LF | \$2.71 | \$17,110.45 |
| 104-11 | FLOATING TURBIDITY BARRIER | 149.48 LF | \$15.46 | \$2,310.96 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 149.48 LF | \$6.67 | \$997.03 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 104-18 | INLET PROTECTION SYSTEM | 31.00 EA | \$123.06 | \$3,814.86 |
| 107-1 | LITTER REMOVAL | 15.22 AC | \$48.53 | \$738.63 |
| 107-2 | MOWING | 15.22 AC | \$84.04 | \$1,279.09 |

MEDIAN COMPONENT

| User Input Data | |
|------------------------|-------|
| Description | Value |
| Total Median Width | 22.00 |
| Performance Turf Width | 17.50 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|-----------------------------------|---------------|------------|-----------------|
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 6,313.82 LF | \$41.59 | \$262,591.77 |
| 570-1-1 | PERFORMANCE TURF | 6,138.44 SY | \$4.62 | \$28,359.59 |
| | Median Component Total | | | \$290,951.36 |

DRAINAGE COMPONENT

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|--|---------------|-------------|-----------------|
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 22.00 EA | \$7,474.89 | \$164,447.58 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 6.00 EA | \$14,168.32 | \$85,009.92 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 3.00 EA | \$6,847.68 | \$20,543.04 |
| 425-2-41 | MANHOLES, P-7, <10' | 3.00 EA | \$6,130.30 | \$18,390.90 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 1,584.00 LF | \$156.39 | \$247,721.76 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 144.00 LF | \$237.81 | \$34,244.64 |
| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 2,992.00 LF | \$299.07 | \$894,817.44 |
| 570-1-1 | PERFORMANCE TURF | 181.76 SY | \$4.62 | \$839.73 |
| | | | | |
| | Drainage Component Total | | | \$1,466,015.01 |

SIGNING COMPONENT

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---------------------------------------|---------------|------------|-----------------|
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 15.00 AS | \$462.47 | \$6,937.05 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 2.00 AS | \$1,578.08 | \$3,156.16 |

| | Signing Component Total | | | \$56,621.69 |
|----------|--|---------|-------------|-------------|
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 2.00 AS | \$15,571.98 | \$31,143.96 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 2.00 AS | \$7,692.26 | \$15,384.52 |

LIGHTING COMPONENT

Conventional Lighting Subcomponent

| Description | | | | Value |
|-------------|---|---------------|------------|-----------------|
| Spacing | | | | MIN |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 3,156.91 LF | \$19.26 | \$60,802.09 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 626.60 LF | \$36.22 | \$22,695.45 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 21.00 EA | \$1,374.06 | \$28,855.26 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 11,529.90 LF | \$3.77 | \$43,467.72 |
| 715-61-342 | LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L | 21.00 EA | \$8,402.83 | \$176,459.43 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 21.00 EA | \$768.21 | \$16,132.41 |
| | Subcomponent Total | | | \$348,412.36 |
| | | | | |
| | Lighting Component Total | | | \$348,412.36 |

BRIDGES COMPONENT

| Bridge 1 | |
|-------------------------------------|--------------|
| Description | Value |
| Estimate Type | SF Estimate |
| Primary Estimate | YES |
| Length (LF) | 52.00 |
| Width (LF) | 98.58 |
| Туре | Low Level |
| Cost Factor | 1.25 |
| Structure No. | |
| Removal of Existing Structures area | 0.00 |
| Default Cost per SF | \$114.00 |
| Factored Cost per SF | \$142.50 |
| Final Cost per SF | \$178.07 |
| Basic Bridge Cost | \$730,477.80 |

Description

| Bridge Pay Iter Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-----------------------------|----------------------------------|---------------|------------|-----------------|
| 400-2-10 | CONC CLASS II, APPROACH SLABS | 219.07 CY | \$597.85 | \$130,971.00 |
| 415-1-9 | REINF STEEL- APPROACH SLABS | 38,337.25 LB | \$1.34 | \$51,371.92 |
| | Bridge 1 Total | | | \$912,820.72 |
| | Bridges Component Total | | | \$912,820.72 |
| Sequence 5 To | otal | | | \$7,050,111.41 |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273-1-22-01 Letting Date: 01/2099 | | | | | | | |
|---|--|------------------------------------|------|-----------------------------|-----------------|--|--|
| Description: SR | 544 (LUCERNE PARK RD) FROM | MARTIN LUTHER | KING | BLVD TO SP | R 17 | | |
| District: 01 Contract Class: | County: 16 POLK 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | | ts: English ject Length: | 7.950 MI | | |
| Project Manage | r: JMK-AEH-DCT | | | | | | |
| Version 33 Project Grand Total\$9,457,953.58Description:Segment 2-N. of Ave. Y to east side of Lake Conine Canal (including the Lake Conine Canal Bridge) - June 2024 Unit Cost Updates from Version 32 - 6/3/24 | | | | | | | |
| Project Sequences Subtotal \$7,050,111.41 | | | | | | | |
| 102-1 N | Maintenance of Traffic | 15.00 % | 6 | | \$1,057,516.71 | | |
| 101-1 | Mobilization | 10.00 % | 6 | | \$810,762.81 | | |
| Project Sequence | ces Total | | | | \$8,918,390.93 | | |
| Project Unknown | S | 5.00 % | 6 | | \$445,919.55 | | |
| Design/Build | | 0.00 % | 6 | | \$0.00 | | |
| Non-Bid Compo | nents: | | | | | | |
| Pay item I | Description | Quantity L | Jnit | Unit Price | Extended Amount | | |
| <u>uuu_76</u> | NITIAL CONTINGENCY AMOUNT DO NOT BID) | L | .S | \$93,643.10 | \$93,643.10 | | |
| | Project Non-Bid Subtotal \$93,643.10 | | | | | | |
| Version 33 Proje | ect Grand Total | | | | \$9,457,953.58 | | |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273-1- | -22-01 | | Letting Da | te: 01/2099 |
|--|---|---|---|-------------------------------|
| - | 44 (LUCERNE PARK RD) FR | | - | |
| · | · · · | | | |
| District: 01 | County: 16 POLK | Market Area: 08 | Units: English | |
| Contract Class: 4 | Lump Sum Project: N | Design/Build: N | Project Length: 7.950 M | |
| Project Manager: | JMK-AEH-DCT | | | |
| Version 34 Project Description: ^{Segm} 2024 | t Grand Total ent 3-East side of Lake Conin Unit Cost Updates from Versio | ne Canal to east of Old L on 26 - 6/3/24 | \$11, Lucerne Park Rd. (west end) | 654,541.34) - June |
| Sequence: 6 NDU | - New Construction, Divided, | Urban | Net Length: | 0.730 MI 3,854 LF |
| Description: Segm | nent 3-East side of Lake Conir | ne Canal to east of Old I | Lucerne Park Rd. (west end) |) |
| - | FARTH | | | |
| User Input Data | | | | |
| Description | | | | Value |
| • | and Grubbing Limits L/R | | 56.0 | 0 / 56.00 |
| • | and Grubbing Area | | 0010 | 0.00 |
| - | - | | | |
| Alignment Number | | | | 1 |
| Distance | | | | 0.730 |
| | ourse For Begin Section | | | 102.00 |
| | ourse For End Section | | | 102.00 |
| | n For Begin Section | | | 100.00 |
| Horizontal Elevatio | in For End Section | | 0.4- | 100.00 |
| Front Slope L/R | Cross Slope L/D | | | 1/2 to 1 |
| Median Shoulder C | • | | | / 4.00 % |
| Outside Shoulder (| • | | | / 2.00 % / 2.00 % |
| Roadway Cross Sl | | | 2.00 % | / 2.00 70 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---------------------|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 9.91 AC | \$56,017.69 | \$555,135.31 |
| 120-6 | EMBANKMENT | 27,383.37 CY | \$24.69 | \$676,095.41 |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 4 |
| Roadway Pavement Width L/R | 23.00 / 23.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---|---------------|------------|-----------------|
| 160-4 | TYPE B STABILIZATION | 24,119.98 SY | \$10.73 | \$258,807.39 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 19,700.27 SY | \$20.06 | \$395,187.42 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 2,708.79 TN | \$193.64 | \$524,530.10 |
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 1,625.27 TN | \$207.93 | \$337,942.39 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 2 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|---|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 296.00 EA | \$4.36 | \$1,290.56 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 2.92 GM | \$1,259.68 | \$3,678.27 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 1.46 GM | \$546.91 | \$798.49 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 2.92 GM | \$5,558.07 | \$16,229.56 |
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 1.46 GM | \$1,616.01 | \$2,359.37 |
| | Roadway Component Total | | | \$1,540,823.55 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 22.25 / 22.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 10.00 / 10.00 |
| Sidewalk Width L/R | 10.00 / 10.00 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 3,854.40 LF | \$46.67 | \$179,884.85 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 3,854.40 LF | \$46.67 | \$179,884.85 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 8,565.33 SY | \$65.70 | \$562,742.18 |
| 570-1-1 | PERFORMANCE TURF | 8,565.33 SY | \$3.85 | \$32,976.52 |

Erosion Control

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 7,708.80 LF | \$2.71 | \$20,890.85 |
| 104-11 | FLOATING TURBIDITY BARRIER | 182.50 LF | \$15.46 | \$2,821.45 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 182.50 LF | \$6.67 | \$1,217.28 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 104-18 | INLET PROTECTION SYSTEM | 38.00 EA | \$123.06 | \$4,676.28 |
| 107-1 | LITTER REMOVAL | 18.58 AC | \$48.53 | \$901.69 |
| 107-2 | MOWING | 18.58 AC | \$84.04 | \$1,561.46 |
| | | | | |
| | Shoulder Component Total | | | \$990,246.47 |

MEDIAN COMPONENT

User Input Data

| Description | Value |
|------------------------|-------|
| Total Median Width | 22.00 |
| Performance Turf Width | 17.50 |

Pay Items

Pay item Description

| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 7,708.80 LF | \$41.59 | \$320,608.99 |
|---------|-----------------------------------|-------------|---------|--------------|
| 570-1-1 | PERFORMANCE TURF | 7,494.67 SY | \$3.85 | \$28,854.48 |
| | Median Component Total | | | \$349,463.47 |

DRAINAGE COMPONENT

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|--|---------------|-------------|-----------------|
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 27.00 EA | \$7,474.89 | \$201,822.03 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 8.00 EA | \$14,168.32 | \$113,346.56 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 4.00 EA | \$6,847.68 | \$27,390.72 |
| 425-2-41 | MANHOLES, P-7, <10' | 4.00 EA | \$6,130.30 | \$24,521.20 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 1,936.00 LF | \$156.39 | \$302,771.04 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 176.00 LF | \$237.81 | \$41,854.56 |
| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 3,656.00 LF | \$299.07 | \$1,093,399.92 |
| 570-1-1 | PERFORMANCE TURF | 221.92 SY | \$3.85 | \$854.39 |

Retention Basin 1

| Description | | Value |
|-------------|--------|-------|
| Size | | 5 AC |
| Multiplier | | 1 |
| Depth | | 9.00 |
| Description | Pond 2 | |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|----------------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 5.00 AC | \$56,017 <u>.</u> 69 | \$280,088.45 |
| 120-1 | REGULAR EXCAVATION | 72,600.00 CY | \$15.28 | \$1,109,328.00 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J-7, <10' | 2.00 EA | \$14,177.00 | \$28,354.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 400.00 LF | \$660.28 | \$264,112.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,860.00 LF | \$34.73 | \$64,597.80 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 2.00 EA | \$4,525.31 | \$9,050.62 |

\$3.85

| Retention Basin 2 | |
|-------------------|--|
| Description | Value |
| Size | 1 AC |
| Multiplier | 1 |
| Depth | 1.90 |
| Description | Floodplain Compensation Pond (FPC1) |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 1.00 AC | \$56,017.69 | \$56,017.69 |
| 120-1 | REGULAR EXCAVATION | 3,065.33 CY | \$15.28 | \$46,838.24 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 840.00 LF | \$34.73 | \$29,173.20 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |
| 570-1-1 | PERFORMANCE TURF | 4,840.00 SY | \$3.85 | \$18,634.00 |
| | Drainage Component Total | | | \$4,008,004.49 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 18.00 AS | \$462.47 | \$8,324.46 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 2.00 AS | \$1,578.08 | \$3,156.16 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 2.00 AS | \$7,692.26 | \$15,384.52 |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 2.00 AS | \$15,571.98 | \$31,143.96 |
| | Signing Component Total | | | \$58,009.10 |

LIGHTING COMPONENT

Conventional Lighting Subcomponent

| Description Spacing | | | | Value MIN |
|-------------------------|---|---------------|-------------|---------------------|
| Pay Items Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 3,854.40 LF | \$19.26 | \$74,235.74 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 765.04 LF | \$36.22 | \$27,709.75 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 26.00 EA | \$1,374.06 | \$35,725.56 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 14,077.32 LF | \$3.77 | \$53,071.50 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 26.00 EA | \$768.21 | \$19,973.46 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 715-61-321 | LIGHT POLE CMPLT,STD,F&I, 40'MH,10'ARM L | 26.00 EA | \$11,499.60 | \$298,989.60 |
| | Subcomponent Total | | | \$509,705.61 |
| | Lighting Component Total | | | \$509,705.61 |
| Sequence 6 ⁻ | Total | | | \$8,687,483.41 |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273- | Project: 440273-1-22-01 Letting Date: 01/2099 | | | | | |
|--|--|------------------------------------|------|-------------------------------------|-----------------|--|
| Description: SR | 544 (LUCERNE PARK RD) FROM | MARTIN LUTHER I | KING | BLVD TO SE | R 17 | |
| District: 01 Contract Class: | County: 16 POLK 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | | t s: English ject Length: | 7.950 MI | |
| Project Manager: JMK-AEH-DCT | | | | | | |
| Version 34 Project Grand Total\$11,654,541.34Description:Segment 3-East side of Lake Conine Canal to east of Old Lucerne Park Rd. (west end) - June 2024 Unit Cost Updates from Version 26 - 6/3/24 | | | | | | |
| Project Sequence | ces Subtotal | | | | \$8,687,483.41 | |
| 102-1 N | Naintenance of Traffic | 15.00 % | þ | | \$1,303,122.51 | |
| 101 - 1 N | Nobilization | 10.00 % | D | | \$999,060.59 | |
| Project Sequence | ces Total | | | | \$10,989,666.51 | |
| Project Unknown | S | 5.00 % | D | | \$549,483.33 | |
| Design/Build | | 0.00 % | D | | \$0.00 | |
| Non-Bid Compo | Non-Bid Components: | | | | | |
| - | Description | Quantity U | nit | Unit Price | Extended Amount | |
| | NITIAL CONTINGENCY AMOUNT DO NOT BID) | LS | S \$ | 115,391.50 | \$115,391.50 | |
| Project Non-Bid Subtotal \$115,391.50 | | | | | | |
| Version 34 Proje | Version 34 Project Grand Total \$11,654,541.34 | | | | | |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273 | 3-1-22-01 | | L | _etting Da | te: 01/2099 |
|--------------------------------|--|------------------------------------|-----------------------------------|------------|----------------------------------|
| Description: S | R 544 (LUCERNE PARK RD) FRC | M MARTIN LUTHER | KING BLVD TO S | R 17 | |
| District: 01 Contract Class | County: 16 POLK a: 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | Units: English Project Length: | : 7.950 MI | |
| Project Manag | er: JMK-AEH-DCT | | | | |
| Beenington Se | j ect Grand Total egment 4-East of Old Lucerne Park ost Updates from Version 27 - 6/3/2 | : Rd (west end) to Eas 24 | t of Lucerne Loop | | 034,954.97 e 2024 Unit |
| Sequence: 10 N | IDU - New Construction, Divided, I | Jrban | Net | Length: | 1.630 MI 8,606 LF |
| Description: S | Segment 4-East of Old Lucerne Pa | rk Rd (west end) to Ea | st of Lucerne Loo | p Rd. | 0,000 EI |
| · | | | | | |
| | | ORK COMPONENT | | | |
| User Input Dat | а | | | | Malara |
| Description Standard Clear | ing and Grubbing Limits L/R | | | 56.0 | Value 0 / 56.00 |
| | ring and Grubbing Area | | | 00.0 | 0.00 |
| | | | | | |
| Alignment Num Distance | ber | | | | 1 1.630 |
| | al Course For Begin Section | | | | 102.00 |
| | al Course For End Section | | | | 102.00 |
| • | ation For Begin Section | | | | 100.00 |
| Horizontal Elev | ation For End Section | | | | 100.00 |
| Front Slope L/F | | | | 2 to | 1 / 2 to 1 |
| | er Cross Slope L/R | | | | / 4.00 % |
| | er Cross Slope L/R | | | | / 2.00 % |
| Roadway Cross | s Slope L/R | | | 2.00 % | / 2.00 % |
| Pay Items | | | | | |
| Pay item | Description | Quantity | Unit Unit Price | Extende | ed Amount |
| 110-1-1 | CLEARING & GRUBBING | 22.13 | AC \$46,017.69 | \$1,0 | 018,371.48 |
| 120-6 | EMBANKMENT | 61,143.69 | CY \$17.66 | \$1,0 | 079,797.57 |
| | | | | | |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 4 |
| Roadway Pavement Width L/R | 23.00 / 23.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---|---------------|------------|-----------------|
| 160-4 | TYPE B STABILIZATION | 53,856.94 SY | \$8.44 | \$454,552.57 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 43,988.27 SY | \$20.06 | \$882,404.70 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 6,048.39 TN | \$180.14 | \$1,089,556.97 |
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 3,629.03 TN | \$207.93 | \$754,584.21 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 2 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|---|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 660.00 EA | \$4.36 | \$2,877.60 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 6.52 GM | \$1,259.68 | \$8,213.11 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 3.26 GM | \$546.91 | \$1,782.93 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 6.52 GM | \$5,558.07 | \$36,238.62 |
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 3.26 GM | \$1,616.01 | \$5,268.19 |
| | Roadway Component Total | | | \$3,235,478.90 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 22.25 / 22.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 10.00 / 10.00 |
| Sidewalk Width L/R | 10.00 / 10.00 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 8,606.40 LF | \$46.67 | \$401,660.69 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 8,606.40 LF | \$46.67 | \$401,660.69 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 19,125.33 SY | \$65.70 | \$1,256,534.18 |
| 570-1-1 | PERFORMANCE TURF | 19,125.33 SY | \$3.85 | \$73,632.52 |

