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MEMORANDUM

DATE: August 7, 2017

TO: Kari Parsons – El Paso County Planning and Community Development

FROM: Jeff Hodsdon - LSC Transportation Consultants, Inc.

SUBJECT: Falcon Marketplace Driveway Permit Application
Woodmen Road Access Review 1
EPC File: AP-17-548
Response to Comments Memorandum
LSC #164350

Following are LSC Transportation Consultants, Inc. responses to the May 31, 2017 El Paso County Planning and Community Development Department comments regarding the May 15, 2017 Falcon Marketplace Driveway Permit Application Updated Traffic Impact Analysis by LSC. An updated traffic report accompanies this response memo.

Transportation/Traffic Impact Study (TIS)

1. *Regarding the statement on page 1 of the TIS that the new provision for public access is a "substantial change" from the previous proposal in terms of the purpose of the access, the function and safety of the new proposed design is of concern.*

   LSC Response: The purpose of the access has been expanded to provide much improved access to the properties to the west that access the Woodmen Frontage Road. The new design incorporates a roundabout, which allows for this significant benefit to those property owners and is substantially different from the previously proposed straight access into the site. The previous design basically only served the site whereas the new design provides ingress for all properties along the Woodmen Frontage Road. In our opinion, this qualifies as a "substantial change."

   To address staff concerns regarding the new, substantially changed design, a thorough analysis of the proposed acceleration/deceleration lane on westbound Woodmen, the right-in and roundabout, and the study area intersections has been included in the updated traffic report. A weaving analysis has been completed as well as a roundabout analysis including truck turning, fastest path, LOS, queuing. Also, the roundabout has been shifted to the north in response to

staff comments/concerns and some design modifications have been made since the previous version.

2. *The location of the proposed roundabout also needs to be considered in terms of spacing from and impacts to Woodmen Road as well as roundabout functionality. Is there an "optimal" location for the roundabout that would minimize impacts to Woodmen Road mainline traffic, such as further north within the site?*

   LSC Response: We have shifted the roundabout north about 30 feet working with the property ownership constraint at the southwest property corner. The fastest-path analysis is within the acceptable range for a roundabout and the right-turn speed from Woodmen Road on the exit radius is typical of other channelized right-turn access points. Also, the roundabout queueing analysis was run using three different analysis methods, Highway Capacity Manual, Rodel, and SimTraffic. The worst-case (longest) queue projected from the three methods of analysis indicates the maximum queue occurrence not exceeding about 75-80 feet during peak hours based on the analysis of 2040 projections. Given these thorough results indicating minimal peak queueing at the south leg of the roundabout, Woodmen Road mainline traffic will not be impacted. To graphically demonstrate this, Figure 23 in the updated TIS shows additional detail of the stacking distance approaching the roundabout as well as acceleration and deceleration distances along the proposed Woodmen Road accel/decel lane from Meridian Road west to the right-in access.

   The frontage road traffic speed will be reduced through this site due to design considerations regardless of whether there is an access from Woodmen Road or not. The design as proposed appears to be a public driveway in County right-of-way for the benefit of the shopping center.

   LSC Response: Any access point or roadway connection starts in public right-of-way. The new design of the right-in and the roundabout is clearly **not** just for the benefit of shopping center. The previous right-in-only geometry was more of a driveway for the benefit of the shopping center, however the new design clearly is not. It allows for significantly improved public and emergency vehicle access for all frontage road users/properties located to the west of this access. The access also provides a benefit to motorists traveling on northbound Meridian at the Woodmen/Meridian intersection as it will allow for a driver option to follow an alternate route to avoid congestion. It will remove trips from the tightly spaced Golden Sage intersections and **prevent a projected future LOS F condition** for the northbound left turn on Meridian Road at the Eastonville/Meridian intersection. This left turning movement is planned to serve not only the Falcon Marketplace traffic but also traffic entering potential future development areas north of Falcon Marketplace.

   The new design uses a combination of the county right-of-way and **owner-dedicated right-of-way** to add the roundabout. The roundabout adds the capability for the public to directly access the east end of the frontage road and travel west to access the existing and future residential properties and businesses along the Woodmen Frontage Road. In addition to providing this benefit, it is important to keep in mind that this shopping center with the proposed King Soopers, other stores and restaurants, and a medical building will benefit county residents of the Falcon area because these services will now be located within the commercial

node of Falcon and area residents choosing to shop at King Soopers will not need to travel to Colorado Springs. Therefore "for the benefit of the shopping center" will actually be "for the benefit of Falcon area county residents wanting to travel to the shopping center to purchase food and other goods and to access needed services."

Liability for accidents at this location due to non-standard design features needs to be considered.

revised

LSC Response: If this comment is regarding the access and the roundabout, the roundabout design has been prepared incorporating standard features and roundabout design elements and operations have been verified through standard design analysis procedures including fastest-path analysis, truck turning analysis, level of service analysis, and queuing analysis. The continuous accel/decel lane proposed between Meridian Road and the right-in access is a very common configuration in the Colorado Springs metropolitan area and other front range cities.

If this comment is regarding the internal roadway through the site, the conditions of approval of the zoning require a public road connection through the site but along with that requirement, the resolution clearly allows for a road with design modifications and a reduced design speed through the site. Moreover, the county only has one available street classification for non-residential development – the Urban Non-Residential Collector – with one specific set of design standards available for design of a non-residential public street. This comment seems to imply that a design not conforming to this single available county non-residential classification and its accompanying design elements would be unsafe or unacceptable. It is common for streets through and adjacent to shopping centers to have designs that strike a balance between mobility and access deemed most appropriate for the location. This was recognized at the time of zoning approval and thus the condition of approval allowing for this necessary flexibility. The applicant and staff have been working on the design elements and these are being addressed with the Preliminary Plan. Through meetings with staff, the applicant, in response to staff concerns, has already agreed to widen the roadway to provide paved shoulders, add sidewalks to both sides, expand curb radii, etc. The applicant will continue to work with staff on the elements of this street through the Preliminary Plan process, which includes the deviation request anticipated with the approval conditions of the property zoning for the design elements.

from the previous non-standard design

There is always compromise on the design aspects of any site, and "compromise" does not mean compromising safety. At the zoning stage, the need for compromise was recognized and acknowledged due to several factors. The first is the site has been burdened with the requirement to complete the extension of the Woodmen Frontage Road to Meridian Road. This requirement has been placed on this property because public funds were not used to purchase the property and finish the connection when the Woodmen expressway was created, of which the frontage road was a component. The second factor is the limited available access to the site. Access is only allowed to Meridian Road and the east terminus of the Woodmen Frontage Road due to the classification of Woodmen Road (Expressway) and the Woodmen Access Management Plan. However, the Board of County Commissioners when adopting the Access Management Plan understood that in circumstances, modifications to the access plan would likely be needed and, as such, included a provision for additional right-in/right-out and/or right-

, in accordance with the approved commercial rezining,

No.

in-only access points on a case-by-case basis. Also, the number and type of access to Meridian Road is limited due to its Principal Arterial classification. Other than the end of the Woodmen Frontage Road, no other adjacent public streets are available on the west or north sides.

The third factor is the accommodation of the regional detention facility, which will clearly provide an area-wide benefit and requires a significant percentage of land within the 36-acre site. The fourth factor is the location of the Woodmen Road connection point, which is in the southwest corner of the site. It was recognized at the time of zoning and reflected in the approval conditions that the requirement of this site to complete the public street connection from the end of the Woodmen Frontage Road in the southeast corner of the site diagonally to the opposite (northeast) corner of the site (at the Eastonville/Meridian intersection) would require deviations to the County Non-Residential Collector. If the connection point had hypothetically been provided in the northwest corner of the site instead, many or most of the deviations to criteria would not likely be necessary as the connecting street would be in a straight alignment with Eastonville Road. It is understood that in order to create the Woodmen Road expressway, there were limited options for the frontage road alignment due to property ownership. However, the creation of the end of the frontage road to facilitate the Woodmen Expressway created the situation where the road connection must somehow cross the site diagonally to connect to Eastonville/Meridian. The creation of the Woodmen expressway combined with the need for the regional detention facility created a situation for this property that requires (and is allowed per zoning approval) a custom design, and thus a deviation.

3. *Some level of rationale / standard should be provided in the report that supports the 20 percent reduction in the total number of vehicle-trips generated by the land uses due to internal site vehicle-trips (page 5).*

LSC Response: When individual land uses within a contiguous shopping center are disaggregated and trip generation estimates for each lot are itemized individually using trip generation rates otherwise used for stand-alone, isolated developments, it is necessary to estimate the internal capture of trips. The updated report includes a detailed calculation sheet for internal trip capture. The internal trip capture estimates have been based on the methodology recommended in the ITE *Trip Generation Handbook, 3rd Edition (August 2014*. The trip generation table has been updated to reflect some changes to the specific land uses. The overall internal trip capture trip reduction percentage in this updated report is now less than 20 percent. For contrast, the current afternoon peak-hour trip generation estimate with reductions for internal trips is 154 percent higher (more conservative) than if the entire site were estimated as a "shopping center" using ITE Land Use 820 (Shopping Center). The morning peak-hour estimate is 373 percent higher.

4. *The TIS needs to include all items required by ECM Appendix B including but not limited to peak hour link volumes and LOS for Meridian Road and Woodmen Road and safety / accident analysis.*

LSC Response: Peak-hour link volumes and ADT values have been added to key TIS figures. In the meeting with staff, it was our understanding that staff agreed that the analysis would not need to encompass a larger study area with additional intersections farther off-site, rather

provide additional detail and analysis at the ones already included in the study. The updated TIS also includes a complete roundabout analysis, queuing analysis, and weaving analysis for Woodmen Road between Meridian Road and the proposed right-in access. The updated report includes the accident data received from the Colorado State Patrol.

5. *Additional offsite impacts will require mitigation if the Woodmen right-in access is approved.*

   LSC Response: The updated TIS addresses this comment. As mentioned in the response to #4 above, per the meeting with staff, "additional offsite impacts" does not translate to additional offsite intersections. The TIS already included intersections that will see differences in turning movements with the addition of the right-in. The study addresses anticipated shifts in traffic patterns at the study area intersections resulting from the addition of the proposed right-in at the east end of the frontage road. These are more localized shifts. Also, note that the shifts in traffic patterns largely reflect the benefit to businesses and property owners on the north side of Woodmen Road by providing drivers with another choice of entry. With choices come better operations as motorists can shift travel patterns on the fly to avoid congestion and help to avoid compounding congestion (thus relieving congestion for all road users). The right-in-only adds one turning movement—the right turn from westbound Woodmen. The report does include mitigation of additional offsite impacts—notably the updated traffic report shows a recommended improvement to the northbound left-turn lane at the Meridian/Woodmen intersection to accommodate the site traffic and anticipated background traffic to include trips currently being generated by frontage road businesses and residents who will benefit from the new option to enter at the east end of the frontage road. Moreover, the applicant/owner and the businesses within the center will also pay fees and taxes for regional transportation improvements.

6. *The TIS focuses on areas that may see improved LOS with the right-in, but it should also address additional signage, striping, signalization, and turn lane improvements at all intersections impacted by the development and specifically the shifted traffic patterns that would be caused by the right-in. The comments below mention some of the foreseen additional offsite improvements.*

   LSC Response: The updated study includes a signing and striping exhibit for the westbound Woodmen Road acceleration/deceleration lane. The report also addresses turn lanes in more detail and additional exhibits have been provided. The report contains an updated Table 6, entitled "Roadway Improvements."

7. *A complete roundabout analysis addressing basic design aspects such as design vehicle, inscribed circle diameter, entry angles and widths, fastest paths, entry spacing and vehicle tracking was not provided and is requested. There are several issues of concern with the design as proposed:*

   LSC Response: A complete roundabout analysis for the southwest corner roundabout has been provided with this submittal.

a. *The roundabout entry legs do not appear to be geometrically aligned to provide for the safest fastest path operations. The westbound movement appears to be designed as a free entry or bypass into the site, which will not function properly with the other legs. Traffic exiting Woodmen Road (the westbound movement) is likely to assume it has right-of-way to enter the site freely, which will conflict with the eastbound/northbound movement, and possibly the southbound movement depending on its exit leg.*

LSC Response: A complete roundabout analysis for the southwest corner roundabout has been provided with this submittal. The fastest path analysis indicates acceptable roundabout entry speed. With adequate signing and pavement markings, this will not be a problem. The updated traffic report includes an exhibit with preliminary recommendations for signs and pavement markings to address this comment.

provide turning templates for this and WB-67

b. *The access from Lot 11 is not designed as a proper roundabout leg.*

LSC Response: The updated plan shows an updated roundabout and an updated roundabout leg for the egress from Lot 11. The approach has been widened and configured to accommodate a WB-62 truck (fuel tanker). This revised leg has been included in the roundabout analysis. The land use for this lot has since changed to a coffee shop instead of a gas station.

c. *The minimal deceleration length and no storage length from Woodmen Road into the roundabout appears that it could cause potential traffic back-ups into the Woodmen Road deceleration lane, adding additional conflict to the acceleration lane (see auxiliary lane length comments below).*

LSC Response: The analysis results indicate that traffic will not back up into the deceleration lane. The roundabout queueing analysis was run using three different analysis methods, Highway Capacity Manual, Rodel, and SimTraffic. The worst-case (longest) queue projected from the three methods of analysis indicates the maximum queue occurrence not exceeding about 75-80 feet during peak hours based on the analysis of 2040 projections. Moreover, the maximum queue projected is anticipated to be a "rolling queue" or one that clears quickly. The updated report includes these queueing analysis results from three different methods and includes an exhibit of the acceleration/deceleration/storage lengths to address this comment.

8. *Regarding auxiliary lane length requirements, it does not appear that there is enough overlap/weaving distance between the acceleration lane and the deceleration lane for efficient merging:*
   a. *The acceleration length should be for the 55-mph posted speed at the west end of the acceleration lane, requiring 960 feet (the approximate current length). According to the report submitted (Figure 21) the proposal is to effectively reduce the acceleration length to less than 860 feet. What is the necessary/acceptable weaving overlap produced through a weaving analysis?*

LSC Response: The updated report addresses this comment by providing an updated Figure 22, a new figure 23, and explanation in the report. The intent was not to reduce the acceleration length, rather state the ECM-required acceleration and deceleration lengths. The lane is

proposed as a continuous accel/decel lane as shown in the TIS. A weaving analysis has been included in the updated traffic report. The analysis shows weaving LOS C for 2040. County standards indicate level of service D is acceptable and level of service C is better than level of service D.

b. Deceleration length should include some stacking storage length at the roundabout (with a proper roundabout design). Without storage length accounted for, the required and proposed weaving overlap between the acceleration and deceleration lengths cannot be determined.

LSC Response: Stacking/storage length is being provided at the roundabout. This length is accounted for and shown in Figure 23 of the updated report. The length has been based on the roundabout queueing analysis. The roundabout queueing analysis was run using three different analysis methods, Highway Capacity Manual, Rodel, and SimTraffic. The worst-case (longest) queue projected from the three methods of analysis indicates the maximum queue occurrence not exceeding about 75-80 feet during peak hours based on the analysis of 2040 projections. Moreover, the maximum queue projected is anticipated to be a "rolling queue" or one that clears quickly. The figure also shows acceleration and deceleration lengths. A weaving analysis has also been included in the updated traffic report.

If the roundabout were to be moved further north additional storage length would be provided.

LSC Response: The roundabout has shifted north in response to staff comments/concerns.

c. The report statement that "The proposed Woodmen access will have little effect on the operation of Woodmen Road..." is lacking as it does not address weaving implications and impacts to westbound Woodmen Road traffic in the adjacent through lane.

LSC Response: The weaving analysis has been included in the updated traffic report.

Considering a nominal value for saturation (capacity) flow rate of 1,900 vehicles/hour/ lane, and the sum of AM decelerating traffic (333) and accelerating traffic (1060) being almost 1,400, this is approaching saturation. This suggests the likelihood of difficulty with merging maneuvers, resulting in lowered traffic speeds on Woodmen Road, especially if the weaving length is not sufficient.

LSC Response: The weaving analysis has been updated using a saturation flow rate of 1,900 vphpl typically used for signalized, at-grade intersections. Additional weaving analyses with higher Woodmen Road speeds and three through lanes have also been included. Also, for reference, the TIS includes an additional figure with accompanying table showing the weaving and non-weaving movements.

d. Given the exceptional SB to WB turning volumes and limited weaving distance, the potential future need for a second SB right turn lane from Meridian Road to Woodmen Road needs to be addressed. Provide analysis and discussion on how a second right turn

lane and the associated two-lane weaving movement would function and how the access point would be affected (or need to be removed).

LSC Response: The analysis results do not indicate the need for a southbound dual right-turn lane. LSC would not recommend an "associated two-lane weaving movement." The analysis presented in the updated report shows the simpler Type A weave with the single accel/decel lane between Meridian and the proposed right-in shown to operate at an acceptable weaving level of service C with the current four-lane Woodmen Road (and LOS B with the future six-lane Woodmen Road). The updated TIS includes an additional exhibit showing the projected weaving and non-weaving traffic volumes. LSC has also prepared a SimTraffic traffic simulation and a video capture file of this simulation is being provided to staff as part of the submittal. It is important to note the morning peak southbound right turn at Meridian is highest during the morning "peak hour." This complements the peak of the Falcon Marketplace shopping center, which occurs in the afternoon. The applicant will be dedicating sufficient right-of-way along the site frontage of Meridian Road for a second southbound right-turn lane, should the county decide to add a second southbound right-turn lane.

9. *When Woodmen Road is expanded to 6 lanes, the location and function of this access point will potentially exacerbate conflicts due to anticipated higher traffic speeds on Woodmen Road. If the proposed access is approved, Staff recommends that escrow be required in the amount necessary to remove the right-in and roundabout in the future.*

LSC Response: The analysis contained in the updated traffic report shows a weaving LOS B for the westbound Woodmen weaving section between Meridian Road and the right-in access assuming Woodmen Road widened to six lanes and a hypothetical speed of 55 mph. Therefore, removal is not needed.

10. *Regarding the statement concerning the Woodmen Road eastbound left turn movement at Meridian Road operating at LOS E with or without this development:*
    a. *There should be new traffic coming from the west on Woodmen Road, not just background traffic, to patronize the shopping center.*

LSC Response: The report **did** include trips arriving from and departing to the west. The previous report showed only about six percent of new "primary"/destination trips as it is anticipated that most trips will come from the Falcon area. To address this comment and staff's concern, the updated report assumes a slightly higher percentage of site-generated trips arriving from and departing to the west. The report also accounts for the peak-hour pass-by traffic, which will already be on Woodmen Road and Meridian Road.

    b. *The EB left turn queue is 735 feet which exceeds the current left turn bay length and site generated vehicles would further extend the queue into the adjacent Woodmen Road through lane.*

LSC Response: This is addressed in the updated report. This lane should be considered a regional component of the Falcon area transportation system. It currently serves a high volume of left turning traffic and the traffic demand is likely to continue to increase. The future

Stapleton Road connection to the west will reduce the demand for this turning movement. The projected additional site-generated traffic, with consideration of pass-by trips, would result in a minor increase in this left-turn movement. The updated report shows a net increase of 15 trips per hour. The net increase in site traffic for this turning movement would constitute about two percent of the projected 2040 total afternoon peak-hour traffic volume. As indicated in the report, it would be reasonable for the applicant to contribute a fair and equitable amount toward the improvement of this turn lane, consistent with this project's relative impact from those properties benefitting from the improvement. Other off-site improvements are also addressed in the updated report.

The proposed right-in will most likely generate additional left-turn traffic in the form of U-turn movements in order to gain more convenient access to the site and frontage road properties.

LSC Response: Clarification has been added to the report that the analysis assumed a **U-turn prohibition**. The traffic report has added a recommendation for the installation of a "NO U-Turn" regulatory sign(s). There will be readily available options that preclude the need for an eastbound U-turn.

c. *Address lengthening of the EB left turn lanes and/or additional signage to help prevent left-turn queue spillback into the adjacent Woodmen Road through lane.*

LSC Response: This is addressed in the updated report. Also, please refer to the response to comment 8b above.

11. *Regarding the statement concerning the addition of the right-in access being projected to improve overall operations of the Meridian Road at Woodmen Road intersection:*
    a. *NB through traffic based on the future Meridian Road connection may not be as heavy as predicted, given potential continued use of Woodmen Road at US 24.*

LSC Response: Existing count data, the short-term potential for a significant increase in eastbound to northbound traffic at the new US 24/"new" Meridian Road intersection (once completed and open), and additional future trip generation within the Falcon Highlands Marketplace area all indicate the potential for high northbound through volumes.

b. *The improved level of service from E to D for the NB through movement is only 1.5 seconds away from being back in the LOS E delay range.*

LSC Response: The average delay per vehicle for this movement in the May report was in the LOS D range, so the LOS was reported as a D. With all due respect, this comment seems to be counter-productive and this comment, and the previous comment **"***NB through traffic based on the future Meridian Road connection may not be as heavy as predicted"* also leave us with the impression that the reviewer is attempting to discredit or marginalize our technical findings, which clearly support and highlight the benefits of the right-in access.

The addition of the right-in would improve operations for northbound traffic on Meridian Road because it would offer motorists options to adjust travel routes to avoid congestion and reduce travel time. The right-in-only access would provide northbound motorists on Meridian on the approach to Woodmen beneficial option for using the adjacent northbound left-turn lanes instead (as an alternate route for travel to one of the destinations along the Woodmen Frontage Road or Falcon Marketplace) if the northbound through lanes happen to be congested during the afternoon peak hour. Given the high projected northbound through volumes, the right-in-only and the congestion-avoidance option it provides will be beneficial for northbound through traffic as well. Without the right-in access, northbound Meridian traffic wanting to turn into Falcon Marketplace or access one of the frontage road destinations would either need to continue north to the Meridian/Eastonville intersection and turn left (projected **LOS F** without the right-in) **or** turn left and travel 1.3 miles west on Woodmen Road to the Golden Sage intersection and back to the east on the frontage road (not reasonable for Falcon Marketplace traffic to use this route).

Although the reported average delay was only "1.5 seconds from being back in the LOS E delay range," when comparing the operational improvement over the scenario without the right-in, the delay for the northbound through movement was shown [in the May 15, 2017 report] to be about five seconds per vehicle better than the scenario without the right-in and the v/c ratio was shown to improve from 0.95 to 0.90. For a major through movement with a high volume, these differences are significant.

In the updated report, the LOS for the northbound through movement under the right-in scenario is D, the delay is 51.9 seconds per vehicle and the v/c shown is 0.89 (acceptable). The delay-improvement is about 14 seconds over the no-right-in scenario. Also, the v/c ratio is significantly better with the right-in scenario (0.89 versus 0.98 without the right-in). These values indicate significant improvement for what will likely be one of the heaviest and most important vehicle movements at this intersection.

c. *Even though the NB left turn movement remains in the LOS E delay range with or without the Woodmen Road access, the right-in access results in an increase in the NB left turn delay of 14 seconds per vehicle. 14 seconds may be considered exceptionally significant based on the statement on page 9 of the report that reducing the northbound left-turn delay by about five seconds per vehicle at the Meridian / Eastonville intersection during the afternoon peak hour is "significant."*

LSC Response: The five-second difference quoted on page 9 of the report was highlighting the difference between the previous right-in configuration and the currently proposed right-in configuration. In our judgement, this difference is significant enough along with the other evidence presented, to warrant reconsideration of the request. The point about the 14 second difference in delay at the northbound left at Meridian/Woodmen compares the right-in scenario with the roundabout to the no-right-in scenario, not the right-in scenario without the roundabout. This is an "apples to oranges" comparison.

More important than the five-second difference discussion, and a more important reason that the application should be reconsidered, is to emphasize the difference in delay for the

northbound left turn at Meridian/Eastonville between the **right-in** and **no-right-in** scenarios. The difference shown in the May 15, 2017 report was **34.8 seconds**. This is the difference between 88.5 seconds of northbound left-turn delay without the right-in and 53.7 seconds with the right-in. The difference in **level of service** for the northbound left is LOS F without the right-in and LOS D with the right-in. The updated report shows an improvement of **49** seconds. Also, in the updated report the projected volume-to-capacity ratio (v/c) is 0.77 **with** the right-in scenario and an over-capacity 1.08 volume-to-capacity (v/c) ratio without the right-in.

Regarding the "*14 seconds*" of additional delay for the northbound left at Meridian/Woodmen, the report identifies a proposed improvement to the northbound left-turn movement at Meridian/Woodmen to accommodate the site traffic, future background traffic including the frontage road users who will benefit from the option to enter at the east end of the frontage road. The right-in would provide a benefit to other users of the Woodmen Frontage Road. Trips by these other users have been added to the northbound left volume. As stated before, the main benefit is that the right-in would offer motorists options to adjust travel routes to avoid congestion**.** Allowing traffic arriving from northbound Meridian wishing to enter Falcon Marketplace the option of entry via the right-in will relieve congestion in the adjacent through lanes and at the northbound left turn downstream at Meridian/Eastonville.

Note: the updated traffic report shows a difference of 4.6 seconds in the delay between the right-in and no-right-in scenarios, and a v/c ratio of 0.89.

d. *In addition to the NB left turn movement being only 4.2 seconds away from LOS F, the queue length of 475 feet exceeds the left turn storage length. Address lengthening of the NB left turn lanes in order to prevent left-turn queue spillback into the adjacent Meridian Road through lane. (The existing storage length for the outside left turn lane is about 350 feet.)*

LSC Response: We have addressed the northbound Meridian Road turn lane in the updated report. The updated report shows a delay of 57.9 seconds per vehicle during the afternoon peak hour for the northbound left turn (this delay value is in the lower end of the E range) and the v/c ratio is an acceptable 0.89. The updated traffic report shows a **proposed short-term and separate potential future long-term improvement** to the northbound left-turn lane (lane lengthening) at Meridian/Woodmen to accommodate the site traffic as well as background traffic including current and future residents and businesses that rely on the Woodmen Frontage Road for access and who will benefit from the option to enter at the east end of the frontage road.

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Falcon Marketplace
Driveway Permit Resubmittal
Updated Traffic Impact Analysis
(LSC #164350)
August 7, 2017

Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.

COLORADO LICENSED
JEFFREY C. HODSDON
31684
PROFESSIONAL ENGINEER

Jeffrey C. Hodsdon, P.E., #31684 Date 8/7/17

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Date 8.7.17

Falcon Marketplace
Updated Traffic Impact Analysis

August 7, 2017

LSC TRANSPORTATION CONSULTANTS, INC.
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August 7, 2017

Ben Hummel
Hummel Investments, LLC
8117 Preston Road, Suite 120
Dallas, Texas 75225

RE: Falcon Marketplace
Driveway Permit Resubmittal
El Paso County, Colorado
Updated Traffic Impact Analysis
LSC #164350

Dear Mr. Hummel:

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated traffic impact analysis for the 36-acre Falcon Marketplace to be located west of Meridian Road and north of Woodmen Road in the Falcon area of El Paso County, Colorado. The site is planned to be developed for a mixture of commercial and medical office land uses. Figure 1 shows the site location. Access is proposed to Meridian Road and the Woodmen Road frontage road. The previous report date was May 22, 2017.

The report has been updated to include analysis of a right-in-only access from Woodmen Road combined with a roundabout intersection with the Woodmen Frontage Road in the southwest corner of the site. This new right-in-only access with the proposed roundabout intersection connecting to the Woodmen Frontage Road would significantly improve access not only to the site, but also to the properties to the west along the Woodmen Frontage Road. This new provision for public access from westbound Woodmen Road to the westbound Woodmen Frontage Road is a **significant change** from the previously proposed (and denied) right-in-only access configuration which essentially only served the proposed Falcon Marketplace.

REPORT CONTENTS

The report contains the following:

- The proposed site land uses and circulation plan for the site.
- The proposed plan to allow for a public street connection through the site between the current terminus of the Woodmen Frontage Road and Meridian Road.
- The existing and planned roadways in the study area including the number of lanes, classifications, posted speed limits, lane geometries, traffic controls, etc.

- Traffic volumes for the Meridian/Woodmen and Meridian/Eastonville intersections plus added traffic count data for the intersection of Woodmen Road and Golden Sage Road.
- The projected future peak-hour traffic volumes for the access points, internal intersections and the intersections adjacent to the site, the intersection of Golden Sage/Woodmen and along the Woodmen Frontage Road with and without the proposed right-in-only access from Woodmen Road.
- The resulting traffic impacts. The traffic impacts have been quantified by determining the future levels of service at the access points, internal intersections and adjacent intersections with and without the proposed right-in-only access from Woodmen Road.
- Recommended improvements.

SITE LAND USE AND ACCESS/CIRCULATION PLAN

Site Context

The site is located within the downtown Falcon commercial/service area. This site is part of the Falcon "commercial node." Several shopping centers exist south and southeast of this site on the south side of Woodmen Road. The Safeway shopping center is located to the east, and the Bent Grass Commercial Center is directly north of the site and the Owl Lane area.

Land Use

The 36-acre site is located north of Woodmen Road and west of Meridian Road. The site is planned to contain a large grocery store anchor with associated gas station. The peripheral development lots are planned to include a pet supply store, in-line retail buildings, three free-standing fast-food restaurants, a coffee shop with drive-through, and an urgent/primary care clinic.

Access and Circulation

Full-movement site access is proposed from Meridian Road aligning with Eastonville Road, and via a connection to the current terminus of the Woodmen Frontage Road. A right-in/right-out access to Meridian Road is also proposed between Eastonville and Woodmen. In addition to the connection to the current terminus of the Woodmen Frontage Road, a right-in-only access from westbound Woodmen Road is also proposed in the southwest corner of the site.

Figures 2 and 3 show the access/intersection spacing for Woodmen Road and Meridian Road, respectively.

The site plan also shows a street stub to the property to the north to allow for a planned future connection to Bent Grass Meadows Drive. The access points and the proposed public street connection through the site is also shown on the site plan.

Intersection/Access Sight Distance Analysis

Figure 4 shows the sight distance analysis for the Meridian Road access points. There are currently no posted speed limit signs for southbound traffic on the approach to Eastonville Road and the speed limit

to the north is 55 miles per hour (mph). This analysis assumes (following development of the site) a future posted speed limit of 45 mph (design speed of 50 mph) for southbound Meridian in the vicinity of and adjacent to the site. This is based on the Meridian Road North Corridor Plan dated December 2009.

Sight distance analysis for the internal intersections within the Preliminary Plan is included with the deviation request for Falcon Market Place.

Truck Turning Analysis

Truck turning analysis using AutoTurn for the internal intersections within the Preliminary Plan is included with the deviation request for Falcon Market Place.

EXISTING ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The roadways in the study area are shown on Figure 1 and are described below.

- **US Highway (US) 24** is generally a two-lane State Highway extending east/west across Colorado connecting the Buena Vista, Colorado Springs, and Limon areas. US 24 is planned to be widened to four lanes through the Falcon area. US 24 is classified as an Expressway by the Colorado Department of Transportation (CDOT) and the *El Paso County Major Transportation Corridors Plan (MTCP)*. The posted speed limit on US 24 in the vicinity of Woodmen Road is 50 mph.

- **Woodmen Road** is shown on the *El Paso County 2040 Major Transportation Corridors Plan* and the *Preserved Corridor Network Plan* as a four-lane Expressway adjacent to and in the vicinity of the site. The posted speed limit on Woodmen Road adjacent to the site is 45 mph. The posted speed limit on Woodmen Road just west of the site is 55 mph.

- **Woodmen Frontage Road** is a paved two-lane frontage road along the north side of Woodmen Road. The Woodmen Frontage Road extends west from this site to its current terminus west of Golden Sage Road. The posted speed limit on the Woodmen Frontage Road is 30 mph.

- **Meridian Road** is shown on the MTCP as a four-lane Principal Arterial adjacent to the site. Meridian Road is currently four lanes plus some auxiliary turn lanes at intersections north of Rolling Thunder. There is a center median adjacent to the site. There are no speed limit signs specifically for section of Meridian adjacent to the site. However, the posted limit on the section to the north is 55 mph. Meridian Road south of Rolling Thunder is not currently open and the road does not connect to US Highway 24. However, Meridian Road is planned to be opened south from Rolling Thunder to a new intersection with US 24 and extended south to Falcon Highway in the near future.

- **Eastonville Road** is a two-lane roadway extending northeast from Meridian Road to past Hodgen Road. It is shown as a two-lane Minor Arterial on the MTCP. The intersection of Meridian Road and Eastonville Road is currently stop-sign controlled.

Existing Traffic Conditions

Figure 5 shows the morning and afternoon peak-hour traffic volumes at the intersections of Woodmen Road/Meridian Road, Woodmen Road/Golden Sage Road, and Eastonville Road/Meridian Road based on counts conducted by LSC in September 2015, February 2016, March 2017, and June 2017. The traffic count reports are attached. The traffic volumes at Woodmen/Meridian have been adjusted to balance with more recent counts to the west and north.

Accident/Crash History

What are the movements involved in the crashes?

A summary of crashes/traffic accidents at study area intersections is attached. These have been provided by the Colorado State Patrol. The data shows crashes by calendar year for 2014, 2015, and 2016 as well as year-to-date crashes for 2017. As shown, the data indicate seven crashes each at the Meridian Road/ Golden Sage and Woodmen Road/Meridian Road intersections last year (2016) and six crashes year-to-date at Golden Sage and one crash at Meridian Road. During this same time period, there have been three fatal/injury crashes at Golden Sage/Woodmen and one fatal/injury crash at Meridian/Woodmen.

Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A represents control delay of less than 10 seconds for unsignalized and signalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections and more than 80 seconds for signalized intersections. Table 1 shows the level of service delay ranges.

Table 1
Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections		Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	V/C[1]	Average Control Delay (seconds per vehicle)[2]
A	10.0 sec or less	less than 0.60	10.0 sec or less
B	10.1-20.0 sec	0.60-0.69	10.1-15.0 sec
C	20.1-35.0 sec	0.70-0.79	15.1-25.0 sec
D	35.1-55.0 sec	0.80-0.89	25.1-35.0 sec
E	55.1-80.0 sec	0.90-0.99	35.1-50.0 sec
F	80.1 sec or more	1.00 and greater	50.1 sec or more

(1) Source: *Transportation Research Circular 212*
(2) For unsignalized intersections if V/C ratio is greater than 1.0 the level of service is LOS F regardless of the projected average control delay per vehicle.

The intersections of Woodmen Road/Meridian Road and Woodmen Road/Golden Sage Road were analyzed to determine the existing levels of service using Synchro. The intersection of Eastonville Road/ Meridian Road was analyzed based on the unsignalized method of analysis procedures found in the

Highway Capacity Manual, 2010 Edition by the Transportation Research Board. As shown on the figure, these intersections are operating at acceptable levels of service during peak periods. Figure 5 shows the detailed level of service analysis results. The level of service (LOS) reports are attached.

SHORT-TERM BACKGROUND TRAFFIC

Background traffic is the traffic estimated to be on the adjacent roadways and at adjacent inter-sections without the proposed development's trip generation of site-generated traffic volumes. However, the site street connections and access points were assumed to be in place. Background traffic includes the through traffic and the traffic generated by nearby developments, but assumes zero traffic generated by the site. Figure 6a and 7a show the background traffic volumes traveling through the site and in the vicinity of the site for the short term. The short-term background traffic volumes were based on some growth in existing traffic volumes shown in Figure 5, with some adjustments to the existing traffic patterns due to the planned Meridian Road project to the south, the proposed vehicular connection through the site (between the end of the Woodmen Frontage Road and Eastonville Road) via access easement(s) and internal commercial drives, and the new west leg of the intersection of Meridian Road and Eastonville Road. The volumes shown in Figure 6a assume no access to Woodmen Road and the volumes shown in Figure 7a assume the proposed right-in-only access from Woodmen Road. The short-term background traffic volumes assume some additional traffic due to buildout of the Woodmen Courtyards development just west of the site.

Figures 6b and 7b show the lane geometry, traffic control, and level of service at the key intersections based on the short-term background volumes.

2040 BACKGROUND TRAFFIC

Figures 8a and 9a show the background traffic volumes for the year 2040. The volumes shown in Figure 8a assume no access from Woodmen Road and the volumes shown in Figure 9a assume the proposed right-in-only access. The 2040 background traffic volume estimates were based on the *El Paso County Major Transportation Corridors Plan (MTCP) 2040* and previous work completed in the area by LSC, including the Bent Grass Subdivision PUD/Preliminary Plan Updated Traffic Impact Study and the previous studies for this site, other area traffic studies, and traffic count data. The 2040 background traffic includes buildout of the Bent Grass subdivision, the Latigo site northeast of Bent Grass Meadows Drive/ Woodmen Frontage Road (assuming the current I-2 industrial zoning -- although previous reports have been prepared contemplating rezoning to commercial/shopping center land uses), and potential Owl Lane redevelopment for commercial land uses with the planned north/south street connection between Eastonville and Bent Grass Meadows Drive. Increases in through traffic are also included. The 2040 background traffic estimates also take into account the Stapleton Drive extension to the west to the Briargate Parkway/Black Forest Road intersection.

Figures 8b and 9b show the lane geometry, traffic control, and level of service at the key intersections based on the 2040 background volumes.

TRIP GENERATION

Estimates of the traffic volumes expected to be generated by the existing and proposed land uses within the study area were made using the nationally published trip generation rates found in *Trip Generation, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE). Table 2 shows the trip generation estimates.

The total number of vehicle-trips generated by the land uses has been reduced to account for the internal vehicle-trips made within the site between land uses, without use of the external streets surrounding the site. Table 2 shows the number of internal trips assumed for each land use. The internal trip reduction is an estimate by LSC based on National Highway Cooperative Highway Research Program (NCHRP) Report 684 *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* The results of the spreadsheet model are attached.

The total number of external new impact vehicle-trips generated by the retail land uses has been reduced to take into account the "pass-by" and "diverted link" phenomena. A pass-by trip is made by a motorist who would already be on the adjacent roadways regardless of the proposed development, but who stops in at the site while passing by. The motorist would then continue on his or her way to a final destination in the original direction. The pass-by percentages shown on Table 2 are from the *Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition, 2014* by ITE. A diverted link trip is one made by a motorist who would already be traveling on a nearby (but not adjacent) roadway regardless of this development who now uses another roadway to access the site before continuing on his or her way to a final destination in the original direction. Diverted link trips are included in the distribution percentages.

The site is projected to generate about 9,558 new external vehicle-trips on the average weekday, with about half entering and half exiting the site during a 24-hour period.

During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 495 vehicles would enter and 370 vehicles would exit the site.

During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 716 vehicles would enter and 701 vehicles would exit the site.

TRIP DISTRIBUTION AND ASSIGNMENT

The estimated directional distribution of the site-generated traffic volumes on the adjacent roadways is an important factor in determining the site's traffic impacts. Figure 10 shows the directional distribution estimates for the primary site-generated traffic. The estimates have been based on the following factors: the site's location with respect to the Falcon area's residential, employment, and commercial areas; the balance of the northeast Colorado Springs metropolitan area and the rural areas of the county to the east; the site's proposed land uses; the site's proposed access and circulation system; and the roadway system serving the site. The short-term distribution estimate assumes the existing street network plus the Meridian Road project, and the long-term estimate assumes the future Stapleton extension to the west and additional east-west potential connections west of US 24 through Banning Lewis Ranch such as

Dublin Boulevard. The pass-by trips and diverted trips were assigned based in large part on the magnitude and direction of the existing and projected background traffic volumes on the adjacent roadways.

When the distribution percentages (from Figure 10) were applied to the trip generation estimates (from Table 2), the site-generated traffic volumes on the area roadways were determined. Figures 11 and 12 show the short-term site-generated traffic volumes without and with the proposed right-in-only access from Woodmen Road, respectively. Figures 13 and 14 show the long-term site-generated traffic volumes with no access to Woodmen Road and with the proposed right-in-only access from Woodmen Road, respectively.

SHORT-TERM TOTAL TRAFFIC

Figures 15a and 16a show the short-term total traffic volumes at the access points and key intersections adjacent to the site with no access to Woodmen Road and with the proposed right-in-only access from Woodmen Road, respectively. The volumes are the sum of the short-term background traffic volumes from Figures 6a and 7a, plus the short-term site-generated traffic volumes from Figures 11 and 12. The volumes shown in Figures 15a and 16a represent the short-term impacts of the development.

Figures 15b and 16b show the lane geometry, traffic control, and level of service at the key intersections based on the short-term total volumes.

2040 TOTAL TRAFFIC

Figures 17a and 18a show the 2040 total traffic volumes at the site access points and key intersections adjacent to the site with no access to Woodmen Road and with the proposed right-in-only access from Woodmen Road, respectively. The volumes are the sum of the 2040 background traffic volumes from Figures 8a and 9a, plus the long-term site-generated traffic volumes from Figures 13 and 14. Figures 17b and 18b show the 2040 total traffic volumes at all of the proposed access points to the public internal road, which extends from the terminus of the Woodmen frontage road to Eastonville Road.

Figures 17c and 18c show the lane geometry, traffic control, and level of service at the site access points and key intersections adjacent to the site based on the 2040 total volumes. Figures 17d and 18d show the lane geometry, traffic control, and level of service at the site access points and key intersections adjacent to the site based on the 2040 total volumes. Figures 17d and 18d show the lane geometry, traffic control, and level of service at all of the proposed access points to the public internal road, which extends from the terminus of the Woodmen frontage road to Eastonville Road.

PROJECTED LEVELS OF SERVICE

Intersection Levels of Service

The key area intersections were analyzed to determine the projected levels of service for the short-term and 2040 total traffic volumes with and without the proposed right-in-only access from Woodmen Road. Figures 6b, 7b, 8b, 9b, 15b, 16b, 17c, 17d, 18c, and 18d show the level of service analysis results. The signalized intersections were analyzed using Synchro. The right-in/right-out-only access point to Meridian Road was analyzed using SimTraffic simulations to better analyze the operational effects of

adjacent signal-controlled intersections. The proposed access points to the internal public road were analyzed based on the unsignalized method of analysis procedures found in the *Highway Capacity Manual, 2010 Edition* by the Transportation Research Board. The level of service (LOS) reports are attached. Tables 3 and 4 show the projected level of service, delay, and volume-to-capacity ratio for movements projected to operate below a LOS D based on the short-term and 2040 total traffic volumes, respectively.

Woodmen/Meridian

The intersection of Woodmen/Meridian is projected to operate at an overall level of service (LOS) D or better based on the short-term and 2040 total traffic volumes with and without the proposed right-in-only access from Woodmen Road.

The eastbound left-turn movement at the Woodmen Road/Meridian Road intersection currently operates at LOS D. Given the high existing and projected background traffic demand for this turning movement, it is projected to operate at LOS E during the afternoon peak hour by 2040. Important note: This condition has little to do with this site, rather it is primarily due to the background traffic demand. The northbound left-turn movement is projected to operate at LOS E during the morning and afternoon peak hours. The northbound through movement is projected to operate at LOS E during the 2040 afternoon peak hour assuming no site access to Woodmen. The northbound through movement is projected to operate at LOS D during the afternoon peak hour based on the projected 2040 total traffic volumes **with** the proposed right-in-only access.

Meridian/Eastonville

The intersection of Meridian/Eastonville was assumed to be signalized once the site is built out. As a signalized intersection, it is projected to operate at an overall LOS C or better based on the short-term volumes with or without the proposed right-in-only access from Woodmen Road. By 2040, the northbound left-turn movement is projected to operate at LOS F during the afternoon peak hour without the proposed right-in-only access from Woodmen Road. This movement is projected to operate at LOS D during the morning and afternoon peak hours based on the projected 2040 total traffic volumes with the proposed right-in-only access.

Meridian/Right-In/Right-Out-Only Site Access

The exiting (eastbound) right-turn movement at the proposed right-in/right-out access to Meridian Road is projected to operate at LOS D or better during the morning peak hour based on the projected short-term and 2040 total traffic volumes with and without access to Woodmen Road. The afternoon peak-hour projected LOS is also D under the access to Woodmen Road scenario.

Woodmen Frontage Road Intersections

The southbound (exiting) approaches to the access point intersections for Mountain View Electric and the Courtyards at Woodmen Hills to the Woodmen frontage road are projected to operate at LOS A or B based on projected total 2040 traffic.

Roundabout Level of Service

The **southwest roundabout** has been analyzed for level of service using three different methods – HCM, Rodel and SimTraffic. All methods indicate level of service A for all approaches during the peak hours based on 2040 volumes. The southwest roundabout has been analyzed in more detail in this Woodmen Road Driveway Permit report to address the comments on the May 15, 2017 version of the report.

The **Eastonville roundabout** in the northeast part of the site has been analyzed using the HCM method of analysis and the results are shown in the figures. A second analysis using Rodel will be included with the resubmittal of the Preliminary Plan or with the Plat.

Internal Public Road Intersections

All of the site access points to the internal public road, which is planned to extend from the proposed roundabout at the existing terminus of the Woodmen frontage road to the proposed roundabout at Eastonville Road, are planned to be two-way stop-sign-controlled intersections except for the intersection that aligns with the proposed right-in/right-out intersection, which is proposed to be all-way, stop-sign-controlled. All movements at the two-way, stop-sign-controlled intersections are projected to operate at LOS C or better based on the 2040 total traffic volumes with or without the proposed right-in access to Woodmen Road. The northbound and southbound through movements at the proposed all-way, stop-sign-controlled intersection are projected to operate at LOS D or better based on the 2040 total traffic volumes **with** the proposed right-in-only access. The northbound through movement is projected to operate at LOS E and the southbound through movement is projected to operate at LOS F based on the 2040 afternoon peak hour **without** the proposed right-in access to Woodmen Road.

All movements at the proposed roundabouts at the terminus of the Woodmen frontage road and at the intersection of the internal public road and Eastonville Road are projected to operate at LOS B or better during the peak hours based on the projected 2040 total traffic volumes with and without the proposed right-in-only access to Woodmen Road.

Weaving Section Level of Service

A weaving level of service analysis has been completed for the section of westbound Woodmen Road between the Meridian Road intersection and the proposed right-in-only site access. This section has been analyzed as a Type A weaving segment in order to determine the projected weaving area levels of service based on the freeway weaving operational method of analysis procedures from the *Highway Capacity Manual, 2010 Edition*. Table 5 shows a summary of the weaving movement volumes by zone and Figure 19 shows the path for each weaving movement. The weaving LOS reports are attached.

This weaving segment is projected to operate at LOS C during the morning peak hour and LOS B during the afternoon peak hour based on the projected future total traffic volumes. Note: This weaving segment would not operate as bona fide freeway weaving areas per the *Highway Capacity Manual, 2010 Edition* due to several operational and geometric differences between an urbanized corridor with intersections and traffic signals and a true freeway weaving section.

VEHICLE QUEUING ANALYSIS

A queuing analysis was performed using Synchro/SimTraffic for the key approach turning movements at the study area intersections to determine the projected queue lengths based on the projected total traffic volumes. The 2040 total peak-hour traffic volumes with and without the proposed right-in-only access were entered into the Synchro model. The simulation was run five times. The queuing reports are attached. These queuing results have been used to develop auxiliary turn lane recommendations.

Roundabout Queuing Analysis

The **southwest roundabout** has been analyzed for queuing using three different methods – HCM, Rodel and SimTraffic. The southwest roundabout has been analyzed in more detail in this report for the Woodmen Road Driveway Permit to address the comments on the May 15, 2017 version of the report. All methods indicate short queues on for all approaches during the peak hours based on 2040 volumes. The most important queue length is the one on approach 2 – the right-in from Woodmen Road. The HCM analysis reports indicate 95th percentile queue length of two vehicles during both the morning and afternoon peak hours. The Rodel analysis reports indicate queue lengths of 1.0 vehicles during the morning peak hour and .91 vehicles during the afternoon peak hour. The SimTraffic analysis indicates a 95th percentile queue of 79 feet during the morning peak hour and 75 feet during the afternoon peak hour. The simulation shows this to be more of a "rolling" queue which quickly shortens from the maximum reported length.

The **Eastonville roundabout** in the northeast part of the site has been analyzed for queuing using the HCM method of analysis and the results are shown in the HCM analysis printouts. Analysis using Rodel will be included with the resubmittal of the Preliminary Plan or with the Plat.

ROUNDABOUT DESIGN VEHICLE AND FASTEST PATH ANALYSIS

This report includes analysis of the truck turning movements at the two roundabouts. A fastest-path analysis has also been included for the southwest roundabout. The southwest roundabout has been analyzed in more detail in this Woodmen Road Driveway Permit report to address the comments on the May 15, 2017 version of the report. The exhibits are attached. A fastest-path analysis for the northeast/ Eastonville roundabout will be included with the resubmittal of the Preliminary Plan or with the Plat.

The fastest-path analysis indicates acceptable fastest-path speed on each of the four approaches at the proposed southwest roundabout.

TRAFFIC SIGNAL WARRANT ANALYSIS

The intersection of Eastonville Road and Meridian Road was analyzed to determine if a Four-Hour Vehicular Volume Traffic Signal Warrant threshold would be reached or exceeded based on the projected short-term morning and afternoon peak-hour total traffic volumes. The results of the analysis are shown in Figure 20. The traffic volumes shown are based on the short-term total traffic volumes with the proposed right-in-only access to Woodmen Road shown in Figure 16a. As shown in Figure 20, the thresholds for a Four-Hour Vehicular Volume Traffic Signal Warrant are projected to be exceeded based on the morning and afternoon peak hours. This analysis using the peak hours is intended to provide an

indication that a warrant may be met or is close to being met. In order for a Four-Hour Traffic Signal Warrant to be satisfied, the volume threshold would need to be met for two additional hours of the day. For example, the four-hour warrant would be satisfied with the volume thresholds met for one hour in the morning, two hours (instead of the one-hour peak) during the afternoon peak period, and an hour during the mid-afternoon. Based on this analysis and our experience, it is likely that the volume thresholds would be met or exceeded for at least two additional hours of the day. Therefore, it is expected that a traffic signal would be warranted with the addition of traffic from this proposed development.

COMPARISON OF ANALYSIS SCENARIOS

Meridian/Eastonville Intersection Operations

The comparison between the two analysis scenarios (with and without the proposed site access from Woodmen) with respect to operations at the Meridian/Eastonville intersection shows significantly better operations with the scenario that includes the proposed Woodmen access in combination with the proposed roundabout. This is because without the Woodmen access and the ability to enter the site from a second adjacent roadway (Woodmen Road), the northbound left-turn volume at Eastonville/Meridian would be significantly higher. **The northbound left turn at this intersection is projected to be F without the right-in from Woodmen and D with the right-in from Woodmen with the roundabout.** Another point is that the roundabout is projected to reduce the northbound left-turn delay by about five seconds per vehicle at the Meridian/Eastonville intersection during the afternoon peak hour over the previous configuration without the roundabout. This difference is significant. The need to adequately serve this left-turn demand would negatively impact the intersection overall. Creating this situation is unnecessary because with the addition of the proposed Woodmen access motorists arriving from the east on Woodmen Road and from the south from Meridian Road (including the significant component of traffic arriving from eastbound US Highway 24 in the afternoon peak hour) would have the additional option of entering using the proposed Woodmen access instead of the single option of the access at Meridian/Eastonville via the northbound left turn at this intersection. The addition of the right-in-only with the roundabout would remove **background** traffic volumes of about 40 morning peak hour trips and 70 afternoon peak hour trips from the Meridian/Eastonville intersection (specifically the projected heavy northbound left turn movement). In addition to these background traffic reductions, the site traffic component of this northbound left turn would be reduced by 112 morning peak hour trips and 160 afternoon peak hour trips.

The northbound left-turn queue would be significantly longer under the no-Woodmen-access scenario. The projected maximum 2040 afternoon peak-hour northbound left-turn queue is projected to be 262 feet (237-foot 95th percentile queue length) under the with-right-in from Woodmen scenario. Without the right-in from Woodmen the projected maximum queue would fill the dual left-turn lanes (457-foot queue within the lanes) and would overspill into the adjacent northbound through lane about 38 percent of the time during the peak analysis interval).

The lower northbound left-turn movement volume at Meridian/Eastonville under the proposed- access-to-Woodmen scenario would likely allow the option to operate the northbound left-turn movement as a protected-permissive phase single left-turn movement for a significantly longer period of time, if not in perpetuity. This type of left-turn movement can often operate more efficiently and with less delay than protected-only dual left-turn lanes, especially when considering off-peak hours or the majority of hours

in a day and on weekends. The specific phasing and operation of the turn movement would be up to El Paso County, but a northbound left turn with a significantly reduced volume will likely allow for greater flexibility for better traffic operations.

Meridian/Woodmen Intersection Operations

Is this correct? See comments.

The eastbound left-turn movement at this intersection is projected to operate at LOS F during the 2040 peak hours with or without this development (due to background traffic). However, the addition of the access from westbound Woodmen Road is projected to improve overall operations at this intersection. This is because the addition of the proposed Woodmen access would allow the option for use of the existing dual left-turn lanes and a shift in approaching traffic from the adjacent high volume through lanes into the dual left-turn lanes. This will be especially helpful during the afternoon peak hour.

The afternoon peak hour northbound through movement level of service would improve from LOS E to LOS D with the addition of the right-in-only from Woodmen and the roundabout. This is significant as a heavy afternoon northbound through volume is projected with the Meridian connection to US 24.

Woodmen Road Operations

The proposed Woodmen access will have little effect on the operation of Woodmen Road as the turning movements will be right-turn in-only from westbound Woodmen Road with a continuous acceleration/ deceleration lane between Meridian and the point of right-turn entry into the site. This site is within the commercial "node" of Falcon and an access at the proposed location would not be unexpected.

Woodmen Frontage Road Access

The right-in-only access with the proposed roundabout intersection with the Woodmen Frontage Road would also significantly improve access to the properties to the west along the Woodmen Frontage Road. This represents a **significant change** from the previous right-in-only access configuration. The prior right-in-only access would have essentially served only this site due to its configuration as there was no public access from the previously proposed right-in-only to the Woodmen Frontage Road. The previously proposed right-in-only was configured to direct traffic from westbound Woodmen north into the site only with no option for access for westbound travel to residential and non-residential properties along the Woodmen Frontage Road.

The addition of the roundabout intersection in the southwest corner of the site within to-be-dedicated public right-of-way is a significant change as it now allows for public access from westbound Woodmen Road to the Woodmen Frontage Road and properties along the North Frontage Road. The proposed roundabout allows for this access to the west for passenger vehicles, trucks, busses, fire and emergency response vehicles. This accommodation will significantly improve the access to the Courtyards, MVEA (and other properties), which currently have poor access. With this proposed right-in-only access, residents, employees and other motorists traveling to these properties from westbound Woodmen or northbound Meridian (many traveling from eastbound US Highway 24) will no longer need to travel west for over a mile along Woodmen Road to the Golden Sage/Woodmen intersection and backtrack along the Woodmen Frontage Road (or travel north to Eastonville/Meridian turn left at this intersection

and travel through the Falcon Marketplace site) to access their destinations. This would significantly reduce travel times and emergency response times.

The proposed right-in-only with the roundabout would also benefit operations at the Woodmen/Golden Sage and Woodmen Frontage Road/Golden Sage intersection by removing existing and future traffic turning movements from these closely spaced intersections. The addition of the right-in-only combined with the roundabout would remove **background** traffic volumes of about 70 morning peak hour trips and 30 afternoon peak hour trips from **both** the Woodmen/Golden Sage and Woodmen Frontage Road/ Golden Sage intersections

CONCLUSIONS AND RECOMMENDATIONS

Woodmen Right-In-Only Access with Roundabout

The purpose of this update to the January 17, 2017 traffic report is to analyze the currently proposed right-in-only access **combined with** a proposed roundabout intersection with the Woodmen Frontage Road, which would significantly improve access not only to the site, but also to the properties to the west along the Woodmen Frontage Road. This new provision for public access from westbound Woodmen Road to the westbound Woodmen Frontage Road is a **significant change** from the previously proposed (and denied) right-in-only access configuration that essentially only served the proposed Falcon Marketplace. Please refer to the report section above for details.

Trip Generation

1. The site is projected to generate about 9,558 new external vehicle-trips on the average week-day, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, about 495 vehicles would enter and 370 vehicles would exit the site. During the afternoon peak hour, about 716 vehicles would enter and 701 vehicles would exit the site.

Projected Levels of Service

2. The eastbound left-turn movement at the Woodmen Road/Meridian Road intersection currently operates at LOS D. Given the high existing and projected background traffic demand for this turning movement, the LOS is projected to operate at LOS E during the afternoon peak hour by 2040. Important note: This condition has little to do with this site, rather it is primarily due to the background traffic demand. The northbound left-turn movement is projected to operate at LOS E during the morning and afternoon peak hours. The northbound through and southbound left-turn movements are projected to operate at LOS E during the afternoon peak hour.

3. The intersection of Meridian/Eastonville was assumed to be signalized once the site is built out. As a signalized intersection, it is projected to operate at an overall LOS C or better based on the short-term total traffic volumes.

   By 2040 the overall intersection is projected to operate at LOS D during the afternoon peak hour. The northbound left-turn movement is projected to operate at LOS F during the peak hour.

4. Based on the projected short-term and 2040 total traffic volumes, all movements at the proposed right-in/right-out-only access to Meridian Road are projected to operate at LOS D or better during the peak hours as a stop-sign-controlled intersection.

5. The proposed two-way stop-sign-controlled access points to the public internal road are projected to operate at LOS C or better for all movements during the peak hours based on the 2040 total traffic volumes with or without the proposed right-in-only access to Woodmen Road.

6. The northbound and southbound through movements at the proposed all-way, stop-sign-controlled intersection are projected to operate at LOS D or better based on the 2040 total traffic volumes **with** the proposed right-in-only access. These movements are projected to operate at LOS E and F, respectively based on the 2040 afternoon peak hour **without** the proposed right-in access to Woodmen Road.

7. All movements at the proposed roundabouts at the terminus of the Woodmen frontage road and at the intersection of the internal public road and Eastonville Road are projected to operate at LOS B or better based on the projected 2040 total traffic volumes with and without the proposed right-in-only access to Woodmen Road.

8. This report also includes a weaving section level of service for westbound Woodmen Road between the Meridian Road intersection and the proposed right-in to the west. Please refer to the Level of Service section of this report for details.

Comparison of Analysis Scenarios

9. The analysis of the scenarios with and without the proposed Woodmen Road access clearly indicates better area intersection operations for the traveling public, including the portion of the traveling public that will shop/dine, etc. at this site if the proposed Woodmen Road access is constructed. The access with the proposed roundabout would also significantly improve emergency vehicle and public access for the properties to the west along the Woodmen North Frontage Road. Please refer to the section above for details.

Recommended Improvements

The following highlights the anticipated study area roadway and intersection improvement due to a combination of existing deficiencies, future background traffic and projected site traffic. A list of all improvements in the vicinity and assessment of responsibility is presented in Table 6.

10. Figures 21 shows the existing, proposed, and Engineering Criteria Manual-prescribed acceleration and deceleration lane lengths along Meridian Road between Eastonville and Woodmen Road, respectively. Figure 22 shows the existing, proposed and Engineering Criteria Manual-prescribed acceleration and deceleration lane lengths along Woodmen Road between Meridian Road and Golden Sage Road. Figure 23 shows additional detail for the continuous acceleration and deceleration lane based on the roundabout queuing analysis. The figure also addresses the Woodmen Road dual eastbound left-turn lanes—stacking lengths from the queueing analysis plus deceleration and taper distances. The existing dual eastbound left-turn lanes on Woodmen Road approaching

Meridian Road are about 710 feet long. These lanes will likely need to be lengthened to about 1,100 feet to accommodate the projected 2040 eastbound left-turn queue.

11. The existing westbound right-turn acceleration lane extending west from the intersection of Woodmen/Meridian should be extended west to the proposed right-in-only site access and restriped as a continuous acceleration/deceleration lane. Figure 24 shows the recommended signing and striping for the proposed acceleration/deceleration lane.

12. Figure 25 shows the recommended short-term improvement to the northbound left-turn deceleration lane on Meridian Road approaching the Woodmen Road intersection. These are based on the short-term total traffic queuing analysis results and criteria in the ECM.

13. Figure 26 shows the future stacking distances for the northbound left-turn lane at the Woodmen/ Meridian intersection from the queueing analysis plus the deceleration length and taper lengths prescribed by the ECM. These are based on long-term projected volumes. These included projected traffic from areas southeast of the Falcon area using Falcon Highway to the new Meridian Road connection. The growth patterns in this area may change. Also, the future Dublin Boulevard connection to Falcon Highway may alter some of these projections.

14. A southbound right-turn deceleration lane should be provided on Meridian Road approaching the Meridian Road/Eastonville Road intersection. This lane should be 235 feet long plus a 200-foot taper (based on the anticipated post-development posted speed limit of 45 mph on the southbound approach to this intersection).

15. Continuous southbound right-turn acceleration/deceleration lanes should be provided on Meridian Road between Eastonville and the proposed right-in/right-out access and between this proposed access and Woodmen Road.

16. A northbound left-turn lane should be constructed within the existing center median on Meridian Road approaching the Meridian Road/Eastonville Road intersection. This lane should be 425 feet long plus a 200-foot taper. The median south of Eastonville should be reconstructed with a narrow six-foot-wide raised median nose with pavement for the remainder of the space between this new median nose and the northbound Meridian through lanes. This design is recommended for two reasons. The first is because of the current position of the southbound left-turn lane (immediately adjacent to the southbound through lanes). The second is that this design of the median modification would allow for conversion to a dual left-turn lane accomplished by restriping when needed in the future.

17. The site plan shows the proposed connection to the frontage road, and the internal public street connection through the site between the east end of the frontage road and Meridian Road.

18. The applicant will likely be required to widen Eastonville Road east of Meridian Road to add a westbound through lane and add width as feasible between the westbound left-turn lane and the westbound through lane due to the proposed dual left-turn lanes on the west side of the intersection. This added width would allow for through lane alignment (with an acceptable offset across the

intersection). Extent of this offsite improvement may be limited by available right-of-way and/or other existing constraints.

19. The development will be required to install a traffic signal (or escrow funds) for a traffic signal at the Meridian/Eastonville intersection. This project is planned to be developed in one phase, therefore the signal is planned to be installed once allowed by the County.

