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Applicant Response to Public Comments After April 20, 2016

Part 3

Frogs Leap Winery - P14-00054
Planning Commission Meeting of August 17, 2016

EXHIBIT C

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April 15, 2016

Via E-Mail and U.S. Mail

Members of the Planning Commission
Napa County
1195 Third Street, Suite 210
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Attn: John McDowell, Deputy Planning Director
John.McDowell@countyofnapa.org

Re: Frog's Leap Winery, Use Permit Major Modification # P14-00054 and Revised Initial Study

Dear Commissioners:

On behalf of Nancy Hammonds and Charlotte Blank, we submit these comments on the Revised Initial Study/proposed Negative Declaration ("Revised IS") for the proposed Frog's Leap Winery Use Permit ("Project"). For over 30 years, the Blank family has owned property on Conn Creek Road across from the Frog's Leap site. As local grape growers, the Blank family are members of the agricultural community that the County's agricultural preserve is intended to protect. Indeed, to this day, Blank wine production remains a local operation– it is produced in nearby St. Helena (by Grace Family Vineyards) from grapes grown on the Blank family's Rutherford property.

The Blank family has observed firsthand the rapid and relatively-recent growth of winery tourism, tasting, and marketing events in the immediate vicinity of their home. The Conn Creek Road area contains numerous tourism-oriented wineries—on Conn Creek alone, both Frog's Leap and Caymus Vineyards are now seeking to expand their tasting and marking operations, while construction of the proposed Frank Family Vineyards would add further visitors to the area.

This proliferation winery tourism is not without significant impacts on the environment and Napa's community. Winery tourism has dramatically degraded traffic conditions County-wide, and such impacts are acutely felt on the rural Conn Creek Road.

Intersections on this road already fail to meet the County's own traffic standards. The noted increase in traffic on the road has also raised significant safety concerns associated with inadequate facilities to accommodate new tasting and marketing-related traffic, as well as growing concerns about driver intoxication resulting from these events.

The growth in winery tourism has yielded other environmental impacts as well. For instance, noise from marketing events and associated traffic has started to burden the Rutherford community. But as detailed in our original letter on this Project, submitted on December 23, 2015, the IS failed to adequately consider these and other impacts associated with the Project. Despite the County's subsequent release of the Revised IS in March 2016, many of the flaws in the initial document remain. As discussed further below and in the attached letters from traffic experts MRO Engineers (which are incorporated herein by reference) there is a fair argument that the Project will create significant environmental impacts. In cases such as this, the County would violate the California Environmental Quality Act, Pub. Res. Code § 21000 et seq. ("CEQA"), if it adopts the proposed Negative Declaration and approves the Project without first requiring the preparation of an environmental impact report ("EIR"). Without an EIR containing further information and analysis of the Project's likely impacts, the Commission cannot legally approve the Project. Consequently, the Commission should deny the application before it.

I. The Revised IS's Analysis of Traffic Safety Is Inadequate, and There Is a Fair Argument that the Project May Have Significant Safety-Related Impacts.

Even with its recent changes, the Revised IS's consideration of traffic safety remains flawed and does not comply with CEQA's requirements. First, the Revised IS fails to consider safety issues associated with increasing numbers of intoxicated drivers on County roadways as wine tasting and marketing events increase. According to the California Department of Motor Vehicles, Napa County has consistently exceeded state averages for DUI arrest rates during the last four reported years. Exhibit A, MRO Engineers (March 24, 2016) at 3. The County's analysis overlooks this fact and evidence of recent drunk-driving related accidents on Conn Creek Road, which indicate that driving conditions are already unsafe. As we have previously informed the Planning Commission, in a single January 2016 weekend, two serious drunk driving incidents occurred on the segment of Conn Creek Road between Silverado Trail and Rutherford Road. One incident involved a drunk driver hitting a telephone pole and fence and then crossing over Conn Creek Road and crashing into a vineyard. The other involved a drunk driver veering off the road and crashing into a rock wall on the Caymus property.