Erosion Control

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 17,212.80 LF | \$2.59 | \$44,581.15 |
| 104-11 | FLOATING TURBIDITY BARRIER | 407.50 LF | \$15.46 | \$6,299.95 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 407.50 LF | \$6.67 | \$2,718.02 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 2.00 EA | \$2,689.06 | \$5,378.12 |
| 104-18 | INLET PROTECTION SYSTEM | 84.00 EA | \$123.06 | \$10,337.04 |
| 107-1 | LITTER REMOVAL | 41.48 AC | \$48.53 | \$2,013.02 |
| 107-2 | MOWING | 41.48 AC | \$84.04 | \$3,485.98 |
| | Shoulder Component Total | | | \$2,208,301.37 |

MEDIAN COMPONENT

User Input Data

| Description | Value |
|------------------------|-------|
| Total Median Width | 22.00 |
| Performance Turf Width | 17.50 |

Pay Items

Pay item Description

| 520-1-7 570-1-1 | CONCRETE CURB & GUTTER, TYPE E PERFORMANCE TURF | 17,212.80 LF 16.734.67 SY | \$41.59 \$3.85 | \$715,880.35 \$64.428.48 |
|--------------------|---|------------------------------|-------------------|-----------------------------|
| 575 1 1 | Median Component Total | 10,704.01 01 | 40.00 | \$780,308.83 |

DRAINAGE COMPONENT

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|--|---------------|-------------|-----------------|
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 59.00 EA | \$7,474.89 | \$441,018.51 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 17.00 EA | \$14,168.32 | \$240,861.44 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 9.00 EA | \$6,847.68 | \$61,629.12 |
| 425-2-41 | MANHOLES, P-7, <10' | 9.00 EA | \$6,130.30 | \$55,172.70 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 4,312.00 LF | \$156.39 | \$674,353.68 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 384.00 LF | \$237.81 | \$91,319.04 |
| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 8,152.00 LF | \$299.07 | \$2,438,018.64 |
| 570-1-1 | PERFORMANCE TURF | 495.52 SY | \$3.85 | \$1,907.75 |

Retention Basin 1

| Description | | Value |
|-------------|--------|--------|
| Size | | 2.5 AC |
| Multiplier | | 1 |
| Depth | | 9.50 |
| Description | Pond 3 | |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 2.50 AC | \$46,017.69 | \$115,044.22 |
| 120-1 | REGULAR EXCAVATION | 38,316.67 CY | \$15.28 | \$585,478.72 |
| 425-1-361 | INLETS, CURB, TYPE P-6, <10' | 1.00 EA | \$11,175.07 | \$11,175.07 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,335.00 LF | \$34.73 | \$46,364.55 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |

\$3.85

| Retention Basin 2 | | |
|-------------------|--------|--|
| Description | Value | |
| Size | 2.5 AC | |
| Multiplier | 1 | |
| Depth | 10.00 | |
| Description | Pond 4 | |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 2.50 AC | \$46,017.69 | \$115,044.22 |
| 120-1 | REGULAR EXCAVATION | 40,333.33 CY | \$15.28 | \$616,293.28 |
| 425-1-361 | INLETS, CURB, TYPE P-6, <10' | 1.00 EA | \$11,175.07 | \$11,175.07 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,335.00 LF | \$34.73 | \$46,364.55 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |
| 570-1-1 | PERFORMANCE TURF | 12,100.00 SY | \$3.85 | \$46,585.00 |

Retention Basin 4

| Description | | Value |
|-------------|-------|-------|
| Size | | 2 AC |
| Multiplier | | 1 |
| Depth | | 3.10 |
| Description | FPC 2 | |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|--|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 2.00 AC | \$46,017.69 | \$92,035.38 |
| 120-1 | REGULAR EXCAVATION | 10,002.67 CY | \$15.28 | \$152,840.80 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |

| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,180.00 LF | \$34.73 | \$40,981.40 |
|------------|---|-------------|------------|-------------|
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |
| 570-1-1 | PERFORMANCE TURF | 9,680.00 SY | \$3.85 | \$37,268.00 |
| | | | | |

| Value |
|--------|
| 2.5 AC |
| 1 |
| 3.70 |
| FPC 3A |
| |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 2.50 AC | \$46,017.69 | \$115,044.22 |
| 120-1 | REGULAR EXCAVATION | 14,923.33 CY | \$15.28 | \$228,028.48 |
| 425-1-361 | INLETS, CURB, TYPE P-6, <10' | 1.00 EA | \$11,175.07 | \$11,175.07 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,335.00 LF | \$34.73 | \$46,364.55 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |
| 570-1-1 | PERFORMANCE TURF | 12,100.00 SY | \$3.85 | \$46,585.00 |

Retention Basin 6

| Description | | Value |
|-------------|--------|--------|
| Size | | 1.5 AC |
| Multiplier | | 1 |
| Depth | | 3.70 |
| Description | FPC 3B | |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-----------|------------------------------|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 1.50 AC | \$46,017.69 | \$69,026.54 |
| 120-1 | REGULAR EXCAVATION | 8,954.00 CY | \$15.28 | \$136,817.12 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |

| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
|-------------|---|-------------|------------|----------------|
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,025.00 LF | \$34.73 | \$35,598.25 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |
| 570-1-1 | PERFORMANCE TURF | 7,260.00 SY | \$3.85 | \$27,951.00 |
| | Drainage Component Total | | | \$7,548,307.23 |

SIGNING COMPONENT

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|-------------|-----------------|
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 40.00 AS | \$462.47 | \$18,498.80 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12- 20 SF | 4.00 AS | \$1,578.08 | \$6,312.32 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 4.00 AS | \$7,692.26 | \$30,769.04 |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 4.00 AS | \$15,571.98 | \$62,287.92 |
| | Signing Component Total | | | \$117,868.08 |

LIGHTING COMPONENT

Conventional Lighting Subcomponent

| Description Spacing | | | | Value MIN |
|------------------------|--|---------------|------------|---------------------|
| Pay Items Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 8,606.40 LF | \$19.26 | \$165,759.26 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 1,708.24 LF | \$36.22 | \$61,872.45 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 58.00 EA | \$1,374.06 | \$79,695.48 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 31,432.92 LF | \$3.77 | \$118,502.11 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 58.00 EA | \$768.21 | \$44,556.18 |

| Pay item | Description | Quantity Unit Unit Price | Extended Amount |
|--------------------|---|--------------------------|-----------------|
| 715-61-321 | LIGHT POLE CMPLT,STD,F&I, 40'MH,10'ARM L | 58.00 EA \$11,499.60 | \$666,976.80 |
| Subcomponent Total | | | \$1,137,362.29 |
| | Lighting Component Total | | \$1,137,362.28 |
| Sequence 10 | Total | | \$17,125,795.74 |

Description: Old Lucerne (West) 4-Lane Approach 1

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.70 |
| Alignment Number | 1 |
| Distance | 0.057 |
| Top of Structural Course For Begin Section | 100.00 |
| Top of Structural Course For End Section | 100.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 5.00 % / 5.00 % |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |
| Pay Items | |

Description Quantity Unit Unit Price Extended Amount Pay item 0.70 AC \$46,017.69 \$32,212.38 110-1-1 **CLEARING & GRUBBING** X-Items Pay item Description Quantity Unit Unit Price Extended Amount 500.00 CY 120-1 **REGULAR EXCAVATION** \$15.28 \$7,640.00 Comment: 27000 ft X 0.5 ft deep / 27 = 500 CY EMBANKMENT 120-6 500.00 CY \$17.66 \$8,830.00 Comment: 27000 ft X 0.5 ft deep / 27 = 500 CY Earthwork Component Total \$48,682.38

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |
| Structural Spread Rate | 220 |
| Friction Course Spread Rate | 110 |

| X-Items | | | | |
|----------------|--|------------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 160 - 4 | TYPE B STABILIZATION | 2,200.00 SY | \$8.44 | \$18,568.00 |
| | Comment: 4-Lane Leg: 19785 sf/9=2198 | 3 SY use 2200 SY | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,950.00 SY | \$20.06 | \$39,117.00 |
| | Comment: 4-Lane Leg: measure approx | . 1950 SY | | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 215.00 TN | \$180.14 | \$38,730.10 |
| | Comment: 2" Superpave Traffic C (1950 = 215 TN | X 110 X 2)/2000 | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 108.00 TN | \$218.00 | \$23,544.00 |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN | (1950 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.20 GM | \$1,259.68 | \$251.94 |
| 710-11-102 | PAINTED PAVT MARK,STD,WHITE,SOLID,8" | 0.04 GM | \$1,716.71 | \$68.67 |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 115.00 LF | \$1.07 | \$123.05 |
| 710-11-124 | PAINTED PAVT MARK,STD,WHITE,SOLID, 18" | 30.00 LF | \$1.44 | \$43.20 |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 198.00 LF | \$1.92 | \$380.16 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$707.41 | \$14.15 |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$1,262.94 | \$12.63 |
| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 2.00 EA | \$63.83 | \$127.66 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 4.00 EA | \$35.35 | \$141.40 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,345.62 | \$201.84 |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 55.00 LF | \$1.73 | \$95.15 |
| | | | | |
| Pavement Mark | ing Subcomponent | | | |

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | N |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 2 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 2 |

0

\$121,418.95

Roadway Component Total

SHOULDER COMPONENT

| User Input Data | |
|---|---------------|
| Description | Value |
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |
| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|----------------|---|-------------------|----------------|--------------|
| 285-701 | OPTIONAL BASE, BASE GROUP 01 | 154.00 SY | \$30.81 | \$4,744.74 |
| | Comment: 4-Lane Leg: 130 ft X 5.33 ft wi 154 SY | de X 2 sides /9 = | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 10.00 TN | \$218.00 | \$2,180.00 |
| | Comment: 1" thick FC: (154 SY X 110)/20 use 10 TN | 000 = 8.47 TN | | |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$65.70 | \$28,908.00 |
| 527 - 2 | DETECTABLE WARNINGS | 104.00 SF | \$35.46 | \$3,687.84 |
| 570-1-2 | PERFORMANCE TURF, SOD | 380.00 SY | \$5.40 | \$2,052.00 |

Erosion Control

| Pay Items | | | | |
|-----------|--------------------------|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 104-10-3 | SEDIMENT BARRIER | 600.00 LF | \$2.59 | \$1,554.00 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$48.53 | \$12.13 |
| 107-2 | MOWING | 0.25 AC | \$84.04 | \$21.01 |
| | Shoulder Component Total | | | \$43,159.72 |

| Description | Value |
|----------------------------------|-------------|
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|----------|-----------------------------------|---------------|----------------|--------------|
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 240.00 LF | \$41.59 | \$9,981.60 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 350.00 LF | \$46.67 | \$16,334.50 |
| 527-2 | DETECTABLE WARNINGS | 40.00 SF | \$35.46 | \$1,418.40 |
| 570-1-2 | PERFORMANCE TURF, SOD | 120.00 SY | \$5.40 | \$648.00 |
| | Median Component Total | | | \$28,382.50 |

DRAINAGE COMPONENT

X-Items Pay item Description Quantity Unit Unit Price Extended Amount 425-1-361 INLETS, CURB, TYPE P-6, <10' 2.00 EA \$11,175.07 \$22,350.14 425-2-41 MANHOLES, P-7, <10' 1.00 EA \$6,130.30 \$6,130.30 PIPE CULV, OPT MATL, ROUND, 430-175-124 224.00 LF \$156.39 \$35,031.36 24"S/CD **Drainage Component Total** \$63,511.80

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|---------------------------------------|---------------|--------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price E | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 7.00 AS | \$462.47 | \$3,237.29 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 AS | \$5,727.04 | \$5,727.04 |
| | Signing Component Total | | | \$8,964.33 |

Description: Old Lucerne (West) 4-Lane Approach 2

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.70 |
| Alignment Number | 1 |
| Distance | 0.057 |
| Top of Structural Course For Begin Section | 100.00 |
| Top of Structural Course For End Section | 100.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 5.00 % / 5.00 % |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |
| Pay Items | |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.70 AC | \$46,017.69 | \$32,212.38 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 500.00 CY | \$15.28 | \$7,640.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 50 | 0 CY | | |
| 120-6 | EMBANKMENT | 500.00 CY | \$17.66 | \$8,830.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 50 | 0 CY | | |
| | | | | |
| | Earthwork Component Total | | | \$48,682.38 |

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |
| Structural Spread Rate | 220 |
| Friction Course Spread Rate | 110 |

| X-Items | | | | |
|----------------|--|-------------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 160 - 4 | TYPE B STABILIZATION | 2,200.00 SY | \$8.44 | \$18,568.00 |
| | Comment: 4-Lane Leg: 19785 sf/9=219 | 98 SY use 2200 SY | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,950.00 SY | \$20.06 | \$39,117.00 |
| | Comment: 4-Lane Leg: measure appro | x. 1950 SY | | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 215.00 TN | \$180.14 | \$38,730.10 |
| | Comment: 2" Superpave Traffic C (195 = 215 TN | 0 X 110 X 2)/2000 | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 108.00 TN | \$218.00 | \$23,544.00 |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN | 2 (1950 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.20 GM | \$1,259.68 | \$251.94 |
| 710-11-102 | PAINTED PAVT MARK,STD,WHITE,SOLID,8" | 0.04 GM | \$1,716.71 | \$68.67 |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 115.00 LF | \$1.07 | \$123.05 |
| 710-11-124 | PAINTED PAVT MARK,STD,WHITE,SOLID, 18" | 30.00 LF | \$1.44 | \$43.20 |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 198.00 LF | \$1.92 | \$380.16 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$707.41 | \$14.15 |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$1,262.94 | \$12.63 |
| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 2.00 EA | \$63.83 | \$127.66 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 4.00 EA | \$35.35 | \$141.40 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,345.62 | \$201.84 |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 55.00 LF | \$1.73 | \$95.15 |
| _ | | | | |
| Pavement Mark | ing Subcomponent | | | |
| | | Value | | |

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Ν |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 2 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 2 |

0

\$121,418.95

Roadway Component Total

SHOULDER COMPONENT

| User Input Data | |
|---|---------------|
| Description | Value |
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |
| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|----------------|---|-------------------|----------------|--------------|
| 285-701 | OPTIONAL BASE, BASE GROUP 01 | 154.00 SY | \$30.81 | \$4,744.74 |
| | Comment: 4-Lane Leg: 130 ft X 5.33 ft wi 154 SY | de X 2 sides /9 = | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 10.00 TN | \$218.00 | \$2,180.00 |
| | Comment: 1" thick FC: (154 SY X 110)/20 use 10 TN | 000 = 8.47 TN | | |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$65.70 | \$28,908.00 |
| 527 - 2 | DETECTABLE WARNINGS | 104.00 SF | \$35.46 | \$3,687.84 |
| 570-1-2 | PERFORMANCE TURF, SOD | 380.00 SY | \$5.40 | \$2,052.00 |

Erosion Control

| Pay Items | | | | |
|-----------|--------------------------|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 104-10-3 | SEDIMENT BARRIER | 600.00 LF | \$2.59 | \$1,554.00 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$48.53 | \$12.13 |
| 107-2 | MOWING | 0.25 AC | \$84.04 | \$21.01 |
| | Shoulder Component Total | | | \$43,159.72 |

| Description | Value |
|----------------------------------|-------------|
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|----------|-----------------------------------|---------------|----------------|--------------|
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 240.00 LF | \$41.59 | \$9,981.60 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 350.00 LF | \$46.67 | \$16,334.50 |
| 527-2 | DETECTABLE WARNINGS | 40.00 SF | \$35.46 | \$1,418.40 |
| 570-1-2 | PERFORMANCE TURF, SOD | 120.00 SY | \$5.40 | \$648.00 |
| | Median Component Total | | | \$28,382.50 |

DRAINAGE COMPONENT

X-Items Pay item Description Quantity Unit Unit Price Extended Amount 425-1-361 INLETS, CURB, TYPE P-6, <10' 2.00 EA \$11,175.07 \$22,350.14 425-2-41 MANHOLES, P-7, <10' 1.00 EA \$6,130.30 \$6,130.30 PIPE CULV, OPT MATL, ROUND, 430-175-124 224.00 LF \$156.39 \$35,031.36 24"S/CD **Drainage Component Total** \$63,511.80

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|---------------------------------------|---------------|--------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price E | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 7.00 AS | \$462.47 | \$3,237.29 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 AS | \$5,727.04 | \$5,727.04 |
| | Signing Component Total | | | \$8,964.33 |