* * * * *

Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By _____
Jeffrey C. Hodsdon, P.E., PTOE
Principal

JCH:KDF:bjwb

Enclosures: Tables 2-6
Figures 1-26
Summary of Crash/Accident History
Internal Trip Calculations
Southwest Roundabout Analysis Exhibits
Rodel Analysis Reports
Traffic Count Reports
Level of Service Reports
Weaving Reports
Queuing Reports

Table 2
Trip Generation Estimate
Falcon Marketplace

Lot	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1] Average Weekday Traffic	Trip Generation Rates [1] Morning Peak Hour In	Trip Generation Rates [1] Morning Peak Hour Out	Trip Generation Rates [1] Afternoon Peak Hour In	Trip Generation Rates [1] Afternoon Peak Hour Out	Total Trips Generated Average Weekday Traffic	Total Trips Generated Morning Peak Hour In	Total Trips Generated Morning Peak Hour Out	Total Trips Generated Afternoon Peak Hour In	Total Trips Generated Afternoon Peak Hour Out	Internal Trips [7] Average Weekday Traffic	Internal Trips [7] Morning Peak Hour In	Internal Trips [7] Morning Peak Hour Out	Internal Trips [7] Afternoon Peak Hour In	Internal Trips [7] Afternoon Peak Hour Out	Total External Trips Generated Average Weekday Traffic	Total External Trips Generated Morning Peak Hour In	Total External Trips Generated Morning Peak Hour Out	Total External Trips Generated Afternoon Peak Hour In	Total External Trips Generated Afternoon Peak Hour Out	Pass-By Trips [2]	New External Trips Generated Average New Weekday Traffic
		Trip Generation Estimate Based on the Currently Proposed Plan																							
1	866	Pet Supply Superstore [3]	15 KSF [4]	38.24	0.53	0.33	1.69	1.69	574	8	5	25	25	54	1	2	3	2	520	7	3	22	23	10%	468
2	850	Supermarket	123 KSF	78.26	2.11	1.29	3.76	3.62	9,626	259	159	463	445	909	17	26	48	37	8,717	242	133	415	408	36%	5,579
3	944	Gasoline/Service Station	18 VFP [5]	168.56	6.20	5.96	6.94	6.94	3,034	112	107	125	125	286	5	8	15	12	2,748	107	99	110	113	56%	1,209
4	934	Fast-Food Restaurant with Drive-Through Window [6]	2.5 KSF	496.12	0.42	0.39	16.98	15.67	1,240	1	1	42	39	380	0	0	12	17	860	1	1	30	22	50%	430
5	820	Shopping Center	5 KSF	55.14	0.77	0.47	2.36	2.51	276	4	2	12	13	26	1	0	1	1	250	3	2	11	12	34%	165
6	848	Tire Store	7.72 KSF	24.87	1.82	1.07	1.78	2.37	192	14	8	14	18	18	0	1	1	1	174	14	7	13	17	28%	125
7	934	Fast-Food Restaurant with Drive-Through Window	3.5 KSF	496.12	23.16	22.26	16.98	15.67	1,736	81	78	59	55	532	26	12	17	24	1,204	55	66	42	31	50%	602
8	934	Fast-Food Restaurant with Drive-Through Window [6]	2.5 KSF	496.12	0.42	0.39	16.98	15.67	1,240	1	1	42	39	380	0	0	12	17	860	1	1	30	22	50%	430
9	610	Clinic	7.8 KSF	31.45	2.19	2.19	2.12	3.06	245	17	17	17	24	40	3	16	10	5	205	14	1	7	19	0%	205
10	820	Shopping Center	8 KSF	55.14	0.77	0.47	2.36	2.51	441	6	4	19	20	42	1	1	2	2	399	5	3	17	18	34%	263
11	937	Coffee/Donut Shop With Drive-Through Window	1.3 KSF	818.58	51.30	49.28	21.40	21.40	1,064	67	64	28	28	326	21	10	9	12	738	46	54	19	16	89%	81
									19,669	**570**	**446**	**846**	**831**	**2,993**	**75**	**76**	**130**	**130**	**16,676**	**495**	**370**	**716**	**701**		**9,558**

Notes:
(1) Source: "Trip Generation, 9th Edition, 2012" by the Institute of Transportation Engineers (ITE)
(2) Source: "Trip Generation Handbook - An ITE Proposed Recommended Practice" 3rd Edition, 2014
(3) Daily and morning peak-hour trip generation rates for Pet Supply Superstore are estimates by LSC
(4) KSF = 1,000 square feet of floor space
(5) VFP = vehicle fueling position
(6) The AM peak-hour trip generation rates have been reduced by LSC as the proposed fast-food restaurant does not serve breakfast
(6) See attached NCHRP 684 Internal Trip Capture Estimate Tool Sheets

Source: LSC Transportation Consultants, Inc.

Table 3
Short-Term Total Traffic Level of Service E Movements
Falcon Marketplace

Intersection Movement	Peak-Hour Volume AM	Peak-Hour Volume PM	Level of Service AM	Level of Service PM	Delay AM	Delay PM	Volume-to-Capacity AM	Volume-to-Capacity PM
Without Proposed Right-in Access to Woodmen Road								
Woodmen Road/Meridian Road								
Eastbound Left	293	642	D	E	54.4	60.7	0.64	0.90
Westbound Left	100	150	E	E	55.2	55.2	0.37	0.48
Northbound Left	150	175	E	E	55.2	55.3	0.48	0.49
Southbound Left	241	225	D	E	54.6	62.9	0.59	0.67
Woodmen Road/Golden Sage Road								
Eastbound Left	93	170	D	E	63.2	62.7	0.53	0.69
Westbound Left	7	15	D	E	50.6	55.9	0.09	0.15
Woodmen Road/Meridian Road								
Eastbound Left	293	642	D	E	52.1	58.0	0.68	0.88
Westbound Left	100	150	E	E	55.2	55.2	0.37	0.48
Northbound Left	212	279	E	E	58.4	57.8	0.61	0.66
Southbound Left	241	225	D	E	54.6	62.9	0.59	0.67
Woodmen Road/Golden Sage Road								
Eastbound Left	93	170	E	E	63.2	62.7	0.53	0.69
Westbound Left	7	15	D	E	50.6	55.9	0.09	0.15

Source: LSC Transportation Consultants, Inc.

57.2

With Proposed Right-In

D

E

Many values on this table (in addition to the ones called out) don't match the Synchro sheets - verify all.

Table 4
2040 Total Traffic Levels of Service E and F Movements
Falcon Marketplace

Intersection Movement	Peak-Hour Volume AM	Peak-Hour Volume PM	Level of Service AM	Level of Service PM	Delay AM	Delay PM	Volume-to-Capacity AM	Volume-to-Capacity PM	Queue Length AM	Queue Length PM	Stacking Distance
Without Proposed Right-in Access to Woodmen Road											
Eastonville Road/Meridian Road											
Eastbound Through	73	197	E	D	56.9	54.8	0.46	0.69	114	259	- - -
Westbound Through	113	136	D	E	52.4	62.8	0.50	0.67	206	273	- - -
Northbound Left	387	644	E	F	72.7	102.1	0.90	1.08	364	457	425
Woodmen Road/Meridian Road											
Eastbound Left	464	765	E	E	77.2	78.1	0.93	1.00	894	1250	710
Westbound Left	150	225	E	D	64.4	54.5	0.61	0.56	468	219	435
Northbound Left	350	450	E	D	61.5	53.3	0.77	0.74	222	206	500(1)
									260	240	350
Northbound Through	350	1,008	D	E	35.1	66.3	0.41	0.98	251	668	- - -
Southbound Left	294	483	D	E	54.3	69.6	0.63	0.90	218	404	450
Woodmen Road/Golden Sage Road											
Eastbound Left	422	404	E	D	66.5	50.9	0.86	0.72	507	382	450
Northbound Through	19	39	E	D	61.3	53.9	0.24	0.30	178	122	- - -
With Proposed Right-in Access to Woodmen Road											
Eastonville Road/Meridian Road											
Eastbound Through	73	197	D	D	55.0	54.1	0.45	0.68	169	259	- - -
Westbound Through	113	136	D	E	52.4	62.0	0.77	0.67	180	246	- - -
Northbound Left	229	644	D	D	52.1	52.9	0.60	0.77	164	262	425
Woodmen Road/Meridian Road											
Eastbound Left	464	765	E	E	75.3	79.8	0.92	1.01	881	1403	710
Westbound Left	150	225	E	D	61.0	54.7	0.56	0.56	535	535	435
Northbound Left	428	565	E	E	74.3	57.9	0.91	0.84	444	437	500(1)
									488	507	350
Northbound Through	344	893	C	D	34.4	51.9	0.33	0.89	220	668	- - -
Southbound Left	294	483	D	E	54.3	70.3	0.63	0.90	142	466	450
Woodmen Road/Golden Sage Road											
Eastbound Left	422	404	E	D	66.5	50.9	0.86	0.72	459	192	450
Northbound Through	19	39	E	D	61.3	53.9	0.24	0.30	115	136	- - -

Notes:
(1) The northbound left-turn lane could be reconfigured to provide 525 feet of dual lane stacking plus 235 feet of single lane deceleration length

Source: LSC Transportation Consultants, Inc

minor compared to below?

Worse

Values in blue rectangles appear to contain discrepancies or need footnotes of explanation.

Table 5
Weaving Traffic Volumes
Falcon Marketplace

AM Peak Hour

	Traffic Volume (vehicles/hour)					
	R-R	F-R		R-F	F-F	
Zone	**SB RT to Right-In**	**NB LT to Right-In**	**WB TH to Right-In**	**SB RT to WB TH**	**WB TH to WB TH**	**NB LT to WB TH**
Mountain View Electric	4	10	4	0	0	0
Courtyards	5	13	4	0	0	0
Latigo Industrial	39	20	20	6	0	0
Latigo Business Center	0	10	10	0	0	0
Future MVE	12	12	35	0	0	0
Site	25	46	70	13	0	0
Other Background	0	0	0	937	741	317
Total	**85**	**111**	**143**	**956**	**741**	**317**
		254			**1058**	
Site Access WB RT		**339**				

Meridian/ Woodmen	SB RT	1041
	WB TH	884
	NB LT	428

PM Peak Hour

	Traffic Volume (vehicles/hour)					
	R-R	F-R		R-F	F-F	
Zone	**SB RT to Right-In**	**NB LT to Right-In**	**WB TH to Right-In**	**SB RT to WB TH**	**WB TH to WB TH**	**NB LT to WB TH**
Mountain View Electric	2	4	1	0	0	0
Courtyards	15	45	14	0	0	0
Latigo Industrial	25	13	13	4	0	0
Latigo Business Center	0	3	2	0	0	0
Future MVE	9	3	3	0	0	0
Site	13	62	89	33	0	0
Other Background	0	0	0	501	543	435
Total	**64**	**130**	**122**	**538**	**543**	**435**
		252			**978**	
Site Access WB RT		**316**				

Meridian/ Woodmen	SB RT	602
	WB TH	665
	NB LT	565

Source: LSC Transportation Consultants, Inc.

Table 6
Falcon Marketplace
Roadway Improvements

Item #	Improvement	Timing	Responsibility
	Countywide Road Impact Fee Program Fees and Taxes		
1	Woodmen Road Metropolitan District fees and taxes to be paid in lieu of Countywide Road Impact Fee Program fees and taxes. Woodmen Road has already been completed, but this project iss joining the district.	District fees payable at platting	Falcon Marketplace
	Meridian/Eastonville and Merician Right-In/Right-Out Intersections		
2	Signalization of Meridian Road/Eastonville Road intersection.	Design and installation with the development of Falcon Marketplace once allowed by El Paso County.	Falcon Marketplace
3	Reconstruction of the Meridian center median south of Eastonville Road to achieve major street left-turn sight distance and accommodate future northbound dual left-turn lanes on Meridian Road approaching Eastonville Road.	Design and installation with the development of Falcon Marketplace.	Falcon Marketplace
4	Southbound right-turn deceleration lane on Meridian Road approaching Eastonville Road.	Design and installation with the develoment of Falcon Marketplace.	Falcon Marketplace
5	Design and construction of continuous southbound right-turn lanes and shoulder/bike lane on Meridian Road from Eastonville Road south to the proposed right-in/right-out and from the right-in/right-out south to Woodmen Road.	Design and installation with the develoment of Falcon Marketplace.	Falcon Marketplace
6	Widening of Eastonville Road east of Meridian Road to add a westbound through lane and add width as feasible between the westbound left-turn lane and the westbound through lane due to the proposed dual left-turn lanes on the west side of the intersection. This added width would allow for through lane alignment (with an acceptable offset across the intersection).	Design and installation with the development of Falcon Marketplace. Extent of this off-site improvement may be limited by available right-of-way and/or other existing constraints.	Falcon Marketplace
7	Design and construction of the proposed extension of Eastonville Road between Meridian and the proposed roundabout.	Design and installation with the develoment of Falcon Marketplace.	Falcon Marketplace
	On-Site Improvements		
8	Design and construction of the public street connection through the site (Falcon Market Place).	Design and installation with the development of Falcon Marketplace.	Falcon Marketplace
9	Design and construction of the proposed roundabout on-site west of the Meridian/Eastonville intersection. This would include a “stub” to the north for the anticipated future street connection north to Bent Grass Meadows Drive.	Design and installation with the develoment of Falcon Marketplace.	Falcon Marketplace
10	Design and construction of the proposed roundabout on-site at the east terminus of the Woodmen Frontage Road.	Design and installation with the develoment of Falcon Marketplace.	Falcon Marketplace
	Woodmen/Meridian Intersection		
11	Extend existing westbound right-turn acceleration lane on Woodmen Road at Meridian Road to provide a continuous right-turn lane between Meridian Road and the proposed right-in-only access.	Design and installation with the develoment of Falcon Marketplace.	Falcon Marketplace
12	Woodmen eastbound dual left turning movement.	Add “No U-Turn” Signs	Falcon Marketplace
13	Woodmen eastbound dual left-turn lanes.	Extension of existing dual left-turn lanes to provide additional vehicle stacking distance (as shown in Figure 23).	Falcon Marketplace to contribute a fair share escrow amount toward the improvement or the owners will consent to inclusion of this property into a special improvement district for funding future traffic improvements to Woodmen Road adjacent to the property and at the Meridian/ Woodmen intersection if this becomes necessary, based on relative traffic generation from those properties benefitting from the improvements involved.
14	Meridian northbound dual left-turn lanes.	Extend northbound left-turn lane (as shown in Figure 25).	Falcon Marketplace
15	Meridian northbound dual left-turn lanes.	Future (if necessary -- Add additional lane length beyond #14 to provide additional stacking if/when needed (as shown in Figure 26).	Falcon Marketplace to contribute a fair-share escrow amount toward the total cost of the additional extension of these lanes or the owners will consent to inclusion of this property into a special improvement district for funding future traffic improvements to Woodmen Road adjacent to the property and at the Meridian/Woodmen intersection if this becomes necessary, based on relative traffic generation from those properties benefitting from the improvements involved.
	Golden Sage Intersections		
16	Lengthening of the current eastbound left turn deceleration lane on Woodmen approaching Golden Sage Road	If/when needed to maintain adequate deceleration plus stacking length (plus lane transition taper).	Falcon Marketplace to contribute a fair-share escrow amount toward the total cost of this lane improvement or the owners will consent to inclusion of this property into a special improvement district for funding future traffic improvements to Woodmen Road adjacent to the property and at this Woodmen intersection if this becomes necessary, based on relative traffic generation from those properties benefitting from the improvements involved.
17	Southbound right-turn deceleration lane on Golden Sage Road approaching Woodmen Road.	If/when needed to maintain acceptable level of service/traffic operations and/or to control vehicle queues.	Falcon Marketplace to contribute a fair-share escrow amount toward the total cost of this lane improvement or the owners will consent to inclusion of this property into a special improvement district for funding future traffic improvements to Woodmen Road adjacent to the property and at this Woodmen intersection if this becomes necessary, based on relative traffic generation from those properties benefitting from the improvements involved.
18	Signalization of Golden Sage Road/Woodmen Frontage Road. or roundabout?	If/when needed to maintain acceptable level of service/traffic operations and/or to control vehicle queues.	Falcon Marketplace to contribute a fair-share escrow amount toward the total cost of a potential future traffic signal or the owners will consent to inclusion of this property into a special improvement district for funding future traffic improvements to Woodmen Road adjacent to the property and at this intersection if this becomes necessary, based on relative traffic generation from those properties benefitting from the improvements involved.

Source: LSC Transportation Consultants, Inc.

Approximate Scale
Scale: 1"= 1,200'

Figure 1

Vicinity Map

Falcon Marketplace (LSC #164350)

Approximate Scale
Scale: 1"=600'

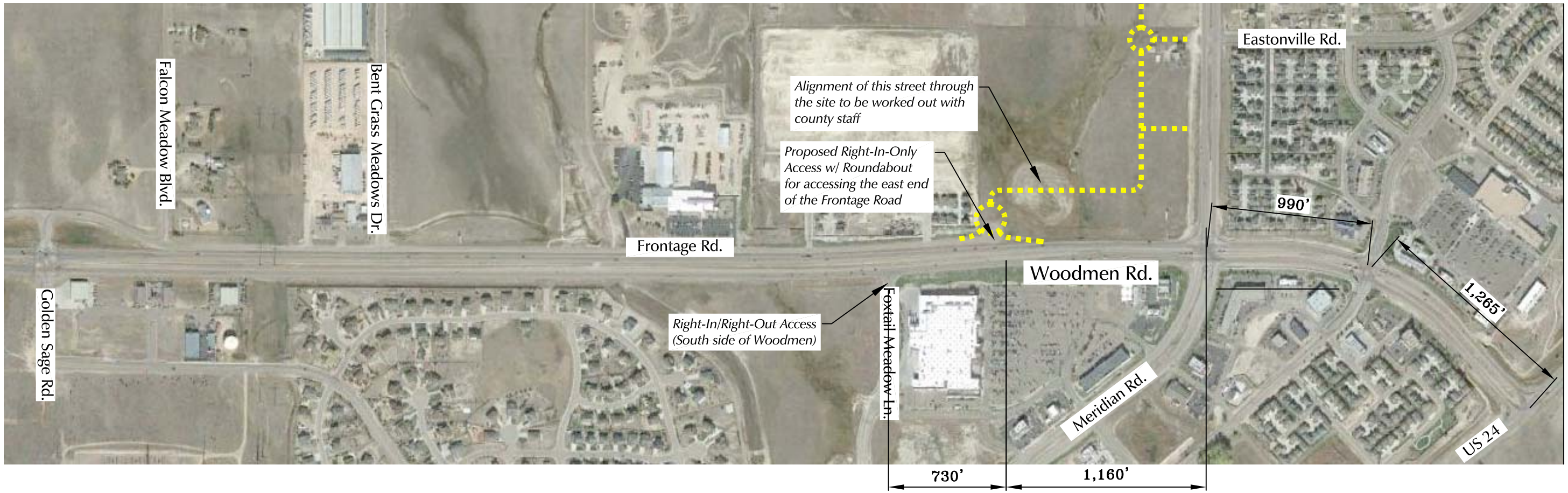


Figure 2

Woodmen Road Intersection/Access Spacing

Falcon Marketplace (LSC #164350)

LSC TRANSPORTATION CONSULTANTS, INC.

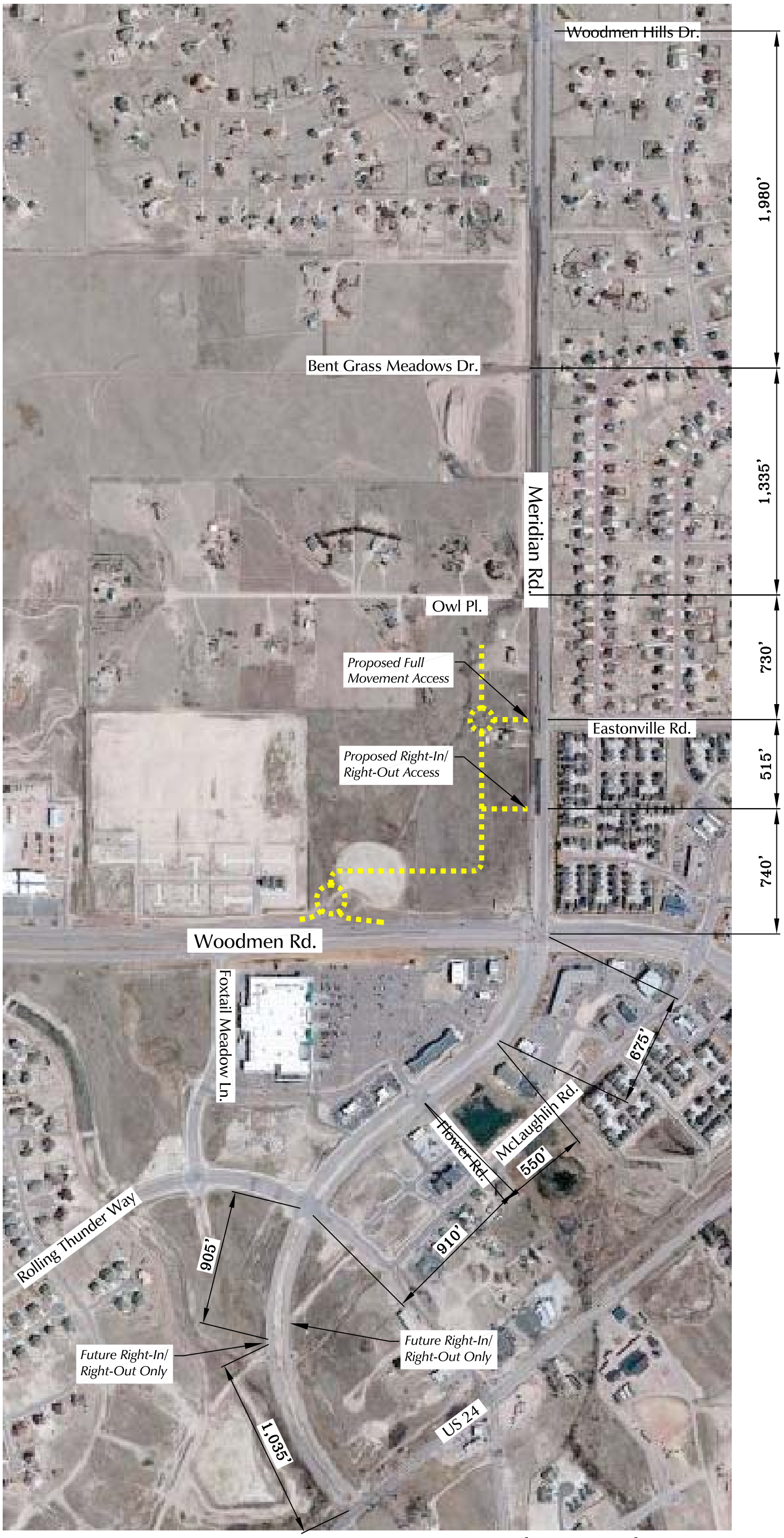
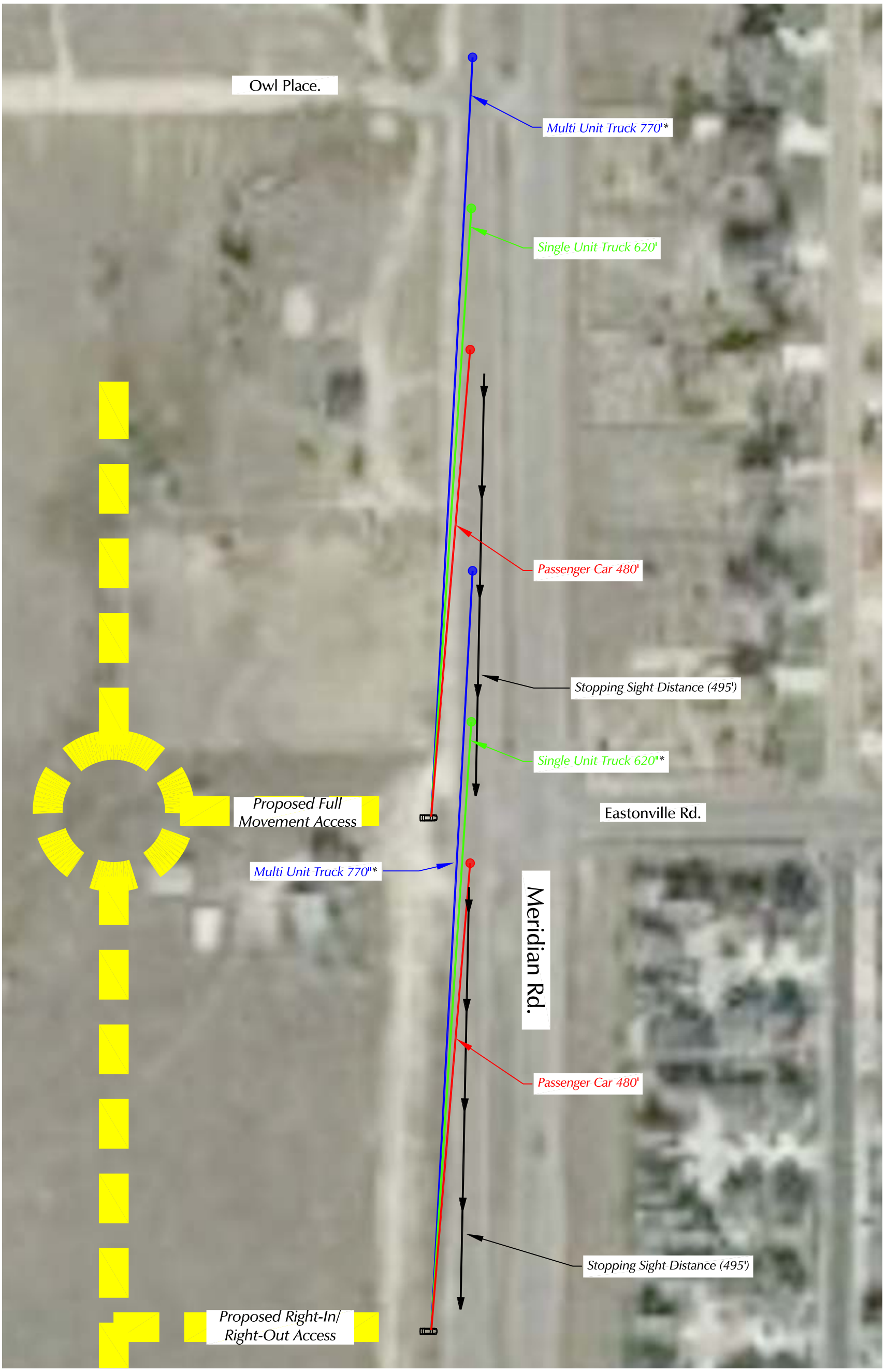


Figure 3

Meridian Road Intersection/Access Spacing

Falcon Marketplace (LSC #164350)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

= Required intersection sight distance for passenger cars

= Required intersection sight distance for single–unit trucks

= Required intersection sight distance for multi–unit trucks

= Required stopping sight distance

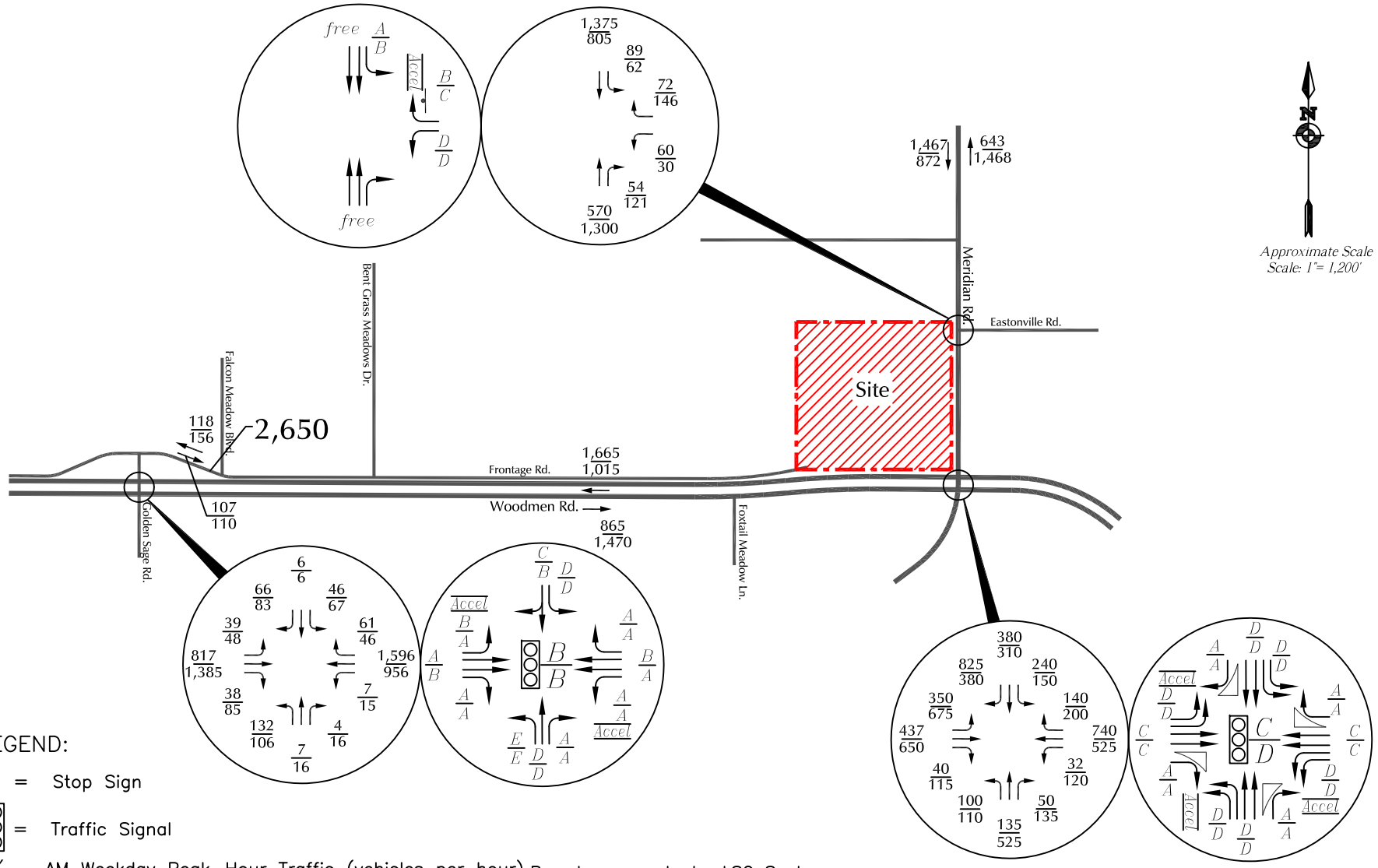
Based on an anticipated post-development speed limit of 45mph (50 mph design speed)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 4

Sight Distance for Meridian Road

Falcon Marketplace (LSC #164350)



LEGEND:

= Stop Sign

= Traffic Signal

$\frac{XX}{XX}$ = AM Weekday Peak–Hour Traffic (vehicles per hour) / PM Weekday Peak–Hour Traffic (vehicles per hour)

Based on counts by LSC Sept 2015, March 2017 & June 2017

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

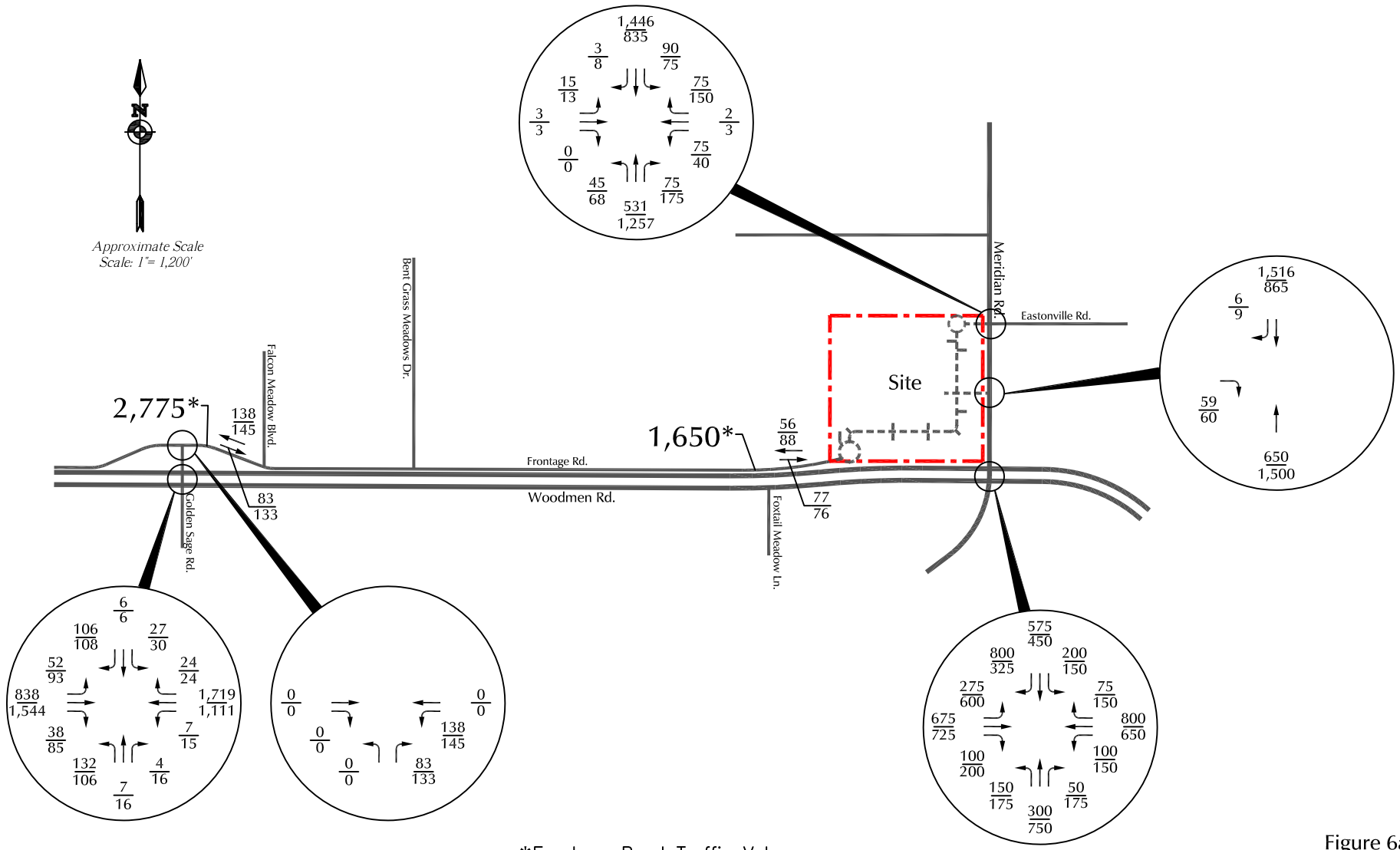
$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC

Figure 5

Existing Traffic, Lane Geometry, Traffic Control and Levels of Service

Falcon Marketplace (LSC #164350)



*Frontage Road Traffic Volumes

Figure 6a

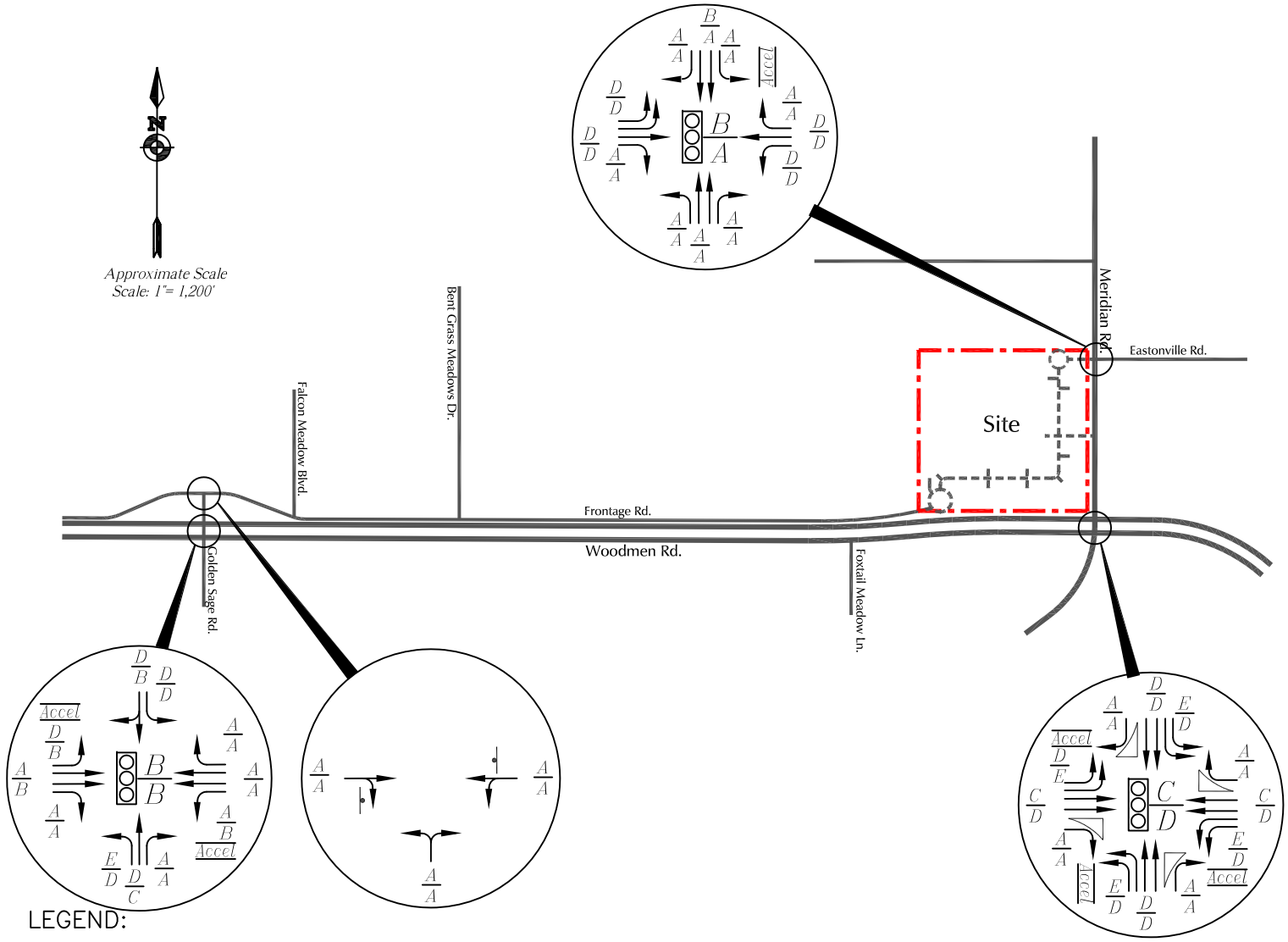
Short-Term Background Traffic Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak–Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak–Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC



LEGEND:

= Stop Sign

= Traffic Signal

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

Figure 6b

Short-Term Background Lane Geometry, Traffic Control and Levels of Service Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)

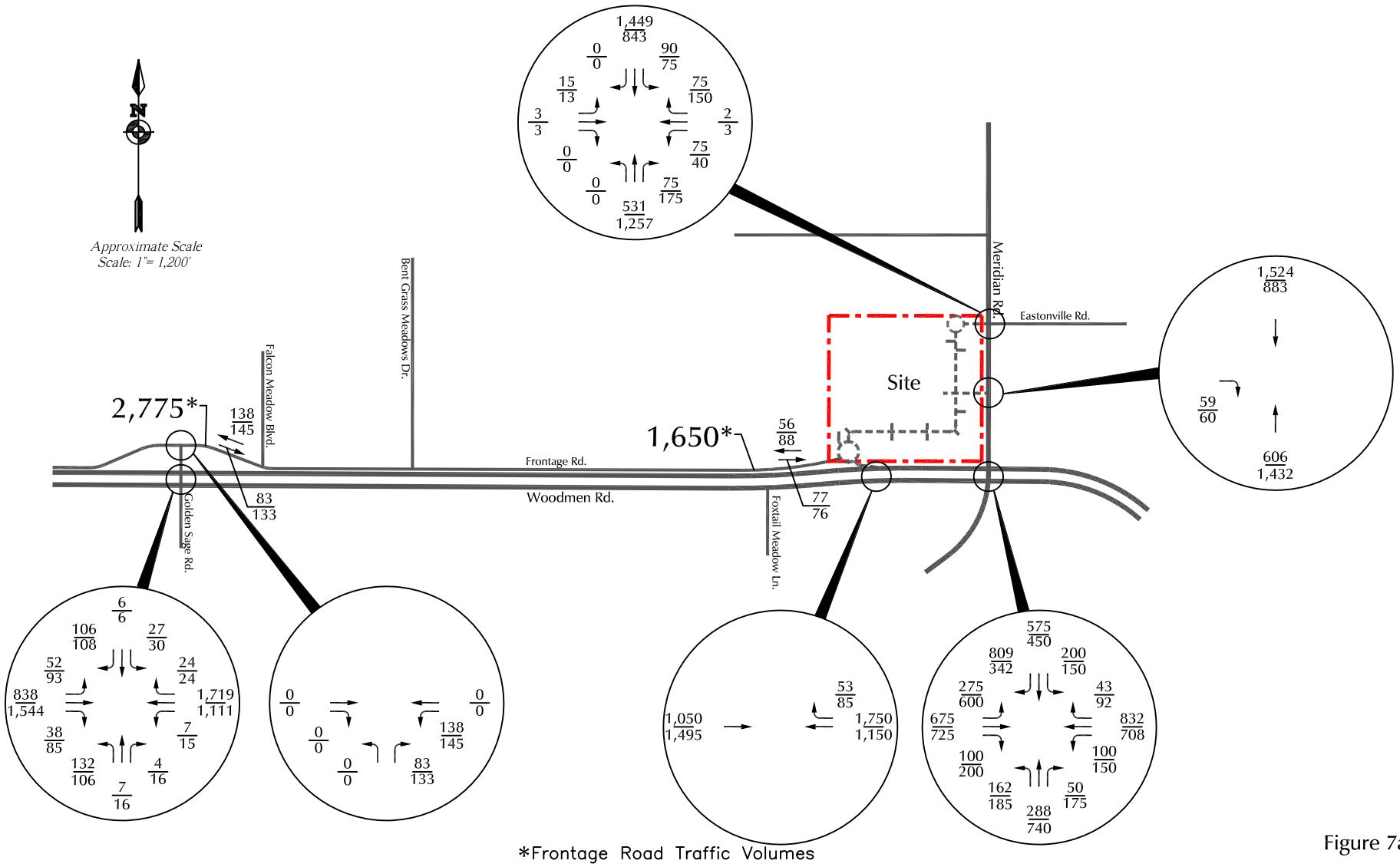


Figure 7a

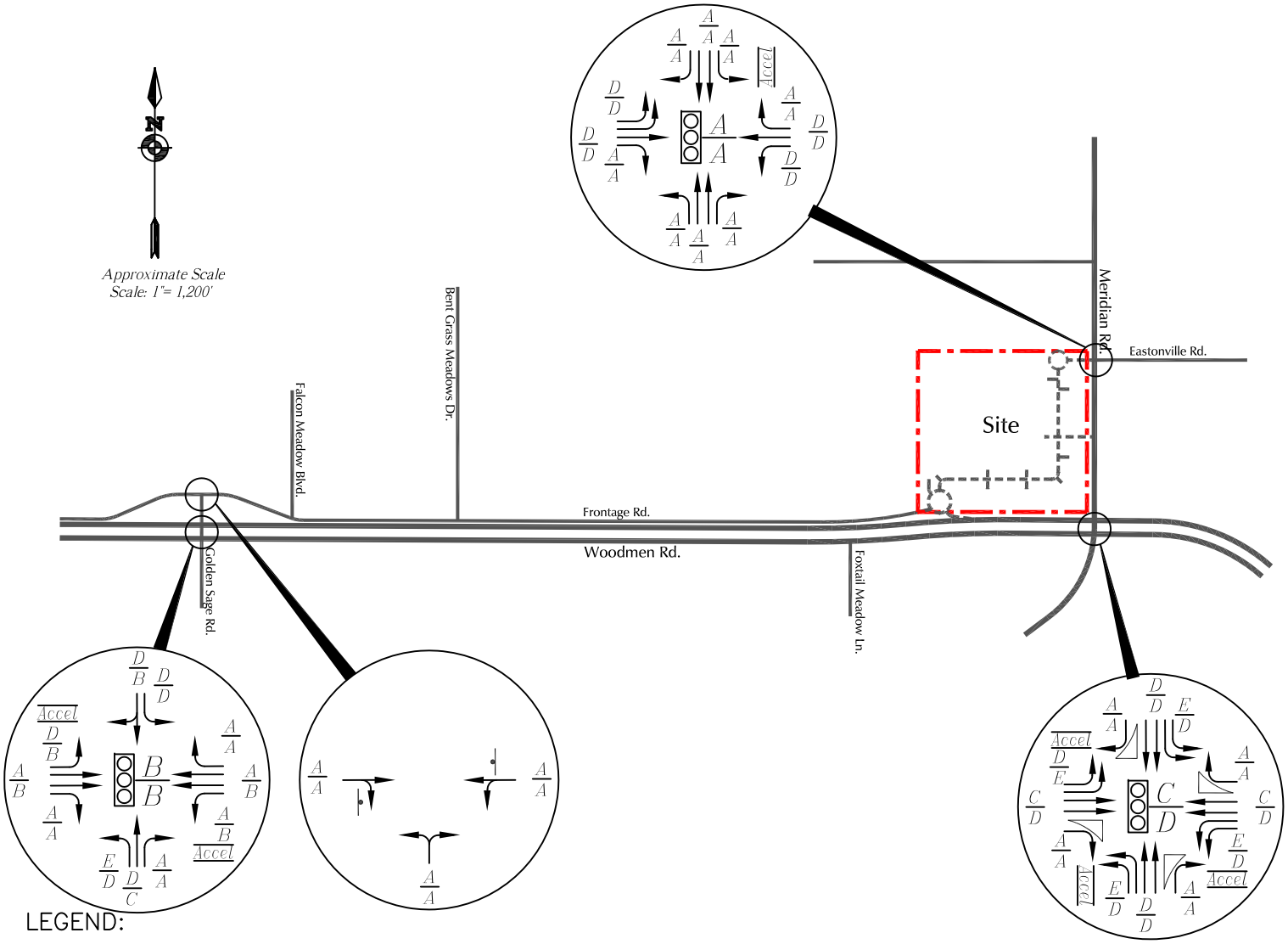
Short-Term Background Traffic With Proposed Right-In Access

Falcon Marketplace (LSC #164350)

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak–Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak–Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC



LEGEND:

= Stop Sign

= Traffic Signal

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

Figure 7b

Short-Term Background Lane Geometry, Traffic Control and Levels of Service With Proposed Right-In Access

Falcon Marketplace (LSC #164350)

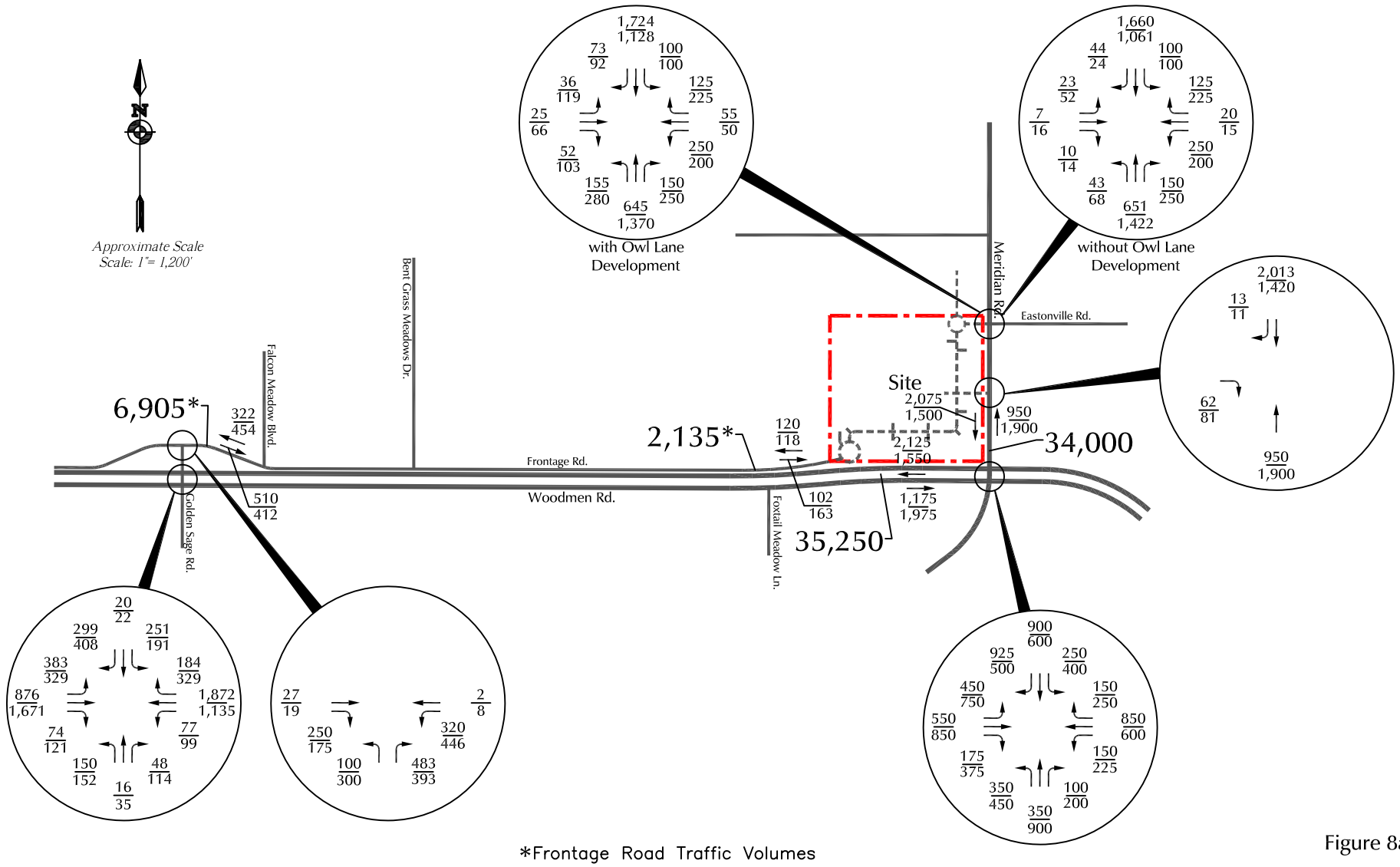


Figure 8a

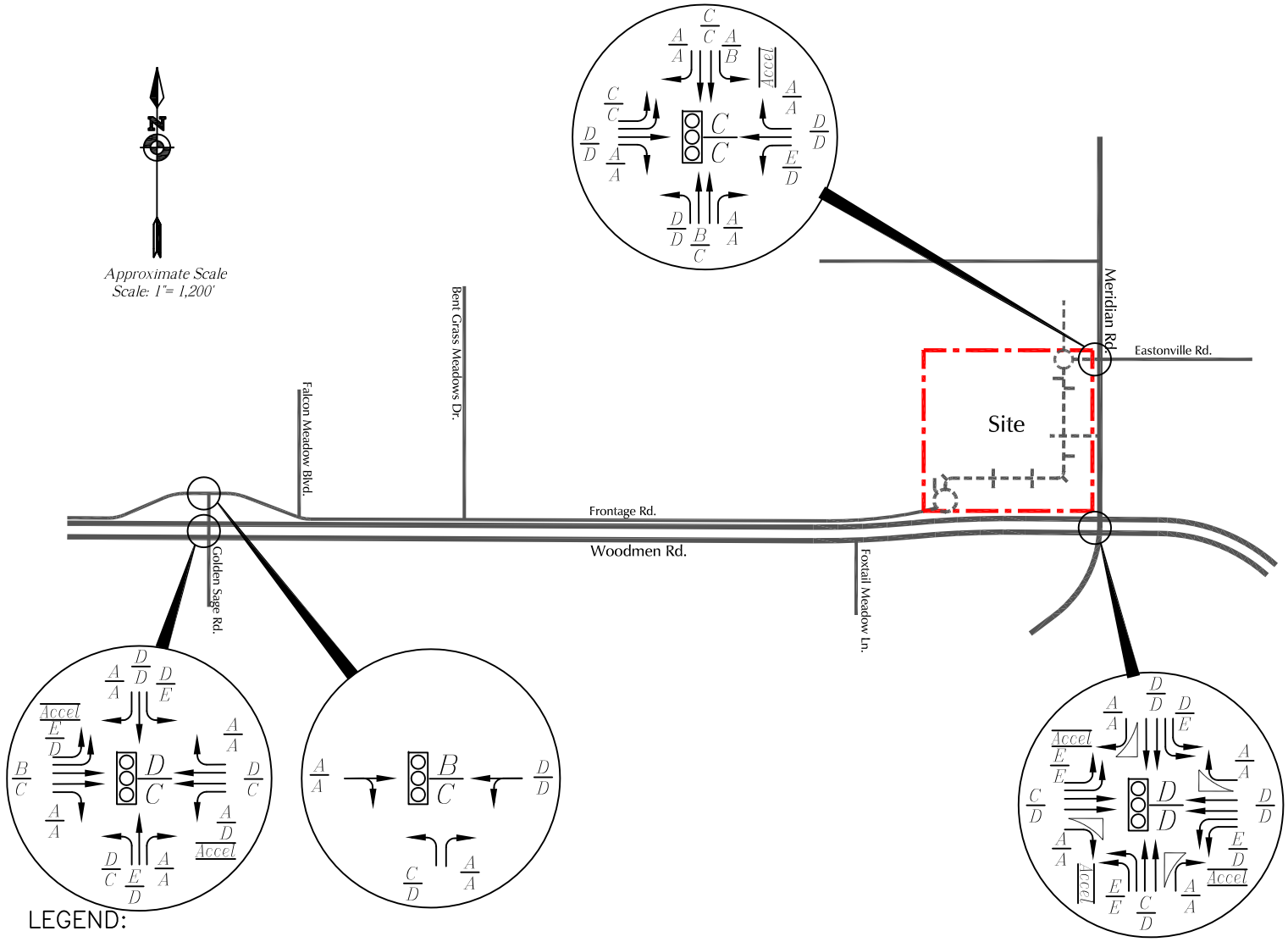
Year 2040 Background Traffic Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC



LEGEND:

= Stop Sign

= Traffic Signal

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

Figure 8b

Year 2040 Background Lane Geometry, Traffic Control and Levels of Service Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)

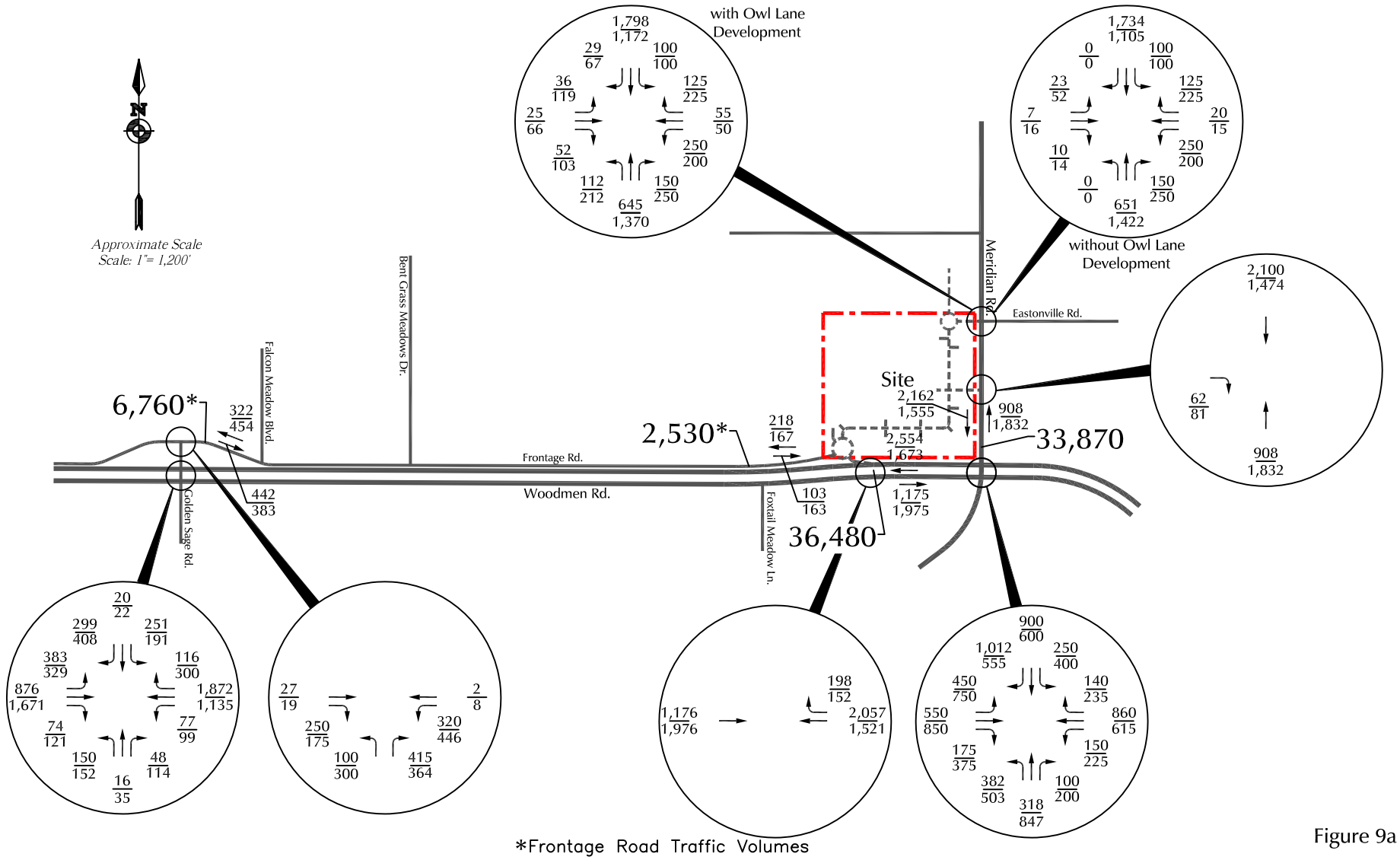


Figure 9a

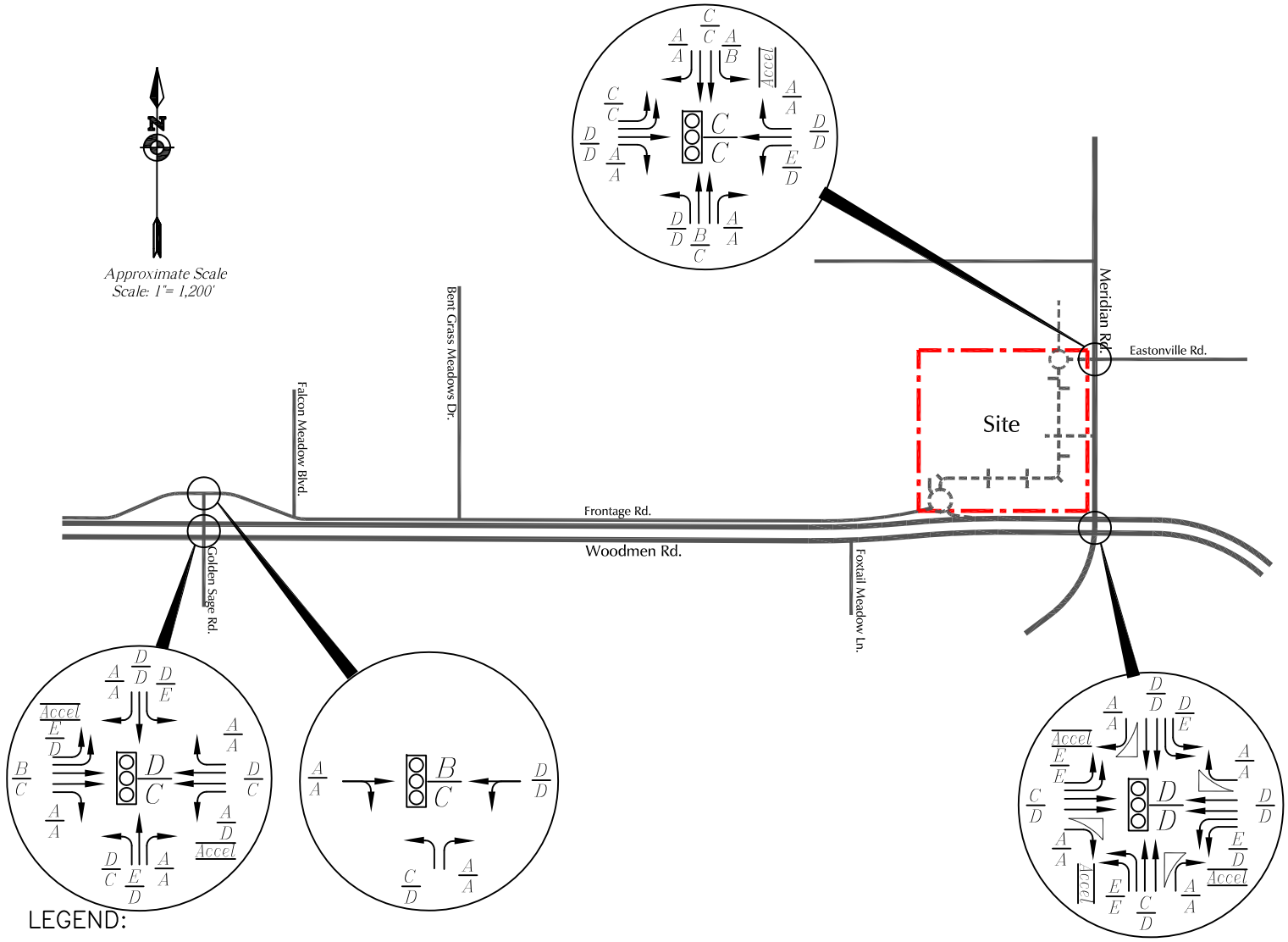
Year 2040 Background Traffic With Proposed Right-In Access

Falcon Marketplace (LSC #164350)

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC



LEGEND:

= Stop Sign

= Traffic Signal

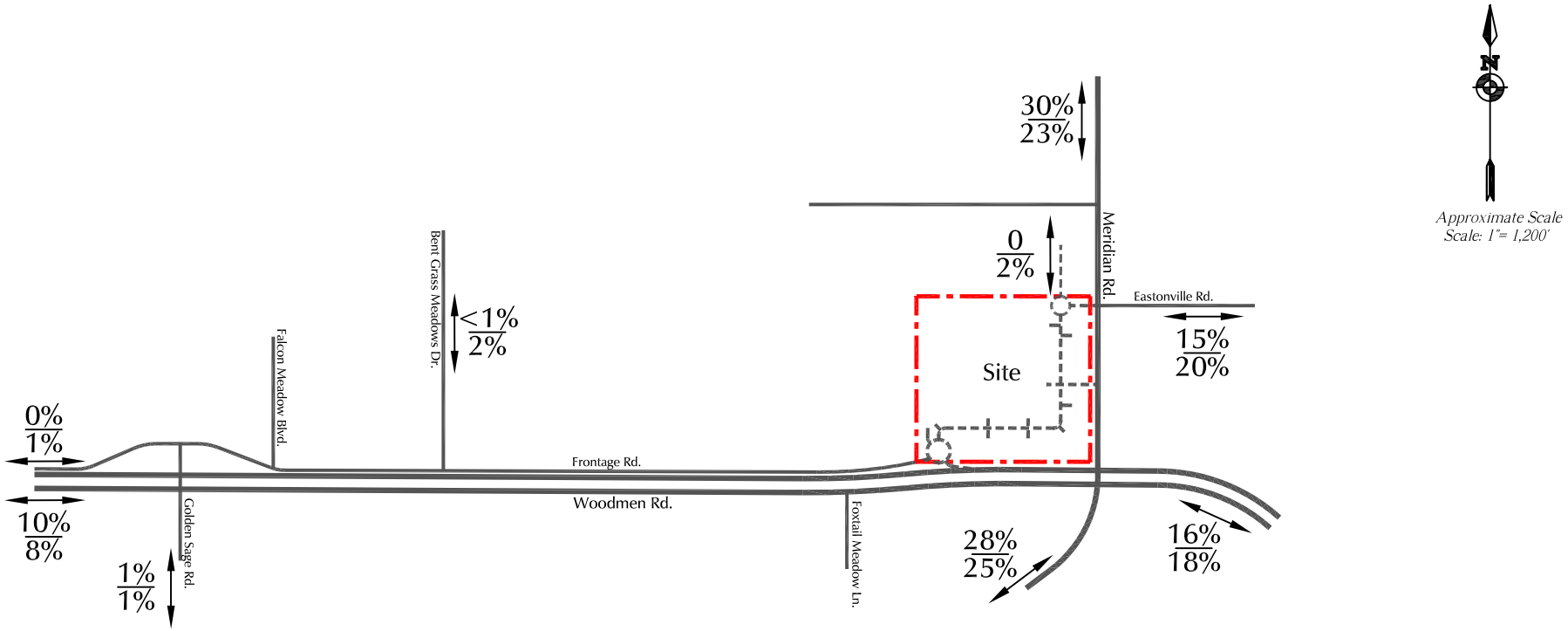
$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

Figure 9b

Year 2040 Background Lane Geometry, Traffic Control and Levels of Service With Proposed Right-In Access

Falcon Marketplace (LSC #164350)



LEGEND:

35% / 35% = Short–Term Percent Primary Trip Directional Distribution / Long–Term Percent Primary Trip Directional Distribution

Figure 10

Directional Distribution of Site-Generated Traffic

Falcon Marketplace (LSC #164350)

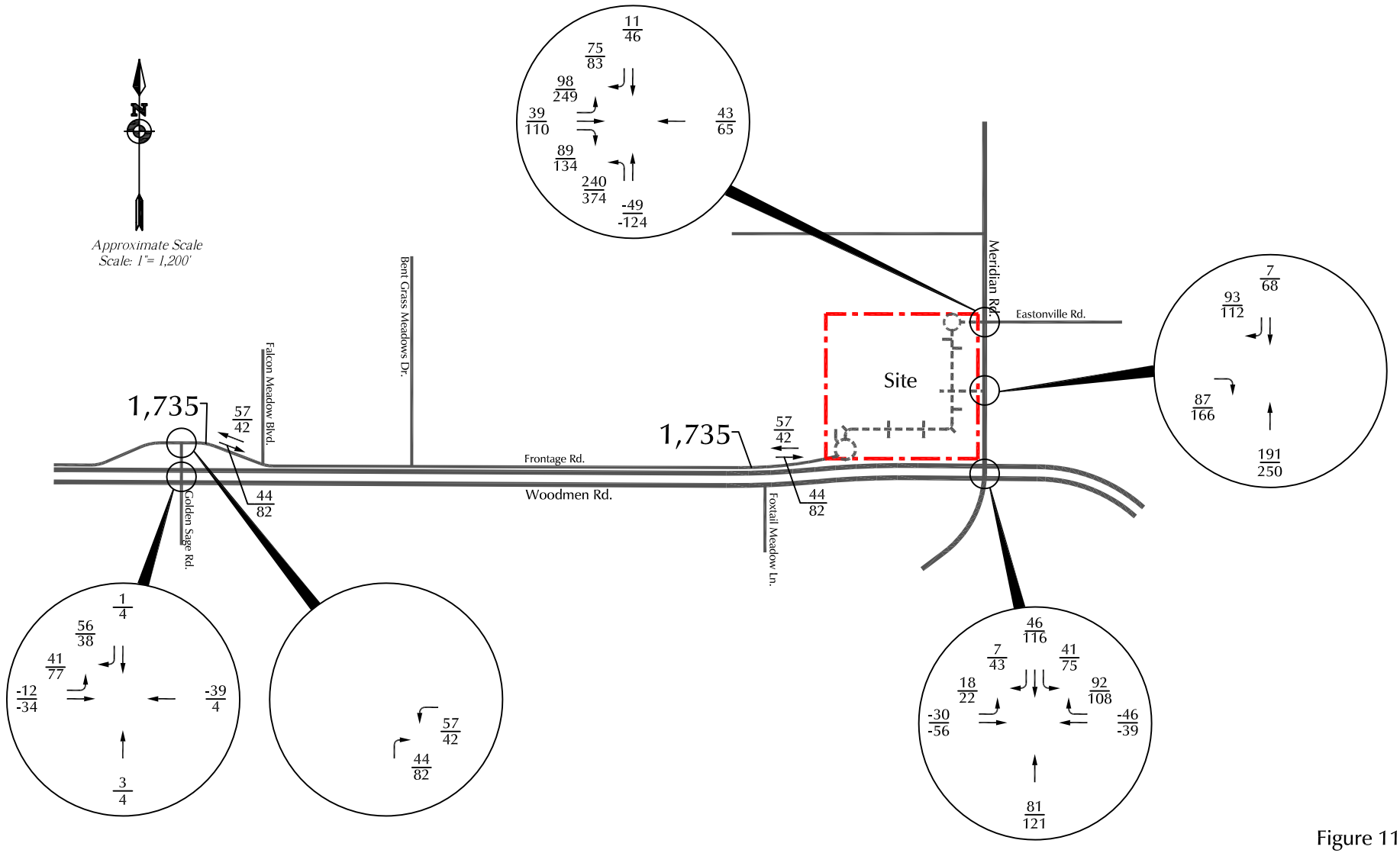


Figure 11

Short-Term Assignment of Site-Generated Traffic Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)

LEGEND:

XX/XX = AM Weekday Peak–Hour Traffic (vehicles per hour) / PM Weekday Peak–Hour Traffic (vehicles per hour)

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC

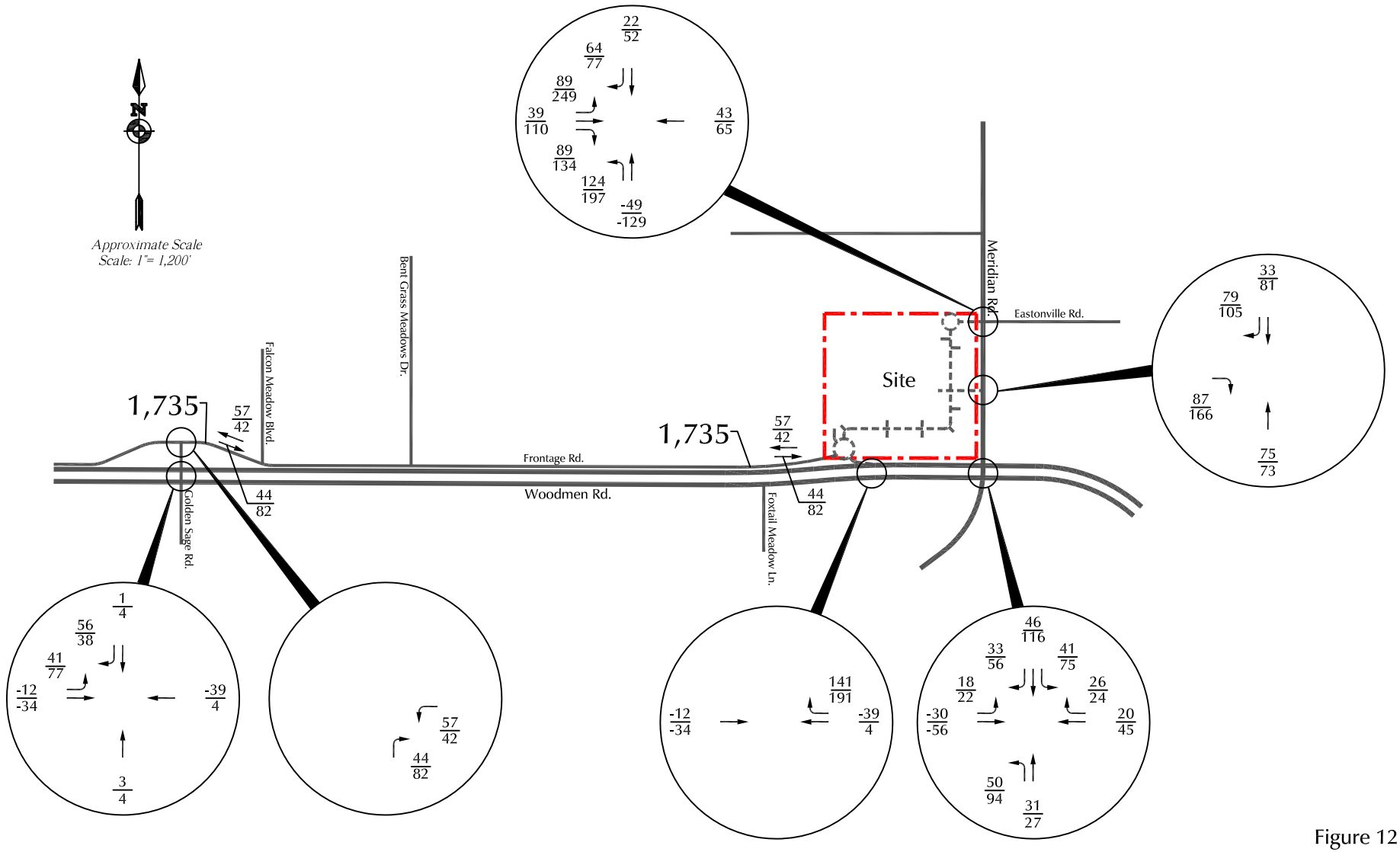


Figure 12

Short-Term Assignment of Site-Generated Traffic With Proposed Right-In Access

Falcon Marketplace (LSC #164350)

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak–Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak–Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC

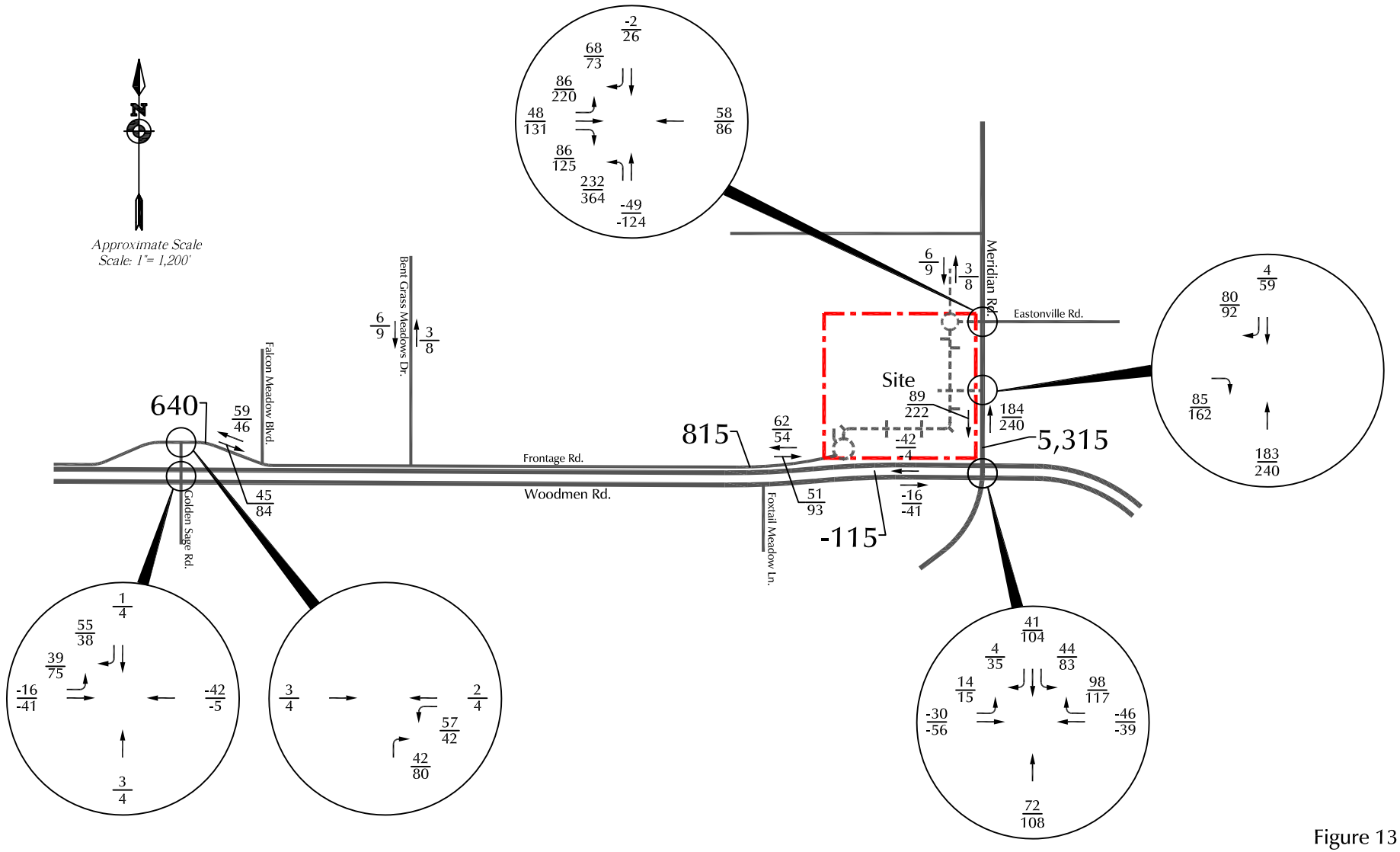


Figure 13

Long-Term Assignment of Site-Generated Traffic Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)

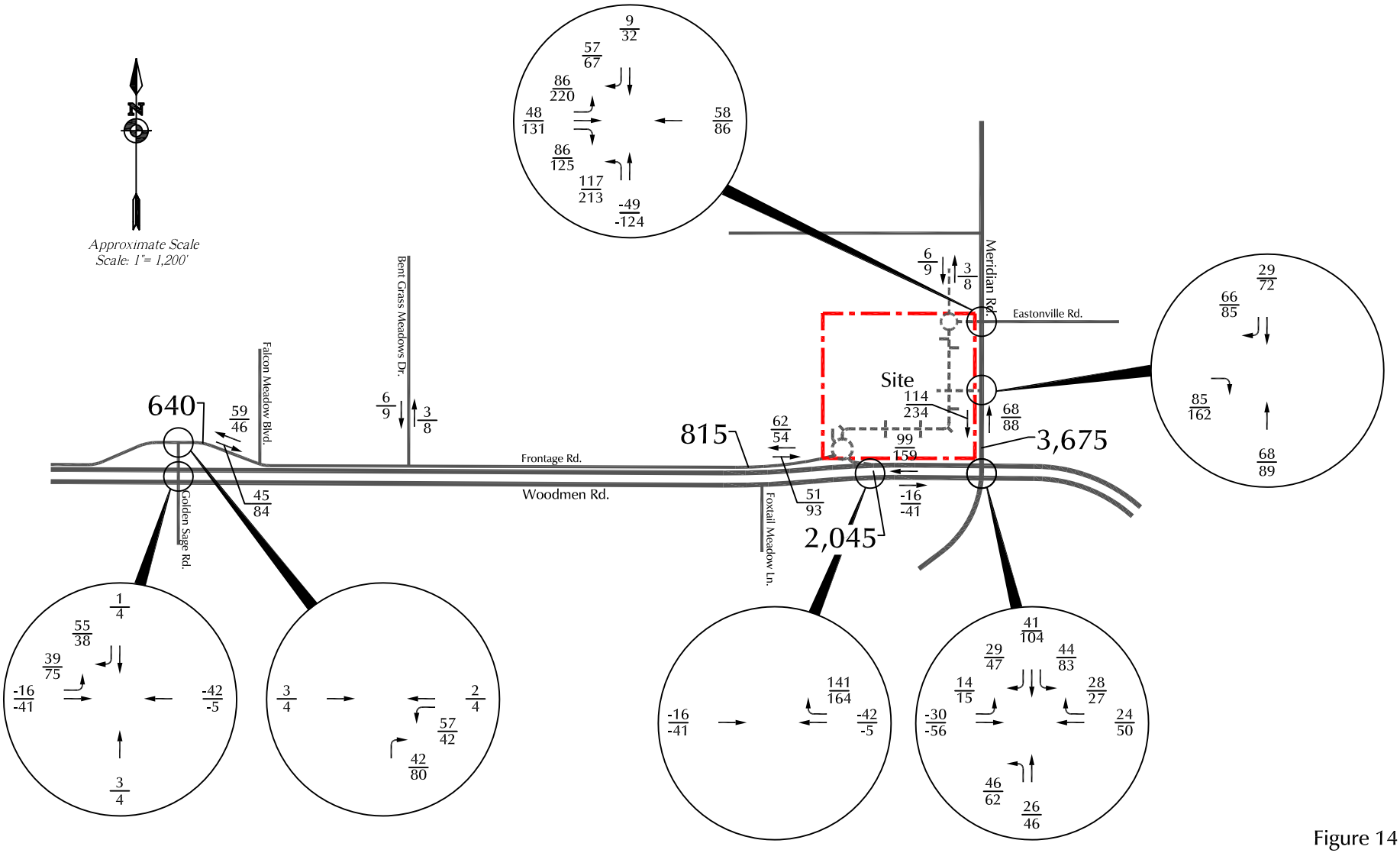


Figure 14

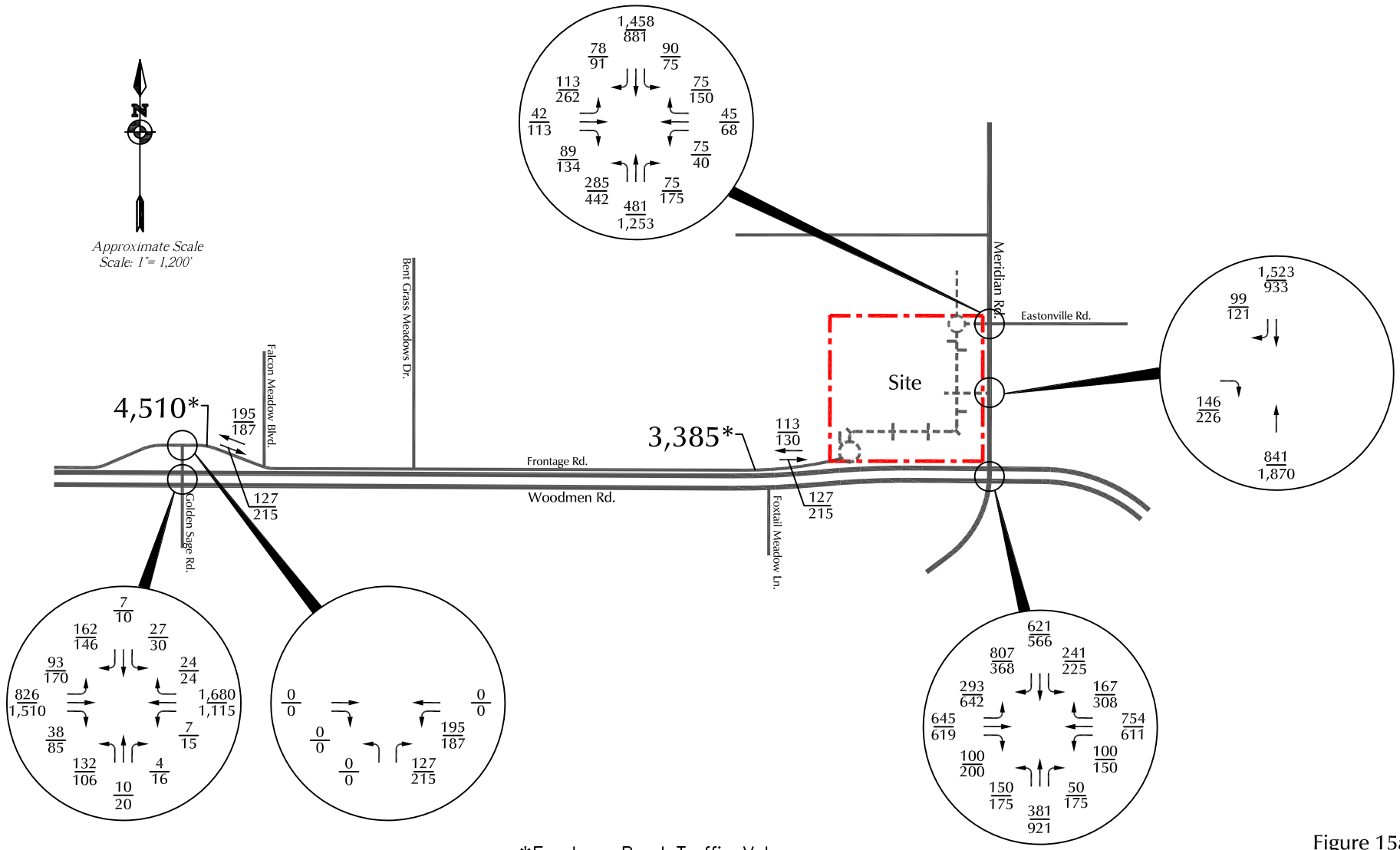
Long-Term Assignment of Site-Generated Traffic With Proposed Right-In Access

Falcon Marketplace (LSC #164350)

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC



*Frontage Road Traffic Volumes

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC

Figure 15a

Short-Term Total Traffic Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)

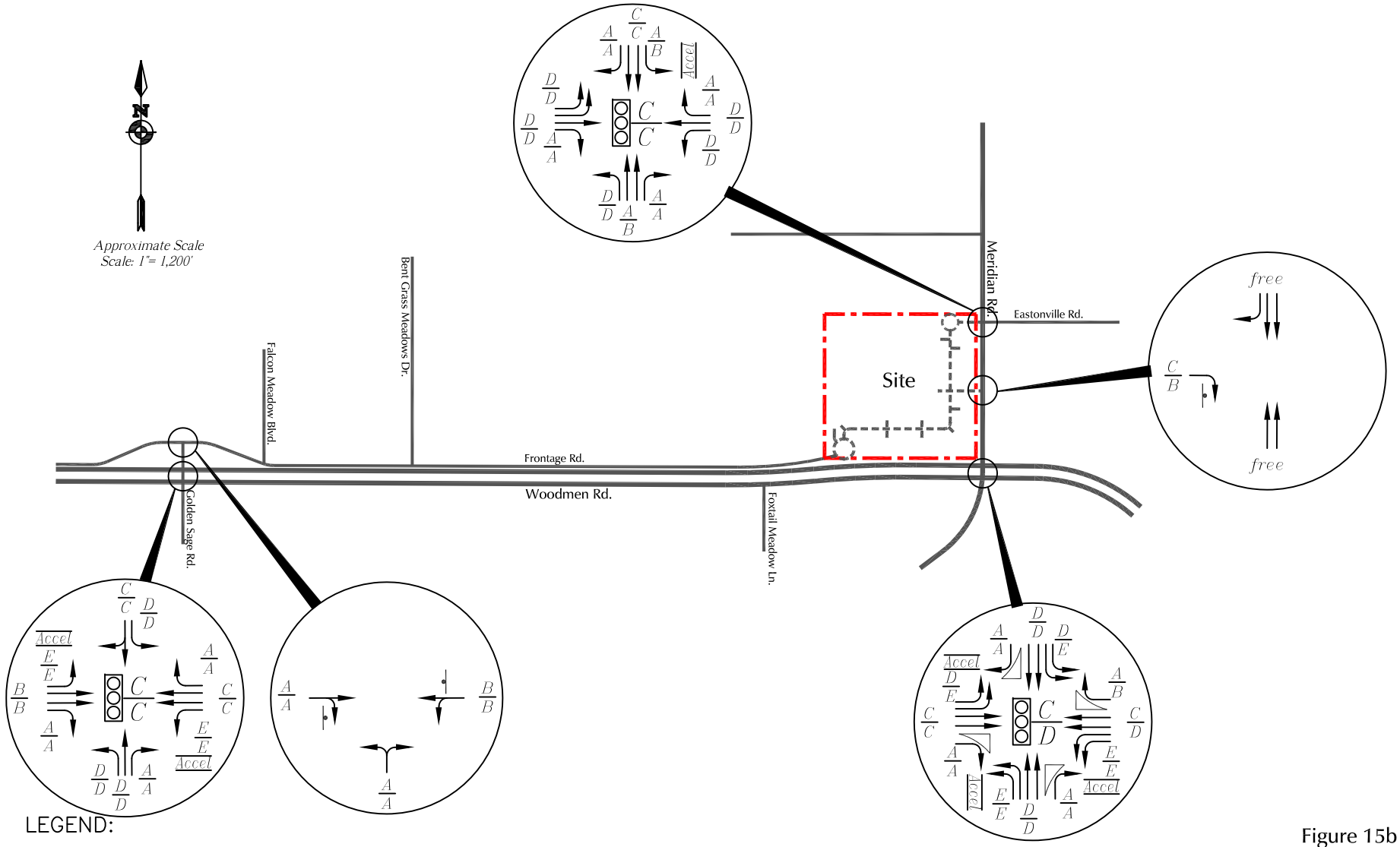


Figure 15b

Short-Term Total Lane Geometry, Traffic Control and Levels of Service Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)

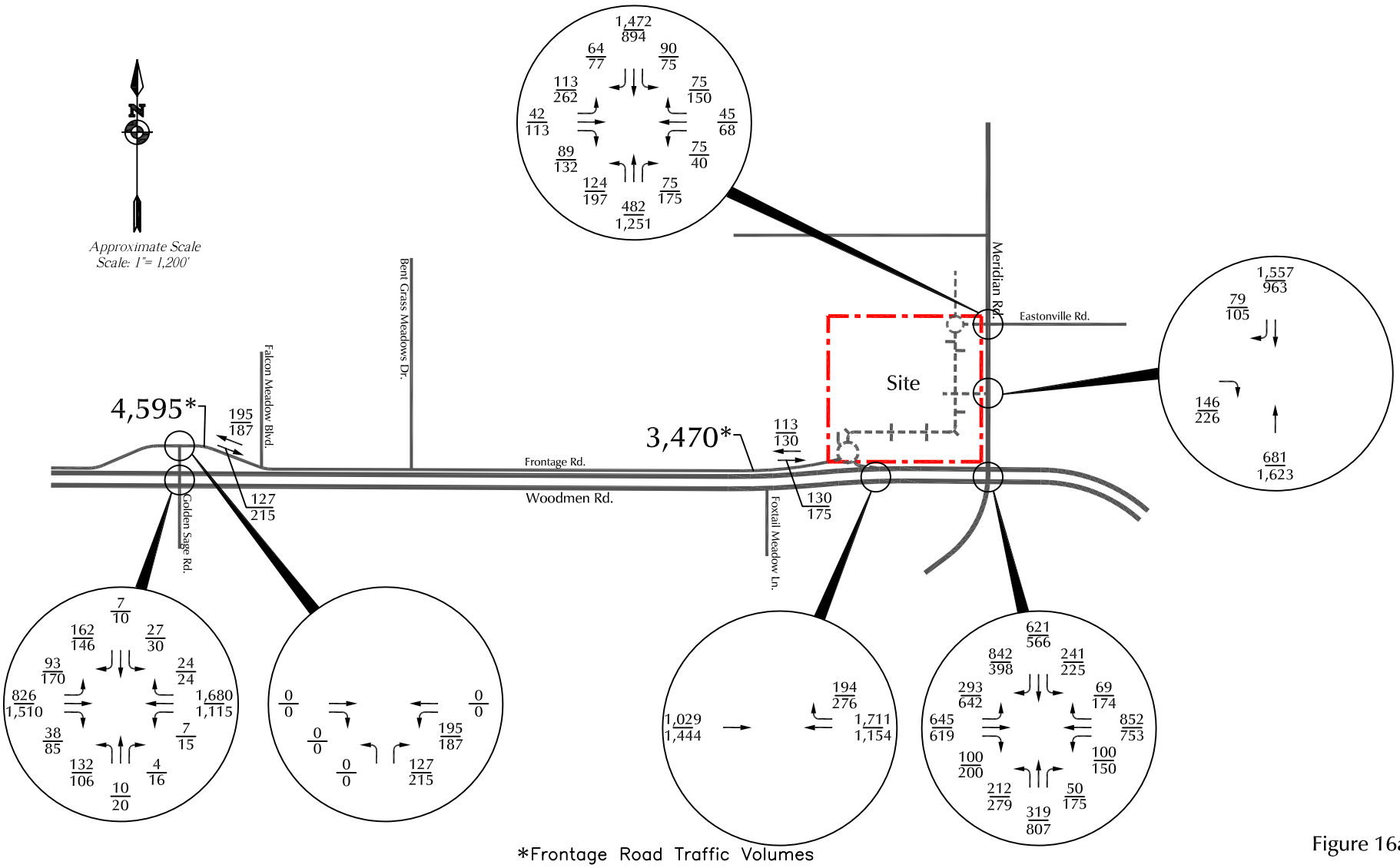


Figure 16a

Short-Term Total Traffic With Proposed Right-In Access

Falcon Marketplace (LSC #164350)

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC

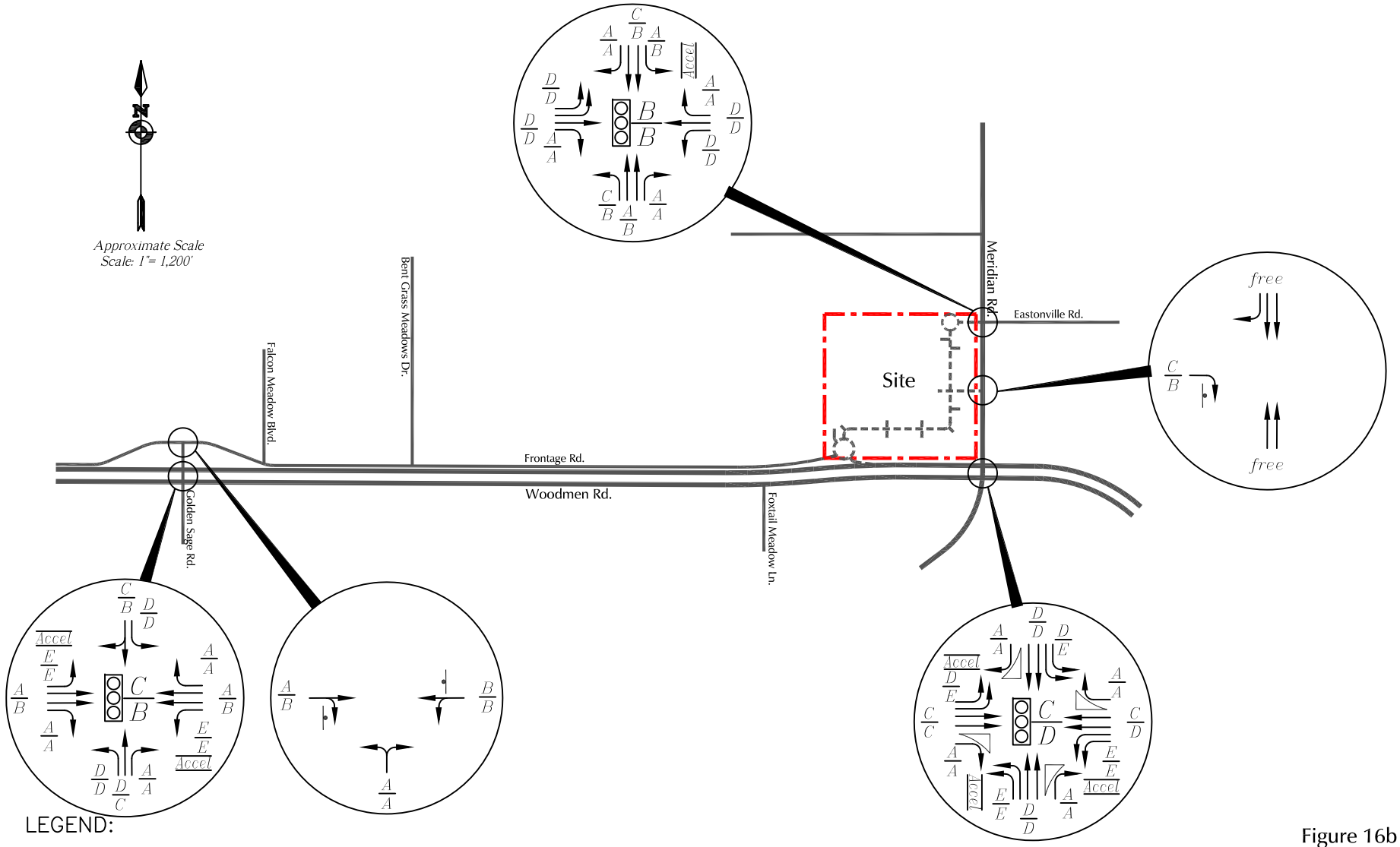
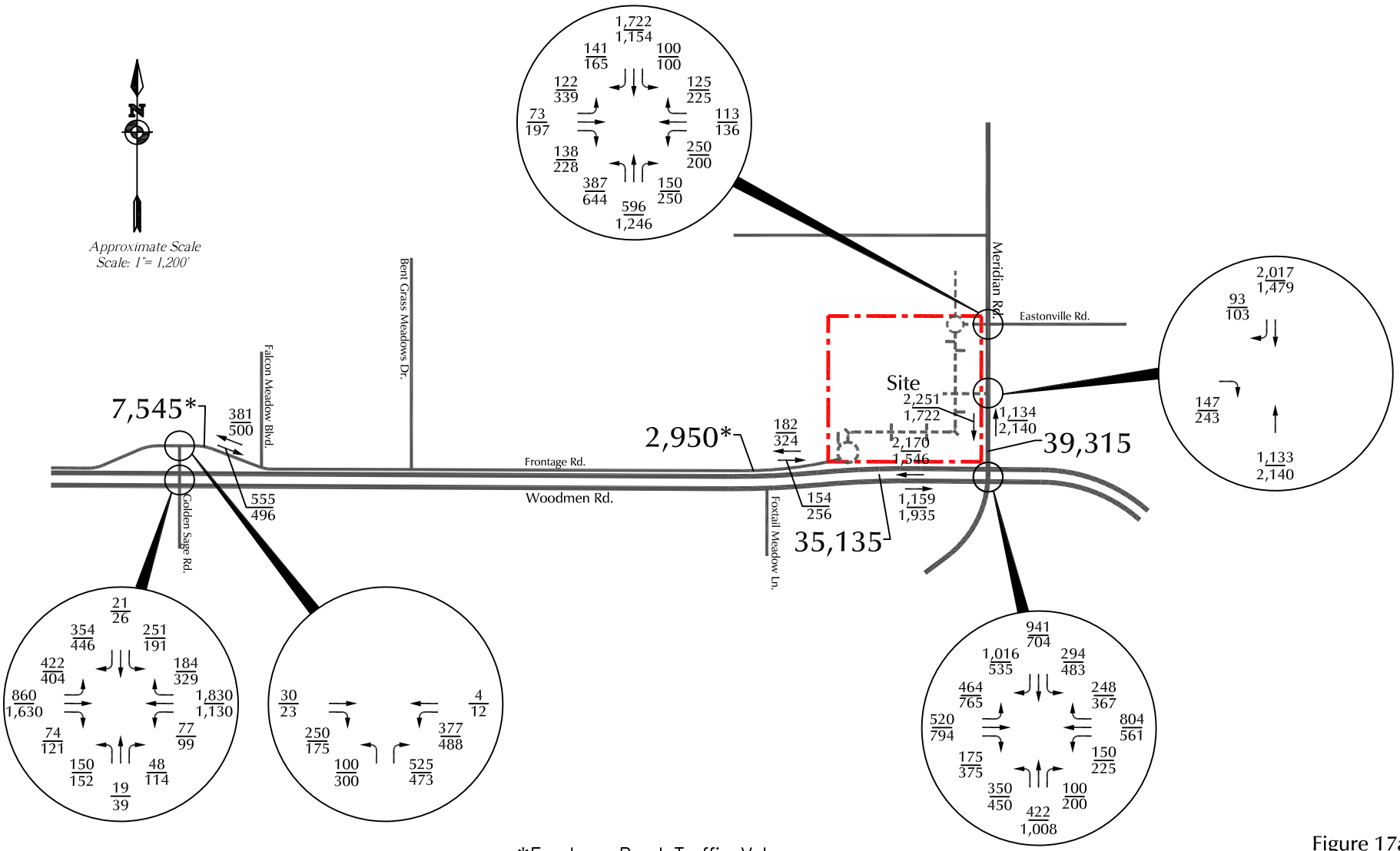


Figure 16b

Short-Term Total Lane Geometry, Traffic Control and Levels of Service With Proposed Right-In Access

Falcon Marketplace (LSC #164350)



*Frontage Road Traffic Volumes

Figure 17a

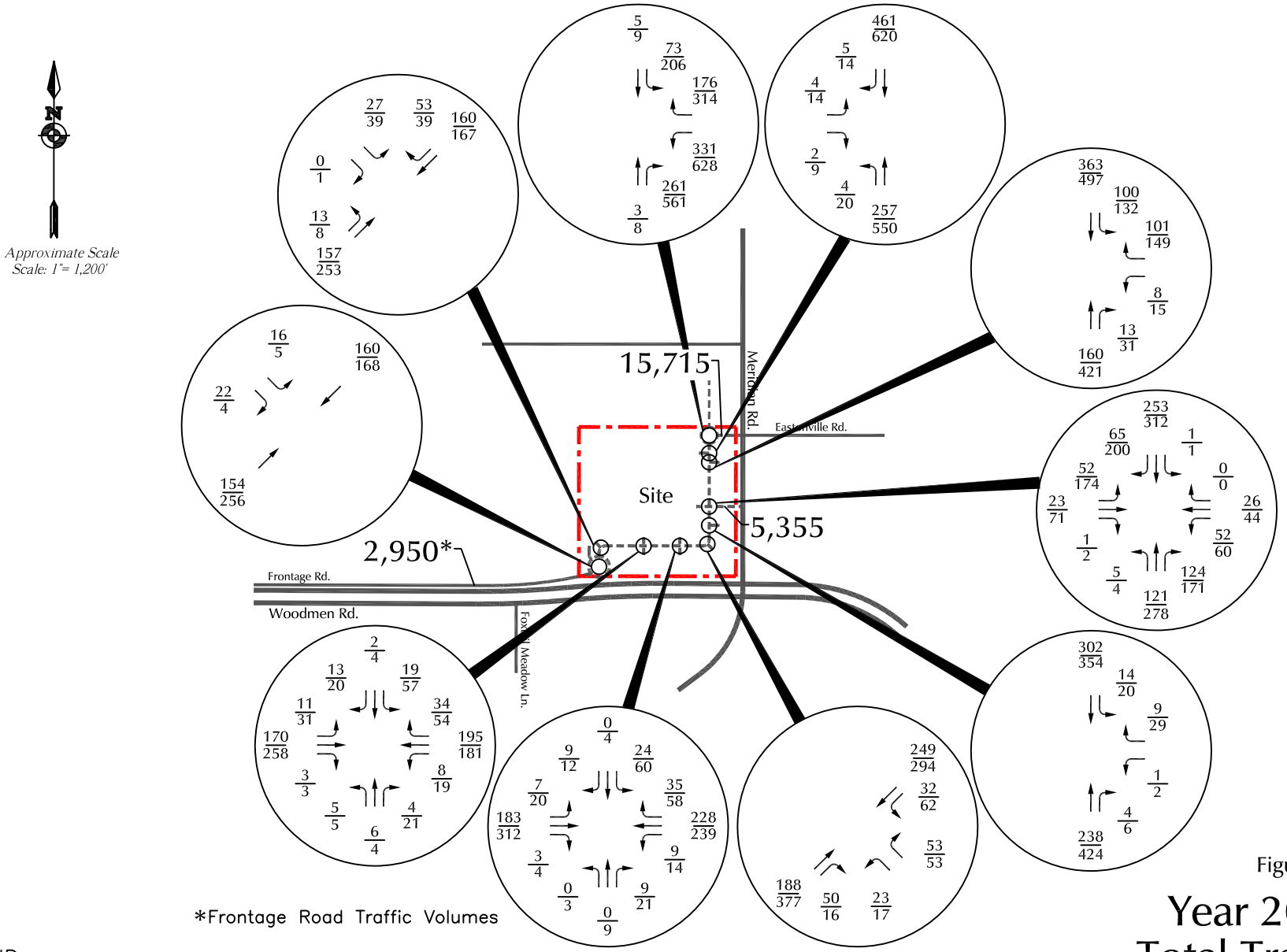
Year 2040 Total Traffic Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC



LEGEND:

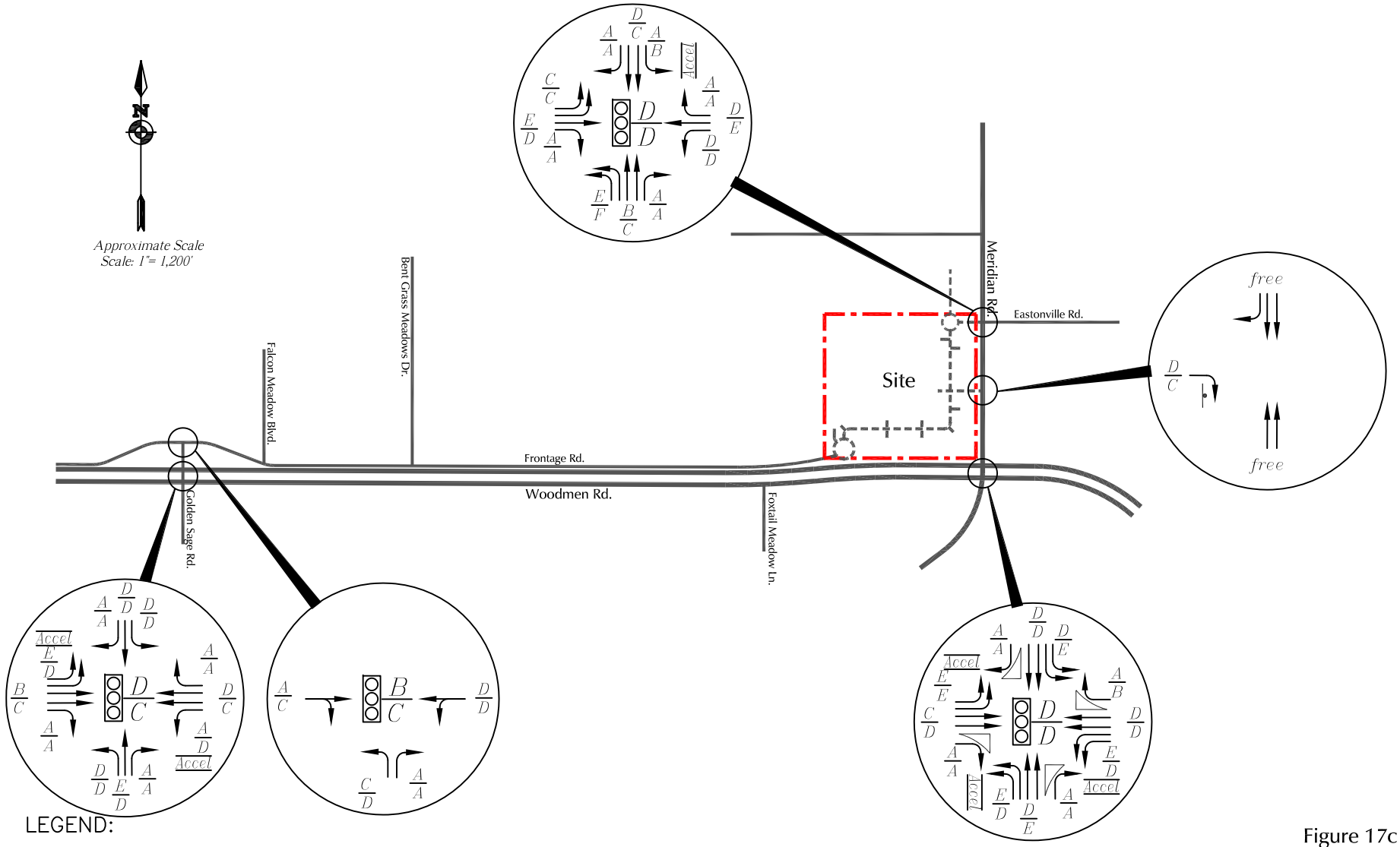
$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak–Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak–Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC

Figure 17b

Year 2040 Total Traffic Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)



LEGEND:

= Stop Sign

= Traffic Signal

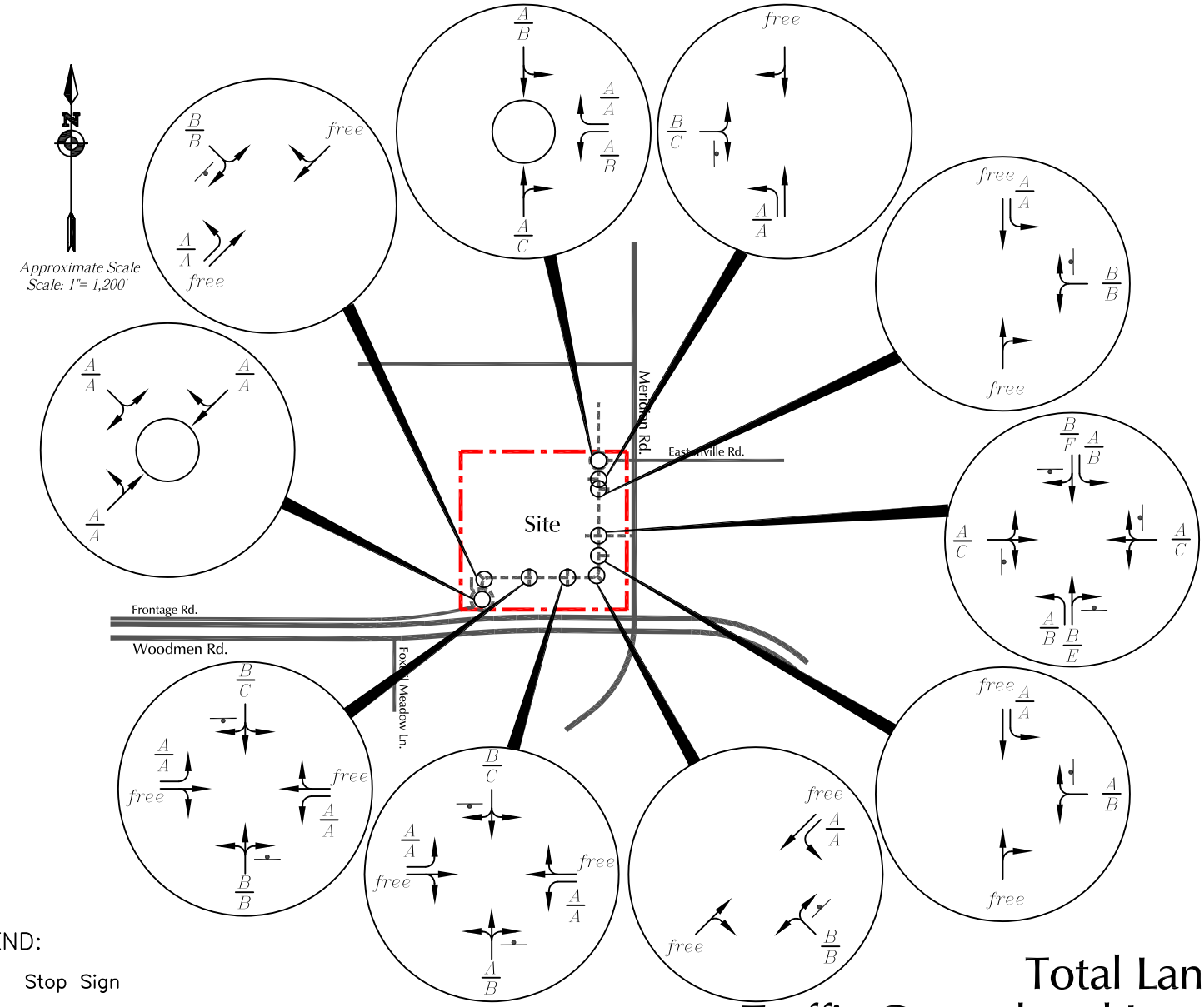
$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

Figure 17c

Year 2040 Total Lane Geometry, Traffic Control and Levels of Service Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)



LEGEND:

= Stop Sign

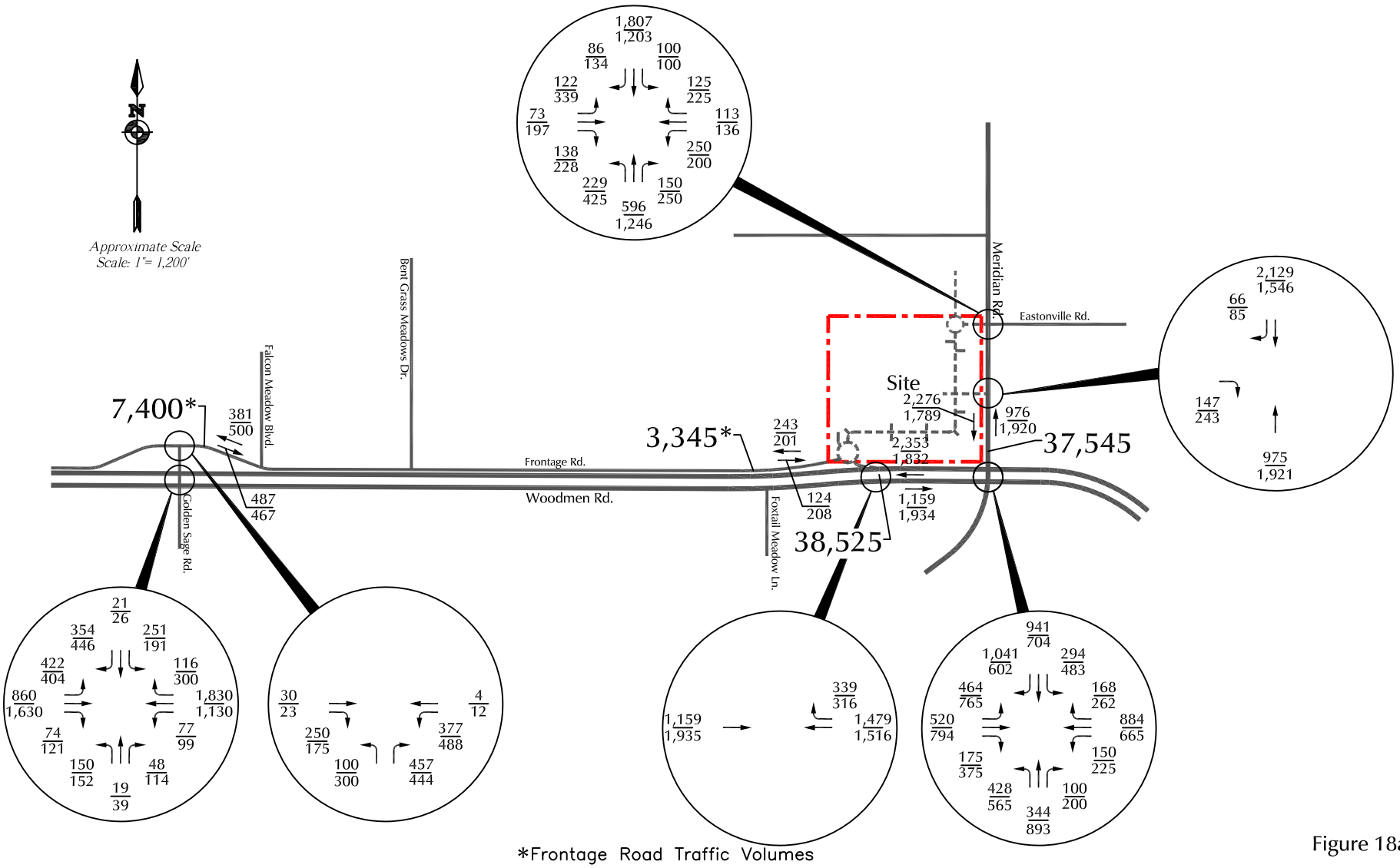
= Modern Roundabout

$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

Figure 17d

Year 2040 Total Lane Geometry, Traffic Control and Levels of Service Without Proposed Right-In Access

Falcon Marketplace (LSC #164350)



*Frontage Road Traffic Volumes

Figure 18a

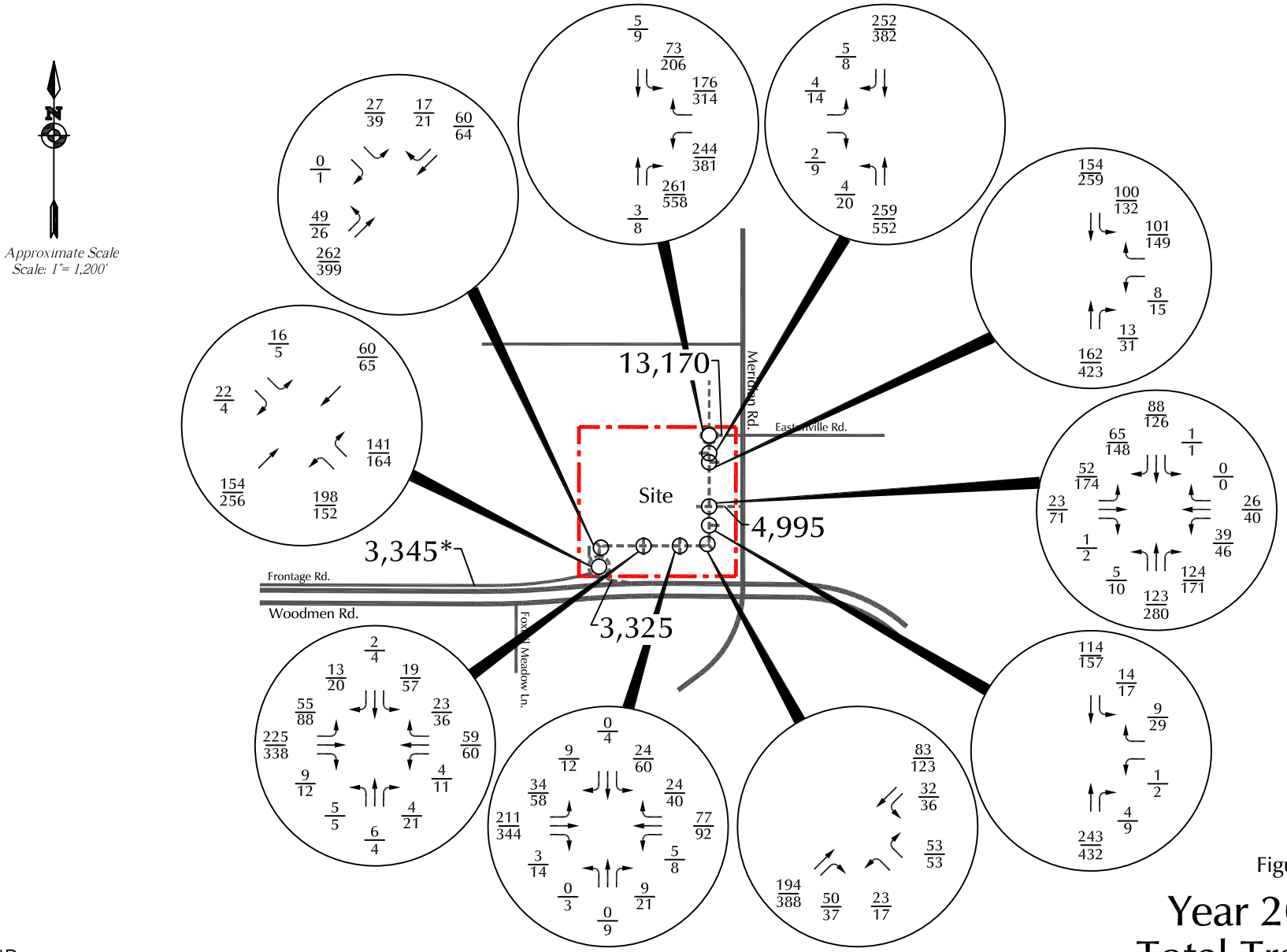
Year 2040 Total Traffic With Proposed Right-In Access

Falcon Marketplace (LSC #164350)

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC



LEGEND:

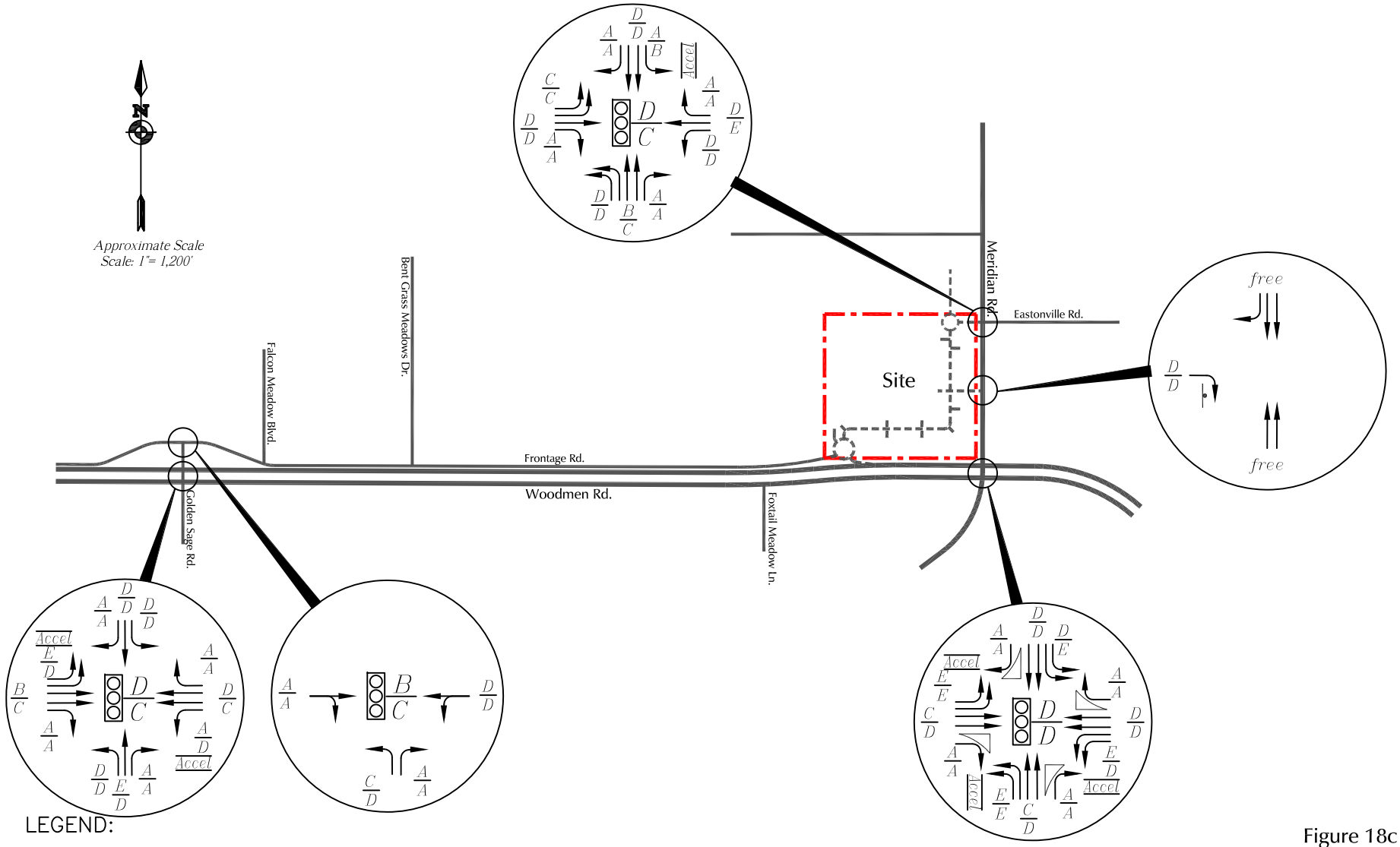
$\frac{XX}{XX}$ = AM Weekday Peak–Hour Traffic (vehicles per hour) / PM Weekday Peak–Hour Traffic (vehicles per hour)

XXX = Average Weekday Traffic (vehicles per day) Estimated by LSC

Figure 18b

Year 2040 Total Traffic With Proposed Right-In Access

Falcon Marketplace (LSC #164350)



LEGEND:

= Stop Sign

= Traffic Signal

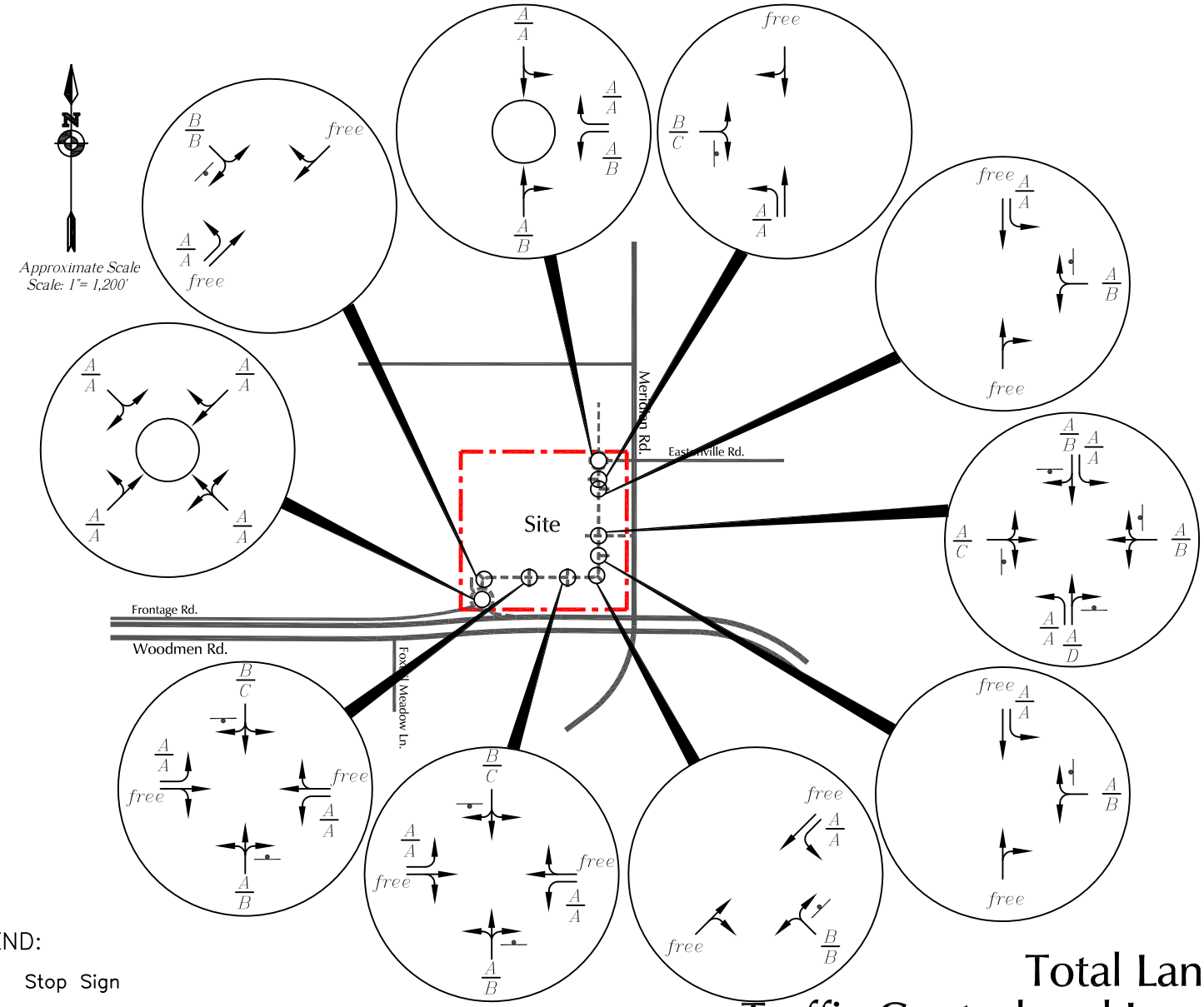
$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

Figure 18c

Year 2040 Total Lane Geometry, Traffic Control and Levels of Service With Proposed Right-In Access

Falcon Marketplace (LSC #164350)



LEGEND:

= Stop Sign

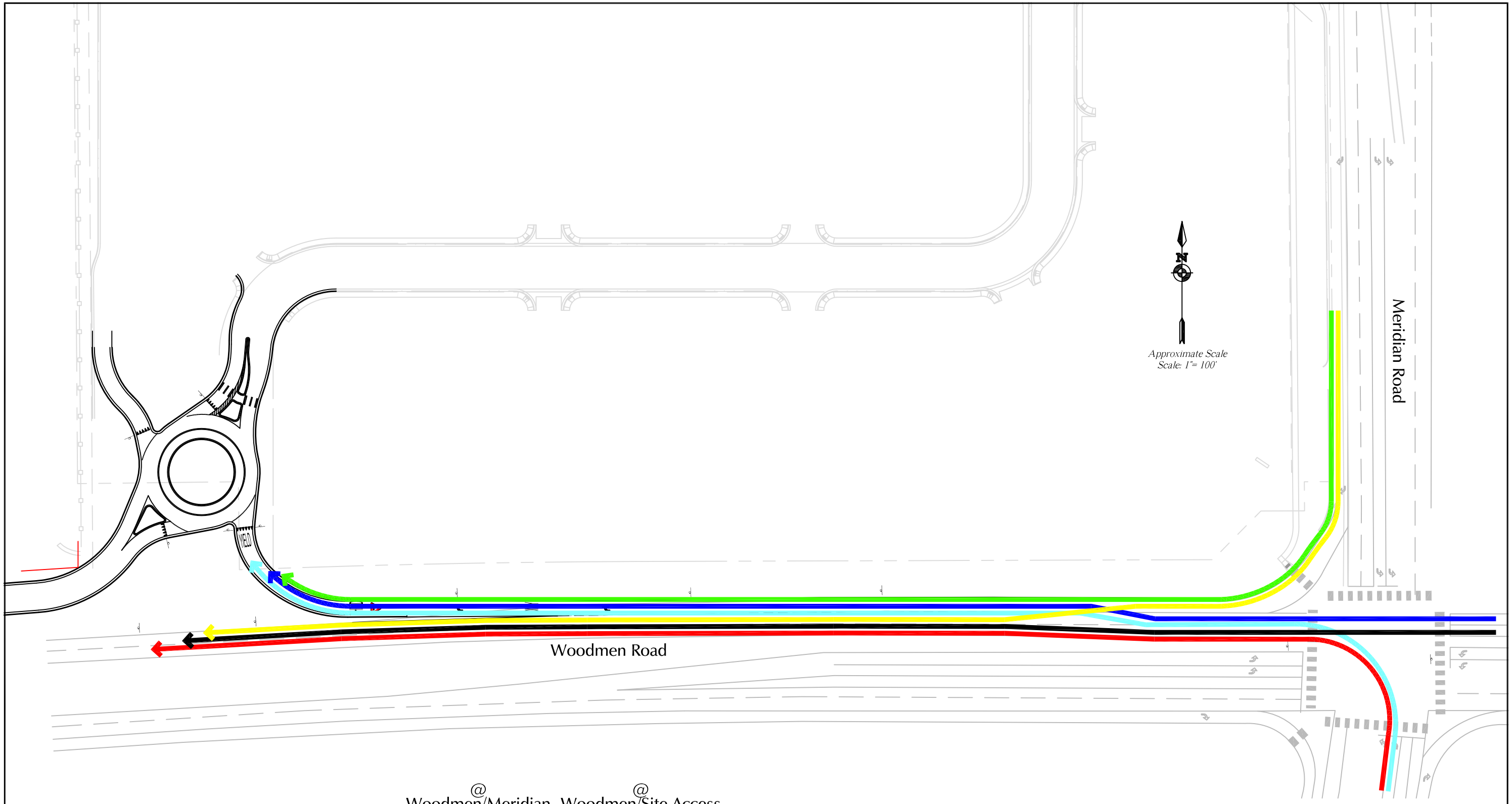
= Modern Roundabout

$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

Figure 18d

Year 2040 Total Lane Geometry, Traffic Control and Levels of Service With Proposed Right-In Access

Falcon Marketplace (LSC #164350)



		@ Woodmen/Meridian	@ Woodmen/Site Access
R-R	=	SB RT	WB RT
F-R (LT)	=	NB LT	WB RT
F-R (TH)	=	WB TH	WB RT
R-F	=	SB RT	WB TH
F-F (TH)	=	WB TH	WB TH
F-F (LT)	=	NB LT	WB TH

Note: Please refer to Table 5 for peak hour volumes.

