Traffic Study

Aloft Winery P16-00429-UP
Planning Commission Hearing Date September 5, 2018

TRAFFIC IMPACT REPORT

PROPOSED ALOFT WINERY

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I. INTRODUCTION

This traffic report has been prepared at the request of the proposed Aloft Winery to determine if traffic from the proposed winery will result in any significant impacts to the local circulation system and the need for any mitigation measures. **Figure 1** shows the proposed winery location at the end of Cold Springs Road in the community of Angwin about a mile from Howell Mountain Road.

II. SCOPE OF SERVICES

The scope of service for this traffic study was approved by the Napa County Public Works Department. Evaluation was conducted for harvest Friday and Saturday PM peak traffic conditions. Existing (2016), year 2020 and year 2030 (Cumulative – General Plan Buildout) horizons were evaluated both with and without project traffic. Operating conditions at the Cold Springs Road intersections with Howell Mountain Road and Las Posadas Road were evaluated for all analysis scenarios based upon recently updated significance criteria utilized in all recent County traffic studies. In addition, the project driveway intersection with the end of Cold Springs Road was evaluated for sight line adequacy. Significant impacts, if any, were identified and measures listed, if needed, to mitigate all impacts to a less than significant level.

III. SUMMARY OF FINDINGS

A. "WITHOUT PROJECT" OPERATING CONDITIONS

1. EXISTING VOLUMES – HARVEST 2016

Analysis peak traffic hours were based upon the highest volumes surveyed at the Cold Springs Road intersection with Howell Mountain Road found during counts for this study. Based upon seasonal adjustments of October 2016 traffic counts, two-way September harvest 2016 volumes along Howell Mountain Road just south of Cold Springs Road would be higher during the Friday PM peak hour compared to the Saturday PM peak hour (about 500 Friday PM peak hour vehicles versus about 370 Saturday PM peak hour vehicles). However, volumes along Cold Springs Road just south of Las Posadas Road would be similar during both peak hours (about 40 vehicles during both the Friday and Saturday PM peak hours). The driveway serving the project site had no volumes during either the Friday or Saturday PM peak hours, but the two adjacent driveways had a total of 7 vehicles during the Friday PM peak hour and 4 vehicles during the Saturday PM peak hour.

2. YEAR 2016 HARVEST – CIRCULATION SYSTEM ACCEPTABLE LEVEL OF SERVICE OPERATION

- **Cold Springs Road/Howell Mountain Road**
  - Acceptable operation during both the Friday & Saturday PM peak traffic hours
- **Cold Springs Road/Las Posadas Road/Discoveryland Preschool Driveway**
  - Acceptable operation during both the Friday & Saturday PM peak traffic hours

3. YEAR 2020 HARVEST – CIRCULATION SYSTEM ACCEPTABLE LEVEL OF SERVICE OPERATION

- **Cold Springs Road/Howell Mountain Road**
  - Acceptable operation during both the Friday & Saturday PM peak traffic hours
- **Cold Springs Road/Las Posadas Road/Discoveryland Preschool Driveway**
  - Acceptable operation during both the Friday & Saturday PM peak traffic hours

4. YEAR 2030 CUMULATIVE HARVEST – CIRCULATION SYSTEM ACCEPTABLE LEVEL OF SERVICE OPERATION

- **Cold Springs Road/Howell Mountain Road**
  - Acceptable operation during both the Friday & Saturday PM peak traffic hours
- **Cold Springs Road/Las Posadas Road/Discoveryland Preschool Driveway**
  - Acceptable operation during both the Friday & Saturday PM peak traffic hours

B. PROJECT IMPACTS

1. PROJECT TRIP GENERATION

The proposed project will result in the following trip generation during harvest Friday and Saturday PM peak traffic hours.

PROJECT TRIP GENERATION
HARVEST

FRIDAY PM PEAK HOUR* (3:15-4:15)		SATURDAY PM PEAK HOUR* (12:30-1:30)	
INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
1	3	1	1

* Peak traffic hours at Cold Springs Road/Howell Mountain Road

Trips during the Friday and Saturday PM peak hours would be mostly visitors by appointment. Possibly one of the outbound trips during the Friday PM peak hour would be a delivery truck. The proposed project has agreed not to have traffic on the local roadway system during times when students will be walking or biking to/from the PUC Elementary School along Cold Springs Road, during weekdays when the PUC

Elementary School is in operation. Periods are 7:30-8:15 AM Monday-Friday; 3:00-3:45 PM Monday-Thursday and 11:45 AM-12:30 PM Friday.

2. YEAR 2016 HARVEST + PROJECT OFF-SITE CIRCULATION IMPACTS

The proposed project would not result in any significant off-site level of service impacts to the Cold Springs Road intersections with Howell Mountain Road or Las Posadas Road. The project would not degrade operation from acceptable to unacceptable at either location. ***Less than Significant.***

3. YEAR 2020 HARVEST + PROJECT OFF-SITE CIRCULATION IMPACTS

The proposed project would not result in any significant off-site level of service impacts to the Cold Springs Road intersections with Howell Mountain Road or Las Posadas Road. The project would not degrade operation from acceptable to unacceptable at either location. ***Less than Significant.***

4. YEAR 2030 (CUMULATIVE) HARVEST + PROJECT OFF-SITE CIRCULATION IMPACTS

The proposed project would not result in any significant off-site level of service impacts to the Cold Springs Road intersections with Howell Mountain Road or Las Posadas Road. The project would not degrade operation from acceptable to unacceptable at either location. ***Less than Significant.***

5. SIGHT LINES AT WINERY DRIVEWAY

The project driveway connects to a cul-de-sac at the south end of Cold Springs Road about 3,700 feet south of Las Posadas Road. Sight lines for drivers exiting the project driveway would be acceptable only assuming they stop before entering the cul-de-sac. ***Potentially Significant.***

6. COLD SPRINGS ROAD

Cold Springs Road narrows to about 14 to 15 feet for the last ± 1,000 feet before the road's end at a cul-de-sac. The majority of this narrow two-lane road is on a straight alignment where opposing traffic can see and be seen. However, there is a minor horizontal curve in combination with a hill crest and trees/landscaping adjacent to the edges of the road about 1,000 feet north of the cul-de-sac where sight lines are reduced. Opposite direction vehicles must proceed slowly through this segment with reduced sight lines. ***Potentially Significant.***

7. MARKETING EVENTS

Marketing events may occur between 10:00 AM and 10:00 PM. However, guest arrival and departure times would be arranged to avoid traffic on Silverado Trail and SR 29 between 3:00 and 5:00 PM, the times of peak traffic along Silverado Trail and SR 29. ***Less than Significant.***

8. MITIGATIONS

- Consider shuttle bus service for the 125-person marketing event.
- Provide a stop sign on the project driveway approach to the Cold Springs Road cul-de-sac.
- Post Cold Springs Road with horizontal alignment warning signs on both approaches to the segment of roadway about 1,000 feet north of the road's cul-de-sac where sight lines are reduced due to roadway curvature, grade change and trees/landscaping in close proximity to the edges of the road. The California MUTCD 2014 Edition, Revision 2, Section 2C.06 indicates that a W1-2 sign in advance of a curve may be used on a roadway with less than 1,000 Annual Average Daily Traffic (AADT) volumes based on engineering judgment. The purpose of the horizontal alignment warning sign would be to inform first time drivers of Cold Springs Road (i.e. winery visitors) that added attention should be paid at this particular location.

C. CONCLUSIONS & RECOMMENDATIONS

The Aloft Winery will not result in any significant off-site circulation system operational impacts to the Cold Springs Road intersections with Howell Mountain Road or Las Posadas Road. Sight lines are acceptable at the Winery's driveway connection to the end of the Cold Springs Road cul-de-sac assuming outbound site traffic stops at the driveway entrance to the cul-de-sac. In addition, arrangements would be made to prevent any marketing event guest traffic being on the local circulation system between 3:00 and 5:30 PM. However, there is one location along Cold Springs Road (about 1,000 feet north of the project driveway) where the road has a horizontal curve, a minor grade change as well as trees/landscaping in close proximity to the edges of the road that limit sight lines and requires two-way traffic flow to proceed slowly. Mitigation measures would include requiring a stop sign on the project driveway approach to Cold Springs Road and posting horizontal alignment warning signs on both approaches to the section of Cold Springs Road about 1,000 feet north of the project entrance.

IV. PROJECT LOCATION & DESCRIPTION

The Aloft Winery will be located to the south of the Cold Springs Road cul-d-sac (see **Figure 2**). The current driveway connection to Cold Springs Road will be maintained. It currently serves two residences and vineyards.

The proposed Aloft Winery will include the following components.

- Production of 50,000 gallons/year.
- Up to 6 full-time and 4 part-time employees during harvest.
- 76% of grapes required will be grown off site. Grapes will be transported to the site in, at most, 2 trucks per day over a 2-month period (beginning September 1 to the end of October). However, there will be some days during this period when there will be only one or no grape delivery trucks.

- There will be a reduction of about 14 outhaul grape trucks per year.
- Maximum 20 tours and tasting visitors per day (by appointment only) – 7 days per week from 10:00 AM to 6:00 PM.
- Marketing events –
  - 24/year, maximum 40 people (10:00 AM-6:00 PM or 6:00 PM-10:00 PM); 15 to 16 guest vehicles.
  - 4/year, maximum 75 people (10:00 AM-6:00 PM or 6:00 PM-10:00 PM); 27 guest vehicles.
  - 2/year, maximum 125 people (10:00 AM-6:00 PM or 6:00 PM-10:00 PM); 45 guest vehicles.
- Traffic prohibitions along Cold Springs Road during times of students walking/biking to/from the PUC Elementary School, during weekdays when the PUC Elementary School is in operation: 7:30-8:15 AM Monday-Friday; 3:00-3:45 PM Monday-Thursday and 11:45 AM-12:30 PM Friday.

Marketing event schedules would be arranged to prevent any guest traffic on the local circulation system between 3:00 and 5:30 PM.

V. CIRCULATION SYSTEM EVALUATION PROCEDURES

A. ANALYSIS LOCATIONS

At County direction, the following locations have been evaluated.

1. **Cold Springs Road/Howell Mountain Road intersection (the Cold Springs Road westbound approach is stop sign controlled).**

2. **Cold Springs Road/Las Posadas Road/Discoveryland Preschool driveway intersection (the Cold Springs Road northbound, Las Posadas Road westbound and Discoveryland Preschool driveway southbound approaches are stop sign controlled).**

3. **Cold Springs Road between Howell Mountain Road and Las Posadas Road.**

4. **Cold Springs Road between Las Posadas Road and the cul-de-sac at the south end of the road.**

5. **Cold Springs Road cul-de-sac/Aloft Winery driveway intersection.**

The intersections requested for analysis are shown in **Figure 2** along with a schematic presentation of their approach lanes and control.

B. ROADWAY DESCRIPTION

Howell Mountain Road is a two-lane arterial roadway running in a general north-south direction through the community of Angwin. It continues downhill to the south, changes names to Deer Park Road, and then intersects both Silverado Trail and State Route 29. It also continues downhill to the north of Angwin into the Pope Valley. In the vicinity of Cold Springs Road it has a posted speed limit of 35 miles per hour, paved shoulders and a sidewalk along the east side of the street. It is uncontrolled at the Cold Springs Road Tee intersection and a left turn lane is provided on the southbound intersection approach.

Cold Springs Road is a two-lane rural road extending east of Howell Mountain Road for about 1,250 feet before intersecting Las Posadas Road, and then turns south and extends about 3,700 feet before ending at a cul-de-sac. At the Cold Springs Road/Las Posadas Road intersection the west and south legs are Cold Springs Road, the east leg is Las Posadas Road and the north leg is the driveway serving the Discoveryland Preschool parking lot. The north, west and southbound approaches are stop sign controlled, while the eastbound Cold Springs Road approach is not. An exclusive right turn lane is provided on the eastbound Cold Springs Road approach allowing uncontrolled flow to southbound Cold Springs Road.

Cold Springs Road between Howell Mountain Road and the Las Posadas Road intersection has a posted speed limit of 25 miles per hour, no centerline striping, limited or no shoulder areas, and an asphalt path (or sidewalk) along the north side of the road. The Pacific Union College Elementary School and the Discoveryland Preschool line the north side of the street, while residences line the south side of the street.

Cold Springs Road between the Las Posadas Road intersection and the end of the road, about 3,700 feet to the south, has a posted speed limit of 35 miles per hour, no centerline striping and only limited gravel shoulder areas. There are no curbs, gutters, sidewalks or pathways. It is lined by residences on both sides of the road. There are minor vertical and horizontal curves. The road is wide enough for comfortable two-way traffic flow for about the first 2,500 feet south of Las Posadas Road. At that point the road crests a minor hill and traverses a gentle horizontal curve while narrowing to 14 to 15 feet between a large tree (on the west side) and a stone wall (on the east side of the street). Two-way traffic flow is required to proceed at slow speed. South of this point the road, goes downhill and then is level and straight (with good sight lines) the remaining 800 feet to the cul-de-sac at the end of the road. However, while sight lines are good this last 800 feet, the roadway is still 14 to 15 feet wide and two-way traffic flow occasionally needs to take advantage of widened pavement at driveway connections.

Three driveways connect to the south end of the cul-de-sac at the end of Cold Springs Road. The westerly driveway serves the project site and its existing two residences and vineyards. There is no stop sign control on the project driveway approach to the cul-de-sac nor on the other two driveway approaches. The closest driveway to the project access in the cul-de-sac is about 30 feet to the east.

Las Posadas Road is a rural two-lane roadway without centerline striping and limited shoulder areas.

C. VOLUMES

1. ANALYSIS SEASONS AND DAYS OF THE WEEK

At County request project traffic impacts have been evaluated during harvest conditions. Based upon year 2015 and 2016 Friday and Saturday peak traffic period historical information from Caltrans PeMS (Performance Measurement System) count surveys along SR 29 in the Napa Valley, September has the highest daily volumes of the year (during harvest).