The conditions leading to these incidents will only worsen with additional visitors to wine tastings and marketing events proposed by the applicant. While the applicant's own traffic consultant acknowledges that "the occurrence of DUI vehicular accidents in the Napa Valley is a concern given the nature of winery visitation/tasting," (Letter from Omni Means, dated January 13, 2016) neither the applicant nor the County has proposed any action to mitigate this significant safety issue.

Second, the Revised IS does not adequately evaluate safety impacts associated with the proposal to widen the shoulder of Conn Creek Road rather than installing a left-turn lane in front of the project site. An analysis by MRO Engineers has determined that this shoulder-widening proposal suffers from numerous flaws. First, as the Revised IS acknowledges, this widening is intended to allow vehicles to pass on the right-hand shoulder when northbound cars are stopped in the middle of Conn Creek Road waiting to turn left into the Frog's Leap driveway. Revised IS at 29. But passing on the shoulder is illegal under the California Vehicle Code. *See* Exhibit A, MRO Engineers (March 24, 2016) at 2. Thus, the shoulder-widening will encourage illegal and unsafe passing in front of the project site.

In noted contrast to motor vehicles, cyclist *are* permitted to ride in the shoulder (Vehicle Code § 21755(b)) and already utilize Conn Creek Road, which contains a bike lane south of the project site. By encouraging an illegal passing maneuver in the shoulder used by cyclists, the proposed shoulder widening creates new, unsafe conditions for cyclist (as well as any agricultural workers/equipment operating on the side of the road). Exhibit A, MRO Engineers (March 24, 2016) at 2-3. Additionally, even with the proposed widening, the six-foot shoulder will be insufficiently wide for many vehicles to use for passing. Thus, encouraging vehicles to pass on this shoulder risks collisions either with vehicles waiting to turn left into the project site, or the oak tree next to the shoulder.[1] *Id.* at 3-5. The Revised IS fails to consider any of these safety issues.

Third, the Revised IS contains a misleading discussion of safety impacts from failing to install a northbound left-turn in front of the Frog's Leap site. As explained by MRO Engineers, installing a turn lane is a necessary safety improvement "that will

[1] As MRO Engineers also observe, the widened shoulder would be paved to within a foot of the oak tree trunk. Exhibit A, MRO Engineers (March 24, 2016) at 3-4. Thus, a substantial portion of the oak tree's roots would be paved over. *Id.* The Revised IS states that shoulder widening would avoid impacts to the oak tree from installing a left turn lane but fails to consider how shoulder widening would itself impact this significant biological resource. *See* Revised IS at 9-10, 26-29.

largely eliminate the potential for rear-end collisions involving vehicles waiting to enter the project site." Exhibit B, MRO Engineers (April 13, 2016) at 8. But rather than consider this significant safety issue, the Revised IS's discussion of the left-turn requirement contains inconsistent information about the County's standards. Echoing text from the applicant's traffic consultant, the Revised IS claims that "the Napa County Road and Street Standards warrant for a left-turn lane is not based on . . . safety issues." Revised IS at 27. But elsewhere, the Revised IS acknowledges that the left-turn lane warrant is safety-related: "the applicant is requesting an exception to the Napa County Road and Streets Standards [intended] to achieve the *same level of safety*" as a left-turn lane. *Id.* at 14 (emphasis added). Indeed, the County's Road and Street Standards, which includes the left-turn lane requirement, confirm that the Standards' objectives include "provid[ing] adequate safety and service" on roads in the County. Exhibit C, excerpts of Napa County Road and Street Standards (2016).[2]

By presenting inconsistent and misleading information about the need for the left turn lane to ameliorate safety issues related to the Project, the Revised IS fails as an informational document. Furthermore, as determined by MRO Engineers, replacing the left-turn lane with the widened northbound shoulder "would 'substantially increase [traffic] hazards due to a design feature' of the project," creating "a significant impact." Exhibit A, MRO Engineers (March 24, 2016) at 5; *see also* Exhibit B, MRO Engineers (April 13, 2016) at 8. This assessment alone requires preparation of an EIR to fully evaluate and mitigate this safety impact. Guidelines § 15064(f)(1)[3]; *Stanislaus Audubon Soc'y v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51.

