TRAFFIC IMPACT REPORT

PROPOSED MOUNTAIN PEAK WINERY
ALONG SODA CANYON ROAD
IN THE NAPA VALLEY

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I. INTRODUCTION

This traffic report has been prepared at the request of the Napa County Public Works and Planning, Building and Environmental Sciences Departments as authorized by the Mountain Peak Winery applicant. It has determined if traffic from the proposed Mountain Peak Winery will result in any significant impacts to the local circulation system and the need for any mitigation measures.

II. SCOPE OF SERVICES

The scope of service for this traffic study was approved by the Napa County Public Works and the Planning, Building and Environmental Sciences departments. Evaluation was conducted for both harvest and summer (non-harvest) traffic periods for Friday AM and PM commute and Saturday afternoon peak traffic conditions. Existing, year 2019 and year 2030 (Cumulative – General Plan Buildout) horizons were evaluated both with and without project traffic. Operating conditions along Silverado Trail and Soda Canyon Road as well as at the Silverado Trail/Soda Canyon Road intersection were evaluated for all analysis scenarios based upon significance criteria contained in the General Plan and/or utilized in all recent County traffic studies. In addition, sight line adequacy was evaluated at the project driveway intersections with Soda Canyon Road. Finally, the need for left turn lanes on Soda Canyon Road at the proposed project driveways was evaluated based upon County warrant criteria. 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 2014

Analysis peak traffic hours were based upon total volumes passing through the Silverado Trail/Soda Canyon Road intersections. Soda Canyon Road adjacent to the proposed project site now has higher September harvest two-way traffic volumes during the Friday PM peak traffic hour compared to either the Friday AM or Saturday PM peak traffic hours (adjacent to the project – 66 two-way peak hour vehicles during the Friday PM peak hour versus 30 two-way vehicles during the Friday AM peak hour and 49 two-way vehicles during the Saturday PM peak hour, while near Silverado Trail 166 vehicles during the Friday PM peak hour versus 139 vehicles during the Friday AM peak hour and 141 vehicle during the Saturday PM peak hour). Along Silverado Trail, two-way volumes south of Soda Canyon Road are also higher during the Friday PM peak hour compared to the Friday AM or Saturday PM peak hours (about 1,640 Friday PM peak hour vehicles versus 1,014 Friday AM or 1,324 Saturday PM peak hour vehicles). The driveway serving the project site had no vehicles during the Friday AM peak

hour, 1 vehicle during the Friday PM peak hour and no vehicles during the Saturday PM peak hour.

2. Year 2014 Harvest or Summer – Circulation System Unacceptable Operation

- **Silverado Trail/Soda Canyon Road** intersection – unacceptable level of service.
  - Friday & Saturday PM peak traffic hours
- **Silverado Trail/Soda Canyon Road** intersection – volumes exceed peak hour signal warrant criteria levels.
  - Friday PM peak hour
- **Silverado Trail** roadway segments – unacceptable level of service.
  - Friday & Saturday PM peak traffic hours – southbound (north and south of Soda Canyon Road)

3. Year 2019 Harvest or Summer – Circulation System Unacceptable Operation

- **Silverado Trail/Soda Canyon Road** intersection – unacceptable level of service.
  - Friday & Saturday PM peak traffic hours
- **Silverado Trail/Soda Canyon Road** intersection – volumes exceed peak hour signal warrant criteria levels.
  - Friday PM peak hour
- **Silverado Trail** roadway segments – unacceptable level of service.
  - Friday & Saturday PM peak hours – southbound (north and south of Soda Canyon Road)

4. Year 2030 Harvest or Summer – Circulation System Unacceptable Operation

- **Silverado Trail/Soda Canyon Road** intersection – unacceptable level of service.
  - Friday & Saturday PM peak traffic hours
- **Silverado Trail/Soda Canyon Road** intersection – volumes exceed peak hour signal warrant criteria levels.
  - Friday and Saturday PM peak traffic hours
- **Silverado Trail** roadway segments – unacceptable level of service.
  - Friday AM peak hour – northbound (north and south of Soda Canyon Road)
  - Friday and Saturday PM peak hours – southbound (north and south of Soda Canyon Road)

B. PROJECT IMPACTS

1. **Project Trip Generation**
The proposed project will result in the following trip generation during the Friday and Saturday peak traffic hours.

PROJECT TRIP GENERATION

HARVEST

FRIDAY AM PEAK HOUR* (8:00-9:00)		FRIDAY PM PEAK HOUR* (4:30-5:30)		SATURDAY PM PEAK HOUR* (4:00-5:00)	
INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
4	0	5	6	5	5

SUMMER (NON-HARVEST)

FRIDAY AM PEAK HOUR* (8:00-9:00)		FRIDAY PM PEAK HOUR* (4:30-5:30)		SATURDAY PM PEAK HOUR* (4:00-5:00)	
INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
4	0	5	6	5	5

* Peak hour at the Silverado Trail/Soda Canyon Road intersection.

Trips during the Friday and Saturday PM peak hours will be visitors by appointment, while trips during the Friday AM peak hour will be employees.

2. **New Site Access**
The project will eliminate the existing single family residential driveway and provide two new driveway connections to Soda Canyon Road: the west driveway for employees and trucks and the east driveway for visitors.

3. **Year 2014 Existing + Project Off-Cite Circulation Impacts – Harvest or Summer**
The proposed project would not result in any significant off-site level of service or signal warrant impacts to Silverado Trail, Soda Canyon Road or to the Silverado Trail/Soda Canyon Road intersection. The project would not degrade operation from acceptable to unacceptable at any analyzed location and/or increase peak hour volumes by 1 percent or greater at any location already experiencing unacceptable "Without Project" operation.

4. **Year 2019 Existing + Project Off-Site Circulation Impacts – Harvest or Summer**
The proposed project would not result in any significant off-site level of service or signal warrant impacts to Silverado Trail, Soda Canyon Road or to the Silverado Trail/Soda Canyon Road intersection. The project would not degrade operation from acceptable to unacceptable at any analyzed location and/or increase peak hour volumes by 1 percent or greater at any location already experiencing unacceptable "Without Project" operation.