Based upon historical counts of Napa Valley traffic, summertime (non-harvest) traffic volumes are just slightly lower than harvest volumes. A non-harvest analysis for any of the horizon years evaluated would therefore produce exactly the same findings as the harvest evaluation: "Without Project" peak hour volumes being well below capacity and no significant off-site circulation impacts due to the project.

In regards to the peak traffic days of the week, the Napa County Travel Behavioral Study[1] shows that the highest weekday volumes in Napa Valley occur on a Friday, with the highest weekend volumes occurring on a Saturday. In addition, historical count data from the City of Napa show that Friday has the highest volumes of any weekday, while Caltrans historical counts for SR 29 between St. Helena and Napa also show that weekday AM and PM peak hour volumes are higher on a Friday than on either a Wednesday or Thursday. Therefore, Friday and Saturday peak traffic conditions were evaluated at all analysis locations in this study.

2. COUNT RESULTS

Friday 3:00 to 6:00 PM and Saturday noon to 6:00 PM turn movement counts were conducted by Crane Transportation Group (CTG) in mid October[2] 2016 at the Cold Springs Road intersections with Howell Mountain Road, Las Posadas Road and the project driveway. The peak traffic hours were 3:15 to 4:15 PM on Friday and 12:30 to 1:30 PM on Saturday. Resultant October 2016 peak hour counts are presented in **Appendix Figure 1**.

3. SEASONAL ADJUSTMENTS

October 2016 peak hour traffic counts were seasonally adjusted to reflect 2016 September harvest conditions. Historical traffic count data from Caltrans PeMS system as well as past studies were used to determine that September Friday volumes are about 5 percent higher than October Friday volumes, while September Saturday volumes are about 4 percent higher than October Saturday volumes.

Resultant 2016 harvest Friday and Saturday PM peak hour volumes are presented in **Figure 3**.

[1] Fehr & Peers, December 8, 2014.

[2] October 21 (Friday) and 22 (Saturday).

D. INTERSECTION LEVEL OF SERVICE

1. ANALYSIS METHODOLOGY

Transportation engineers and planners commonly use a grading system called level of service (LOS) to measure and describe the operational status of the local roadway network. LOS is a description of the quality of a roadway facility's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). Intersections, rather than roadway segments between intersections, are almost always the capacity controlling locations for any circulation system.

Unsignalized Intersections. For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the 2010 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology for unsignalized intersections was utilized. For side-street stop-controlled intersections, operations are defined by the level of service and average control delay per vehicle (measured in seconds), with delay reported for the stop sign controlled approaches or turn movements, although overall delay is also typically reported for intersections along major highways. For all-way stop-controlled intersections, operations are defined by the average control delay for the entire intersection (measured in seconds per vehicle). The delay at an unsignalized intersection incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 1** summarizes the relationship between delay and LOS for unsignalized intersections.

2. MINIMUM ACCEPTABLE OPERATION

Napa County recently adopted new minimum acceptable operating condition standards for unsignalized intersections. Based upon the new standards, Level of Service D (LOS D) is the poorest acceptable operation for side street stop sign controlled approaches at two-way stop intersections and for all-way-stop intersections.

E. PLANNED IMPROVEMENTS

There are no planned and funded circulation system capacity improvements at any location evaluated in this study.[3]

F. LOCAL SCHOOL SCHEDULES

There is one school and one preschool located along the north side of Cold Springs Road between Howell Mountain Road and Las Posadas Road: the PUC Elementary School near

[3] Mr. Rick Marshall, P.E., Napa County Public Works Department, February 2017.

Howell Mountain Road and the Discoveryland Preschool and Childcare Center at the Cold Springs Road/Las Posadas road intersection.

- PUC Elementary School – 135 Nielson Court (grades K-8)
  Monday to Thursday 8:00 AM to 3:15 PM
  Friday 8:00 AM to Noon
  Some children walk and bike to/from school. All others are driven. There is no busing.

- Discoveryland Preschool and Childcare Center – 85 Cold Springs Road (ages 2-5)
  Monday to Friday
  Arrival Time: 7:30-9:00 AM
  Departure Time: throughout the afternoon until 5:30 PM
  All children are driven.

VI. FUTURE HORIZON TRAFFIC VOLUME PROJECTIONS (WITHOUT PROJECT)

Traffic analysis has been conducted for harvest existing (2016), year 2020 and year 2030 cumulative horizons at County request. The 2030 horizon reflects the County General Plan Buildout year, while 2020 reflects a near term horizon year after the proposed winery expansion should be at full production. Traffic modeling for the General Plan shows about an 11 percent growth in two-way weekday PM peak hour traffic along Howell Mountain Road in the project area between 2016 and 2030. Since no modeling projections were available for Cold Springs Road or Las Posadas Road, a 1 percent per year growth rate was used (14% total). Projecting straight line traffic growth for analysis purposes, this translates into about a 3.2 percent growth in two-way PM peak hour traffic along Howell Mountain Road and about a 4 percent growth along Cold Springs Road and Las Posadas Road from 2016 to 2020.

Traffic modeling projections were not available for Saturday PM peak hour conditions along any analysis roadway. Therefore, existing Saturday volumes on all roadways were uniformly increased by the same percentages detailed above for Friday PM peak hour conditions.

Resultant year 2020 harvest "Without Project" Friday and Saturday PM peak hour volumes are presented in **Figure 4**, while year 2030 harvest "Without Project" PM Friday and Saturday peak hour volumes are presented in **Figure 5**.

VII. OFF-SITE HARVEST CIRCULATION SYSTEM OPERATION – WITHOUT PROJECT

1. EXISTING (2016) HARVEST (WITHOUT PROJECT) OPERATING CONDITIONS

A. INTERSECTION LEVEL OF SERVICE (see Table 2)

1. COLD SPRINGS ROAD/HOWELL MOUNTAIN ROAD

a) Friday PM Peak Hour

Acceptable Cold Springs Road stop sign controlled approach operation: LOS B

b) Saturday PM Peak Hour

Acceptable Cold Springs Road stop sign controlled approach operation: LOS B

2. COLD SPRINGS ROAD/LAS POSADAS ROAD/DISCOVERYLAND PRESCHOOL DRIVEWAY

a) Friday PM Peak Hour

Acceptable stop sign controlled operation: LOS A

b) Saturday PM Peak Hour

Acceptable stop sign controlled operation: LOS A

2. YEAR 2020 HARVEST (WITHOUT PROJECT) OPERATING CONDITIONS

A. INTERSECTION LEVEL OF SERVICE (see Table 2)

1. COLD SPRINGS ROAD/HOWELL MOUNTAIN ROAD

a) Friday PM Peak Hour

Acceptable Cold Springs Road stop sign controlled approach operation: LOS B

b) Saturday PM Peak Hour

Acceptable Cold Springs Road stop sign controlled approach operation: LOS B

2. COLD SPRINGS ROAD/LAS POSADAS ROAD/DISCOVERYLAND PRESCHOOL DRIVEWAY

a) Friday PM Peak Hour

Acceptable stop sign controlled operation: LOS A

b) Saturday PM Peak Hour

Acceptable stop sign controlled operation: LOS A

3. YEAR 2030 CUMULATIVE HARVEST (WITHOUT PROJECT) OPERATING CONDITIONS

A. INTERSECTION LEVEL OF SERVICE (see Table 2)

1. COLD SPRINGS ROAD/HOWELL MOUNTAIN ROAD

a) Friday PM Peak Hour

Acceptable Cold Springs Road stop sign controlled approach operation: LOS B

b) Saturday PM Peak Hour

Acceptable Cold Springs Road stop sign controlled approach operation: LOS B

2. COLD SPRINGS ROAD/LAS POSADAS ROAD/DISCOVERYLAND PRESCHOOL DRIVEWAY

a) Friday PM Peak Hour

Acceptable stop sign controlled operation: LOS A

b) Saturday PM Peak Hour

Acceptable stop sign controlled operation: LOS A

VIII. PROJECT IMPACT EVALUATION SIGNIFICANCE CRITERIA

A. SIGNIFICANCE CRITERIA

1. COUNTY OF NAPA

The following criteria have recently been developed for traffic impact analyses in Napa County.

EXISTING + PROJECT CONDITIONS

A. ARTERIAL SEGMENTS

A project would cause a significant impact requiring mitigation if:

1. An arterial segment operates at LOS A, B, C or D during the selected peak hours without project trips, and deteriorates to LOS E or F with the addition of project trips, or
2. An arterial segment operates at LOS E or F during the selected peak hours without project trips, and the addition of project trips increases the total segment volume by one percent or more.

For the second criteria, the following equation should be used if the arterial operates at LOS E or F without the project:

Project Contribution % = Project Trips ÷ Existing Volumes

B. SIGNALIZED INTERSECTIONS

A project would cause a significant impact requiring mitigation if:

1. A signalized intersection operates at LOS A, B, C or D during the selected peak hours without project trips, and deteriorates to LOS E or F with the addition of project trips, or
2. A signalized intersection operates at LOS E or F during the selected peak hours without project trips, and the addition of project trips increases the total entering volume by one percent or more.

For the second criteria, the following equation should be used if the signalized intersection operates at LOS E or F without the project:

Project Contribution % = Project Trips ÷ Existing Volumes

Maintaining LOS D or better at all signalized intersections would sometimes require expanding the physical footprint of an intersection. In some locations around the County,

expanding physical transportation infrastructure could be in direct conflict with the County's goals of preserving the area's rural character, improving safety, and sustaining the agricultural industry, making these potential improvements infeasible. The County's Circulation Element lists intersections that are slated for improvement or expansion in unincorporated Napa County.[4]

Transportation studies should individually consider the feasibility of potential mitigation measures with respect to right-of-way acquisition, regardless of the intersection's place in the Circulation Element's identified improvement lists, and present potential alternative mitigation measures that do not require right-of-way acquisition. County staff would then review that information and make the decision about the feasibility of the identified potential mitigations.

For intersections that cannot be improved without substantial additional right-of-way according to both the Circulation Element and the individual transportation impact study, and where other mitigations such as updating signal timing, signal phasing and operations, and/or signing and striping improvements do not improve the LOS, LOS E or F will be considered acceptable and the one percent threshold would not apply. Analysis of signalized intersection LOS should still be presented for informational purposes, and there should still be an evaluation of effects on safety and local access, per Policy CIR-18.

C. UNSIGNALIZED INTERSECTIONS (ALL WAY STOP AND SIDE STREET STOP SIGN CONTROLLED)

LOS for all way stop controlled intersections is defined as an average of the delay at all approaches. LOS for side street stop controlled intersections is defined by the delay and LOS for the worst case approach. The recommended interpretation of Policy CIR-16 regarding unsignalized intersection significance criteria is as follows:

1. An unsignalized intersection operates at LOS A, B, C or D during the selected peak hours without project trips, the LOS deteriorates to LOS E or F with the addition of project traffic, and the peak hour traffic signal warrant criteria should also be evaluated and presented for information purposes, or
2. An unsignalized intersection operates at LOS E or F during the selected peak hours without project trips and the project contributes one percent or more of the total entering traffic for all way stop controlled intersections, or 10 percent or more of the traffic on a side street approach for side street stop controlled intersections; the peak hour traffic signal warrant criteria should also be evaluated and presented for informational purposes.

[4] According to the Circulation Element dated June 8, 2008, the following intersections can be altered or expanded as a mitigation measure: SR-12/Airport Boulevard/SR-29, SR-221/SR-12/Highway 29, and several intersections along SR-29 and SR-128 north of Napa. The significance criteria shown above should apply to facilities where appropriate based upon the most recent Circulation Element chapter of the General Plan.

All Way Stop Controlled Intersections
For the second criteria at an all way stop controlled intersection, the following equation should be used if the all way stop controlled intersection operates at LOS E or F without the project.

Project Contribution % = Project Trips ÷ Existing Volumes

Side Street Stop Controlled Intersections
For the second criteria at a side street stop controlled intersection, the following equation should be used if the side street stop controlled intersection operates at LOS E or F without the project.

Project Contribution % = Project Trips ÷ Existing Volumes

Both of those volumes are for the stop controlled approaches only. Each stop controlled approach that operates at LOS E or F should be analyzed individually.

CUMULATIVE+ PROJECT CONDITIONS

A. ARTERIAL SEGMENTS, SIGNALIZED INTERSECTIONS AND UNSIGNALIZED INTERSECTIONS

A project would cause a significant cumulative impact requiring mitigation if:

1. The overall amount of expected traffic growth causes conditions to deteriorate such that any of the significance criteria described above for existing conditions are met, and
2. The project's contribution to a significant cumulative impact would be equal to or greater than five percent of the growth in traffic from existing conditions.

A project's contribution to a cumulative condition would be calculated as the project's percentage contribution to the total growth in traffic from existing conditions.

Project Contribution % = Project Trips ÷ (Cumulative Volumes - Existing Volumes)

- If projected daily volumes on the project driveway in combination with volumes on the roadway providing access to the project driveway meet County warrant criteria for provision of a left turn lane on the approach to the project entrance.

- If sight lines at project access driveways do not meet Caltrans stopping sight distance criteria based upon prevailing vehicle speeds.

B. PROJECT TRIP GENERATION

Friday PM peak hour and Saturday afternoon peak hour harvest trip generation projections were developed with the assistance of the project applicant and their representative for all components of new employee, grape delivery and visitor activities associated with the proposed Aloft Winery (see worksheets in the **Appendix**). Results are presented on an hourly basis in **Tables 3** and **4** for harvest Friday and Saturday conditions, respectively, while a summary of peak hour trips is presented in **Table 5**. The project applicant has agreed not to schedule any winery-related activity that would result in traffic along Cold Springs Road during times of children walking and biking to/from the PUC Elementary School, during weekdays when the PUC Elementary School is in operation (7:30-8:15 AM Monday to Friday, 3:00-3:45 PM Monday to Thursday and 11:45 AM-12:30 PM on a Friday). During the harvest Friday PM peak traffic hour there would be a projected 1 inbound and 3 outbound project vehicles, while during the harvest Saturday afternoon peak traffic hour there would be a projected 1 inbound and 1 outbound project vehicles. As shown, a few visitors and possibly one delivery vehicle would be expected on the local roadway network during the harvest Friday PM peak hour, while during the harvest Saturday afternoon peak traffic hour new traffic would only be due to visitors.