TRANSPORTATION CONSULTANTS, INC.

Figure 19

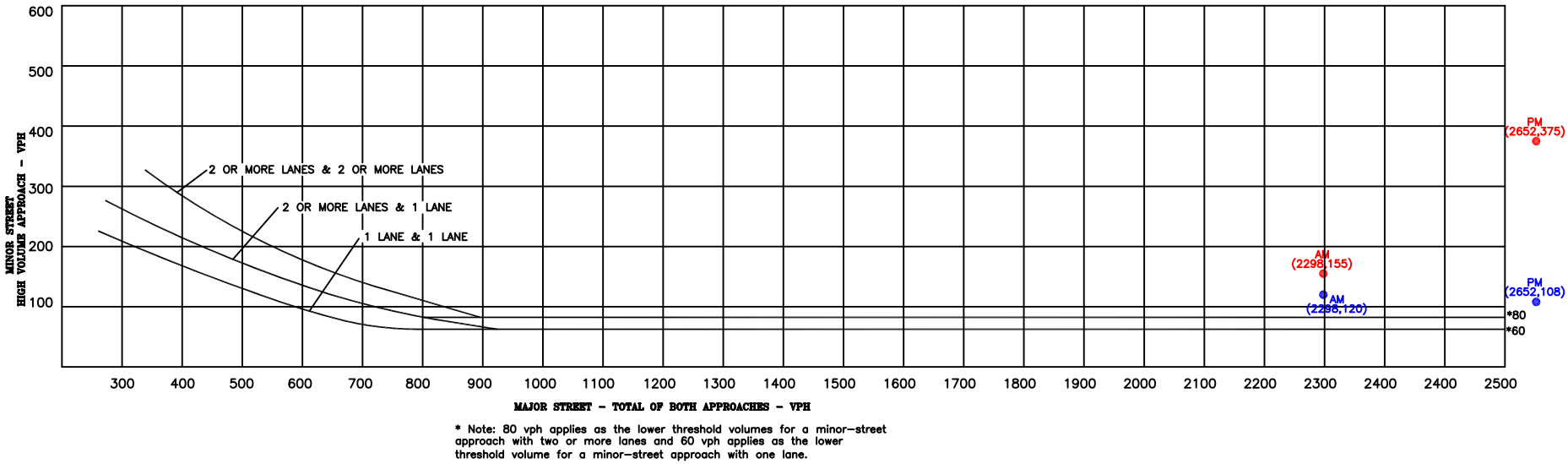
Weaving Movements

Falcon Marketplace (LSC #164350)

Eastonville Rd./Meridian Rd. Short-Term Total Traffic (with proposed right-in access)

Figure 4C-2. Warrant 2, Four-Hour (70% Factor)

(Community Less than 10,000 population or above 40 mph on Major Street)



* Note: 80 vph applies as the lower threshold volumes for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

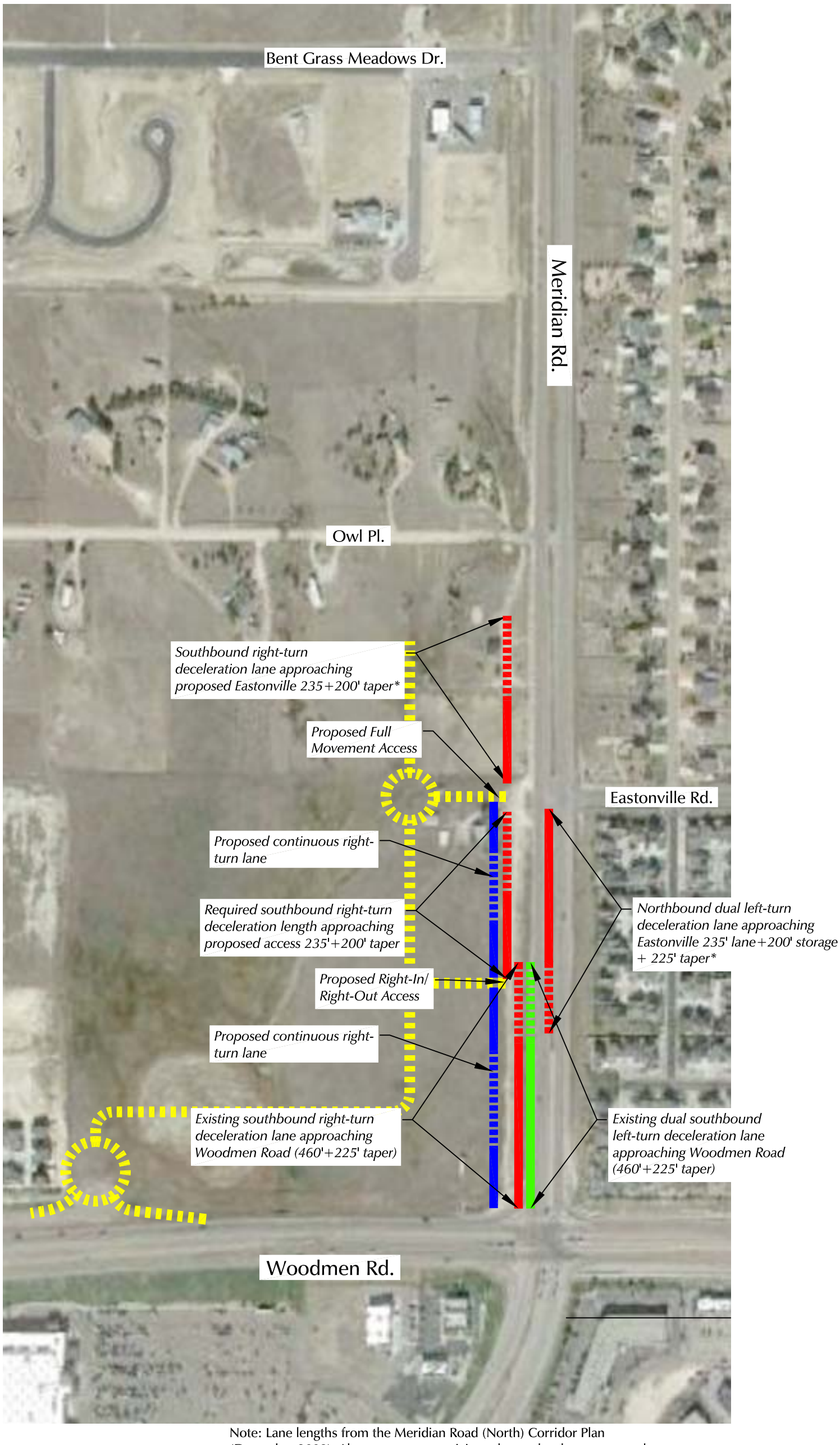
LEGEND:

- = East Leg (left-turn and through vehicles only) without proposed right-in access
- = West Leg (left-turn and through vehicles only) without proposed right-in access

Figure 20

Traffic Signal Warrant Analysis

Falcon Marketplace (LSC #164350)



N

Approximate Scale
Scale: 1"=300'

Note: Lane lengths from the Meridian Road (North) Corridor Plan (December 2009). Also assumes an anticipated post-development speed limit of 45mph (50mph design speed).

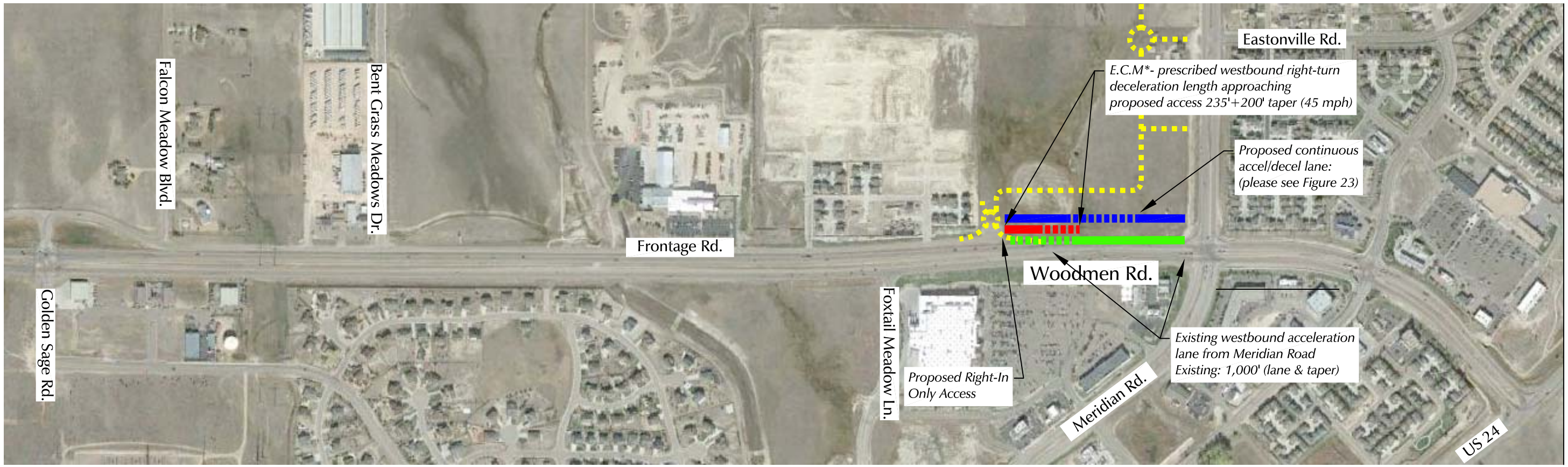
Figure 21

Accel/Decel Distances for Meridian Road North of Woodmen Road

Falcon Marketplace (LSC #164350)

LSC TRANSPORTATION CONSULTANTS, INC.

Approximate Scale
Scale: 1"=600'



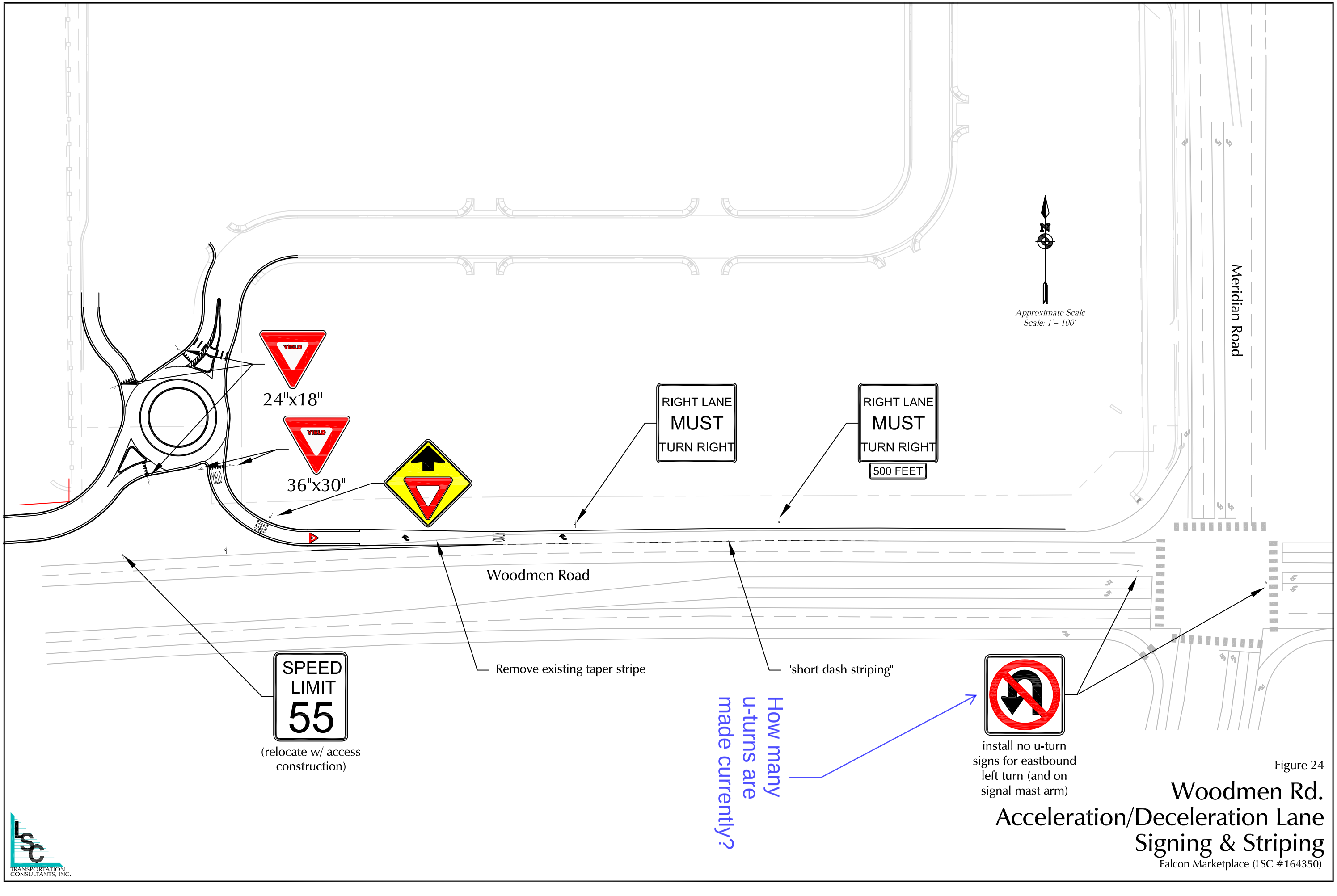
* E.C.M.= County Engineering Criteria Manual

TRANSPORTATION CONSULTANTS, INC.

Figure 22

Existing & ECM*- Prescribed Accel/Decel Lane Lengths for Woodmen Road

Falcon Marketplace (LSC #164350)



TRANSPORTATION CONSULTANTS, INC.

Figure 24

Woodmen Rd. Acceleration/Deceleration Lane Signing & Striping

Falcon Marketplace (LSC #164350)

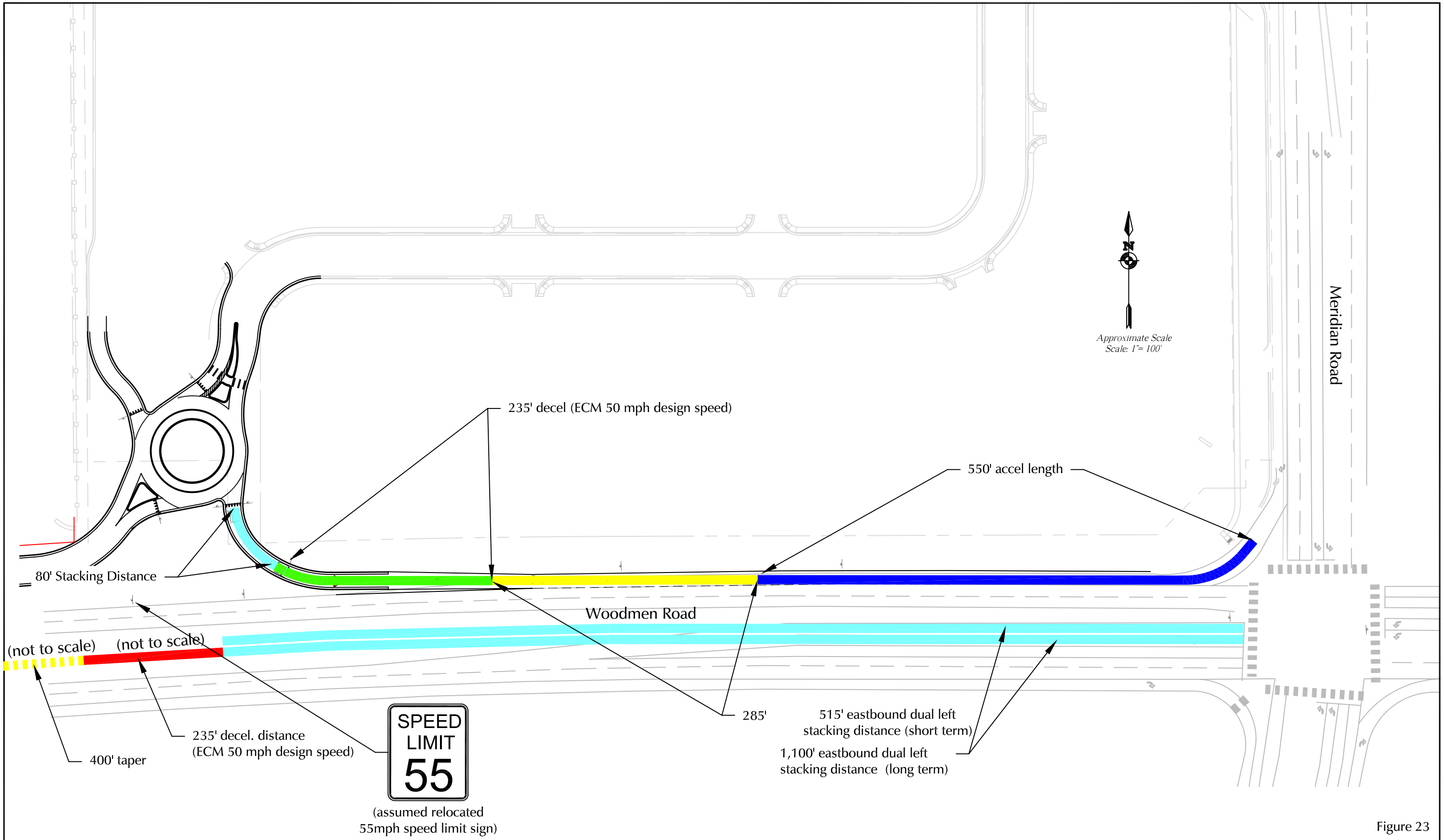


Figure 23

Woodmen Rd. Acceleration, Deceleration and Stacking Lengths

Falcon Marketplace (LSC #164350)

LSC TRANSPORTATION CONSULTANTS, INC.

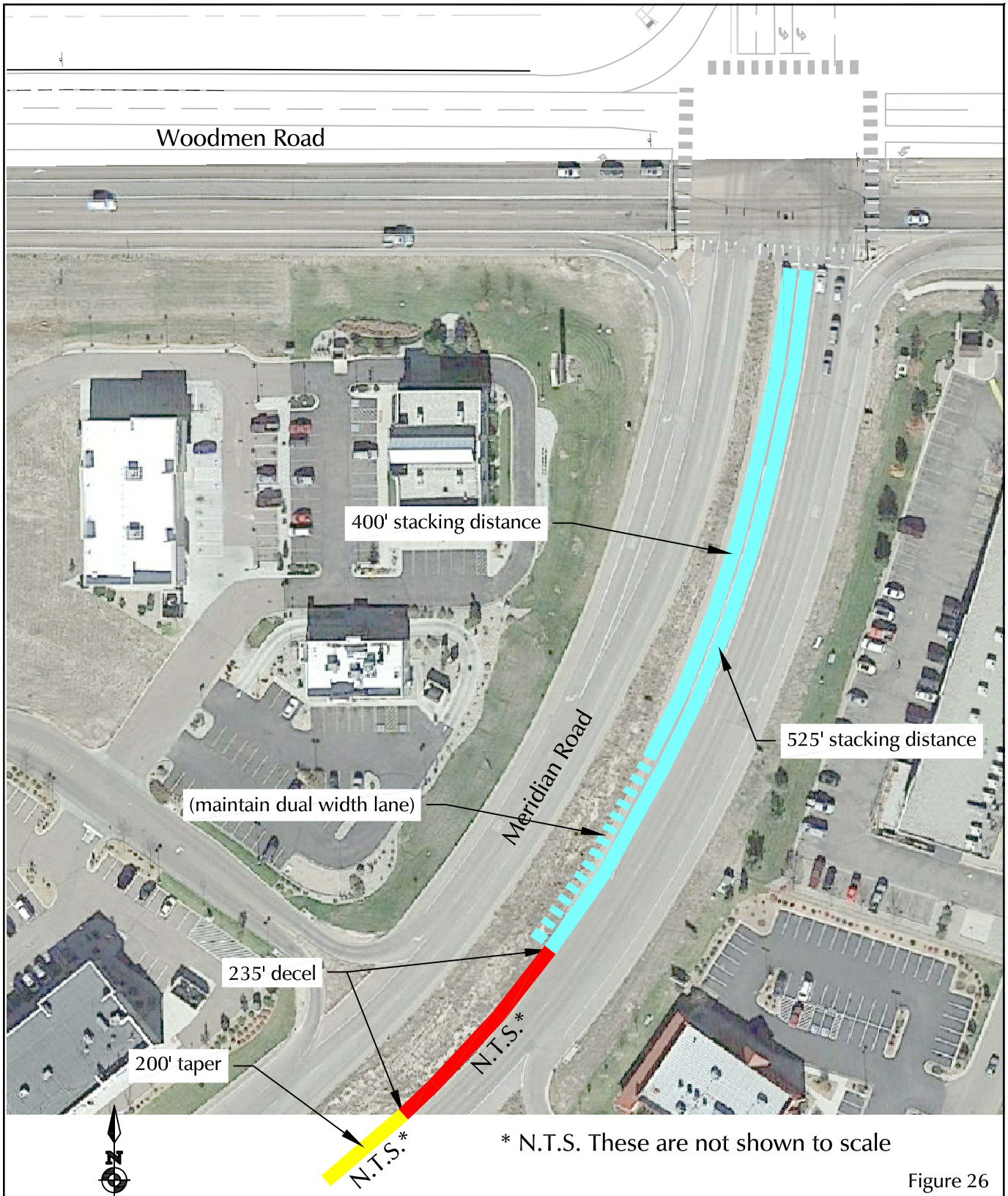
Figure 25

Short-Term Meridian Rd. South of Woodmen Rd. NB Left-Turn Deceleration Lane, Taper and Stacking Lengths

Falcon Marketplace (LSC #164350)

Approximate Scale
Scale: 1"= 100'

LSC TRANSPORTATION CONSULTANTS, INC.



* N.T.S. These are not shown to scale

Figure 26

Potential Future Long-Term Meridian Rd. South of Woodmen Rd. NB Left-Turn Deceleration Lane, Taper and Stacking Lengths

Falcon Marketplace (LSC #164350)

Approximate Scale
Scale: 1"= 100'

LSC TRANSPORTATION CONSULTANTS, INC.

Summary of Crash/Accident History

TRANSPORTATION
CONSULTANTS, INC.

2014 – YTD 2017 Crash Data: Woodmen Rd, Meridian Rd, and Highway 67

Woodmen Rd Crashes 2014 – YTD 2017

Road	2014	2015	2016	2017	Total
Woodmen Rd	**16**	**12**	**14**	**7**	**49**
Golden Sage Rd	7	2	7	6	22
Meridian Rd	9	10	7	1	27
Total	**16**	**12**	**14**	**7**	**49**

Woodmen Rd Fatal & Injury Crashes 2014 – YTD 2017

Road	2014	2015	2016	2017	Total
Woodmen Rd	**2**	**2**	**3**	**1**	**8**
Golden Sage Rd	1		2	1	4
Meridian Rd	1	2	1		4
Total	**2**	**2**	**3**	**1**	**8**

Meridian Rd Crashes 2014 – YTD 2017*

Road	2014	2016	2017	Total
Meridian Road	**4**	**2**	**1**	**7**
Eastonville Rd	3	2	1	6
Owl Pl	1			1
Total	**4**	**2**	**1**	**7**

*No crashes in these areas in 2015

Meridian Rd Fatal & Injury Crashes 2014 – YTD 2017*

Road	2014	2016	2017	Total
Meridian Road	**1**	**1**	**1**	**3**
Eastonville Rd		1	1	2
Owl Pl	1			1
Total	**1**	**1**	**1**	**3**

*No crashes in these areas in 2015

Highway 67 Crashes 2014 – YTD 2017*

Road	2016	Total
H67	**1**	**1**
FAIRFIELD LN	1	1
Total	**1**	**1**

*No fatal and/or injury crashes at this area during this time period

Internal Trip Calculations

TRANSPORTATION
CONSULTANTS, INC.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Falcon Marketplace	**Organization:**	LSC
Project Location:	El Paso County, CO	**Performed By:**	KDF
Scenario Description:	Buildout	**Date:**	6/2/2017
Analysis Year:	2040	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				60	21	39
Retail				768	390	378
Restaurant				521	266	255
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses[2]				0		
				1,349	677	672

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		600	200			
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		7	2	0	0	0
Retail	7		77	0	0	0
Restaurant	6	105		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,349	677	672
Internal Capture Percentage	30%	30%	30%
External Vehicle-Trips[5]	941	473	468
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	62%	23%
Retail	29%	22%
Restaurant	30%	44%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Southwest Roundabout Analysis Exhibits

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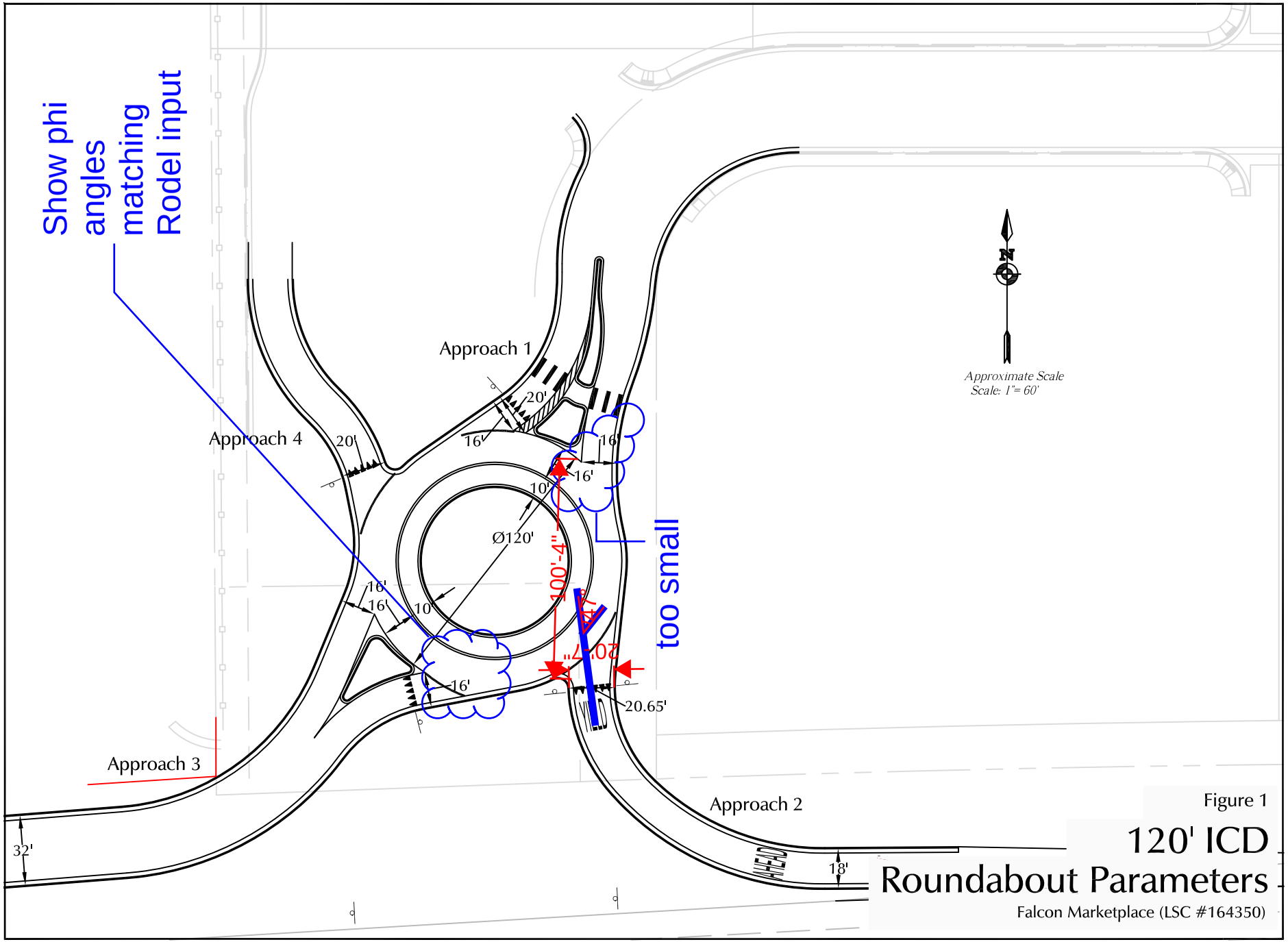

Figure 1

120' ICD Roundabout Parameters

Falcon Marketplace (LSC #164350)

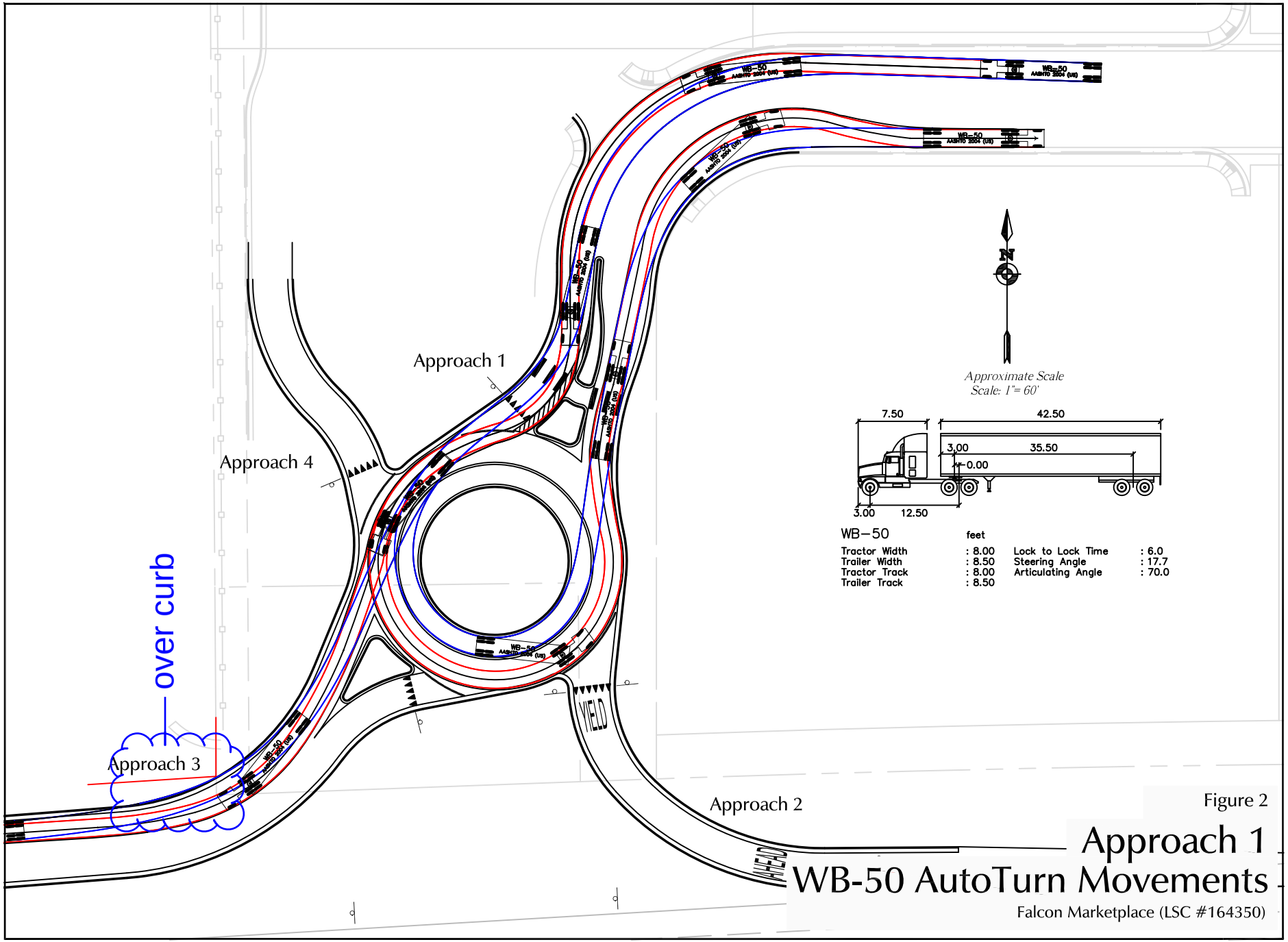

Figure 2

Approach 1
WB-50 AutoTurn Movements

Falcon Marketplace (LSC #164350)

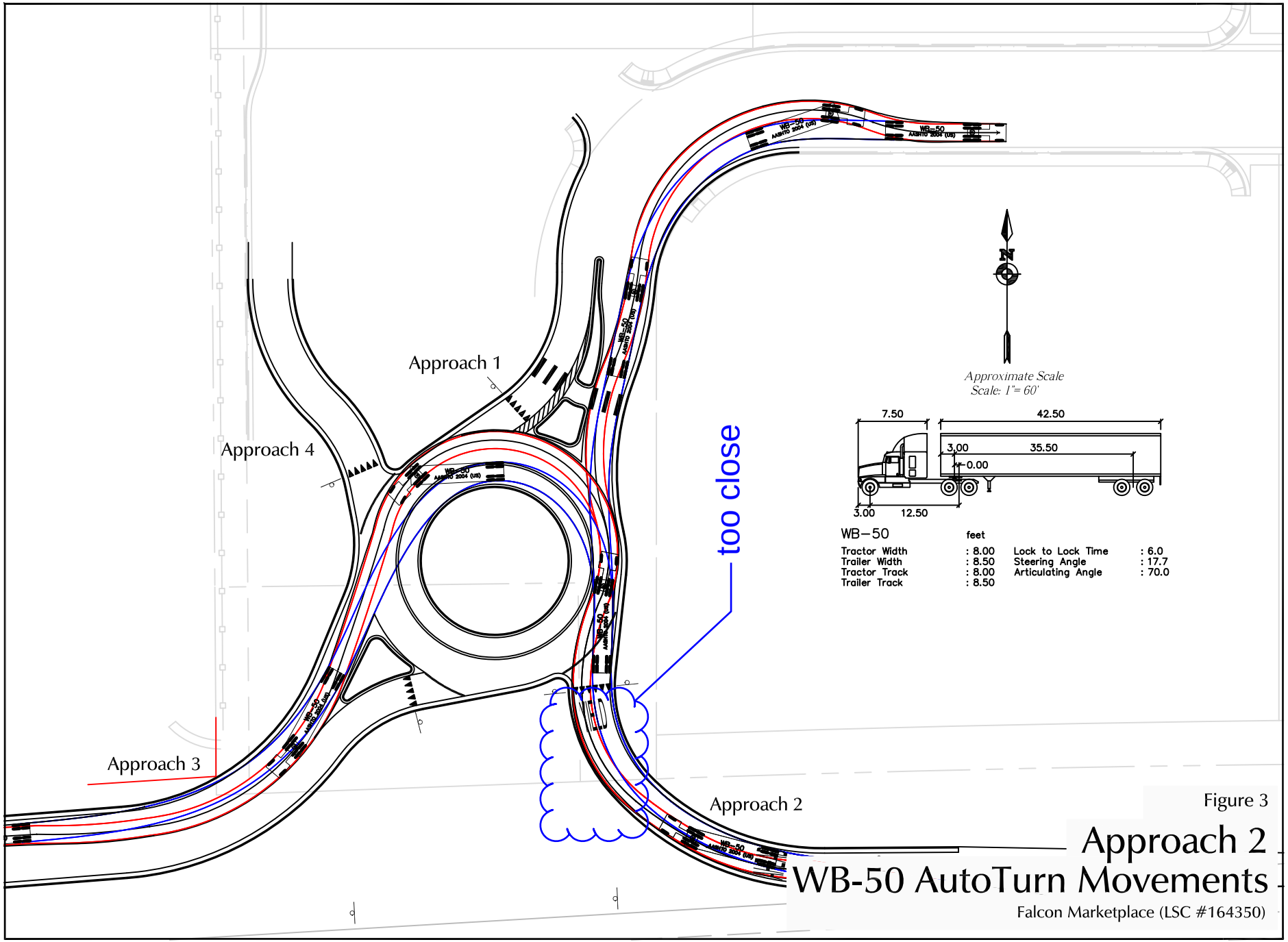

Figure 3

Approach 2
WB-50 AutoTurn Movements

Falcon Marketplace (LSC #164350)

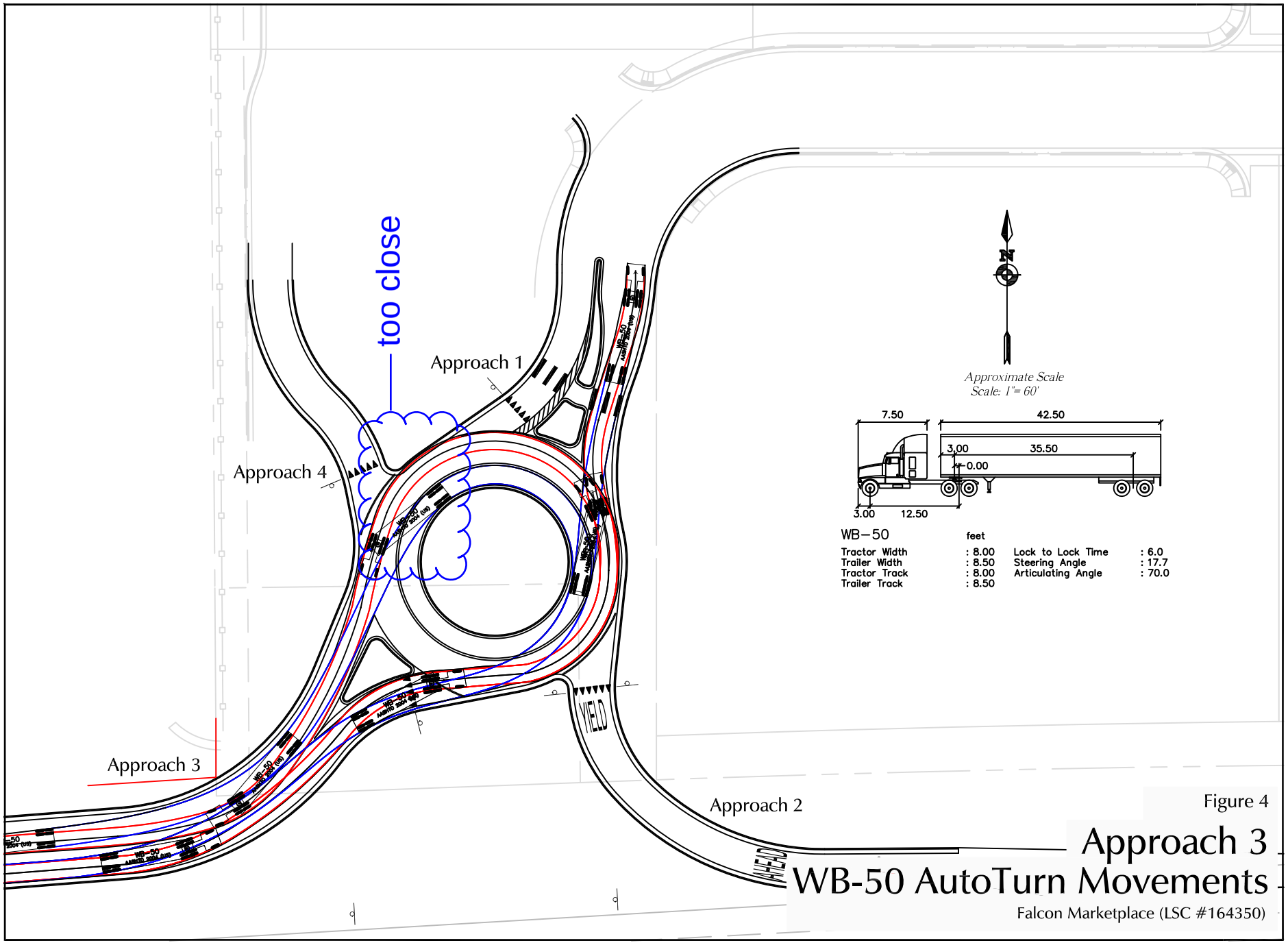

Figure 4

Approach 3
WB-50 AutoTurn Movements

Falcon Marketplace (LSC #164350)

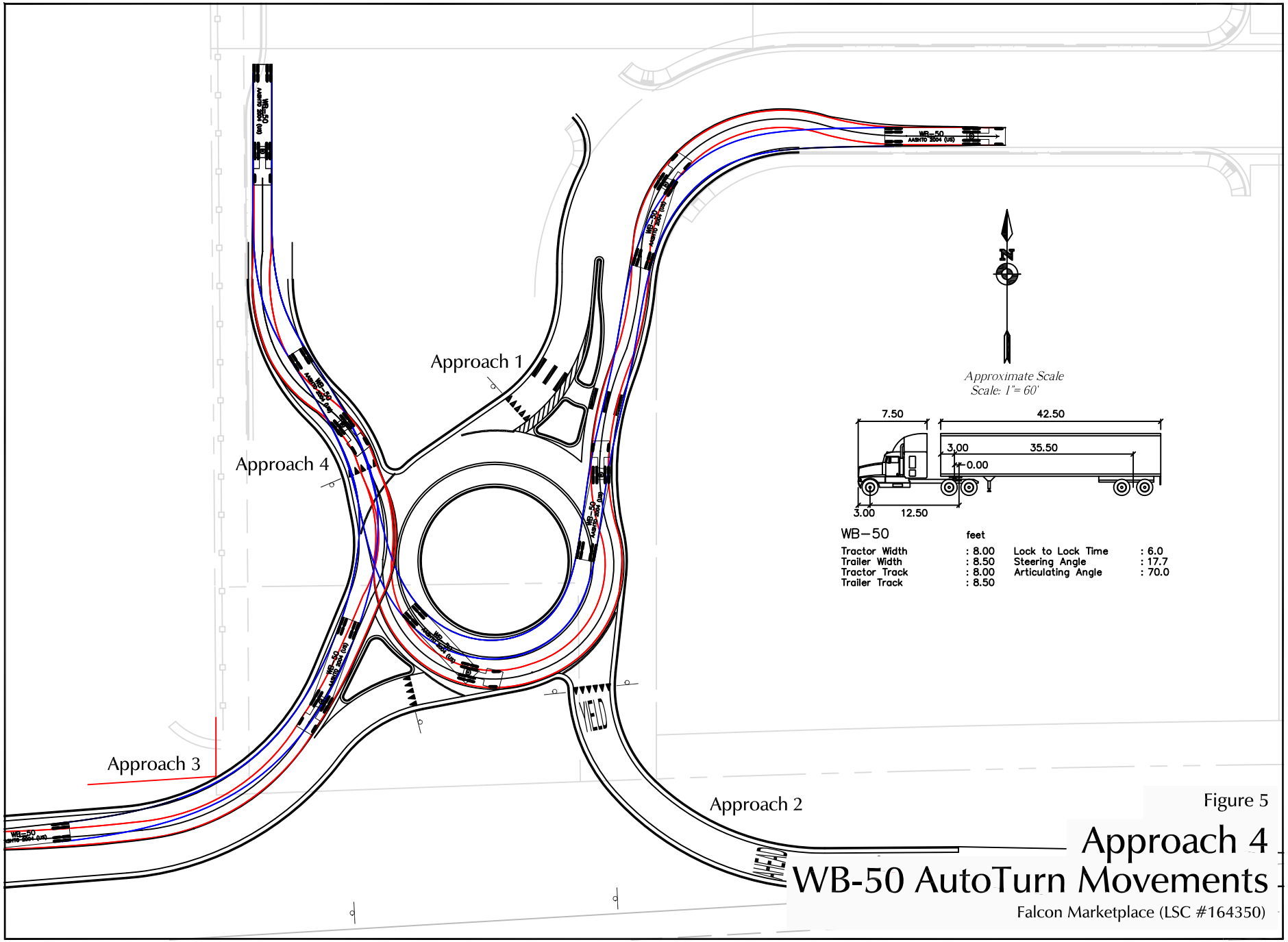

Figure 5

Approach 4
WB-50 AutoTurn Movements

Falcon Marketplace (LSC #164350)

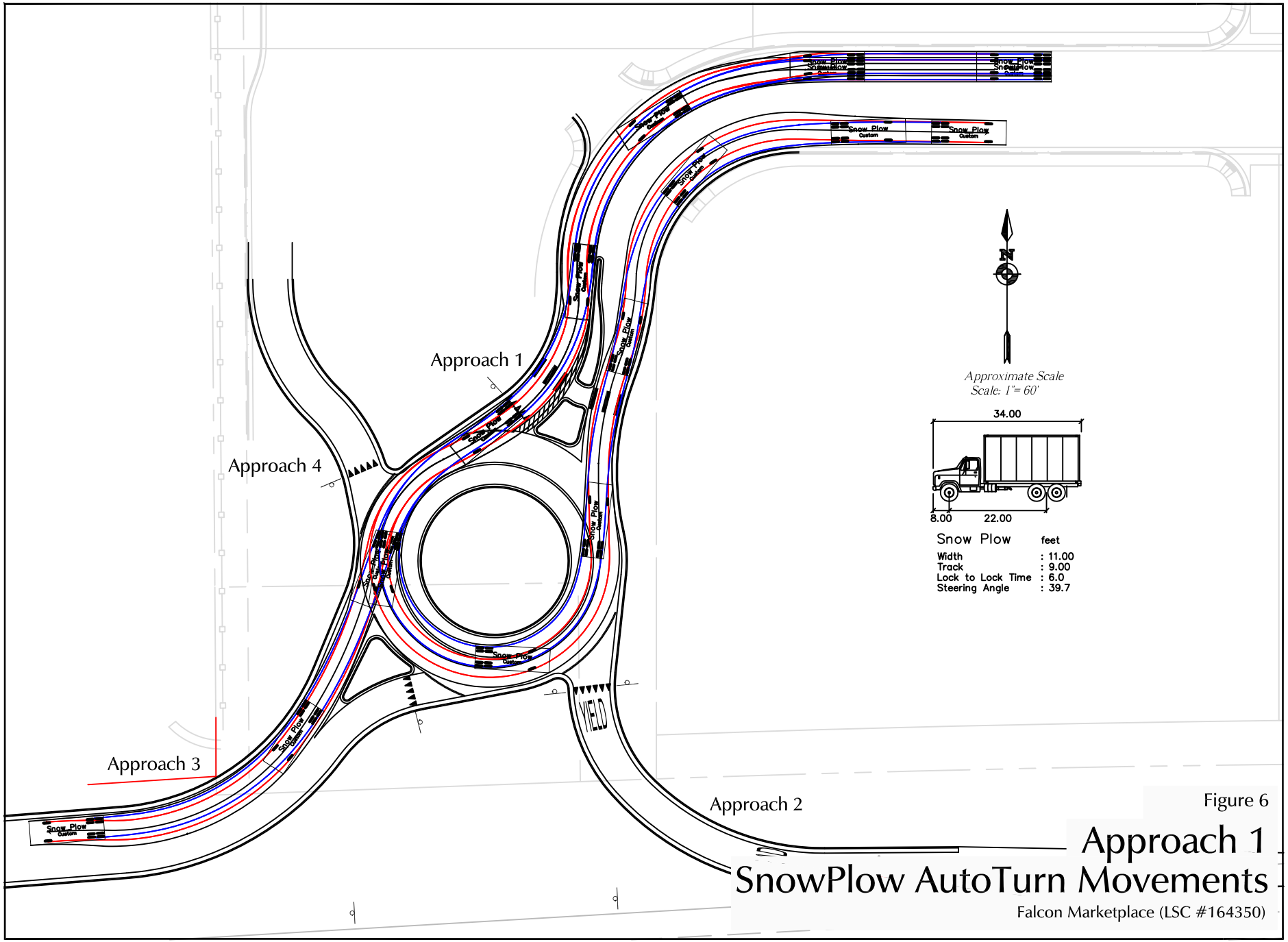

Figure 6

Approach 1 SnowPlow AutoTurn Movements

Falcon Marketplace (LSC #164350)

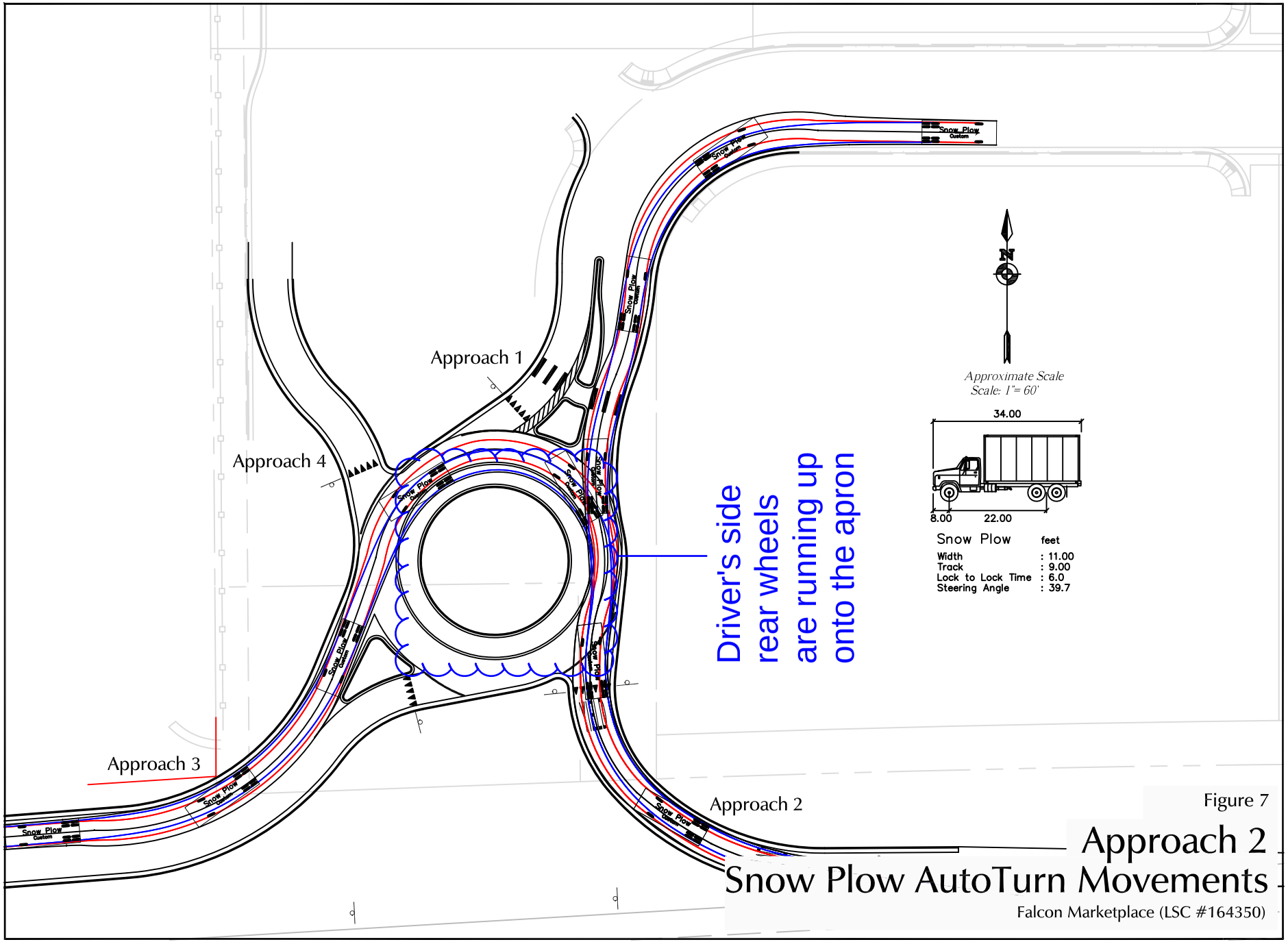

Figure 7

Approach 2
Snow Plow AutoTurn Movements

Falcon Marketplace (LSC #164350)

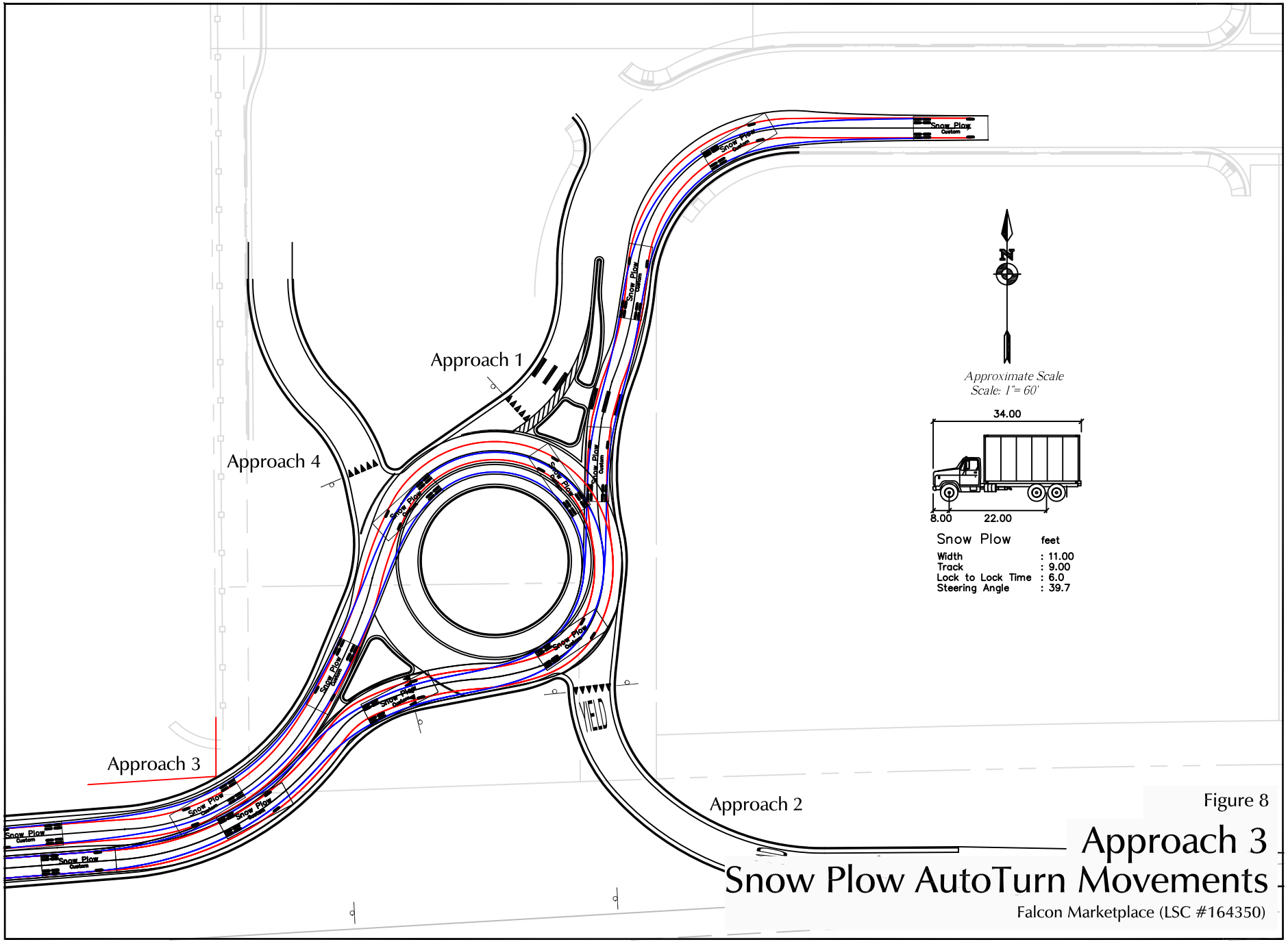

Figure 8

Approach 3 Snow Plow AutoTurn Movements

Falcon Marketplace (LSC #164350)