5. **Year 2030 Existing + Project Off-Site Circulation Impacts – Harvest or Summer**
The proposed project would not result in any significant off-site level of service or signal warrant impacts to Silverado Trail, Soda Canyon Road or to the Silverado Trail/Soda Canyon Road intersection. The project would not degrade operation from acceptable to unacceptable at any analyzed location and/or increase peak hour volumes by 1 percent or greater at any location already experiencing unacceptable "Without Project" operation.

6. **Need for Left Turn Lane on Soda Canyon Road at Project Entrance**
Volumes along Soda Canyon Road at the project entrance in combination with daily volumes on the project driveways will not meet County warrant criteria for provision of a left turn lane on the eastbound Soda Canyon Road approach to either project driveway.

7. **Sight Lines at Project Driveways**
Sight lines will be acceptable at the project's proposed driveway connections to Soda Canyon Road. Vegetation will be cleared on the north side of Soda Canyon Road between driveways in order to maintain acceptable stopping sight distance for Soda Canyon Road traffic.

8. **Mitigations**
There are no required mitigations other than maintaining landscaping along the project's Soda Canyon Road frontage to provide acceptable sight lines for drivers turning from the project driveways and scheduling marketing events to eliminate guest and hired event staff traffic from the local circulation system between 3:00 and 6:00 PM on all days.

C. CONCLUSIONS & RECOMMENDATIONS

The project will result in no significant off-site circulation system operational impacts to Silverado Trail or Soda Canyon Road or to the Silverado Trail/Soda Canyon Road intersection. Project traffic in combination with ambient volumes along Soda Canyon Road will not meet County warrant criteria for provision of left turn lanes on the eastbound Soda Canyon Road approaches to either site driveway. In addition, sight lines at the project employee and visitor driveway connections to Soda Canyon Road will be acceptable assuming landscaping along the project frontage is maintained so as not to block sight lines. Realigning the 3267 driveway connection to Soda Canyon Road to a 90-degree approach will also be an improvement. Finally, there will be a reduction of about 88 existing grape truck round trips from Soda Canyon Road each harvest due to nearby vineyards supplying 92 percent of all the winery's grapes and the elimination of outhaul truck trips from these vineyards on Soda Canyon Road and Silverado Trail.

IV. PROJECT LOCATION & DESCRIPTION

The Mountain Peak Winery will be located on the north side of Soda Canyon Road about six miles northeast of the Silverado Trail/Soda Canyon Road intersection (see **Figure 1**). The current driveway connection serving a residential unit at 3265 Soda Canyon Road will be eliminated along with the residential unit as part of the project and replaced by two new driveways. The first will connect to Soda Canyon Road about 100 feet west of the existing 3265 connection and will be used by winery employees and trucks. The second, to be used by visitors, will be located midway between the new employee driveway and the existing 3267 Soda Canyon Road driveway (in approximately the same location as the existing 3265 residential driveway). The 3267 driveway now intersects Soda Canyon Road at a 30-degree angle at the same location as the existing 3265 residential connection. However, the 3267 angled driveway connection to Soda Canyon Road will be reconfigured to provide a more standard 90-degree side road connection. **Figure 2** presents existing intersection geometrics and approach lanes, while **Figure 3** presents the revised driveway plan after project completion.

The proposed Mountain Peak Winery would have the following yearly production and employee, visitor and special event levels.

- 100,000 gallons per year production.
- Total 27 full- and part-time employees.[1]
- Bottling on-site.
- 92 percent of the grapes will be grown on site. They are now outhauled to processing facilities in Napa in approximately 84 trucks. These truck trips will be eliminated from Soda Canyon Road. The remaining 8 percent of the grapes will be transported to the site in 7 to 8 trucks. However, these grapes may possibly also come from other nearby vineyards.
- Tours and tasting by appointment only – 7 days per week from 10:00 AM to 6:00 PM, 80 visitors/day maximum.
- Food and wine pairing events – 6 per month: 3 at 24 visitors per event and 3 at 12 visitors per event (between 10:00 AM & 10:00 PM).
- Marketing events – 4 per year, maximum 75 visitors per event. All events will be during off-peak traffic hours.
- Wine auction – 2 per year, maximum 125 visitors per event. Shuttle buses may be used for these two events.

[1] Employee and grape truck delivery details are presented in the **Appendix**.

V. EXISTING CIRCULATION SYSTEM EVALUATION PROCEDURES

A. ANALYSIS LOCATIONS

At County direction, the following locations have been evaluated.

1. **Silverado Trail/Soda Canyon Road intersection (the Soda Canyon Road approach is stop sign controlled).**

2. **Soda Canyon Road/Project Driveway intersections.**

3. **The Silverado Trail two-lane highway segments just north and south of Soda Canyon Road as well as the Soda Canyon Road two-lane roadway segments near Silverado Trail and just west of the project driveways.**

Figure 2 presents a schematic of approach geometrics and control at each analysis intersection.

B. VOLUMES

1. ANALYSIS SEASONS AND DAYS OF THE WEEK

At County request project traffic impacts have been evaluated during both harvest and peak summer (non-harvest) conditions. Based upon more than four years of 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), with August having the highest summer non-harvest daily volumes of the year. August counts were almost as high as September counts. Therefore, conditions during these two months were selected for evaluation.

In regards to the peak traffic days of the week, the recently released Napa County Travel Behavioral Study[2] 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 in this study.

2. COUNT RESULTS

Friday 3:00 to 6:00 PM and Saturday 1:00 to 6:00 PM turn movement counts were conducted by Crane Transportation Group (CTG) in May 2013 at the Silverado Trail/Soda Canyon Road

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

intersection, while Friday and Saturday counts during the same hours were conducted at the Soda Canyon Road/Project driveway and Soda Canyon Road/3267 driveway intersections on July 26 and 27, 2013. The peak traffic hours at Silverado Trail/Soda Canyon Road were 4:30-5:30 PM on Friday and 4:00-5:00 PM on Saturday. Overall, two-way volumes along Silverado Trail at the Soda Canyon Road intersection were higher during the Friday peak hour (1,545 vehicles per hour [vph] versus 1,245 vph on Saturday), while two-way peak hour counts along Soda Canyon Road just west of the project access driveway intersection were also higher on Friday compared to Saturday (62 vph versus 46 vph). Friday 7:00-9:00 AM turn movement counts were also conducted by Crane Transportation Group in January 2015 at the Silverado Trail/Soda Canyon Road and Soda Canyon Road/Project driveway and 3267 driveway intersections. The peak traffic hour was 8:00-9:00 AM. Resultant May and July 2013 as well as January 2015 peak hour counts are presented in **Appendix Figure 1**. It should be noted that agricultural workers associated with vineyard maintenance on the site were present during all counts.