Harvest conditions only were requested for analysis by the County. During harvest conditions employees are working extended hours and are not on the local roadway system during the ambient peak traffic hours. Given the low peak hour traffic volumes on the local roadway system (Existing or 2030), even if all project employees would be traveling during the peak traffic hours, operation would still be acceptable and far below capacity with no significant impacts due to project traffic.

C. PROJECT TRIP DISTRIBUTION

Project peak hour traffic was distributed to Howell Mountain Road in a pattern reflective of the assumption that most visitor and delivery traffic would be traveling to/from Silverado Trail or SR 29.

The harvest Friday and Saturday project traffic increments expected on Howell Mountain and Cold Springs roads during the times of ambient peak traffic flows are presented in **Figure 6**. Friday and Saturday 2016 "With Project" PM peak hour harvest volumes are presented in **Figure 7**; "With Project" PM peak hour harvest volumes for year 2020 conditions are presented in **Figure 8**, and "With Project" PM peak hour harvest volumes for cumulative 2030 conditions are presented in **Figure 9**.

D. PROJECT OFF-SITE IMPACTS

1. EXISTING (2016) HARVEST + PROJECT OPERATING CONDITIONS

a. SUMMARY

Project traffic would not result in any significant level of service or signal warrant impacts at the Cold Springs Road intersections with Howell Mountain Road or Las Posadas Road during either the Friday or Saturday PM peak traffic hours. ***Less than significant.***

b. INTERSECTION LEVEL OF SERVICE IMPACTS – see Table 2

- **COLD SPRINGS ROAD/HOWELL MOUNTAIN ROAD**
  - Friday PM Peak Hour
    Operation of the stop sign controlled Cold Springs Road intersection approach would remain an acceptable LOS B with the addition of project traffic. ***Less than significant.***

  - Saturday PM Peak Hour
    Operation of the stop sign controlled Cold Springs Road approach would remain an acceptable LOS B with the addition of project traffic. ***Less than significant.***

- **COLD SPRINGS ROAD/LAS POSADAS ROAD/DISCOVERYLAND PRESCHOOL DRIVEWAY**
  - Friday PM Peak Hour
    Operation of the stop sign controlled intersection approaches would remain an acceptable LOS A with the addition of project traffic. ***Less than significant.***

  - Saturday PM Peak Hour
    Operation of the stop sign controlled intersection approaches would remain an acceptable LOS A with the addition of project traffic. ***Less than significant.***

2. YEAR 2020 HARVEST + PROJECT OPERATING CONDITIONS

a. SUMMARY

Project traffic would not result in any significant level of service or signal warrant impacts at the Cold Springs Road intersections with Howell Mountain Road or Las Posadas Road during either the Friday or Saturday PM peak traffic hours. ***Less than significant.***

b. INTERSECTION LEVEL OF SERVICE IMPACTS – see Table 2

- **COLD SPRINGS ROAD/HOWELL MOUNTAIN ROAD**
  - Friday PM Peak Hour
    Operation of the stop sign controlled Cold Springs Road approach would remain an acceptable LOS B with the addition of project traffic. Less than significant.

  - Saturday PM Peak Hour
    Operation of the stop sign controlled Cold Springs Road approach would remain an acceptable LOS B with the addition of project traffic. ***Less than significant.***

- **COLD SPRINGS ROAD/LAS POSADAS ROAD/DISCOVERYLAND PRESCHOOL DRIVEWAY**
  - Friday PM Peak Hour
    Operation of the stop sign controlled intersection approaches would remain an acceptable LOS A with the addition of project traffic. ***Less than significant.***

  - Saturday PM Peak Hour
    Operation of the stop sign controlled intersection approaches would remain an acceptable LOS A with the addition of project traffic. ***Less than significant.***

3. YEAR 2030 CUMULATIVE HARVEST + PROJECT OPERATING CONDITIONS

a. SUMMARY

Project traffic would not result in any significant level of service or signal warrant impacts at the Cold Springs Road intersections with Howell Mountain Road or Las Posadas Road during either the Friday or Saturday PM peak traffic hours. ***Less than significant.***

b. INTERSECTION LEVEL OF SERVICE IMPACTS – see Table 2

- **COLD SPRINGS ROAD/HOWELL MOUNTAIN ROAD**
  - Friday PM Peak Hour
    Operation of the stop sign controlled Cold Springs Road intersection approach would remain an acceptable LOS B with the addition of project traffic. ***Less than significant.***

  - Saturday PM Peak Hour
    Operation of the stop sign controlled Cold Springs Road approach would remain an acceptable LOS B with the addition of project traffic. ***Less than significant.***

- **COLD SPRINGS ROAD/LAS POSADAS ROAD/DISCOVERYLAND PRESCHOOL DRIVEWAY**
  - Friday PM Peak Hour
    Operation of the stop sign controlled intersection approaches would remain an acceptable LOS A with the addition of project traffic. ***Less than significant.***

  - Saturday PM Peak Hour
    Operation of the stop sign controlled intersection approaches would remain an acceptable LOS A with the addition of project traffic. ***Less than significant.***

E. SIGHT LINES AT PROJECT ENTRANCE

Sight lines at the Cold Springs Road/project access driveway intersection on the south side of the cul-de-sac are currently acceptable to the north to see approaching southbound traffic on Cold Springs Road (at more than 600 feet). For traffic outbound from the project driveway, there is about a 50-foot sight line to the right (east) to see traffic exiting the adjacent driveway.

The Caltrans Highway Design Manual (March 2014) states that stopping sight distance is the corner sight distance criteria to be utilized at private road connections to public roadways. The minimum required stopping sight distances based upon various vehicle speeds are as follows.

SPEED	MINIMUM REQUIRED STOPPING SIGHT DISTANCE
10 mph	50 feet
15 mph	100 feet
20 mph	125 feet
30 mph	200 feet
35 mph	250 feet

The posted speed limit along Cold Springs Road is 35 miles per hour, although at the end of the road speeds would be less, particularly for most vehicles exiting driveways. However, not all vehicles exiting from the project driveway would be likely to stop without stop sign control. No stop sign control signs are posted at the other two driveways. ***Potentially significant***.

F. LEFT TURN LANE AT PROJECT ENTRANCE

No left turn lane would be required in the Cold Springs Road cul-de-sac due to low volumes and due to all project entry movements being right turns. ***Less than significant.***

G. COLD SPRINGS ROAD 1,000 FEET NORTH OF PROJECT ENTRANCE

The proposed project would add minor amounts of traffic throughout the day to the section of Cold Springs Road about 1,000 feet north of the Winery entrance where sight lines are reduced due to roadway curvature in conjunction with trees and landscaping adjacent to the edges of the roadway. While project employees would immediately become familiar with the driving conditions through this stretch of roadway, first time project visitors would not be familiar with the sight limitations and the possibility of an opposing vehicle traveling 35 miles per hour on a 14- to 15-foot-wide road. ***Potentially significant.***

H. MARKETING EVENTS

Thirty marketing events are proposed. Their descriptions are presented in **Table 6**.

Aloft Winery is requesting that all events be held between 10:00 AM and 6:00 PM, or from 6:00 PM to 10:00 PM. However, guest arrival and departure times would be arranged to avoid traffic on Silverado Trail and SR 29 between 3:00 and 5:30 PM. ***Less than Significant.***

IX. MITIGATION MEASURES

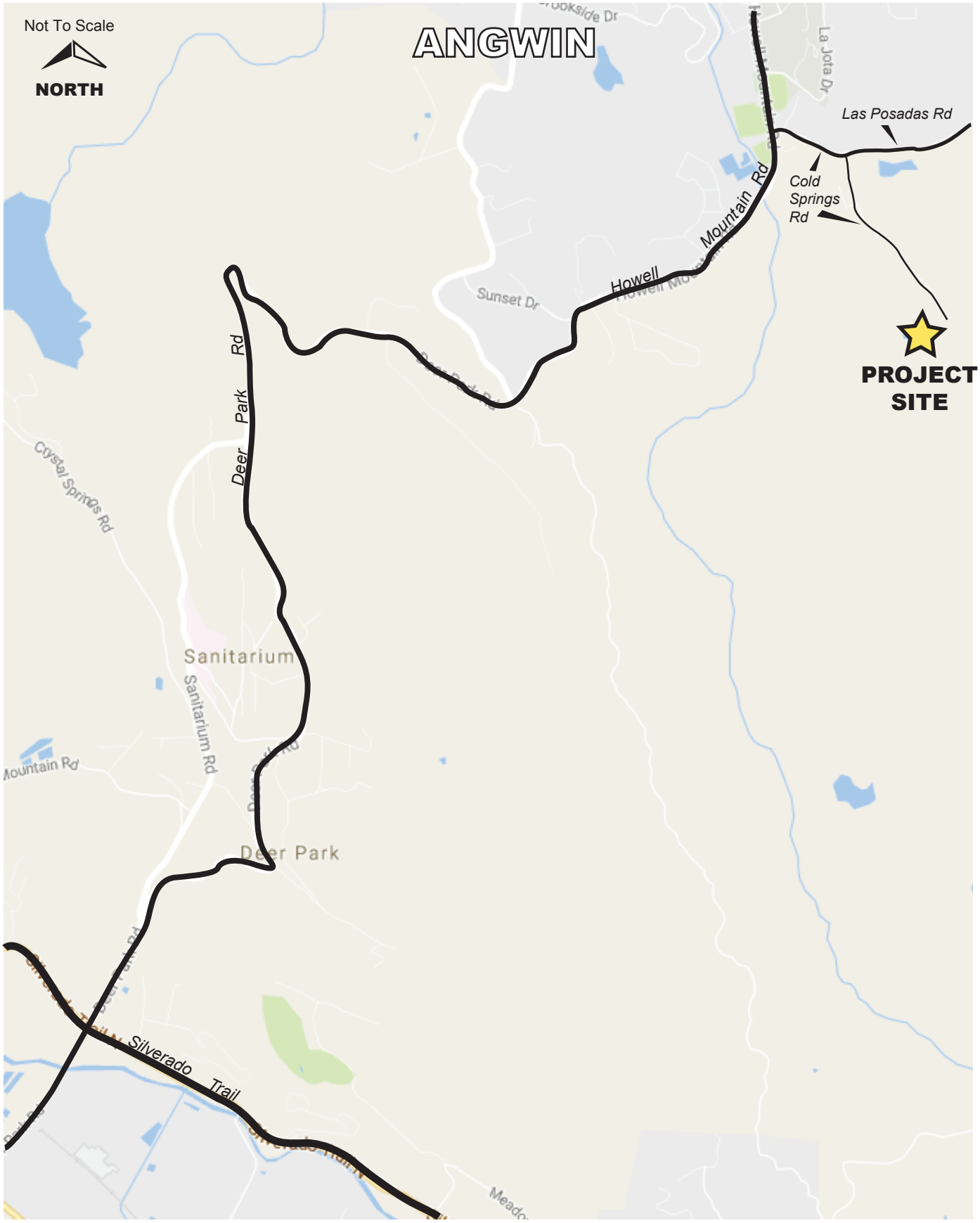
- Consider shuttle bus service for the 125-person marketing event.
- Provide a stop sign on the project driveway approach to the Cold Springs Road cul-de-sac.
- Post Cold Springs Road with horizontal alignment warning signs on both approaches to the segment of roadway about 1,000 feet north of the road's cul-de-sac where sight lines are reduced due to roadway curvature, grade change and trees/landscaping in close proximity to the edges of the road. The California MUTCD 2014 Edition, Revision 2, Section 2C.06 indicates that a W1-2 sign in advance of a curve may be used on a roadway with less than 1,000 Annual Average Daily Traffic (AADT) volumes based on engineering judgment. The purpose of the horizontal alignment warning sign would be to inform first time drivers of Cold Springs Road (i.e. winery visitors) that added attention should be paid at this particular location.

X. CONCLUSIONS & RECOMMENDATIONS

The Aloft Winery will not result in any significant off-site circulation system operational impacts to the Cold Springs Road intersections with Howell Mountain Road or Las Posadas Road. Sight lines are acceptable at the Winery's driveway connection to the end of the Cold Springs Road cul-de-sac assuming outbound site traffic stops at the driveway entrance to the cul-de-sac. In addition, arrangements would be made to prevent any marketing event guest traffic being on the local circulation system between 3:00 and 5:30 PM. However, there is one location along Cold

Springs Road (about 1,000 feet north of the project driveway) where the road has a horizontal curve, a minor grade change as well as trees/landscaping in close proximity to the edges of the road that limit sight lines and requires two-way traffic flow to proceed slowly. Mitigation measures would include requiring a stop sign on the project driveway approach to Cold Springs Road and posting horizontal alignment warning signs on both approaches to the section of Cold Springs Road about 1,000 feet north of the project entrance.