II. The Revised IS's Transportation Analysis Is Inadequate, and There Is a Fair Argument that the Project May Have Significant Transportation Impacts.

A. The Traffic Impact Calculations Upon Which the Revised IS Relies Contain Numerous Flaws.

Traffic experts MRO Engineers have conducted separate assessments of (1) the Initial Study's discussion of traffic impacts along with the applicant's underlying traffic study, prepared by Omni Means, and (2) more recent traffic analysis contained in the Revised IS and additional information from the applicant. MRO Engineers have

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[2] The full text of these standards is also available at http://www.countyofnapa.org/WorkArea//DownloadAsset.aspx?id=4294975422.

[3] The CEQA Guidelines, 14 Cal. Code Regs. § 15000 *et seq.*, are referred to as "Guidelines."

discovered numerous flaws in the methods used in the applicant's traffic study on which the Revised IS relies. Many of these errors, including those listed below, serve to understate the Project's potential traffic impacts:

- The Omni Means study does not use County-approved trip-generation factors to determine how many cars that new winery visitors will add to the road system. Using the County's factors show that the Project will create over 150 percent more weekday peak traffic and almost 70 percent more Saturday peak traffic than the Initial Study states. Exhibit A, MRO Engineers (March 24, 2016) at 5-6.

- Even using its understated traffic generation numbers, the Omni Means study fails to "assign" all of the new traffic to the roadways around Frog's Leap to determine which roads are impacted. That is, in calculating traffic impacts, the study fails to count the majority of peak-hour traffic that it estimates the Project will generate. *Id.* at 6.

- The Omni Means study uniformly assumes that trucks only occupy 2 percent of the traffic in the study area, despite the fact that marketing events and harvest/crush activities require a substantial number of truck trips. A recent Caltrans report states that trucks comprise over 28 percent of the vehicles on this section of SR 128. This high truck volume likely further exacerbates intersection delays. *Id.* at 8.

- The study fails to adequately analyze the traffic impacts of 500-person marketing events, which will generate traffic volumes that "substantially exceed the peak-hour volumes considered in the Omni-Means analysis." Exhibit B, MRO Engineers (April 13, 2016) at 5. The applicant's traffic consultant claims that traffic from these events would not occur during peak traffic periods, but the proposed conditions of approval would allow these events (and the resulting traffic) to occur *anytime* between 11:00 a.m. and 10:00 p.m. Conditions of Approval at 4.

These errors, along with others identified by MRO Engineers, deprive the Revised IS of value as a document that can inform the public of the Project's true traffic impacts. By relying on the analysis in the Revised IS, the County has not complied with its duty to "painstakingly ferret out" the Project's impacts. *Envt'l Planning and Information Council of W. El Dorado County v. County of El Dorado* (1982) 131 Cal.App.3d 350, 357 ("*EPIC*"). CEQA requires the County to "use its best effort to find out and disclose all that it reasonably can" regarding the extent of traffic impacts. *Citizens to Preserve the Ojai v. Ventura* (1986) 176 Cal.App.3d 421, 431. This has not occurred here.

B. The Revised IS Fails to Study the Full Area of the Project's Traffic Impacts.

As we observed in our December 23, 2015 letter, the IS and Omni Means study fail to consider the Project's impacts on the SR 29/Rutherford Road (SR 128) intersection even though the majority of the Project's traffic travels to and from the direction of that intersection. Indeed, the recent traffic analysis prepared for the nearby Caymus Vineyards *does* consider traffic impacts at this intersection and shows that the intersection already operates below County traffic standards. *See* Exhibit D, excerpted W-Trans Amended Caymus Traffic Impact Study.