Daily two-way counts were also conducted along Soda Canyon Road adjacent to the project site on Tuesday, Wednesday, Thursday and Friday, January 27-30, 2015. Daily two-way volumes were 450, 394, 444 and 438 vehicles, respectively, with a four-day daily two-way average of 432 vehicles.

3. SEASONAL ADJUSTMENTS

May and July 2013 as well as and January 2015 peak hour and daily traffic counts were seasonally adjusted to reflect September 2014 harvest conditions based upon monthly and day of week adjustment factors utilized in other Napa Valley jurisdictions. Overall, May and July counts would be expected to increase by about 3 percent to reflect fall harvest conditions. Due to the availability of Friday PM peak period counts along Silverado Trail from both January and May, it was possible to determine that January AM peak period counts should be increased by about 17 percent in the peak flow traffic direction and 10 percent in the off peak flow traffic direction in order to reflect September harvest conditions. Historical traffic count data from Caltrans as well as past studies, extending back to the Wine Train EIR in 1992, were then utilized to determine the seasonal difference in August versus September weekday and weekend peak hour volumes. While some sources showed August volumes at a few locations in the Napa Valley being the same or a little higher than those in September, overall it was determined that September volumes at the vast majority of locations were slightly higher than August volumes by the following factors.

	September Compared to August Peak Hour Volumes
Weekday	+ 1%
Saturday	+ 2%

Resultant 2014 Friday AM and PM and Saturday PM peak hour harvest volumes are presented in **Figure 4** while summer volumes are presented in **Figure 5**.

C. ROADWAYS

Soda Canyon Road provides the only access to the project site. It connects to Silverado Trail about six miles (downhill) from the project access driveway. Soda Canyon Road has two travel lanes that gradually narrow as they extend uphill from Silverado Trail. There are minimal shoulder areas and frequent horizontal curves. The posted speed limit near Silverado Trail is 45 miles per hour, while near the project site it is 25 miles per hour. Soda Canyon Road widens to two lanes on its stop sign controlled approach to Silverado Trail.

Silverado Trail near the Soda Canyon Road intersection has two well-paved 12-foot travel lanes and 8-foot paved shoulders that are signed and striped as Class II bicycle lanes. The posted speed limit is 55 miles per hour and the roadway is mostly level with some horizontal curves. A left turn lane is provided on the southbound Silverado Trail approach to Soda Canyon Road.

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.

Signalized Intersections. For signalized intersections, the 2000 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology was utilized. With this methodology, operations are defined by the level of service and average control delay per vehicle (measured in seconds) for the entire intersection. For a signalized intersection, control delay is the portion of the total delay attributed to traffic signal operation. This includes delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 1** summarizes the relationship between delay and LOS for signalized intersections.

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 state 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. It should be noted that the 2010 analysis software for unsignalized intersections does not report overall intersection delay. However, the year 2000

software does report overall delay and was utilized to report overall intersection operation. **Table 2** summarizes the relationship between delay and LOS for unsignalized intersections.

2. MINIMUM ACCEPTABLE OPERATION

Napa County has no published minimum level of service standards for unsignalized public road or private driveway intersections. The County General Plan (Policy CIR-16) states that the County shall seek to maintain an arterial Level of Service D or better on all County roadways except where maintaining this desired level of service would require installation of more travel lanes than shown on the Circulation Map. For this study, LOS D has been used for unsignalized intersections as the poorest acceptable operation for the entire intersection, with LOS E as the poorest acceptable operation for a side street stop sign controlled intersection approach. The reason for use of LOS E as the criteria for individual movements and LOS D as the criteria for the overall intersection is that the poorest operation at an unsignalized intersection is typically a specific stop sign controlled movement, unless side street volumes are high, in which case both the overall intersection and stop sign controlled movement are LOS F. Stop sign controlled intersections along Silverado Trail with low volumes of side street traffic tend to have poor stop sign controlled levels of service, but good to acceptable overall operation. As side street volumes increase, overall intersection operation also tends to degrade, but will usually remain one or more levels of service better than the stop sign controlled movement. When overall operation also degrades to LOS E or F operation, it is an indication of large volumes on the stop sign controlled approach, and the potential need for intersection signalization. The combined use of both criteria allows the County to identify those stop sign controlled intersections that have unacceptable delay for side street traffic as well as a sufficient amount of side street traffic that may meet signal warrant criteria levels.

E. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION

1. ANALYSIS METHODOLOGY

Traffic signals are used to provide an orderly flow of traffic through an intersection. Many times they are needed to offer side street traffic an opportunity to access a major road where high volumes and/or high vehicle speeds block crossing or turn movements. They do not, however, increase the capacity of an intersection (i.e., increase the overall intersection's ability to accommodate additional vehicles) and, in fact, often slightly reduce the number of total vehicles that can pass through an intersection in a given period of time. Signals can also cause an increase in traffic accidents if installed at inappropriate locations.

There are 9 possible tests for determining whether a traffic signal should be considered for installation. These tests, called "warrants", consider criteria such as actual traffic volume, pedestrian volume, presence of school children, and accident history. The intersection volume data together with the available collision histories were compared to warrants contained in the *Manual on Uniform Traffic Control Devices* (MUTCD), Federal Highway Administration, 2012, California Supplement, which has been adopted by the State of California as a replacement for

Caltrans Traffic Manual. Section 4C of the MUTCD provides guidelines, or warrants, which may indicate need for a traffic signal at an unsignalized intersection. As indicated in the MUTCD, satisfaction of one or more warrants does not necessarily require immediate installation of a traffic signal. It is merely an indication that the local jurisdiction should begin monitoring conditions at that location and that a signal may ultimately be required.