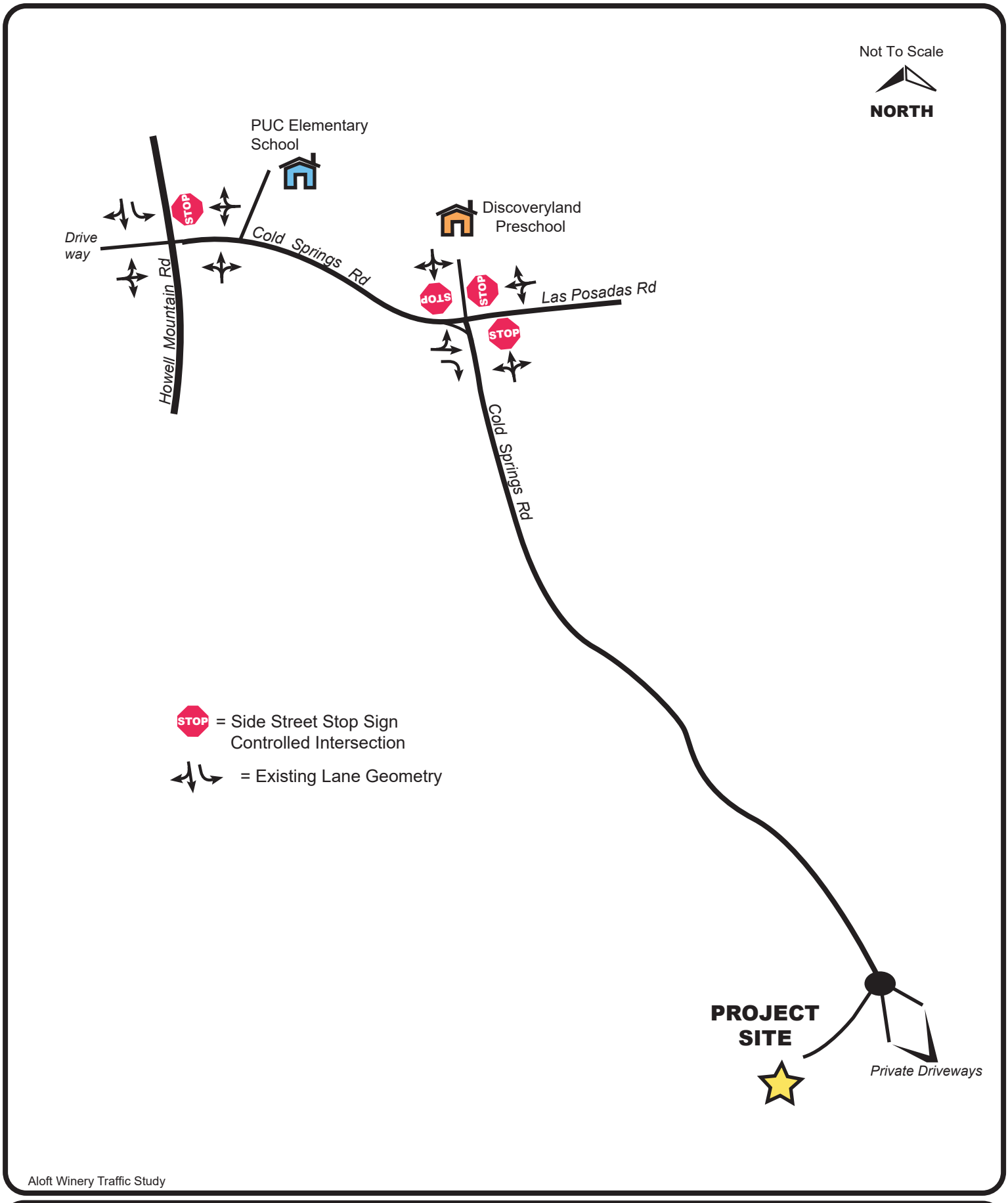
Figures



Aloft Winery Traffic Study

CRANE TRANSPORTATION GROUP

Figure 1
Area Map



Aloft Winery Traffic Study

CRANE TRANSPORTATION GROUP

Figure 2

Lane Geometrics and Intersection Control

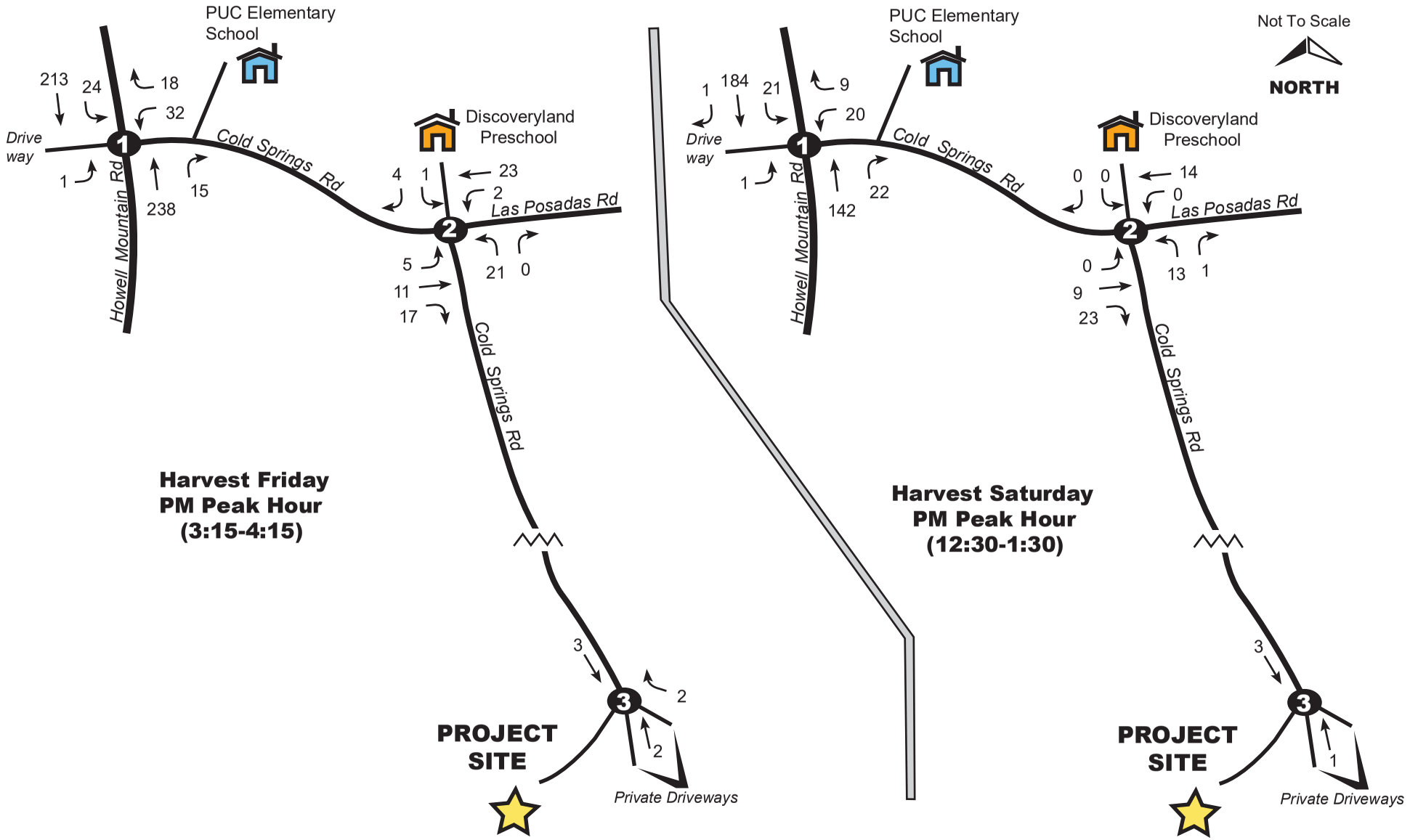


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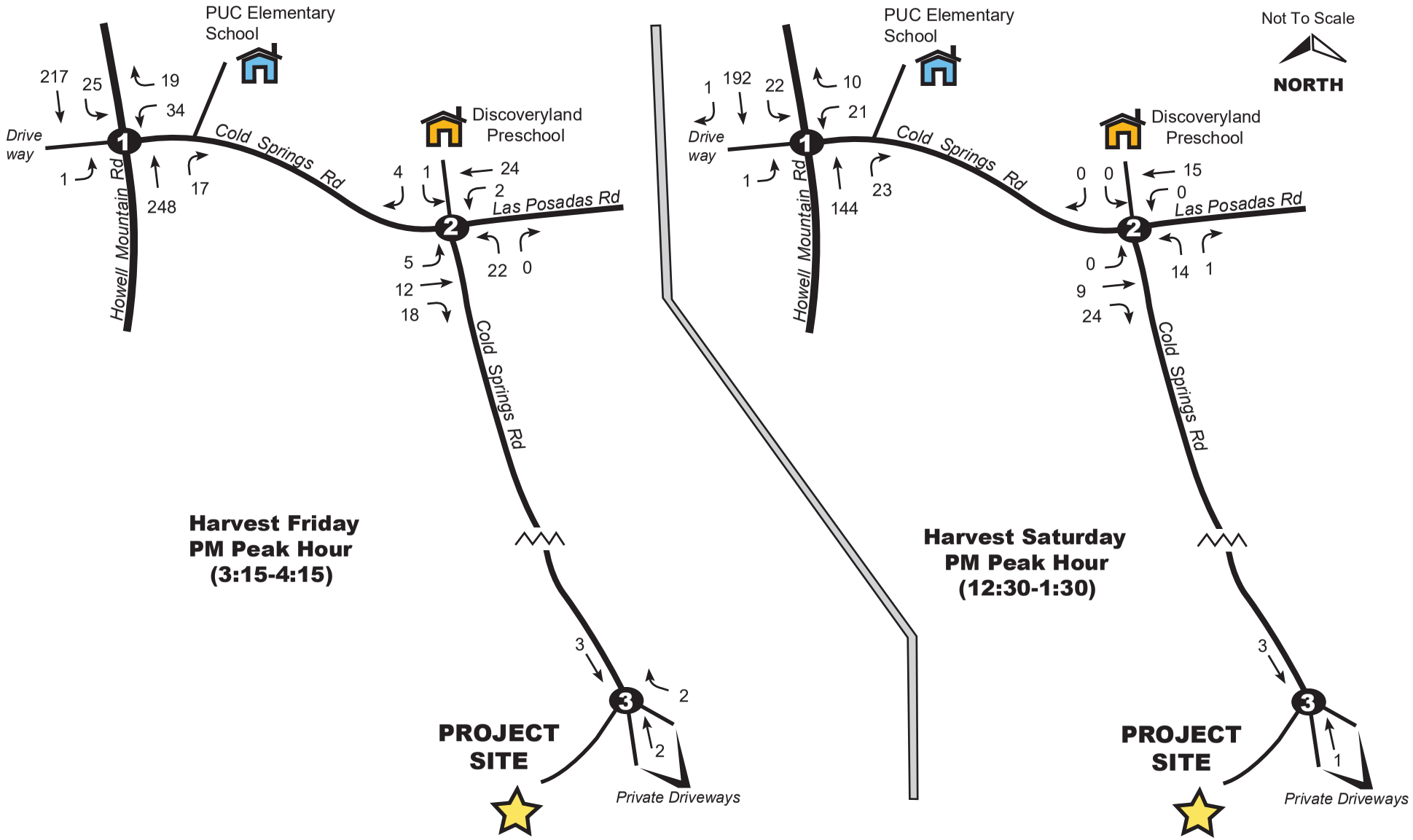
Figure 3

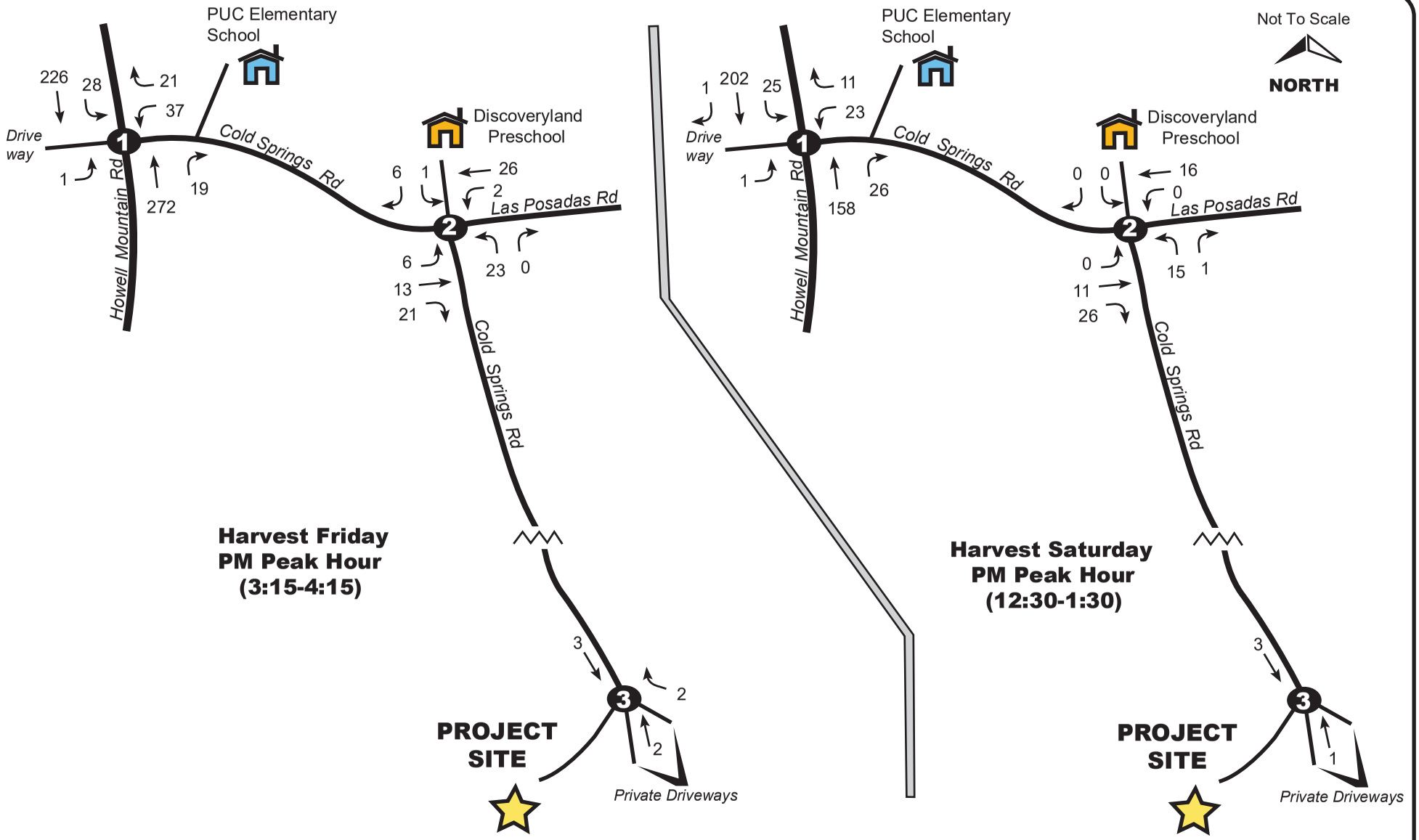
Year 2016 Harvest (without Project) Friday and Saturday PM Peak Hour Traffic Volumes