Description: Old Lucerne (West) Roundabout Central Island

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.50 |
| Alignment Number | 1 |
| Distance | 0.057 |
| Top of Structural Course For Begin Section | 100.00 |
| Top of Structural Course For End Section | 100.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 5.00 % / 5.00 % |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |
| | |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.50 AC | \$46,017.69 | \$23,008.84 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 480.00 CY | \$15.28 | \$7,334.40 |
| | Comment: 26000 ft x 0.5 ft deep / 27 = 48 CY | 1 CY use 480 | | |
| 120-6 | EMBANKMENT | 480.00 CY | \$17.66 | \$8,476.80 |
| | Comment: 26000 ft x 0.5 ft deep / 27 = 48 CY | 1 CY use 480 | | |
| | Earthwork Component Total | | | \$38,820.05 |

| User Input Data | |
|----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |

| Structural Spread Rate | 220 |
|-----------------------------|-----|
| Friction Course Spread Rate | 110 |

| X-Items | | | | |
|--|--|-----------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 160-4 | TYPE B STABILIZATION | 2,200.00 SY | \$8.44 | \$18,568.00 |
| | Comment: measure (25578-6175)SF /9 2200 SY | = 2156 SY use | | |
| 285 - 709 | OPTIONAL BASE, BASE GROUP 09 | 1,300.00 SY | \$20.06 | \$26,078.00 |
| | Comment: measure (25578-10477)SF /S 1300 SY | 9 = 1294 SY use | | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 143.00 TN | \$180.14 | \$25,760.02 |
| | Comment: 2" Superpave Traffic C (1300 | X 110 X 2)/2000 | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 72.00 TN | \$218.00 | \$15,696.00 |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 | (1300 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.05 GM | \$1,259.68 | \$62.98 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.05 GM | \$707.41 | \$35.37 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 8.00 EA | \$35.35 | \$282.80 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.07 GM | \$1,345.62 | \$94.19 |
| Pavement Mark | king Subcomponent | | | |
| Description | | Value | | |
| Include Thermo/Tape/Other | | N | | |
| Pavement Type | | Asphalt | | |
| • | of Paint Applications | 2 4 | | |
| Solid Stripe No. of Stripes Skip Stripe No. of Paint Applications | | 4 | | |
| Skip Surpe No. Of Paint Applications | | 2 | | |

Roadway Component Total

\$86,577.36

SHOULDER COMPONENT

0

User Input Data

Skip Stripe No. of Stripes

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |

| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
|----------------------------------|-------------|
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

Erosion Control

| Pay Items Pay item | Description | Quantity Unit | Unit Price E | xtended Amount |
|-----------------------|------------------------------------|---------------|--------------|----------------|
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$48.53 | \$12.13 |
| 107-2 | MOWING | 0.25 AC | \$84.04 | \$21.01 |
| | Shoulder Component Total | | | \$2,722.20 |

| User Input Data | |
|----------------------------------|-------------|
| Description | Value |
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

| X-Items | | | | |
|-----------|--|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 350-30-13 | CONC PAVEMENT FOR ROUNDABOUT APRON, 12" | 480.00 SY | \$335.92 | \$161,241.60 |
| 520-2-4 | CONCRETE CURB, TYPE D | 280.00 LF | \$47.14 | \$13,199.20 |
| 520-2-8 | CONCRETE CURB, TYPE RA | 370.00 LF | \$68.39 | \$25,304.30 |
| 570-1-2 | PERFORMANCE TURF, SOD | 700.00 SY | \$5.40 | \$3,780.00 |
| | Median Component Total | | | \$203,525.10 |

| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
|---------------|-------------------------------------|---------------|---------------|---------------|
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 4.00 AS | \$462.47 | \$1,849.88 |
| | Signing Component Total | | | \$1,849.88 |
| Sequence 13 T | otal | | | \$333,494.59 |

Description: Lucerne Loop 4-Lane Approach 1

EARTHWORK COMPONENT

| Value 0.00 / 0.00 |
|-----------------------------|
| |
| 0.70 |
| 0.70 |
| 1 |
| 0.057 |
| 100.00 |
| 100.00 |
| 100.00 |
| 100.00 |
| 6 to 1 / 6 to 1 |
| 6 to 1 / 6 to 1 |
| 5.00 % / 5.00 % |
| 6.00 % / 6.00 % |
| 2.00 % / 2.00 % |
| |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.70 AC | \$46,017.69 | \$32,212.38 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 500.00 CY | \$15.28 | \$7,640.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 50 | 0 CY | | |
| 120-6 | EMBANKMENT | 500.00 CY | \$17.66 | \$8,830.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 50 | 0 CY | | |
| | | | | |
| | Earthwork Component Total | | | \$48,682.38 |

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |
| Structural Spread Rate | 220 |
| Friction Course Spread Rate | 110 |

| X-Items | | | | |
|----------------|--|-------------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 160 - 4 | TYPE B STABILIZATION | 2,200.00 SY | \$8.44 | \$18,568.00 |
| | Comment: 4-Lane Leg: 19785 sf/9=219 | 98 SY use 2200 SY | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,950.00 SY | \$20.06 | \$39,117.00 |
| | Comment: 4-Lane Leg: measure appro | x. 1950 SY | | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 215.00 TN | \$180.14 | \$38,730.10 |
| | Comment: 2" Superpave Traffic C (195 = 215 TN | 0 X 110 X 2)/2000 | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 108.00 TN | \$218.00 | \$23,544.00 |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN | 2 (1950 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.20 GM | \$1,259.68 | \$251.94 |
| 710-11-102 | PAINTED PAVT MARK,STD,WHITE,SOLID,8" | 0.04 GM | \$1,716.71 | \$68.67 |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 115.00 LF | \$1.07 | \$123.05 |
| 710-11-124 | PAINTED PAVT MARK,STD,WHITE,SOLID, 18" | 30.00 LF | \$1.44 | \$43.20 |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 198.00 LF | \$1.92 | \$380.16 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$707.41 | \$14.15 |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$1,262.94 | \$12.63 |
| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 2.00 EA | \$63.83 | \$127.66 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 4.00 EA | \$35.35 | \$141.40 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,345.62 | \$201.84 |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 55.00 LF | \$1.73 | \$95.15 |
| _ | | | | |
| Pavement Mark | ing Subcomponent | | | |
| | | Value | | |

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Ν |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 2 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 2 |

0

\$121,418.95

Roadway Component Total

SHOULDER COMPONENT

| User Input Data | |
|---|---------------|
| Description | Value |
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |
| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|----------------|---|-------------------|----------------|--------------|
| 285-701 | OPTIONAL BASE, BASE GROUP 01 | 154.00 SY | \$30.81 | \$4,744.74 |
| | Comment: 4-Lane Leg: 130 ft X 5.33 ft wi 154 SY | de X 2 sides /9 = | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 10.00 TN | \$218.00 | \$2,180.00 |
| | Comment: 1" thick FC: (154 SY X 110)/20 use 10 TN | 000 = 8.47 TN | | |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$65.70 | \$28,908.00 |
| 527 - 2 | DETECTABLE WARNINGS | 104.00 SF | \$35.46 | \$3,687.84 |
| 570-1-2 | PERFORMANCE TURF, SOD | 380.00 SY | \$5.40 | \$2,052.00 |

Erosion Control

| Pay Items | | | | |
|-----------|--------------------------|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 104-10-3 | SEDIMENT BARRIER | 600.00 LF | \$2.59 | \$1,554.00 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$48.53 | \$12.13 |
| 107-2 | MOWING | 0.25 AC | \$84.04 | \$21.01 |
| | Shoulder Component Total | | | \$43,159.72 |

| Description | Value |
|----------------------------------|-------------|
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|----------|-----------------------------------|---------------|----------------|--------------|
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 240.00 LF | \$41.59 | \$9,981.60 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 350.00 LF | \$46.67 | \$16,334.50 |
| 527-2 | DETECTABLE WARNINGS | 40.00 SF | \$35.46 | \$1,418.40 |
| 570-1-2 | PERFORMANCE TURF, SOD | 120.00 SY | \$5.40 | \$648.00 |
| | Median Component Total | | | \$28,382.50 |

DRAINAGE COMPONENT

X-Items Pay item Description Quantity Unit Unit Price Extended Amount 425-1-361 INLETS, CURB, TYPE P-6, <10' 2.00 EA \$11,175.07 \$22,350.14 425-2-41 MANHOLES, P-7, <10' 1.00 EA \$6,130.30 \$6,130.30 PIPE CULV, OPT MATL, ROUND, 430-175-124 224.00 LF \$156.39 \$35,031.36 24"S/CD **Drainage Component Total** \$63,511.80

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|---------------------------------------|---------------|--------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price E | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 7.00 AS | \$462.47 | \$3,237.29 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 AS | \$5,727.04 | \$5,727.04 |
| | Signing Component Total | | | \$8,964.33 |

Description: Lucerne Loop Roundabout Central Island

EARTHWORK COMPONENT

| Description | Value |
|--|-----------------|
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.50 |
| Alignment Number | 1 |
| Distance | 0.057 |
| Top of Structural Course For Begin Section | 100.00 |
| Top of Structural Course For End Section | 100.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 5.00 % / 5.00 % |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.50 AC | \$46,017.69 | \$23,008.84 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 480.00 CY | \$15.28 | \$7,334.40 |
| | Comment: 26000 ft x 0.5 ft deep / 27 = 48 CY | 1 CY use 480 | | |
| 120-6 | EMBANKMENT | 480.00 CY | \$17.66 | \$8,476.80 |
| | Comment: 26000 ft x 0.5 ft deep / 27 = 48 CY | 1 CY use 480 | | |
| | Earthwork Component Total | | | \$38,820.05 |

| User Input Data | |
|----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |

| Structural Spread Rate | 220 |
|-----------------------------|-----|
| Friction Course Spread Rate | 110 |

| X-Items | | | | |
|--------------------------------------|--|-----------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 160-4 | TYPE B STABILIZATION | 2,200.00 SY | \$8.44 | \$18,568.00 |
| | Comment: measure (25578-6175)SF /9 2200 SY | = 2156 SY use | | |
| 285 - 709 | OPTIONAL BASE, BASE GROUP 09 | 1,300.00 SY | \$20.06 | \$26,078.00 |
| | Comment: measure (25578-10477)SF /S 1300 SY | 9 = 1294 SY use | | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 143.00 TN | \$180.14 | \$25,760.02 |
| | Comment: 2" Superpave Traffic C (1300 | X 110 X 2)/2000 | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 72.00 TN | \$218.00 | \$15,696.00 |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 | (1300 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.05 GM | \$1,259.68 | \$62.98 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.05 GM | \$707.41 | \$35.37 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 8.00 EA | \$35.35 | \$282.80 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.07 GM | \$1,345.62 | \$94.19 |
| Pavement Mark | king Subcomponent | | | |
| Description | | Value | | |
| Include Thermo/Tape/Other | | Ν | | |
| Pavement Type | | Asphalt | | |
| Solid Stripe No. Solid Stripe No. | of Paint Applications | 2 4 | | |
| • | • | 4 | | |
| | Skip Stripe No. of Paint Applications | | | |

Roadway Component Total

\$86,577.36

SHOULDER COMPONENT

0

User Input Data

Skip Stripe No. of Stripes

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |

| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
|----------------------------------|-------------|
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

Erosion Control

| Pay Items Pay item | Description | Quantity Unit | Unit Price E | xtended Amount |
|-----------------------|------------------------------------|---------------|--------------|----------------|
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$48.53 | \$12.13 |
| 107-2 | MOWING | 0.25 AC | \$84.04 | \$21.01 |
| | Shoulder Component Total | | | \$2,722.20 |

| User Input Data | |
|----------------------------------|-------------|
| Description | Value |
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

| X-Items | | | | |
|-----------|--|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 350-30-13 | CONC PAVEMENT FOR ROUNDABOUT APRON, 12" | 480.00 SY | \$335.92 | \$161,241.60 |
| 520-2-4 | CONCRETE CURB, TYPE D | 280.00 LF | \$47.14 | \$13,199.20 |
| 520-2-8 | CONCRETE CURB, TYPE RA | 370.00 LF | \$68.39 | \$25,304.30 |
| 570-1-2 | PERFORMANCE TURF, SOD | 700.00 SY | \$5.40 | \$3,780.00 |
| | Median Component Total | | | \$203,525.10 |

| Pay item | Description | Quantity Unit | Unit Price Extended Amount | | |
|---------------|-------------------------------------|---------------|----------------------------|--------------|--|
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 4.00 AS | \$462.47 | \$1,849.88 | |
| | Signing Component Total | | | \$1,849.88 | |
| Sequence 16 T | otal | | | \$333,494.59 | |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 4402 | 273-1-22-01 | | L | _etting Date: 01/2099 | |
|---|--|-------------------------------------|----------------------------------|---|--|
| Description: SR 544 (LUCERNE PARK RD) FROM MARTIN LUTHER KING BLVD TO SR 17 | | | | | |
| District: 01 Contract Cla | County: 16 POLK ass: 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | Units: English Project Length | : 7.950 MI | |
| Project Man | ager: JMK-AEH-DCT | | | | |
| | Project Grand Total Segment 4-East of Old Lucerne F Cost Updates from Version 27 - 6 | Park Rd (west end) to East /3/24 | of Lucerne Loop | \$25,034,954.97 Rd June 2024 Unit | |
| Project Seq | uences Subtotal | | | \$18,735,143.96 | |
| 102-1 | Maintenance of Traffic | 15.00 % | | \$2,810,271.59 | |
| 101-1 | Mobilization | 10.00 % | | \$2,154,541.56 | |
| Project Seq | uences Total | | | \$23,699,957.11 | |
| Project Unkn | owns | 5.00 % | | \$1,184,997.86 | |
| Design/Build | | 0.00 % | | \$0.00 | |
| Non-Bid Co | mponents: | | | | |
| Pay item | Description | Quantity Ur | it Unit Price | Extended Amount | |
| 999-25 | INITIAL CONTINGENCY AMC (DO NOT BID) | UNT LS | \$150,000.00 | \$150,000.00 | |
| Project Non | -Bid Subtotal | | | \$150,000.00 | |
| Version 35 F | Project Grand Total | | | \$25,034,954 <u>.</u> 97 | |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273-1- | Project: 440273-1-22-01 Letting Date: 01/2099 | | | | |
|--|--|------------------------------------|---|----------------------------------|--|
| Description: SR 5 | 44 (LUCERNE PARK RD) FROM | MARTIN LUTHER | KING BLVD TO SI | R 17 | |
| District: 01 Contract Class: 4 | County: 16 POLK Lump Sum Project: N | Market Area: 08 Design/Build: N | Units: English Project Length: | 7.950 MI | |
| Project Manager: | JMK-AEH-DCT | | | | |
| Version 36 Projec Description: Segm Upda | t Grand Total nent 5-East of Lucernce Loop Rd. tes from Version 28 - 6/3/24 | to West of Lk. Hami | lton Canal - June | | 9 40,795.90 Cost |
| Sequence: 10 NDL | J - New Construction, Divided, Urt | ban | Net | Length: | 1.450 MI 7,656 LF |
| Description: Seg | ment 5-East of Lucernce Loop Rd | . to West of Lk. Han | nilton Canal | | 7,000 LI |
| P | | | | | |
| User Input Data | EARTHWO | RK COMPONENT | | | |
| Incidental Clearing Alignment Number Distance Top of Structural C Top of Structural C Horizontal Elevatio | and Grubbing Limits L/R and Grubbing Area course For Begin Section course For End Section on For Begin Section on For End Section | | | | Value) / 56.00 0.00 1 1.450 102.00 102.00 100.00 100.00 / 2 to 1 |
| Median Shoulder (Outside Shoulder (Roadway Cross Sl | Cross Slope L/R | | | 4.00 % / 2.00 % / 2.00 % / | / 4.00 % / 2.00 % |
| Pay item I 110-1-1 | Description CLEARING & GRUBBING EMBANKMENT | Quantity 19.68 54,391.63 | ··· • • • • • • • • • • • • • • • • • • | \$9 | d Amount 05,628.14 60,556.19 |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 4 |
| Roadway Pavement Width L/R | 23.00 / 23.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---|---------------|------------|-----------------|
| 160-4 | TYPE B STABILIZATION | 47,909.55 SY | \$8.44 | \$404,356.60 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 39,130.67 SY | \$20.06 | \$784,961.24 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 5,380.47 TN | \$180.14 | \$969,237.87 |
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 3,228.28 TN | \$207.93 | \$671,256.26 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 2 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|---|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 587.00 EA | \$4.36 | \$2,559.32 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 5.80 GM | \$1,259.68 | \$7,306.14 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 2.90 GM | \$546.91 | \$1,586.04 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 5.80 GM | \$5,558.07 | \$32,236.81 |
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 2.90 GM | \$1,616.01 | \$4,686.43 |
| | Roadway Component Total | | | \$2,878,186.71 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 22.25 / 22.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 10.00 / 10.00 |
| Sidewalk Width L/R | 10.00 / 10.00 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 7,656.00 LF | \$46.67 | \$357,305.52 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 7,656.00 LF | \$46.67 | \$357,305.52 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 17,013.33 SY | \$65.70 | \$1,117,775.78 |
| 570-1-1 | PERFORMANCE TURF | 17,013.33 SY | \$3.85 | \$65,501.32 |

Erosion Control

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 15,312.00 LF | \$2.71 | \$41,495.52 |
| 104-11 | FLOATING TURBIDITY BARRIER | 362.50 LF | \$15.46 | \$5,604.25 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 362.50 LF | \$6.67 | \$2,417.88 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 2.00 EA | \$2,689.06 | \$5,378.12 |
| 104-18 | INLET PROTECTION SYSTEM | 74.00 EA | \$123.06 | \$9,106.44 |
| 107-1 | LITTER REMOVAL | 36.90 AC | \$48.53 | \$1,790.76 |
| 107-2 | MOWING | 36.90 AC | \$84.04 | \$3,101.08 |
| | Shoulder Component Total | | | \$1,966,782.19 |

MEDIAN COMPONENT

User Input Data

| Description | Value |
|------------------------|-------|
| Total Median Width | 22.00 |
| Performance Turf Width | 17.50 |