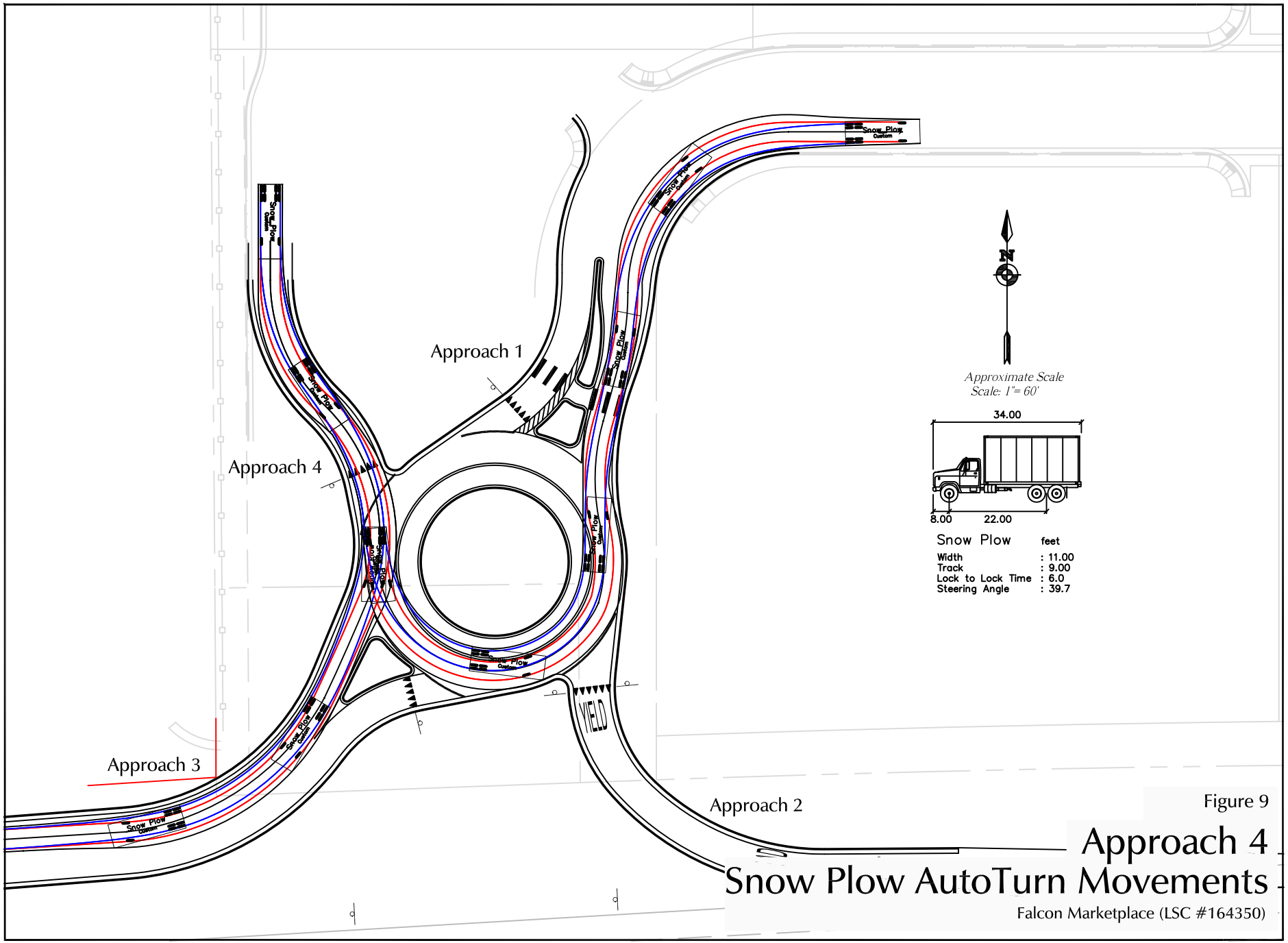

Figure 9

Approach 4 Snow Plow AutoTurn Movements

Falcon Marketplace (LSC #164350)

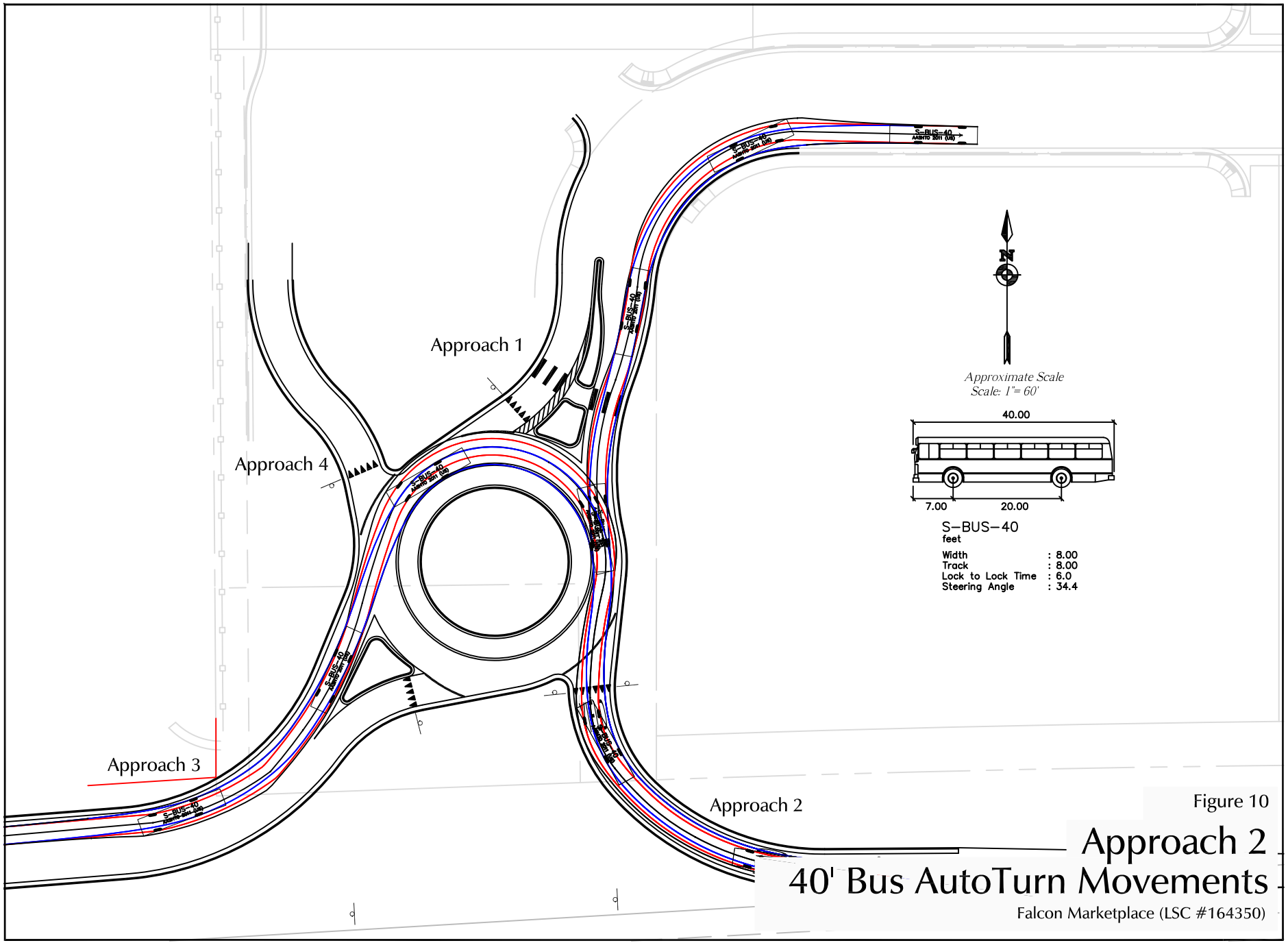

Figure 10

Approach 2
40' Bus AutoTurn Movements

Falcon Marketplace (LSC #164350)

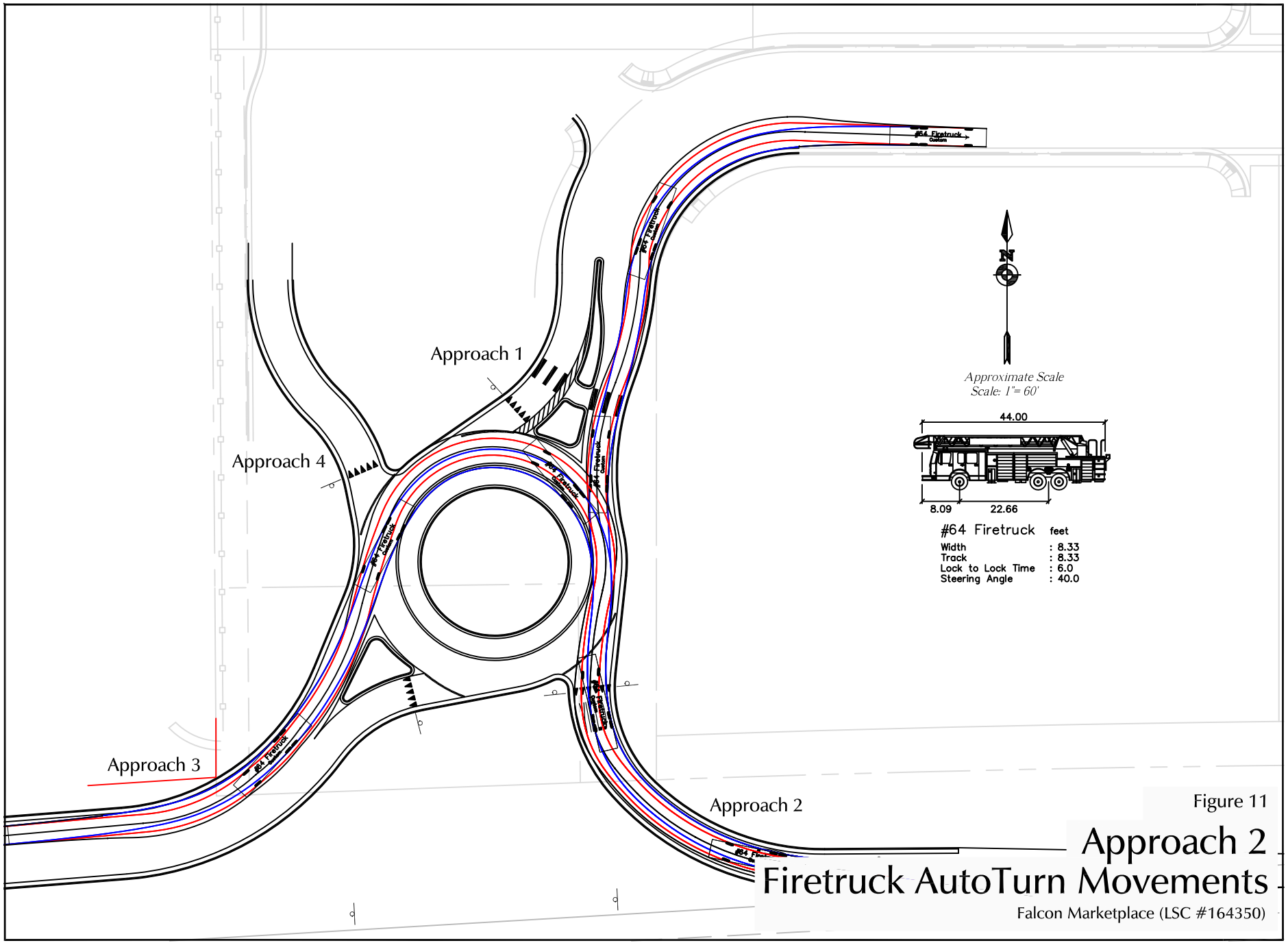

Figure 11

Approach 2
Firetruck AutoTurn Movements

Falcon Marketplace (LSC #164350)

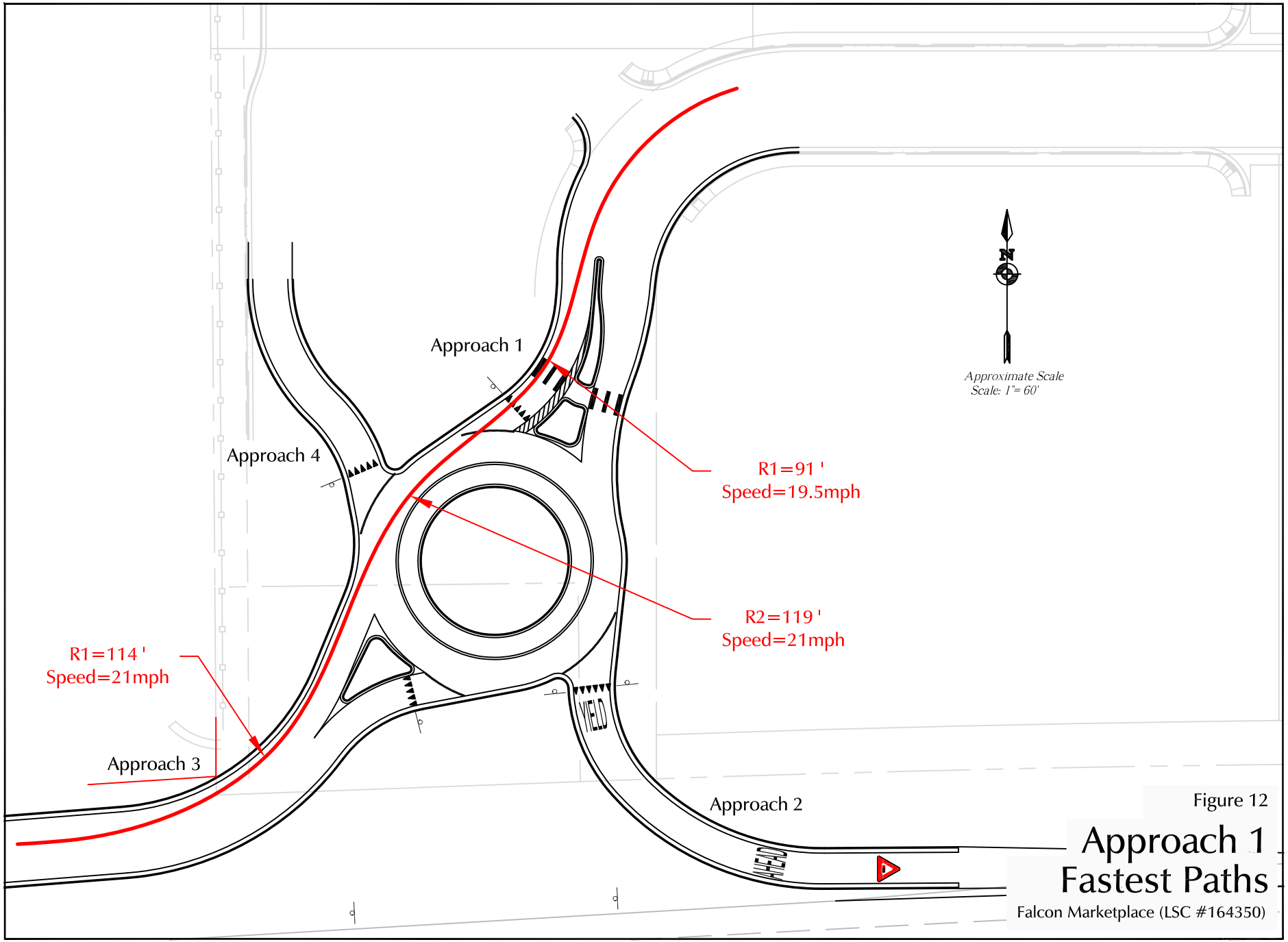

Figure 12

Approach 1 Fastest Paths

Falcon Marketplace (LSC #164350)

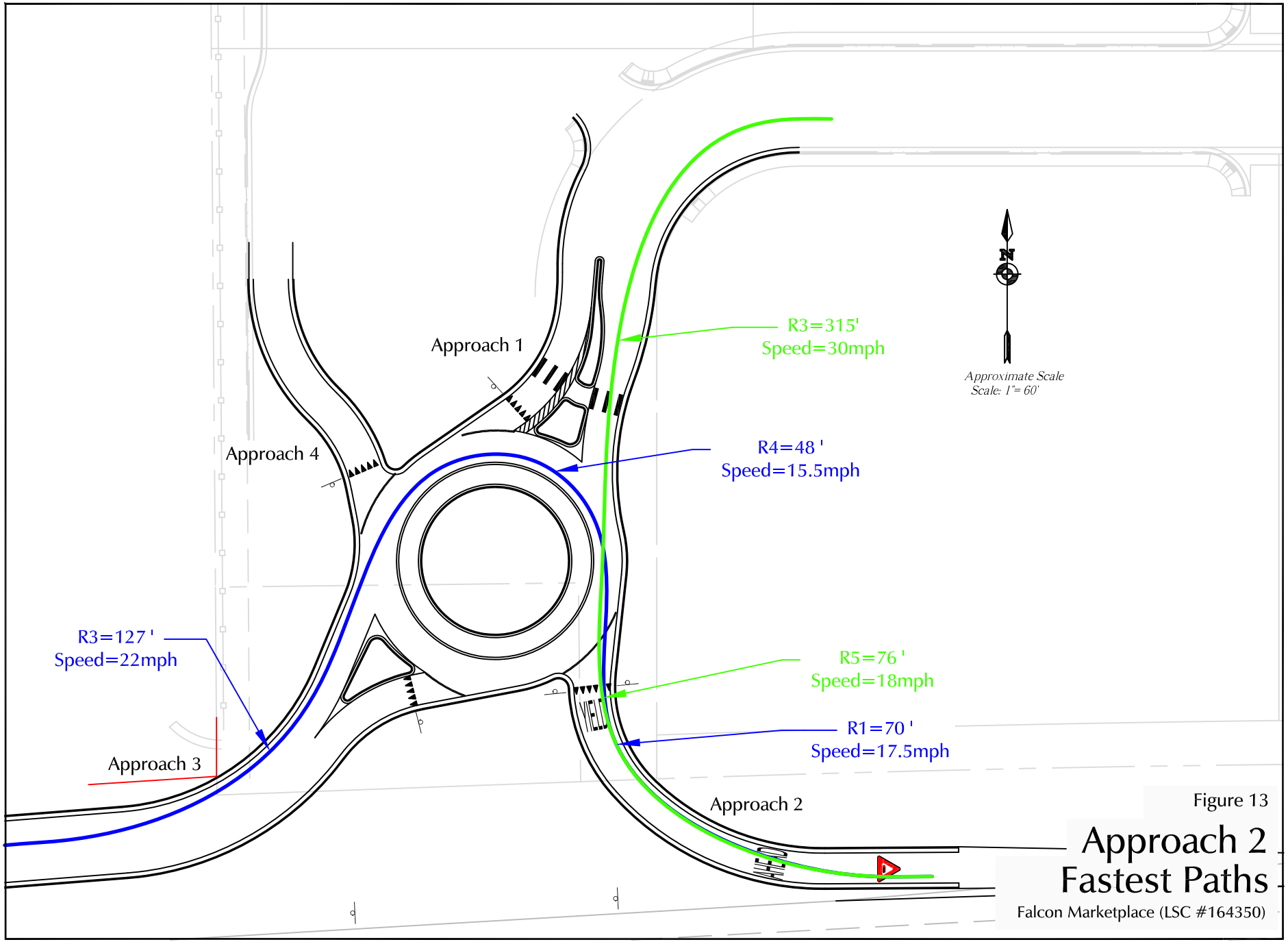

Figure 13

Approach 2 Fastest Paths

Falcon Marketplace (LSC #164350)

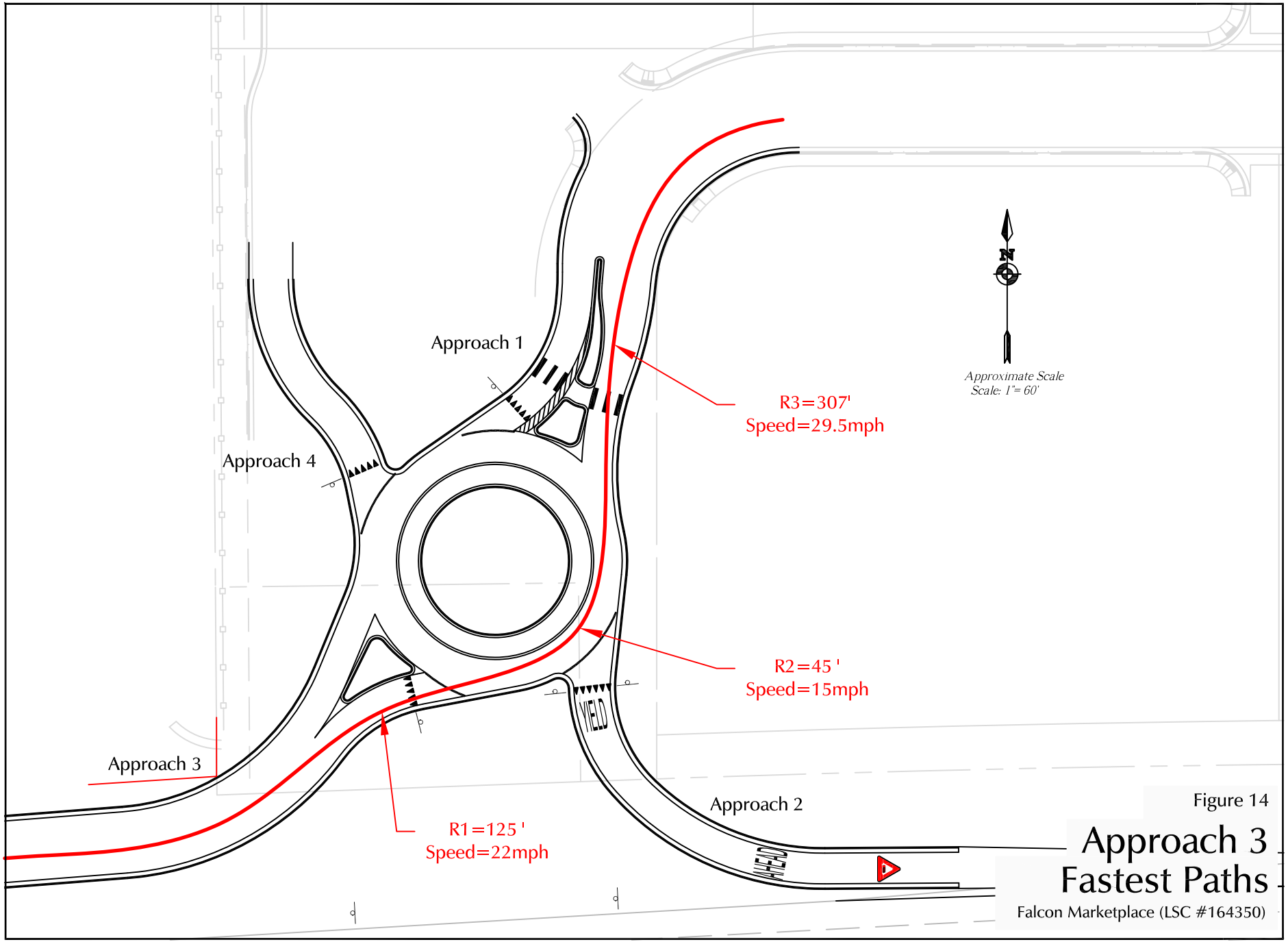

Figure 14

Approach 3 Fastest Paths

Falcon Marketplace (LSC #164350)

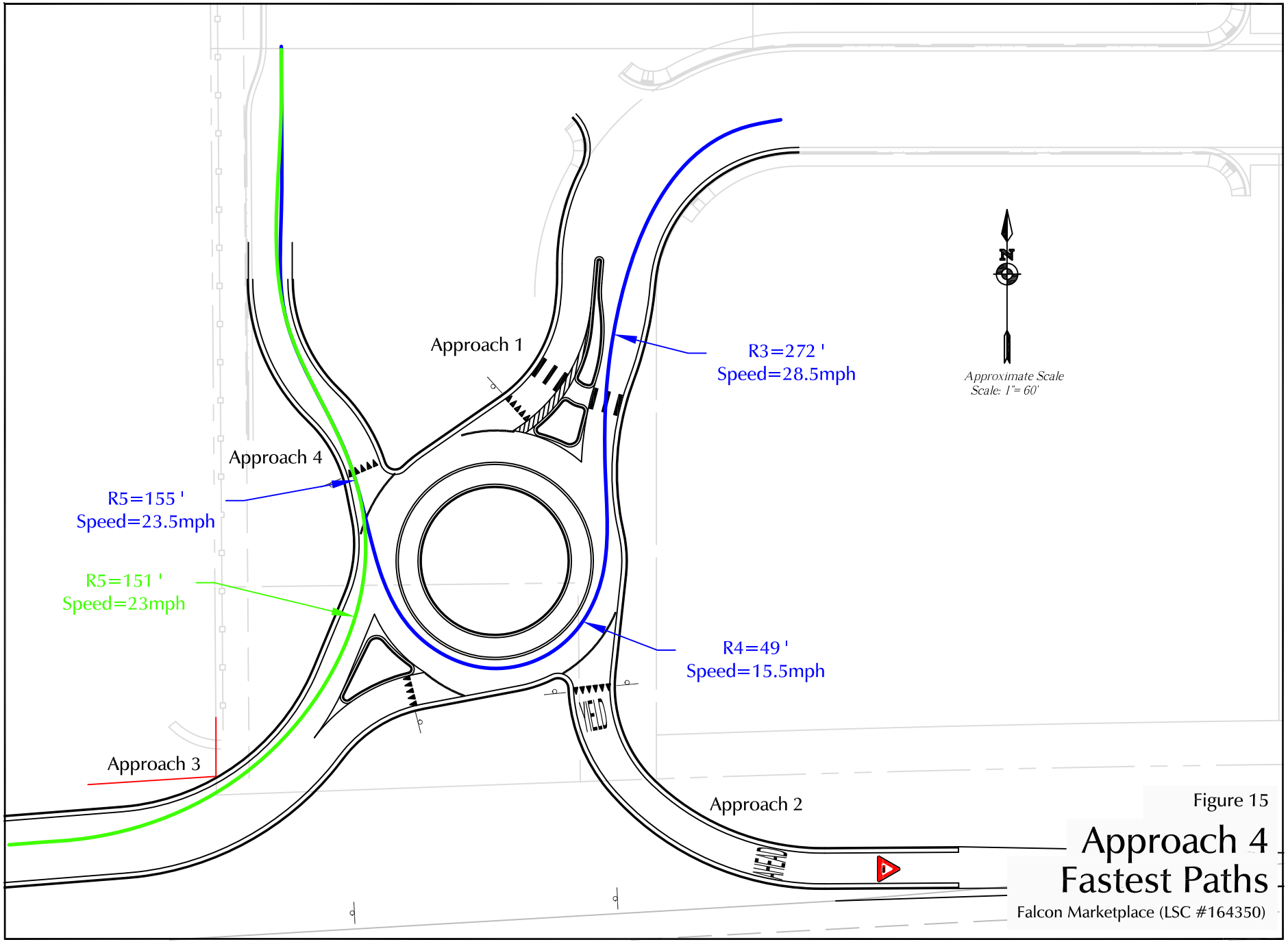

Figure 15

Approach 4 Fastest Paths

Falcon Marketplace (LSC #164350)

Rodel Analysis Reports

Do these values match Figure 1?

provide a diagram conforming to Wisconsin DOT method (http://wisconsindot.gov/rdwy/fdm/fd-11-26.pdf)

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	Approach 1	20	0	16.00	1	16.00	1	0.00	60.00	21.50
2	Approach 2	160	0	18.00	1	19.50	1	160.00	60.00	28.50
3	Approach 3	235	0	16.00	1	16.00	1	0.00	60.00	21.50
4	Approach 4	310	0	19.50	1	19.50	1	0.00	60.00	15.00

too small?

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Approach 1	120.00	16.00	1	16.00	1	16.00	1
2	Approach 2	120.00	16.00	1	16.00	1	16.00	1
3	Approach 3	120.00	16.00	1	16.00	1	16.00	1
4	Approach 4	120.00	16.00	1	16.00	1	16.00	1

This is too narrow

This is too narrow

See ECM circulating lane width requirements (wider than entry lane); exit lane shall not be narrower than circulating lane.

Operational Results

2040 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Approach 1	None	65		24		338	1196		0.0549	
2	Approach 2	None	368		89		0	1298		0.2861	
3	Approach 3	None	167		153		304	1118		0.1509	
4	Approach 4	None	41		321		0	1346		0.0309	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Approach 1	None	3.29		3.29	0.15		A		A
2	Approach 2	None	4.60		4.60	1.00		A		A
3	Approach 3	None	4.31		4.31	0.45		A		A
4	Approach 4	None	2.76		2.76	0.08		A		A

Global Results

Performance and Accidents

2040 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	591		591
Capacity	veh/hr	4988		4988
Average Delay	sec/veh	4.42		4.42
L.O.S. (Signal)	A – F	A		A
L.O.S. (Unsig)	A – F	A		A
Total Delay	veh.hrs	0.73		0.73

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	Approach 1	20	0	16.00	1	16.00	1	0.00	60.00	21.50
2	Approach 2	160	0	18.00	1	19.50	1	160.00	60.00	28.50
3	Approach 3	235	0	16.00	1	16.00	1	0.00	60.00	21.50
4	Approach 4	310	0	19.50	1	19.50	1	0.00	60.00	15.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Approach 1	120.00	16.00	1	16.00	1	16.00	1
2	Approach 2	120.00	16.00	1	16.00	1	16.00	1
3	Approach 3	120.00	16.00	1	16.00	1	16.00	1
4	Approach 4	120.00	16.00	1	16.00	1	16.00	1

Operational Results

2040 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Approach 1	None	71		4		462	1208		0.0589	
2	Approach 2	None	343		75		0	1307		0.2648	
3	Approach 3	None	278		178		240	1102		0.2546	
4	Approach 4	None	10		456		0	1252		0.0079	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Approach 1	None	3.29		3.29	0.16		A		A
2	Approach 2	None	4.48		4.48	0.91		A		A
3	Approach 3	None	5.06		5.06	0.86		A		A
4	Approach 4	None	0.04		0.04	0.00		A		A

Global Results

Performance and Accidents

2040 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	646		646
Capacity	veh/hr	4907		4907
Average Delay	sec/veh	4.68		4.68
L.O.S. (Signal)	A – F	A		A
L.O.S. (Unsig)	A – F	A		A
Total Delay	veh.hrs	0.84		0.84

Traffic Count Reports

TRANSPORTATION
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LSC Transportation Consultants, Inc.
516 N. Tejon St.
Colorado Springs, CO
(719) 633-2868

LSC Transportation Consultants, Inc.

File Name : Meridian Rd - Eastonville Rd AM
Site Code : 00154450
Start Date : 09/09/2015
Page No : 1

Groups Printed- Unshifted

	Meridian Rd From North				Eastonville Rd From East				Meridian Rd From South				From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	291	22	0	4	0	15	0	3	70	0	0	0	0	0	0	405
06:45 AM	0	289	13	0	8	0	11	0	9	101	0	0	0	0	0	0	431
Total	0	580	35	0	12	0	26	0	12	171	0	0	0	0	0	0	836
07:00 AM	0	385	13	1	13	0	17	0	19	119	0	0	0	0	0	0	567
07:15 AM	0	375	23	1	18	0	13	0	9	118	0	1	0	0	0	0	558
07:30 AM	0	387	24	1	27	0	18	1	13	146	0	0	0	0	0	0	617
07:45 AM	0	272	29	0	14	0	12	0	13	118	0	0	0	0	0	0	458
Total	0	1419	89	3	72	0	60	1	54	501	0	1	0	0	0	0	2200
08:00 AM	0	255	22	2	17	0	12	0	14	112	0	0	0	0	0	0	434
08:15 AM	0	278	18	0	21	0	12	0	10	99	0	0	0	0	0	0	438
Grand Total	0	2532	164	5	122	0	110	1	90	883	0	1	0	0	0	0	3908
Apprch %	0.0	93.7	6.1	0.2	52.4	0.0	47.2	0.4	9.2	90.7	0.0	0.1	0.0	0.0	0.0	0.0	
Total %	0.0	64.8	4.2	0.1	3.1	0.0	2.8	0.0	2.3	22.6	0.0	0.0	0.0	0.0	0.0	0.0	

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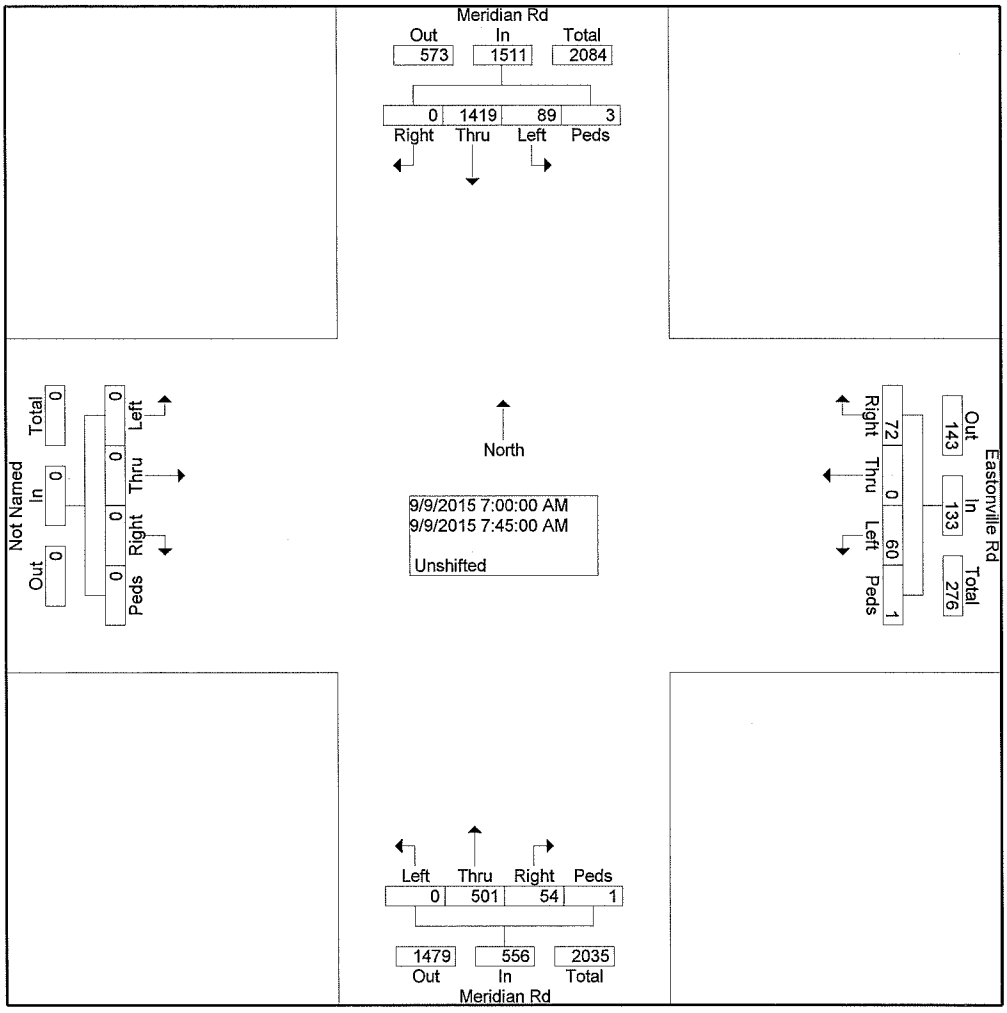
Page No : 2

	Meridian Rd From North					Eastonville Rd From East					Meridian Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:00 AM																				
Volume	0	1419	89	3	1511	72	0	60	1	133	54	501	0	1	556	0	0	0	0	0	2200
Percent	0.0	93.9	5.9	0.2		54.1	0.0	45.1	0.8		9.7	90.1	0.0	0.2		0.0	0.0	0.0	0.0		
07:30 Volume	0	387	24	1	412	27	0	18	1	46	13	146	0	0	159	0	0	0	0	0	617
Peak Factor																					0.891
High Int.	07:30 AM					07:30 AM					07:30 AM					6:15:00 AM					
Volume	0	387	24	1	412	27	0	18	1	46	13	146	0	0	159						
Peak Factor					0.917					0.723					0.874						



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Start Date : 09/09/2015
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Groups Printed- Unshifted

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Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	182	27	0	43	0	14	0	22	238	0	0	0	0	0	0	526
04:15 PM	0	161	29	1	45	0	10	0	35	243	0	1	0	0	0	0	525
04:30 PM	0	150	14	0	40	0	5	0	21	270	0	0	0	0	0	0	500
04:45 PM	0	198	19	0	38	0	3	0	21	300	0	1	0	0	0	0	580
Total	0	691	89	1	166	0	32	0	99	1051	0	2	0	0	0	0	2131
05:00 PM	0	199	10	0	38	0	6	0	23	313	0	0	0	0	0	0	589
05:15 PM	0	207	20	0	39	0	10	0	35	290	0	0	0	0	0	0	601
05:30 PM	0	201	13	1	31	0	11	0	42	331	0	0	0	0	0	0	630
05:45 PM	0	183	15	0	30	0	10	0	39	301	0	1	0	0	0	0	579
Total	0	790	58	1	138	0	37	0	139	1235	0	1	0	0	0	0	2399
Grand Total	0	1481	147	2	304	0	69	0	238	2286	0	3	0	0	0	0	4530
Apprch %	0.0	90.9	9.0	0.1	81.5	0.0	18.5	0.0	9.4	90.5	0.0	0.1	0.0	0.0	0.0	0.0	
Total %	0.0	32.7	3.2	0.0	6.7	0.0	1.5	0.0	5.3	50.5	0.0	0.1	0.0	0.0	0.0	0.0	

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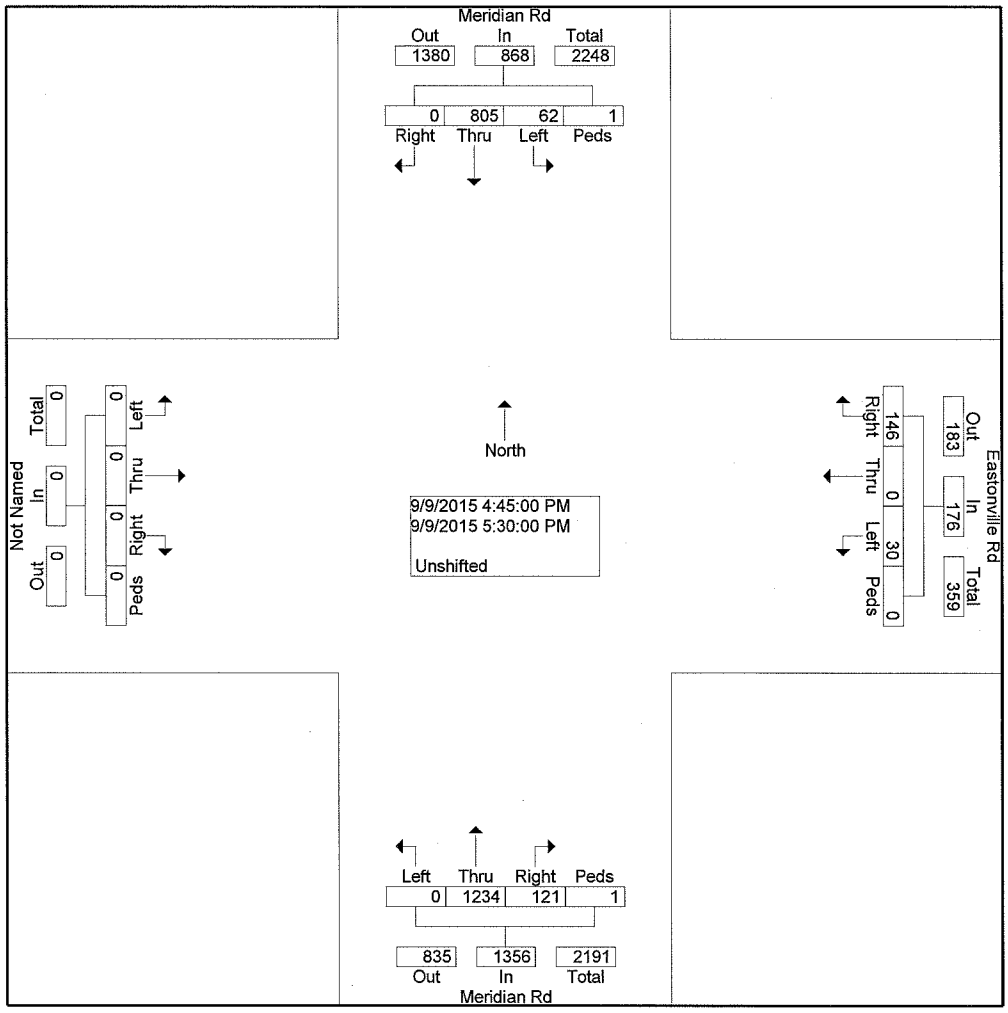
Start Date : 09/09/2015
Page No : 2

	Meridian Rd From North					Eastonville Rd From East					Meridian Rd From South					From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	0	805	62	1	868	146	0	30	0	176	121	1234	0	1	1356	0	0	0	0	0	2400
Percent	0.0	92.7	7.1	0.1		83.0	0.0	17.0	0.0		8.9	91.0	0.0	0.1		0.0	0.0	0.0	0.0		
05:30 Volume	0	201	13	1	215	31	0	11	0	42	42	331	0	0	373	0	0	0	0	0	630
Peak Factor																					0.952
High Int.	05:15 PM					05:15 PM					05:30 PM					3:45:00 PM					
Volume	0	207	20	0	227	39	0	10	0	49	42	331	0	0	373						
Peak Factor					0.956					0.898					0.909						



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File Name : Meridian Rd - Woodman Rd AM
Site Code : 00154450
Start Date : 09/16/2015
Page No : 1

Groups Printed- Unshifted

	Meridian Rd From North				Woodmen Rd From East				Meridian Rd From South				Woodmen Rd From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	140	66	41	0	20	141	4	0	1	22	14	0	4	86	55	0	594
06:45 AM	145	72	44	0	25	155	6	0	3	24	13	0	5	88	56	0	636
Total	285	138	85	0	45	296	10	0	4	46	27	0	9	174	111	0	1230
07:00 AM	200	121	69	0	19	168	14	0	4	29	22	0	9	82	59	0	796
07:15 AM	213	94	69	0	33	154	5	0	0	29	22	0	7	87	66	0	779
07:30 AM	249	84	56	0	34	187	7	0	1	24	22	0	9	98	90	0	861
07:45 AM	150	80	40	0	36	118	9	0	4	24	13	0	9	86	54	0	623
Total	812	379	234	0	122	627	35	0	9	106	79	0	34	353	269	0	3059
08:00 AM	147	82	47	0	28	96	11	0	4	35	26	0	14	73	69	1	633
08:15 AM	139	75	40	0	22	88	8	0	2	29	22	0	6	69	63	0	563
Grand Total	1383	674	406	0	217	1107	64	0	19	216	154	0	63	669	512	1	5485
Apprch %	56.2	27.4	16.5	0.0	15.6	79.8	4.6	0.0	4.9	55.5	39.6	0.0	5.1	53.7	41.1	0.1	
Total %	25.2	12.3	7.4	0.0	4.0	20.2	1.2	0.0	0.3	3.9	2.8	0.0	1.1	12.2	9.3	0.0	

LSC Transportation Consultants, Inc.
516 N. Tejon St.
Colorado Springs, CO
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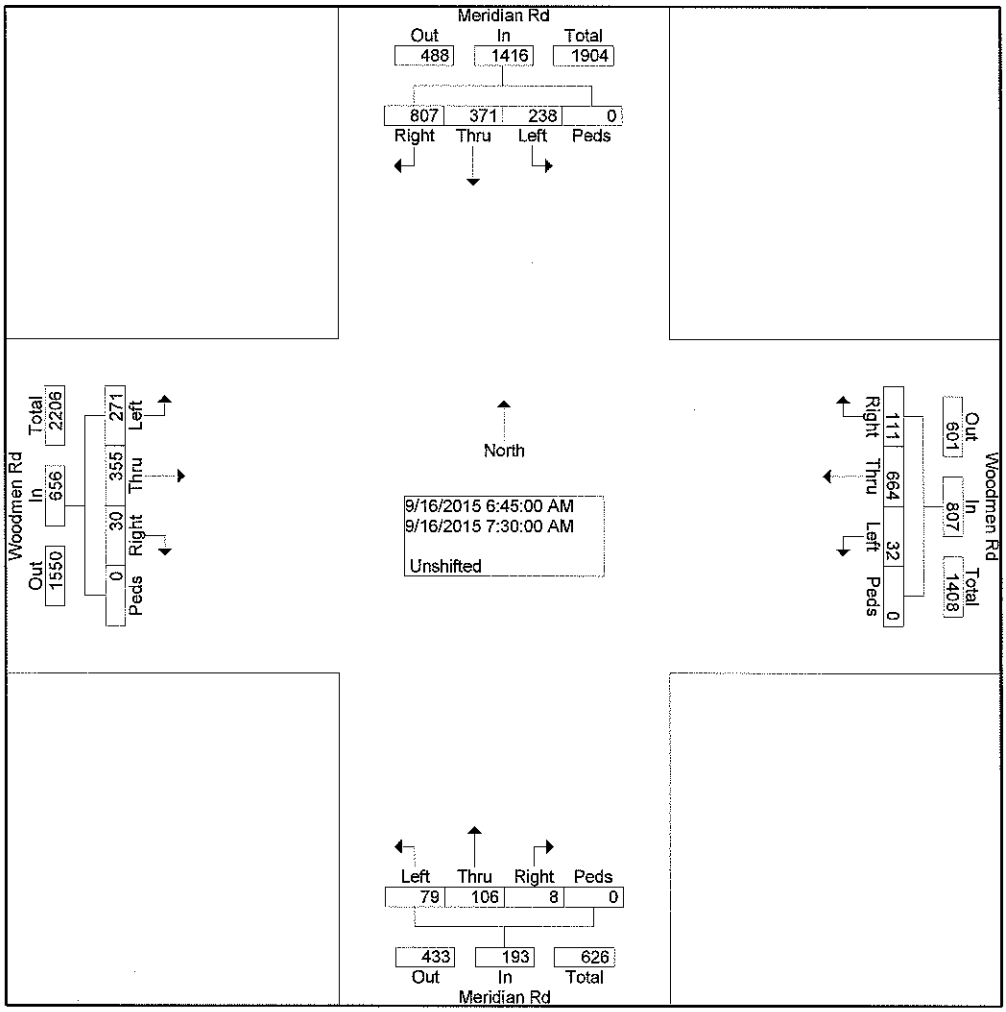
LSC Transportation Consultants, Inc.

File Name : Meridian Rd - Woodman Rd AM
Site Code : 00154450
Start Date : 09/16/2015
Page No : 2

	Meridian Rd From North					Woodmen Rd From East					Meridian Rd From South					Woodmen Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	807	371	238	0	1416	111	664	32	0	807	8	106	79	0	193	30	355	271	0	656	3072
Percent	57.0	26.2	16.8	0.0		13.8	82.3	4.0	0.0		4.1	54.9	40.9	0.0		4.6	54.1	41.3	0.0		
07:30 Volume	249	84	56	0	389	34	187	7	0	228	1	24	22	0	47	9	98	90	0	197	861
Peak Factor																					0.892
High Int.	07:00 AM					07:30 AM					07:00 AM					07:30 AM					
Volume	200	121	69	0	390	34	187	7	0	228	4	29	22	0	55	9	98	90	0	197	
Peak Factor					0.908					0.885					0.877					0.832	



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Colorado Springs, CO
(719) 633-2868

File Name : Meridian Rd - Woodman Rd PM
Site Code : 00145450
Start Date : 09/15/2015
Page No : 1

Groups Printed- Unshifted

	Meridian Rd From North				Woodman Rd From East				Meridian Rd From South				Woodman Rd From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	74	48	29	0	24	111	40	0	10	92	19	1	23	130	149	0	750
04:15 PM	67	53	31	0	36	110	24	0	22	96	19	2	17	145	136	0	758
04:30 PM	84	63	27	3	43	141	29	0	20	110	19	2	18	143	131	0	833
04:45 PM	59	56	42	0	57	120	34	0	17	103	21	0	28	165	152	1	855
Total	284	220	129	3	160	482	127	0	69	401	78	5	86	583	568	1	3196
05:00 PM	72	71	26	0	38	125	27	0	21	113	25	0	23	130	162	0	833
05:15 PM	83	53	25	0	35	95	30	0	30	115	32	1	29	159	163	1	851
05:30 PM	81	69	26	0	44	116	30	0	21	106	21	3	24	145	131	0	817
05:45 PM	63	51	21	0	56	83	31	0	33	88	18	2	32	133	162	1	774
Total	299	244	98	0	173	419	118	0	105	422	96	6	108	567	618	2	3275
Grand Total	583	464	227	3	333	901	245	0	174	823	174	11	194	1150	1186	3	6471
Apprch %	45.7	36.3	17.8	0.2	22.5	60.9	16.6	0.0	14.7	69.6	14.7	0.9	7.7	45.4	46.8	0.1	
Total %	9.0	7.2	3.5	0.0	5.1	13.9	3.8	0.0	2.7	12.7	2.7	0.2	3.0	17.8	18.3	0.0	

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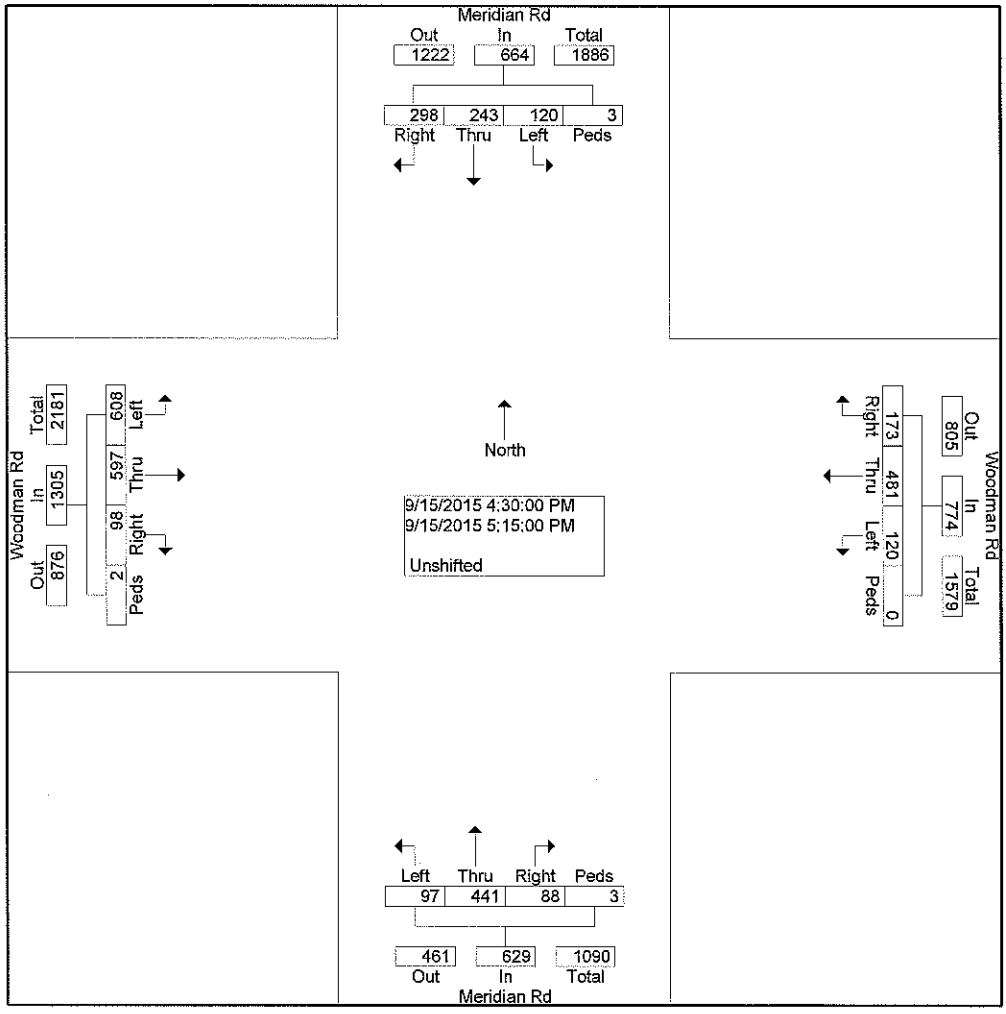
LSC Transportation Consultants, Inc.

File Name : Meridian Rd - Woodman Rd PM
Site Code : 00145450
Start Date : 09/15/2015
Page No : 2

	Meridian Rd From North					Woodman Rd From East					Meridian Rd From South					Woodman Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	298	243	120	3	664	173	481	120	0	774	88	441	97	3	629	98	597	608	2	1305	3372
Percent	44.9	36.6	18.1	0.5		22.4	62.1	15.5	0.0		14.0	70.1	15.4	0.5		7.5	45.7	46.6	0.2		
04:45 Volume	59	56	42	0	157	57	120	34	0	211	17	103	21	0	141	28	165	152	1	346	855
Peak Factor																					0.986
High Int.	04:30 PM					04:30 PM					05:15 PM					05:15 PM					
Volume	84	63	27	3	177	43	141	29	0	213	30	115	32	1	178	29	159	163	1	352	
Peak Factor					0.938					0.908					0.883					0.927	



LSC Transportation Consultants, Inc.
545 E. Pikes Peak Ave., #210
Colorado Springs, CO 80903
(719) 633-2868

LSC Transportation Consultants, Inc.

File Name : Golden Sage Rd - Woodmen Rd AM
Site Code : 00164350
Start Date : 03/08/2017
Page No : 1

Groups Printed- Unshifted

	Golden Sage Rd From North				Woodmen Rd From East				Golden Sage Rd From South				Woodmen Rd From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	10	0	11	0	32	368	0	0	1	4	18	0	3	151	27	0	625
06:45 AM	15	0	11	0	28	307	0	0	0	1	31	0	10	186	16	0	605
Total	25	0	22	0	60	675	0	0	1	5	49	0	13	337	43	0	1230
07:00 AM	13	2	11	0	6	459	1	0	2	3	34	0	10	212	10	0	763
07:15 AM	17	3	13	0	15	434	3	1	2	2	38	0	10	211	5	0	754
07:30 AM	21	1	11	0	12	396	3	1	0	1	29	0	8	208	8	0	699
07:45 AM	12	2	3	0	4	289	3	0	2	0	27	0	17	166	14	0	539
Total	63	8	38	0	37	1578	10	2	6	6	128	0	45	797	37	0	2755
08:00 AM	8	1	2	0	6	256	1	0	1	1	15	0	10	154	11	0	466
08:15 AM	9	0	8	0	16	326	3	0	0	0	17	0	2	153	18	0	552
Grand Total	105	9	70	0	119	2835	14	2	8	12	209	0	70	1441	109	0	5003
Apprch %	57.1	4.9	38.0	0.0	4.0	95.5	0.5	0.1	3.5	5.2	91.3	0.0	4.3	89.0	6.7	0.0	
Total %	2.1	0.2	1.4	0.0	2.4	56.7	0.3	0.0	0.2	0.2	4.2	0.0	1.4	28.8	2.2	0.0	

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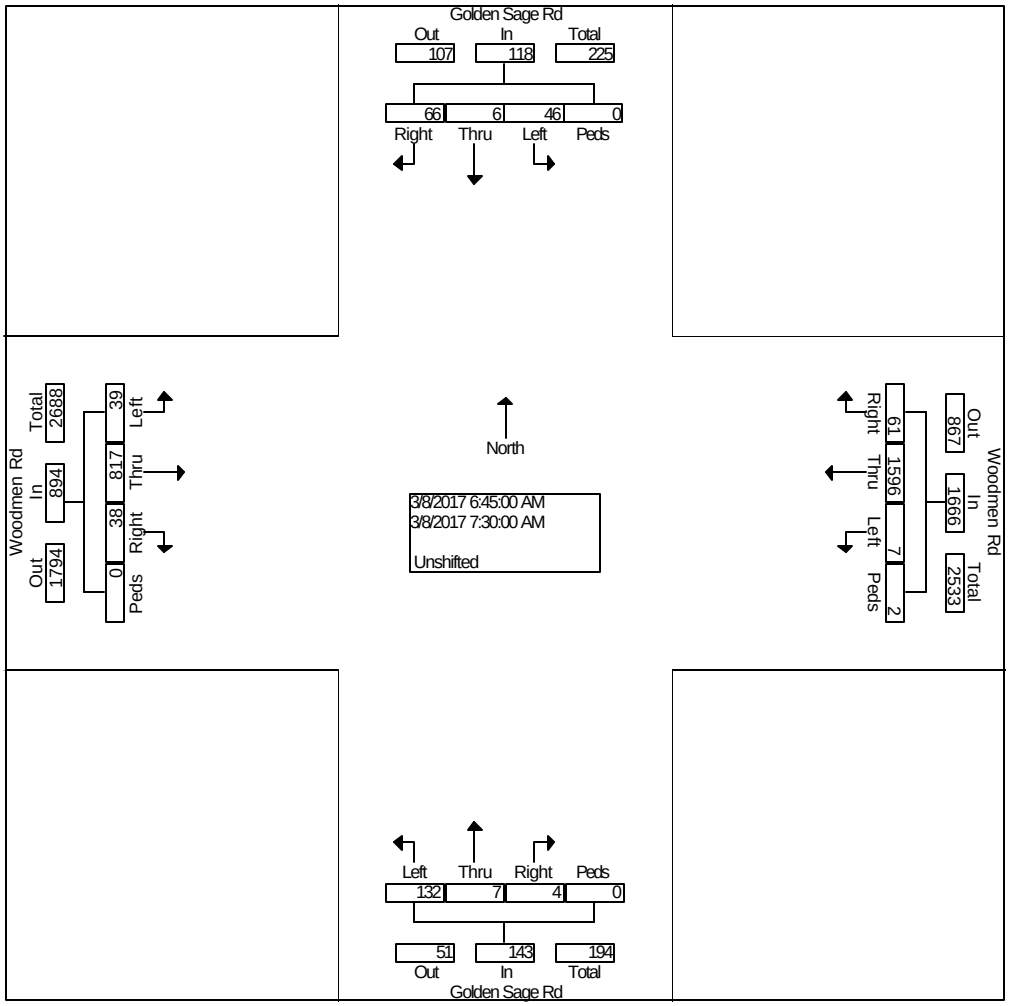
File Name : Golden Sage Rd - Woodmen Rd AM
Site Code : 00164350
Start Date : 03/08/2017

	Golden Sage Rd From North					Woodmen Rd From East					Golden Sage Rd From South					Woodmen Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	66	6	46	0	118	61	1596	7	2	1666	4	7	132	0	143	38	817	39	0	894	2821
Percent	55.9	5.1	39.0	0.0		3.7	95.8	0.4	0.1		2.8	4.9	92.3	0.0		4.3	91.4	4.4	0.0		
07:00 Volume	13	2	11	0	26	6	459	1	0	466	2	3	34	0	39	10	212	10	0	232	763
Peak Factor																					0.924
High Int.	07:15 AM					07:00 AM					07:15 AM					07:00 AM					
Volume	17	3	13	0	33	6	459	1	0	466	2	2	38	0	42	10	212	10	0	232	
Peak Factor					0.894					0.894					0.851					0.963	



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LSC Transportation Consultants, Inc.