Warrant 3, the peak hour volume warrant, is often used as an initial check of signalization needs since peak hour volume data is typically available and this warrant is usually the first one to be met. Warrant 3 is based on a logarithmic curve and takes only the hour with the highest volume of the day into account.

In areas where there are less than 10,000 people in the immediate vicinity of an intersection or where the travel speeds on the uncontrolled intersection approaches are greater than 40 miles per hour, "rural" warrant criteria apply. They require only 70 percent of the volume levels of "urban" warrant criteria. The Silverado Trail/Soda Canyon Road intersection is in such a location.

Please see the **Appendix** for the rural warrant chart.

F. ROADWAY SEGMENT LEVEL OF SERVICE

1. ANALYSIS METHODOLOGY

Roadway segment operation for Silverado Trail and Soda Canyon Road has been evaluated based upon criteria developed for Napa County roadways as part of the County General Plan Update in 2007: Napa County General Plan Update EIR – Technical Memorandum for Traffic and Circulation Supporting the Findings and Recommendations by Dowling Associates, February 2007. Table 5 in this report, "Peak Hour Roadway Capacities," shows the following directional capacity limit-level of service relationships for a two-lane rural highway, such as Silverado Trail, as well as a two-lane collector roadway, such as Soda Canyon Road. It should be noted that the character of Soda Canyon Road changes significantly from just east of Silverado Trail to the vicinity of the proposed project. Roadway grade is steeper and there are more horizontal and vertical curves near the project site. In order to account for this difference, the normal two-lane collector roadway capacities were reduced by 50 percent to reflect conditions found along Soda Canyon Road near the project.

ROADWAY SEGMENT CAPACITIES

		LOS A	LOS B	LOS C	LOS D	LOS E
2-Lane Rural Highway – Silverado Trail	Maximum Peak Direction Volumes	100	330	620	870	1200
	Volume/Capacity Ratio	(.08)	(.28)	(.52)	(.73)	(1.00)
2-Lane Collector – Soda Canyon Rd. Near Silverado Trail	Maximum Peak Direction Volumes	73	97	480	760	810
	Volume/Capacity Ratio	(.09)	(.12)	(.59)	(.94)	(1.00)
2-Lane Mountain Collector – Soda Canyon Rd. Near Project Site	Maximum Peak Direction Volumes	36	48	240	380	405
	Volume/Capacity Radio	(.09)	(.12)	(.59)	(.94)	(1.00)

2. MINIMUM ACCEPTABLE OPERATION

Level of service D (LOS D) is the poorest acceptable roadway segment operation in Napa County.

G. PLANNED IMPROVEMENTS

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

VI. FUTURE HORIZON TRAFFIC VOLUME PROJECTIONS

Traffic analysis has been conducted for existing, year 2019 and year 2030 horizons at County request. The 2030 horizon reflects the County General Plan Buildout year, while 2019 reflects the first year of expected full production at the winery. Traffic modeling for the General Plan shows a 16 percent growth in two-way weekday PM peak hour traffic along Silverado Trail in the project area between 2014 and 2030. Projecting straight line traffic growth along Silverado Trail for analysis purposes, this translates into about a 5 percent growth in two-way PM peak hour traffic from 2014 to 2019. Weekday year 2030 AM peak hour traffic projections were also available from the General Plan traffic model. They showed a larger expected increase than the PM projections, with about a 35 percent growth in two-way traffic expected between 2014 and 2030, and a resulting 11 percent growth expected between 2014 and 2019.

Since traffic modeling projections were only available for weekday AM and PM peak hour conditions and not for the Saturday PM peak hour, north and southbound Saturday PM peak hour

[3] Mr. Paul Wilkinson, Napa County Public Works Department, February 2015.

volumes on Silverado Trail were both uniformly increased by the PM percentages above, as they are currently closer to the weekday PM rather than AM peak hour volumes.

The County traffic model has no future traffic projections for Soda Canyon Road. Therefore, future projections were developed using an overall background growth rate of 1 percent per year plus the traffic from any planned or under construction projects that would access Soda Canyon Road. Based upon County input, the Relic Winery, currently under construction, is the only known approved or planned project that would be likely to add traffic to Soda Canyon Road before 2030. The planned 20,000-gallon winery with up to 20 visitors per day by appointment and 4 full-time employees would be expected to add no traffic to the Friday AM peak hour, up to 6 outbound trips during the Friday PM peak hour and 2 inbound or outbound trips during the Saturday PM peak hour.

Resultant year 2019 harvest and summer "Without Project" peak hour volumes are presented in **Figures 6** and **7**, respectively, while year 2030 harvest and summer "Without Project" peak hour volumes are presented in **Figures 8** and **9**, respectively.

VII. OFF-SITE CIRCULATION SYSTEM OPERATION – WITHOUT PROJECT

1. EXISTING OPERATING CONDITIONS (WITHOUT PROJECT)

A. HARVEST

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Soda Canyon Road) – Table 3

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A
Acceptable Soda Canyon Road stop sign controlled operation: LOS C

b) Friday PM Peak Hour

Acceptable overall intersection operation: LOS D
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Acceptable overall intersection operation: LOS A
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Soda Canyon Road) – Table 4

a) Friday AM Peak Hour

Volumes do not meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes do not meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Soda Canyon Road) – Table 5A

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation in both directions both north and south of Soda Canyon Road: LOS D northbound and LOS B southbound.

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS B eastbound and LOS A westbound near Silverado Trail/LOS A eastbound and westbound near the project site.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS C westbound near Silverado Trail and near the project site.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Soda Canyon Road**.

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS B westbound near Silverado Trail and near the project site.

B. SUMMER (NON-HARVEST)

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Soda Canyon Road) – Table 3

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A
Acceptable Soda Canyon Road stop sign controlled operation: LOS C

b) Friday PM Peak Hour

Acceptable overall intersection operation: LOS D
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Acceptable overall intersection operation: LOS A
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Soda Canyon Road) – Table 4

a) Friday AM Peak Hour

Volumes do not meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes do not meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Soda Canyon Road) – Table 5B

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation in both directions both north and south of Soda Canyon Road: LOS D northbound and LOS B southbound.