The failure to consider impacts at the SR 29/SR 128 intersection is a glaring omission in the Revised IS. The California Supreme Court has emphasized that an environmental document "may not ignore the regional impacts of a project approval." *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 575. The document must analyze environmental impacts over the entire area where impacts might reasonably occur. *See Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 721-23.

Even though the SR 29/SR 128 intersection is less than two miles from the entrance to Frog's Leap, Omni Means asserts, in a conclusory fashion, that the intersection is too far away to consider in its study. There is no evidence to support this statement. In fact, under both Caltrans and the Institute of Transportation Engineers guidelines, this intersection should be considered in the traffic analysis for the Project. Exhibit B, MRO Engineers (April 13, 2016) at 3-5. As MRO Engineers observes:

> Considering the significant traffic delays already occurring at the Rutherford Road (SR 128)/St. Helena Highway (SR 29) intersection, and the fact that the bulk of the traffic from the project will pass through this intersection, it is likely that the project will significantly impact this intersection as well.

Id. at 5. Consequently, the County cannot approve the Project until it assesses, and mitigates, the Project's impacts to this intersection.

C. The Revised IS's Threshold for Considering the Project's Cumulative Traffic Impacts Is Invalid.

Even though the Project will add new traffic to already-impacted intersections—SR 29/Rutherford Road (SR 128) and Silverado Trail/Conn Creek Road (SR 128)—the

Revised IS fails to consider how the Project's traffic will worsen these existing conditions. Instead, the Revised IS employs an arbitrary 1% percent cumulative impact threshold, claiming that there will not be a cumulative impact because the Project will increase existing peak traffic volumes by less than this amount. Revised IS at 28-29. The County has not offered any evidentiary basis to justify using this threshold to evaluate the Project's cumulative traffic impacts.

The California Supreme Court has explained that "when the agency chooses to rely completely on a single quantitative method to justify a no-significance finding, CEQA demands the agency research and document the quantitative parameters essential to that method." *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 228; *see also* Guidelines § 15063(d)(3) (an initial study must provide the factual basis for an agency's determination that no significant impact will result from the project). Otherwise, "decision makers and the public are left with only an unsubstantiated assertion that the impacts . . . will not be significant." *Center for Biological Diversity*, 62 Cal.4th at 228. Here, lacking evidence and analysis to justify the chosen cumulative traffic impact threshold, the Revised IS's analysis is inadequate.

Moreover, lead agencies may not apply thresholds of significance in a manner that forecloses consideration of other evidence tending to show that a project's environmental effect may be significant. *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1109. Significantly, applying cumulative impact thresholds that Caltrans has adopted for state roadways like SR 128 shows that the Project will create significant cumulative impacts. Where roads are already operating at substandard levels (like the Silverado Trail/SR 128 intersection), Caltrans states that traffic conditions should maintain their current operating conditions, or "measure of effectiveness." Exhibit B, MRO Engineers (April 13, 2016) at 2. The "measure of effectiveness" for unsignalized intersections like those near the project site is the average intersection delay per vehicle. *Id.* Caltrans' standard reflects CEQA's requirement that agencies determine whether a project will have a significant cumulative impact by evaluating whether the project's impacts are significant when combined with past, present, and reasonably foreseeable future impacts. *Kings County Farm Bureau*, 221 Cal.App.3d 692. Agencies may not, as the County has done here, dismiss a project's cumulative impacts by comparing them to the current, already unacceptable problem. Rather, agencies must find the impact significant and require mitigation to maintain, at a minimum, the existing, albeit substandard, operating condition. *Id.*

Here, using the (significantly understated) trip generation estimates from the Omni Means study, MRO Engineers determined that the Project will have a significant cumulative impact on traffic at the Silverado Trail/Conn Creek Road intersection. Under

cumulative conditions, the Project will cause delays at portions of this intersection to increase by roughly 30 seconds per vehicle.[4] *Id* at 9-10. But the Revised IS does not acknowledge these worsened traffic conditions, much less consider whether they can be mitigated. This approach is fundamentally deficient.