File Name : Golden Sage Rd - Woodmen Rd PM
Site Code : 00164350
Start Date : 03/07/2017
Page No : 1

Groups Printed- Unshifted

	Golden Sage Rd From North				Woodmen Rd From East				Golden Sage Rd From South				Woodmen Rd From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	16	3	7	0	9	243	5	0	2	2	21	0	14	319	25	0	666
04:15 PM	19	4	18	0	10	234	1	1	3	2	16	0	28	324	15	0	675
04:30 PM	14	0	16	0	10	249	1	0	3	4	15	0	18	340	16	0	686
04:45 PM	21	1	15	0	16	233	2	1	3	4	27	0	20	313	10	0	666
Total	70	8	56	0	45	959	9	2	11	12	79	0	80	1296	66	0	2693
05:00 PM	17	3	15	0	14	264	2	0	2	3	24	0	20	355	13	0	732
05:15 PM	31	2	21	0	6	210	10	1	8	5	40	0	27	377	9	1	748
05:30 PM	30	2	40	0	7	178	2	1	5	3	14	0	17	381	6	0	686
05:45 PM	9	3	13	0	6	172	1	0	1	2	14	0	16	294	7	0	538
Total	87	10	89	0	33	824	15	2	16	13	92	0	80	1407	35	1	2704
Grand Total	157	18	145	0	78	1783	24	4	27	25	171	0	160	2703	101	1	5397
Apprch %	49.1	5.6	45.3	0.0	4.1	94.4	1.3	0.2	12.1	11.2	76.7	0.0	5.4	91.2	3.4	0.0	
Total %	2.9	0.3	2.7	0.0	1.4	33.0	0.4	0.1	0.5	0.5	3.2	0.0	3.0	50.1	1.9	0.0	

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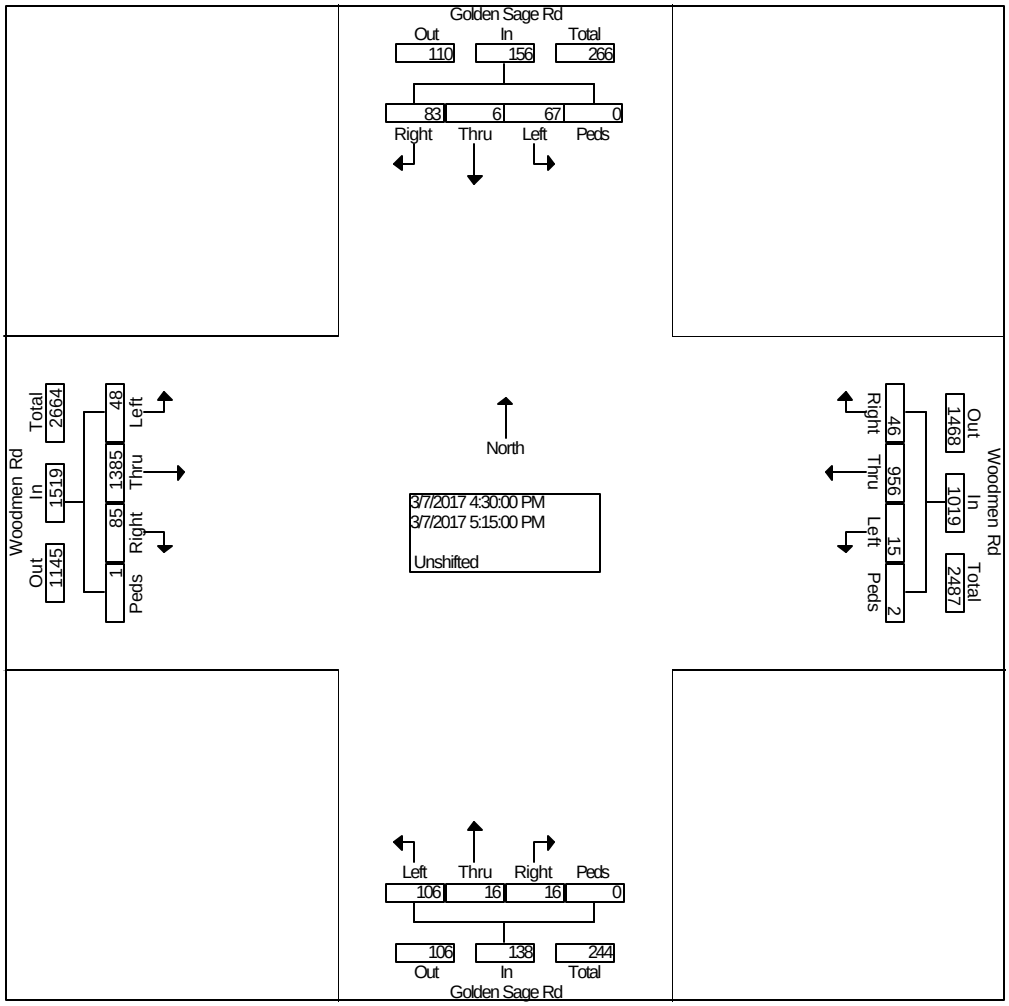
Project Name : Golden Sage Rd - Woodmen Rd PM
Site Code : 00164350
Start Date : 03/07/2017

	Golden Sage Rd From North					Woodmen Rd From East					Golden Sage Rd From South					Woodmen Rd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	83	6	67	0	156	46	956	15	2	1019	16	16	106	0	138	85	1385	48	1	1519	2832
Percent	53.2	3.8	42.9	0.0		4.5	93.8	1.5	0.2		11.6	11.6	76.8	0.0		5.6	91.2	3.2	0.1		
05:15 Volume	31	2	21	0	54	6	210	10	1	227	8	5	40	0	53	27	377	9	1	414	748
Peak Factor																					0.947
High Int.	05:15 PM					05:00 PM					05:15 PM					05:15 PM					
Volume	31	2	21	0	54	14	264	2	0	280	8	5	40	0	53	27	377	9	1	414	
Peak Factor					0.722					0.910					0.651					0.917	

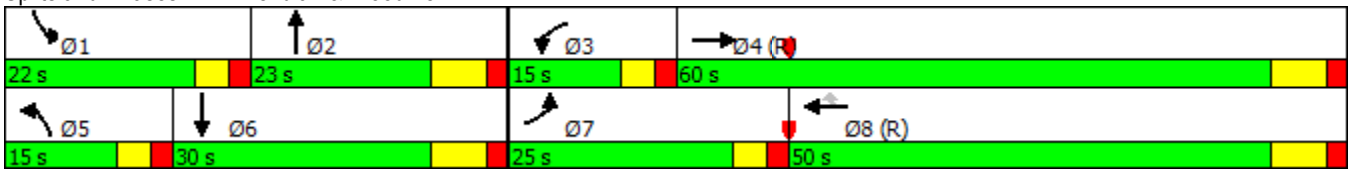


Level of Service/Weaving/Queuing Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	437	40	32	740	140	100	135	50	240	380	825
Future Volume (vph)	350	437	40	32	740	140	100	135	50	240	380	825
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	25.0	60.0		15.0	50.0	50.0	15.0	23.0		22.0	30.0	
Total Split (%)	20.8%	50.0%		12.5%	41.7%	41.7%	12.5%	19.2%		18.3%	25.0%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	Max	C-Max		Max	C-Max	C-Max	Max	Max		Max	Max	
Act Effct Green (s)	22.0	56.0	120.0	11.0	47.0	46.0	11.0	19.0	120.0	18.0	26.0	120.0
Actuated g/C Ratio	0.18	0.47	1.00	0.09	0.39	0.38	0.09	0.16	1.00	0.15	0.22	1.00
v/c Ratio	0.67	0.32	0.03	0.11	0.61	0.21	0.32	0.24	0.03	0.51	0.55	0.57
Control Delay	48.6	24.2	0.0	51.1	31.4	1.5	54.0	45.5	0.0	50.9	44.9	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	24.2	0.0	51.1	31.4	1.5	54.0	45.5	0.0	50.9	44.9	1.5
LOS	D	C	A	D	C	A	D	D	A	D	D	A
Approach Delay		33.4			27.5			40.5			21.1	
Approach LOS		C			C			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 27.4	Intersection LOS: C
Intersection Capacity Utilization 57.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Meridian & Woodmen



Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	72	570	54	89	1375
Future Vol, veh/h	60	72	570	54	89	1375
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	400	385	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	87	87	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	99	655	62	97	1495

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1596	328	0	0	655	0
Stage 1	655	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	97	668	-	-	928	-
Stage 1	479	-	-	-	-	-
Stage 2	340	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	87	668	-	-	928	-
Mov Cap-2 Maneuver	255	-	-	-	-	-
Stage 1	479	-	-	-	-	-
Stage 2	304	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.8	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	255	668	928	-
HCM Lane V/C Ratio	-	-	0.322	0.148	0.104	-
HCM Control Delay (s)	-	-	25.7	11.3	9.3	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.5	0.3	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	39	817	38	7	1596	61	132	7	4	46	6
Future Volume (vph)	39	817	38	7	1596	61	132	7	4	46	6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		2			6			8			4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	6	6	6	8	8	8	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	9.5	9.5	9.5	9.5	9.5
Total Split (s)	85.0	85.0	85.0	85.0	85.0	85.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	70.8%	70.8%	70.8%	70.8%	70.8%	70.8%	29.2%	29.2%	29.2%	29.2%	29.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	88.5	88.5	88.5	88.5	88.5	88.5	19.0	19.0	19.0	19.0	19.0
Actuated g/C Ratio	0.74	0.74	0.74	0.74	0.74	0.74	0.16	0.16	0.16	0.16	0.16
v/c Ratio	0.27	0.31	0.03	0.02	0.67	0.06	0.73	0.03	0.02	0.21	0.26
Control Delay	13.4	6.3	2.0	4.4	12.6	0.8	66.7	38.9	0.0	43.6	29.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	6.3	2.0	4.4	12.6	0.8	66.7	38.9	0.0	43.6	29.2
LOS	B	A	A	A	B	A	E	D	A	D	C
Approach Delay		6.4			12.1			63.3			34.8
Approach LOS		A			B			E			C

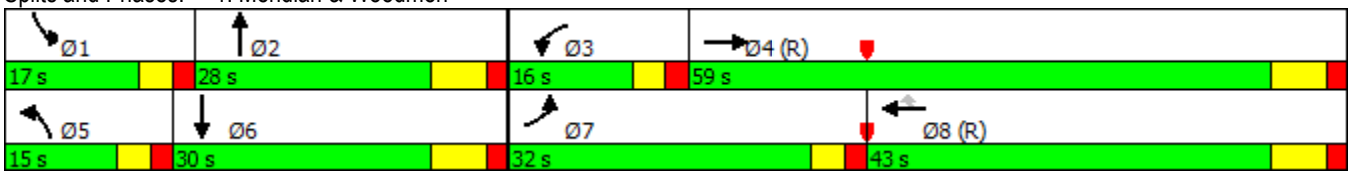
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 103 (86%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 14.1	Intersection LOS: B
Intersection Capacity Utilization 68.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 30: Golden Sage & Woodmen

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	675	650	115	120	525	200	110	525	135	150	310	380
Future Volume (vph)	675	650	115	120	525	200	110	525	135	150	310	380
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	32.0	59.0		16.0	43.0	43.0	15.0	28.0		17.0	30.0	
Total Split (%)	26.7%	49.2%		13.3%	35.8%	35.8%	12.5%	23.3%		14.2%	25.0%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	Max	C-Max		Max	C-Max	C-Max	Max	Max		Max	Max	
Act Effct Green (s)	29.0	55.0	120.0	12.0	40.0	39.0	11.0	24.0	120.0	13.0	26.0	120.0
Actuated g/C Ratio	0.24	0.46	1.00	0.10	0.33	0.32	0.09	0.20	1.00	0.11	0.22	1.00
v/c Ratio	0.87	0.43	0.08	0.38	0.48	0.33	0.35	0.74	0.09	0.40	0.40	0.24
Control Delay	52.9	24.3	0.1	54.0	33.5	5.2	54.6	52.4	0.1	53.5	42.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.9	24.3	0.1	54.0	33.5	5.2	54.6	52.4	0.1	53.5	42.2	0.4
LOS	D	C	A	D	C	A	D	D	A	D	D	A
Approach Delay		35.8			29.7			43.5			25.3	
Approach LOS		D			C			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 33.7	Intersection LOS: C
Intersection Capacity Utilization 65.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Meridian & Woodmen



Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	146	1300	121	62	1375
Future Vol, veh/h	30	146	1300	121	62	1375
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	-	400	385	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	91	91	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	146	1429	133	62	1375

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2241	714	0	0	1429	0
Stage 1	1429	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	36	374	-	-	472	-
Stage 1	187	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	31	374	-	-	472	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	187	-	-	-	-	-
Stage 2	345	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.8	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	157	374	472	-
HCM Lane V/C Ratio	-	-	0.191	0.39	0.131	-
HCM Control Delay (s)	-	-	33.3	20.7	13.8	-
HCM Lane LOS	-	-	D	C	B	-
HCM 95th %tile Q(veh)	-	-	0.7	1.8	0.5	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	48	1385	85	15	956	46	106	16	16	67	6
Future Volume (vph)	48	1385	85	15	956	46	106	16	16	67	6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		2			6			8			4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	6	6	6	8	8	8	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	9.5	9.5	9.5	9.5	9.5
Total Split (s)	84.0	84.0	84.0	84.0	84.0	84.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	86.3	86.3	86.3	86.3	86.3	86.3	21.2	21.2	21.2	21.2	21.2
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.72	0.72	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.13	0.59	0.08	0.08	0.38	0.04	0.80	0.08	0.08	0.38	0.33
Control Delay	7.8	10.3	1.6	5.2	5.2	0.4	73.0	38.3	7.4	46.3	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	10.3	1.6	5.2	5.2	0.4	73.0	38.3	7.4	46.3	10.4
LOS	A	B	A	A	A	A	E	D	A	D	B
Approach Delay		9.8			5.0			61.2			25.8
Approach LOS		A			A			E			C

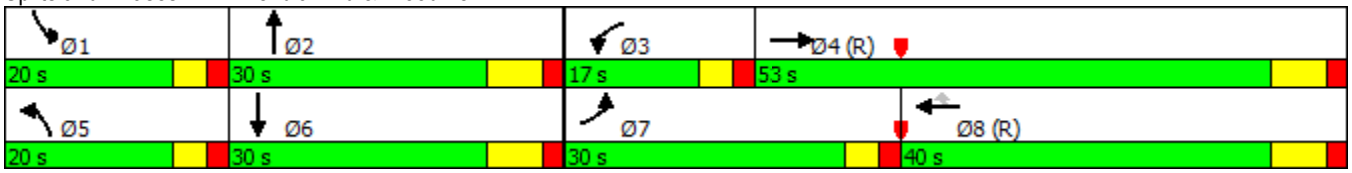
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 96 (80%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 12.9	Intersection LOS: B
Intersection Capacity Utilization 61.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 30: Golden Sage & Woodmen

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	675	100	100	800	75	150	300	50	150	575	800
Future Volume (vph)	275	675	100	100	800	75	150	300	50	150	575	800
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	11.0		9.0	11.0	11.0	9.0	11.0		9.0	11.0	
Total Split (s)	30.0	53.0		17.0	40.0	40.0	20.0	30.0		20.0	30.0	
Total Split (%)	25.0%	44.2%		14.2%	33.3%	33.3%	16.7%	25.0%		16.7%	25.0%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	17.7	54.7	120.0	10.2	49.1	48.1	12.0	27.1	120.0	12.0	27.1	120.0
Actuated g/C Ratio	0.15	0.46	1.00	0.08	0.41	0.40	0.10	0.23	1.00	0.10	0.23	1.00
v/c Ratio	0.59	0.46	0.07	0.37	0.60	0.11	0.48	0.41	0.03	0.48	0.78	0.55
Control Delay	54.4	23.0	0.1	55.2	31.1	0.3	55.2	41.2	0.0	55.2	51.3	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	23.0	0.1	55.2	31.1	0.3	55.2	41.2	0.0	55.2	51.3	1.4
LOS	D	C	A	E	C	A	E	D	A	E	D	A
Approach Delay		29.0			31.2			41.3			25.5	
Approach LOS		C			C			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 29.7	Intersection LOS: C
Intersection Capacity Utilization 63.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	15	3	75	2	75	45	531	75	90	1446	3
Future Volume (vph)	15	3	75	2	75	45	531	75	90	1446	3
Turn Type	pm+pt	NA	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		Free	2		2	6		6
Detector Phase	7	4	3	8		5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	15.0	25.0	15.0	25.0		17.0	70.0	70.0	10.0	63.0	63.0
Total Split (%)	12.5%	20.8%	12.5%	20.8%		14.2%	58.3%	58.3%	8.3%	52.5%	52.5%
Yellow Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0		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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None		None	Max	Max	None	Max	Max
Act Effct Green (s)	7.1	5.8	10.4	8.5	91.8	71.0	67.6	67.6	69.0	66.6	66.6
Actuated g/C Ratio	0.08	0.06	0.11	0.09	1.00	0.77	0.74	0.74	0.75	0.73	0.73
v/c Ratio	0.06	0.03	0.43	0.01	0.05	0.19	0.22	0.07	0.15	0.61	0.00
Control Delay	38.7	45.7	46.0	42.0	0.1	5.0	6.2	1.0	3.9	11.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.7	45.7	46.0	42.0	0.1	5.0	6.2	1.0	3.9	11.0	0.0
LOS	D	D	D	D	A	A	A	A	A	B	A
Approach Delay		39.8		23.2			5.5			10.6	
Approach LOS		D		C			A			B	

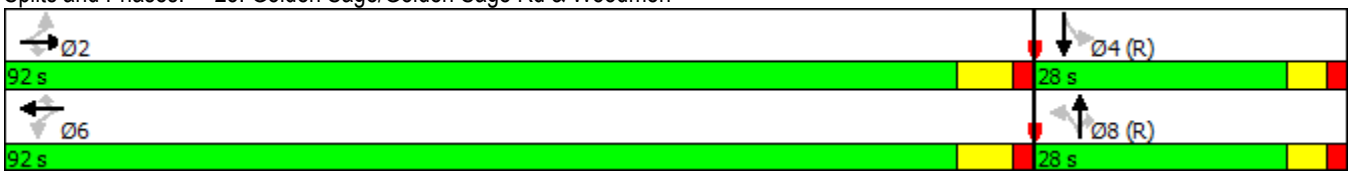
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 91.8	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 66.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	52	838	38	7	1719	24	132	7	4	27	6
Future Volume (vph)	52	838	38	7	1719	24	132	7	4	27	6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		2			6			8			4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	6	6	6	8	8	8	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	92.0	92.0	92.0	92.0	92.0	92.0	28.0	28.0	28.0	28.0	28.0
Total Split (%)	76.7%	76.7%	76.7%	76.7%	76.7%	76.7%	23.3%	23.3%	23.3%	23.3%	23.3%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	4.0	4.0	6.0	4.0	4.0	4.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	85.0	88.0	88.0	86.0	88.0	88.0	23.5	22.5	22.5	22.5	22.5
Actuated g/C Ratio	0.71	0.73	0.73	0.72	0.73	0.73	0.20	0.19	0.19	0.19	0.19
v/c Ratio	0.60	0.34	0.03	0.02	0.74	0.02	0.62	0.02	0.01	0.11	0.38
Control Delay	45.3	6.1	1.4	5.1	9.2	1.6	57.3	40.1	0.0	41.9	35.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	6.1	1.4	5.1	9.2	1.6	57.3	40.1	0.0	41.9	35.3
LOS	D	A	A	A	A	A	E	D	A	D	D
Approach Delay		7.9			9.1			54.9			36.6
Approach LOS		A			A			D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 3 (3%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 12.2	Intersection LOS: B
Intersection Capacity Utilization 69.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	0	138	0	0	0	0	83	0	0	0
Future Vol, veh/h	0	1	0	138	0	0	0	0	83	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	0	145	0	0	0	0	87	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	88	1	46	45	-	1	0	0	87	0	0
Stage 1	-	1	-	44	44	-	-	-	-	-	-	-
Stage 2	-	87	-	2	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	802	1084	955	847	0	1622	-	-	1509	-	-
Stage 1	0	895	-	970	858	0	-	-	-	-	-	-
Stage 2	0	823	-	1021	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	802	1084	954	847	-	1622	-	-	1509	-	-
Mov Cap-2 Maneuver	-	802	-	954	847	-	-	-	-	-	-	-
Stage 1	-	895	-	970	858	-	-	-	-	-	-	-
Stage 2	-	823	-	1020	895	-	-	-	-	-	-	-

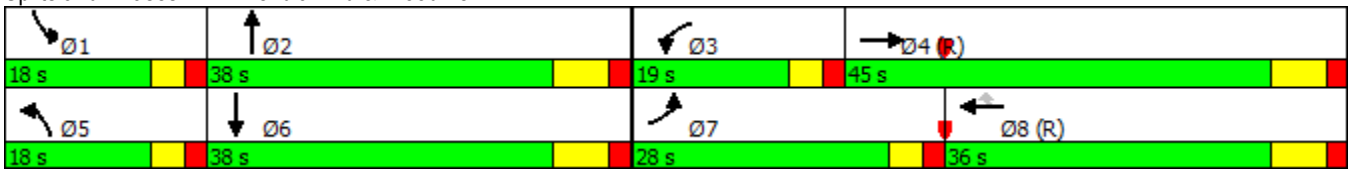
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.5	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	802	954	1509	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.152	-	-	-
HCM Control Delay (s)	0	-	-	9.5	9.5	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	620	725	200	150	650	200	175	800	175	150	450	325
Future Volume (vph)	620	725	200	150	650	200	175	800	175	150	450	325
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	28.0	45.0		19.0	36.0	36.0	18.0	38.0		18.0	38.0	
Total Split (%)	23.3%	37.5%		15.8%	30.0%	30.0%	15.0%	31.7%		15.0%	31.7%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	Max	C-Max		Max	C-Max	C-Max	Max	Max		Max	Max	
Act Effct Green (s)	25.0	41.0	120.0	15.0	33.0	32.0	14.0	34.0	120.0	14.0	34.0	120.0
Actuated g/C Ratio	0.21	0.34	1.00	0.12	0.28	0.27	0.12	0.28	1.00	0.12	0.28	1.00
v/c Ratio	0.92	0.64	0.13	0.38	0.73	0.37	0.44	0.80	0.11	0.38	0.45	0.21
Control Delay	69.2	40.4	0.2	51.1	44.5	6.4	53.1	46.9	0.1	52.0	37.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	40.4	0.2	51.1	44.5	6.4	53.1	46.9	0.1	52.0	37.1	0.3
LOS	E	D	A	D	D	A	D	D	A	D	D	A
Approach Delay		46.8			37.9			40.7			26.6	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 39.4	Intersection LOS: D
Intersection Capacity Utilization 75.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	13	3	40	3	150	68	1377	175	75	835	8
Future Volume (vph)	13	3	40	3	150	68	1377	175	75	835	8
Turn Type	pm+pt	NA	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		Free	2		2	6		6
Detector Phase	7	4	3	8		5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	10.0	30.0	10.0	30.0		23.0	70.0	70.0	10.0	57.0	57.0
Total Split (%)	8.3%	25.0%	8.3%	25.0%		19.2%	58.3%	58.3%	8.3%	47.5%	47.5%
Yellow Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0		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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None		None	Max	Max	None	Max	Max
Act Effct Green (s)	6.1	5.7	6.4	5.7	89.0	73.2	69.2	69.2	71.0	68.1	68.1
Actuated g/C Ratio	0.07	0.06	0.07	0.06	1.00	0.82	0.78	0.78	0.80	0.77	0.77
v/c Ratio	0.06	0.03	0.33	0.03	0.10	0.14	0.54	0.15	0.29	0.34	0.01
Control Delay	38.8	43.3	45.8	43.3	0.1	2.8	7.1	1.5	5.2	5.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	43.3	45.8	43.3	0.1	2.8	7.1	1.5	5.2	5.8	0.0
LOS	D	D	D	D	A	A	A	A	A	A	A
Approach Delay		39.6		10.2			6.3			5.7	
Approach LOS		D		B			A			A	

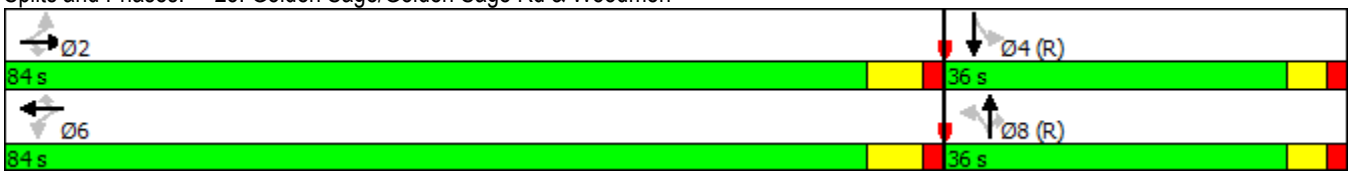
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 89	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 6.6	Intersection LOS: A
Intersection Capacity Utilization 63.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	93	1544	85	15	1111	24	106	16	16	30	6
Future Volume (vph)	93	1544	85	15	1111	24	106	16	16	30	6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		2			6			8			4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	6	6	6	8	8	8	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	84.0	84.0	84.0	84.0	84.0	84.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	77.0	77.0	77.0	77.0	77.0	77.0	30.5	30.5	30.5	30.5	30.5
Actuated g/C Ratio	0.64	0.64	0.64	0.64	0.64	0.64	0.25	0.25	0.25	0.25	0.25
v/c Ratio	0.36	0.74	0.09	0.16	0.49	0.02	0.58	0.05	0.06	0.12	0.32
Control Delay	15.0	17.2	1.8	12.8	10.2	3.6	49.0	34.4	7.0	35.7	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	17.2	1.8	12.8	10.2	3.6	49.0	34.4	7.0	35.7	14.4
LOS	B	B	A	B	B	A	D	C	A	D	B
Approach Delay		16.3			10.1			42.3			18.9
Approach LOS		B			B			D			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 3 (3%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 16.0	Intersection LOS: B
Intersection Capacity Utilization 74.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	0	145	0	0	0	0	133	0	0	0
Future Vol, veh/h	0	1	0	145	0	0	0	0	133	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	92	92	92	92	95	92	95	92	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	0	158	0	0	0	0	145	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	146	1	74	73	-	1	0	0	145	0	0
Stage 1	-	1	-	72	72	-	-	-	-	-	-	-
Stage 2	-	145	-	2	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	745	1084	916	817	0	1622	-	-	1437	-	-
Stage 1	0	895	-	938	835	0	-	-	-	-	-	-
Stage 2	0	777	-	1021	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	745	1084	915	817	-	1622	-	-	1437	-	-
Mov Cap-2 Maneuver	-	745	-	915	817	-	-	-	-	-	-	-
Stage 1	-	895	-	938	835	-	-	-	-	-	-	-
Stage 2	-	777	-	1020	895	-	-	-	-	-	-	-

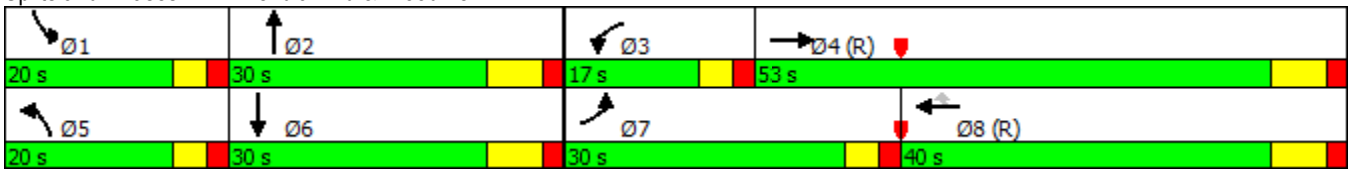
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.8	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	745	915	1437	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.172	-	-	-
HCM Control Delay (s)	0	-	-	9.8	9.8	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	675	100	100	832	43	162	288	50	150	575	809
Future Volume (vph)	275	675	100	100	832	43	162	288	50	150	575	809
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	11.0		9.0	11.0	11.0	9.0	11.0		9.0	11.0	
Total Split (s)	30.0	53.0		17.0	40.0	40.0	20.0	30.0		20.0	30.0	
Total Split (%)	25.0%	44.2%		14.2%	33.3%	33.3%	16.7%	25.0%		16.7%	25.0%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	17.7	54.4	120.0	10.2	48.9	47.9	12.5	27.4	120.0	12.0	26.9	120.0
Actuated g/C Ratio	0.15	0.45	1.00	0.08	0.41	0.40	0.10	0.23	1.00	0.10	0.22	1.00
v/c Ratio	0.59	0.46	0.07	0.37	0.63	0.06	0.49	0.39	0.03	0.48	0.79	0.56
Control Delay	54.5	23.1	0.1	55.2	31.9	0.2	55.2	40.7	0.0	55.2	51.8	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	23.1	0.1	55.2	31.9	0.2	55.2	40.7	0.0	55.2	51.8	1.4
LOS	D	C	A	E	C	A	E	D	A	E	D	A
Approach Delay		29.1			32.9			41.3			25.6	
Approach LOS		C			C			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 30.2	Intersection LOS: C
Intersection Capacity Utilization 64.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø5
Lane Configurations										
Traffic Volume (vph)	15	3	75	2	75	531	75	90	1449	
Future Volume (vph)	15	3	75	2	75	531	75	90	1449	
Turn Type	pm+pt	NA	pm+pt	NA	Free	NA	Perm	pm+pt	NA	
Protected Phases	7	4	3	8		2		1	6	5
Permitted Phases	4		8		Free		2	6		
Detector Phase	7	4	3	8		2	2	1	6	
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0		9.0	9.0	9.0	9.0	9.0
Total Split (s)	15.0	25.0	15.0	25.0		70.0	70.0	10.0	63.0	17.0
Total Split (%)	12.5%	20.8%	12.5%	20.8%		58.3%	58.3%	8.3%	52.5%	14%
Yellow Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lag		Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None		Max	Max	None	Max	None
Act Effct Green (s)	7.1	5.8	10.4	8.5	91.8	67.6	67.6	73.8	75.1	
Actuated g/C Ratio	0.08	0.06	0.11	0.09	1.00	0.74	0.74	0.80	0.82	
v/c Ratio	0.06	0.03	0.43	0.01	0.05	0.22	0.07	0.15	0.54	
Control Delay	38.7	45.7	46.0	42.0	0.1	6.2	1.0	3.7	5.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.7	45.7	46.0	42.0	0.1	6.2	1.0	3.7	5.3	
LOS	D	D	D	D	A	A	A	A	A	
Approach Delay		39.8		23.2		5.6			5.2	
Approach LOS		D		C		A			A	

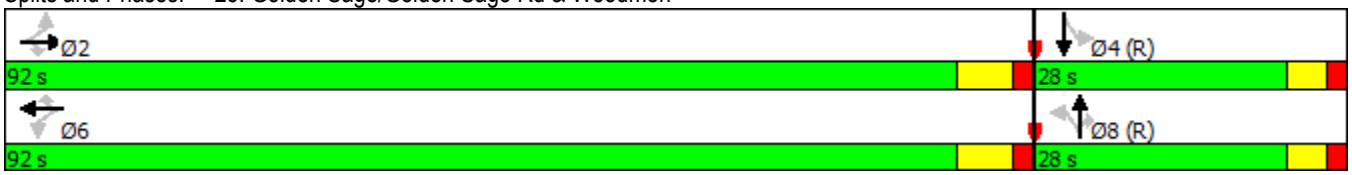
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 91.8	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 6.7	Intersection LOS: A
Intersection Capacity Utilization 66.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	52	838	38	7	1719	24	132	7	4	27	6
Future Volume (vph)	52	838	38	7	1719	24	132	7	4	27	6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		2			6			8			4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	6	6	6	8	8	8	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	92.0	92.0	92.0	92.0	92.0	92.0	28.0	28.0	28.0	28.0	28.0
Total Split (%)	76.7%	76.7%	76.7%	76.7%	76.7%	76.7%	23.3%	23.3%	23.3%	23.3%	23.3%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	-3.0	-1.0	-3.0	-3.0	-1.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	4.0	4.0	6.0	4.0	4.0	4.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	85.0	88.0	88.0	86.0	88.0	88.0	23.5	22.5	22.5	22.5	22.5
Actuated g/C Ratio	0.71	0.73	0.73	0.72	0.73	0.73	0.20	0.19	0.19	0.19	0.19
v/c Ratio	0.60	0.34	0.03	0.02	0.74	0.02	0.62	0.02	0.01	0.11	0.38
Control Delay	45.3	6.1	1.4	5.1	9.2	1.6	57.3	40.1	0.0	41.9	35.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	6.1	1.4	5.1	9.2	1.6	57.3	40.1	0.0	41.9	35.3
LOS	D	A	A	A	A	A	E	D	A	D	D
Approach Delay		7.9			9.1			54.9			36.6
Approach LOS		A			A			D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 3 (3%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 12.2	Intersection LOS: B
Intersection Capacity Utilization 69.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	0	138	0	0	0	0	83	0	0	0
Future Vol, veh/h	0	1	0	138	0	0	0	0	83	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	0	145	0	0	0	0	87	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	88	1	46	45	-	1	0	0	87	0	0
Stage 1	-	1	-	44	44	-	-	-	-	-	-	-
Stage 2	-	87	-	2	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	802	1084	955	847	0	1622	-	-	1509	-	-
Stage 1	0	895	-	970	858	0	-	-	-	-	-	-
Stage 2	0	823	-	1021	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	802	1084	954	847	-	1622	-	-	1509	-	-
Mov Cap-2 Maneuver	-	802	-	954	847	-	-	-	-	-	-	-
Stage 1	-	895	-	970	858	-	-	-	-	-	-	-
Stage 2	-	823	-	1020	895	-	-	-	-	-	-	-

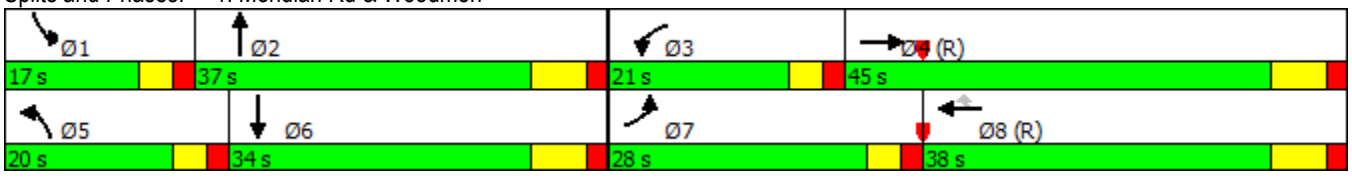
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.5	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	802	954	1509	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.152	-	-	-
HCM Control Delay (s)	0	-	-	9.5	9.5	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	620	675	200	150	708	150	185	780	175	150	450	342
Future Volume (vph)	620	675	200	150	708	150	185	780	175	150	450	342
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	28.0	45.0		21.0	38.0	38.0	20.0	37.0		17.0	34.0	
Total Split (%)	23.3%	37.5%		17.5%	31.7%	31.7%	16.7%	30.8%		14.2%	28.3%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	Max	C-Max		Max	C-Max	C-Max	Max	Max		Max	Max	
Act Effct Green (s)	25.0	41.0	120.0	17.0	35.0	34.0	16.0	33.0	120.0	13.0	30.0	120.0
Actuated g/C Ratio	0.21	0.34	1.00	0.14	0.29	0.28	0.13	0.28	1.00	0.11	0.25	1.00
v/c Ratio	0.92	0.59	0.13	0.34	0.75	0.28	0.40	0.80	0.11	0.40	0.51	0.22
Control Delay	69.3	38.8	0.2	48.6	43.8	5.5	50.6	47.8	0.1	53.5	41.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.3	38.8	0.2	48.6	43.8	5.5	50.6	47.8	0.1	53.5	41.1	0.3
LOS	E	D	A	D	D	A	D	D	A	D	D	A
Approach Delay		46.3			38.8			40.9			28.2	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 39.7	Intersection LOS: D
Intersection Capacity Utilization 76.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	Ø5
Lane Configurations										
Traffic Volume (vph)	13	3	40	3	150	1375	175	75	843	
Future Volume (vph)	13	3	40	3	150	1375	175	75	843	
Turn Type	pm+pt	NA	pm+pt	NA	Free	NA	Perm	pm+pt	NA	
Protected Phases	7	4	3	8		2		1	6	5
Permitted Phases	4		8		Free		2	6		
Detector Phase	7	4	3	8		2	2	1	6	
Switch Phase										
Minimum Initial (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0		9.0	9.0	9.0	9.0	9.0
Total Split (s)	10.0	30.0	10.0	30.0		70.0	70.0	10.0	57.0	23.0
Total Split (%)	8.3%	25.0%	8.3%	25.0%		58.3%	58.3%	8.3%	47.5%	19%
Yellow Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	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	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lag		Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None		Max	Max	None	Max	None
Act Effct Green (s)	6.1	5.7	6.4	5.7	89.5	69.6	69.6	76.5	78.7	
Actuated g/C Ratio	0.07	0.06	0.07	0.06	1.00	0.78	0.78	0.85	0.88	
v/c Ratio	0.06	0.03	0.33	0.03	0.10	0.54	0.15	0.29	0.29	
Control Delay	38.8	43.3	45.9	43.3	0.1	7.1	1.5	4.7	2.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.8	43.3	45.9	43.3	0.1	7.1	1.5	4.7	2.3	
LOS	D	D	D	D	A	A	A	A	A	
Approach Delay		39.6		10.2		6.4			2.5	
Approach LOS		D		B		A			A	

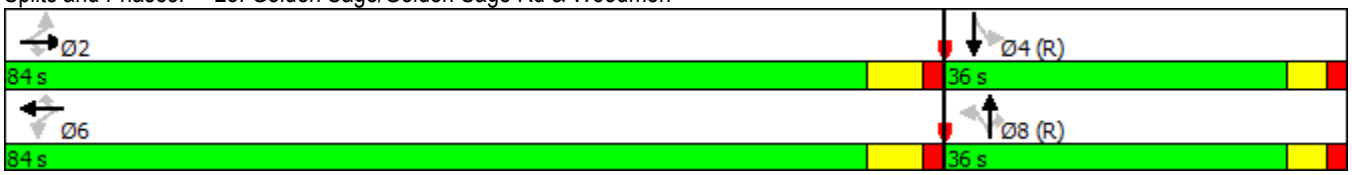
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 89.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 5.6	Intersection LOS: A
Intersection Capacity Utilization 63.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	93	1544	85	15	1111	24	106	16	16	30	6
Future Volume (vph)	93	1544	85	15	1111	24	106	16	16	30	6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases		2			6			8			4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	2	2	2	6	6	6	8	8	8	4	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	21.5	21.5	21.5	21.5	21.5
Total Split (s)	84.0	84.0	84.0	84.0	84.0	84.0	36.0	36.0	36.0	36.0	36.0
Total Split (%)	70.0%	70.0%	70.0%	70.0%	70.0%	70.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	5.5	5.5	5.5	5.5	5.5
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	Max	Max	Max	Max	Max	Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	77.0	77.0	77.0	77.0	77.0	77.0	30.5	30.5	30.5	30.5	30.5
Actuated g/C Ratio	0.64	0.64	0.64	0.64	0.64	0.64	0.25	0.25	0.25	0.25	0.25
v/c Ratio	0.36	0.74	0.09	0.16	0.49	0.02	0.58	0.05	0.06	0.12	0.32
Control Delay	15.0	17.2	1.8	13.3	10.4	4.0	49.0	34.4	7.0	35.7	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	17.2	1.8	13.3	10.4	4.0	49.0	34.4	7.0	35.7	14.4
LOS	B	B	A	B	B	A	D	C	A	D	B
Approach Delay		16.3			10.3			42.3			18.9
Approach LOS		B			B			D			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 3 (3%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 16.1	Intersection LOS: B
Intersection Capacity Utilization 74.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1	0	145	0	0	0	0	133	0	0	0
Future Vol, veh/h	0	1	0	145	0	0	0	0	133	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	92	92	92	92	95	92	95	92	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	0	158	0	0	0	0	145	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	146	1	74	73	-	1	0	0	145	0	0
Stage 1	-	1	-	72	72	-	-	-	-	-	-	-
Stage 2	-	145	-	2	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	745	1084	916	817	0	1622	-	-	1437	-	-
Stage 1	0	895	-	938	835	0	-	-	-	-	-	-
Stage 2	0	777	-	1021	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	745	1084	915	817	-	1622	-	-	1437	-	-
Mov Cap-2 Maneuver	-	745	-	915	817	-	-	-	-	-	-	-
Stage 1	-	895	-	938	835	-	-	-	-	-	-	-
Stage 2	-	777	-	1020	895	-	-	-	-	-	-	-

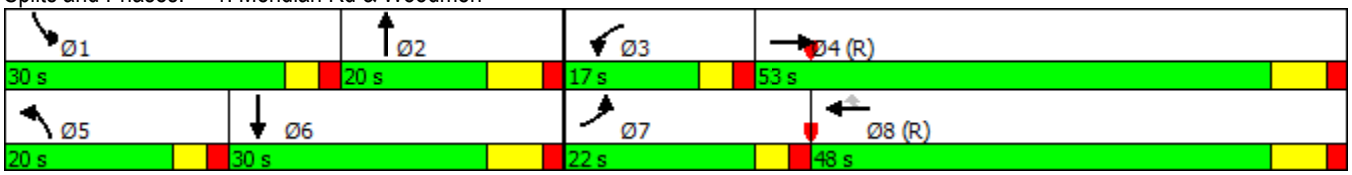
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.8	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	745	915	1437	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.172	-	-	-
HCM Control Delay (s)	0	-	-	9.8	9.8	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	645	100	100	754	167	150	381	50	241	621	807
Future Volume (vph)	293	645	100	100	754	167	150	381	50	241	621	807
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	11.0		9.0	11.0	11.0	9.0	11.0		9.0	11.0	
Total Split (s)	22.0	53.0		17.0	48.0	48.0	20.0	20.0		30.0	30.0	
Total Split (%)	18.3%	44.2%		14.2%	40.0%	40.0%	16.7%	16.7%		25.0%	25.0%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	17.4	53.8	120.0	10.2	48.5	47.5	12.0	24.6	120.0	15.5	28.0	120.0
Actuated g/C Ratio	0.14	0.45	1.00	0.08	0.40	0.40	0.10	0.20	1.00	0.13	0.23	1.00
v/c Ratio	0.64	0.44	0.07	0.37	0.57	0.25	0.48	0.57	0.03	0.59	0.82	0.55
Control Delay	54.4	24.6	0.1	55.2	30.5	4.6	55.2	46.6	0.0	54.6	52.7	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	24.6	0.1	55.2	30.5	4.6	55.2	46.6	0.0	54.6	52.7	1.4
LOS	D	C	A	E	C	A	E	D	A	D	D	A
Approach Delay		30.7			28.6			44.9			28.2	
Approach LOS		C			C			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 31.1	Intersection LOS: C
Intersection Capacity Utilization 64.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	42	89	75	45	75	285	481	75	90	1458	78
Future Volume (vph)	113	42	89	75	45	75	285	481	75	90	1458	78
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free	2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	15.0	25.0		15.0	25.0		22.0	70.0	70.0	10.0	58.0	58.0
Total Split (%)	12.5%	20.8%		12.5%	20.8%		18.3%	58.3%	58.3%	8.3%	48.3%	48.3%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Act Effct Green (s)	15.3	8.3	104.9	16.0	8.4	104.9	75.3	67.6	67.6	58.3	53.2	53.2
Actuated g/C Ratio	0.15	0.08	1.00	0.15	0.08	1.00	0.72	0.64	0.64	0.56	0.51	0.51
v/c Ratio	0.29	0.31	0.06	0.34	0.33	0.05	0.87	0.23	0.08	0.19	0.88	0.10
Control Delay	36.9	52.7	0.1	39.4	52.8	0.1	53.7	9.6	1.1	7.9	31.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	52.7	0.1	39.4	52.8	0.1	53.7	9.6	1.1	7.9	31.5	0.2
LOS	D	D	A	D	D	A	D	A	A	A	C	A
Approach Delay		26.2			27.3			23.8			28.7	
Approach LOS		C			C			C			C	

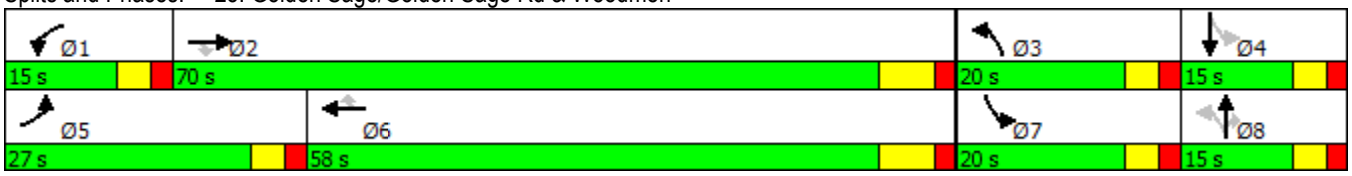
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 104.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 27.0	Intersection LOS: C
Intersection Capacity Utilization 79.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	93	825	38	7	1680	24	132	10	4	27	7
Future Volume (vph)	93	825	38	7	1680	24	132	10	4	27	7
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	11.0	11.0	9.0	11.0	11.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0	70.0	70.0	15.0	58.0	58.0	20.0	15.0	15.0	20.0	15.0
Total Split (%)	22.5%	58.3%	58.3%	12.5%	48.3%	48.3%	16.7%	12.5%	12.5%	16.7%	12.5%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	10.5	65.4	65.4	6.1	54.7	54.7	24.3	19.5	19.5	14.0	7.1
Actuated g/C Ratio	0.10	0.63	0.63	0.06	0.53	0.53	0.23	0.19	0.19	0.13	0.07
v/c Ratio	0.49	0.39	0.04	0.08	1.01	0.03	0.54	0.03	0.01	0.14	0.68
Control Delay	55.0	11.2	0.1	51.6	51.7	0.0	41.8	40.9	0.0	33.8	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	11.2	0.1	51.6	51.7	0.0	41.8	40.9	0.0	33.8	21.7
LOS	D	B	A	D	D	A	D	D	A	C	C
Approach Delay		14.6			51.0			40.6			23.3
Approach LOS		B			D			D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 104	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 87.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	195	0	0	0	0	136	0	0	0
Future Vol, veh/h	0	0	0	195	0	0	0	0	136	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	205	0	0	0	0	143	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	144	1	73	73	-	1	0	0	143	0	0
Stage 1	-	1	-	72	72	-	-	-	-	-	-	-
Stage 2	-	143	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	747	1084	918	817	0	1622	-	-	1440	-	-
Stage 1	0	895	-	938	835	0	-	-	-	-	-	-
Stage 2	0	779	-	1022	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	747	1084	918	817	-	1622	-	-	1440	-	-
Mov Cap-2 Maneuver	-	747	-	918	817	-	-	-	-	-	-	-
Stage 1	-	895	-	938	835	-	-	-	-	-	-	-
Stage 2	-	779	-	1022	895	-	-	-	-	-	-	-

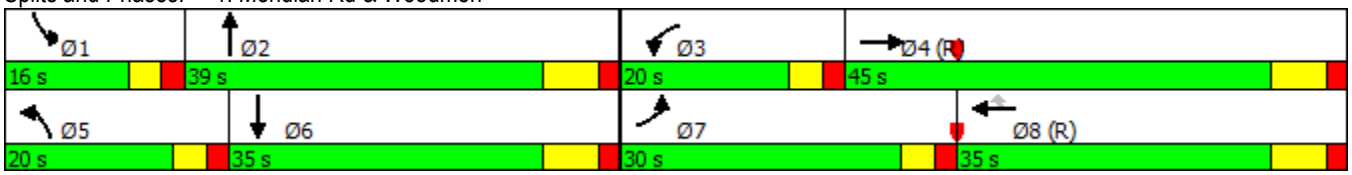
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	918	1440	-	-
HCM Lane V/C Ratio	-	-	-	-	0.224	-	-	-
HCM Control Delay (s)	0	-	-	0	10	0	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	642	619	200	150	611	308	175	921	175	225	566	368
Future Volume (vph)	642	619	200	150	611	308	175	921	175	225	566	368
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	30.0	45.0		20.0	35.0	35.0	20.0	39.0		16.0	35.0	
Total Split (%)	25.0%	37.5%		16.7%	29.2%	29.2%	16.7%	32.5%		13.3%	29.2%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	26.7	45.6	120.0	12.0	32.9	31.9	12.4	34.7	120.0	11.7	34.0	120.0
Actuated g/C Ratio	0.22	0.38	1.00	0.10	0.27	0.27	0.10	0.29	1.00	0.10	0.28	1.00
v/c Ratio	0.90	0.49	0.13	0.48	0.69	0.58	0.49	0.90	0.11	0.67	0.56	0.23
Control Delay	59.5	30.4	0.2	55.2	43.5	18.0	55.3	53.7	0.1	62.9	39.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	30.4	0.2	55.2	43.5	18.0	55.3	53.7	0.1	62.9	39.6	0.3
LOS	E	C	A	E	D	B	E	D	A	E	D	A
Approach Delay		39.0			37.8			46.5			31.6	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 38.9	Intersection LOS: D
Intersection Capacity Utilization 80.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	262	113	134	40	68	150	442	1253	175	75	881	91
Future Volume (vph)	262	113	134	40	68	150	442	1253	175	75	881	91
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free	2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	11.0	30.0		10.0	29.0		25.0	70.0	70.0	10.0	55.0	55.0
Total Split (%)	9.2%	25.0%		8.3%	24.2%		20.8%	58.3%	58.3%	8.3%	45.8%	45.8%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Act Effct Green (s)	17.4	14.0	105.1	14.5	10.8	105.1	75.3	67.6	67.6	55.2	50.2	50.2
Actuated g/C Ratio	0.17	0.13	1.00	0.14	0.10	1.00	0.72	0.64	0.64	0.53	0.48	0.48
v/c Ratio	0.70	0.50	0.09	0.22	0.39	0.10	0.93	0.60	0.18	0.34	0.57	0.12
Control Delay	48.0	50.5	0.1	37.0	50.3	0.1	45.4	14.1	1.9	12.2	22.3	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	50.5	0.1	37.0	50.3	0.1	45.4	14.1	1.9	12.2	22.3	0.9
LOS	D	D	A	D	D	A	D	B	A	B	C	A
Approach Delay		35.9			19.1			20.4			19.7	
Approach LOS		D			B			C			B	

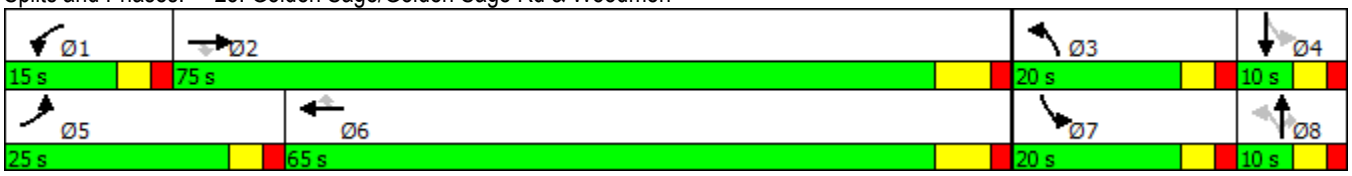
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 105.1	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 22.2	Intersection LOS: C
Intersection Capacity Utilization 75.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	170	1480	85	15	1115	24	106	20	16	30	10
Future Volume (vph)	170	1480	85	15	1115	24	106	20	16	30	10
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	11.0	11.0	9.0	11.0	11.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	25.0	75.0	75.0	15.0	65.0	65.0	20.0	10.0	10.0	20.0	10.0
Total Split (%)	20.8%	62.5%	62.5%	12.5%	54.2%	54.2%	16.7%	8.3%	8.3%	16.7%	8.3%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	15.4	73.8	73.8	6.6	58.2	58.2	23.2	15.5	15.5	12.3	5.0
Actuated g/C Ratio	0.14	0.65	0.65	0.06	0.51	0.51	0.20	0.14	0.14	0.11	0.04
v/c Ratio	0.69	0.70	0.09	0.15	0.62	0.03	0.63	0.12	0.07	0.19	0.77
Control Delay	62.7	16.4	1.6	55.9	22.5	0.0	52.2	49.8	0.4	41.0	33.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	16.4	1.6	55.9	22.5	0.0	52.2	49.8	0.4	41.0	33.0
LOS	E	B	A	E	C	A	D	D	A	D	C
Approach Delay		19.8			22.5			45.9			34.3
Approach LOS		B			C			D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 78.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	187	0	0	0	0	215	0	0	0
Future Vol, veh/h	0	0	0	187	0	0	0	0	215	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	92	92	92	92	95	92	95	92	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	203	0	0	0	0	234	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	235	1	118	118	-	1	0	0	234	0	0
Stage 1	-	1	-	117	117	-	-	-	-	-	-	-
Stage 2	-	234	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	666	1084	858	772	0	1622	-	-	1333	-	-
Stage 1	0	895	-	888	799	0	-	-	-	-	-	-
Stage 2	0	711	-	1022	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	666	1084	858	772	-	1622	-	-	1333	-	-
Mov Cap-2 Maneuver	-	666	-	858	772	-	-	-	-	-	-	-
Stage 1	-	895	-	888	799	-	-	-	-	-	-	-
Stage 2	-	711	-	1022	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.5	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	858	1333	-	-
HCM Lane V/C Ratio	-	-	-	-	0.237	-	-	-
HCM Control Delay (s)	0	-	-	0	10.5	0	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0	-	-

87: Meridian Rd & RIRO Performance by movement Interval #1 7:00

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	21.5	0.2	0.0	0.0	1.3

87: Meridian Rd & RIRO Performance by movement Interval #2 7:15

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	21.4	0.2	0.1	0.0	1.3

87: Meridian Rd & RIRO Performance by movement Interval #3 7:30

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	19.9	0.2	0.0	0.0	1.2

87: Meridian Rd & RIRO Performance by movement Interval #4 7:45

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	20.0	0.2	0.0	0.0	1.2

87: Meridian Rd & RIRO Performance by movement Entire Run

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	21.1	0.2	0.0	0.0	1.3

Total Zone Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Stop Del/Veh (s)	207.5	25.6	72.4	55.1	96.4

87: Meridian Rd & RIRO Performance by movement Interval #1 5:00

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	11.1	3.0	0.1	0.1	2.5

87: Meridian Rd & RIRO Performance by movement Interval #2 5:15

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	9.5	4.0	0.1	0.1	3.1

87: Meridian Rd & RIRO Performance by movement Interval #3 5:30

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	9.0	5.9	0.1	0.1	4.1

87: Meridian Rd & RIRO Performance by movement Interval #4 5:45

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	8.2	3.2	0.1	0.1	2.6

87: Meridian Rd & RIRO Performance by movement Entire Run

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	9.6	4.1	0.1	0.1	3.1

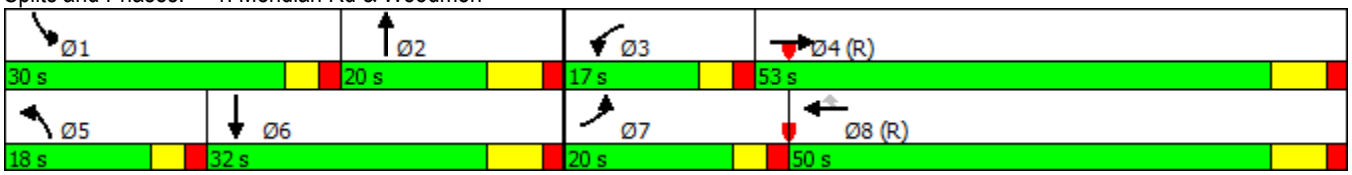
Total Zone Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Stop Del/Veh (s)	105.1	110.4	245.8	87.6	364.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	645	100	100	852	69	212	319	50	241	621	842
Future Volume (vph)	293	645	100	100	852	69	212	319	50	241	621	842
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	11.0		9.0	11.0	11.0	9.0	11.0		9.0	11.0	
Total Split (s)	20.0	53.0		17.0	50.0	50.0	18.0	20.0		30.0	32.0	
Total Split (%)	16.7%	44.2%		14.2%	41.7%	41.7%	15.0%	16.7%		25.0%	26.7%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	16.3	53.2	120.0	10.2	49.1	48.1	13.1	25.2	120.0	15.5	27.5	120.0
Actuated g/C Ratio	0.14	0.44	1.00	0.08	0.41	0.40	0.11	0.21	1.00	0.13	0.23	1.00
v/c Ratio	0.68	0.45	0.07	0.37	0.64	0.10	0.61	0.47	0.03	0.59	0.83	0.58
Control Delay	57.2	24.9	0.1	55.2	31.4	0.3	58.4	44.2	0.0	54.6	54.0	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	24.9	0.1	55.2	31.4	0.3	58.4	44.2	0.0	54.6	54.0	1.5
LOS	E	C	A	E	C	A	E	D	A	D	D	A
Approach Delay		31.6			31.7			45.6			28.2	
Approach LOS		C			C			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 32.2	Intersection LOS: C
Intersection Capacity Utilization 68.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	42	89	75	45	75	124	482	75	90	1472	64
Future Volume (vph)	113	42	89	75	45	75	124	482	75	90	1472	64
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free	2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	15.0	25.0		15.0	25.0		22.0	70.0	70.0	10.0	58.0	58.0
Total Split (%)	12.5%	20.8%		12.5%	20.8%		18.3%	58.3%	58.3%	8.3%	48.3%	48.3%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Act Effct Green (s)	15.2	8.3	102.9	15.8	8.4	102.9	72.7	65.8	65.8	64.2	59.1	59.1
Actuated g/C Ratio	0.15	0.08	1.00	0.15	0.08	1.00	0.71	0.64	0.64	0.62	0.57	0.57
v/c Ratio	0.29	0.31	0.06	0.34	0.32	0.05	0.59	0.23	0.08	0.17	0.79	0.07
Control Delay	36.6	52.5	0.1	39.1	52.5	0.1	27.6	9.6	1.1	6.9	22.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	52.5	0.1	39.1	52.5	0.1	27.6	9.6	1.1	6.9	22.5	0.1
LOS	D	D	A	D	D	A	C	A	A	A	C	A
Approach Delay		26.0			27.2			12.0			20.8	
Approach LOS		C			C			B			C	

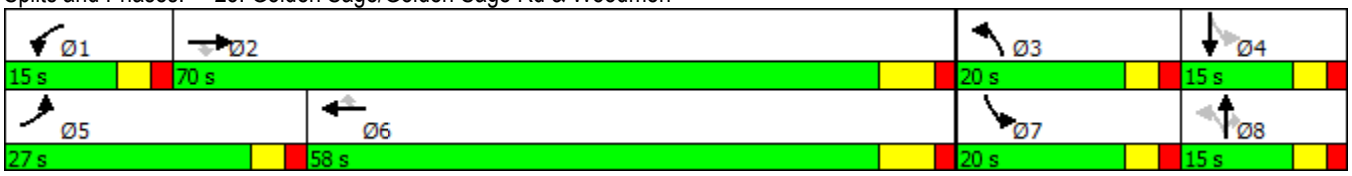
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 102.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 70.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	93	825	38	7	1680	24	132	10	4	27	7
Future Volume (vph)	93	825	38	7	1680	24	132	10	4	27	7
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	11.0	11.0	9.0	11.0	11.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0	70.0	70.0	15.0	58.0	58.0	20.0	15.0	15.0	20.0	15.0
Total Split (%)	22.5%	58.3%	58.3%	12.5%	48.3%	48.3%	16.7%	12.5%	12.5%	16.7%	12.5%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	10.5	65.4	65.4	6.1	54.7	54.7	24.3	19.5	19.5	14.0	7.1
Actuated g/C Ratio	0.10	0.63	0.63	0.06	0.53	0.53	0.23	0.19	0.19	0.13	0.07
v/c Ratio	0.49	0.39	0.04	0.08	1.01	0.03	0.54	0.03	0.01	0.14	0.68
Control Delay	55.0	11.2	0.1	51.6	51.7	0.0	41.8	40.9	0.0	33.8	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	11.2	0.1	51.6	51.7	0.0	41.8	40.9	0.0	33.8	21.7
LOS	D	B	A	D	D	A	D	D	A	C	C
Approach Delay		14.6			51.0			40.6			23.3
Approach LOS		B			D			D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 104	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 87.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	195	0	0	0	0	127	0	0	0
Future Vol, veh/h	0	0	0	195	0	0	0	0	127	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	205	0	0	0	0	134	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	135	1	68	68	-	1	0	0	134	0	0
Stage 1	-	1	-	67	67	-	-	-	-	-	-	-
Stage 2	-	134	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	756	1084	925	823	0	1622	-	-	1451	-	-
Stage 1	0	895	-	943	839	0	-	-	-	-	-	-
Stage 2	0	785	-	1022	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	756	1084	925	823	-	1622	-	-	1451	-	-
Mov Cap-2 Maneuver	-	756	-	925	823	-	-	-	-	-	-	-
Stage 1	-	895	-	943	839	-	-	-	-	-	-	-
Stage 2	-	785	-	1022	895	-	-	-	-	-	-	-

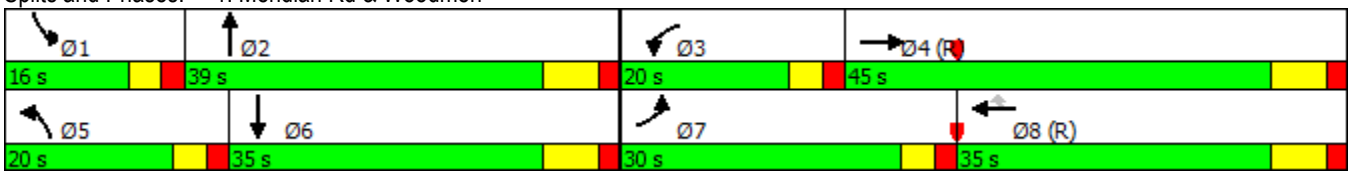
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	925	1451	-	-
HCM Lane V/C Ratio	-	-	-	-	0.222	-	-	-
HCM Control Delay (s)	0	-	-	0	10	0	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	642	619	200	150	753	174	279	807	175	225	566	398
Future Volume (vph)	642	619	200	150	753	174	279	807	175	225	566	398
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	21.0		9.0	21.0	21.0	9.0	21.0		9.0	21.0	
Total Split (s)	30.0	45.0		20.0	35.0	35.0	20.0	39.0		16.0	35.0	
Total Split (%)	25.0%	37.5%		16.7%	29.2%	29.2%	16.7%	32.5%		13.3%	29.2%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	27.0	46.9	120.0	12.0	33.8	32.8	14.9	33.4	120.0	11.7	30.3	120.0
Actuated g/C Ratio	0.22	0.39	1.00	0.10	0.28	0.27	0.12	0.28	1.00	0.10	0.25	1.00
v/c Ratio	0.88	0.48	0.13	0.48	0.82	0.33	0.66	0.82	0.11	0.67	0.63	0.25
Control Delay	58.0	29.6	0.2	55.2	48.7	6.6	57.8	48.1	0.1	62.9	43.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.0	29.6	0.2	55.2	48.7	6.6	57.8	48.1	0.1	62.9	43.5	0.4
LOS	E	C	A	E	D	A	E	D	A	E	D	A
Approach Delay		38.0			42.8			43.6			32.7	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 39.3	Intersection LOS: D
Intersection Capacity Utilization 81.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	262	113	134	40	68	150	197	1251	175	75	894	77
Future Volume (vph)	262	113	134	40	68	150	197	1251	175	75	894	77
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free	2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0		9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	11.0	30.0		10.0	29.0		25.0	70.0	70.0	10.0	55.0	55.0
Total Split (%)	9.2%	25.0%		8.3%	24.2%		20.8%	58.3%	58.3%	8.3%	45.8%	45.8%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0		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	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Act Effct Green (s)	17.2	13.9	103.1	14.3	10.8	103.1	73.2	65.8	65.8	63.2	58.2	58.2
Actuated g/C Ratio	0.17	0.13	1.00	0.14	0.10	1.00	0.71	0.64	0.64	0.61	0.56	0.56
v/c Ratio	0.69	0.49	0.09	0.21	0.38	0.10	0.52	0.60	0.18	0.34	0.49	0.09
Control Delay	47.3	50.1	0.1	36.9	50.2	0.1	10.5	14.2	1.9	10.8	16.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	50.1	0.1	36.9	50.2	0.1	10.5	14.2	1.9	10.8	16.0	0.2
LOS	D	D	A	D	D	A	B	B	A	B	B	A
Approach Delay		35.5			19.0			12.4			14.5	
Approach LOS		D			B			B			B	

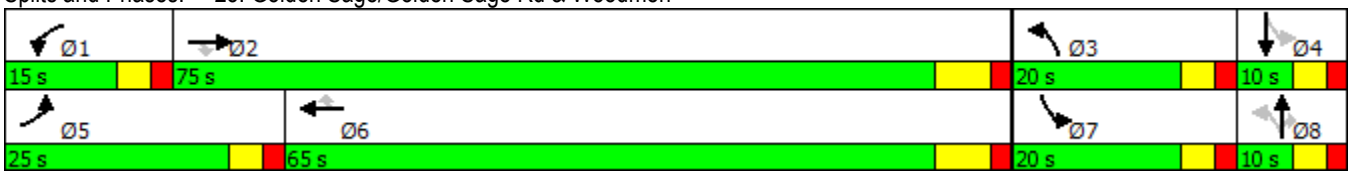
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 103.1	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 17.0	Intersection LOS: B
Intersection Capacity Utilization 65.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	170	1510	85	15	1115	24	106	20	16	30	10
Future Volume (vph)	170	1510	85	15	1115	24	106	20	16	30	10
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases			2			6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	11.0	11.0	9.0	11.0	11.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	25.0	75.0	75.0	15.0	65.0	65.0	20.0	10.0	10.0	20.0	10.0
Total Split (%)	20.8%	62.5%	62.5%	12.5%	54.2%	54.2%	16.7%	8.3%	8.3%	16.7%	8.3%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	15.4	73.8	73.8	6.6	58.2	58.2	23.2	15.5	15.5	12.3	5.0
Actuated g/C Ratio	0.14	0.65	0.65	0.06	0.51	0.51	0.20	0.14	0.14	0.11	0.04
v/c Ratio	0.69	0.72	0.09	0.15	0.62	0.03	0.63	0.12	0.07	0.19	0.77
Control Delay	62.7	16.8	1.6	55.9	22.5	0.0	52.2	49.8	0.4	41.0	33.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	16.8	1.6	55.9	22.5	0.0	52.2	49.8	0.4	41.0	33.0
LOS	E	B	A	E	C	A	D	D	A	D	C
Approach Delay		20.1			22.5			45.9			34.3
Approach LOS		C			C			D			C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 113.8	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 23.3	Intersection LOS: C
Intersection Capacity Utilization 78.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	187	0	0	0	0	215	0	0	0
Future Vol, veh/h	0	0	0	187	0	0	0	0	215	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	92	92	92	92	95	92	95	92	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	203	0	0	0	0	234	0	0	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	235	1	118	118	-	1	0	0	234	0	0
Stage 1	-	1	-	117	117	-	-	-	-	-	-	-
Stage 2	-	234	-	1	1	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	6.22	7.12	6.52	-	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	3.318	3.518	4.018	-	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	666	1084	858	772	0	1622	-	-	1333	-	-
Stage 1	0	895	-	888	799	0	-	-	-	-	-	-
Stage 2	0	711	-	1022	895	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	666	1084	858	772	-	1622	-	-	1333	-	-
Mov Cap-2 Maneuver	-	666	-	858	772	-	-	-	-	-	-	-
Stage 1	-	895	-	888	799	-	-	-	-	-	-	-
Stage 2	-	711	-	1022	895	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	10.5	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	858	1333	-	-
HCM Lane V/C Ratio	-	-	-	-	0.237	-	-	-
HCM Control Delay (s)	0	-	-	0	10.5	0	-	-
HCM Lane LOS	A	-	-	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0	-	-

87: Meridian Rd & RIRO Performance by movement Interval #1 7:00

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	19.6	0.2	0.0	0.1	1.3

87: Meridian Rd & RIRO Performance by movement Interval #2 7:15

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	21.1	0.2	0.0	0.0	1.2

87: Meridian Rd & RIRO Performance by movement Interval #3 7:30

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	19.9	0.2	0.0	0.1	1.2

87: Meridian Rd & RIRO Performance by movement Interval #4 7:45

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	19.3	0.2	0.1	0.0	1.1

87: Meridian Rd & RIRO Performance by movement Entire Run

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	20.7	0.2	0.1	0.1	1.2

Total Zone Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Stop Del/Veh (s)	96.5	22.6	91.0	42.9	83.3