Pay Items

Pay item Description

| 520-1-7 570-1-1 | CONCRETE CURB & GUTTER, TYPE E PERFORMANCE TURF | 15,312.00 LF 14.886.67 SY | \$41.59 \$3.85 | \$636,826.08 \$57.313.68 |
|--------------------|---|------------------------------|-------------------|-----------------------------|
| | Median Component Total | . , | | \$694,139.76 |

DRAINAGE COMPONENT

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|--|---------------|-------------|-----------------|
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 53.00 EA | \$7,474.89 | \$396,169.17 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 15.00 EA | \$14,168.32 | \$212,524.80 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 8.00 EA | \$6,847.68 | \$54,781.44 |
| 425-2-41 | MANHOLES, P-7, <10' | 8.00 EA | \$6,130.30 | \$49,042.40 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 3,840.00 LF | \$156.39 | \$600,537.60 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 344.00 LF | \$237.81 | \$81,806.64 |
| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 7,256.00 LF | \$299.07 | \$2,170,051.92 |
| 570-1-1 | PERFORMANCE TURF | 440.80 SY | \$3.85 | \$1,697.08 |

Retention Basin 3

| Description | | Value |
|-------------|--------|-------|
| Size | | 2 AC |
| Multiplier | | 1 |
| Depth | | 9.00 |
| Description | Pond 5 | |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 2.00 AC | \$46,017.69 | \$92,035.38 |
| 120-1 | REGULAR EXCAVATION | 29,040.00 CY | \$15.28 | \$443,731.20 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,180.00 LF | \$34.73 | \$40,981.40 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |

| 570-1-1 | PERFORMANCE TURF | 9,680 |
|---------|------------------|-------|
| | | |

\$3.85

| Retention Basin 7 | | |
|-------------------|-------|------|
| Description | Va | alue |
| Size | 5 | 5 AC |
| Multiplier | | 1 |
| Depth | | 1.30 |
| Description | FPC 4 | |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 5.00 AC | \$46,017.69 | \$230,088.45 |
| 120-1 | REGULAR EXCAVATION | 10,486.67 CY | \$15.28 | \$160,236.32 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J-7, <10' | 2.00 EA | \$14,177.00 | \$28,354.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 400.00 LF | \$660.28 | \$264,112.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,860.00 LF | \$34.73 | \$64,597.80 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 2.00 EA | \$4,525.31 | \$9,050.62 |
| 570-1-1 | PERFORMANCE TURF | 24,200.00 SY | \$3.85 | \$93,170.00 |
| | Drainage Component Total | | | \$5,232,916.29 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 35.00 AS | \$462.47 | \$16,186.45 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12- 20 SF | 3.00 AS | \$1,578.08 | \$4,734.24 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 3.00 AS | \$7,692.26 | \$23,076.78 |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 3.00 AS | \$15,571.98 | \$46,715.94 |
| | Signing Component Total | | | \$90,713.41 |

LIGHTING COMPONENT

| Conventional | Lighting Subcomponent | | | |
|-------------------------------|---|---------------|------------|-----------------|
| Description Spacing | | | | Value MIN |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 7,656.00 LF | \$19.26 | \$147,454.56 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 1,519.60 LF | \$36.22 | \$55,039.91 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 51.00 EA | \$1,374.06 | \$70,077.06 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 27,961.80 LF | \$3.77 | \$105,415.99 |
| 715-61-342 | LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L | 51.00 EA | \$8,402.83 | \$428,544.33 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 51.00 EA | \$768.21 | \$39,178.71 |
| | Subcomponent Total | | | \$845,710.56 |
| | Lighting Component Total | | | \$845,710.56 |
| Sequence 10 | Total | | | \$13,574,633.25 |

Description: Old Lucerne (East) 4-Lane Approach

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.70 |
| Alignment Number | 1 |
| Distance | 0.057 |
| Top of Structural Course For Begin Section | 100.00 |
| Top of Structural Course For End Section | 100.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 5.00 % / 5.00 % |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.70 AC | \$46,017.69 | \$32,212.38 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 500.00 CY | \$15.28 | \$7,640.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 50 | 0 CY | | |
| 120-6 | EMBANKMENT | 500.00 CY | \$17.66 | \$8,830.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 50 | 0 CY | | |
| | | | | |
| | Earthwork Component Total | | | \$48,682.38 |

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |
| Structural Spread Rate | 220 |
| Friction Course Spread Rate | 110 |

| X-Items | | | | |
|----------------|--|-------------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 160 - 4 | TYPE B STABILIZATION | 2,200.00 SY | \$8.44 | \$18,568.00 |
| | Comment: 4-Lane Leg: 19785 sf/9=219 | 98 SY use 2200 SY | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,950.00 SY | \$20.06 | \$39,117.00 |
| | Comment: 4-Lane Leg: measure approx. 1950 SY | | | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 215.00 TN | \$180.14 | \$38,730.10 |
| | Comment: 2" Superpave Traffic C (195 = 215 TN | 0 X 110 X 2)/2000 | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 108.00 TN | \$218.00 | \$23,544.00 |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN | 2 (1950 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.20 GM | \$1,259.68 | \$251.94 |
| 710-11-102 | PAINTED PAVT MARK,STD,WHITE,SOLID,8" | 0.04 GM | \$1,716.71 | \$68.67 |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 115.00 LF | \$1.07 | \$123.05 |
| 710-11-124 | PAINTED PAVT MARK,STD,WHITE,SOLID, 18" | 30.00 LF | \$1.44 | \$43.20 |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 198.00 LF | \$1.92 | \$380.16 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$707.41 | \$14.15 |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$1,262.94 | \$12.63 |
| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 2.00 EA | \$63.83 | \$127.66 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 4.00 EA | \$35.35 | \$141.40 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,345.62 | \$201.84 |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 55.00 LF | \$1.73 | \$95.15 |
| _ | | | | |
| Pavement Mark | ing Subcomponent | | | |
| | | Value | | |

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Ν |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 2 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 2 |

0

\$121,418.95

Roadway Component Total

SHOULDER COMPONENT

| User Input Data | |
|---|---------------|
| Description | Value |
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |
| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|----------|--|-------------------|----------------|--------------|
| 285-701 | OPTIONAL BASE, BASE GROUP 01 | 154.00 SY | \$30.81 | \$4,744.74 |
| | Comment: 4-Lane Leg: 130 ft X 5.33 ft wid 154 SY | de X 2 sides /9 = | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 10.00 TN | \$218.00 | \$2,180.00 |
| | Comment: 1" thick FC: (154 SY X 110)/20 use 10 TN | 00 = 8.47 TN | | |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$65.70 | \$28,908.00 |
| 527-2 | DETECTABLE WARNINGS | 104.00 SF | \$35.46 | \$3,687.84 |
| 570-1-2 | PERFORMANCE TURF, SOD | 380.00 SY | \$5.40 | \$2,052.00 |

Erosion Control

| Pay Items | | | | |
|-----------|--------------------------|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 104-10-3 | SEDIMENT BARRIER | 600.00 LF | \$2.71 | \$1,626.00 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$48.53 | \$12.13 |
| 107-2 | MOWING | 0.25 AC | \$84.04 | \$21.01 |
| | Shoulder Component Total | | | \$43,231.72 |

| Description | Value |
|----------------------------------|-------------|
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips ï¿1⁄2No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|----------|-----------------------------------|---------------|----------------|--------------|
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 240.00 LF | \$41.59 | \$9,981.60 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 350.00 LF | \$46.67 | \$16,334.50 |
| 527-2 | DETECTABLE WARNINGS | 40.00 SF | \$35.46 | \$1,418.40 |
| 570-1-2 | PERFORMANCE TURF, SOD | 120.00 SY | \$5.40 | \$648.00 |
| | Median Component Total | | | \$28,382.50 |

DRAINAGE COMPONENT

X-Items Pay item Description Quantity Unit Unit Price Extended Amount 425-1-361 INLETS, CURB, TYPE P-6, <10' 2.00 EA \$11,175.07 \$22,350.14 425-2-41 MANHOLES, P-7, <10' 1.00 EA \$6,130.30 \$6,130.30 PIPE CULV, OPT MATL, ROUND, 430-175-124 224.00 LF \$156.39 \$35,031.36 24"S/CD **Drainage Component Total** \$63,511.80

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|---------------------------------------|---------------|--------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price E | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 7.00 AS | \$462.47 | \$3,237.29 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 AS | \$5,727.04 | \$5,727.04 |
| | Signing Component Total | | | \$8,964.33 |

Description: Old Lucerne (East) Roundabout Central Island

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.50 |
| Alignment Number | 1 |
| Distance | 0.057 |
| Top of Structural Course For Begin Section | 100.00 |
| Top of Structural Course For End Section | 100.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 5.00 % / 5.00 % |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.50 AC | \$46,017.69 | \$23,008.84 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 480.00 CY | \$15.28 | \$7,334.40 |
| | Comment: 26000 ft x 0.5 ft deep / 27 = 48 CY | 1 CY use 480 | | |
| 120-6 | EMBANKMENT | 480.00 CY | \$17.66 | \$8,476.80 |
| | Comment: 26000 ft x 0.5 ft deep / 27 = 48 CY | 1 CY use 480 | | |
| | Earthwork Component Total | | | \$38,820.05 |

ROADWAY COMPONENT

| User Input Data | |
|----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |

| Structural Spread Rate | 220 |
|-----------------------------|-----|
| Friction Course Spread Rate | 110 |

| X-Items | | | | | |
|--|--|-----------------|---------------|---------------|--|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount | |
| 160-4 | TYPE B STABILIZATION | 2,200.00 SY | \$8.44 | \$18,568.00 | |
| | Comment: measure (25578-6175)SF /9 2200 SY | = 2156 SY use | | | |
| 285 - 709 | OPTIONAL BASE, BASE GROUP 09 | 1,300.00 SY | \$20.06 | \$26,078.00 | |
| | Comment: measure (25578-10477)SF /S 1300 SY | 9 = 1294 SY use | | | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 143.00 TN | \$180.14 | \$25,760.02 | |
| | Comment: 2" Superpave Traffic C (1300 | X 110 X 2)/2000 | | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 72.00 TN | \$218.00 | \$15,696.00 | |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 | (1300 X | | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.05 GM | \$1,259.68 | \$62.98 | |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.05 GM | \$707.41 | \$35.37 | |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 8.00 EA | \$35.35 | \$282.80 | |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.07 GM | \$1,345.62 | \$94.19 | |
| Pavement Marking Subcomponent | | | | | |
| Description | | Value | | | |
| Include Thermo/Tape/Other | | Ν | | | |
| Pavement Type | | Asphalt | | | |
| Solid Stripe No. of Paint Applications | | 2 4 | | | |
| Solid Stripe No. of Stripes Skip Stripe No. of Paint Applications | | 4 | | | |
| | Skip Stripe No. of Paint Applications | | | | |

Roadway Component Total

\$86,577.36

SHOULDER COMPONENT

0

User Input Data

Skip Stripe No. of Stripes

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |

| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
|----------------------------------|-------------|
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips ï¿1/2No. of Sides | 0 |

Erosion Control

| Pay Items Pay item | Description | Quantity Unit | Unit Price E | extended Amount |
|-----------------------|------------------------------------|---------------|--------------|-----------------|
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$48.53 | \$12.13 |
| 107-2 | MOWING | 0.25 AC | \$84.04 | \$21.01 |
| | Shoulder Component Total | | | \$2,722.20 |

MEDIAN COMPONENT

| User Input Data | |
|----------------------------------|-------------|
| Description | Value |
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

| X-Items | | | | |
|------------------|--|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 350-30-13 | CONC PAVEMENT FOR ROUNDABOUT APRON, 12" | 480.00 SY | \$335.92 | \$161,241.60 |
| 520-2-4 | CONCRETE CURB, TYPE D | 280.00 LF | \$47.14 | \$13,199.20 |
| 520 - 2-8 | CONCRETE CURB, TYPE RA | 370.00 LF | \$68.39 | \$25,304.30 |
| 570-1-2 | PERFORMANCE TURF, SOD | 700.00 SY | \$5.40 | \$3,780.00 |
| | | | | |
| | Median Component Total | | | \$203,525.10 |

| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
|---------------|-------------------------------------|---------------|---------------|---------------|
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 4.00 AS | \$462.47 | \$1,849.88 |
| | Signing Component Total | | | \$1,849.88 |
| Sequence 12 T | otal | | | \$333,494.59 |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273-1-22-01 Letting Date: 01/2099 | | | | | |
|--|--|---|----------------------------------|--|--|
| Description: SR | 544 (LUCERNE PARK RD) FROM | I MARTIN LUTHER I | KING BLVD TO S | R 17 | |
| District: 01 Contract Class: 4 | County: 16 POLK 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | Units: English Project Length | : 7.950 MI | |
| Project Manager | : JMK-AEH-DCT | | | | |
| Version 36 Projec Description: ^{Segr} Upd | ct Grand Total ment 5-East of Lucernce Loop Rd. ates from Version 28 - 6/3/24 | to West of Lk. Hamil | ton Canal - June | \$19,040,795.90 2024 Unit Cost | |
| Project Sequenc | es Subtotal | | | \$14,222,319.52 | |
| 102-1 N | laintenance of Traffic | 15.00 % | | \$2,133,347.93 | |
| 101-1 N | lobilization | 10.00 % | | \$1,635,566.74 | |
| Project Sequenc | es Total | | | \$17,991,234.19 | |
| Project Unknowns | 6 | 5.00 % | | \$899,561.71 | |
| Design/Build | | 0.00 % | | \$0.00 | |
| Non-Bid Components: | | | | | |
| Pay item D | escription | Quantity U | nit Unit Price | Extended Amount | |
| uuu_96 | NITIAL CONTINGENCY AMOUNT | LS | \$150,000.00 | \$150,000.00 | |
| Project Non-Bid Subtotal \$150,000.00 | | | | | |
| Version 36 Project Grand Total \$19,040,795.90 | | | | | |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273- | 1-22-01 | | | L | etting Da | te: 01/2099 |
|---|---|------------------------------------|---------|---|--------------------------|--|
| - | 544 (LUCERNE PARK RD) FR | OM MARTIN LUTHER | KING | | - | |
| District: 01 | County: 16 POLK 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | Unit | s: English ect Length: | | |
| Project Manage | r: JMK-AEH-DCT | | | | | |
| Version 37 Proje Description: Seg Upd | ct Grand Total ment 6-West side of Lk Hamilto ates from Version 29 - 6/3/24 | n Canal to west of Brer | iton M | anor Ave J | \$10, une 2024 | 619,201.91 Unit Cost |
| Sequence: 17 NE | U - New Construction, Divided, | Urban | | Net L | .ength: | 0.540 MI 2,851 LF |
| Description: Se | gment 6-West side of Lk Hamilt | on Canal to west of Bre | enton I | Manor Ave. | | 2,001 EI |
| | | | | | | |
| User Input Data | EARTH | WORK COMPONENT | | | | |
| | g and Grubbing Limits L/R ng and Grubbing Area | | | | 56.0 | Value 0 / 56.00 0.00 |
| Top of Structural Horizontal Elevat Horizontal Elevat Front Slope L/R Median Shoulder | Course For Begin Section Course For End Section ion For Begin Section ion For End Section ^c Cross Slope L/R r Cross Slope L/R | | | | 4.00 % 2.00 % | 1 0.540 102.00 100.00 100.00 1 / 2 to 1 / 4.00 % / 2.00 % |
| Pay Items Pay item 110-1-1 120-6 | Description CLEARING & GRUBBING EMBANKMENT | - | B AC | Unit Price \$56,017.69 \$24.69 | \$4 | ed Amount 410,609.67 500,125 . 33 |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 4 |
| Roadway Pavement Width L/R | 23.00 / 23.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---|---------------|------------|-----------------|
| 160-4 | TYPE B STABILIZATION | 17,842.18 SY | \$10.73 | \$191,446.59 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 14,572.80 SY | \$20.06 | \$292,330.37 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 2,003.76 TN | \$193.64 | \$388,008.09 |
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 1,202.26 TN | \$207.93 | \$249,985.92 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 2 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|---|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 219.00 EA | \$4.36 | \$954.84 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 2.16 GM | \$1,259.68 | \$2,720.91 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 1.08 GM | \$546.91 | \$590.66 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 2.16 GM | \$5,558.07 | \$12,005.43 |
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 1.08 GM | \$1,616.01 | \$1,745.29 |
| | Roadway Component Total | | | \$1,139,788.10 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 22.25 / 22.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 10.00 / 10.00 |
| Sidewalk Width L/R | 10.00 / 10.00 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 2,851.20 LF | \$46.67 | \$133,065.50 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 2,851.20 LF | \$46.67 | \$133,065.50 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 6,336.00 SY | \$65.70 | \$416,275.20 |
| 570-1-1 | PERFORMANCE TURF | 6,336.00 SY | \$3.85 | \$24,393.60 |

Erosion Control

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 5,702.40 LF | \$2.71 | \$15,453.50 |
| 104-11 | FLOATING TURBIDITY BARRIER | 135.00 LF | \$15.46 | \$2,087.10 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 135.00 LF | \$6.67 | \$900.45 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 104-18 | INLET PROTECTION SYSTEM | 28.00 EA | \$123.06 | \$3,445.68 |
| 107-1 | LITTER REMOVAL | 13.74 AC | \$48.53 | \$666.80 |
| 107 - 2 | MOWING | 13.74 AC | \$84.04 | \$1,154.71 |
| | Shoulder Component Total | | | \$733,197.10 |

MEDIAN COMPONENT

User Input Data

| Description | Value |
|------------------------|-------|
| Total Median Width | 22.00 |
| Performance Turf Width | 17.50 |

Pay Items

Pay item Description

| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 5,702.40 LF | \$41.59 | \$237,162.82 |
|---------|-----------------------------------|-------------|---------|--------------|
| 570-1-1 | PERFORMANCE TURF | 5,544.00 SY | \$3.85 | \$21,344.40 |
| | Median Component Total | | | \$258,507.22 |