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS B eastbound and LOS A westbound near Silverado Trail/LOS A eastbound and westbound near the project site.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS C westbound near Silverado Trail and near the project site.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Soda Canyon Road**.

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS B westbound near Silverado Trail and near the project site.

2. YEAR 2019 OPERATING CONDITIONS (WITHOUT PROJECT)

A. HARVEST

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Soda Canyon Road) – Table 6

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A
Acceptable Soda Canyon Road stop sign controlled operation: LOS C

b) Friday PM Peak Hour

Acceptable overall intersection operation: LOS D
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Acceptable overall intersection operation: LOS B
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Soda Canyon Road) – Table 7

a) Friday AM Peak Hour

Volumes do not meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes do not meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Soda Canyon Road) – Table 8A

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation both north and south of Soda Canyon Road: LOS D northbound and LOS B southbound.

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS B eastbound and LOS A westbound near Silverado Trail/LOS A eastbound and westbound near the project site.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS F operation southbound south of Soda Canyon Road and LOS E operation southbound north of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS C westbound near Silverado Trail and near the project site.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS C westbound near Silverado Trail/LOS A eastbound and LOS B westbound near the project site.

B. SUMMER (NON-HARVEST)

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Soda Canyon Road) – Table 6

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A
Acceptable Soda Canyon Road stop sign controlled operation: LOS C

b) Friday PM Peak Hour

Acceptable overall intersection operation: LOS D
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Acceptable overall intersection operation: LOS A
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Soda Canyon Road) – Table 7

a) Friday AM Peak Hour

Volumes do not meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes do not meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Soda Canyon Road) – Table 8B

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation both north and south of Soda Canyon Road: LOS D northbound and LOS B southbound.

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS B eastbound and LOS A westbound near Silverado Trail/LOS A eastbound and westbound near the project site.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS F operation southbound south of Soda Canyon Road and LOS E operation southbound north of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS C westbound near Silverado Trail and near the project site.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound north and south of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS C westbound near Silverado Trail/LOS A eastbound and LOS B westbound near the project site.

3. YEAR 2030 OPERATING CONDITIONS (WITHOUT PROJECT)

A. HARVEST

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Soda Canyon Road) – Table 9

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A
Acceptable Soda Canyon Road stop sign controlled operation: LOS D

b) Friday PM Peak Hour

Unacceptable overall intersection operation: LOS F
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Acceptable overall intersection operation: LOS C
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

2. **INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Soda Canyon Road) – Table 10**

a) **Friday AM Peak Hour**

Volumes do not meet peak hour signal warrant criteria #3.

b) **Friday PM Peak Hour**

Volumes meet peak hour signal warrant criteria #3.

c) **Saturday PM Peak Hour**

Volumes meet peak hour signal warrant criteria #3.

3. **ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Soda Canyon Road) – Table 11A**

a) **Friday AM Peak Hour**

Silverado Trail: Acceptable operation southbound, but **unacceptable LOS E operation northbound both north and south of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS B eastbound and LOS A westbound near Silverado Trail/LOS A eastbound and westbound near the project site.

b) **Friday PM Peak Hour**

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS F operation southbound both north and south of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS C westbound near Silverado Trail and near the project site.

c) **Saturday PM Peak Hour**

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS C westbound near Silverado Trail and LOS A eastbound and LOS B/C westbound near the project site.

B. SUMMER (NON-HARVEST)

1. INTERSECTION LEVEL OF SERVICE (Silverado Trail/Soda Canyon Road) – Table 9

a) Friday AM Peak Hour

Acceptable overall intersection operation: LOS A
Acceptable Soda Canyon Road stop sign controlled operation: LOS D

b) Friday PM Peak Hour

Unacceptable overall intersection operation: LOS E
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

c) Saturday PM Peak Hour

Acceptable overall intersection operation: LOS B
Unacceptable Soda Canyon Road stop sign controlled operation: LOS F

2. INTERSECTION PEAK HOUR SIGNAL WARRANT EVALUATION (Silverado Trail/Soda Canyon Road) – Table 10

a) Friday AM Peak Hour

Volumes do not meet peak hour signal warrant criteria #3.

b) Friday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

c) Saturday PM Peak Hour

Volumes meet peak hour signal warrant criteria #3.

3. ROADWAY SEGMENT LEVEL OF SERVICE (Silverado Trail & Soda Canyon Road) – Table 11B

a) Friday AM Peak Hour

Silverado Trail: Acceptable operation southbound, but **unacceptable LOS E operation northbound both north and south of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS B eastbound and LOS A westbound near Silverado Trail/LOS A eastbound and westbound near project site.

b) Friday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS F operation southbound both north and south of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS C westbound near Silverado Trail and near the project site.

c) Saturday PM Peak Hour

Silverado Trail: Acceptable operation northbound, but **unacceptable LOS E operation southbound both north and south of Soda Canyon Road.**

Soda Canyon Road: Acceptable operation in both directions east of Silverado Trail: LOS A eastbound and LOS C westbound near Silverado Trail and LOS A eastbound and LOS B/C westbound near the project site.

VIII. PROJECT IMPACT EVALUATION SIGNIFICANCE CRITERIA

A. SIGNIFICANCE CRITERIA

The following criteria were developed for recent traffic impact analyses in the County. These same criteria have been utilized in this study to determine the significance of impacts due to the project. An impact is considered to be significant if any of the following conditions are met.

- If a roadway segment has "Without Project" LOS A, B, C or D operation and deteriorates to LOS E or F operation with the addition of project traffic (and increases volumes by 1 percent or more), the impact is significant and would require mitigation.

- If a roadway segment already has "Without Project" unacceptable LOS E or F operation, an increase in directional traffic of 1 percent or greater is considered significant and would require mitigation.

- If an unsignalized intersection has "Without Project" overall LOS A, B, C or D operation and deteriorates to LOS E or F operation with the addition of project traffic (and increases volumes by 1 percent or more) – or – has a stop sign controlled movement operating at LOS A, B, C, D or E and deteriorates to LOS F with the

additional project traffic (and increases volumes by 1 percent or more), the impact is considered significant and would require mitigation.