CRANE TRANSPORTATION GROUP

Figure 4

Year 2020 Harvest (without Project) Friday and Saturday PM Peak Hour Traffic Volumes

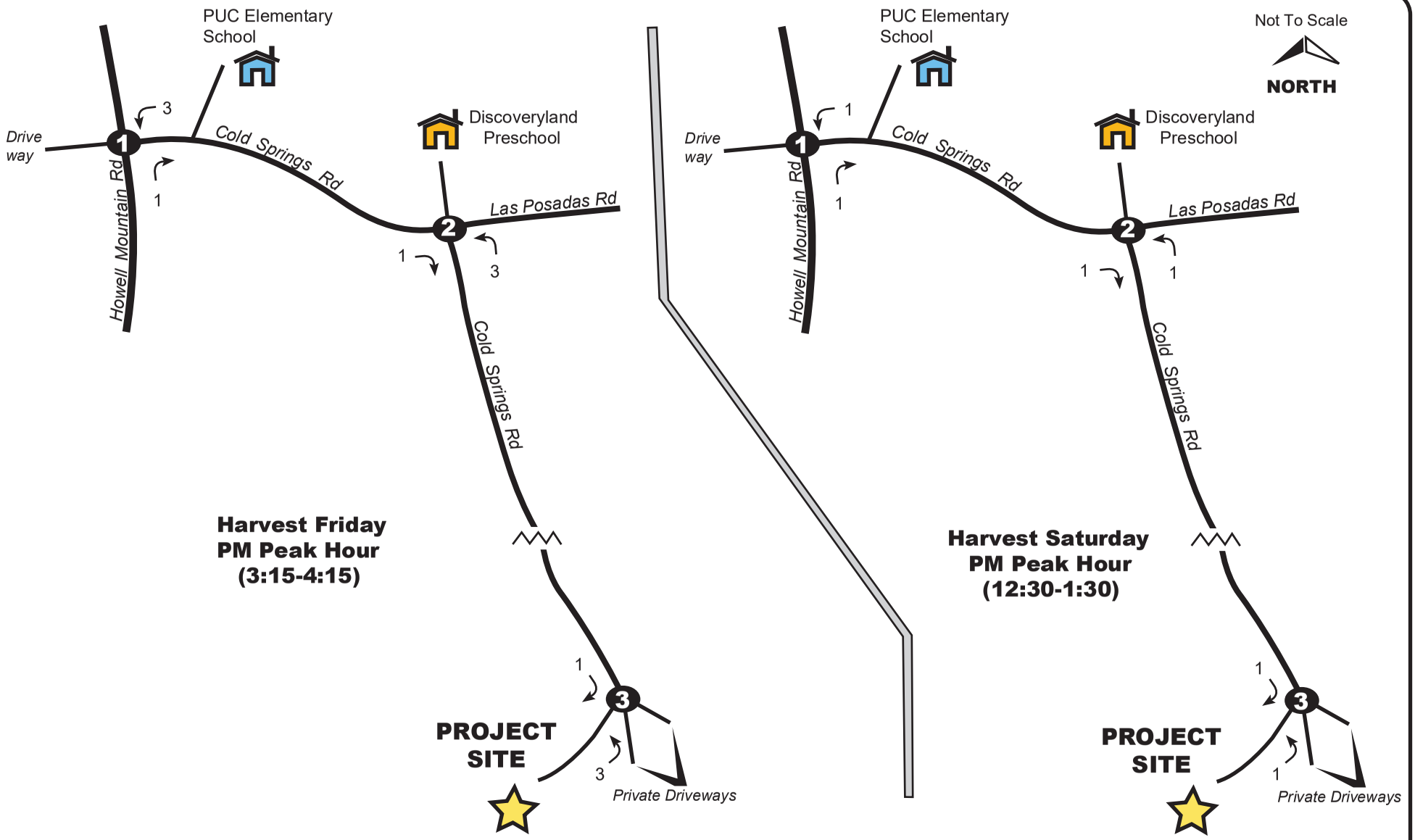


Aloft Winery Traffic Study

CRANE TRANSPORTATION GROUP

Figure 5

Year 2030 Cumulative Harvest (without Project)
Friday and Saturday PM Peak Hour Traffic Volumes



Aloft Winery Traffic Study

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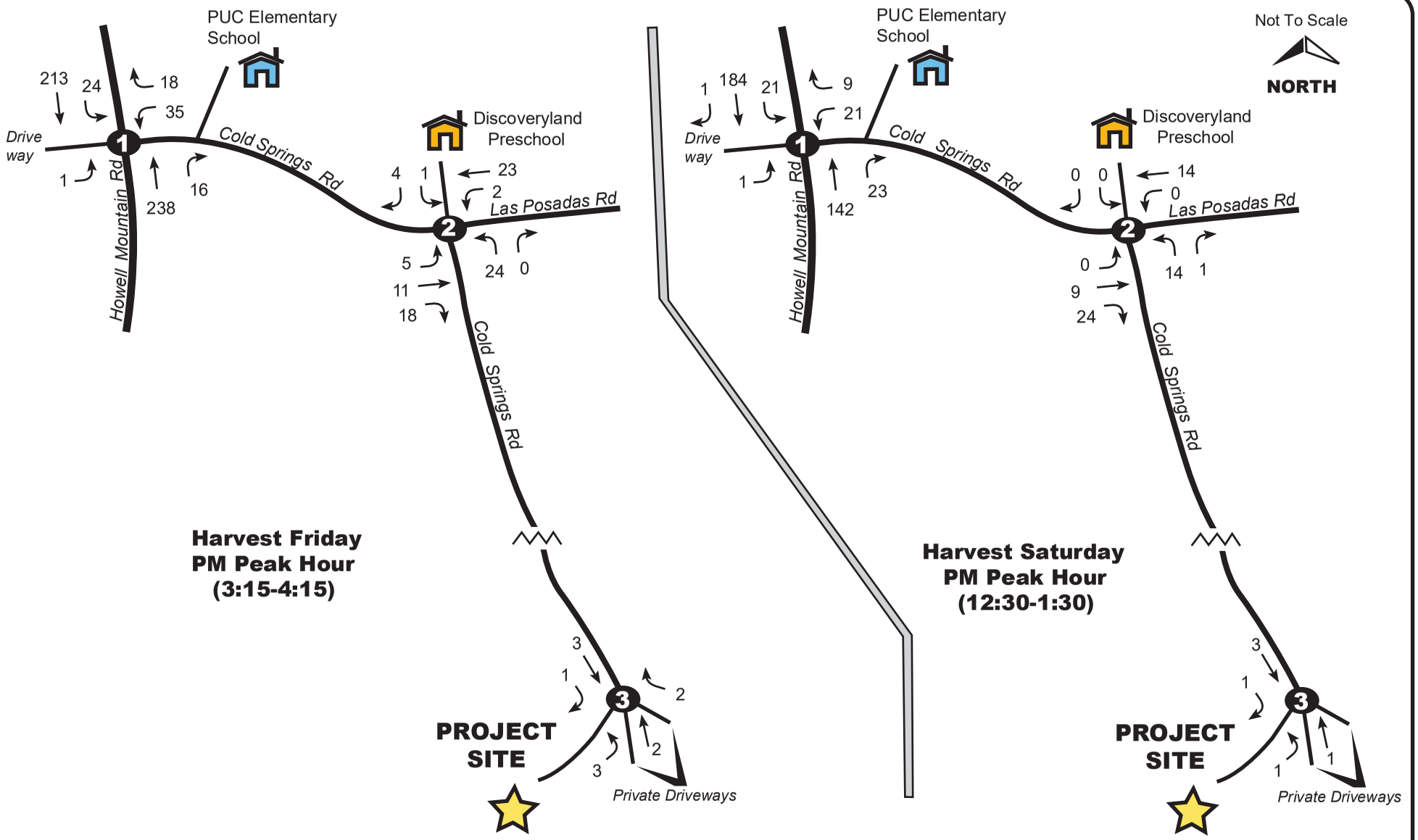
Figure 6
Harvest Friday and Saturday
PM Peak Hour Project Increment



Aloft Winery Traffic Study

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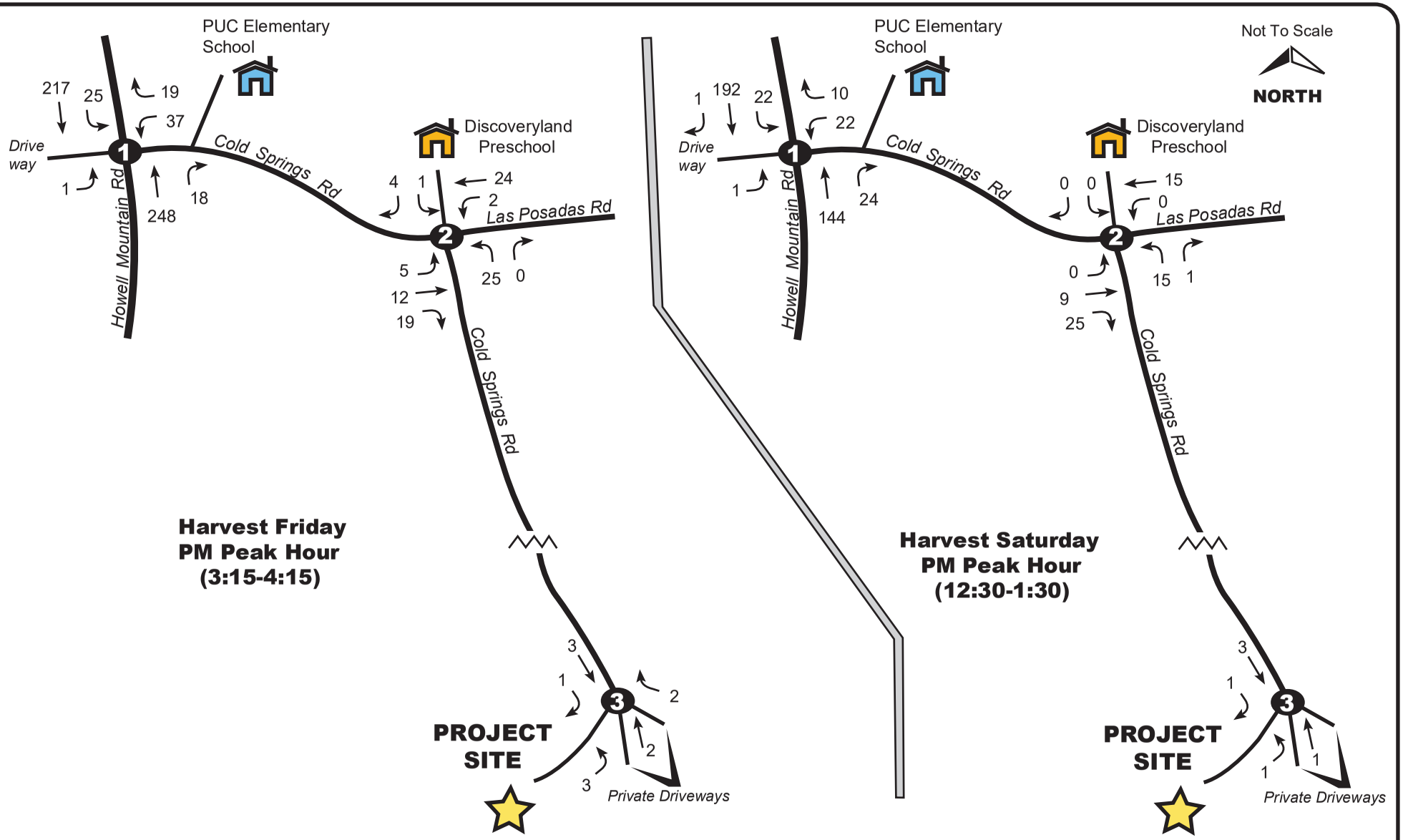
Figure 7

Year 2016 (with Project) Harvest Friday and Saturday PM Peak Hour Traffic Volumes