D. The Revised IS Fails to Account for Impacts Associated with Later Tasting Hours.

Finally, we note that the Revised IS now states that the applicant is planning to shift its daily visitation hours so that they would end at 6:00 p.m. instead of 4:30 p.m. Revised IS at 2. Caymus is similarly proposing to extend its daily tasting times into the evenings. These later tasting times will place more drivers leaving tastings on the roadways during peak weekday rush hour periods. Yet the Revised IS fails to consider how the combination of these changes will impact traffic delays and safety around Frog's Leap. The County must consider the impacts associated with this Project change as well.

III. The Streamlining Provision in CEQA Guidelines Section 15183 Does Not Apply to this Project.

The applicant and the Revised IS also erroneously contend that the streamlining provision in Guidelines section 15183 excuses the County from fully considering the environmental impacts of the proposed Project. But this Guidelines section is very narrow in scope and has no application here.

Section 15183 applies only to projects that are consistent with development densities established in planning documents, including general plans. Guidelines § 15183(a). In such cases, an agency can rely on previous environmental review prepared for the applicable planning document, but must conduct further review of impacts that are peculiar to the project, or that were not considered in the original environmental document. *Id.* § 15183(b). Both of these triggers require further environmental review here.

As discussed above, the traffic safety impacts caused by widening the shoulder of Conn Creek Road across from the Frog's Leap site are assuredly peculiar to this Project. Shoulder-widening is proposed in conjunction with Frog's Leap's request for a use permit modification to expand tourism activities at the winery. There is no indication

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[4] The reportable delays ranged between 4 minutes, 38 seconds and 15 minutes, 13 seconds per westbound vehicle on Silverado Trail. Eastbound cumulative-plus-project delays were so great that they exceeded the traffic software's reporting capabilities. *Id.*

anywhere in the record that this widening would occur absent approval of the Project. As such, the County cannot use the streamlining provision to avoid consideration of impacts associated with this work. *Id.* § 15183(b)(1).

The Project's traffic impacts and related cumulative impacts also do not qualify for streamlined environmental review either. The County's General Plan EIR did consider planning-related traffic impacts on certain segments of County roads, but it did not evaluate impacts to the section of Conn Creek Road (SR 128) in front of Frog's Leap. *See* Exhibit E, excerpts of Napa County General Plan Draft EIR, pages 4.4-9 through 4.4-10. Moreover, as explained by MRO Engineers, the General Plan EIR's evaluation of impacts to road *segments* is not comparable to determining traffic impacts at road *intersections* near the project site. Exhibit B, MRO Engineers (April 13, 2016) at 6. "In short, the level of service [impact] results for road segments bear no relationship to the level of service results for intersections." *Id.* Because traffic impacts to these intersections on Conn Creek Road were not evaluated in the General Plan EIR, the County cannot avoid considering them now during its evaluation of Frog's Leap's application. Guidelines § 15183(b)(2), (3).

IV. There Is No Justification For Revised IS's Choice of Baseline Visitation Conditions.

An environmental document must include an accurate account of the physical environmental conditions under which a project will be carried out. These conditions "normally constitute the baseline" against which the significance of impacts is measured. Guidelines §15125(a). The baseline describes the environment *without* the project; its function is to allow the agency to determine what will happen to the environment if the project is approved. As the California Supreme Court has explained, "[t]o decide whether a given project's environmental effects are likely to be significant, the agency must use some measure of the environment's state *absent the project*." *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 315 (emphasis added).

Given the particular facts surrounding a project, an agency must determine, "in the first instance, exactly how the existing physical conditions *without the project* can most realistically be measured." *See Communities for a Better Environment*, 48 Cal.4th at 328 (emphasis added). Selecting the appropriate baseline is crucial to ensuring that a project's impacts are fully disclosed and analyzed, as required by CEQA. *See Woodward Park*, 150 Cal.App.4th at 707 (baseline requirement "protect[s] the fundamental essence of an EIR, its evaluation of a project's environmental impacts"). Selecting an improper baseline "can only mislead the public as to the reality of the impacts and subvert full

consideration of the actual environmental impacts which would result." *EPIC*, 131 Cal.App.3d at 358.