DRAINAGE COMPONENT

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|--|---------------|-------------|-----------------|
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 20.00 EA | \$7,474.89 | \$149,497.80 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 6.00 EA | \$14,168.32 | \$85,009.92 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 3.00 EA | \$6,847.68 | \$20,543.04 |
| 425-2-41 | MANHOLES, P-7, <10' | 3.00 EA | \$6,130.30 | \$18,390.90 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 1,432.00 LF | \$156.39 | \$223,950.48 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 128.00 LF | \$237.81 | \$30,439.68 |
| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 2,704.00 LF | \$299.07 | \$808,685.28 |
| 570-1-1 | PERFORMANCE TURF | 164.16 SY | \$3.85 | \$632.02 |

Retention Basin 1

| Description | | Value |
|-------------|--------|-------|
| Size | | 2 AC |
| Multiplier | | 1 |
| Depth | | 9.00 |
| Description | Pond 6 | |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 2.00 AC | \$56,017.69 | \$112,035.38 |
| 120-1 | REGULAR EXCAVATION | 29,040.00 CY | \$17.28 | \$501,811.20 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,180.00 LF | \$34.73 | \$40,981.40 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |

Drainage Component Total

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 13.00 AS | \$462.47 | \$6,012.11 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 2.00 AS | \$1,578.08 | \$3,156.16 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 2.00 AS | \$7,692.26 | \$15,384.52 |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 2.00 AS | \$15,571.98 | \$31,143.96 |
| | Signing Component Total | | | \$55,696.75 |

SIGNALIZATIONS COMPONENT

| Signalization 1 | |
|-----------------|---------------------|
| Description | Value |
| Туре | 4 Lane Mast Arm |
| Multiplier | 1 |
| Description | Lake Hamilton Drive |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-----------|---|---------------|---------------------|-----------------|
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 750.00 LF | \$19.26 | \$14,445.00 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 250.00 LF | \$36.22 | \$9,055.00 |
| 632-7-1 | SIGNAL CABLE- NEW OR RECO, FUR & INSTALL | 1.00 PI | \$10,834.31 | \$10,834.31 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 16.00 EA | \$1,374 <u>.</u> 06 | \$21,984.96 |
| 639-1-112 | ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON | 1.00 AS | \$3,747.93 | \$3,747.93 |
| 639-2-1 | ELECTRICAL SERVICE WIRE, F&I | 60.00 LF | \$9.92 | \$595.20 |
| 649-21-10 | STEEL MAST ARM ASSEMBLY, F&I, 60' | 4.00 EA | \$81,339.84 | \$325,359.36 |
| 650-1-14 | VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W | 12.00 AS | \$1,499.43 | \$17,993.16 |

| | Signalizations Component Total | | | \$485,339.17 |
|-----------|--|----------|-------------|--------------|
| 700-3-101 | SIGN PANEL, F&I GM, UP TO 12 SF | 4.00 EA | \$277.68 | \$1,110.72 |
| 670-5-111 | TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT | 1.00 AS | \$47,427.85 | \$47,427.85 |
| 665-1-11 | PEDESTRIAN DETECTOR, F&I, STANDARD | 8.00 EA | \$239.20 | \$1,913.60 |
| 660-2-106 | LOOP ASSEMBLY, F&I, TYPE F | 12.00 AS | \$1,354.74 | \$16,256.88 |
| 660-1-102 | LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 12.00 EA | \$704.50 | \$8,454.00 |
| 653-1-11 | PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY | 8.00 AS | \$770.15 | \$6,161.20 |

LIGHTING COMPONENT

| Conventional | Lighting Subcomponent | | | |
|-------------------------------------|---|---------------|------------|---------------------|
| Description Spacing Pay Items | | | | Value MIN |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 2,851.20 LF | \$19.26 | \$54,914.11 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 565.92 LF | \$36.22 | \$20,497.62 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 19.00 EA | \$1,374.06 | \$26,107.14 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 10,413.36 LF | \$3.77 | \$39,258.37 |
| 715-61-342 | LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L | 19.00 EA | \$8,402.83 | \$159,653.77 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 19.00 EA | \$768.21 | \$14,595.99 |
| | Subcomponent Total | | | \$315,027.00 |
| | Lighting Component Total | | | \$315,027.00 |

BRIDGES COMPONENT

| Bridge 1 | |
|------------------|-------------|
| Description | Value |
| Estimate Type | SF Estimate |
| Primary Estimate | YES |
| Length (LF) | 100.00 |
| Width (LF) | 97.67 |
| Туре | Low Level |

| Cost Factor | | 1.25 |
|-------------------------------------|----------------------------|----------------|
| Structure No. | | |
| Removal of Existing Structures area | | 4,030.00 |
| Default Cost per SF | | \$114.00 |
| Factored Cost per SF | | \$142.50 |
| Final Cost per SF | | \$161.00 |
| Basic Bridge Cost | | \$1,391,797.50 |
| Description | LAKE HAMILTON CANAL BRIDGE | |

Bridge Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|------------|-----------------|
| 110-3 | REMOVAL OF EXISTING STRUCTURES/BRIDGES | 4,030.00 SF | \$59.31 | \$239,019.30 |
| 400-2-10 | CONC CLASS II, APPROACH SLABS | 217.04 CY | \$597.85 | \$129,757.36 |
| 415-1-9 | REINF STEEL- APPROACH SLABS | 37,982.00 LB | \$1.34 | \$50,895.88 |
| | Bridge 1 Total | | | \$1,811,470.04 |
| | Bridges Component Total | | | \$1,811,470.04 |
| , | | | | |
| Sequence 17 | Fotal | | | \$7,915,724.67 |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 44027 | Project: 440273-1-22-01 Letting Date: 01/2099 | | | | | |
|--|---|---|-----------------------------------|-----------------|--|--|
| Description: S | R 544 (LUCERNE PARK RD) FROM | MARTIN LUTHER | KING BLVD TO SI | R 17 | | |
| District: 01 Contract Class | County: 16 POLK s: 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | Units: English Project Length: | 7.950 MI | | |
| Project Manager: JMK-AEH-DCT | | | | | | |
| Version 37 Project Grand Total\$10,619,201.91Description:Segment 6-West side of Lk Hamilton Canal to west of Brenton Manor Ave June 2024 Unit Cost Updates from Version 29 - 6/3/24 | | | | | | |
| Project Seque | nces Subtotal | | | \$7,915,724.67 | | |
| 102-1 | Maintenance of Traffic | 15.00 % | | \$1,187,358.70 | | |
| 101-1 | Mobilization | 10.00 % | | \$910,308.34 | | |
| Project Seque | nces Total | | | \$10,013,391.71 | | |
| Project Unknov | vns | 5.00 % | | \$500,669.59 | | |
| Design/Build | | 0.00 % | | \$0.00 | | |
| Non-Bid Com | oonents: | | | | | |
| Pay item | Description | Quantity U | nit Unit Price | Extended Amount | | |
| 999-25 | INITIAL CONTINGENCY AMOUNT (DO NOT BID) | LS | S \$105,140.61 | \$105,140.61 | | |
| Project Non-Bid Subtotal \$105,140.61 | | | | | | |
| Version 37 Pro | oject Grand Total | | | \$10,619,201.91 | | |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273 | -1-22-01 | | l | Letting Date: 01/2099 | | |
|---|--|------------------------------------|----------------------------------|-----------------------|-------------------------------|--|
| Description: SI | R 544 (LUCERNE PARK RD) FR | OM MARTIN LUTHER | KING BLVD TO S | R 17 | | |
| District: 01 Contract Class | County: 16 POLK : 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | Units: English Project Length | : 7.950 MI | | |
| Project Manage | er: JMK-AEH-DCT | | | | | |
| Version 38 Proj Description: ^{Se} Ve | ect Grand Total gment 7-West of Brenton Manor rsion 30 - 6/3/24 | Ave. to La Vista Drive - | June 2024 Unit C | | 525,900.1 9 es from | |
| Sequence: 21 N | IDU - New Construction, Divided | , Urban | Net | Length: | 1.370 M | |
| Description: S | egment 7-West of Brenton Manc | or Ave. to La Vista Drive | | - | 7,234 LF | |
| | | | | | | |
| l la ca la suit Dat | | WORK COMPONENT | | | | |
| User Input Data Description | 3 | | | | Value | |
| • | ng and Grubbing Limits L/R | | | 56.0 | 0 / 56.00 | |
| | ing and Grubbing Area | | | 0010 | 0.00 | |
| | h | | | | 4 | |
| Alignment Num Distance | Jer | | | | 1 1.370 | |
| | I Course For Begin Section | | | | 102.00 | |
| | Course For End Section | | | | 102.00 | |
| | ation For Begin Section | | | | 100.00 | |
| Horizontal Eleva | ation For End Section | | | | 100.00 | |
| Front Slope L/R | | | | 2 to | 1 / 2 to 1 | |
| Median Shoulder Cross Slope L/R | | | | | / 4.00 % | |
| Outside Shoulder Cross Slope L/R | | | | | / 2.00 % | |
| Roadway Cross | Slope L/R | | | 2.00 % | / 2.00 % | |
| | | | | | | |
| Pay Items | | | | | | |
| Pay Items Pay item | Description | Quantity | Unit Unit Price | Extende | ed Amount | |
| - | Description CLEARING & GRUBBING | Quantity 18.60 | | | ed Amount 483,929.03 | |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 4 |
| Roadway Pavement Width L/R | 23.00 / 23.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---|---------------|------------|-----------------|
| 160-4 | TYPE B STABILIZATION | 45,266.26 SY | \$8.44 | \$382,047.23 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 36,971.73 SY | \$17.06 | \$630,737.71 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 5,083.61 TN | \$180.14 | \$915,761.51 |
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 3,050.17 TN | \$207.93 | \$634,221.85 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 2 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|---|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 555.00 EA | \$4.36 | \$2,419.80 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 5.48 GM | \$1,259.68 | \$6,903.05 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 2.74 GM | \$546.91 | \$1,498.53 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 5.48 GM | \$5,558.07 | \$30,458.22 |
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 2.74 GM | \$1,616.01 | \$4,427.87 |
| | Roadway Component Total | | | \$2,608,475.77 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 22.25 / 22.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 10.00 / 10.00 |
| Sidewalk Width L/R | 10.00 / 10.00 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 7,233.60 LF | \$46.67 | \$337,592.11 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 7,233.60 LF | \$46.67 | \$337,592.11 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 16,074.67 SY | \$65.70 | \$1,056,105.82 |
| 570-1-1 | PERFORMANCE TURF | 16,074.67 SY | \$3.85 | \$61,887.48 |

Erosion Control

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 14,467.20 LF | \$2.59 | \$37,470.05 |
| 104-11 | FLOATING TURBIDITY BARRIER | 342.50 LF | \$15.46 | \$5,295.05 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 342.50 LF | \$6.67 | \$2,284.48 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 2.00 EA | \$2,689.06 | \$5,378.12 |
| 104-18 | INLET PROTECTION SYSTEM | 70.00 EA | \$123.06 | \$8,614.20 |
| 107-1 | LITTER REMOVAL | 34.87 AC | \$48.53 | \$1,692.24 |
| 107-2 | MOWING | 34.87 AC | \$84.04 | \$2,930.47 |
| | Shoulder Component Total | | | \$1,856,842.13 |

MEDIAN COMPONENT

User Input Data

| Description | Value |
|------------------------|-------|
| Total Median Width | 22.00 |
| Performance Turf Width | 17.50 |

Pay Items

Pay item Description

| | Median Component Total | | | \$655,842.37 |
|---------|-----------------------------------|--------------|---------|--------------|
| 570-1-1 | PERFORMANCE TURF | 14,065.33 SY | \$3.85 | \$54,151.52 |
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 14,467.20 LF | \$41.59 | \$601,690.85 |

DRAINAGE COMPONENT

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|--|---------------|-------------|-----------------|
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 50.00 EA | \$7,474.89 | \$373,744.50 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 14.00 EA | \$14,168.32 | \$198,356.48 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 7.00 EA | \$6,847.68 | \$47,933.76 |
| 425-2-41 | MANHOLES, P-7, <10' | 7.00 EA | \$6,130.30 | \$42,912.10 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 3,632.00 LF | \$156.39 | \$568,008.48 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 328.00 LF | \$237.81 | \$78,001.68 |
| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 6,856.00 LF | \$299.07 | \$2,050,423.92 |
| 570-1-1 | PERFORMANCE TURF | 416.48 SY | \$3.85 | \$1,603.45 |

Box Culvert 1

| Description | Value |
|-------------|--------|
| Size | 10 x 8 |
| Length | 103.00 |
| Multiplier | 1 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------------|-------------------------|---------------|------------|-----------------|
| 400-4-1 | CONC CLASS IV, CULVERTS | 149.40 CY | \$1,464.01 | \$218,723.09 |
| 415-1-1 | REINF STEEL- ROADWAY | 16,878.75 LB | \$1.43 | \$24,136.61 |
| Retention Basin 2 | | | | |

| Description | | Value |
|-------------|--------|-------|
| Size | | .5 AC |
| Multiplier | | 1 |
| Depth | | 1.00 |
| Description | Pond 7 | |

Pay Items

Pay item Description

| 110-1-1 | CLEARING & GRUBBING | 0.50 AC | \$26,017.69 | \$13,008.84 |
|-------------|---|-------------|-------------|--------------|
| 120-1 | REGULAR EXCAVATION | 806.67 CY | \$15.28 | \$12,325.92 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 600.00 LF | \$34.73 | \$20,838.00 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |
| 570-1-1 | PERFORMANCE TURF | 2,420.00 SY | \$3.85 | \$9,317.00 |

| Retention Basin 3 | | |
|-------------------|--------|-------|
| Description | | Value |
| Size | | .5 AC |
| Multiplier | | 1 |
| Depth | | 12.00 |
| Description | Pond 8 | |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.50 AC | \$26,017.69 | \$13,008.84 |
| 120-1 | REGULAR EXCAVATION | 9,680.00 CY | \$15.28 | \$147,910.40 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 600.00 LF | \$34.73 | \$20,838.00 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |
| 570-1-1 | PERFORMANCE TURF | 2,420.00 SY | \$3.85 | \$9,317.00 |

Retention Basin 4

| Description | | Value |
|-------------|--------|-------|
| Size | | 1 AC |
| Multiplier | | 1 |
| Depth | | 11.00 |
| Description | Pond 9 | |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 1.00 AC | \$26,017.69 | \$26,017.69 |
| 120-1 | REGULAR EXCAVATION | 17,746.67 CY | \$15.28 | \$271,169.12 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 840.00 LF | \$34.73 | \$29,173.20 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |
| 570-1-1 | PERFORMANCE TURF | 4,840.00 SY | \$3.85 | \$18,634.00 |

Retention Basin 5

| Description | Value | е |
|-------------|---------|---|
| Size | 2.5 A0 | С |
| Multiplier | | 1 |
| Depth | 5.0 | 0 |
| Description | Pond 10 | |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 2.50 AC | \$26,017.69 | \$65,044.22 |
| 120-1 | REGULAR EXCAVATION | 20,166.67 CY | \$15.28 | \$308,146.72 |
| 425-1-361 | INLETS, CURB, TYPE P-6, <10' | 1.00 EA | \$11,175.07 | \$11,175.07 |
| 425-2-71 | MANHOLES, J-7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,335.00 LF | \$34.73 | \$46,364.55 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |
| 570-1-1 | PERFORMANCE TURF | 12,100.00 SY | \$3.85 | \$46,585.00 |

Retention Basin 6

| Description | Value |
|-------------|--------|
| Size | 1.5 AC |

| Multiplier | 1 |
|-------------|-------|
| Depth | 1.30 |
| Description | FPC 5 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 1.50 AC | \$26,017.69 | \$39,026.54 |
| 120-1 | REGULAR EXCAVATION | 3,146.00 CY | \$15.28 | \$48,070.88 |
| 425-1-541 | INLETS, DT BOT, TYPE D, <10' | 1.00 EA | \$6,465.04 | \$6,465.04 |
| 425-2-71 | MANHOLES, J - 7, <10' | 1.00 EA | \$14,177.00 | \$14,177.00 |
| 430-175-142 | PIPE CULV, OPT MATL, ROUND, 42"S/CD | 56.00 LF | \$348.14 | \$19,495.84 |
| 430-175-160 | PIPE CULV, OPT MATL, ROUND, 60"S/CD | 200.00 LF | \$660.28 | \$132,056.00 |
| 550-10-220 | FENCING, TYPE B, 5.1-6.0', STANDARD | 1,025.00 LF | \$34.73 | \$35,598.25 |
| 550-60-234 | FENCE GATE,TYP B,SLIDE/CANT,18.1-20'OPEN | 1.00 EA | \$4,525.31 | \$4,525.31 |
| 570-1-1 | PERFORMANCE TURF | 7,260.00 SY | \$3.85 | \$27,951.00 |
| | Drainage Component Total | | | \$5,700,495.25 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 33.00 AS | \$462.47 | \$15,261.51 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12- 20 SF | 3.00 AS | \$1,578.08 | \$4,734.24 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 3.00 AS | \$7,692.26 | \$23,076.78 |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 3.00 AS | \$15,571.98 | \$46,715.94 |
| | Signing Component Total | | | \$89,788.47 |