Aloft Winery Traffic Study

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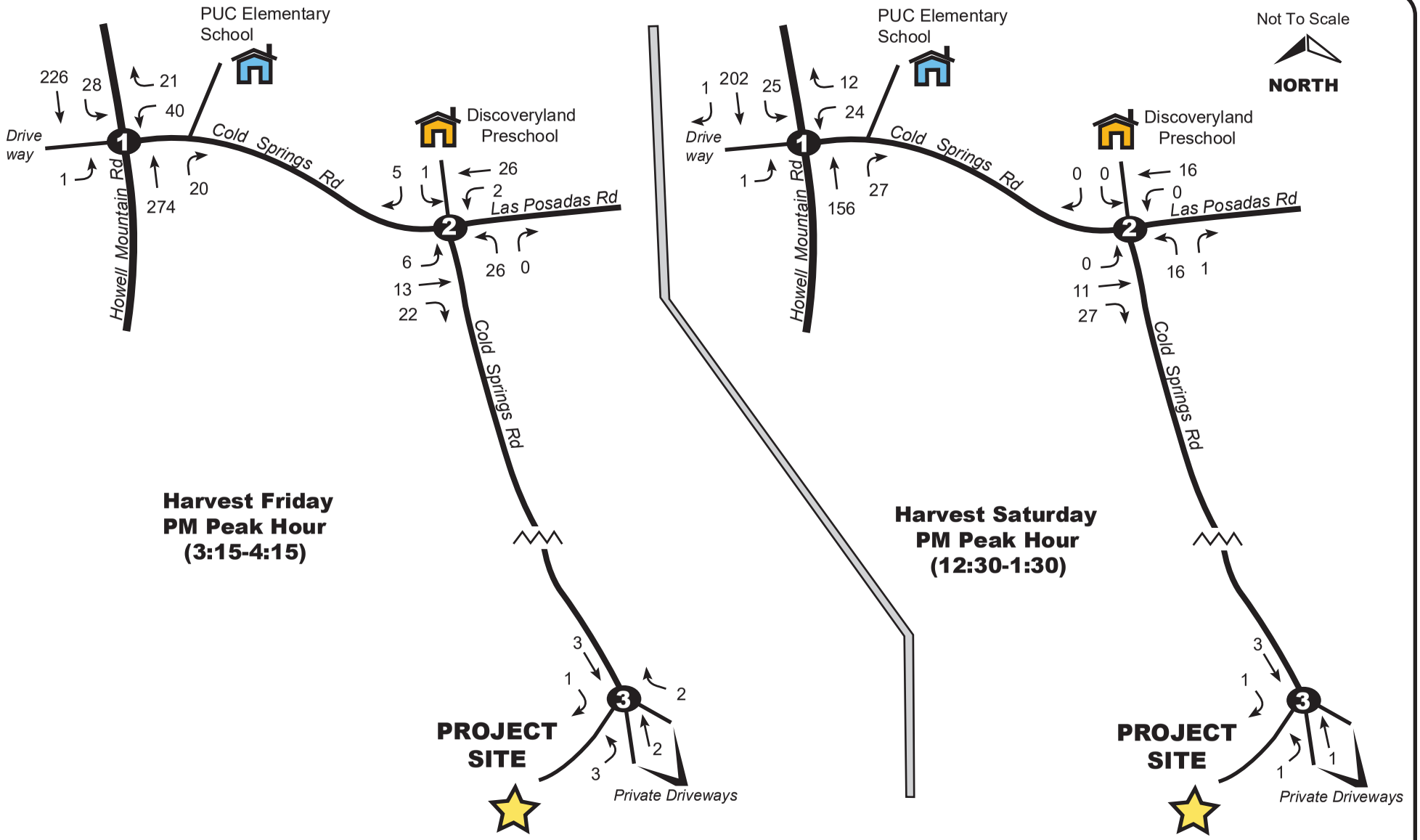
Figure 8
Year 2020 Harvest (with Project) Friday and Saturday PM Peak Hour Traffic Volumes



Aloft Winery Traffic Study

CRANE TRANSPORTATION GROUP

Figure 9

Year 2030 Cumulative Harvest (with Project)
Friday and Saturday PM Peak Hour Traffic Volumes

Tables

Table 1

UNSIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Little or no delays	≤ 10.0
B	Short traffic delays	10.0 to 15.0
C	Average traffic delays	15.0 to 25.0
D	Long traffic delays	25.0 to 35.0
E	Very long traffic delays	35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded (for an all-way stop), or with approach/turn movement capacity exceeded (for a side street stop controlled intersection)	> 50.0

Source: 2010 Highway Capacity Manual (Transportation Research Board).

Table 2

INTERSECTION LEVEL OF SERVICE

EXISTING – 2016 HARVEST

LOCATION	FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Howell Mountain Road/ Cold Springs Road	B-13.8[1]	B-14.0	B-11.7	B-11.8
Cold Springs Road/ Las Posadas Road	A-7.6[2]	A-7.6	A-7.1	A-7.1

YEAR 2020 HARVEST

LOCATION	FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Howell Mountain Road/ Cold Springs Road	B-14.2 [1]	B-14.4	B-11.8	B-11.9
Cold Springs Road/ Las Posadas Road	A-7.6[2]	A-7.6	A-7.1	A-7.1

YEAR 2030 (CUMULATIVE) HARVEST

LOCATION	FRIDAY PM PEAK HOUR		SATURDAY PM PEAK HOUR	
	W/O PROJECT	WITH PROJECT	W/O PROJECT	WITH PROJECT
Howell Mountain Road/ Cold Springs Road	B-14.6 [1]	B-14.8	B-12.0	B-12.1
Cold Springs Road/ Las Posadas Road	A-7.5[2]	A-7.6	A-7.1	A-7.1

[1] Unsignalized level of service – control delay in seconds: Cold Springs Road stop sign controlled approach.
[2] Unsignalized level of service – control delay in seconds: Stop sign controlled approaches.

Year 2010 Highway Capacity Manual (HCM) Analysis Methodology for unsignalized intersections
Source: Crane Transportation Group

Table 3

PROJECT TRIP GENERATION
ALOFT WINERY

HARVEST

FRIDAY

	TOTAL	HOURS	TRIPS							
			3-4 PM		4-5 PM		5-6 PM		3:15-4:15 PM*	
			IN	OUT	IN	OUT	IN	OUT	IN	OUT
Admin Employees – Full Time	1	8:00 AM-6:00 PM	0	0	0	0	0	0	0	0
Admin Employees – Part Time	1	8:00 AM-6:00 PM	0	0	0	0	0	0	0	0
Production Employees – Full Time	3	6:00 AM-6:00 PM	0	0	0	0	0	0	0	0
Production Employees – Part Time	3	6:00 AM-6:00 PM	0	0	0	0	0	0	0	0
Tours/Testing Employees	1	8:00 AM-6:00 PM	0	0	0	0	0	0	0	0
Other Employees	1	8:00 AM-6:00 PM	0	0	0	0	0	0	0	0
Visitors	20/day (8 vehicles/day)[(1)]	10:00 AM-6:00 PM	3	2	1	3	0	1	1	2
Grape Delivery Trucks	2/day	6:00 AM-Noon	0	0	0	0	0	0	0	0
Grape Outhaul Trucks Eliminated	14 total during harvest	6:00 AM-Noon	0	0	0	0	0	0	0	0
Other Trucks	5/day	8:00 AM-5:00 PM	1	1	0	0	0	0	0	1
TOTAL			4	3	1	3	0	1	1	3

* Peak traffic hour at the Howell Mountain Road intersection with Cold Springs Road.

(1) 2.6 visitors/vehicle average on weekdays per County data.

Source: Aloft Winery project applicant; Compiled by: Crane Transportation Group

Table 4

PROJECT TRIP GENERATION
ALOFT WINERY

HARVEST

SATURDAY

NEW OR ADJUSTED ACTIVITIES	NET NEW	HOURS	TRIPS													
			NOON-1 PM		1-2 PM		2-3 PM		3-4 PM		4-5 PM		5-6 PM		12:30-1:30 PM*	
			IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Admin Employees – Full Time	1	8:00 AM-6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production Employees – Full Time	2	6:00 AM-6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Production Employees – Part Time	2	6:00 AM-6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tours & Tasting Employees	1	9:00 AM-6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Employees	1	9:00 AM-6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Visitors	20/day (8 vehicles/day)[(1)]	10:00 AM-6:00 PM	1	0	1	1	2	1	3	2	1	3	0	1	1	1
Grape Delivery Trucks	2/day	6:00 AM-Noon	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grape Outhaul Trucks Eliminated	14 total during harvest	6:00 AM-Noon	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL			1	0	1	1	2	1	3	2	1	3	0	1	1	1

* Peak traffic hour at the Howell Mountain Road intersection with Cold Springs Road.
(1) 2.8 visitors/vehicle average on weekend days per County data.

Source: Aloft Winery project applicant; Compiled by: Crane Transportation Group

Table 5

SUMMARY OF ALOFT WINERY TRIP GENERATION

HARVEST

FRIDAY PM PEAK HOUR* (3:15-4:15)		SATURDAY PM PEAK HOUR* (12:30-1:30)	
INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
1	3	1	1

Source: Aloft Winery; compiled by Crane Transportation Group

Table 6

ALOFT WINERY
MARKETING EVENT TRAFFIC DETAILS

MARKETING EVENT	STAFF/GUEST CATEGORY	# OF PEOPLE	# OF VEHICLES	TIMES	REGULAR VISITATION ELIMINATED DURING MARKETING EVENT?
Marketing Event #1 Total 24	Guests	40	15-16	10:00 AM-6:00 PM or 6:00 PM-10:00 PM Any day	Yes
	Extra winery staff	0	0		
	Caterers	0	0		
	Entertainers	0	0		
	Delivery vehicles	NA	1		
Marketing Event #2 4 total	Guests	75	27	10:00 AM-6:00 PM or 6:00 PM-10:00 PM Weekend	Yes
	Extra winery staff	2	2		
	Caterers	2	1		
	Entertainers	1	1		
	Delivery vehicles	NA	2		
Marketing Event #3 2 total	Guests	125	45	10:00 AM-6:00 PM or 6:00 PM-10:00 PM Weekend	No
	Extra winery staff	6	6		
	Caterers	2	1		
	Entertainers	2	2		
	Delivery vehicles	NA	5		

Source: Aloft Winery applicant

Appendix

Appendix

ALOFT WINERY
EXPECTED PROJECT TRAFFIC ACTIVITY DETAILS - HARVEST

Gallons/Year Production: 50,000
1st Year of Expected Full Production: 2020

A. **Full-time admin employees** # on Weekdays __1__ # on Saturday __1_ # on Sunday _0___ Work hours: Weekday 8:00 AM to 6:00 PM Saturday N/A Sunday N/A	B. **Part-time admin employees** # on Weekdays __1__ # on Saturday __0_ # on Sunday _0___ Work hours: Weekday 8:00 AM to 6:00 PM Saturday N/A Sunday N/A
C. **Full-time production employees** # on Weekdays __3__ # on Saturday __2_ # on Sunday _0___ Work hours: Weekday 6:00 AM to 6:00 PM Saturday N/A Sunday N/A	D. **Part-time production employees** # on Weekdays __3__ # on Saturday __2_ # on Sunday _2___ Work hours: Weekday 6:00 AM to 6:00 PM Saturday 6:00 AM to 6:00 PM Sunday 6:00 AM to 6:00 PM
E. **Tours & tasting employees** # on Weekdays __1__ # on Saturday __1_ # on Sunday _1___ Work hours: Weekday 8:00 AM to 6:00 PM Saturday 9:00 AM to 6:00 PM Sunday 9:00 AM to 6:00 PM	F. **Other employees** # on Weekdays __1__ # on Saturday __1_ # on Sunday _1___ Work hours: Weekday 8:00 AM to 6:00 PM Saturday 9:00 AM to 6:00 PM Sunday 9:00 AM to 6:00 PM
G. **Maximum tours/tasting visitors** # on Weekdays __20__ # on Saturday __20_ # on Sunday _20___ Tasting hours: Weekday 10:00 AM to 6:00 PM Saturday 10:00 AM to 6:00 PM Sunday 10:00 AM to 6:00 PM	H. **Grape delivery trucks** # on Weekdays __2__ # on Saturday __2_ # on Sunday _2___ Delivery hours: Weekday 6:00 AM to noon Saturday 6:00 AM to noon Sunday 6:00 AM to noon # days of grape delivery: Sept. 1 to end of Oct., but not every day

Appendix

ALOFT WINERY
EXPECTED PROJECT TRAFFIC ACTIVITY DETAILS - HARVEST

I. **Other trucks**
on Weekdays _5__
on Saturday __0__
on Sunday __0___
Delivery hours:
Weekday 8:00 AM to 5:00 PM
Saturday N/A
Sunday N/A
Please Detail:

J. **Grape Source & Trucks**

Percent grapes grown on site: 24%

Grapes grown off site – access route to winery entrance
From the east (north) on Howell Mountain Road: 50%
From the west on Howell Mountain Road-Deer Park Road: 50%

Number of existing grape haul truck trips eliminated due to use of on-site grapes for proposed winery: 14

Appendix

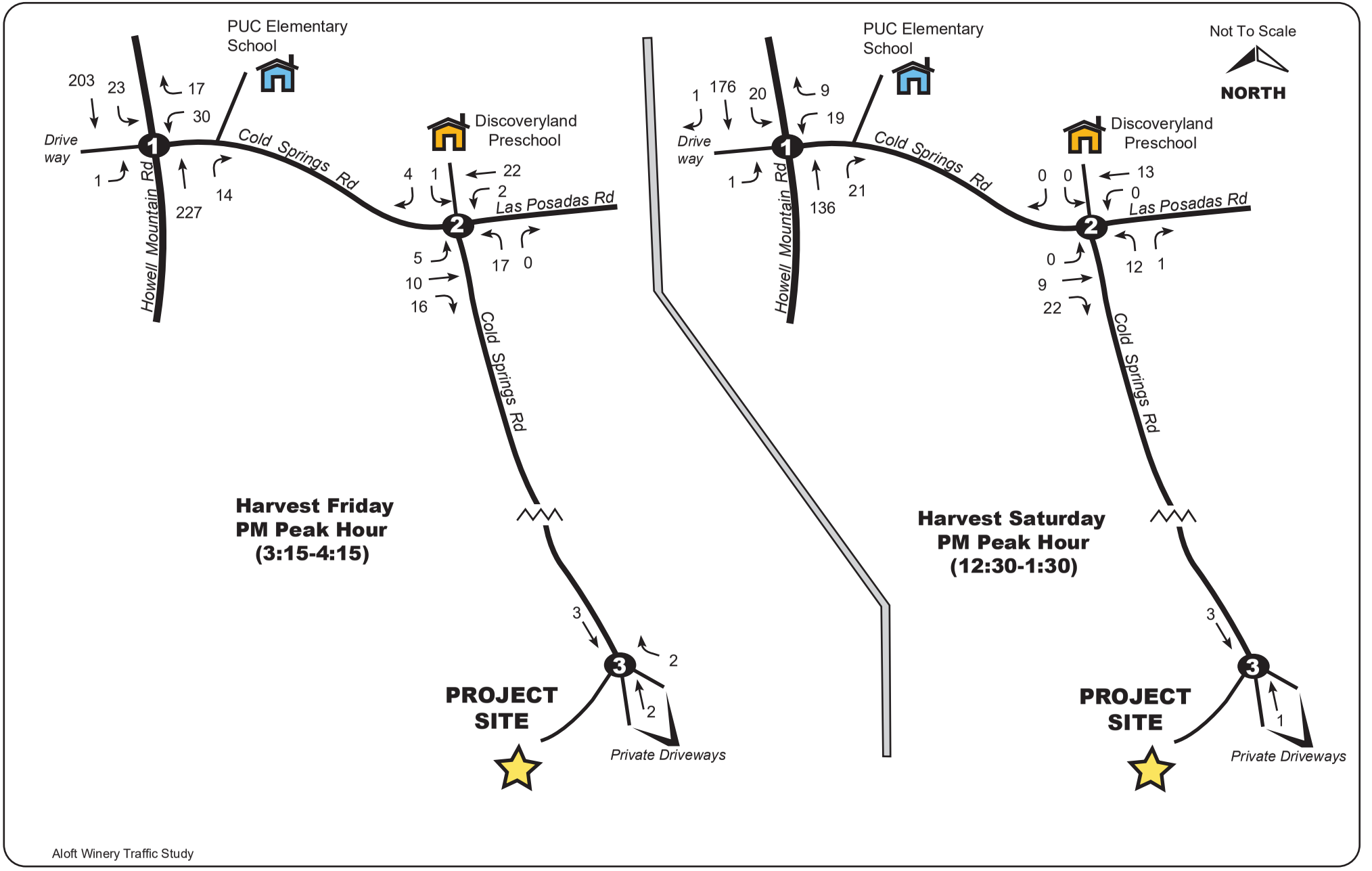
ALOFT WINERY
EXPECTED PROJECT TRAFFIC ACTIVITY DETAILS - HARVEST

K. **Marketing Events**

Marketing Event #1	# events/year: 24 maximum # people/event: 40 typical days: any day typical hours: 10:00 AM to 6:00 PM or 6:00 PM to 10:00 PM
Marketing Event #2	# events/year: 4 # people/event: 75 typical days: weekends typical hours: 10:00 AM to 6:00 PM or 6:00 PM to 10:00 PM
Marketing Event #3	# events/year: 2 # people/event: 125 typical days: weekend typical hours: 10:00 AM to 6:00 PM or 6:00 PM to 10:00 PM