Here, the Project includes approval of a use permit that would allow the applicant to increase its number of tasting visitors from 350 visitors per week (with a maximum of 50 visitors per day) by more than threefold to 1,100 visitors per week. Revised IS at 1-2. The Project would also allow for an additional 5,740 visitors each year for marketing events. *Id.* Yet the Revised IS fails to consider impacts associated with many of these visitors, because it uses purportedly existing, unpermitted levels of winery operations as its baseline. *Id.* at 2.

In effect, the Revised IS proposes to exempt or "grandfather" the full scope of the Frog's Leap's unlawful uses, even though they have never been authorized or analyzed under CEQA and even though there is no evidence to support the alleged levels of use. This result runs contrary to legal precedent, as well as to the fundamental purposes of CEQA.

A. The Revised IS Lacks Support For Establishing a Baseline Based Upon Illegal Levels Of Use.

As a threshold matter, if an agency's choice of baseline is not supported by substantial evidence, an initial study "fail[s] as [an] informative document." *EPIC*, 131 Cal.App.3d at 358. There is no evidence in the record showing the current visitation and marketing levels at Frog's Leap or suggesting that the applicant's asserted levels will persist (even if they are accurate). Thus, the Revised IS is therefore inadequate until it can provide actual evidence—not just the applicant's unsupported assertions—about existing use levels at the Project site.

Additionally, under CEQA, an agency may not incorporate historical levels of use into the baseline if the effect is to "grandfather" an unauthorized level of use. The Revised IS acknowledges that it is pursuing this tactic, explicitly stating that the baseline is "not those activities approved under [the current] use permit" for Frog's Leap. Revised IS at 2.

In *County of Inyo v. City of Los Angeles* (1973) 32 Cal.App.3d 795, 805-06 ("*County of Inyo I*"), the City of Los Angeles proposed to increase the levels of groundwater extractions to be carried to Los Angeles via a previously constructed aqueduct. The city argued that the groundwater extractions were exempt from CEQA as an ongoing project because the aqueduct was constructed prior to the enactment of CEQA. *Id.* The Court of Appeal rejected the city's argument, reasoning that the increased

level of extractions had not been analyzed when the aqueduct was built. *Id.* In a subsequent opinion, the appellate court rejected the city's attempt to include in the baseline what the city viewed as its post-CEQA historical average pumping rate, noting that the city was attempting to improperly "narrow" its CEQA obligation. *See County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 195 ("*County of Inyo II*"). The effect, reasoned the court, was to treat previously unanalyzed levels of extraction as part of the baseline and to radically understate the impacts of the project. *Id.* at 196-97. The court held that this flaw was fatal to the validity of the environmental analysis. *Id.*

Similarly, in *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 967 ("*Amador County*"), the Court of Appeal rejected an argument that a proposal to operate a hydroelectric dam for consumptive use was exempt as an existing facility, precisely because it involved a level of water use that had not previously been permitted or analyzed. *See also Lewis v. Seventeenth Dist. Agricultural Assn.* (1985) 165 Cal.App.3d 823, 826, 836-37 (Blease, J. concurring in the judgment) (explaining that if the use was not analyzed when applicant obtained a permit for the facility, the existing facilities exemption does not apply).

These cases demonstrate that courts reject attempts to incorporate unpermitted levels of use into the baseline, if the effect is to exempt or grandfather an unanalyzed level of use from CEQA review. Like the environmental analyses at issue in *County of Inyo I and II* and *Amador County*, here the Revised IS in effect grants an exemption for the Frog's Leap's asserted unpermitted tourism levels. As in *County of Inyo I and II* and *Amador County*, such an "exemption" is wholly unjustified under CEQA.