- If an unsignalized intersection already has "Without Project" overall LOS E or F operation – or – if a stop sign controlled movement or approach is already operating at LOS F, an increase in traffic passing through the intersection of 1 percent or more due to the project is considered to be significant and would require mitigation.

- If the addition of project traffic to an unsignalized intersection increases "Without Project" volumes to meet peak hour signal warrant criteria levels (and increases volumes by 1 percent or more), the impact is considered significant and would require mitigation.

- If "Without Project" volumes at an unsignalized intersection already meet peak hour signal warrant criteria levels and the level of service is already at an unacceptable level, an increase in traffic of 1 percent or more due to the project is considered significant and would require mitigation.

- 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 – or – if peak hour volumes at the project inbound access driveway intersection meet Caltrans left turn lane warrant criteria.

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

IX. PROJECT TRIP GENERATION & DISTRIBUTION

A. TRIP GENERATION

Friday AM and PM peak hour and Saturday afternoon peak hour trip generation projections were developed with the assistance of the project applicant and their representative for all components of the employee, grape delivery and visitor activities at the proposed Mountain Peak Winery (see worksheets in the **Appendix**). Results are presented on an hourly basis in **Tables 12** and **13** for harvest Friday and Saturday conditions, while **Tables 14** and **15** present results for summer Friday and Saturday conditions. A summary of peak hour trips is presented in **Table 16**. During the harvest Friday AM peak traffic hour there would be a projected 4 inbound and no outbound vehicles, while during the harvest Friday PM peak traffic hour there would be a projected 5 inbound and 6 outbound vehicles. During the harvest Saturday PM peak traffic hour, there would be a projected 5 inbound and 5 outbound vehicles. As shown, winery administrative and production employees would not be expected on the local roadway network during harvest Friday or Saturday PM peak hour conditions. The visitor-serving employees would also be working until 6:00 PM every day, as tours and tasting by appointment would close at 6:00 PM.

Therefore, the only winery-related traffic expected on the local roadway network during both the Friday and Saturday PM peak traffic hours would be visitor traffic related. During the harvest Friday AM peak hour, project trips would be employee related. The one expected grape delivery per day could be scheduled any time between 6:00 AM and 6:00 PM, although morning deliveries would be typical. However, the project would also result in the elimination of 1 to 2 truck round trips per day during harvest on Soda Canyon Road due to the new winery now processing grapes from adjacent vineyards that are currently being outhauled down the mountain to Silverado Trail.

Summer project trip generation projections are similar to those for harvest conditions for the Friday and Saturday AM & PM peak traffic hours.

B. TRIP DISTRIBUTION

Project traffic was distributed to Soda Canyon Road and through the Silverado Trail/Soda Canyon Road intersection in a pattern reflective of existing vehicle distribution patterns. All visitor and employee traffic would be expected to travel to/from the west on Soda Canyon Road to Silverado Trail. At the Silverado Trail intersection, about 60 to 75 percent of project employee or guest traffic would be expected to travel to/from the south on Silverado Trail.

The harvest and summer Friday and Saturday project traffic increments expected on Soda Canyon Road and Silverado Trail during the times of ambient peak traffic flows through the Silverado Trail/Soda Canyon Road intersection are presented in **Figures 10** and **11,** respectively. Friday and Saturday existing "With Project" peak hour volumes are presented in **Figures 12** and **13,** respectively; "With Project" peak hour volumes for year 2019 conditions are presented in **Figures 14** and **15**, respectively, and "With Project" peak hour volumes for 2030 conditions are presented in **Figures 16** and **17**, respectively.

C. PLANNED ROADWAY IMPROVEMENTS

There are no capacity increasing roadway improvements planned by Caltrans or the County on the local roadway network serving the project site.[4]

[4] Paul Wilkinson, Napa County Public Works Department, February 2015.

X. PROJECT IMPACTS

A. EXISTING WITH PROJECT CONDITIONS

1. HARVEST

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Soda Canyon Road intersection, or any level of service impacts along any analyzed Silverado Trail or Soda Canyon Road roadway segments during any Friday or Saturday peak traffic hour. ***Less than Significant.***

b) Intersection Level of Service (Silverado Trail/Soda Canyon Road) – Table 3

The Silverado Trail/Soda Canyon Road intersection would maintain acceptable Friday AM peak hour operation with the addition of project traffic. During both the Friday and Saturday PM peak hours, when the intersection would already have unacceptable "without Project" operation, the project would only increase volumes by 0.7 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

c) Signalization Needs (Silverado Trail/Soda Canyon Road) – Table 4

The Silverado Trail/Soda Canyon Road intersection would not have Friday AM or Saturday PM peak hour volumes increased to meet peak hour signal warrant criteria levels with the addition of project traffic. During the Friday PM peak hour, when "Without Project" volumes would already exceed signal warrant criteria levels, project traffic would only increase volumes by 0.6 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

d) Roadway Segments (Silverado Trail & Soda Canyon Road) – Table 5A

Soda Canyon Road would maintain acceptable levels of service during all analyzed Friday and Saturday peak traffic hours after the addition of project traffic. This would also be the case for Friday AM peak hour conditions along Silverado Trail. During both the Friday and Saturday PM peak hours when "Without Project" operation would be an unacceptable LOS E in the southbound direction during both hours, project traffic would only increase segment volumes by 0.1 to 0.3 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