87: Meridian Rd & RIRO Performance by movement Interval #1 5:00

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	10.7	1.7	0.1	0.1	1.9

87: Meridian Rd & RIRO Performance by movement Interval #2 5:15

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	12.2	1.7	0.1	0.1	1.9

87: Meridian Rd & RIRO Performance by movement Interval #3 5:30

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	9.2	1.7	0.1	0.1	1.7

87: Meridian Rd & RIRO Performance by movement Interval #4 5:45

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	10.2	1.5	0.1	0.1	1.7

87: Meridian Rd & RIRO Performance by movement Entire Run

Movement	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	10.8	1.7	0.1	0.1	1.8

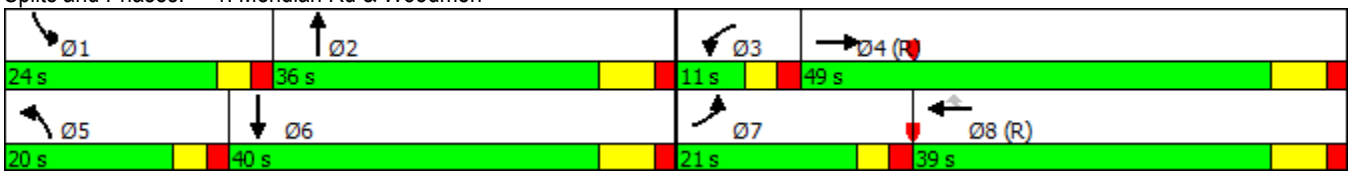
Total Zone Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Stop Del/Veh (s)	107.3	56.9	81.2	64.0	164.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	450	550	175	150	850	150	350	350	100	250	900	925
Future Volume (vph)	450	550	175	150	850	150	350	350	100	250	900	925
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	3.0	3.0	4.0	3.0		4.0	3.0	
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	21.0	49.0		11.0	39.0	39.0	20.0	36.0		24.0	40.0	
Total Split (%)	17.5%	40.8%		9.2%	32.5%	32.5%	16.7%	30.0%		20.0%	33.3%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	18.3	45.3	120.0	7.4	36.5	35.5	15.7	36.0	120.0	15.3	35.5	120.0
Actuated g/C Ratio	0.15	0.38	1.00	0.06	0.30	0.30	0.13	0.30	1.00	0.13	0.30	1.00
v/c Ratio	0.89	0.42	0.11	0.73	0.81	0.26	0.80	0.34	0.07	0.59	0.89	0.60
Control Delay	70.0	29.0	0.1	75.5	46.0	4.6	65.1	34.2	0.1	54.8	51.6	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.0	29.0	0.1	75.5	46.0	4.6	65.1	34.2	0.1	54.8	51.6	1.7
LOS	E	C	A	E	D	A	E	C	A	D	D	A
Approach Delay		40.4			44.5			43.5			29.7	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 37.5	Intersection LOS: D
Intersection Capacity Utilization 84.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	25	52	250	55	125	155	645	150	100	1724	73
Future Volume (vph)	36	25	52	250	55	125	155	645	150	100	1724	73
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free			2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	8.0		8.0	9.0		8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	18.0	24.0		18.0	24.0		19.0	68.0	68.0	10.0	59.0	59.0
Total Split (%)	15.0%	20.0%		15.0%	20.0%		15.8%	56.7%	56.7%	8.3%	49.2%	49.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
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)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	11.4	7.0	98.4	20.9	13.9	98.4	9.9	58.4	58.4	61.5	54.4	54.4
Actuated g/C Ratio	0.12	0.07	1.00	0.21	0.14	1.00	0.10	0.59	0.59	0.62	0.55	0.55
v/c Ratio	0.10	0.20	0.03	0.85	0.22	0.08	0.46	0.31	0.16	0.20	0.93	0.08
Control Delay	31.7	49.3	0.0	60.0	41.9	0.1	47.3	11.3	2.2	7.1	31.8	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	49.3	0.0	60.0	41.9	0.1	47.3	11.3	2.2	7.1	31.8	0.7
LOS	C	D	A	E	D	A	D	B	A	A	C	A
Approach Delay		20.9			40.2			15.7			29.3	
Approach LOS		C			D			B			C	

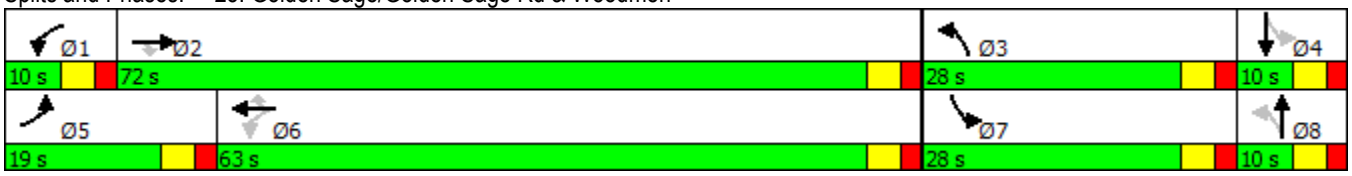
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 98.4	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 26.6	Intersection LOS: C
Intersection Capacity Utilization 84.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	387	876	74	77	1872	184	150	16	48	251	20	330
Future Volume (vph)	387	876	74	77	1872	184	150	16	48	251	20	330
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		Free	4		Free
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	19.0	72.0	72.0	10.0	63.0	63.0	28.0	10.0		28.0	10.0	
Total Split (%)	15.8%	60.0%	60.0%	8.3%	52.5%	52.5%	23.3%	8.3%		23.3%	8.3%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	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	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Act Effct Green (s)	14.0	69.5	69.5	63.3	58.3	58.3	19.6	5.0	110.7	23.0	6.9	110.7
Actuated g/C Ratio	0.13	0.63	0.63	0.57	0.53	0.53	0.18	0.05	1.00	0.21	0.06	1.00
v/c Ratio	0.85	0.42	0.08	0.22	1.02	0.21	0.50	0.20	0.03	0.71	0.18	0.22
Control Delay	67.0	12.7	1.1	9.2	54.8	3.7	43.1	60.1	0.0	51.1	54.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Total Delay	67.0	12.7	1.1	9.2	54.8	3.7	43.1	60.1	0.0	53.2	54.6	0.3
LOS	E	B	A	A	D	A	D	E	A	D	D	A
Approach Delay		26.6			48.6			34.7			24.2	
Approach LOS		C			D			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.7	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 37.6	Intersection LOS: D
Intersection Capacity Utilization 94.8%	ICU Level of Service F
Analysis Period (min) 15	

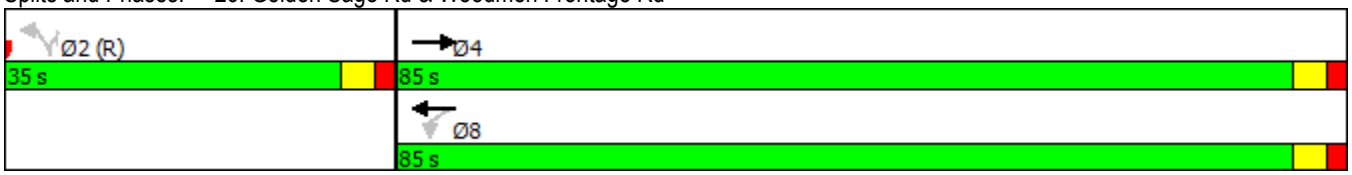
Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	27	320	2	104	483
Future Volume (vph)	27	320	2	104	483
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0
Total Split (s)	85.0	85.0	85.0	35.0	35.0
Total Split (%)	70.8%	70.8%	70.8%	29.2%	29.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	58.6		58.6	51.4	51.4
Actuated g/C Ratio	0.49		0.49	0.43	0.43
v/c Ratio	0.34		0.84	0.14	0.53
Control Delay	2.5		42.9	27.1	5.2
Queue Delay	0.0		0.0	0.0	1.0
Total Delay	2.5		42.9	27.1	6.2
LOS	A		D	C	A
Approach Delay	2.5		42.9	9.9	
Approach LOS	A		D	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 57.0%	ICU Level of Service B
Analysis Period (min) 15	

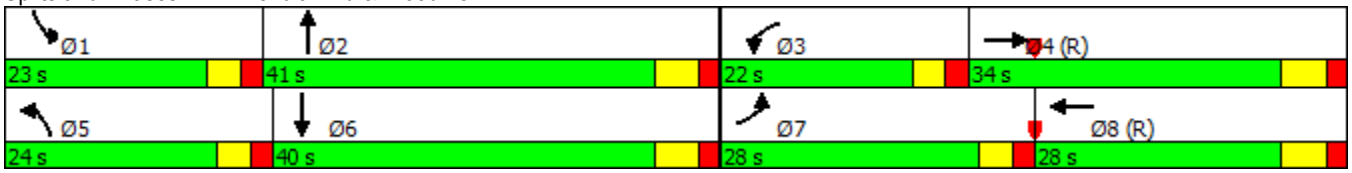
Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	750	850	375	225	600	250	450	900	200	400	600	500
Future Volume (vph)	750	850	375	225	600	250	450	900	200	400	600	500
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free			Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	3.0		4.0	3.0		4.0	3.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Total Split (s)	28.0	34.0		22.0	28.0		24.0	41.0		23.0	40.0	
Total Split (%)	23.3%	28.3%		18.3%	23.3%		20.0%	34.2%		19.2%	33.3%	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0		-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	3.0		4.0	2.0		4.0	3.0		4.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	27.0	36.7	120.0	14.3	26.0	120.0	19.5	36.8	120.0	18.2	35.5	120.0
Actuated g/C Ratio	0.22	0.31	1.00	0.12	0.22	1.00	0.16	0.31	1.00	0.15	0.30	1.00
v/c Ratio	0.99	0.80	0.24	0.56	0.80	0.16	0.83	0.85	0.13	0.78	0.58	0.32
Control Delay	77.0	46.0	0.4	55.0	53.4	0.2	61.9	47.3	0.2	60.4	38.3	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	46.0	0.4	55.0	53.4	0.2	61.9	47.3	0.2	60.4	38.3	0.5
LOS	E	D	A	D	D	A	E	D	A	E	D	A
Approach Delay		49.1			41.4			45.5			31.6	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 42.5	Intersection LOS: D
Intersection Capacity Utilization 87.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	66	103	200	50	225	280	1370	250	100	1128	92
Future Volume (vph)	119	66	103	200	50	225	280	1370	250	100	1128	92
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free			2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	8.0		8.0	9.0		8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	24.0	24.0		18.0	18.0		25.0	68.0	68.0	10.0	53.0	53.0
Total Split (%)	20.0%	20.0%		15.0%	15.0%		20.8%	56.7%	56.7%	8.3%	44.2%	44.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
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)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	17.7	9.3	90.6	24.0	12.6	90.6	13.8	49.5	49.5	46.2	38.7	38.7
Actuated g/C Ratio	0.20	0.10	1.00	0.26	0.14	1.00	0.15	0.55	0.55	0.51	0.43	0.43
v/c Ratio	0.21	0.36	0.07	0.58	0.21	0.15	0.55	0.72	0.27	0.47	0.79	0.13
Control Delay	28.8	49.4	0.1	36.8	41.7	0.2	43.2	19.8	2.7	18.2	27.6	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	49.4	0.1	36.8	41.7	0.2	43.2	19.8	2.7	18.2	27.6	0.5
LOS	C	D	A	D	D	A	D	B	A	B	C	A
Approach Delay		23.2			20.0			21.0			25.0	
Approach LOS		C			B			C			C	

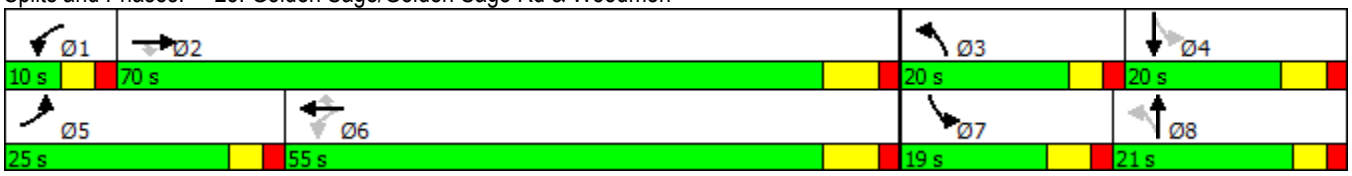
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 90.6	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 22.4	Intersection LOS: C
Intersection Capacity Utilization 72.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	1671	121	99	1135	329	152	35	114	191	22	422
Future Volume (vph)	376	1671	121	99	1135	329	152	35	114	191	22	422
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		Free	4		Free
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	11.0	11.0	9.0	11.0	11.0	9.0	9.5		10.0	10.0	
Total Split (s)	25.0	70.0	70.0	10.0	55.0	55.0	20.0	21.0		19.0	20.0	
Total Split (%)	20.8%	58.3%	58.3%	8.3%	45.8%	45.8%	16.7%	17.5%		15.8%	16.7%	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	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	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Act Effct Green (s)	16.0	63.3	63.3	59.4	52.4	52.4	20.2	7.9	107.2	15.7	6.9	107.2
Actuated g/C Ratio	0.15	0.59	0.59	0.55	0.49	0.49	0.19	0.07	1.00	0.15	0.06	1.00
v/c Ratio	0.70	0.84	0.13	0.67	0.69	0.36	0.52	0.27	0.08	0.77	0.19	0.28
Control Delay	51.5	24.1	2.5	41.0	25.9	3.4	42.9	53.4	0.1	61.2	53.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	24.1	2.5	41.0	25.9	3.4	42.9	53.4	0.1	61.2	53.5	0.4
LOS	D	C	A	D	C	A	D	D	A	E	D	A
Approach Delay		27.3			22.1			27.9			20.6	
Approach LOS		C			C			C			C	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 107.2		
Natural Cycle: 80		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.84		
Intersection Signal Delay: 24.6	Intersection LOS: C	
Intersection Capacity Utilization 83.9%	ICU Level of Service E	
Analysis Period (min) 15		

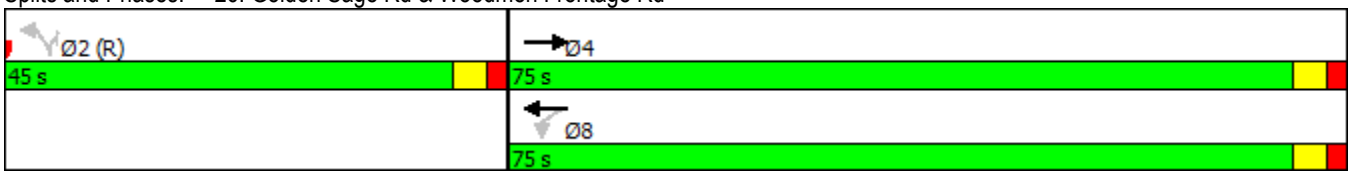
Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	19	446	8	347	393
Future Volume (vph)	19	446	8	347	393
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	62.7		62.7	47.3	47.3
Actuated g/C Ratio	0.52		0.52	0.39	0.39
v/c Ratio	0.23		0.88	0.52	0.47
Control Delay	2.7		44.1	33.3	4.7
Queue Delay	0.0		0.0	9.5	0.9
Total Delay	2.7		44.1	42.8	5.6
LOS	A		D	D	A
Approach Delay	2.7		44.1	23.0	
Approach LOS	A		D	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 26.8	Intersection LOS: C
Intersection Capacity Utilization 69.5%	ICU Level of Service C
Analysis Period (min) 15	

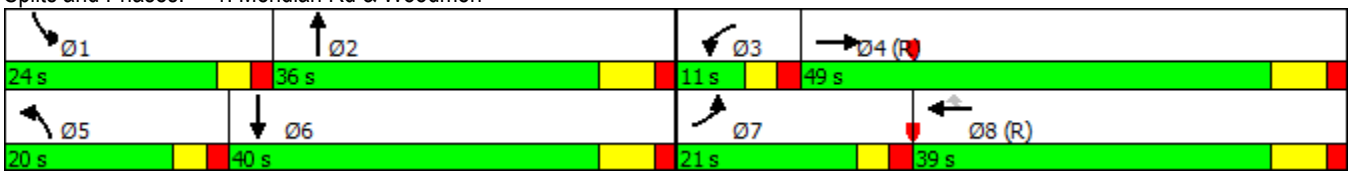
Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	450	550	175	150	860	140	382	318	100	250	900	1012
Future Volume (vph)	450	550	175	150	860	140	382	318	100	250	900	1012
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	3.0	3.0	4.0	3.0		4.0	3.0	
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	21.0	49.0		11.0	39.0	39.0	20.0	36.0		24.0	40.0	
Total Split (%)	17.5%	40.8%		9.2%	32.5%	32.5%	16.7%	30.0%		20.0%	33.3%	
Yellow Time (s)	3.0	5.0		3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0		4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	18.3	45.0	120.0	7.4	36.2	35.2	16.0	36.3	120.0	15.3	35.5	120.0
Actuated g/C Ratio	0.15	0.38	1.00	0.06	0.30	0.29	0.13	0.30	1.00	0.13	0.30	1.00
v/c Ratio	0.89	0.43	0.11	0.73	0.83	0.25	0.86	0.31	0.07	0.59	0.89	0.66
Control Delay	70.0	29.1	0.1	75.5	47.1	3.6	70.1	33.6	0.1	54.8	51.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.0	29.1	0.1	75.5	47.1	3.6	70.1	33.6	0.1	54.8	51.6	2.2
LOS	E	C	A	E	D	A	E	C	A	D	D	A
Approach Delay		40.5			45.6			46.9			28.8	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	25	52	250	55	125	112	645	150	100	1798	29
Future Volume (vph)	36	25	52	250	55	125	112	645	150	100	1798	29
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free			2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	8.0		8.0	9.0		8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	18.0	24.0		18.0	24.0		19.0	68.0	68.0	10.0	59.0	59.0
Total Split (%)	15.0%	20.0%		15.0%	20.0%		15.8%	56.7%	56.7%	8.3%	49.2%	49.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
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)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	11.3	6.9	97.0	20.9	13.8	97.0	8.6	57.0	57.0	61.4	54.4	54.4
Actuated g/C Ratio	0.12	0.07	1.00	0.22	0.14	1.00	0.09	0.59	0.59	0.63	0.56	0.56
v/c Ratio	0.10	0.20	0.03	0.83	0.22	0.08	0.38	0.32	0.16	0.20	0.95	0.03
Control Delay	30.9	48.4	0.0	57.8	41.1	0.1	46.7	11.4	2.2	7.0	34.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	48.4	0.0	57.8	41.1	0.1	46.7	11.4	2.2	7.0	34.5	0.1
LOS	C	D	A	E	D	A	D	B	A	A	C	A
Approach Delay		20.5			38.8			14.2			32.5	
Approach LOS		C			D			B			C	

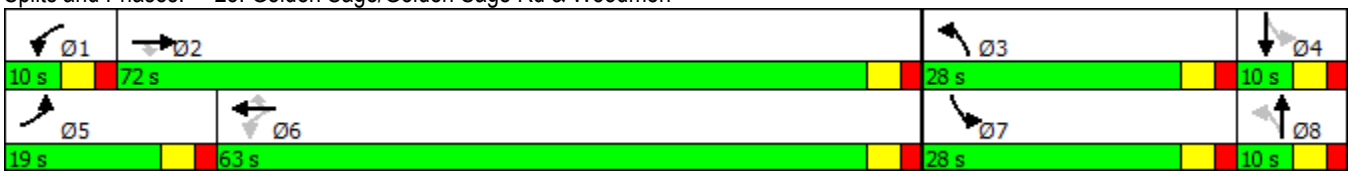
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 97	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 28.1	Intersection LOS: C
Intersection Capacity Utilization 85.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	387	876	74	77	1872	116	150	16	48	251	20	330
Future Volume (vph)	387	876	74	77	1872	116	150	16	48	251	20	330
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		Free	4		Free
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	19.0	72.0	72.0	10.0	63.0	63.0	28.0	10.0		28.0	10.0	
Total Split (%)	15.8%	60.0%	60.0%	8.3%	52.5%	52.5%	23.3%	8.3%		23.3%	8.3%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	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	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Act Effct Green (s)	14.0	69.5	69.5	63.3	58.3	58.3	19.6	5.0	110.7	23.0	6.9	110.7
Actuated g/C Ratio	0.13	0.63	0.63	0.57	0.53	0.53	0.18	0.05	1.00	0.21	0.06	1.00
v/c Ratio	0.85	0.42	0.08	0.22	1.02	0.13	0.50	0.20	0.03	0.71	0.18	0.22
Control Delay	67.0	12.7	1.1	9.2	54.8	1.5	43.1	60.1	0.0	51.1	54.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Total Delay	67.0	12.7	1.1	9.2	54.8	1.5	43.1	60.1	0.0	53.2	54.6	0.3
LOS	E	B	A	A	D	A	D	E	A	D	D	A
Approach Delay		26.6			50.0			34.7			24.2	
Approach LOS		C			D			C			C	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 110.7		
Natural Cycle: 90		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 1.02		
Intersection Signal Delay: 38.1	Intersection LOS: D	
Intersection Capacity Utilization 94.8%	ICU Level of Service F	
Analysis Period (min) 15		

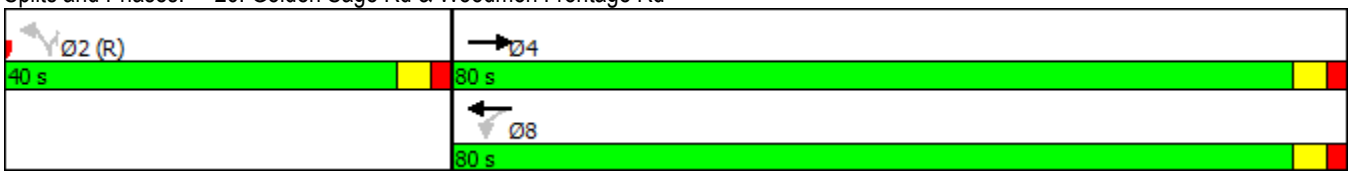
Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	27	320	2	104	415
Future Volume (vph)	27	320	2	104	415
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0
Total Split (s)	80.0	80.0	80.0	40.0	40.0
Total Split (%)	66.7%	66.7%	66.7%	33.3%	33.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	57.3		57.3	52.7	52.7
Actuated g/C Ratio	0.48		0.48	0.44	0.44
v/c Ratio	0.35		0.86	0.14	0.47
Control Delay	2.8		47.9	25.4	4.7
Queue Delay	0.0		0.0	0.0	0.9
Total Delay	2.8		47.9	25.4	5.6
LOS	A		D	C	A
Approach Delay	2.8		47.9	9.6	
Approach LOS	A		D	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 18.5	Intersection LOS: B
Intersection Capacity Utilization 54.9%	ICU Level of Service A
Analysis Period (min) 15	

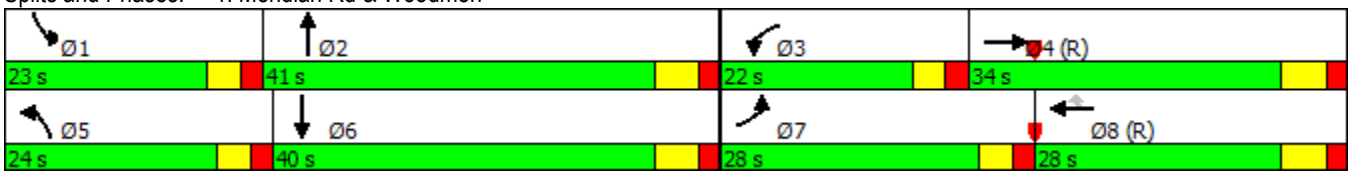
Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	750	850	375	225	615	235	503	847	200	400	600	555
Future Volume (vph)	750	850	375	225	615	235	503	847	200	400	600	555
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	3.0	3.0	4.0	3.0		4.0	3.0	
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	28.0	34.0		22.0	28.0	28.0	24.0	41.0		23.0	40.0	
Total Split (%)	23.3%	28.3%		18.3%	23.3%	23.3%	20.0%	34.2%		19.2%	33.3%	
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	3.0		4.0	2.0	3.0	4.0	3.0		4.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	27.7	37.4	120.0	14.3	26.0	25.0	20.0	36.1	120.0	18.2	34.3	120.0
Actuated g/C Ratio	0.23	0.31	1.00	0.12	0.22	0.21	0.17	0.30	1.00	0.15	0.29	1.00
v/c Ratio	0.96	0.79	0.24	0.56	0.82	0.46	0.90	0.81	0.13	0.78	0.60	0.36
Control Delay	71.0	44.9	0.4	55.0	54.7	8.1	68.9	45.6	0.2	60.4	39.4	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	44.9	0.4	55.0	54.7	8.1	68.9	45.6	0.2	60.4	39.4	0.6
LOS	E	D	A	D	D	A	E	D	A	E	D	A
Approach Delay		46.3			44.6			47.3			31.0	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 42.4	Intersection LOS: D
Intersection Capacity Utilization 86.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	66	103	200	50	225	212	1370	250	100	1172	67
Future Volume (vph)	119	66	103	200	50	225	212	1370	250	100	1172	67
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free			2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	8.0		8.0	9.0		8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	24.0	24.0		18.0	18.0		25.0	68.0	68.0	10.0	53.0	53.0
Total Split (%)	20.0%	20.0%		15.0%	15.0%		20.8%	56.7%	56.7%	8.3%	44.2%	44.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
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)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	17.7	9.3	90.2	24.0	12.6	90.2	11.9	49.1	49.1	47.8	40.3	40.3
Actuated g/C Ratio	0.20	0.10	1.00	0.27	0.14	1.00	0.13	0.54	0.54	0.53	0.45	0.45
v/c Ratio	0.20	0.36	0.07	0.58	0.20	0.15	0.49	0.73	0.27	0.48	0.78	0.09
Control Delay	28.6	49.2	0.1	36.5	41.4	0.2	44.2	19.9	2.8	17.9	26.1	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	49.2	0.1	36.5	41.4	0.2	44.2	19.9	2.8	17.9	26.1	0.2
LOS	C	D	A	D	D	A	D	B	A	B	C	A
Approach Delay		23.1			19.9			20.3			24.2	
Approach LOS		C			B			C			C	

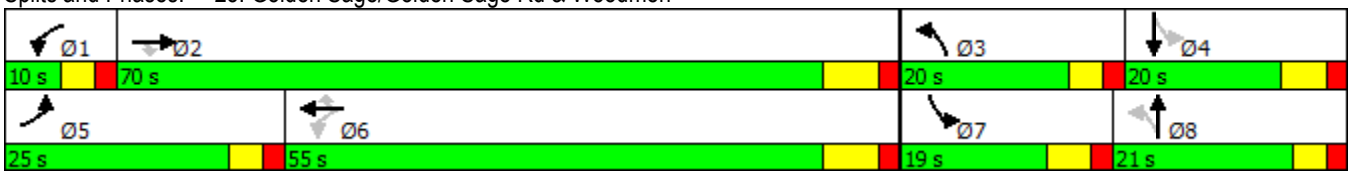
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 90.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 21.8	Intersection LOS: C
Intersection Capacity Utilization 72.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	376	1671	121	99	1135	300	152	35	114	191	22	422
Future Volume (vph)	376	1671	121	99	1135	300	152	35	114	191	22	422
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		Free	4		Free
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	11.0	11.0	9.0	11.0	11.0	9.0	9.5		10.0	10.0	
Total Split (s)	25.0	70.0	70.0	10.0	55.0	55.0	20.0	21.0		19.0	20.0	
Total Split (%)	20.8%	58.3%	58.3%	8.3%	45.8%	45.8%	16.7%	17.5%		15.8%	16.7%	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	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	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Act Effct Green (s)	16.0	63.3	63.3	59.4	52.4	52.4	20.2	7.9	107.2	15.7	6.9	107.2
Actuated g/C Ratio	0.15	0.59	0.59	0.55	0.49	0.49	0.19	0.07	1.00	0.15	0.06	1.00
v/c Ratio	0.70	0.84	0.13	0.67	0.69	0.34	0.52	0.27	0.08	0.77	0.19	0.28
Control Delay	51.5	24.1	2.5	41.0	25.9	3.4	42.9	53.4	0.1	61.2	53.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	24.1	2.5	41.0	25.9	3.4	42.9	53.4	0.1	61.2	53.5	0.4
LOS	D	C	A	D	C	A	D	D	A	E	D	A
Approach Delay		27.3			22.4			27.9			20.6	
Approach LOS		C			C			C			C	

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 107.2		
Natural Cycle: 80		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.84		
Intersection Signal Delay: 24.8	Intersection LOS: C	
Intersection Capacity Utilization 83.9%	ICU Level of Service E	
Analysis Period (min) 15		

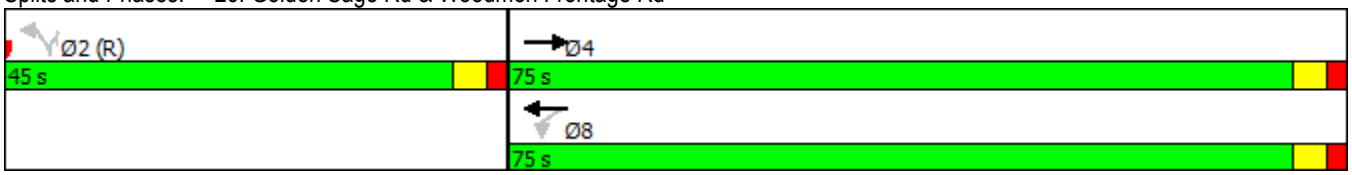
Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	19	446	8	347	364
Future Volume (vph)	19	446	8	347	364
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	62.7		62.7	47.3	47.3
Actuated g/C Ratio	0.52		0.52	0.39	0.39
v/c Ratio	0.23		0.88	0.52	0.45
Control Delay	2.7		44.1	33.3	4.7
Queue Delay	0.0		0.0	9.5	0.9
Total Delay	2.7		44.1	42.8	5.5
LOS	A		D	D	A
Approach Delay	2.7		44.1	23.7	
Approach LOS	A		D	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 27.2	Intersection LOS: C
Intersection Capacity Utilization 69.5%	ICU Level of Service C
Analysis Period (min) 15	

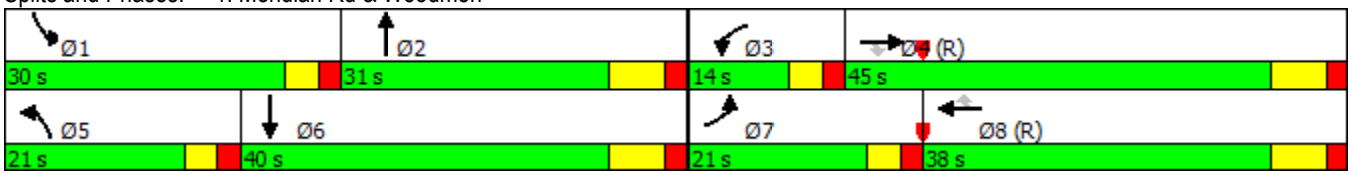
Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	464	520	175	150	884	168	428	344	100	294	941	1041
Future Volume (vph)	464	520	175	150	884	168	428	344	100	294	941	1041
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0		4.0	3.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	21.0	45.0	45.0	14.0	38.0	38.0	21.0	31.0		30.0	40.0	
Total Split (%)	17.5%	37.5%	37.5%	11.7%	31.7%	31.7%	17.5%	25.8%		25.0%	33.3%	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	18.1	41.3	41.3	9.8	35.0	34.0	17.0	36.0	120.0	16.9	35.9	120.0
Actuated g/C Ratio	0.15	0.34	0.34	0.08	0.29	0.28	0.14	0.30	1.00	0.14	0.30	1.00
v/c Ratio	0.92	0.44	0.27	0.56	0.88	0.29	0.91	0.33	0.07	0.63	0.92	0.68
Control Delay	75.3	31.9	5.1	61.0	51.8	2.9	74.3	34.4	0.1	54.3	54.7	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.3	31.9	5.1	61.0	51.8	2.9	74.3	34.4	0.1	54.3	54.7	2.4
LOS	E	C	A	E	D	A	E	C	A	D	D	A
Approach Delay		45.2			46.2			50.0			30.7	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 40.2	Intersection LOS: D
Intersection Capacity Utilization 89.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	73	138	250	113	125	229	596	150	100	1807	86
Future Volume (vph)	122	73	138	250	113	125	229	596	150	100	1807	86
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free			2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	8.0		8.0	9.0		8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	22.0	26.0		17.0	21.0		18.0	67.0	67.0	10.0	59.0	59.0
Total Split (%)	18.3%	21.7%		14.2%	17.5%		15.0%	55.8%	55.8%	8.3%	49.2%	49.2%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
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)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	17.7	9.7	106.0	26.3	13.1	106.0	12.0	60.2	60.2	61.2	54.2	54.2
Actuated g/C Ratio	0.17	0.09	1.00	0.25	0.12	1.00	0.11	0.57	0.57	0.58	0.51	0.51
v/c Ratio	0.26	0.45	0.09	0.77	0.52	0.08	0.60	0.31	0.16	0.21	1.02	0.10
Control Delay	33.0	55.0	0.1	51.8	52.4	0.1	52.1	12.9	2.3	8.4	53.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	55.0	0.1	51.8	52.4	0.1	52.1	12.9	2.3	8.4	53.4	0.2
LOS	C	D	A	D	D	A	D	B	A	A	D	A
Approach Delay		24.2			38.7			20.3			48.7	
Approach LOS		C			D			C			D	

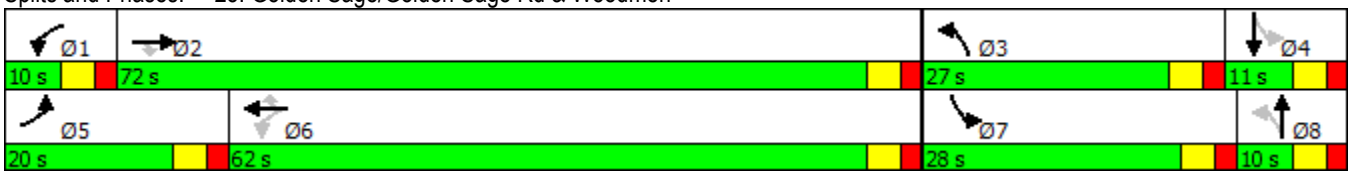
Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 106		
Natural Cycle: 90		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 1.02		
Intersection Signal Delay: 37.8	Intersection LOS: D	
Intersection Capacity Utilization 88.7%	ICU Level of Service E	
Analysis Period (min) 15		

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	422	860	74	77	1830	116	150	19	48	251	21	354
Future Volume (vph)	422	860	74	77	1830	116	150	19	48	251	21	354
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		Free	4		Free
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	20.0	72.0	72.0	10.0	62.0	62.0	27.0	10.0		28.0	11.0	
Total Split (%)	16.7%	60.0%	60.0%	8.3%	51.7%	51.7%	22.5%	8.3%		23.3%	9.2%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	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	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Act Effct Green (s)	15.0	69.5	69.5	62.3	57.3	57.3	19.6	5.0	110.7	23.0	7.4	110.7
Actuated g/C Ratio	0.14	0.63	0.63	0.56	0.52	0.52	0.18	0.05	1.00	0.21	0.07	1.00
v/c Ratio	0.86	0.41	0.08	0.21	1.02	0.14	0.50	0.24	0.03	0.71	0.18	0.24
Control Delay	66.5	12.6	1.1	9.2	54.0	1.6	43.1	61.3	0.0	51.1	54.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Total Delay	66.5	12.6	1.1	9.2	54.0	1.6	43.1	61.3	0.0	53.2	54.1	0.4
LOS	E	B	A	A	D	A	D	E	A	D	D	A
Approach Delay		27.6			49.1			35.1			23.3	
Approach LOS		C			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.7	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 37.6	Intersection LOS: D
Intersection Capacity Utilization 94.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	30	377	4	100	457
Future Volume (vph)	30	377	4	100	457
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0
Total Split (s)	80.0	80.0	80.0	40.0	40.0
Total Split (%)	66.7%	66.7%	66.7%	33.3%	33.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	62.7		62.7	47.3	47.3
Actuated g/C Ratio	0.52		0.52	0.39	0.39
v/c Ratio	0.30		0.85	0.43	0.38
Control Delay	2.6		41.1	24.4	5.2
Queue Delay	0.0		0.0	2.1	0.7
Total Delay	2.6		41.1	26.5	5.8
LOS	A		D	C	A
Approach Delay	2.6		41.1	16.3	
Approach LOS	A		D	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 20.9	Intersection LOS: C
Intersection Capacity Utilization 65.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd

Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	162	63	356	40
Demand Flow Rate, veh/h	165	64	363	40
Vehicles Circulating, veh/h	17	212	182	276
Vehicles Exiting, veh/h	299	333	0	0
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.6	4.7	8.2	4.6
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	T	T	LR	LR
Assumed Moves	T	T	LR	LR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	165	64	363	40
Cap Entry Lane, veh/h	1111	914	942	857
Entry HV Adj Factor	0.980	0.980	0.981	1.000
Flow Entry, veh/h	162	63	356	40
Cap Entry, veh/h	1089	896	924	857
V/C Ratio	0.149	0.070	0.385	0.047
Control Delay, s/veh	4.6	4.7	8.2	4.6
LOS	A	A	A	A
95th %tile Queue, veh	1	0	2	0

Intersection	
Intersection Delay, s/veh	4.4
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	442	278	82
Demand Flow Rate, veh/h	451	283	84
Vehicles Circulating, veh/h	3	79	262
Vehicles Exiting, veh/h	359	267	3
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.1	6.2	5.2
Approach LOS	A	A	A

Lane	Left	Bypass	Left	Left
Designated Moves	L	R	TR	LT
Assumed Moves	L	R	TR	LT
RT Channelized		Free		
Lane Util	1.000		1.000	1.000
Critical Headway, s	5.193		5.193	5.193
Entry Flow, veh/h	262	189	283	84
Cap Entry Lane, veh/h	1127	1938	1044	870
Entry HV Adj Factor	0.981	0.980	0.982	0.975
Flow Entry, veh/h	257	185	278	82
Cap Entry, veh/h	1105	1900	1025	848
V/C Ratio	0.233	0.097	0.271	0.097
Control Delay, s/veh	5.4	0.0	6.2	5.2
LOS	A	A	A	A
95th %tile Queue, veh	1	0	1	0

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	49	262	60	17	27	0
Future Vol, veh/h	49	262	60	17	27	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	276	63	18	28	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	81	0	-	0	451	72
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	379	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1517	-	-	-	566	990
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	692	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1517	-	-	-	547	990
Mov Cap-2 Maneuver	-	-	-	-	584	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	668	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1517	-	-	-	584
HCM Lane V/C Ratio	0.034	-	-	-	0.049
HCM Control Delay (s)	7.5	-	-	-	11.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	225	9	4	59	23	5	6	4	19	2	13
Future Vol, veh/h	55	225	9	4	59	23	5	6	4	19	2	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	237	9	4	62	24	5	6	4	20	2	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	86	0	0	246	0	0	448	452	242	446	445	74
Stage 1	-	-	-	-	-	-	357	357	-	83	83	-
Stage 2	-	-	-	-	-	-	91	95	-	363	362	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1510	-	-	1320	-	-	521	503	797	523	508	988
Stage 1	-	-	-	-	-	-	661	628	-	925	826	-
Stage 2	-	-	-	-	-	-	916	816	-	656	625	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1510	-	-	1320	-	-	496	482	797	499	487	988
Mov Cap-2 Maneuver	-	-	-	-	-	-	496	482	-	499	487	-
Stage 1	-	-	-	-	-	-	636	604	-	889	823	-
Stage 2	-	-	-	-	-	-	898	814	-	621	601	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.4	11.8	11.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	545	1510	-	-	1320	-	-	614
HCM Lane V/C Ratio	0.029	0.038	-	-	0.003	-	-	0.058
HCM Control Delay (s)	11.8	7.5	-	-	7.7	-	-	11.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	211	3	5	77	24	0	0	9	24	0	9
Future Vol, veh/h	34	211	3	5	77	24	0	0	9	24	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	222	3	5	81	25	0	0	9	25	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	106	0	0	225	0	0	404	412	224	404	401	94
Stage 1	-	-	-	-	-	-	295	295	-	104	104	-
Stage 2	-	-	-	-	-	-	109	117	-	300	297	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1485	-	-	1344	-	-	557	530	815	557	538	963
Stage 1	-	-	-	-	-	-	713	669	-	902	809	-
Stage 2	-	-	-	-	-	-	896	799	-	709	668	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1485	-	-	1344	-	-	540	515	815	539	523	963
Mov Cap-2 Maneuver	-	-	-	-	-	-	540	515	-	539	523	-
Stage 1	-	-	-	-	-	-	696	653	-	880	806	-
Stage 2	-	-	-	-	-	-	884	796	-	684	652	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.4	9.5	11.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	815	1485	-	-	1344	-	-	613
HCM Lane V/C Ratio	0.012	0.024	-	-	0.004	-	-	0.057
HCM Control Delay (s)	9.5	7.5	-	-	7.7	-	-	11.2
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	194	50	32	83	23	53
Future Vol, veh/h	194	50	32	83	23	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	54	35	90	25	58

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	265	0	398	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	160	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1299	-	607	801
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	869	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1299	-	591	801
Mov Cap-2 Maneuver	-	-	-	-	645	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	846	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	746	-	-	1299	-
HCM Lane V/C Ratio	0.111	-	-	0.027	-
HCM Control Delay (s)	10.4	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	9	243	4	14	114
Future Vol, veh/h	1	9	243	4	14	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	9	256	4	15	120

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	407	258	0	0	260	0
Stage 1	258	-	-	-	-	-
Stage 2	149	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	600	781	-	-	1304	-
Stage 1	785	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	593	781	-	-	1304	-
Mov Cap-2 Maneuver	645	-	-	-	-	-
Stage 1	785	-	-	-	-	-
Stage 2	869	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	765	1304	-
HCM Lane V/C Ratio	-	-	0.014	0.011	-
HCM Control Delay (s)	-	-	9.8	7.8	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	52	23	1	0	39	26	0	0	5	123	124
Future Vol, veh/h	0	52	23	1	0	39	26	0	0	5	123	124
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	55	24	1	0	41	27	0	0	5	129	131
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	1
HCM Control Delay	8.9	8.8	9.9
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	68%	60%	100%	0%
Vol Thru, %	0%	50%	30%	40%	0%	58%
Vol Right, %	0%	50%	1%	0%	0%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	247	76	65	1	153
LT Vol	5	0	52	39	1	0
Through Vol	0	123	23	26	0	88
RT Vol	0	124	1	0	0	65
Lane Flow Rate	5	260	80	68	1	161
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.008	0.34	0.115	0.098	0.002	0.217
Departure Headway (Hd)	5.567	4.711	5.163	5.171	5.653	4.85
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	643	762	692	690	632	739
Service Time	3.303	2.446	3.21	3.221	3.392	2.589
HCM Lane V/C Ratio	0.008	0.341	0.116	0.099	0.002	0.218
HCM Control Delay	8.3	9.9	8.9	8.8	8.4	8.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	1.5	0.4	0.3	0	0.8

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	1	88	65
Future Vol, veh/h	0	1	88	65
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	93	68
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.9
HCM LOS	A

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	101	162	13	100	154
Future Vol, veh/h	8	101	162	13	100	154
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	106	171	14	105	162

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	550	177	0	0	184	0
Stage 1	177	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	496	866	-	-	1391	-
Stage 1	854	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	459	866	-	-	1391	-
Mov Cap-2 Maneuver	534	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	643	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	3.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	828	1391	-
HCM Lane V/C Ratio	-	-	0.139	0.076	-
HCM Control Delay (s)	-	-	10	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	2	4	259	252	5
Future Vol, veh/h	4	2	4	259	252	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	2	4	273	265	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	549	268	271	0	-	0
Stage 1	268	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	497	771	1292	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	495	771	1292	-	-	-
Mov Cap-2 Maneuver	495	-	-	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1292	-	562	-	-
HCM Lane V/C Ratio	0.003	-	0.011	-	-
HCM Control Delay (s)	7.8	-	11.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	95	284	19	6	14
Future Vol, veh/h	50	95	284	19	6	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	2	2	5	5	5
Mvmt Flow	53	100	299	20	6	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	319	0	-	0	514	309
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	205	-
Critical Hdwy	4.15	-	-	-	7.15	6.25
Critical Hdwy Stg 1	-	-	-	-	6.15	-
Critical Hdwy Stg 2	-	-	-	-	6.15	-
Follow-up Hdwy	2.245	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1224	-	-	-	466	724
Stage 1	-	-	-	-	695	-
Stage 2	-	-	-	-	790	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1224	-	-	-	450	724
Mov Cap-2 Maneuver	-	-	-	-	450	-
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	754	-

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1224	-	-	-	612
HCM Lane V/C Ratio	0.043	-	-	-	0.034
HCM Control Delay (s)	8.1	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	92	275	9	27	28
Future Vol, veh/h	9	92	275	9	27	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	97	289	9	28	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	299	0	-	0	410	294
Stage 1	-	-	-	-	294	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1262	-	-	-	598	745
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1262	-	-	-	593	745
Mov Cap-2 Maneuver	-	-	-	-	593	-
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	902	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1262	-	-	-	662
HCM Lane V/C Ratio	0.008	-	-	-	0.087
HCM Control Delay (s)	7.9	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	113	266	14	41	18
Future Vol, veh/h	6	113	266	14	41	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	119	280	15	43	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	295	0	-	0	419	287
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	132	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1266	-	-	-	591	752
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	894	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1266	-	-	-	588	752
Mov Cap-2 Maneuver	-	-	-	-	637	-
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	890	-

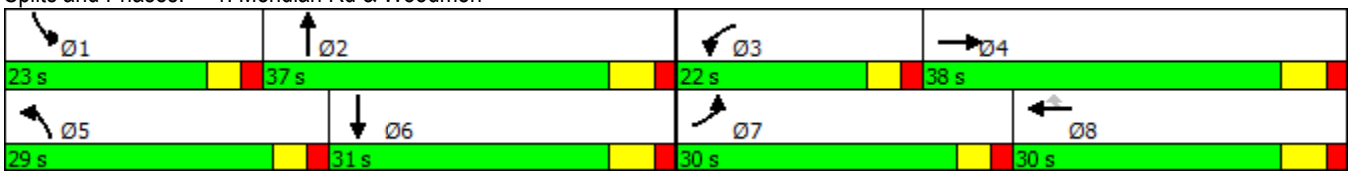
Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1266	-	-	-	668
HCM Lane V/C Ratio	0.005	-	-	-	0.093
HCM Control Delay (s)	7.9	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	765	794	375	225	665	262	565	893	200	483	704	602
Future Volume (vph)	765	794	375	225	665	262	565	893	200	483	704	602
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	3.0	3.0	4.0	3.0		4.0	3.0	
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	30.0	38.0		22.0	30.0	30.0	29.0	37.0		23.0	31.0	
Total Split (%)	25.0%	31.7%		18.3%	25.0%	25.0%	24.2%	30.8%		19.2%	25.8%	
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-4.0		-1.0	-3.0	
Total Lost Time (s)	3.0	3.0		4.0	2.0	3.0	4.0	2.0		4.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None		None	None	
Act Effct Green (s)	27.0	38.3	119.2	14.3	27.5	26.5	23.9	34.7	119.2	19.0	28.8	119.2
Actuated g/C Ratio	0.23	0.32	1.00	0.12	0.23	0.22	0.20	0.29	1.00	0.16	0.24	1.00
v/c Ratio	1.01	0.71	0.24	0.56	0.83	0.48	0.84	0.89	0.13	0.90	0.84	0.39
Control Delay	79.8	40.4	0.4	54.7	53.7	7.6	57.9	51.9	0.2	70.3	53.5	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	40.4	0.4	54.7	53.7	7.6	57.9	51.9	0.2	70.3	53.5	0.7
LOS	E	D	A	D	D	A	E	D	A	E	D	A
Approach Delay		48.2			43.4			47.7			40.3	
Approach LOS		D			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 119.2	
Natural Cycle: 75	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 45.1	Intersection LOS: D
Intersection Capacity Utilization 92.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	339	197	228	200	136	225	425	1246	250	100	1203	134
Future Volume (vph)	339	197	228	200	136	225	425	1246	250	100	1203	134
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free			2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	8.0		8.0	9.0		8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	32.0	34.0		13.0	15.0		23.0	63.0	63.0	10.0	50.0	50.0
Total Split (%)	26.7%	28.3%		10.8%	12.5%		19.2%	52.5%	52.5%	8.3%	41.7%	41.7%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
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)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	30.6	17.2	105.5	22.2	12.1	105.5	17.5	55.1	55.1	50.7	43.6	43.6
Actuated g/C Ratio	0.29	0.16	1.00	0.21	0.11	1.00	0.17	0.52	0.52	0.48	0.41	0.41
v/c Ratio	0.52	0.68	0.15	0.75	0.67	0.15	0.77	0.69	0.28	0.48	0.87	0.19
Control Delay	32.3	54.1	0.2	51.3	62.0	0.2	52.9	21.6	3.0	18.3	36.6	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	54.1	0.2	51.3	62.0	0.2	52.9	21.6	3.0	18.3	36.6	2.9
LOS	C	D	A	D	E	A	D	C	A	B	D	A
Approach Delay		28.3			33.4			26.1			32.2	
Approach LOS		C			C			C			C	

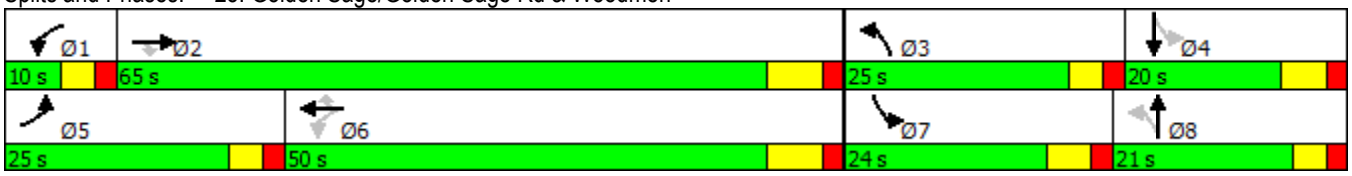
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 105.5	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 29.2	Intersection LOS: C
Intersection Capacity Utilization 81.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	404	1630	121	99	1130	300	152	39	114	191	26	446
Future Volume (vph)	404	1630	121	99	1130	300	152	39	114	191	26	446
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		Free	4		Free
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	11.0	11.0	9.0	11.0	11.0	9.0	9.5		10.0	10.0	
Total Split (s)	25.0	65.0	65.0	10.0	50.0	50.0	25.0	21.0		24.0	20.0	
Total Split (%)	20.8%	54.2%	54.2%	8.3%	41.7%	41.7%	20.8%	17.5%		20.0%	16.7%	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	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	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Act Effct Green (s)	16.3	58.5	58.5	54.3	47.2	47.2	19.7	7.8	104.7	21.1	8.6	104.7
Actuated g/C Ratio	0.16	0.56	0.56	0.52	0.45	0.45	0.19	0.07	1.00	0.20	0.08	1.00
v/c Ratio	0.72	0.87	0.14	0.65	0.74	0.36	0.51	0.30	0.08	0.61	0.18	0.30
Control Delay	50.9	27.8	3.0	38.9	30.1	3.9	39.1	53.9	0.1	43.4	49.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	50.9	27.8	3.0	38.9	30.1	3.9	39.1	53.9	0.1	43.5	49.8	0.5
LOS	D	C	A	D	C	A	D	D	A	D	D	A
Approach Delay		30.3			25.5			26.4			14.8	
Approach LOS		C			C			C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 104.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 26.2	Intersection LOS: C
Intersection Capacity Utilization 82.8%	ICU Level of Service E
Analysis Period (min) 15	

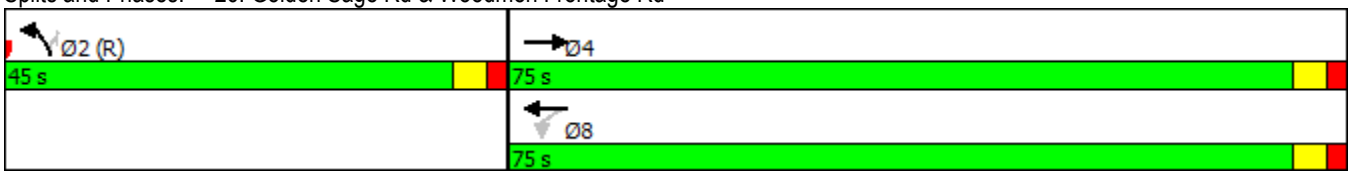
Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	23	488	12	300	444
Future Volume (vph)	23	488	12	300	444
Turn Type	NA	Perm	NA	Prot	Perm
Protected Phases	4		8	2	
Permitted Phases		8			2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	65.4		65.4	44.6	44.6
Actuated g/C Ratio	0.54		0.54	0.37	0.37
v/c Ratio	0.21		0.91	0.56	0.51
Control Delay	2.8		45.5	34.7	5.2
Queue Delay	0.0		0.0	13.0	0.9
Total Delay	2.8		45.5	47.8	6.1
LOS	A		D	D	A
Approach Delay	2.8		45.5	25.4	
Approach LOS	A		D	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 30 (25%), Referenced to phase 2:NBL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 29.3	Intersection LOS: C
Intersection Capacity Utilization 77.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd



Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	269	68	333	9
Demand Flow Rate, veh/h	274	69	339	9
Vehicles Circulating, veh/h	5	163	279	232
Vehicles Exiting, veh/h	236	455	0	0
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.5	4.5	9.1	4.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	T	T	LR	LR
Assumed Moves	T	T	LR	LR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	274	69	339	9
Cap Entry Lane, veh/h	1124	960	855	896
Entry HV Adj Factor	0.980	0.980	0.982	1.000
Flow Entry, veh/h	269	68	333	9
Cap Entry, veh/h	1102	941	840	896
V/C Ratio	0.244	0.072	0.397	0.010
Control Delay, s/veh	5.5	4.5	9.1	4.1
LOS	A	A	A	A
95th %tile Queue, veh	1	0	2	0

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	732	595	226
Demand Flow Rate, veh/h	747	607	230
Vehicles Circulating, veh/h	8	221	409
Vehicles Exiting, veh/h	820	418	8
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	3.8	15.2	8.6
Approach LOS	A	C	A

Lane	Left	Bypass	Left	Left
Designated Moves	L	R	TR	LT
Assumed Moves	L	R	TR	LT
RT Channelized		Free		
Lane Util	1.000		1.000	1.000
Critical Headway, s	5.193		5.193	5.193
Entry Flow, veh/h	409	338	607	230
Cap Entry Lane, veh/h	1121	1938	906	751
Entry HV Adj Factor	0.980	0.980	0.980	0.982
Flow Entry, veh/h	401	331	595	226
Cap Entry, veh/h	1099	1900	888	737
V/C Ratio	0.365	0.174	0.670	0.306
Control Delay, s/veh	7.0	0.0	15.2	8.6
LOS	A	A	C	A
95th %tile Queue, veh	2	1	5	1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	399	64	21	39	1
Future Vol, veh/h	26	399	64	21	39	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	420	67	22	41	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	553	78
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	475	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1506	-	-	-	494	983
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1506	-	-	-	485	983
Mov Cap-2 Maneuver	-	-	-	-	535	-
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	615	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1506	-	-	-	541
HCM Lane V/C Ratio	0.018	-	-	-	0.078
HCM Control Delay (s)	7.4	-	-	-	12.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	88	338	12	11	60	36	5	4	21	57	4	20
Future Vol, veh/h	88	338	12	11	60	36	5	4	21	57	4	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	356	13	12	63	38	5	4	22	60	4	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	101	0	0	368	0	0	665	671	362	666	659	82
Stage 1	-	-	-	-	-	-	547	547	-	105	105	-
Stage 2	-	-	-	-	-	-	118	124	-	561	554	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1491	-	-	1191	-	-	374	378	683	373	384	978
Stage 1	-	-	-	-	-	-	521	517	-	901	808	-
Stage 2	-	-	-	-	-	-	887	793	-	512	514	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1491	-	-	1191	-	-	343	351	683	338	356	978
Mov Cap-2 Maneuver	-	-	-	-	-	-	343	351	-	338	356	-
Stage 1	-	-	-	-	-	-	489	485	-	845	800	-
Stage 2	-	-	-	-	-	-	855	785	-	460	482	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.8	12.2	16.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	529	1491	-	-	1191	-	-	404
HCM Lane V/C Ratio	0.06	0.062	-	-	0.01	-	-	0.211
HCM Control Delay (s)	12.2	7.6	-	-	8.1	-	-	16.3
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	344	14	8	92	40	3	9	21	60	4	12
Future Vol, veh/h	58	344	14	8	92	40	3	9	21	60	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	362	15	8	97	42	3	9	22	63	4	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	139	0	0	377	0	0	635	648	369	642	634	118
Stage 1	-	-	-	-	-	-	492	492	-	135	135	-
Stage 2	-	-	-	-	-	-	143	156	-	507	499	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1445	-	-	1181	-	-	391	389	677	387	397	934
Stage 1	-	-	-	-	-	-	558	548	-	868	785	-
Stage 2	-	-	-	-	-	-	860	769	-	548	544	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1445	-	-	1181	-	-	368	370	677	353	378	934
Mov Cap-2 Maneuver	-	-	-	-	-	-	368	370	-	353	378	-
Stage 1	-	-	-	-	-	-	534	525	-	831	780	-
Stage 2	-	-	-	-	-	-	838	764	-	499	521	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.5	12.4	16.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	520	1445	-	-	1181	-	-	393
HCM Lane V/C Ratio	0.067	0.042	-	-	0.007	-	-	0.204
HCM Control Delay (s)	12.4	7.6	-	-	8.1	-	-	16.5
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	388	37	36	123	17	53
Future Vol, veh/h	388	37	36	123	17	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	422	40	39	134	18	58

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	462	0	654	442
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	212	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1099	-	431	615
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	823	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1099	-	416	615
Mov Cap-2 Maneuver	-	-	-	-	511	-
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	794	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	586	-	-	1099	-
HCM Lane V/C Ratio	0.13	-	-	0.036	-
HCM Control Delay (s)	12.1	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	29	432	9	17	157
Future Vol, veh/h	2	29	432	9	17	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	31	455	9	18	165

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	660	459	0	0	464	0
Stage 1	459	-	-	-	-	-
Stage 2	201	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	428	602	-	-	1097	-
Stage 1	636	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	421	602	-	-	1097	-
Mov Cap-2 Maneuver	512	-	-	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	819	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	595	1097	-
HCM Lane V/C Ratio	-	-	0.055	0.016	-
HCM Control Delay (s)	-	-	11.4	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Intersection Delay, s/veh	20.2
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	174	71	2	0	46	40	0	0	10	280	171
Future Vol, veh/h	0	174	71	2	0	46	40	0	0	10	280	171
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	183	75	2	0	48	42	0	0	11	295	180
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	1
HCM Control Delay	15.5	11.7	27.4
HCM LOS	C	B	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	70%	53%	100%	0%
Vol Thru, %	0%	62%	29%	47%	0%	46%
Vol Right, %	0%	38%	1%	0%	0%	54%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	451	247	86	1	274
LT Vol	10	0	174	46	1	0
Through Vol	0	280	71	40	0	126
RT Vol	0	171	2	0	0	148
Lane Flow Rate	11	475	260	91	1	288
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.02	0.792	0.475	0.178	0.002	0.497
Departure Headway (Hd)	6.784	6.004	6.575	7.067	7.07	6.201
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	530	608	546	506	506	583
Service Time	4.496	3.716	4.626	5.134	4.814	3.916
HCM Lane V/C Ratio	0.021	0.781	0.476	0.18	0.002	0.494
HCM Control Delay	9.6	27.8	15.5	11.7	9.8	14.9
HCM Lane LOS	A	D	C	B	A	B
HCM 95th-tile Q	0.1	7.7	2.5	0.6	0	2.8

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	1	126	148
Future Vol, veh/h	0	1	126	148
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	133	156
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	14.9
HCM LOS	B

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	149	423	31	132	259
Future Vol, veh/h	15	149	423	31	132	259
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	157	445	33	139	273

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1013	462	0	0	478	0
Stage 1	462	-	-	-	-	-
Stage 2	551	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	265	600	-	-	1084	-
Stage 1	634	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	231	600	-	-	1084	-
Mov Cap-2 Maneuver	359	-	-	-	-	-
Stage 1	634	-	-	-	-	-
Stage 2	503	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	565	1084	-
HCM Lane V/C Ratio	-	-	0.306	0.128	-
HCM Control Delay (s)	-	-	14.2	8.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.4	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	9	20	552	382	8
Future Vol, veh/h	14	9	20	552	382	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	9	21	581	402	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1029	406	411	0	-	0
Stage 1	406	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	259	645	1148	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	254	645	1148	-	-	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	525	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1148	-	333	-	-
HCM Lane V/C Ratio	0.018	-	0.073	-	-
HCM Control Delay (s)	8.2	-	16.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	244	167	7	18	46
Future Vol, veh/h	48	244	167	7	18	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	2	2	5	5	5
Mvmt Flow	51	257	176	7	19	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	183	0	-	0	537	179
Stage 1	-	-	-	-	179	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	4.15	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.245	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1374	-	-	-	500	856
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	701	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1374	-	-	-	479	856
Mov Cap-2 Maneuver	-	-	-	-	479	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1374	-	-	-	701
HCM Lane V/C Ratio	0.037	-	-	-	0.096
HCM Control Delay (s)	7.7	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	231	156	31	18	18
Future Vol, veh/h	31	231	156	31	18	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	243	164	33	19	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	197	0	-	0	489	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	308	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1376	-	-	-	538	862
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1376	-	-	-	523	862
Mov Cap-2 Maneuver	-	-	-	-	523	-
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	724	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1376	-	-	-	651
HCM Lane V/C Ratio	0.024	-	-	-	0.058
HCM Control Delay (s)	7.7	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	228	175	46	28	12
Future Vol, veh/h	21	228	175	46	28	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	240	184	48	29	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	233	0	-	0	492	208
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	284	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1335	-	-	-	536	832
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	764	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1335	-	-	-	526	832
Mov Cap-2 Maneuver	-	-	-	-	597	-
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	749	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1335	-	-	-	652
HCM Lane V/C Ratio	0.017	-	-	-	0.065
HCM Control Delay (s)	7.7	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

87: Meridian Rd & RIRO Performance by lane Interval #1 7:00

Lane	EB	NB	NB	SB	SB	SB	All
Movements Served	R	T	T	T	T	R	
Stop Del/Veh (s)	27.6	0.1	1.8	0.1	0.0	0.1	1.7

87: Meridian Rd & RIRO Performance by lane Interval #2 7:15

Lane	EB	NB	NB	SB	SB	SB	All
Movements Served	R	T	T	T	T	R	
Stop Del/Veh (s)	32.0	0.1	1.6	0.1	0.0	0.0	1.9