B. The County Must Exercise Its Discretion to Measure the Baseline in a Manner that Achieves the Fundamental Purposes of CEQA.

In *Communities for a Better Environment*, the California Supreme Court affirmed that while the baseline must reflect existing conditions on the ground, "[n]either CEQA nor the CEQA Guidelines mandates a uniform, inflexible rule for determination of the existing conditions baseline." 48 Cal.4th at 517. While an agency has flexibility in selecting a baseline, its choice must be supported by substantial evidence. *Id.* Here, as discussed, there is no evidence supporting the applicant's purported baseline visitation and marketing levels.

Communities for a Better Environment further clarifies the limits on an agency's range of baseline choices. The chosen baseline must be consistent with the major purposes underlying CEQA: public disclosure and mitigation of a project's environmental impacts. *Id.* at 322; *see Woodward Park Homeowners Association v. City*

of Fresno (2007) 150 Cal.App.4th 683, 707. As a result, an agency cannot select a baseline that provides "an illusory basis for a finding of no significant adverse effect." *Communities for a Better Environment*, 48 Cal.4th at 322. The Supreme Court reiterated this holding in *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439, 453, where it found that agencies may not rely on an "existing conditions" baseline that would result in a misleading view of a project's impacts.

Instead, an agency's choice of baseline must allow it to realistically describe *both* the existing environmental conditions and the impacts of the project. As the court explained in *Woodward Park*:

> For instance, if a hypothetical project half the size of the proposed project is used as a baseline, the EIR will report only half the project's impact. The EIR would fail to inform the public of the other half. It would also necessarily lack consideration of mitigation measures for the omitted portion of the project's impact.

150 Cal.App.4th at 707. Thus, an agency's choice of baseline must aim to achieve two objectives: first, it must accurately characterize the existing environment; and second, it must allow the agency to analyze and mitigate the full scope of a project's impacts.

Here, the Revised IS's choice of baseline neither informs the public of the full scope of the Project's impacts nor considers and mitigates those impacts. Instead, Revised IS includes nearly two-thirds of the Project's proposed future weekly visitation levels in the baseline, creating an illusory analysis and no mitigation of the actual impacts of the Project. This result runs counter to the courts' insistence that CEQA be interpreted "to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Mountain Lion Foundation v. Fish and Game Com.* (1997) 16 Cal.4th 105, 147.

V. Conclusion

For all of these reasons, as well as the reasons discussed in the attached letters and the December 23, 2015 letter from this office, the Commission should deny the proposed Project.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

Ellison Folk

cc: Nancy Hammonds

Attachments

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EXHIBIT C

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{Resolution 06-198}

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1. OBJECTIVES

The following material was originally prepared through the cooperation of the Road Standards Advisory Committee of 1970. Since then, updates have been incorporated to reflect changes in accepted health and safety practices and to comply with changes in County Ordinances and State and Federal Law. These Road and Street Standards ("Standards") attempt to meet the related interests of several other agencies, including the Resource Conservation District, California Department of Forestry and Fire Protection, Cal Fire, the Federal Emergency Management Agency, the Napa County Planning, Building & Environmental Services Department, and the California Department of Fish and Game. The objectives of these Standards are summarized below:

a. To provide reasonable standards that relate to terrain and parcel size.
b. To preserve the natural landscape and desirable aesthetic features while balancing the needs of property owners.
c. To encourage the location of roads to minimize disturbance or impacts on wetlands, critical native plant communities, or other environmentally sensitive areas.
d. To minimize diversion and concentration of storm runoff, including selection of appropriate discharge locations, outlet dispersion appurtenances and selection of practices that maximize soil infiltration.
e. To encourage use of native grasses and other native plant materials for erosion control and habitat enhancement.
f. To minimize alteration of streams and ephemeral drainage at discharge outfalls, utilizing "bio-technical" stream stabilization techniques and preservation of natural stream morphological conditions.
g. To identify "impacted" runoff basins where special design considerations may be necessary to minimize downstream flooding and other impacts to neighboring properties.
h. To provide adequate safety and service.
i. To provide low maintenance cost road facilities.
j. To produce standards compatible with City Requirements within areas of influence.