L. **Bottling**

Days of on-site bottling per year: 6



Appendix Figure 1
Existing Friday and Saturday PM Peak Hour Traffic Volumes Oct 21, 2016 - 3:15-4:15 PM and Oct 22, 2016 - 12:30-1:30 PM

CRANE TRANSPORTATION GROUP

TECHNICAL APPENDIX

Capacity Worksheets

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	1	0	0	32	0	18	0	238	15	24	213	0
Future Vol, veh/h	1	0	0	32	0	18	0	238	15	24	213	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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	3	0	0	2	0
Mvmt Flow	1	0	0	39	0	22	0	287	18	29	257	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	621	619	257	610	610	296	257	0	0	305	0	0
Stage 1	314	314	-	296	296	-	-	-	-	-	-	-
Stage 2	307	305	-	314	314	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	403	407	787	395	412	748	1320	-	-	1267	-	-
Stage 1	701	660	-	696	672	-	-	-	-	-	-	-
Stage 2	707	666	-	680	660	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	384	398	787	388	403	748	1320	-	-	1267	-	-
Mov Cap-2 Maneuver	384	398	-	388	403	-	-	-	-	-	-	-
Stage 1	701	645	-	696	672	-	-	-	-	-	-	-
Stage 2	687	666	-	664	645	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.4	13.8	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1320	-	-	384	469	1267	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.128	0.023	-	-
HCM Control Delay (s)	0	-	-	14.4	13.8	7.9	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.4	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	11	17	0	2	23	0	0	21	0	0
Future Vol, veh/h	0	5	11	17	0	2	23	0	0	21	0	0
Peak Hour Factor	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	10	5	2	50	2	2	2	10	2	2
Mvmt Flow	0	6	13	20	0	2	27	0	0	25	0	0
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.2	8.2	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	31%	0%	8%	20%
Vol Thru, %	0%	69%	0%	92%	0%
Vol Right, %	0%	0%	100%	0%	80%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	16	17	25	5
LT Vol	21	5	0	2	1
Through Vol	0	11	0	23	0
RT Vol	0	0	17	0	4
Lane Flow Rate	25	19	20	30	6
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.03	0.025	0.023	0.041	0.006
Departure Headway (Hd)	4.391	4.758	4.037	4.949	3.629
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	810	753	886	724	976
Service Time	2.446	2.484	1.763	2.978	1.69
HCM Lane V/C Ratio	0.031	0.025	0.023	0.041	0.006
HCM Control Delay	7.6	7.6	6.9	8.2	6.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	1	0	4
Future Vol, veh/h	0	1	0	4
Peak Hour Factor	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	0	5
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	6.7
HCM LOS	A

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	1	0	0	20	0	9	0	142	22	21	184	1
Future Vol, veh/h	1	0	0	20	0	9	0	142	22	21	184	1
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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	1	10	0	2	0
Mvmt Flow	1	0	0	24	0	11	0	171	27	25	222	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	463	471	222	457	457	184	223	0	0	198	0	0
Stage 1	273	273	-	184	184	-	-	-	-	-	-	-
Stage 2	190	198	-	273	273	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	513	494	823	501	503	864	1358	-	-	1387	-	-
Stage 1	737	688	-	800	751	-	-	-	-	-	-	-
Stage 2	816	741	-	716	688	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	500	485	823	494	494	864	1358	-	-	1387	-	-
Mov Cap-2 Maneuver	500	485	-	494	494	-	-	-	-	-	-	-
Stage 1	737	676	-	800	751	-	-	-	-	-	-	-
Stage 2	806	741	-	703	676	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	11.7	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1358	-	-	500	570	1387	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.061	0.018	-	-
HCM Control Delay (s)	0	-	-	12.2	11.7	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	0	9	23	0	0	14	0	0	13	0	1
Future Vol, veh/h	0	0	9	23	0	0	14	0	0	13	0	1
Peak Hour Factor	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0	2	0	7	0	2	0	0	0
Mvmt Flow	0	0	13	34	0	0	21	0	0	19	0	1
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	6.9	7.3	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	93%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	100%	100%
Vol Right, %	7%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	9	23	14	0
LT Vol	13	0	0	0	0
Through Vol	0	9	0	14	0
RT Vol	1	0	23	0	0
Lane Flow Rate	21	13	34	21	0
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.024	0.017	0.036	0.024	0
Departure Headway (Hd)	4.157	4.546	3.845	4.189	4.03
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	860	789	933	855	0
Service Time	2.189	2.261	1.56	2.21	2.068
HCM Lane V/C Ratio	0.024	0.016	0.036	0.025	0
HCM Control Delay	7.3	7.3	6.7	7.3	7.1
HCM Lane LOS	A	A	A	A	N
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	0
HCM LOS	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	1	0	0	34	0	19	0	248	17	25	217	0
Future Vol, veh/h	1	0	0	34	0	19	0	248	17	25	217	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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	3	0	0	2	0
Mvmt Flow	1	0	0	41	0	23	0	299	20	30	261	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	642	641	261	631	631	309	261	0	0	319	0	0
Stage 1	322	322	-	309	309	-	-	-	-	-	-	-
Stage 2	320	319	-	322	322	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	390	395	783	382	401	736	1315	-	-	1252	-	-
Stage 1	694	655	-	684	663	-	-	-	-	-	-	-
Stage 2	696	657	-	673	655	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	371	386	783	375	391	736	1315	-	-	1252	-	-
Mov Cap-2 Maneuver	371	386	-	375	391	-	-	-	-	-	-	-
Stage 1	694	639	-	684	663	-	-	-	-	-	-	-
Stage 2	674	657	-	657	639	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	14.2	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1315	-	-	371	455	1252	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.14	0.024	-	-
HCM Control Delay (s)	0	-	-	14.7	14.2	7.9	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	12	18	0	2	24	0	0	22	0	0
Future Vol, veh/h	0	5	12	18	0	2	24	0	0	22	0	0
Peak Hour Factor	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	10	5	2	50	2	2	2	10	2	2
Mvmt Flow	0	6	14	21	0	2	29	0	0	26	0	0
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.2	8.2	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	29%	0%	8%	20%
Vol Thru, %	0%	71%	0%	92%	0%
Vol Right, %	0%	0%	100%	0%	80%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	17	18	26	5
LT Vol	22	5	0	2	1
Through Vol	0	12	0	24	0
RT Vol	0	0	18	0	4
Lane Flow Rate	26	20	21	31	6
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.032	0.027	0.024	0.043	0.006
Departure Headway (Hd)	4.399	4.752	4.04	4.952	3.638
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	809	753	885	723	973
Service Time	2.455	2.48	1.769	2.983	1.701
HCM Lane V/C Ratio	0.032	0.027	0.024	0.043	0.006
HCM Control Delay	7.6	7.6	6.9	8.2	6.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	1	0	4
Future Vol, veh/h	0	1	0	4
Peak Hour Factor	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	0	5
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	6.7
HCM LOS	A

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	1	0	0	21	0	10	0	144	23	22	192	1
Future Vol, veh/h	1	0	0	21	0	10	0	144	23	22	192	1
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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	1	10	0	2	0
Mvmt Flow	1	0	0	25	0	12	0	173	28	27	231	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	478	486	232	472	473	187	233	0	0	201	0	0
Stage 1	285	285	-	187	187	-	-	-	-	-	-	-
Stage 2	193	201	-	285	286	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	501	484	812	489	493	860	1346	-	-	1383	-	-
Stage 1	727	679	-	797	749	-	-	-	-	-	-	-
Stage 2	813	739	-	705	679	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	487	475	812	482	483	860	1346	-	-	1383	-	-
Mov Cap-2 Maneuver	487	475	-	482	483	-	-	-	-	-	-	-
Stage 1	727	666	-	797	749	-	-	-	-	-	-	-
Stage 2	802	739	-	691	666	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	11.9	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1346	-	-	487	562	1383	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.066	0.019	-	-
HCM Control Delay (s)	0	-	-	12.4	11.9	7.7	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	0	9	24	0	0	15	0	0	14	0	1
Future Vol, veh/h	0	0	9	24	0	0	15	0	0	14	0	1
Peak Hour Factor	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0	2	0	7	0	2	0	0	0
Mvmt Flow	0	0	13	35	0	0	22	0	0	21	0	1
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	6.9	7.3	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	93%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	100%	100%
Vol Right, %	7%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	9	24	15	0
LT Vol	14	0	0	0	0
Through Vol	0	9	0	15	0
RT Vol	1	0	24	0	0
Lane Flow Rate	22	13	35	22	0
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.026	0.017	0.038	0.026	0
Departure Headway (Hd)	4.167	4.551	3.85	4.194	4.038
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	857	789	932	854	0
Service Time	2.201	2.266	1.566	2.216	2.077
HCM Lane V/C Ratio	0.026	0.016	0.038	0.026	0
HCM Control Delay	7.3	7.3	6.7	7.3	7.1
HCM Lane LOS	A	A	A	A	N
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	0
HCM LOS	-

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	1	0	0	37	0	21	0	260	19	28	212	0
Future Vol, veh/h	1	0	0	37	0	21	0	260	19	28	212	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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	3	0	0	2	0
Mvmt Flow	1	0	0	45	0	25	0	313	23	34	255	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	660	659	255	648	648	325	255	0	0	336	0	0
Stage 1	323	323	-	325	325	-	-	-	-	-	-	-
Stage 2	337	336	-	323	323	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	379	386	789	373	392	721	1322	-	-	1235	-	-
Stage 1	693	654	-	671	653	-	-	-	-	-	-	-
Stage 2	681	645	-	672	654	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	358	375	789	365	381	721	1322	-	-	1235	-	-
Mov Cap-2 Maneuver	358	375	-	365	381	-	-	-	-	-	-	-
Stage 1	693	636	-	671	653	-	-	-	-	-	-	-
Stage 2	657	645	-	653	636	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.1	14.6	0	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1322	-	-	358	444	1235	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.157	0.027	-	-
HCM Control Delay (s)	0	-	-	15.1	14.6	8	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	6	13	21	0	2	26	0	0	23	0	0
Future Vol, veh/h	0	6	13	21	0	2	26	0	0	23	0	0
Peak Hour Factor	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	10	5	2	50	2	2	2	10	2	2
Mvmt Flow	0	7	15	25	0	2	31	0	0	27	0	0
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.2	8.2	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	32%	0%	7%	14%
Vol Thru, %	0%	68%	0%	93%	0%
Vol Right, %	0%	0%	100%	0%	86%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	19	21	28	7
LT Vol	23	6	0	2	1
Through Vol	0	13	0	26	0
RT Vol	0	0	21	0	6
Lane Flow Rate	27	23	25	33	8
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.034	0.03	0.028	0.046	0.008
Departure Headway (Hd)	4.414	4.77	4.047	4.961	3.606
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	805	750	883	721	980
Service Time	2.476	2.501	1.778	2.996	1.675
HCM Lane V/C Ratio	0.034	0.031	0.028	0.046	0.008
HCM Control Delay	7.6	7.6	6.9	8.2	6.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	1	0	6
Future Vol, veh/h	0	1	0	6
Peak Hour Factor	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	0	7
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	6.7
HCM LOS	A