87: Meridian Rd & RIRO Performance by lane Interval #3 7:30

Lane	EB	NB	NB	SB	SB	SB	All
Movements Served	R	T	T	T	T	R	
Stop Del/Veh (s)	20.2	0.1	1.6	0.1	0.0	0.1	1.2

87: Meridian Rd & RIRO Performance by lane Interval #4 7:45

Lane	EB	NB	NB	SB	SB	SB	All
Movements Served	R	T	T	T	T	R	
Stop Del/Veh (s)	30.9	0.1	1.0	0.1	0.1	1.6	1.7

87: Meridian Rd & RIRO Performance by lane Entire Run

Lane	EB	NB	NB	SB	SB	SB	All
Movements Served	R	T	T	T	T	R	
Stop Del/Veh (s)	29.2	0.1	1.5	0.1	0.1	0.3	1.7

Total Zone Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Stop Del/Veh (s)	77.7	139.5	152.1	108.0	281.4

87: Meridian Rd & RIRO Performance by movement Interval #1 5:00

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	0.4	18.2	2.1	0.1	0.1	2.3

87: Meridian Rd & RIRO Performance by movement Interval #2 5:15

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)		12.1	2.1	0.1	0.1	1.9

87: Meridian Rd & RIRO Performance by movement Interval #3 5:30

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)		13.7	2.2	0.2	0.1	2.1

87: Meridian Rd & RIRO Performance by movement Interval #4 5:45

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	0.2	29.2	2.4	4.5	0.0	5.0

87: Meridian Rd & RIRO Performance by movement Entire Run

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	0.5	18.6	2.2	1.2	0.1	2.8

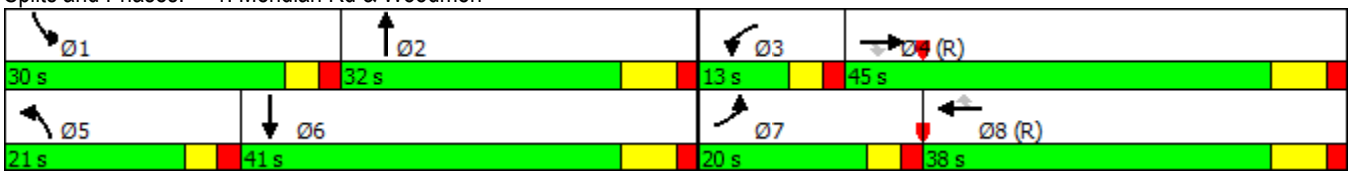
Total Zone Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Stop Del/Veh (s)	94.2	67.9	100.3	300.7	339.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	464	520	175	150	804	248	350	422	100	294	941	1016
Future Volume (vph)	464	520	175	150	804	248	350	422	100	294	941	1016
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			Free
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0		4.0	3.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	20.0	45.0	45.0	13.0	38.0	38.0	21.0	32.0		30.0	41.0	
Total Split (%)	16.7%	37.5%	37.5%	10.8%	31.7%	31.7%	17.5%	26.7%		25.0%	34.2%	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0	-3.0	-1.0	-4.0	-3.0	-1.0	-3.0		-1.0	-3.0	
Total Lost Time (s)	3.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	17.9	42.0	42.0	9.0	35.0	34.0	16.5	36.2	120.0	16.9	36.6	120.0
Actuated g/C Ratio	0.15	0.35	0.35	0.08	0.29	0.28	0.14	0.30	1.00	0.14	0.30	1.00
v/c Ratio	0.93	0.43	0.27	0.61	0.80	0.41	0.77	0.41	0.07	0.63	0.90	0.66
Control Delay	77.2	31.5	5.1	64.4	46.4	6.0	61.5	35.1	0.1	54.3	51.9	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.2	31.5	5.1	64.4	46.4	6.0	61.5	35.1	0.1	54.3	51.9	2.2
LOS	E	C	A	E	D	A	E	D	A	D	D	A
Approach Delay		45.8			40.3			41.7			29.8	
Approach LOS		D			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green, Master Intersection	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 37.4	Intersection LOS: D
Intersection Capacity Utilization 84.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	73	138	250	113	125	387	596	150	100	1722	141
Future Volume (vph)	122	73	138	250	113	125	387	596	150	100	1722	141
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free			2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	8.0		8.0	9.0		8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	24.0		18.0	22.0		18.0	68.0	68.0	10.0	60.0	60.0
Total Split (%)	16.7%	20.0%		15.0%	18.3%		15.0%	56.7%	56.7%	8.3%	50.0%	50.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
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)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	18.0	9.9	109.8	27.5	14.0	109.8	14.0	63.1	63.1	62.1	55.1	55.1
Actuated g/C Ratio	0.16	0.09	1.00	0.25	0.13	1.00	0.13	0.57	0.57	0.57	0.50	0.50
v/c Ratio	0.27	0.46	0.09	0.76	0.50	0.08	0.90	0.31	0.16	0.21	0.99	0.17
Control Delay	33.9	56.9	0.1	51.5	52.4	0.1	72.7	13.1	2.3	8.8	47.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	56.9	0.1	51.5	52.4	0.1	72.7	13.1	2.3	8.8	47.3	4.5
LOS	C	E	A	D	D	A	E	B	A	A	D	A
Approach Delay		25.0			38.5			31.6			42.1	
Approach LOS		C			D			C			D	

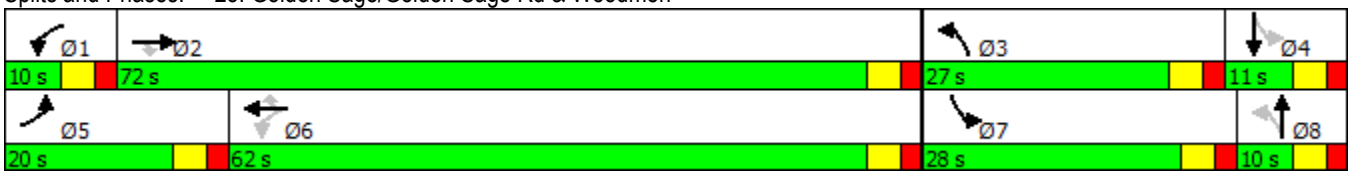
Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 109.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 37.1		Intersection LOS: D	
Intersection Capacity Utilization 90.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	422	860	74	77	1830	184	150	19	48	251	21	354
Future Volume (vph)	422	860	74	77	1830	184	150	19	48	251	21	354
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		Free	4		Free
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		9.0	9.0	
Total Split (s)	20.0	72.0	72.0	10.0	62.0	62.0	27.0	10.0		28.0	11.0	
Total Split (%)	16.7%	60.0%	60.0%	8.3%	51.7%	51.7%	22.5%	8.3%		23.3%	9.2%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	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	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Act Effct Green (s)	15.0	69.5	69.5	62.3	57.3	57.3	19.6	5.0	110.7	23.0	7.4	110.7
Actuated g/C Ratio	0.14	0.63	0.63	0.56	0.52	0.52	0.18	0.05	1.00	0.21	0.07	1.00
v/c Ratio	0.86	0.41	0.08	0.21	1.02	0.21	0.50	0.24	0.03	0.71	0.18	0.24
Control Delay	66.5	12.6	1.1	9.2	54.0	3.8	43.1	61.3	0.0	51.1	54.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Total Delay	66.5	12.6	1.1	9.2	54.0	3.8	43.1	61.3	0.0	53.2	54.1	0.4
LOS	E	B	A	A	D	A	D	E	A	D	D	A
Approach Delay		27.6			47.7			35.1			23.3	
Approach LOS		C			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.7	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 37.1	Intersection LOS: D
Intersection Capacity Utilization 94.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	30	377	4	100	525
Future Volume (vph)	30	377	4	100	525
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	4		8		
Permitted Phases		8		2	2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0
Total Split (s)	80.0	80.0	80.0	40.0	40.0
Total Split (%)	66.7%	66.7%	66.7%	33.3%	33.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	62.7		62.7	47.3	47.3
Actuated g/C Ratio	0.52		0.52	0.39	0.39
v/c Ratio	0.30		0.85	0.48	0.41
Control Delay	2.6		41.1	24.6	5.2
Queue Delay	0.0		0.0	2.7	0.7
Total Delay	2.6		41.1	27.3	5.9
LOS	A		D	C	A
Approach Delay	2.6		41.1	16.9	
Approach LOS	A		D	B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 20.9	Intersection LOS: C
Intersection Capacity Utilization 66.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd

Intersection	
Intersection Delay, s/veh	4.6
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	162	168	40
Demand Flow Rate, veh/h	165	171	40
Vehicles Circulating, veh/h	17	0	171
Vehicles Exiting, veh/h	194	182	0
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.6	4.6	4.2
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	T	T	LR
Assumed Moves	T	T	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	165	171	40
Cap Entry Lane, veh/h	1111	1130	952
Entry HV Adj Factor	0.980	0.980	1.000
Flow Entry, veh/h	162	168	40
Cap Entry, veh/h	1089	1108	952
V/C Ratio	0.149	0.151	0.042
Control Delay, s/veh	4.6	4.6	4.2
LOS	A	A	A
95th %tile Queue, veh	1	1	0

Intersection	
Intersection Delay, s/veh	4.9
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	533	278	82
Demand Flow Rate, veh/h	544	283	84
Vehicles Circulating, veh/h	3	79	355
Vehicles Exiting, veh/h	359	360	3
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	4.1	6.2	5.7
Approach LOS	A	A	A

Lane	Left	Bypass	Left	Left
Designated Moves	L	R	TR	LT
Assumed Moves	L	R	TR	LT
RT Channelized		Free		
Lane Util	1.000		1.000	1.000
Critical Headway, s	5.193		5.193	5.193
Entry Flow, veh/h	355	189	283	84
Cap Entry Lane, veh/h	1127	1938	1044	792
Entry HV Adj Factor	0.980	0.980	0.982	0.975
Flow Entry, veh/h	348	185	278	82
Cap Entry, veh/h	1104	1900	1025	772
V/C Ratio	0.315	0.097	0.271	0.106
Control Delay, s/veh	6.3	0.0	6.2	5.7
LOS	A	A	A	A
95th %tile Queue, veh	1	0	1	0

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	157	160	53	27	0
Future Vol, veh/h	13	157	160	53	27	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	165	168	56	28	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	224	0	-	0	389	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	193	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1345	-	-	-	615	845
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	840	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1345	-	-	-	609	845
Mov Cap-2 Maneuver	-	-	-	-	659	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	831	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1345	-	-	-	659
HCM Lane V/C Ratio	0.01	-	-	-	0.043
HCM Control Delay (s)	7.7	-	-	-	10.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	170	3	8	195	34	5	6	4	19	2	13
Future Vol, veh/h	11	170	3	8	195	34	5	6	4	19	2	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	179	3	8	205	36	5	6	4	20	2	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	241	0	0	182	0	0	452	462	181	449	445	223
Stage 1	-	-	-	-	-	-	204	204	-	240	240	-
Stage 2	-	-	-	-	-	-	248	258	-	209	205	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1326	-	-	1393	-	-	518	497	862	520	508	817
Stage 1	-	-	-	-	-	-	798	733	-	763	707	-
Stage 2	-	-	-	-	-	-	756	694	-	793	732	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1326	-	-	1393	-	-	502	490	862	507	501	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	502	490	-	507	501	-
Stage 1	-	-	-	-	-	-	791	726	-	756	703	-
Stage 2	-	-	-	-	-	-	737	690	-	775	725	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	11.6	11.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	559	1326	-	-	1393	-	-	593
HCM Lane V/C Ratio	0.028	0.009	-	-	0.006	-	-	0.06
HCM Control Delay (s)	11.6	7.7	-	-	7.6	-	-	11.5
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	183	3	9	228	35	0	0	9	24	0	9
Future Vol, veh/h	7	183	3	9	228	35	0	0	9	24	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	193	3	9	240	37	0	0	9	25	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	277	0	0	196	0	0	491	505	194	491	488	258
Stage 1	-	-	-	-	-	-	209	209	-	277	277	-
Stage 2	-	-	-	-	-	-	282	296	-	214	211	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1286	-	-	1377	-	-	488	470	847	488	480	781
Stage 1	-	-	-	-	-	-	793	729	-	729	681	-
Stage 2	-	-	-	-	-	-	725	668	-	788	728	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1286	-	-	1377	-	-	478	464	847	478	474	781
Mov Cap-2 Maneuver	-	-	-	-	-	-	478	464	-	478	474	-
Stage 1	-	-	-	-	-	-	789	725	-	725	677	-
Stage 2	-	-	-	-	-	-	712	664	-	775	724	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	9.3	12.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	847	1286	-	-	1377	-	-	535
HCM Lane V/C Ratio	0.011	0.006	-	-	0.007	-	-	0.065
HCM Control Delay (s)	9.3	7.8	-	-	7.6	-	-	12.2
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	188	50	32	249	23	53
Future Vol, veh/h	188	50	32	249	23	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	204	54	35	271	25	58

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	259	0	572	232
Stage 1	-	-	-	-	232	-
Stage 2	-	-	-	-	340	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1306	-	482	807
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	721	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1306	-	469	807
Mov Cap-2 Maneuver	-	-	-	-	554	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	702	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	709	-	-	1306	-
HCM Lane V/C Ratio	0.117	-	-	0.027	-
HCM Control Delay (s)	10.7	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	9	238	4	14	302
Future Vol, veh/h	1	9	238	4	14	302
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	9	251	4	15	318

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	600	253	0	0	255	0
Stage 1	253	-	-	-	-	-
Stage 2	347	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	464	786	-	-	1310	-
Stage 1	789	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	459	786	-	-	1310	-
Mov Cap-2 Maneuver	549	-	-	-	-	-
Stage 1	789	-	-	-	-	-
Stage 2	708	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	753	1310	-
HCM Lane V/C Ratio	-	-	0.014	0.011	-
HCM Control Delay (s)	-	-	9.8	7.8	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	52	23	1	0	52	26	0	0	5	121	124
Future Vol, veh/h	0	52	23	1	0	52	26	0	0	5	121	124
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	55	24	1	0	55	27	0	0	5	127	131
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	1
HCM Control Delay	9.5	9.6	10.4
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	68%	67%	100%	0%
Vol Thru, %	0%	49%	30%	33%	0%	80%
Vol Right, %	0%	51%	1%	0%	0%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	245	76	78	1	318
LT Vol	5	0	52	52	1	0
Through Vol	0	121	23	26	0	253
RT Vol	0	124	1	0	0	65
Lane Flow Rate	5	258	80	82	1	335
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.008	0.354	0.125	0.128	0.002	0.472
Departure Headway (Hd)	5.803	4.941	5.634	5.634	5.727	5.079
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	613	722	630	630	622	706
Service Time	3.57	2.708	3.728	3.728	3.49	2.841
HCM Lane V/C Ratio	0.008	0.357	0.127	0.13	0.002	0.475
HCM Control Delay	8.6	10.4	9.5	9.6	8.5	12.4
HCM Lane LOS	A	B	A	A	A	B
HCM 95th-tile Q	0	1.6	0.4	0.4	0	2.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	1	253	65
Future Vol, veh/h	0	1	253	65
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	266	68
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	12.4
HCM LOS	B

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	101	160	13	100	363
Future Vol, veh/h	8	101	160	13	100	363
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	106	168	14	105	382

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	768	175	0	0	182	0
Stage 1	175	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	370	868	-	-	1393	-
Stage 1	855	-	-	-	-	-
Stage 2	552	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	342	868	-	-	1393	-
Mov Cap-2 Maneuver	428	-	-	-	-	-
Stage 1	855	-	-	-	-	-
Stage 2	510	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	807	1393	-
HCM Lane V/C Ratio	-	-	0.142	0.076	-
HCM Control Delay (s)	-	-	10.2	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	2	4	257	461	5
Future Vol, veh/h	4	2	4	257	461	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	2	4	271	485	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	767	488	491	0	-	0
Stage 1	488	-	-	-	-	-
Stage 2	279	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	370	580	1072	-	-	-
Stage 1	617	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	369	580	1072	-	-	-
Mov Cap-2 Maneuver	369	-	-	-	-	-
Stage 1	617	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1072	-	420	-	-
HCM Lane V/C Ratio	0.004	-	0.015	-	-
HCM Control Delay (s)	8.4	-	13.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	95	186	19	6	14
Future Vol, veh/h	50	95	186	19	6	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	2	2	5	5	5
Mvmt Flow	53	100	196	20	6	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	216	0	-	0	411	206
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	205	-
Critical Hdwy	4.15	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.245	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1336	-	-	-	591	827
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	822	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1336	-	-	-	566	827
Mov Cap-2 Maneuver	-	-	-	-	566	-
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1336	-	-	-	726
HCM Lane V/C Ratio	0.039	-	-	-	0.029
HCM Control Delay (s)	7.8	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	92	177	9	27	28
Future Vol, veh/h	9	92	177	9	27	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	97	186	9	28	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	196	0	-	0	307	191
Stage 1	-	-	-	-	191	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1377	-	-	-	685	851
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1377	-	-	-	680	851
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	903	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1377	-	-	-	757
HCM Lane V/C Ratio	0.007	-	-	-	0.076
HCM Control Delay (s)	7.6	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	113	168	14	41	18
Future Vol, veh/h	6	113	168	14	41	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	119	177	15	43	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	192	0	-	0	316	184
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	132	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1381	-	-	-	677	858
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	894	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1381	-	-	-	674	858
Mov Cap-2 Maneuver	-	-	-	-	703	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	890	-

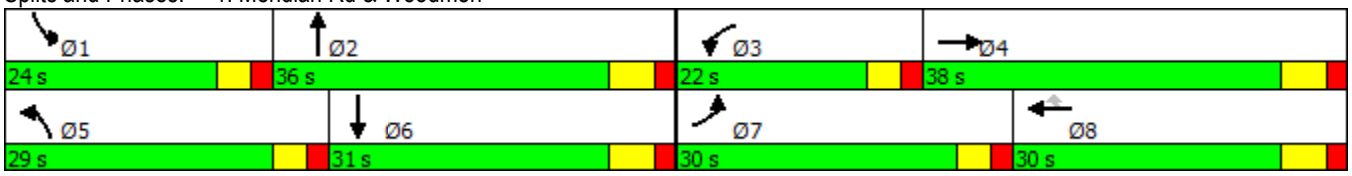
Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1381	-	-	-	744
HCM Lane V/C Ratio	0.005	-	-	-	0.083
HCM Control Delay (s)	7.6	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	765	794	375	225	561	367	450	1008	200	483	704	535
Future Volume (vph)	765	794	375	225	561	367	450	1008	200	483	704	535
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			Free
Detector Phase	7	4		3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	3.0	3.0	4.0	3.0		4.0	3.0	
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Total Split (s)	30.0	38.0		22.0	30.0	30.0	29.0	36.0		24.0	31.0	
Total Split (%)	25.0%	31.7%		18.3%	25.0%	25.0%	24.2%	30.0%		20.0%	25.8%	
Yellow Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-3.0		-1.0	-4.0	-3.0	-1.0	-4.0		-1.0	-3.0	
Total Lost Time (s)	3.0	3.0		4.0	2.0	3.0	4.0	2.0		4.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Min		None	Min	Min	None	None		None	None	
Act Effct Green (s)	27.0	37.3	118.1	14.2	26.5	25.5	21.5	34.0	118.1	19.6	31.1	118.1
Actuated g/C Ratio	0.23	0.32	1.00	0.12	0.22	0.22	0.18	0.29	1.00	0.17	0.26	1.00
v/c Ratio	0.99	0.72	0.24	0.56	0.72	0.62	0.74	1.01	0.13	0.87	0.77	0.34
Control Delay	77.0	40.8	0.4	54.4	48.2	11.9	53.2	73.0	0.2	64.8	47.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	40.8	0.4	54.4	48.2	11.9	53.2	73.0	0.2	64.8	47.6	0.6
LOS	E	D	A	D	D	B	D	E	A	E	D	A
Approach Delay		47.3			37.9			58.9			37.8	
Approach LOS		D			D			E			D	

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 118.1			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 46.1		Intersection LOS: D	
Intersection Capacity Utilization 92.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Meridian Rd & Woodmen



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	339	197	228	200	136	225	644	1246	250	100	1154	165
Future Volume (vph)	339	197	228	200	136	225	644	1246	250	100	1154	165
Turn Type	pm+pt	NA	Free	pm+pt	NA	Free	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		Free	8		Free			2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	3.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	8.0		8.0	9.0		8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	32.0	34.0		13.0	15.0		22.0	63.0	63.0	10.0	51.0	51.0
Total Split (%)	26.7%	28.3%		10.8%	12.5%		18.3%	52.5%	52.5%	8.3%	42.5%	42.5%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
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)	4.0	5.0		4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Act Effct Green (s)	30.6	17.2	105.8	22.2	12.1	105.8	18.1	55.4	55.4	50.4	43.3	43.3
Actuated g/C Ratio	0.29	0.16	1.00	0.21	0.11	1.00	0.17	0.52	0.52	0.48	0.41	0.41
v/c Ratio	0.52	0.69	0.15	0.76	0.67	0.15	1.13	0.69	0.28	0.47	0.84	0.23
Control Delay	32.5	54.5	0.2	51.8	62.3	0.2	119.9	21.5	3.0	17.9	34.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	54.5	0.2	51.8	62.3	0.2	119.9	21.5	3.0	17.9	34.8	4.8
LOS	C	D	A	D	E	A	F	C	A	B	C	A
Approach Delay		28.5			33.7			49.0			30.1	
Approach LOS		C			C			D			C	

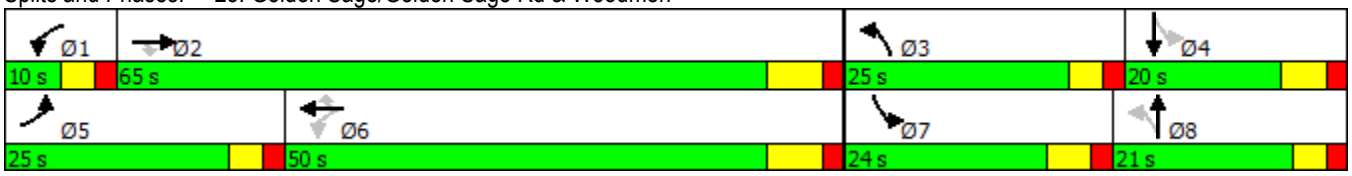
Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 105.8	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 38.4	Intersection LOS: D
Intersection Capacity Utilization 86.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: Meridian Rd & Eastonville Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	404	1630	121	99	1130	329	152	39	114	191	26	446
Future Volume (vph)	404	1630	121	99	1130	329	152	39	114	191	26	446
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2	6		6	8		Free	4		Free
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	11.0	11.0	9.0	11.0	11.0	9.0	9.5		10.0	10.0	
Total Split (s)	25.0	65.0	65.0	10.0	50.0	50.0	25.0	21.0		24.0	20.0	
Total Split (%)	20.8%	54.2%	54.2%	8.3%	41.7%	41.7%	20.8%	17.5%		20.0%	16.7%	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	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	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	5.0	5.0		6.0	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Act Effct Green (s)	16.3	58.5	58.5	54.3	47.2	47.2	19.7	7.8	104.7	21.1	8.6	104.7
Actuated g/C Ratio	0.16	0.56	0.56	0.52	0.45	0.45	0.19	0.07	1.00	0.20	0.08	1.00
v/c Ratio	0.72	0.87	0.14	0.65	0.74	0.38	0.51	0.30	0.08	0.61	0.18	0.30
Control Delay	50.9	27.8	3.0	38.9	30.1	3.9	39.1	53.9	0.1	43.4	49.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	50.9	27.8	3.0	38.9	30.1	3.9	39.1	53.9	0.1	43.5	49.8	0.5
LOS	D	C	A	D	C	A	D	D	A	D	D	A
Approach Delay		30.3			25.1			26.4			14.8	
Approach LOS		C			C			C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 104.7	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 26.1	Intersection LOS: C
Intersection Capacity Utilization 82.8%	ICU Level of Service E
Analysis Period (min) 15	

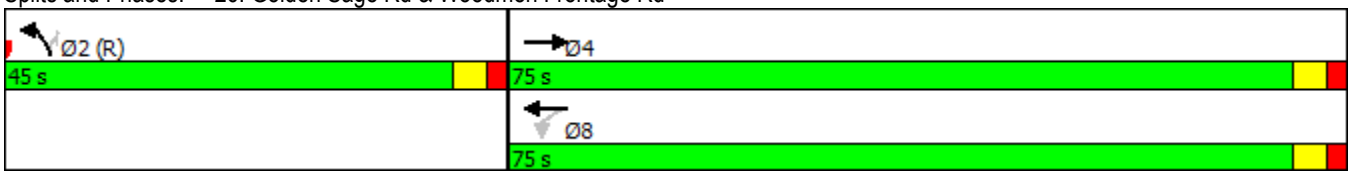
Splits and Phases: 25: Golden Sage/Golden Sage Rd & Woodmen



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	23	488	12	300	473
Future Volume (vph)	23	488	12	300	473
Turn Type	NA	Perm	NA	Prot	Perm
Protected Phases	4		8	2	
Permitted Phases		8			2
Detector Phase	4	8	8	2	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0
Total Split (s)	75.0	75.0	75.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	37.5%	37.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0		5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	65.4		65.4	44.6	44.6
Actuated g/C Ratio	0.54		0.54	0.37	0.37
v/c Ratio	0.21		0.91	0.56	0.53
Control Delay	2.8		45.5	34.9	5.3
Queue Delay	0.0		0.0	13.6	1.0
Total Delay	2.8		45.5	48.5	6.2
LOS	A		D	D	A
Approach Delay	2.8		45.5	25.2	
Approach LOS	A		D	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 30 (25%), Referenced to phase 2:NBL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 29.1	Intersection LOS: C
Intersection Capacity Utilization 78.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 26: Golden Sage Rd & Woodmen Frontage Rd



Intersection	
Intersection Delay, s/veh	5.2
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	269	177	9
Demand Flow Rate, veh/h	274	181	9
Vehicles Circulating, veh/h	5	0	181
Vehicles Exiting, veh/h	185	279	0
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	5.5	4.7	3.9
Approach LOS	A	A	A

Lane	Left	Left	Left
Designated Moves	T	T	LR
Assumed Moves	T	T	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	274	181	9
Cap Entry Lane, veh/h	1124	1130	943
Entry HV Adj Factor	0.980	0.980	1.000
Flow Entry, veh/h	269	177	9
Cap Entry, veh/h	1102	1108	943
V/C Ratio	0.244	0.160	0.010
Control Delay, s/veh	5.5	4.7	3.9
LOS	A	A	A
95th %tile Queue, veh	1	1	0

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Approach	WB	NB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	992	599	226
Demand Flow Rate, veh/h	1012	611	230
Vehicles Circulating, veh/h	8	221	674
Vehicles Exiting, veh/h	824	683	8
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	7.4	15.4	12.5
Approach LOS	A	C	B

Lane	Left	Bypass	Left	Left
Designated Moves	L	R	TR	LT
Assumed Moves	L	R	TR	LT
RT Channelized		Free		
Lane Util	1.000		1.000	1.000
Critical Headway, s	5.193		5.193	5.193
Entry Flow, veh/h	674	338	611	230
Cap Entry Lane, veh/h	1121	1938	906	576
Entry HV Adj Factor	0.981	0.980	0.980	0.982
Flow Entry, veh/h	661	331	599	226
Cap Entry, veh/h	1099	1900	888	565
V/C Ratio	0.601	0.174	0.674	0.399
Control Delay, s/veh	11.1	0.0	15.4	12.5
LOS	B	A	C	B
95th %tile Queue, veh	4	1	5	2

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	253	167	39	39	1
Future Vol, veh/h	8	253	167	39	39	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	266	176	41	41	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	217	0	-	0	479	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	283	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1353	-	-	-	545	845
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	765	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1353	-	-	-	542	845
Mov Cap-2 Maneuver	-	-	-	-	609	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	760	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1353	-	-	-	613
HCM Lane V/C Ratio	0.006	-	-	-	0.069
HCM Control Delay (s)	7.7	-	-	-	11.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	258	3	19	181	54	5	4	21	57	4	20
Future Vol, veh/h	31	258	3	19	181	54	5	4	21	57	4	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	272	3	20	191	57	5	4	22	60	4	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	275	0	0	610	625	273	611	599	219
Stage 1	-	-	-	-	-	-	338	338	-	259	259	-
Stage 2	-	-	-	-	-	-	272	287	-	352	340	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1319	-	-	1288	-	-	407	401	766	406	415	821
Stage 1	-	-	-	-	-	-	676	641	-	746	694	-
Stage 2	-	-	-	-	-	-	734	674	-	665	639	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1319	-	-	1288	-	-	381	385	766	379	398	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	381	385	-	379	398	-
Stage 1	-	-	-	-	-	-	659	625	-	727	683	-
Stage 2	-	-	-	-	-	-	700	664	-	625	623	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.6	11.5	15.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	589	1319	-	-	1288	-	-	438
HCM Lane V/C Ratio	0.054	0.025	-	-	0.016	-	-	0.195
HCM Control Delay (s)	11.5	7.8	-	-	7.8	-	-	15.2
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	312	4	14	239	58	3	9	21	60	4	12
Future Vol, veh/h	20	312	4	14	239	58	3	9	21	60	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	328	4	15	252	61	3	9	22	63	4	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	313	0	0	333	0	0	693	715	331	700	687	282
Stage 1	-	-	-	-	-	-	373	373	-	312	312	-
Stage 2	-	-	-	-	-	-	320	342	-	388	375	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1247	-	-	1226	-	-	358	356	711	354	370	757
Stage 1	-	-	-	-	-	-	648	618	-	699	658	-
Stage 2	-	-	-	-	-	-	692	638	-	636	617	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1247	-	-	1226	-	-	341	346	711	328	359	757
Mov Cap-2 Maneuver	-	-	-	-	-	-	341	346	-	328	359	-
Stage 1	-	-	-	-	-	-	637	608	-	687	650	-
Stage 2	-	-	-	-	-	-	668	630	-	596	607	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.4	12.5	17.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	513	1247	-	-	1226	-	-	362
HCM Lane V/C Ratio	0.068	0.017	-	-	0.012	-	-	0.221
HCM Control Delay (s)	12.5	7.9	-	-	8	-	-	17.7
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	377	16	62	294	17	53
Future Vol, veh/h	377	16	62	294	17	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	410	17	67	320	18	58

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	427	0	872	418
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	454	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1132	-	321	635
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	640	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1132	-	302	635
Mov Cap-2 Maneuver	-	-	-	-	425	-
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	602	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1132	-
HCM Lane V/C Ratio	0.134	-	-	0.06	-
HCM Control Delay (s)	12.3	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	29	424	6	20	354
Future Vol, veh/h	2	29	424	6	20	354
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	31	446	6	21	373

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	864	449	0	0	453	0
Stage 1	449	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Critical Hdwy	7.12	6.22	-	-	4.12	-
Critical Hdwy Stg 1	6.12	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	274	610	-	-	1108	-
Stage 1	589	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	270	610	-	-	1108	-
Mov Cap-2 Maneuver	395	-	-	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	589	1108	-
HCM Lane V/C Ratio	-	-	0.055	0.019	-
HCM Control Delay (s)	-	-	11.5	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Intersection Delay, s/veh	45.7
Intersection LOS	E

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	174	71	2	0	60	44	0	0	4	278	171
Future Vol, veh/h	0	174	71	2	0	60	44	0	0	4	278	171
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	183	75	2	0	63	46	0	0	4	293	180
Number of Lanes	0	0	1	0	0	0	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	2
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	2	2	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	2	1
HCM Control Delay	20.1	14.5	43.9
HCM LOS	C	B	E

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	70%	58%	100%	0%
Vol Thru, %	0%	62%	29%	42%	0%	61%
Vol Right, %	0%	38%	1%	0%	0%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	449	247	104	1	512
LT Vol	4	0	174	60	1	0
Through Vol	0	278	71	44	0	312
RT Vol	0	171	2	0	0	200
Lane Flow Rate	4	473	260	109	1	539
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.009	0.897	0.555	0.255	0.002	1.005
Departure Headway (Hd)	7.725	6.936	7.815	8.562	7.504	6.71
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	466	525	465	423	474	539
Service Time	5.425	4.636	5.815	6.562	5.303	4.508
HCM Lane V/C Ratio	0.009	0.901	0.559	0.258	0.002	1
HCM Control Delay	10.5	44.2	20.1	14.5	10.3	66.1
HCM Lane LOS	B	E	C	B	B	F
HCM 95th-tile Q	0	10.3	3.3	1	0	14.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	1	312	200
Future Vol, veh/h	0	1	312	200
Peak Hour Factor	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	328	211
Number of Lanes	0	1	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	66
HCM LOS	F

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	149	421	31	132	497
Future Vol, veh/h	15	149	421	31	132	497
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	25	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	157	443	33	139	523

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1260	459	0	0	476	0
Stage 1	459	-	-	-	-	-
Stage 2	801	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	188	602	-	-	1086	-
Stage 1	636	-	-	-	-	-
Stage 2	442	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	164	602	-	-	1086	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	385	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	547	1086	-
HCM Lane V/C Ratio	-	-	0.316	0.128	-
HCM Control Delay (s)	-	-	14.6	8.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.4	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	9	20	550	620	14
Future Vol, veh/h	14	9	20	550	620	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	25	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	9	21	579	653	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1281	660	667	0	-	0
Stage 1	660	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	183	463	923	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	179	463	923	-	-	-
Mov Cap-2 Maneuver	179	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	524	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	923	-	236	-	-
HCM Lane V/C Ratio	0.023	-	0.103	-	-
HCM Control Delay (s)	9	-	22	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	244	270	7	18	46
Future Vol, veh/h	48	244	270	7	18	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	2	2	5	5	5
Mvmt Flow	51	257	284	7	19	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	292	0	-	0	646	288
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	358	-
Critical Hdwy	4.15	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.245	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1253	-	-	-	431	744
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	701	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1253	-	-	-	411	744
Mov Cap-2 Maneuver	-	-	-	-	411	-
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	668	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1253	-	-	-	606
HCM Lane V/C Ratio	0.04	-	-	-	0.111
HCM Control Delay (s)	8	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	231	259	31	18	18
Future Vol, veh/h	31	231	259	31	18	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	243	273	33	19	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	305	0	-	0	597	289
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	308	-
Critical Hdwy	4.12	-	-	-	7.12	6.22
Critical Hdwy Stg 1	-	-	-	-	6.12	-
Critical Hdwy Stg 2	-	-	-	-	6.12	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1256	-	-	-	415	750
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	702	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1256	-	-	-	405	750
Mov Cap-2 Maneuver	-	-	-	-	405	-
Stage 1	-	-	-	-	697	-
Stage 2	-	-	-	-	681	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1256	-	-	-	526
HCM Lane V/C Ratio	0.026	-	-	-	0.072
HCM Control Delay (s)	7.9	0	-	-	12.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	228	278	46	28	12
Future Vol, veh/h	21	228	278	46	28	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	240	293	48	29	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	341	0	-	0	601	317
Stage 1	-	-	-	-	317	-
Stage 2	-	-	-	-	284	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1218	-	-	-	463	724
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	764	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1218	-	-	-	453	724
Mov Cap-2 Maneuver	-	-	-	-	546	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1218	-	-	-	589
HCM Lane V/C Ratio	0.018	-	-	-	0.071
HCM Control Delay (s)	8	0	-	-	11.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

87: Meridian Rd & RIRO Performance by movement Interval #1 7:00

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)		25.6	1.1	0.1	0.0	1.6

87: Meridian Rd & RIRO Performance by movement Interval #2 7:15

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)		32.9	1.3	0.1	0.1	2.0

87: Meridian Rd & RIRO Performance by movement Interval #3 7:30

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	0.6	29.8	1.2	0.0	0.1	1.9

87: Meridian Rd & RIRO Performance by movement Interval #4 7:45

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	0.3	30.6	1.2	0.1	0.1	1.9

87: Meridian Rd & RIRO Performance by movement Entire Run

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	0.8	30.8	1.2	0.1	0.1	1.9

Total Zone Performance By Interval

Interval Start	7:00	7:15	7:30	7:45	All
Stop Del/Veh (s)	80.3	58.1	102.3	61.4	180.6

87: Meridian Rd & RIRO Performance by movement Interval #1 5:00

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)		14.1	6.6	0.1	0.1	4.3

87: Meridian Rd & RIRO Performance by movement Interval #2 5:15

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)		18.8	44.8	0.1	0.1	21.8

87: Meridian Rd & RIRO Performance by movement Interval #3 5:30

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	0.4	13.3	57.5	0.1	0.1	25.2

87: Meridian Rd & RIRO Performance by movement Interval #4 5:45

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)		12.1	66.9	0.1	0.1	28.4

87: Meridian Rd & RIRO Performance by movement Entire Run

Movement	EBT	EBR	NBT	SBT	SBR	All
Stop Del/Veh (s)	0.4	15.1	43.2	0.1	0.1	20.0

Total Zone Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Stop Del/Veh (s)	115.1	405.4	517.6	560.4	1165.7

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	Approach 1	20	0	16.00	1	16.00	1	0.00	60.00	21.50
2	Approach 2	160	0	18.00	1	19.50	1	160.00	60.00	28.50
3	Approach 3	235	0	16.00	1	16.00	1	0.00	60.00	21.50
4	Approach 4	310	0	19.50	1	19.50	1	0.00	60.00	15.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Approach 1	120.00	16.00	1	16.00	1	16.00	1
2	Approach 2	120.00	16.00	1	16.00	1	16.00	1
3	Approach 3	120.00	16.00	1	16.00	1	16.00	1
4	Approach 4	120.00	16.00	1	16.00	1	16.00	1

Operational Results

2040 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Approach 1	None	65		24		338	1196		0.0549	
2	Approach 2	None	368		89		0	1298		0.2861	
3	Approach 3	None	167		153		304	1118		0.1509	
4	Approach 4	None	41		321		0	1346		0.0309	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Approach 1	None	3.29		3.29	0.15		A		A
2	Approach 2	None	4.60		4.60	1.00		A		A
3	Approach 3	None	4.31		4.31	0.45		A		A
4	Approach 4	None	2.76		2.76	0.08		A		A

Global Results

Performance and Accidents

2040 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	591		591
Capacity	veh/hr	4988		4988
Average Delay	sec/veh	4.42		4.42
L.O.S. (Signal)	A – F	A		A
L.O.S. (Unsig)	A – F	A		A
Total Delay	veh.hrs	0.73		0.73

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle ?
1	Approach 1	20	0	16.00	1	16.00	1	0.00	60.00	21.50
2	Approach 2	160	0	18.00	1	19.50	1	160.00	60.00	28.50
3	Approach 3	235	0	16.00	1	16.00	1	0.00	60.00	21.50
4	Approach 4	310	0	19.50	1	19.50	1	0.00	60.00	15.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Approach 1	120.00	16.00	1	16.00	1	16.00	1
2	Approach 2	120.00	16.00	1	16.00	1	16.00	1
3	Approach 3	120.00	16.00	1	16.00	1	16.00	1
4	Approach 4	120.00	16.00	1	16.00	1	16.00	1

Operational Results

2040 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Approach 1	None	71		4		462	1208		0.0589	
2	Approach 2	None	343		75		0	1307		0.2648	
3	Approach 3	None	278		178		240	1102		0.2546	
4	Approach 4	None	10		456		0	1252		0.0079	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Approach 1	None	3.29		3.29	0.16		A		A
2	Approach 2	None	4.48		4.48	0.91		A		A
3	Approach 3	None	5.06		5.06	0.86		A		A
4	Approach 4	None	0.04		0.04	0.00		A		A

Global Results

Performance and Accidents

2040 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	646		646
Capacity	veh/hr	4907		4907
Average Delay	sec/veh	4.68		4.68
L.O.S. (Signal)	A – F	A		A
L.O.S. (Unsig)	A – F	A		A
Total Delay	veh.hrs	0.84		0.84

FREEWAY WEAVING WORKSHEET

General Information

Analyst	KDF
Agency/Company	LSC
Date Performed	7/21/2017
Analysis Time Period	AM Peak Hour

Site Information

Freeway/Dir of Travel	Woodmen Rd
Weaving Segment Location	Meridian Rd & Right-in Only
Analysis Year	2040

Project Description Falcon Marketplace

Inputs

Weaving configuration	One-Sided	Segment type	Freeway
Weaving number of lanes, N	3	Freeway minimum speed, S_{MIN}	15
Weaving segment length, L_S	885ft	Freeway maximum capacity, C_{IFL}	1900
Freeway free-flow speed, FFS	50 mph	Terrain type	Level

Conversions to pc/h Under Base Conditions

	V (veh/h)	PHF	Truck (%)	RV (%)	E_T	E_R	f_{HV}	f_p	v (pc/h)
V_{FF}	1058	0.94	2	0	1.5	1.2	0.990	1.00	1137
V_{RF}	956	0.94	2	0	1.5	1.2	0.990	1.00	1027
V_{FR}	254	0.94	2	0	1.5	1.2	0.990	1.00	273
V_{RR}	85	0.94	2	0	1.5	1.2	0.990	1.00	91
V_{NW}	1228							V =	2528
V_W	1300								
VR	0.514								

Configuration Characteristics

Minimum maneuver lanes, N_{WL}	2 lc	Minimum weaving lane changes, LC_{MIN}	1300 lc/h
Interchange density, ID	1.0 int/mi	Weaving lane changes, LC_W	1448 lc/h
Minimum RF lane changes, LC_{RF}	1 lc/pc	Non-weaving lane changes, LC_{NW}	155 lc/h
Minimum FR lane changes, LC_{FR}	1 lc/pc	Total lane changes, LC_{ALL}	1603 lc/h
Minimum RR lane changes, LC_{RR}	lc/pc	Non-weaving vehicle index, I_{NW}	109

Weaving Segment Speed, Density, Level of Service, and Capacity

Weaving segment flow rate, v	2504 veh/h	Weaving intensity factor, W	0.361
Weaving segment capacity, c_w	4028 veh/h	Weaving segment speed, S	38.6 mph
Weaving segment v/c ratio	0.621	Average weaving speed, S_W	40.7 mph
Weaving segment density, D	21.8 pc/mi/ln	Average non-weaving speed, S_{NW}	36.6 mph
Level of Service, LOS	C	Maximum weaving length, L_{MAX}	7993 ft

Notes

a. Weaving segments longer than the calculated maximum length should be treated as isolated merge and diverge areas using the procedures of Chapter 13, "Freeway Merge and Diverge Segments".
b. For volumes that exceed the weaving segment capacity, the level of service is "F".

FREEWAY WEAVING WORKSHEET

General Information

Analyst	KDF
Agency/Company	LSC
Date Performed	7/21/2017
Analysis Time Period	PM Peak Hour

Site Information

Freeway/Dir of Travel	Woodmen Rd
Weaving Segment Location	Meridian Rd & Right-in Only
Analysis Year	2040

Project Description Falcon Marketplace

Inputs

Weaving configuration	One-Sided	Segment type	Freeway
Weaving number of lanes, N	3	Freeway minimum speed, S_{MIN}	15
Weaving segment length, L_S	885ft	Freeway maximum capacity, C_{IFL}	1900
Freeway free-flow speed, FFS	50 mph	Terrain type	Level

Conversions to pc/h Under Base Conditions

	V (veh/h)	PHF	Truck (%)	RV (%)	E_T	E_R	f_{HV}	f_p	v (pc/h)
V_{FF}	978	0.94	2	0	1.5	1.2	0.990	1.00	1051
V_{RF}	538	0.94	2	0	1.5	1.2	0.990	1.00	578
V_{FR}	278	0.94	2	0	1.5	1.2	0.990	1.00	299
V_{RR}	64	0.94	2	0	1.5	1.2	0.990	1.00	69
V_{NW}	1120							V =	1997
V_W	877								
VR	0.439								

Configuration Characteristics

Minimum maneuver lanes, N_{WL}	2 lc	Minimum weaving lane changes, LC_{MIN}	877 lc/h
Interchange density, ID	1.0 int/mi	Weaving lane changes, LC_W	1025 lc/h
Minimum RF lane changes, LC_{RF}	1 lc/pc	Non-weaving lane changes, LC_{NW}	133 lc/h
Minimum FR lane changes, LC_{FR}	1 lc/pc	Total lane changes, LC_{ALL}	1158 lc/h
Minimum RR lane changes, LC_{RR}	lc/pc	Non-weaving vehicle index, I_{NW}	99

Weaving Segment Speed, Density, Level of Service, and Capacity

Weaving segment flow rate, v	1977 veh/h	Weaving intensity factor, W	0.279
Weaving segment capacity, c_w	4227 veh/h	Weaving segment speed, S	41.3 mph
Weaving segment v/c ratio	0.468	Average weaving speed, S_W	42.4 mph
Weaving segment density, D	16.1 pc/mi/ln	Average non-weaving speed, S_{NW}	40.5 mph
Level of Service, LOS	B	Maximum weaving length, L_{MAX}	7124 ft

Notes

a. Weaving segments longer than the calculated maximum length should be treated as isolated merge and diverge areas using the procedures of Chapter 13, "Freeway Merge and Diverge Segments".
b. For volumes that exceed the weaving segment capacity, the level of service is "F".

Queuing and Blocking Report

Intersection: 1: Meridian Rd & Woodmen

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	L	L	T	T	R	L	L	T
Maximum Queue (ft)	471	464	314	268	156	223	329	300	248	157	375	800
Average Queue (ft)	295	289	148	158	29	95	218	187	125	62	204	469
95th Queue (ft)	478	488	260	245	103	172	306	272	227	126	437	813
Link Distance (ft)			4293	4293			674	674	674			2048
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	700	700			325	325				350	350	
Storage Blk Time (%)							0				0	26
Queuing Penalty (veh)							1				0	46

Intersection: 1: Meridian Rd & Woodmen

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T
Maximum Queue (ft)	772	250	133	164	281	297
Average Queue (ft)	453	164	75	94	162	180
95th Queue (ft)	782	358	124	144	255	267
Link Distance (ft)	2048				636	636
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		225	450	450		
Storage Blk Time (%)	40	0				
Queuing Penalty (veh)	70	1				

Queuing and Blocking Report

Intersection: 1: Meridian Rd & Woodmen

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	L	L	T	T	R	L	L	T
Maximum Queue (ft)	510	514	365	328	135	350	623	579	239	223	372	473
Average Queue (ft)	328	337	160	161	33	173	362	323	41	97	146	268
95th Queue (ft)	564	576	338	264	99	372	601	550	121	177	259	388
Link Distance (ft)			4293	4293			674	674	674			2048
Upstream Blk Time (%)							1	0				
Queuing Penalty (veh)							0	0				
Storage Bay Dist (ft)	700	700			325	325				350	350	
Storage Blk Time (%)	0	0	0			0	20			0	0	1
Queuing Penalty (veh)	0	1	0			0	30			0	0	4

Intersection: 1: Meridian Rd & Woodmen

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T
Maximum Queue (ft)	445	250	155	171	276	295
Average Queue (ft)	266	88	82	104	166	173
95th Queue (ft)	385	284	142	157	255	267
Link Distance (ft)	2048				636	636
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		225	450	450		
Storage Blk Time (%)	14	0				
Queuing Penalty (veh)	24	0				

Queuing and Blocking Report

Intersection: 1: Meridian Rd & Woodmen

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	L	L	T	T	R	L	L	T
Maximum Queue (ft)	881	878	597	546	168	535	672	663	442	444	488	220
Average Queue (ft)	522	524	163	161	56	286	500	477	204	298	332	106
95th Queue (ft)	940	950	400	344	143	629	773	757	693	554	601	180
Link Distance (ft)	900	900	900	900			661	661	661		540	540
Upstream Blk Time (%)	3	3					19	22	15	1	7	
Queuing Penalty (veh)	8	10					0	0	0	0	15	
Storage Bay Dist (ft)					435	435				525		
Storage Blk Time (%)							38			2	9	
Queuing Penalty (veh)							56			3	19	

Intersection: 1: Meridian Rd & Woodmen

Movement	NB	SB	SB	SB	SB
Directions Served	T	L	L	T	T
Maximum Queue (ft)	142	161	284	495	491
Average Queue (ft)	79	87	109	309	319
95th Queue (ft)	136	143	199	446	445
Link Distance (ft)	540			608	608
Upstream Blk Time (%)				0	0
Queuing Penalty (veh)				0	0
Storage Bay Dist (ft)		450	450		
Storage Blk Time (%)				1	
Queuing Penalty (veh)				2	

Queuing and Blocking Report

Intersection: 2: Meridian Rd & Eastonville Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	T	R	L	L	T	T	R
Maximum Queue (ft)	97	134	169	119	280	180	61	164	158	177	194	94
Average Queue (ft)	24	58	66	19	189	80	9	90	68	71	79	21
95th Queue (ft)	68	105	123	70	292	153	35	153	130	149	157	60
Link Distance (ft)			235		261	261	261			457	457	457
Upstream Blk Time (%)		0	0		6	0						
Queuing Penalty (veh)		0	1		0	0						
Storage Bay Dist (ft)	210	210		170				450	450			
Storage Blk Time (%)			0	0								
Queuing Penalty (veh)			1	0								

Intersection: 2: Meridian Rd & Eastonville Rd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	410	844	846	275
Average Queue (ft)	160	774	794	123
95th Queue (ft)	431	979	957	325
Link Distance (ft)		799	799	
Upstream Blk Time (%)		18	52	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)	385			250
Storage Blk Time (%)	0	31	49	0
Queuing Penalty (veh)	0	31	42	0

Intersection: 25: Golden Sage/Golden Sage Rd & Woodmen

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	B23	NB	NB
Directions Served	L	L	T	T	R	L	T	T	R	T	L	T
Maximum Queue (ft)	459	418	243	221	56	398	559	572	400	4	148	115
Average Queue (ft)	287	247	134	90	15	72	389	395	121	0	89	19
95th Queue (ft)	466	429	209	180	40	263	576	588	381	3	147	66
Link Distance (ft)	867	867	867	867			637	637		2653		491
Upstream Blk Time (%)							1	1				
Queuing Penalty (veh)							5	7				
Storage Bay Dist (ft)					400	465			375		130	
Storage Blk Time (%)						0	5	15	0		5	
Queuing Penalty (veh)						0	4	18	0		3	

Intersection: 25: Golden Sage/Golden Sage Rd & Woodmen

Movement	SB	SB
Directions Served	L	T
Maximum Queue (ft)	181	60
Average Queue (ft)	154	15
95th Queue (ft)	208	43
Link Distance (ft)	153	153
Upstream Blk Time (%)	26	
Queuing Penalty (veh)	54	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 58: Woodmen Right-In Only/Gas Station Access & Internal Street

Movement	EB	WB	NB	SB
Directions Served	T	T	LR	LR
Maximum Queue (ft)	25	31	79	34
Average Queue (ft)	1	4	24	5
95th Queue (ft)	12	21	62	23
Link Distance (ft)	316	195	182	83
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 280

Queuing and Blocking Report

Intersection: 1: Meridian Rd & Woodmen

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	T	T	L	L	T	T	R	L	L	T
Maximum Queue (ft)	1030	1038	1002	897	165	535	934	940	934	437	507	668
Average Queue (ft)	715	721	467	341	70	422	747	743	532	286	331	523
95th Queue (ft)	1196	1196	986	713	145	723	1146	1130	1197	498	550	776
Link Distance (ft)	900	900	900	900			899	899	899		534	534
Upstream Blk Time (%)	37	38	6	0			34	38	24	0	2	44
Queuing Penalty (veh)	176	182	29	0			0	0	0	0	8	183
Storage Bay Dist (ft)					435	435				525		
Storage Blk Time (%)							70			0	2	
Queuing Penalty (veh)							157			0	6	

Intersection: 1: Meridian Rd & Woodmen

Movement	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	R
Maximum Queue (ft)	655	477	348	466	567	573	320
Average Queue (ft)	520	34	200	254	355	368	33
95th Queue (ft)	769	270	329	461	580	586	264
Link Distance (ft)	534	534			608	608	608
Upstream Blk Time (%)	42				1	2	1
Queuing Penalty (veh)	175				7	9	4
Storage Bay Dist (ft)			450	450			
Storage Blk Time (%)			0	0	10		
Queuing Penalty (veh)			0	1	47		

Queuing and Blocking Report

Intersection: 2: Meridian Rd & Eastonville Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	T	R	L	L	T	T	R
Maximum Queue (ft)	187	220	259	211	300	246	95	258	262	333	354	120
Average Queue (ft)	93	123	127	58	189	112	34	146	126	172	189	42
95th Queue (ft)	163	188	214	146	316	217	79	237	225	317	339	98
Link Distance (ft)			235		262	262	262			457	457	457
Upstream Blk Time (%)		0	1	0	24	1						
Queuing Penalty (veh)		0	7	0	0	0						
Storage Bay Dist (ft)	210	210		170				450	450			
Storage Blk Time (%)	0	0	3									
Queuing Penalty (veh)	0	0	18									

Intersection: 2: Meridian Rd & Eastonville Rd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	357	545	555	350
Average Queue (ft)	78	309	300	84
95th Queue (ft)	181	456	461	265
Link Distance (ft)		853	853	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	385			250
Storage Blk Time (%)		2	16	
Queuing Penalty (veh)		2	21	

Intersection: 25: Golden Sage/Golden Sage Rd & Woodmen

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	L	T	L
Maximum Queue (ft)	391	492	771	666	280	158	349	352	281	169	136	170
Average Queue (ft)	221	159	381	338	53	60	205	220	112	83	36	122
95th Queue (ft)	350	315	650	598	245	122	333	340	242	145	88	185
Link Distance (ft)	867	867	867	867			637	637			491	153
Upstream Blk Time (%)		0	0									7
Queuing Penalty (veh)		0	0									16
Storage Bay Dist (ft)					400	465			375	130		
Storage Blk Time (%)				5				0		3	0	
Queuing Penalty (veh)				6				0		5	0	

Intersection: 25: Golden Sage/Golden Sage Rd & Woodmen

Movement	SB
Directions Served	T
Maximum Queue (ft)	68
Average Queue (ft)	21
95th Queue (ft)	50
Link Distance (ft)	153
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 58: Woodmen Right-In Only/Gas Station Access & Internal Street

Movement	EB	WB	NB	SB
Directions Served	T	T	LR	LR
Maximum Queue (ft)	31	31	75	7
Average Queue (ft)	2	3	29	0
95th Queue (ft)	19	19	65	5
Link Distance (ft)	316	195	182	80
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

Intersection: 88: Woodmen & Woodmen Right-In Only

Movement	EB	EB	EB	EB	B23	B23	WB	WB
Directions Served	T	T	T	T	T	T	T	T
Maximum Queue (ft)	373	369	308	204	157	305	217	426
Average Queue (ft)	80	81	60	25	0	11	8	15
95th Queue (ft)	323	318	265	145	0	142	143	201
Link Distance (ft)			2276	2276	637	637	900	900
Upstream Blk Time (%)					0			
Queuing Penalty (veh)					0			
Storage Bay Dist (ft)	1000	1000						
Storage Blk Time (%)								
Queuing Penalty (veh)								

Zone Summary

Zone wide Queuing Penalty: 1062

Queuing and Blocking Report

Intersection: 1: Meridian Rd & Woodmen

Movement	EB	EB	EB	EB	B88	B88	B88	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	T	L	L	T	T	R
Maximum Queue (ft)	894	884	521	475	33	29	22	242	468	605	550	224
Average Queue (ft)	528	520	152	151	1	1	0	62	182	366	333	36
95th Queue (ft)	910	914	349	294	10	13	0	174	427	601	552	158
Link Distance (ft)	912	912	912	912	2313	2313	2313			661	661	661
Upstream Blk Time (%)	3	2								1	0	0
Queuing Penalty (veh)	8	6								0	0	0
Storage Bay Dist (ft)								435	435			
Storage Blk Time (%)								0	0	12		
Queuing Penalty (veh)								0	0	18		

Intersection: 1: Meridian Rd & Woodmen

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	L	L	T	T	R
Maximum Queue (ft)	222	260	251	191	156	218	412	413	71
Average Queue (ft)	126	157	144	101	86	104	283	292	3
95th Queue (ft)	198	228	224	175	137	171	415	422	52
Link Distance (ft)		541	541	541			608	608	608
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	525				450	450			
Storage Blk Time (%)						0	0		
Queuing Penalty (veh)						0	1		

Queuing and Blocking Report

Intersection: 2: Meridian Rd & Eastonville Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	T	R	L	L	T	T	R
Maximum Queue (ft)	88	114	132	76	280	206	57	348	364	309	257	77
Average Queue (ft)	27	62	58	20	183	80	11	227	218	98	91	19
95th Queue (ft)	72	99	113	56	291	151	39	371	390	273	214	49
Link Distance (ft)			235		260	260	260			457	457	457
Upstream Blk Time (%)					7	0		0	0	0	0	
Queuing Penalty (veh)					0	0		0	0	0	0	
Storage Bay Dist (ft)	210	210		170				450	450			
Storage Blk Time (%)			0					0	0	0		
Queuing Penalty (veh)			0					0	1	0		

Intersection: 2: Meridian Rd & Eastonville Rd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	410	731	748	275
Average Queue (ft)	137	676	700	163
95th Queue (ft)	407	872	846	364
Link Distance (ft)		705	705	
Upstream Blk Time (%)		16	48	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)	385			250
Storage Blk Time (%)	0	23	47	0
Queuing Penalty (veh)	0	23	67	1

Queuing and Blocking Report

Intersection: 25: Golden Sage/Golden Sage Rd & Woodmen

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	B23	B23	B88
Directions Served	L	L	T	T	R	L	T	T	R	T	T	T
Maximum Queue (ft)	507	480	303	215	48	490	725	722	400	456	462	17
Average Queue (ft)	339	301	126	101	16	129	530	544	218	94	102	1
95th Queue (ft)	543	509	230	191	38	428	819	830	514	397	419	10
Link Distance (ft)	867	867	867	867			637	637		2653	2653	912
Upstream Blk Time (%)							14	17				
Queuing Penalty (veh)							149	180				
Storage Bay Dist (ft)					400	465			375			
Storage Blk Time (%)						0	21	30	0			
Queuing Penalty (veh)						0	16	55	1			

Intersection: 25: Golden Sage/Golden Sage Rd & Woodmen

Movement	B88	NB	NB	NB	SB	SB
Directions Served		L	T	R	L	T
Maximum Queue (ft)	11	152	178	42	180	66
Average Queue (ft)	0	96	28	1	158	17
95th Queue (ft)	6	158	103	31	202	49
Link Distance (ft)	912		491		153	153
Upstream Blk Time (%)					27	
Queuing Penalty (veh)					56	
Storage Bay Dist (ft)		130		185		
Storage Blk Time (%)		6				
Queuing Penalty (veh)		4				

Zone Summary

Zone wide Queuing Penalty: 589

Queuing and Blocking Report

Intersection: 1: Meridian Rd & Woodmen

Movement	EB	EB	EB	EB	EB	B88	B88	B88	B88	B5	B5	B5
Directions Served	L	L	T	T	R	T	T	T	T	T	T	T
Maximum Queue (ft)	1009	1004	988	933	99	2391	2400	2398	2393	687	693	693
Average Queue (ft)	816	814	556	342	4	879	892	884	862	41	44	46
95th Queue (ft)	1248	1250	1153	801	73	2381	2408	2416	2409	272	280	290
Link Distance (ft)	912	912	912	912		2313	2313	2313	2313	2653	2653	2653
Upstream Blk Time (%)	64	64	16	0		11	11	12	12			
Queuing Penalty (veh)	307	310	77	1		53	55	58	55			
Storage Bay Dist (ft)					400							
Storage Blk Time (%)				1								
Queuing Penalty (veh)				2								

Intersection: 1: Meridian Rd & Woodmen

Movement	B5	WB	WB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	T	L	L	T	T	R	L	L	T	T	R	L
Maximum Queue (ft)	676	182	219	380	482	727	206	240	663	668	508	404
Average Queue (ft)	42	74	129	236	235	331	94	122	595	580	32	238
95th Queue (ft)	280	172	200	362	410	690	191	222	769	779	260	383
Link Distance (ft)	2653			899	899	899		534	534	534	534	
Upstream Blk Time (%)					1	1			75	69		
Queuing Penalty (veh)					0	0			312	286		
Storage Bay Dist (ft)		435	435				525					450
Storage Blk Time (%)				0								0
Queuing Penalty (veh)				0								0

Intersection: 1: Meridian Rd & Woodmen

Movement	SB	SB	SB
Directions Served	L	T	T
Maximum Queue (ft)	404	359	351
Average Queue (ft)	251	216	230
95th Queue (ft)	392	327	338
Link Distance (ft)		608	608
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	450		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Queuing and Blocking Report

Intersection: 2: Meridian Rd & Eastonville Rd

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	T	R	L	L	T	T	R
Maximum Queue (ft)	188	218	259	221	301	273	175	455	457	526	422	89
Average Queue (ft)	95	125	127	52	224	143	37	418	426	450	176	32
95th Queue (ft)	172	199	221	137	340	272	115	521	555	622	325	71
Link Distance (ft)			235		262	262	262			457	457	457
Upstream Blk Time (%)		0	1	0	41	6	0	8	38	62	0	
Queuing Penalty (veh)		0	6	0	0	0	0	0	0	443	0	
Storage Bay Dist (ft)	210	210		170				450	450			
Storage Blk Time (%)	0	0	3	0				17	51	62		
Queuing Penalty (veh)	0	0	20	0				108	319	400		

Intersection: 2: Meridian Rd & Eastonville Rd

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	341	595	573	350
Average Queue (ft)	75	323	300	90
95th Queue (ft)	220	510	486	268
Link Distance (ft)		853	853	
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)	385			250
Storage Blk Time (%)		5	15	
Queuing Penalty (veh)		5	25	

Queuing and Blocking Report

Intersection: 25: Golden Sage/Golden Sage Rd & Woodmen

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	B88	B88	NB
Directions Served	L	L	T	T	R	L	T	T	R	T	T	L
Maximum Queue (ft)	382	327	498	496	234	167	354	359	322	352	181	173
Average Queue (ft)	226	168	288	279	32	61	194	211	114	13	13	86
95th Queue (ft)	355	310	446	434	130	123	330	342	227	185	188	148
Link Distance (ft)	867	867	867	867			637	637		912	912	
Upstream Blk Time (%)										0	0	
Queuing Penalty (veh)										0	0	
Storage Bay Dist (ft)					400	465			375			130
Storage Blk Time (%)				1				0	0			4
Queuing Penalty (veh)				2				0	0			5

Intersection: 25: Golden Sage/Golden Sage Rd & Woodmen

Movement	NB	SB	SB
Directions Served	T	L	T
Maximum Queue (ft)	122	178	78
Average Queue (ft)	33	126	22
95th Queue (ft)	85	192	57
Link Distance (ft)	491	153	153
Upstream Blk Time (%)		10	
Queuing Penalty (veh)		22	
Storage Bay Dist (ft)			
Storage Blk Time (%)	0		
Queuing Penalty (veh)	1		

Zone Summary

Zone wide Queuing Penalty: 2872