2. SUMMER (NON-HARVEST)

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Soda Canyon Road intersection, or any level of service impacts along any analyzed Silverado Trail or Soda Canyon Road roadway segments during any Friday or Saturday peak traffic hour. ***Less than Significant.***

b) Intersection Level of Service (Silverado Trail/Soda Canyon Road) – Table 3

The Silverado Trail/Soda Canyon Road intersection would maintain acceptable Friday AM peak hour operation with the addition of project traffic. During both the Friday and Saturday PM peak hours, when the intersection would already have unacceptable "without Project" operation, the project would only increase volumes by 0.7 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

c) Signalization Needs (Silverado Trail/Soda Canyon Road) – Table 4

The Silverado Trail/Soda Canyon Road intersection would not have Friday AM or Saturday PM peak hour volumes increased to meet peak hour signal warrant criteria levels with the addition of project traffic. During the Friday PM peak hour, when "Without Project" volumes would already exceed signal warrant criteria levels, project traffic would only increase volumes by 0.6 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

d) Roadway Segments (Silverado Trail & Soda Canyon Road) – Table 5B

Soda Canyon Road would maintain acceptable levels of service during all analyzed Friday and Saturday peak traffic hours after the addition of project traffic. This would also be the case for Friday AM peak hour conditions along Silverado Trail. During both the Friday and Saturday PM peak hours when "Without Project" operation would be an unacceptable LOS E in the southbound direction during both hours, project traffic would only increase segment volumes by 0.1 to 0.3 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

B. YEAR 2019 WITH PROJECT CONDITIONS

1. HARVEST

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Soda Canyon Road intersection, or any level of service impacts along any analyzed Silverado Trail or Soda Canyon Road roadway segments during any Friday or Saturday peak traffic hour. ***Less than Significant.***

b) Intersection Level of Service (Silverado Trail/Soda Canyon Road) – Table 6

The Silverado Trail/Soda Canyon Road intersection would maintain acceptable Friday AM peak hour operation with the addition of project traffic. During both the Friday and Saturday PM peak hours when the intersection has unacceptable "Without Project" operation, the project would only increase volumes by 0.6 to 0.7 percent during traffic peaks, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

c) Signalization Needs (Silverado Trail/Soda Canyon Road) – Table 7

The Silverado Trail/Soda Canyon Road intersection would not have Friday AM peak hour volumes increased to meet peak hour signal warrant criteria levels with the addition of project traffic. During the Friday PM peak hour when "Without Project" volumes would already exceed warrant criteria levels, and during the Saturday PM peak hour when "Without Project" volumes would be increased to borderline warrant criteria limits, project traffic would only increase volumes by 0.6 to 0.7 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

d) Roadway Segments (Silverado Trail & Soda Canyon Road) – Table 8A

Soda Canyon Road would maintain acceptable levels of service during all analyzed Friday and Saturday peak traffic hours after the addition of project traffic. This would also be the case for Friday AM peak hour conditions along Silverado Trail. During the Friday PM peak hour when "Without Project" operation in the southbound direction would be LOS F south of Soda Canyon Road and LOS E north of Soda Canyon Road, or during the Saturday PM peak hour when "Without Project" operation in the southbound direction would be LOS E both north and south of Soda Canyon Road, project traffic would only increase segment volumes by 0.1 to 0.3 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

2. SUMMER (NON-HARVEST)

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Soda Canyon Road intersection, or any level of service impacts along any analyzed Silverado Trail or Soda Canyon Road roadway segments during any Friday or Saturday peak traffic hour. ***Less than Significant.***

b) Intersection Level of Service (Silverado Trail/Soda Canyon Road) – Table 6

The Silverado Trail/Soda Canyon Road intersection would maintain acceptable Friday AM peak hour operation with the addition of project traffic. During both the Friday and Saturday PM peak hours when the intersection has unacceptable "Without Project" operation, the project would only increase volumes by 0.6 to 0.7 percent during traffic peaks, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

c) Signalization Needs (Silverado Trail/Soda Canyon Road) – Table 7

The Silverado Trail/Soda Canyon Road intersection would not have Friday AM peak hour volumes increased to meet peak hour signal warrant criteria levels with the addition of project traffic. During the Friday PM peak hour when "Without Project" volumes would already exceed warrant criteria levels, and during the Saturday PM peak hour when "Without Project" volumes would be increased to borderline warrant criteria limits, project traffic would only increase volumes by 0.6 to 0.7 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

d) Roadway Segments (Silverado Trail & Soda Canyon Road) – Table 8B

Soda Canyon Road would maintain acceptable levels of service during all analyzed Friday and Saturday peak traffic hours after the addition of project traffic. This would also be the case for Friday AM peak hour conditions along Silverado Trail. During the Friday PM peak hour when "Without Project" operation in the southbound direction would be LOS F south of Soda Canyon Road and LOS E north of Soda Canyon Road, or during the Saturday PM peak hour when "Without Project" operation in the southbound direction would be LOS E both north and south of Soda Canyon Road, project traffic would only increase segment volumes by 0.1 to 0.3 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

C. YEAR 2030 WITH PROJECT CONDITIONS

1. HARVEST

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Soda Canyon Road intersection, or any level of service impacts along any analyzed Silverado Trail or Soda Canyon Road roadway segments during any Friday or Saturday peak traffic hour. ***Less than Significant.***

b) Intersection Level of Service (Silverado Trail/Soda Canyon Road) – Table 9

The Silverado Trail/Soda Canyon Road intersection would maintain acceptable Friday AM peak hour operation with the addition of project traffic. During both the Friday and Saturday PM peak hours when the intersection would already have unacceptable "without Project" operation, the project would only increase volumes by 0.6 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

c) Signalization Needs (Silverado Trail/Soda Canyon Road) – Table 10

The Silverado Trail/Soda Canyon Road intersection would not have Friday AM peak hour volumes increased to meet peak hour signal warrant criteria levels with the addition of project traffic. During the Friday and Saturday PM peak hours when "Without Project" volumes would already exceed signal warrant criteria levels, project traffic would only increase volumes by 0.6 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

d) Roadway Segments (Silverado Trail & Soda Canyon Road) – Table 11A

Soda Canyon Road would maintain acceptable levels of service during all analyzed Friday and Saturday peak traffic hours after the addition of project traffic. During the Friday AM peak hour when "Without Project" operation along northbound Silverado Trail would be LOS E north and south of Soda Canyon Road, or during the Friday and Saturday PM peak hours when "Without Project" operation along southbound Silverado Trail would be LOS F (Friday) or LOS E (Saturday) north and south of Soda Canyon Road, project traffic would only increase volumes by 0 to 0.3 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