LIGHTING COMPONENT

Conventional Lighting Subcomponent Description Spacing Pay Items

Value MIN

| Pay item | Description | Quantity Unit | | Extended Amount |
|-------------|---|---------------|-------------|-----------------|
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 7,233.60 LF | \$19.26 | \$139,319.14 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 1,435.76 LF | \$36.22 | \$52,003.23 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 48.00 EA | \$1,374.06 | \$65,954.88 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 26,419.08 LF | \$3.77 | \$99,599.93 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 48.00 EA | \$768.21 | \$36,874.08 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 715-61-321 | LIGHT POLE CMPLT,STD,F&I, 40'MH,10'ARM L | 48.00 EA | \$11,499.60 | \$551,980.80 |
| | Subcomponent Total | | | \$945,732.05 |
| , | Lighting Component Total | | | \$945,732.06 |
| Sequence 21 | Total | | | \$13,145,883.60 |

Description: US27 Frontage Roads

EARTHWORK COMPONENT

| User Input Data | 1 | | | | |
|-------------------------|----------------------------|---------------|-----------------|-----------------|--|
| Description | | | | Value | |
| Standard Cleari | ng and Grubbing Limits L/R | | | 50.00 / 50.00 | |
| Incidental Cleari | ng and Grubbing Area | | | 0.00 | |
| Alignment Numb | Der | | | 1 | |
| Distance | | | | 0.966 | |
| Top of Structura | Course For Begin Section | | | 102.00 | |
| Top of Structura | Course For End Section | | 102.00 | | |
| Horizontal Eleva | tion For Begin Section | | 100.00 | | |
| Horizontal Eleva | tion For End Section | | 100.00 | | |
| Front Slope L/R | | | 2 to 1 / 2 to 1 | | |
| Median Shoulde | r Cross Slope L/R | | 4.00 % / 4.00 % | | |
| Outside Shoulde | er Cross Slope L/R | | 2.00 % / 2.00 % | | |
| Roadway Cross Slope L/R | | | | 2.00 % / 2.00 % | |
| Pay Items | | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount | |
| 110-1-1 | CLEARING & GRUBBING | 11.71 AC | \$26,017.69 | \$304,667.15 | |

Earthwork Component Total

EMBANKMENT

\$871,709.96

\$567,042.81

ROADWAY COMPONENT

36,209.63 CY

\$15.66

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 4 |
| Roadway Pavement Width L/R | 24.00 / 24.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

120-6

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------------|--|---------------|------------|-----------------|
| 160 - 4 | TYPE B STABILIZATION | 33,047.69 SY | \$8.44 | \$278,922.50 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 27,199.74 SY | \$17.06 | \$464,027.56 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 3,739.96 TN | \$180.14 | \$673,716.39 |

| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 2,243.98 TN | \$207.93 | \$466,590.76 |
|----------|---|-------------|----------|--------------|
|----------|---|-------------|----------|--------------|

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 2 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|---|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 391.00 EA | \$4.36 | \$1,704.76 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 3.86 GM | \$1,259.68 | \$4,862.36 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 1.93 GM | \$546.91 | \$1,055.54 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 3.86 GM | \$5,558.07 | \$21,454.15 |
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 1.93 GM | \$1,616.01 | \$3,118.90 |
| | Roadway Component Total | | | \$1,915,452.92 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 22.25 / 22.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 20.00 / 20.00 |
| Sidewalk Width L/R | 0.00 / 0.00 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|-----------------------------------|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 5,099.95 LF | \$46.67 | \$238,014.67 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 5,099.95 LF | \$46.67 | \$238,014.67 |
| 570-1-1 | PERFORMANCE TURF | 22,666.45 SY | \$3.85 | \$87,265.83 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 10,199.90 LF | \$2.59 | \$26,417.74 |
| 104-11 | FLOATING TURBIDITY BARRIER | 241.48 LF | \$15.46 | \$3,733.28 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 241.48 LF | \$6.67 | \$1,610.67 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 104-18 | INLET PROTECTION SYSTEM | 50.00 EA | \$123.06 | \$6,153.00 |
| 107-1 | LITTER REMOVAL | 24.58 AC | \$48.53 | \$1,192.87 |
| 107-2 | MOWING | 24.58 AC | \$84.04 | \$2,065.70 |
| | Shoulder Component Total | | | \$607,157.49 |

| MEDIAN COMPONENT | | | | | | |
|------------------------------|-----------------------------------|---------------|------------|-----------------|--|--|
| User Input Data | | | | | | |
| Description | | Value |) | | | |
| Total Median Wie | dth | 22.00 |) | | | |
| Performance Turf Width 20.00 | | | | | | |
| | | | | | | |
| Pay Items | | | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount | | |
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 10,199.90 LF | \$41.59 | \$424,213.84 | | |
| 570-1-1 | PERFORMANCE TURF | 11,333.23 SY | \$3.85 | \$43,632.94 | | |
| | Median Component Total | | | \$467,846.78 | | |

DRAINAGE COMPONENT

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|--|---------------|-------------|-----------------|
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 35.00 EA | \$7,474.89 | \$261,621.15 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 10.00 EA | \$14,168.32 | \$141,683.20 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 5.00 EA | \$6,847.68 | \$34,238.40 |
| 425-2-41 | MANHOLES, P-7, <10' | 5.00 EA | \$6,130.30 | \$30,651.50 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 2,560.00 LF | \$156.39 | \$400,358.40 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 232.00 LF | \$237.81 | \$55,171.92 |

| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 4,832.00 LF | \$299.07 | \$1,445,106.24 |
|-------------|--|-------------|----------|----------------|
| 570-1-1 | PERFORMANCE TURF | 293.63 SY | \$3.85 | \$1,130.48 |
| | Drainage Component Total | | | \$2,369,961.29 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 24.00 AS | \$462.47 | \$11,099.28 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 2.00 AS | \$1,578.08 | \$3,156.16 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 2.00 AS | \$7,692.26 | \$15,384.52 |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 2.00 AS | \$15,571.98 | \$31,143.96 |
| | Signing Component Total | | | \$60,783.92 |

SIGNALIZATIONS COMPONENT

| Signalization 1 | |
|-----------------|--------------------------|
| Description | Value |
| Туре | 4 Lane Mast Arm |
| Multiplier | 2 |
| Description | US 27 & 544 Intersection |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------------|---|---------------|-------------|-----------------|
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 1,500.00 LF | \$19.26 | \$28,890.00 |
| 630 -2- 12 | CONDUIT, F& I, DIRECTIONAL BORE | 500.00 LF | \$36.22 | \$18,110.00 |
| 632-7-1 | SIGNAL CABLE- NEW OR RECO, FUR & INSTALL | 2.00 PI | \$10,834.31 | \$21,668.62 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 32.00 EA | \$1,374.06 | \$43,969.92 |
| 639-1-112 | ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON | 2.00 AS | \$3,747.93 | \$7,495.86 |
| 639-2-1 | ELECTRICAL SERVICE WIRE, F&I | 120.00 LF | \$9.92 | \$1,190.40 |
| 649-21-10 | STEEL MAST ARM ASSEMBLY, F&I, 60' | 8.00 EA | \$81,339.84 | \$650,718.72 |

| | Signalizations Component Total | | | \$970,678.34 |
|-----------|--|----------|-------------|--------------|
| 700-3-101 | SIGN PANEL, F&I GM, UP TO 12 SF | 8.00 EA | \$277.68 | \$2,221.44 |
| 670-5-111 | TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT | 2.00 AS | \$47,427.85 | \$94,855.70 |
| 665-1-11 | PEDESTRIAN DETECTOR, F&I, STANDARD | 16.00 EA | \$239.20 | \$3,827.20 |
| 660-2-106 | LOOP ASSEMBLY, F&I, TYPE F | 24.00 AS | \$1,354.74 | \$32,513.76 |
| 660-1-102 | LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 24.00 EA | \$704.50 | \$16,908.00 |
| 653-1-11 | PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY | 16.00 AS | \$770.15 | \$12,322.40 |
| 650-1-14 | VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W | 24.00 AS | \$1,499.43 | \$35,986.32 |

LIGHTING COMPONENT

| Conventional | Lighting Subcomponent | | | |
|---|---|---------------|------------|-----------------|
| Description Spacing Pay Items | | | | Value MIN |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 5,099.95 LF | \$19.26 | \$98,225.04 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 1,012.26 LF | \$36.22 | \$36,664.06 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 34.00 EA | \$1,374.06 | \$46,718.04 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 18,626.42 LF | \$3.77 | \$70,221.60 |
| 715-61-342 | LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L | 34.00 EA | \$8,402.83 | \$285,696.22 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 34.00 EA | \$768.21 | \$26,119.14 |
| | Subcomponent Total | | | \$563,644.10 |
| | Lighting Component Total | | | \$563,644.10 |
| Sequence 23 | Total | | | \$7,827,234.80 |

Description: US 27 Overpass/Bridge

EARTHWORK COMPONENT

| User Input Dat | a | | | |
|------------------|-----------------------------|---------------|-------------|-----------------|
| Description | | | | Value |
| Standard Clear | ing and Grubbing Limits L/R | | | 105.00 / 105.00 |
| | ring and Grubbing Area | | | 0.00 |
| Alignment Num | ber | | | 1 |
| Distance | | | | 1.200 |
| Top of Structura | al Course For Begin Section | | | 105.00 |
| Top of Structura | al Course For End Section | | | 105.00 |
| Horizontal Elev | ation For Begin Section | | | 100.00 |
| Horizontal Elev | ation For End Section | | | 100.00 |
| Front Slope L/F | R | | | 2 to 1 / 2 to 1 |
| Median Slope L | _/R | | | 2 to 1 / 2 to 1 |
| | er Cross Slope L/R | | | 4.00 % / 4.00 % |
| Outside Should | ler Cross Slope L/R | | | 5.00 % / 5.00 % |
| Roadway Cross | s Slope L/R | | | 2.00 % / 2.00 % |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 110-1-1 | CLEARING & GRUBBING | 30.55 AC | \$26,017.69 | \$794,840.43 |
| 120-6 | EMBANKMENT | 121,660.59 CY | \$15.66 | \$1,905,204.84 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-6 | EMBANKMENT | 50,000.00 CY | \$15.66 | \$783,000.00 |
| | Earthwork Component Total | | | \$3,483,045.27 |

ROADWAY COMPONENT

6

User Input Data Description Value Number of Lanes Roadway Pavement Width L/R 36.00 / 36.00 Structural Spread Rate 275 165 Friction Course Spread Rate

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---|---------------|------------|-----------------|
| 160-4 | TYPE B STABILIZATION | 76,032.00 SY | \$8.44 | \$641,710.08 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 51,617.28 SY | \$17.06 | \$880,590.80 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 6,969.60 TN | \$180.14 | \$1,255,503.74 |
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 4,181.76 TN | \$207.93 | \$869,513.36 |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 4 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|--|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 810.00 EA | \$4.36 | \$3,531.60 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 4.80 GM | \$1,259.68 | \$6,046.46 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 4.80 GM | \$546.91 | \$2,625.17 |
| 711-15-101 | THERMOPLASTIC, STD-OP, WHITE, SOLID, 6" | 4.80 GM | \$5,646.57 | \$27,103.54 |
| 711-15-131 | THERMOPLASTIC, STD-OP, WHITE, SKIP, 6" | 4.80 GM | \$1,982.10 | \$9,514.08 |
| | Roadway Component Total | | | \$3,696,138.83 |

SHOULDER COMPONENT

| User Input Data | |
|---|---------------|
| Description | Value |
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 0.00 / 0.00 |
| Paved Outside Shoulder Width L/R | 10.00 / 10.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |
| Total Width (T) / 8" Overlap (O) | 0 |
| Rumble Strips ï¿1⁄2No. of Sides | 1 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------------|--|---------------|---------------------|-----------------|
| 285 - 704 | OPTIONAL BASE, BASE GROUP 04 | 14,544.64 SY | \$17.75 | \$258,167.36 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 1,936.00 TN | \$180.14 | \$348,751.04 |
| 337-7-25 | ASPH CONC FC,INC BIT,FC- 5,PG76-22 | 76.67 TN | \$188.51 | \$14,453.06 |
| 546-72-1 | GROUND-IN RUMBLE STRIPS, 16" | 1.20 GM | \$1,447 <u>.</u> 76 | \$1,737.31 |

Erosion Control

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 16,473.60 LF | \$2.59 | \$42,666.62 |
| 104-11 | FLOATING TURBIDITY BARRIER | 300.00 LF | \$15.46 | \$4,638.00 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 300.00 LF | \$6.67 | \$2,001.00 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 2.00 EA | \$2,689.06 | \$5,378.12 |
| 104-18 | INLET PROTECTION SYSTEM | 8.00 EA | \$123.06 | \$984.48 |
| 107-1 | LITTER REMOVAL | 29.09 AC | \$48.53 | \$1,411.74 |
| 107-2 | MOWING | 29.09 AC | \$84.04 | \$2,444.72 |
| | Shoulder Component Total | | | \$682,633.45 |

MEDIAN COMPONENT

| User Input Data | |
|-----------------|--|
|-----------------|--|

| Description | Value |
|----------------------------------|-------------|
| Total Median Width | 42.00 |
| Performance Turf Width | 32.00 |
| Total Median Shoulder Width L/R | 8.00 / 8.00 |
| Paved Median Shoulder Width L/R | 5.00 / 5.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |
| Total Width (T) / 8" Overlap (O) | 0 |
| Rumble Strips �No. of Sides | 1 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 285-704 | OPTIONAL BASE, BASE GROUP 04 | 7,504.64 SY | \$17.75 | \$133,207.36 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 968.00 TN | \$180.14 | \$174,375.52 |

| | Median Component Total | | | \$410,216.50 |
|----------------------------|---------------------------------------|--------------|------------|--------------|
| 570-1-1 | PERFORMANCE TURF | 22,528.00 SY | \$3.85 | \$86,732.80 |
| 546 - 72 - 1 | GROUND-IN RUMBLE STRIPS, 16" | 1.00 GM | \$1,447.76 | \$1,447.76 |
| 337-7-25 | ASPH CONC FC,INC BIT,FC- 5,PG76-22 | 76.67 TN | \$188.51 | \$14,453.06 |

DRAINAGE COMPONENT

| Pay Items | | | | |
|-------------|--|---------------|------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 425-1-551 | INLETS, DT BOT, TYPE E, <10' | 8.00 EA | \$5,480.28 | \$43,842.24 |
| 430-174-124 | PIPE CULV, OPT MATL, ROUND,24"SD | 960.00 LF | \$196.18 | \$188,332.80 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 416.00 LF | \$156.39 | \$65,058.24 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 360.00 LF | \$237.81 | \$85,611.60 |
| 430-984-129 | MITERED END SECT, OPTIONAL RD, 24" SD | 48.00 EA | \$3,331.11 | \$159,893.28 |
| 524-1-1 | CONCRETE DITCH PAVT, NR, 3" | 2,400.00 SY | \$102.32 | \$245,568.00 |
| 570-1-1 | PERFORMANCE TURF | 844.80 SY | \$3.85 | \$3,252.48 |
| | Drainage Component Total | | | \$791,558.64 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 29.00 AS | \$462.47 | \$13,411.63 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12- 20 SF | 3.00 AS | \$1,578.08 | \$4,734.24 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 3.00 AS | \$7,692.26 | \$23,076.78 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 3.00 AS | \$15,571.98 | \$46,715.94 |
| | Signing Component Total | | | \$87,938.59 |

LIGHTING COMPONENT

| Rural Lighting | y Subcomponent | | | |
|-----------------|---|---------------|-----------------|-----------------|
| Description | | | | Value |
| Multiplier (Num | ber of Poles) | | | 1 |
| Pay Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 6,336.00 LF | \$19.26 | \$122,031.36 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 1,257.60 LF | \$36.22 | \$45,550.27 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 42.00 EA | \$1,374.06 | \$57,710.52 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 23,140.80 LF | \$3.77 | \$87,240.82 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 42.00 EA | \$768.21 | \$32,264.82 |
| | Subcomponent Total | | | \$344,797.79 |
| X-Items | | | | |
| Pay item | Description | Quantity | Unit Unit Price | Extended Amount |
| 715-61-321 | LIGHT POLE CMPLT,STD,F&I, 40'MH,10'ARM L | 42.00 | EA \$11,499.60 | \$482,983.20 |
| | Lighting Component Total | | | \$827,780.99 |

BRIDGES COMPONENT

| Bridge 1 | | |
|-------------------------------------|--------------------------|----------------|
| Description | | Value |
| Estimate Type | | SF Estimate |
| Primary Estimate | | YES |
| Length (LF) | | 540.00 |
| Width (LF) | | 58.67 |
| Туре | | High Level |
| Cost Factor | | 1.25 |
| Structure No. | | |
| Removal of Existing Structures area | | 0.00 |
| Default Cost per SF | | \$140.00 |
| Factored Cost per SF | | \$175.00 |
| Final Cost per SF | | \$187.55 |
| Basic Bridge Cost | | \$5,544,315.00 |
| Description | US 27 BRIDGE OVER SR 544 | |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|--|---|---------------|------------|---|
| 400-2-10 | CONC CLASS II, APPROACH | 130.38 CY | \$597.85 | |
| | SLABS | | | \$77,947.68 |
| 415-1-9 | REINF STEEL- APPROACH SLABS | 22,816.50 LB | \$1.34 | \$30,574.11 |
| Bridge X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 521-5-13 | CONC TRAF RAIL- BRIDGE, 36" SING SLOPE | 2,400.00 LF | \$120.45 | \$289,080.00 |
| | Bridge 1 Total | | | \$5,941,916.79 |
| Bridge 2 Description Estimate Type Primary Estimate Length (LF) Width (LF) Type Cost Factor Structure No. Removal of Exis Default Cost per Factored Cost per Final Cost per S Basic Bridge C Description | ting Structures area [.] SF er SF SF | | | Value SF Estimate YES 540.00 58.67 High Level 1.25 0.00 \$140.00 \$175.00 \$178.43 \$5,544,315.00 |
| Bridge Pay Item | ıs | | | |
| Pay item | | Quantity Unit | Unit Price | Extended Amount |
| 400-2-10 | CONC CLASS II, APPROACH SLABS | 130.38 CY | \$597.85 | \$77,947.68 |
| 415-1-9 | REINF STEEL- APPROACH SLABS | 22,816.50 LB | \$1.34 | \$30,574.11 |
| | Bridge 2 Total | | | \$5,652,836.79 |
| Bridge 3 Description Estimate Type Primary Estimate Length (LF) Width (LF) Type | e | | | Value SF Estimate YES 105.00 20.00 Low Level |

| Cost Factor | 1.25 |
|-------------------------------------|-----------------------|
| Structure No. | |
| Removal of Existing Structures area | 1,260.00 |
| Default Cost per SF | \$114.00 |
| Factored Cost per SF | \$142.50 |
| Final Cost per SF | \$160.11 |
| Basic Bridge Cost | \$299,250 <u>.</u> 00 |
| Description | |