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	1	0	0	23	0	11	0	148	25	24	192	1
Future Vol, veh/h	1	0	0	23	0	11	0	148	25	24	192	1
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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	1	10	0	2	0
Mvmt Flow	1	0	0	28	0	13	0	178	30	29	231	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	490	498	232	483	483	193	233	0	0	208	0	0
Stage 1	290	290	-	193	193	-	-	-	-	-	-	-
Stage 2	200	208	-	290	290	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	492	477	812	481	486	854	1346	-	-	1375	-	-
Stage 1	722	676	-	791	745	-	-	-	-	-	-	-
Stage 2	806	734	-	701	676	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	477	467	812	473	476	854	1346	-	-	1375	-	-
Mov Cap-2 Maneuver	477	467	-	473	476	-	-	-	-	-	-	-
Stage 1	722	662	-	791	745	-	-	-	-	-	-	-
Stage 2	793	734	-	686	662	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	12	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1346	-	-	477	553	1375	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.074	0.021	-	-
HCM Control Delay (s)	0	-	-	12.6	12	7.7	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	0	11	26	0	0	16	0	0	15	0	1
Future Vol, veh/h	0	0	11	26	0	0	16	0	0	15	0	1
Peak Hour Factor	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0	2	0	7	0	2	0	0	0
Mvmt Flow	0	0	16	38	0	0	24	0	0	22	0	1
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	6.9	7.3	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	94%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	100%	100%
Vol Right, %	6%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	11	26	16	0
LT Vol	15	0	0	0	0
Through Vol	0	11	0	16	0
RT Vol	1	0	26	0	0
Lane Flow Rate	24	16	38	24	0
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.027	0.02	0.041	0.027	0
Departure Headway (Hd)	4.182	4.553	3.853	4.2	4.05
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	854	788	931	853	0
Service Time	2.217	2.269	1.568	2.223	2.091
HCM Lane V/C Ratio	0.028	0.02	0.041	0.028	0
HCM Control Delay	7.3	7.4	6.7	7.3	7.1
HCM Lane LOS	A	A	A	A	N
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	0
HCM LOS	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	1	0	0	35	0	18	0	238	16	24	213	0
Future Vol, veh/h	1	0	0	35	0	18	0	238	16	24	213	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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	3	0	0	2	0
Mvmt Flow	1	0	0	42	0	22	0	287	19	29	257	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	621	620	257	610	610	296	257	0	0	306	0	0
Stage 1	314	314	-	296	296	-	-	-	-	-	-	-
Stage 2	307	306	-	314	314	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	403	407	787	395	412	748	1320	-	-	1266	-	-
Stage 1	701	660	-	696	672	-	-	-	-	-	-	-
Stage 2	707	665	-	680	660	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	384	398	787	388	403	748	1320	-	-	1266	-	-
Mov Cap-2 Maneuver	384	398	-	388	403	-	-	-	-	-	-	-
Stage 1	701	645	-	696	672	-	-	-	-	-	-	-
Stage 2	687	665	-	664	645	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.4	14	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1320	-	-	384	464	1266	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.138	0.023	-	-
HCM Control Delay (s)	0	-	-	14.4	14	7.9	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	11	18	0	2	23	0	0	24	0	0
Future Vol, veh/h	0	5	11	18	0	2	23	0	0	24	0	0
Peak Hour Factor	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	10	5	2	50	2	2	2	10	2	2
Mvmt Flow	0	6	13	21	0	2	27	0	0	29	0	0
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.2	8.2	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	31%	0%	8%	20%
Vol Thru, %	0%	69%	0%	92%	0%
Vol Right, %	0%	0%	100%	0%	80%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	16	18	25	5
LT Vol	24	5	0	2	1
Through Vol	0	11	0	23	0
RT Vol	0	0	18	0	4
Lane Flow Rate	29	19	21	30	6
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.035	0.025	0.024	0.041	0.006
Departure Headway (Hd)	4.393	4.764	4.043	4.956	3.634
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	810	751	884	722	974
Service Time	2.447	2.494	1.773	2.988	1.696
HCM Lane V/C Ratio	0.036	0.025	0.024	0.042	0.006
HCM Control Delay	7.6	7.6	6.9	8.2	6.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	1	0	4
Future Vol, veh/h	0	1	0	4
Peak Hour Factor	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	0	5
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	6.7
HCM LOS	A

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	1	0	0	21	0	9	0	142	23	21	184	1
Future Vol, veh/h	1	0	0	21	0	9	0	142	23	21	184	1
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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	1	10	0	2	0
Mvmt Flow	1	0	0	25	0	11	0	171	28	25	222	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	463	472	222	458	458	185	223	0	0	199	0	0
Stage 1	273	273	-	185	185	-	-	-	-	-	-	-
Stage 2	190	199	-	273	273	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	513	493	823	500	502	862	1358	-	-	1385	-	-
Stage 1	737	688	-	799	751	-	-	-	-	-	-	-
Stage 2	816	740	-	716	688	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	500	484	823	493	493	862	1358	-	-	1385	-	-
Mov Cap-2 Maneuver	500	484	-	493	493	-	-	-	-	-	-	-
Stage 1	737	676	-	799	751	-	-	-	-	-	-	-
Stage 2	806	740	-	703	676	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	11.8	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1358	-	-	500	566	1385	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.064	0.018	-	-
HCM Control Delay (s)	0	-	-	12.2	11.8	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	0	9	24	0	0	14	0	0	14	0	1
Future Vol, veh/h	0	0	9	24	0	0	14	0	0	14	0	1
Peak Hour Factor	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0	2	0	7	0	2	0	0	0
Mvmt Flow	0	0	13	35	0	0	21	0	0	21	0	1
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	6.9	7.3	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	93%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	100%	100%
Vol Right, %	7%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	9	24	14	0
LT Vol	14	0	0	0	0
Through Vol	0	9	0	14	0
RT Vol	1	0	24	0	0
Lane Flow Rate	22	13	35	21	0
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.026	0.017	0.038	0.024	0
Departure Headway (Hd)	4.163	4.55	3.849	4.194	4.034
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	858	789	932	854	0
Service Time	2.197	2.265	1.564	2.216	2.073
HCM Lane V/C Ratio	0.026	0.016	0.038	0.025	0
HCM Control Delay	7.3	7.3	6.7	7.3	7.1
HCM Lane LOS	A	A	A	A	N
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	0
HCM LOS	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	1	0	0	37	0	19	0	248	18	25	217	0
Future Vol, veh/h	1	0	0	37	0	19	0	248	18	25	217	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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	3	0	0	2	0
Mvmt Flow	1	0	0	45	0	23	0	299	22	30	261	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	643	642	261	632	632	310	261	0	0	320	0	0
Stage 1	322	322	-	310	310	-	-	-	-	-	-	-
Stage 2	321	320	-	322	322	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	389	395	783	382	400	735	1315	-	-	1251	-	-
Stage 1	694	655	-	684	663	-	-	-	-	-	-	-
Stage 2	695	656	-	673	655	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	370	386	783	375	390	735	1315	-	-	1251	-	-
Mov Cap-2 Maneuver	370	386	-	375	390	-	-	-	-	-	-	-
Stage 1	694	639	-	684	663	-	-	-	-	-	-	-
Stage 2	673	656	-	657	639	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.8	14.4	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1315	-	-	370	450	1251	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.15	0.024	-	-
HCM Control Delay (s)	0	-	-	14.8	14.4	7.9	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	5	12	19	0	2	24	0	0	25	0	0
Future Vol, veh/h	0	5	12	19	0	2	24	0	0	25	0	0
Peak Hour Factor	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	10	5	2	50	2	2	2	10	2	2
Mvmt Flow	0	6	14	23	0	2	29	0	0	30	0	0
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.2	8.2	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	29%	0%	8%	20%
Vol Thru, %	0%	71%	0%	92%	0%
Vol Right, %	0%	0%	100%	0%	80%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	17	19	26	5
LT Vol	25	5	0	2	1
Through Vol	0	12	0	24	0
RT Vol	0	0	19	0	4
Lane Flow Rate	30	20	23	31	6
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.036	0.027	0.025	0.043	0.006
Departure Headway (Hd)	4.401	4.758	4.046	4.959	3.642
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	808	752	884	722	971
Service Time	2.457	2.488	1.776	2.992	1.706
HCM Lane V/C Ratio	0.037	0.027	0.026	0.043	0.006
HCM Control Delay	7.6	7.6	6.9	8.2	6.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	1	0	4
Future Vol, veh/h	0	1	0	4
Peak Hour Factor	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	0	5
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	6.7
HCM LOS	A

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	0	22	0	10	0	144	24	22	192	1
Future Vol, veh/h	1	0	0	22	0	10	0	144	24	22	192	1
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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	1	10	0	2	0
Mvmt Flow	1	0	0	27	0	12	0	173	29	27	231	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	479	487	232	473	474	188	233	0	0	202	0	0
Stage 1	285	285	-	188	188	-	-	-	-	-	-	-
Stage 2	194	202	-	285	286	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	500	484	812	488	492	859	1346	-	-	1382	-	-
Stage 1	727	679	-	796	748	-	-	-	-	-	-	-
Stage 2	812	738	-	705	679	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	486	475	812	481	482	859	1346	-	-	1382	-	-
Mov Cap-2 Maneuver	486	475	-	481	482	-	-	-	-	-	-	-
Stage 1	727	666	-	796	748	-	-	-	-	-	-	-
Stage 2	801	738	-	691	666	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	11.9	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1346	-	-	486	558	1382	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.069	0.019	-	-
HCM Control Delay (s)	0	-	-	12.4	11.9	7.7	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	0	9	25	0	0	15	0	0	15	0	1
Future Vol, veh/h	0	0	9	25	0	0	15	0	0	15	0	1
Peak Hour Factor	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0	2	0	7	0	2	0	0	0
Mvmt Flow	0	0	13	37	0	0	22	0	0	22	0	1
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	6.9	7.3	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	94%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	100%	100%
Vol Right, %	6%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	9	25	15	0
LT Vol	15	0	0	0	0
Through Vol	0	9	0	15	0
RT Vol	1	0	25	0	0
Lane Flow Rate	24	13	37	22	0
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.027	0.017	0.039	0.026	0
Departure Headway (Hd)	4.174	4.553	3.852	4.198	4.043
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	856	788	931	854	0
Service Time	2.206	2.268	1.568	2.219	2.08
HCM Lane V/C Ratio	0.028	0.016	0.04	0.026	0
HCM Control Delay	7.3	7.3	6.7	7.3	7.1
HCM Lane LOS	A	A	A	A	N
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	0
HCM LOS	-

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	1	0	0	40	0	21	0	260	20	28	212	0
Future Vol, veh/h	1	0	0	40	0	21	0	260	20	28	212	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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	3	0	0	2	0
Mvmt Flow	1	0	0	48	0	25	0	313	24	34	255	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	661	660	255	648	648	325	255	0	0	337	0	0
Stage 1	323	323	-	325	325	-	-	-	-	-	-	-
Stage 2	338	337	-	323	323	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	379	386	789	373	392	721	1322	-	-	1234	-	-
Stage 1	693	654	-	671	653	-	-	-	-	-	-	-
Stage 2	681	645	-	672	654	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	358	375	789	365	381	721	1322	-	-	1234	-	-
Mov Cap-2 Maneuver	358	375	-	365	381	-	-	-	-	-	-	-
Stage 1	693	636	-	671	653	-	-	-	-	-	-	-
Stage 2	657	645	-	653	636	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.1	14.8	0	0.9
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1322	-	-	358	440	1234	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.167	0.027	-	-
HCM Control Delay (s)	0	-	-	15.1	14.8	8	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	6	13	22	0	2	26	0	0	26	0	0
Future Vol, veh/h	0	6	13	22	0	2	26	0	0	26	0	0
Peak Hour Factor	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	10	5	2	50	2	2	2	10	2	2
Mvmt Flow	0	7	15	26	0	2	31	0	0	31	0	0
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.3	8.2	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	32%	0%	7%	14%
Vol Thru, %	0%	68%	0%	93%	0%
Vol Right, %	0%	0%	100%	0%	86%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	26	19	22	28	7
LT Vol	26	6	0	2	1
Through Vol	0	13	0	26	0
RT Vol	0	0	22	0	6
Lane Flow Rate	31	23	26	33	8
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.038	0.03	0.03	0.046	0.008
Departure Headway (Hd)	4.416	4.778	4.055	4.97	3.612
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	804	749	882	720	978
Service Time	2.479	2.509	1.786	3.006	1.683
HCM Lane V/C Ratio	0.039	0.031	0.029	0.046	0.008
HCM Control Delay	7.7	7.7	6.9	8.2	6.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	1	0	6
Future Vol, veh/h	0	1	0	6
Peak Hour Factor	0.92	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	1	0	7
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	6.7
HCM LOS	A

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	1	0	0	24	0	11	0	148	26	24	192	1
Future Vol, veh/h	1	0	0	24	0	11	0	148	26	24	192	1
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	-	-	-	-	-	-	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	10	0	0	0	1	10	0	2	0
Mvmt Flow	1	0	0	29	0	13	0	178	31	29	231	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	491	500	232	484	484	194	233	0	0	210	0	0
Stage 1	290	290	-	194	194	-	-	-	-	-	-	-
Stage 2	201	210	-	290	290	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.2	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.2	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.59	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	491	476	812	480	486	853	1346	-	-	1373	-	-
Stage 1	722	676	-	790	744	-	-	-	-	-	-	-
Stage 2	805	732	-	701	676	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	476	466	812	472	476	853	1346	-	-	1373	-	-
Mov Cap-2 Maneuver	476	466	-	472	476	-	-	-	-	-	-	-
Stage 1	722	662	-	790	744	-	-	-	-	-	-	-
Stage 2	792	732	-	686	662	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	12.1	0	0.8
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1346	-	-	476	549	1373	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.077	0.021	-	-
HCM Control Delay (s)	0	-	-	12.6	12.1	7.7	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	0	11	27	0	0	16	0	0	16	0	1
Future Vol, veh/h	0	0	11	27	0	0	16	0	0	16	0	1
Peak Hour Factor	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0	2	0	7	0	2	0	0	0
Mvmt Flow	0	0	16	40	0	0	24	0	0	24	0	1
Number of Lanes	0	0	1	1	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	6.9	7.3	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	94%	0%	0%	0%	0%
Vol Thru, %	0%	100%	0%	100%	100%
Vol Right, %	6%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	11	27	16	0
LT Vol	16	0	0	0	0
Through Vol	0	11	0	16	0
RT Vol	1	0	27	0	0
Lane Flow Rate	25	16	40	24	0
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.029	0.02	0.043	0.027	0
Departure Headway (Hd)	4.186	4.555	3.855	4.203	4.053
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	853	787	930	852	0
Service Time	2.224	2.273	1.572	2.228	2.097
HCM Lane V/C Ratio	0.029	0.02	0.043	0.028	0
HCM Control Delay	7.4	7.4	6.7	7.3	7.1
HCM Lane LOS	A	A	A	A	N
HCM 95th-tile Q	0.1	0.1	0.1	0.1	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.68	0.68	0.68
Heavy Vehicles, %	2	0	0	0
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	0
HCM LOS	-