2. SUMMER (NON-HARVEST)

a) Summary

Project traffic would not result in any significant level of service or signal warrant impacts at the Silverado Trail/Soda Canyon Road intersection, or any level of service impacts along any analyzed Silverado Trail or Soda Canyon Road roadway segments during any Friday or Saturday peak traffic hour. ***Less than Significant.***

b) Intersection Level of Service (Silverado Trail/Soda Canyon Road) – Table 9

The Silverado Trail/Soda Canyon Road intersection would maintain acceptable Friday AM peak hour operation with the addition of project traffic. During both the Friday PM and Saturday PM peak hours when the intersection would already have unacceptable "without Project" operation, the project would only increase volumes by 0.6 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

c) Signalization Needs (Silverado Trail/Soda Canyon Road) – Table 10

The Silverado Trail/Soda Canyon Road intersection would not have Friday AM peak hour volumes increased to meet peak hour signal warrant criteria levels with the addition of project traffic. During the Friday and Saturday PM peak hours when "Without Project" volumes would already exceed signal warrant criteria levels, project traffic would only increase volumes by 0.6 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

d) Roadway Segments (Silverado Trail & Soda Canyon Road) – Table 11B

Soda Canyon Road would maintain acceptable levels of service during all analyzed Friday and Saturday peak traffic hours after the addition of project traffic. During the Friday AM peak hour when "Without Project" operation along northbound Silverado Trail would be LOS E north and south of Soda Canyon Road, or during the Friday and Saturday PM peak hours when "Without Project" operation along southbound Silverado Trail would be LOS F (Friday) or LOS E (Saturday) north and south of Soda Canyon Road, project traffic would only increase volumes by 0 to 0.3 percent, which would be less than the minimum 1 percent traffic added significance criteria limit. ***Less than Significant.***

XI. PROJECT ACCESS IMPACTS

A. SIGHT LINE ADEQUACY AT PROJECT DRIVEWAYS

Project Employee Driveway Connection to Soda Canyon Road
Sight lines will be acceptable for drivers turning from the project employee driveway to see Soda Canyon Road traffic. Sight lines to the east would be about 300 feet and to the west about 270 feet. Based upon a travel speed along Soda Canyon Road of 25 to 35 miles per hour, the required stopping sight distance would range from 155 to 250 feet.[5] Sight lines would have been limited for drivers exiting from the new project employee driveway due to vegetation on the north side of the road. However, vegetation between the new and realigned driveway connections will be removed or cut back to provide acceptable sight lines between driveways.

Project Visitor Driveway Connection to Soda Canyon Road
Sight lines will be acceptable for drivers turning from the project visitor driveway to Soda Canyon Road. Sight lines to the east and west will be at least 270 feet, with 250 feet or less of stopping sight distance required.

Realigned 3267 Driveway Connection to Soda Canyon Road
Sight lines will be acceptable for drivers turning from the realigned 3267 driveway approach to see Soda Canyon Road traffic. Sight lines to the east will be about 260 feet, and to the west about 270 feet. At most, 250 feet of stopping sight distance would be required based upon prevailing speeds along Soda Canyon Road. In addition, traffic turning to the west from the 3267 driveway will be going at a very slow speed when they approach the project visitor and employee driveways.

B. PROJECT ENTRANCE LEFT TURN LANE REQUIREMENT

County warrant criteria have been evaluated to determine the need for a left turn lane on the eastbound Soda Canyon Road approaches to the project's employee and visitor driveways. County warrant criteria in **Table 17** show that average two-way daily traffic volumes along Soda Canyon Road in combination with projected weekday two-way daily volumes on the project inbound driveway will not meet County warrant criteria for provision of left turn lanes on the eastbound Soda Canyon Road intersection approaches even with 2030 volumes. Daily two-way volumes on Soda Canyon Road will be no more than about 650 to 700 trips, with about 60 daily two-way trips on the visitor driveway and about 70 daily two-way trips on the employee/truck delivery driveway.

[5] Caltrans *Highway Design Manual*, 2014.

XII. MARKETING EVENTS

Table 18 presents details of the number of guests, employees and hired event staffing that would likely be present for marketing events. The most common event would be food and wine pairings, held up to six times per month. Three of the six would have up to 12 guests (resulting in 4 to 5 vehicles), while the other three would have up to 24 guests (resulting in about 9 to 10 vehicle trips to and from the winery). Total hired staffing for the events would result in an additional 4 vehicles accessing the winery. Events would last about three hours and would occur between 10:00 AM and 10:00 PM, primarily on weekends.

Four marketing events would be held each year (with up to 75 guests resulting in about 27 to 29 vehicle trips to/from the winery) as well as two wine auctions per year (with up to 125 guests resulting in about 45 vehicles to/from the winery). Hired event staffing for each of these four events would result in an additional 4 vehicles accessing the winery. All four events would be about three hours long and would occur on weekends at times other than peak traffic hours on Silverado Trail. It is likely that shuttle buses would be used for the two maximum size events.

XIII. MITIGATION MEASURES

- No off-site or access mitigation measures are required since there are no significant off-site or access-related project impacts.

- Vegetation along the project's Soda Canyon Road frontage that may block sight lines for drivers turning from the project driveways should be out back and then maintained at heights which will not interfere with sight lines.

- All marketing events should either end by 3:00 PM or begin after 6:00 PM in order to avoid having guests and hired staffing traveling on the local roadway network during peak traffic hours.

XIV. CONCLUSIONS & RECOMMENDATIONS

The project will result in no significant off-site circulation system operational impacts to Silverado Trail or Soda Canyon Road or to the Silverado Trail/Soda Canyon Road intersection. Project traffic in combination with ambient volumes along Soda Canyon Road will not meet County warrant criteria for provision of left turn lanes on the eastbound Soda Canyon Road approaches to either site driveway. In addition, sight lines at the project employee and visitor driveway connections to Soda Canyon Road will be acceptable assuming landscaping along the project frontage is maintained so as not to block sight lines. Realigning the 3267 driveway connection to Soda Canyon Road to a 90-degree approach will also be an improvement. Finally, there will be a reduction of about 88 existing grape truck round trips from Soda Canyon Road each harvest due to nearby vineyards supplying 92 percent of all the winery's grapes and the

elimination of outhaul truck trips from these vineyards on Soda Canyon Road and Silverado Trail.

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