Bridge Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---|---------------|------------|-----------------|
| 110-3 | REMOVAL OF EXISTING STRUCTURES/BRIDGES | 1,260.00 SF | \$59.31 | \$74,730.60 |
| 400-2-10 | CONC CLASS II, APPROACH SLABS | 44.44 CY | \$597.85 | \$26,568.45 |
| 415-1-9 | REINF STEEL- APPROACH SLABS | 7,777.00 LB | \$1.34 | \$10,421.18 |
| | Bridge 3 Total | | | \$410,970.23 |
| | Bridges Component Total | | | \$12,005,723.81 |

RETAINING WALLS COMPONENT

| X-Items | | | | |
|-------------|--------------------------------------|---------------|------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 521-8-7 | CONC BARRIER, W/JUNCT SL, 36 SS | 4,000.00 LF | \$382.52 | \$1,530,080.00 |
| 548-12 | RET WALL SYSTEM, PERM, EX BARRIER | 12,638.00 SF | \$51.06 | \$645,296.28 |
| | Retaining Walls Component Total | | | \$2,175,376.28 |
| Sequence 24 | Total | | | \$24,160,412.36 |

Description: SR 544 under US 27 Overpass

EARTHWORK COMPONENT

| User Input Data | 1 | | | | |
|--------------------------------------|----------------------------|---------------|-----------------|-----------------|--|
| Description | | | | Value | |
| Standard Cleari | ng and Grubbing Limits L/R | | | 105.00 / 105.00 | |
| Incidental Cleari | ng and Grubbing Area | | | 0.00 | |
| Alignment Numb | Der | | | 1 | |
| Distance | | | | 0.303 | |
| Top of Structura | Course For Begin Section | | | 102.00 | |
| Top of Structura | Course For End Section | | | 102.00 | |
| | tion For Begin Section | | | 100.00 | |
| Horizontal Elevation For End Section | | | | 100.00 | |
| Front Slope L/R | | | 2 to 1 / 2 to 1 | | |
| Median Shoulder Cross Slope L/R | | | | 4.00 % / 4.00 % | |
| Outside Shoulder Cross Slope L/R | | | | 2.00 % / 2.00 % | |
| Roadway Cross Slope L/R | | | | 2.00 % / 2.00 % | |
| Pay Items | | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount | |
| 110-1-1 | CLEARING & GRUBBING | 7.71 AC | \$26,017.69 | \$200,596.39 | |
| 120-6 | EMBANKMENT | 10,502.65 CY | \$15.66 | \$164,471.50 | |
| | Earthwork Component Total | | | \$365,067.89 | |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 7 |
| Roadway Pavement Width L/R | 23.00 / 59.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------------|--|---------------|------------|-----------------|
| 160 - 4 | TYPE B STABILIZATION | 16,410.80 SY | \$8.44 | \$138,507.15 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 14,576.32 SY | \$17.06 | \$248,672.02 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 2,004.24 TN | \$180.14 | \$361,043.79 |

| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 |
|----------|---|
| | |

Pavement Marking Subcomponent

| Description | Value |
|--|---------|
| Include Thermo/Tape/Other | Y |
| Pavement Type | Asphalt |
| Solid Stripe No. of Paint Applications | 1 |
| Solid Stripe No. of Stripes | 4 |
| Skip Stripe No. of Paint Applications | 1 |
| Skip Stripe No. of Stripes | 5 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|------------|---|---------------|------------|-----------------|
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 245.00 EA | \$4.36 | \$1,068.20 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 1.21 GM | \$1,259.68 | \$1,524.21 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 1.52 GM | \$546.91 | \$831.30 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 1.21 GM | \$5,558.07 | \$6,725.26 |
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 1.52 GM | \$1,616.01 | \$2,456.34 |
| | Roadway Component Total | | | \$1,010,874.49 |

SHOULDER COMPONENT

User Input Data

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 22.25 / 22.25 |
| Total Outside Shoulder Perf. Turf Width L/R | 20.00 / 20.00 |
| Sidewalk Width L/R | 0.00 / 0.00 |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|-----------------------------------|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 1,599.84 LF | \$46.67 | \$74,664.53 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 1,599.84 LF | \$46.67 | \$74,664.53 |
| 570-1-1 | PERFORMANCE TURF | 7,110.40 SY | \$3.85 | \$27,375.04 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 3,199.68 LF | \$2.59 | \$8,287.17 |
| 104-11 | FLOATING TURBIDITY BARRIER | 75.75 LF | \$15.46 | \$1,171.10 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 75.75 LF | \$6.67 | \$505.25 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 104-18 | INLET PROTECTION SYSTEM | 16.00 EA | \$123.06 | \$1,968.96 |
| 107-1 | LITTER REMOVAL | 7.71 AC | \$48.53 | \$374.17 |
| 107-2 | MOWING | 7.71 AC | \$84.04 | \$647.95 |
| | Shoulder Component Total | | | \$192,347.76 |

| MEDIAN COMPONENT | | | | | |
|------------------------|-----------------------------------|---------------|------------|-----------------|--|
| User Input Data | | | | | |
| Description | | Value | | | |
| Total Median Wi | dth | 22.00 | | | |
| Performance Turf Width | | 20.00 | | | |
| | | | | | |
| Pay Items | | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount | |
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 3,199.68 LF | \$41.59 | \$133,074.69 | |
| 570-1-1 | PERFORMANCE TURF | 3,555.20 SY | \$3.85 | \$13,687.52 | |
| | Median Component Total | | | \$146,762.21 | |

DRAINAGE COMPONENT

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-------------|--|---------------|-------------|-----------------|
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 11.00 EA | \$7,474.89 | \$82,223.79 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 4.00 EA | \$14,168.32 | \$56,673.28 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 2.00 EA | \$6,847.68 | \$13,695.36 |
| 425-2-41 | MANHOLES, P-7, <10' | 2.00 EA | \$6,130.30 | \$12,260.60 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 808.00 LF | \$156.39 | \$126,363.12 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 72.00 LF | \$237.81 | \$17,122.32 |

| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 1,520.00 LF | \$299.07 | \$454,586.40 |
|-------------|--|-------------|----------|--------------|
| 570-1-1 | PERFORMANCE TURF | 92.11 SY | \$3.85 | \$354.62 |
| | Drainage Component Total | | | \$763,279.49 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 8.00 AS | \$462.47 | \$3,699.76 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 1.00 AS | \$1,578.08 | \$1,578.08 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 1.00 AS | \$7,692.26 | \$7,692.26 |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 1.00 AS | \$15,571.98 | \$15,571.98 |
| | Signing Component Total | | | \$28,542.08 |

LIGHTING COMPONENT

| Description Spacing | | | | Value MIN |
|------------------------|---|---------------|------------|---------------------|
| Pay Items Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 1,599.84 LF | \$19.26 | \$30,812.92 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 317.54 LF | \$36.22 | \$11,501.30 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 11.00 EA | \$1,374.06 | \$15,114.66 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 5,843.05 LF | \$3.77 | \$22,028.30 |
| 715-61-342 | LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L | 11.00 EA | \$8,402.83 | \$92,431.13 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 11.00 EA | \$768.21 | \$8,450.31 |
| | Subcomponent Total | | | \$180,338.62 |
| | Lighting Component Total | | | \$180,338.62 |

Description: Brenton Manor- Roundabout Central Island, includes landscaping and irrigation system

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.50 |
| Alignment Number | 1 |
| Distance | 0.057 |
| Top of Structural Course For Begin Section | 100.00 |
| Top of Structural Course For End Section | 100.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 5.00 % / 5.00 % |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |
| Pay Items | |
| | |

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.50 AC | \$26,017.69 | \$13,008.84 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 400.00 CY | \$15.28 | \$6,112.00 |
| | Comment: 22000 ft x 0.5 ft deep / 27 = 40 CY | 07 CY use 400 | | |
| 120-6 | EMBANKMENT | 400.00 CY | \$15.66 | \$6,264.00 |
| | Comment: 22000 ft x 0.5 ft deep / 27 = 40 CY | 07 CY use 400 | | |
| | Earthwork Component Total | | | \$25,384.85 |

ROADWAY COMPONENT

| User Input Data | |
|----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |

| Structural Spread Rate | 220 |
|-----------------------------|-----|
| Friction Course Spread Rate | 110 |

| X-Items | | | | |
|---------------------------|--|-----------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 160-4 | TYPE B STABILIZATION | 1,800.00 SY | \$8.44 | \$15,192.00 |
| | Comment: measure (22121-6175)SF /9 1800 SY | = 1772 SY use | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,300.00 SY | \$17.06 | \$22,178.00 |
| | Comment: measure (22121-10477)SF /9 1300 SY | 9 = 1294 SY use | | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 143.00 TN | \$180.14 | \$25,760.02 |
| | Comment: 2" Superpave Traffic C (1300 | X 110 X 2)/2000 | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 72.00 TN | \$218.00 | \$15,696.00 |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 | (1300 X | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.05 GM | \$1,259.68 | \$62.98 |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$707.41 | \$14.15 |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 6.00 EA | \$35.35 | \$212.10 |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.07 GM | \$1,345.62 | \$94.19 |
| Pavement Mark | ing Subcomponent | | | |
| Description | | Value | | |
| Include Thermo/Tape/Other | | N | | |
| Pavement Type | | Asphalt | | |
| • | of Paint Applications | 2 | | |
| Solid Stripe No. | | 4 2 | | |
| Skip Stripe No. (| of Paint Applications | 2 | | |

Roadway Component Total

\$79,209.44

SHOULDER COMPONENT

0

User Input Data

Skip Stripe No. of Stripes

| Description | Value |
|---|---------------|
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |

| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
|----------------------------------|-------------|
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

Erosion Control

| Pay Items Pay item | Description | Quantity Unit | Unit Price E | xtended Amount |
|-----------------------|------------------------------------|---------------|--------------|----------------|
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$48.53 | \$12.13 |
| 107-2 | MOWING | 0.25 AC | \$84.04 | \$21.01 |
| | Shoulder Component Total | | | \$2,722.20 |

MEDIAN COMPONENT

| User Input Data | |
|----------------------------------|-------------|
| Description | Value |
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

| X-Items | | | | |
|-----------|--|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 350-30-13 | CONC PAVEMENT FOR ROUNDABOUT APRON, 12" | 480.00 SY | \$335.92 | \$161,241.60 |
| 520-2-4 | CONCRETE CURB, TYPE D | 280.00 LF | \$47.14 | \$13,199.20 |
| 520-2-8 | CONCRETE CURB, TYPE RA | 370.00 LF | \$68.39 | \$25,304.30 |
| 570-1-2 | PERFORMANCE TURF, SOD | 700.00 SY | \$5.40 | \$3,780.00 |
| | Median Component Total | | | \$203,525.10 |

| Pay item Description | | Quantity Unit Unit P | | Price Extended Amount | |
|----------------------|-------------------------------------|----------------------|----------|-----------------------|--|
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 4.00 AS | \$462.47 | \$1,849.88 | |
| | Signing Component Total | | | \$1,849.88 | |
| lleer Input Data | | OMPONENT | | | |
| User Input Data | | | | | |
| Description | | Value | | | |
| Lump Sum Cost % | | 40,000.00 0.00 | | | |
| Component Deta | ail | N | | | |
| | Landscaping Component Total | | | \$40,000.00 | |
| | | | | | |

Description: Brenton Manor-4-Lane Approach

EARTHWORK COMPONENT

| User Input Data | |
|--|-----------------|
| Description | Value |
| Standard Clearing and Grubbing Limits L/R | 0.00 / 0.00 |
| Incidental Clearing and Grubbing Area | 0.70 |
| Alignment Number | 1 |
| Distance | 0.057 |
| Top of Structural Course For Begin Section | 100.00 |
| Top of Structural Course For End Section | 100.00 |
| Horizontal Elevation For Begin Section | 100.00 |
| Horizontal Elevation For End Section | 100.00 |
| Front Slope L/R | 6 to 1 / 6 to 1 |
| Median Slope L/R | 6 to 1 / 6 to 1 |
| Median Shoulder Cross Slope L/R | 5.00 % / 5.00 % |
| Outside Shoulder Cross Slope L/R | 6.00 % / 6.00 % |
| Roadway Cross Slope L/R | 2.00 % / 2.00 % |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|-------------|-----------------|
| 110-1-1 | CLEARING & GRUBBING | 0.70 AC | \$26,017.69 | \$18,212.38 |
| X-Items | | | | |
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 120-1 | REGULAR EXCAVATION | 500.00 CY | \$15.28 | \$7,640.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 50 | 0 CY | | |
| 120-6 | EMBANKMENT | 500.00 CY | \$15.66 | \$7,830.00 |
| | Comment: 27000 ft X 0.5 ft deep / 27 = 50 | 0 CY | | |
| | Earthwork Component Total | | | \$33,682.38 |

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 2 |
| Roadway Pavement Width L/R | 12.00 / 12.00 |
| Structural Spread Rate | 220 |
| Friction Course Spread Rate | 110 |

| X-Items | | | | | |
|---------------|--|-------------------|---------------|---------------|--|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount | |
| 160-4 | TYPE B STABILIZATION | 2,200.00 SY | \$8.44 | \$18,568.00 | |
| | Comment: 4-Lane Leg: 19785 sf/9=2198 SY use 2200 SY | | | | |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 1,950.00 SY | \$17.06 | \$33,267.00 | |
| | Comment: 4-Lane Leg: measure approx | k. 1950 SY | | | |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 215.00 TN | \$180.14 | \$38,730.10 | |
| | Comment: 2" Superpave Traffic C (1950) = 215 TN |) X 110 X 2)/2000 | | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 108.00 TN | \$218.00 | \$23,544.00 | |
| | Comment: 1" FC-9.5 Traffic C PG 76-22 110)/2000 = 107.25 TN use 108 TN | 2 (1950 X | | | |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 0.20 GM | \$1,259.68 | \$251.94 | |
| 710-11-102 | PAINTED PAVT MARK,STD,WHITE,SOLID,8" | 0.04 GM | \$1,716.71 | \$68.67 | |
| 710-11-123 | PAINTED PAVT MARK,STD,WHITE,SOLID, 12" | 115.00 LF | \$1.07 | \$123.05 | |
| 710-11-124 | PAINTED PAVT MARK,STD,WHITE,SOLID, 18" | 30.00 LF | \$1.44 | \$43.20 | |
| 710-11-125 | PAINTED PAVT MARK,STD,WHITE,SOLID,24" | 198.00 LF | \$1.92 | \$380.16 | |
| 710-11-141 | PAINTED PAVT MARK,STD,WH,DOT GUIDE, 6" | 0.02 GM | \$707.41 | \$14.15 | |
| 710-11-144 | PAINTED PAVEMENT MARKINGS, STANDARD, WHI | 0.01 GM | \$1,262.94 | \$12.63 | |
| 710-11-160 | PAINTED PAVT MARK,STD,WHITE, MESSAGE | 2.00 EA | \$63.83 | \$127.66 | |
| 710-11-170 | PAINTED PAVT MARK,STD,WHITE, ARROWS | 4.00 EA | \$35.35 | \$141.40 | |
| 710-11-201 | PAINTED PAVT MARK,STD,YELLOW,SOLID,6" | 0.15 GM | \$1,345.62 | \$201.84 | |
| 710-11-224 | PAINTED PAVT MARK,STD,YELLOW,SOLID,18" | 55.00 LF | \$1.73 | \$95.15 | |
| Pavement Marl | king Subcomponent | | | | |
| Description | | Value | | | |

| Description | value | |
|--|---------|--|
| Include Thermo/Tape/Other | N | |
| Pavement Type | Asphalt | |
| Solid Stripe No. of Paint Applications | 2 | |
| Solid Stripe No. of Stripes | 4 | |
| Skip Stripe No. of Paint Applications | 2 | |

\$115,568.95

SHOULDER COMPONENT

| User Input Data | |
|---|---------------|
| Description | Value |
| Total Outside Shoulder Width L/R | 10.00 / 10.00 |
| Total Outside Shoulder Perf. Turf Width L/R | 2.67 / 2.67 |
| Paved Outside Shoulder Width L/R | 5.00 / 5.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Exte | ended Amount |
|----------|--|-------------------|-----------------|--------------|
| 285-701 | OPTIONAL BASE, BASE GROUP 01 | 154.00 SY | \$30.81 | \$4,744.74 |
| | Comment: 4-Lane Leg: 130 ft X 5.33 ft wir 154 SY | de X 2 sides /9 = | | |
| 337-7-82 | ASPH CONC FC,TRAFFIC C,FC- 9.5,PG 76-22 | 10.00 TN | \$218.00 | \$2,180.00 |
| | Comment: 1" thick FC: (154 SY X 110)/20 use 10 TN | 00 = 8.47 TN | | |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 440.00 SY | \$65.70 | \$28,908.00 |
| 527-2 | DETECTABLE WARNINGS | 104.00 SF | \$35.46 | \$3,687.84 |
| 570-1-2 | PERFORMANCE TURF, SOD | 380.00 SY | \$5.40 | \$2,052.00 |

Erosion Control

| Pay Items | | | | |
|-----------|--------------------------|---------------|---------------|---------------|
| Pay item | Description | Quantity Unit | Unit Price Ex | tended Amount |
| 104-10-3 | SEDIMENT BARRIER | 600.00 LF | \$2.59 | \$1,554.00 |
| 107-1 | LITTER REMOVAL | 0.25 AC | \$48.53 | \$12.13 |
| 107-2 | MOWING | 0.25 AC | \$84.04 | \$21.01 |
| | Shoulder Component Total | | | \$43,159.72 |

MEDIAN COMPONENT

| Description | Value |
|----------------------------------|-------------|
| Total Median Width | 0.00 |
| Performance Turf Width | 0.00 |
| Total Median Shoulder Width L/R | 0.00 / 0.00 |
| Paved Median Shoulder Width L/R | 0.00 / 0.00 |
| Structural Spread Rate | 110 |
| Friction Course Spread Rate | 80 |
| Total Width (T) / 8" Overlap (O) | Т |
| Rumble Strips �No. of Sides | 0 |

X-Items

| Pay item | Description | Quantity Unit | Unit Price Ext | ended Amount |
|----------|-----------------------------------|---------------|----------------|--------------|
| 520-1-7 | CONCRETE CURB & GUTTER, TYPE E | 240.00 LF | \$41.59 | \$9,981.60 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 350.00 LF | \$46.67 | \$16,334.50 |
| 527-2 | DETECTABLE WARNINGS | 40.00 SF | \$35.46 | \$1,418.40 |
| 570-1-2 | PERFORMANCE TURF, SOD | 120.00 SY | \$5.40 | \$648.00 |
| | Median Component Total | | | \$28,382.50 |

DRAINAGE COMPONENT

X-Items Pay item Description Quantity Unit Unit Price Extended Amount 425-1-361 INLETS, CURB, TYPE P-6, <10' 2.00 EA \$11,175.07 \$22,350.14 425-2-41 MANHOLES, P-7, <10' 1.00 EA \$6,130.30 \$6,130.30 PIPE CULV, OPT MATL, ROUND, 430-175-124 224.00 LF \$156.39 \$35,031.36 24"S/CD **Drainage Component Total** \$63,511.80

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|---------------------------------------|---------------|--------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price E | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 7.00 AS | \$462.47 | \$3,237.29 |
| 700-2-14 | MULTI- POST SIGN, F&I GM, 31-50 SF | 1.00 AS | \$5,727.04 | \$5,727.04 |
| | Signing Component Total | | | \$8,964.33 |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273-1-22-01 Letting Date: 01/2099 | | | | | |
|--|--|---|--------|-------------------------|-----------------|
| Description: SR 544 (LUCERNE PARK RD) FROM MARTIN LUTHER KING BLVD TO SR 17 | | | | | |
| District: 01 Contract Class | County: 16 POLK : 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | | : English ct Length: | 7.950 MI |
| Project Manage | er: JMK-AEH-DCT | | | | |
| Version 38 Project Grand Total \$64,525,900.19 Segment 7-West of Brenton Manor Ave. to La Vista Drive - June 2024 Unit Cost Updates from Version 30 - 6/3/24 | | | | | |
| Project Sequences Subtotal \$48,466,704.45 | | | | | |
| 102-1 | Maintenance of Traffic | 15.00 % | | | \$7,270,005.67 |
| 101-1 | Mobilization | 10.00 % | | | \$5,573,671.01 |
| Project Sequer | ices Total | | | | \$61,310,381.13 |
| Project Unknow | ns | 5.00 % | | | \$3,065,519.06 |
| Design/Build | | 0.00 % | | | \$0.00 |
| Non-Bid Comp | onents: | | | | |
| | Description | Quantity U | nit U | nit Price | Extended Amount |
| uuu_25 | INITIAL CONTINGENCY AMOUNT (DO NOT BID) | LS | S \$15 | 0,000.00 | \$150,000.00 |
| Project Non-Bi | Project Non-Bid Subtotal \$150,000.00 | | | | |
| Version 38 Proj | Version 38 Project Grand Total \$64,525,900.19 | | | | |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273-1- | 22-01 | | | L | etting Da | te: 01/2099 |
|---|--|------------------------------------|---------|---------------------------------|-----------|-----------------------------|
| Description: SR 5 | 44 (LUCERNE PARK RD) FR | OM MARTIN LUTHER | KING E | BLVD TO SF | R 17 | |
| District: 01 Contract Class: 4 | County: 16 POLK Lump Sum Project: N | Market Area: 08 Design/Build: N | | : English ct Length : | 7.950 M | I |
| Project Manager: | JMK-AEH-DCT | | | | | |
| Version 39 Project Description: Segm | : Grand Total ent 8-LaVista Drive to SR 17 - | June 2024 Unit Cost L | Ipdates | from Versio | - | . 480,190.88 3/24 |
| Sequence: 25 NDL | J - New Construction, Divided, | Urban | | Net L | ength: | 0.710 MI 3.749 LF |
| Description: Seg | ment 8-LaVista Drive to SR 17 | | | | | |
| | EARTHV | VORK COMPONENT | | | | |
| User Input Data | | | | | | |
| Description | | | | | | Value |
| | and Grubbing Limits L/R | | | | 56.0 | 0 / 56.00 |
| Incidental Clearing | and Grubbing Area | | | | | 0.00 |
| Alignment Number | | | | | | 1 |
| Distance | | | | | | 0.710 |
| | ourse For Begin Section | | | | | 102.00 |
| | ourse For End Section | | | | | 102.00 |
| | n For Begin Section | | | | | 100.00 |
| Horizontal Elevatio | n For End Section | | | | 2 to | 100.00 1 / 2 to 1 |
| Front Slope L/R Median Shoulder C | Cross Slope L/P | | | | | / 4.00 % |
| Outside Shoulder (| • | | | | | / 2.00 % |
| Roadway Cross SI | • | | | | | / 2.00 % |
| Pay Items | | | | | | |
| - | Description | Quantity | Unit | Unit Price | Extende | ed Amount |
| 110-1-1 (| CLEARING & GRUBBING | 9.64 | AC | \$56,017.69 | \$ | 540,010.53 |
| 120 - 6 | EMBANKMENT | 18,635.70 | CY | \$24.69 | \$ | 460,115.43 |

Earthwork Component Total

ROADWAY COMPONENT

| User Input Data | |
|-----------------------------|---------------|
| Description | Value |
| Number of Lanes | 4 |
| Roadway Pavement Width L/R | 22.00 / 22.00 |
| Structural Spread Rate | 275 |
| Friction Course Spread Rate | 165 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|---|---------------|------------|-----------------|
| 160-4 | TYPE B STABILIZATION | 22,626.09 SY | \$10.73 | \$242,777.95 |
| 285-709 | OPTIONAL BASE, BASE GROUP 09 | 18,327.47 SY | \$20.06 | \$367,649.05 |
| 334-1-13 | SUPERPAVE ASPHALTIC CONC, TRAFFIC C | 2,520.03 TN | \$193.64 | \$487,978.61 |
| 337-7-83 | ASPH CONC FC,TRAFFIC C,FC- 12.5,PG 76-22 | 1,512.02 TN | \$207.93 | \$314,394.32 |

Pavement Marking Subcomponent

| Description | Value | |
|--|---------|--|
| Include Thermo/Tape/Other | Y | |
| Pavement Type | Asphalt | |
| Solid Stripe No. of Paint Applications | 1 | |
| Solid Stripe No. of Stripes | 4 | |
| Skip Stripe No. of Paint Applications | 1 | |
| Skip Stripe No. of Stripes | 2 | |

| Pay Items | | | | |
|------------|---|---------------|------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 706-1-3 | RAISED PAVMT MARK, TYPE B | 288.00 EA | \$4.36 | \$1,255.68 |
| 710-11-101 | PAINTED PAVT MARK,STD,WHITE,SOLID,6" | 2.84 GM | \$1,259.68 | \$3,577.49 |
| 710-11-131 | PAINTED PAVT MARK,STD,WHITE,SKIP, 6" | 1.42 GM | \$546.91 | \$776.61 |
| 711-16-101 | THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6" | 2.84 GM | \$5,558.07 | \$15,784.92 |
| 711-16-131 | THERMOPLASTIC, STD-OTH, WHITE, SKIP, 6" | 1.42 GM | \$1,616.01 | \$2,294.73 |
| | Roadway Component Total | | | \$1,436,489.36 |

SHOULDER COMPONENT

User Input DataValueDescriptionValueTotal Outside Shoulder Width L/R14.25 / 14.25Total Outside Shoulder Perf. Turf Width L/R4.00 / 4.00Sidewalk Width L/R8.00 / 8.00

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 3,748.80 LF | \$46.67 | \$174,956.50 |
| 520-1-10 | CONCRETE CURB & GUTTER, TYPE F | 3,748.80 LF | \$46.67 | \$174,956.50 |
| 522-1 | CONCRETE SIDEWALK AND DRIVEWAYS, 4" | 6,664.53 SY | \$65.70 | \$437,859.62 |
| 570-1-1 | PERFORMANCE TURF | 3,332.27 SY | \$4.62 | \$15,395.09 |

Erosion Control

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|--|---------------|------------|-----------------|
| 104-10-3 | SEDIMENT BARRIER | 7,497.60 LF | \$2.71 | \$20,318.50 |
| 104-11 | FLOATING TURBIDITY BARRIER | 177.50 LF | \$15.46 | \$2,744.15 |
| 104-12 | STAKED TURBIDITY BARRIER- NYL REINF PVC | 177.50 LF | \$6.67 | \$1,183.92 |
| 104-15 | SOIL TRACKING PREVENTION DEVICE | 1.00 EA | \$2,689.06 | \$2,689.06 |
| 104-18 | INLET PROTECTION SYSTEM | 37.00 EA | \$123.06 | \$4,553.22 |
| 107-1 | LITTER REMOVAL | 18.07 AC | \$48.53 | \$876.94 |
| 107-2 | MOWING | 18.07 AC | \$84.04 | \$1,518.60 |
| | Shoulder Component Total | | | \$837,052.11 |

MEDIAN COMPONENT

User Input Data

| Description | Value |
|------------------------|-------|
| Total Median Width | 15.50 |
| Performance Turf Width | 11.00 |

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|----------|-------------------------|---------------|------------|-----------------|
| 520-1-7 | CONCRETE CURB & GUTTER, | 7,497.60 LF | \$41.59 | \$311,825.18 |

TYPE E

| 570-1-1 | PERFORMANCE TURF | 4,581.87 SY | \$4.62 | \$21,168.24 |
|---------|------------------|-------------|--------|-------------|
| | | | | |

Median Component Total

\$332,993.42

DRAINAGE COMPONENT

| Pay Items | | | | |
|-------------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 425-1-351 | INLETS, CURB, TYPE P-5, <10' | 26.00 EA | \$7,474.89 | \$194,347.14 |
| 425-1-451 | INLETS, CURB, TYPE J-5, <10' | 8.00 EA | \$14,168.32 | \$113,346.56 |
| 425-1-521 | INLETS, DT BOT, TYPE C, <10' | 4.00 EA | \$6,847.68 | \$27,390.72 |
| 425-2-41 | MANHOLES, P-7, <10' | 4.00 EA | \$6,130.30 | \$24,521.20 |
| 430-175-124 | PIPE CULV, OPT MATL, ROUND, 24"S/CD | 1,880.00 LF | \$156.39 | \$294,013.20 |
| 430-175-136 | PIPE CULV, OPT MATL, ROUND, 36"S/CD | 168.00 LF | \$237.81 | \$39,952.08 |
| 430-175-148 | PIPE CULV, OPT MATL, ROUND, 48"S/CD | 3,552.00 LF | \$299.07 | \$1,062,296.64 |
| 570-1-1 | PERFORMANCE TURF | 215.84 SY | \$4.62 | \$997.18 |
| | Drainage Component Total | | | \$1,756,864.72 |

SIGNING COMPONENT

| Pay Items | | | | |
|-----------|--|---------------|-------------|-----------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 700-1-11 | SINGLE POST SIGN, F&I GM, <12 SF | 18.00 AS | \$462.47 | \$8,324.46 |
| 700-1-12 | SINGLE POST SIGN, F&I GM, 12-20 SF | 2.00 AS | \$1,578.08 | \$3,156.16 |
| 700-2-15 | MULTI- POST SIGN, F&I GM, 51- 100 SF | 2.00 AS | \$7,692.26 | \$15,384.52 |
| 700-2-16 | MULTI- POST SIGN, F&I GM, 101- 200 SF | 2.00 AS | \$15,571.98 | \$31,143.96 |
| | Signing Component Total | | | \$58,009.10 |

SIGNALIZATIONS COMPONENT

| Туре | | |
|-------------|--|--|
| Multiplier | | |
| Description | | |

4 Lane Mast Arm

1

Pay Items

| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
|-----------|---|---------------|-------------|-----------------|
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 750.00 LF | \$19.26 | \$14,445.00 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 250.00 LF | \$36.22 | \$9,055.00 |
| 632-7-1 | SIGNAL CABLE- NEW OR RECO, FUR & INSTALL | 1.00 PI | \$10,834.31 | \$10,834.31 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 16.00 EA | \$1,374.06 | \$21,984.96 |
| 639-1-112 | ELECTRICAL POWER SRV,F&I,OH,M,PUR BY CON | 1.00 AS | \$3,747.93 | \$3,747.93 |
| 639-2-1 | ELECTRICAL SERVICE WIRE, F&I | 60.00 LF | \$9.92 | \$595.20 |
| 649-21-10 | STEEL MAST ARM ASSEMBLY, F&I, 60' | 4.00 EA | \$81,339.84 | \$325,359.36 |
| 650-1-14 | VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W | 12.00 AS | \$1,499.43 | \$17,993.16 |
| 653-1-11 | PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY | 8.00 AS | \$770.15 | \$6,161.20 |
| 660-1-102 | LOOP DETECTOR INDUCTIVE, F&I, TYPE 2 | 12.00 EA | \$704.50 | \$8,454.00 |
| 660-2-106 | LOOP ASSEMBLY, F&I, TYPE F | 12.00 AS | \$1,354.74 | \$16,256.88 |
| 665-1-11 | PEDESTRIAN DETECTOR, F&I, STANDARD | 8.00 EA | \$239.20 | \$1,913.60 |
| 670-5-111 | TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT | 1.00 AS | \$47,427.85 | \$47,427.85 |
| 700-3-101 | SIGN PANEL, F&I GM, UP TO 12 SF | 4.00 EA | \$277.68 | \$1,110.72 |
| | Signalizations Component Total | | | \$485,339.17 |

SR 17

LIGHTING COMPONENT

Conventional Lighting Subcomponent

| Description Spacing Pay Items | | | | Value MIN |
|---|--------------------------------------|---------------|------------|---------------------|
| Pay item | Description | Quantity Unit | Unit Price | Extended Amount |
| 630-2-11 | CONDUIT, F& I, OPEN TRENCH | 3,748.80 LF | \$19.26 | \$72,201.89 |
| 630-2-12 | CONDUIT, F& I, DIRECTIONAL BORE | 744.08 LF | \$36.22 | \$26,950.58 |
| 635-2-11 | PULL & SPLICE BOX, F&I, 13" x 24" | 25.00 EA | \$1,374.06 | \$34,351.50 |

| Sequence 25 | 5 Total | | | \$6,321,271.29 |
|-------------|---|--------------|------------|----------------|
| | Lighting Component Total | | | \$414,397.45 |
| | Subcomponent Total | | | \$414,397.45 |
| 715-500-1 | POLE CABLE DIST SYS, CONVENTIONAL | 25.00 EA | \$768.21 | \$19,205.25 |
| 715-61-342 | LIGHT POLE CMPLT,STD,F&I, 40'MH,12'ARM L | 25.00 EA | \$8,402.83 | \$210,070.75 |
| 715-1-13 | LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2 | 13,691.64 LF | \$3.77 | \$51,617.48 |

FDOT Long Range Estimating System - Production R3: Project Details by Sequence Report

| Project: 440273-1-22-01 Letting Date: 01/2099 | | | | | |
|--|---|------------------------------------|--------|-----------------------------|-----------------|
| Description: SR | 544 (LUCERNE PARK RD) FROM | MARTIN LUTHER M | KING | BLVD TO SI | R 17 |
| District: 01 Contract Class: | County: 16 POLK 4 Lump Sum Project: N | Market Area: 08 Design/Build: N | | ts: English ject Length: | 7.950 MI |
| Project Manage | r: JMK-AEH-DCT | | | | |
| Version 39 Project Grand Total\$8,480,190.88Description: Segment 8-LaVista Drive to SR 17 - June 2024 Unit Cost Updates from Version 31 - 6/3/24 | | | | | |
| Project Sequen | ces Subtotal | | | | \$6,321,271.29 |
| 102-1 | Maintenance of Traffic | 15.00 % | / 0 | | \$948,190.69 |
| 101-1 | Mobilization | 10.00 % | 0 | | \$726,946.20 |
| Project Sequen | ces Total | | | | \$7,996,408.18 |
| Project Unknown | S | 5.00 % | / 0 | | \$399,820.41 |
| Design/Build | | 0.00 % | 0 | | \$0.00 |
| Non-Bid Compo | nents: | | | | |
| - | Description | Quantity U | Init | Unit Price | Extended Amount |
| uuu 26 | NITIAL CONTINGENCY AMOUNT (DO NOT BID) | L | S | \$83,962.29 | \$83,962.29 |
| | Project Non-Bid Subtotal \$83,962.29 | | | | |
| Version 39 Proje | Version 39 Project Grand Total \$8,480,190.88 | | | | |