The Standards were developed and revised over the years in an effort to meet all of the objectives noted above while striving to maintain the preservation of the health, safety, and welfare of the public. The 2016 revisions are intended to provide clarification and flexibility in order to ensure conformance with local, state and federal regulations while also incorporating appropriate general engineering and construction practices and accommodation of unique project elements.

Users of the Standards are encouraged to become familiar with all of the codes, rules, regulations, and guidance documents available. These include, for example, the State Responsibility Area Fire Safe Regulations (SRA Fire Safe Regulations)[1], the Conservation Regulations, Floodplain Ordinance, Grading Ordinance, Policies, Practices and County Code Sections Administered by the Department of Environmental Management, County Fire Code, Policies and Procedures of Fish and Game, and the Soil Conservation Service's Best Management Practices for the Napa Valley. Roadway design guidance can be found in "A Policy on Geometric Design of Highways and Streets" generated by the American Association of State Highway and Transportation Officials ("AASHTO"), and the Caltrans "Highway Design Manual" and "Standard Specifications." Where these Napa County Road and Street Standards refer to the Caltrans Specifications or the Caltrans Standard Specifications, the reference shall mean the current edition of the Caltrans Standard Specifications.

2. SCOPE OF STANDARDS

These standards are not applicable retroactively to existing roads, streets and private lanes or facilities. These standards shall apply to all construction within the Local Responsibility Area (LRA) of the unincorporated portion of Napa County beginning on the date they are adopted by the Board of Supervisors. For all construction within that portion of unincorporated Napa County within the State Responsibility Area (SRA)[2], the SRA Fire Safe Regulations, which are attached hereto as Appendix "A", shall apply. In addition, these Standards shall also apply to the SRA where the SRA Fire Safe Regulations are silent on issues addressed by the Standards or create additional obligations in addition to those set forth in the SRA Fire Safe Regulations. Activities which will trigger application are included but not limited to:

(a) Clearance for a building permit for new construction, or substantial improvement to an existing structure where substantial improvement is determined when accumulated construction costs of greater than 50% of the retail value of the structure occur within a 5 year period,
(b) Recommendations for a use permit,
(c) Road construction, including construction of a road that does not currently exist, or extension of an existing road,
(d) New subdivisions created by Parcel Map or Final Map,

[1] The SRA Fire Safe Regulations are set forth at Title 14, the Natural Resources Division of the California Code of Regulations, Division 1.5, Chapter 7 Fire Protection, Subchapter 2 SRA Fire Safe Regulations.
[2] The SRA Responsibility Area is defined as defined in Public Resources Code section 4126-4127 and the California Code of Regulations, Title 14, Division 1.5, Chapter 7, Article 1, Sections 1220-1220.5 and 1271.00.

16. INDUSTRIAL AND COMMERCIAL DEVELOPMENT

Industrial references in these standards are applicable to all appropriately zoned lands whether hill areas or flatland areas. In general, the "high density" portions of these standards are applicable to industrial development.

Road cross sections for existing County roads and State highways which have full improvement widths different from these standards shall be improved to provide additional pavement width and thickness plus additional right of way, all as determined by the County Engineer.

Structural pavement sections shall be based upon a minimum traffic index of 6.0 and appropriate "R" value.

Bus turnouts and related sidewalks may be required as a condition of development.

Where on-street parking is allowed, a sidewalk shall be provided on the same side of the street as the parking lane. The sidewalk shall be Portland Cement Concrete. Where no sidewalk is required, an unpaved, clear walkway shall be provided.

Consistent with the Board policy of accepting into the road system only those roads improved to County standards, any new roads or drainage improvements proposed under a parcel map or final map to be accepted for maintenance by the County or by a County Service Area shall first be improved to full improvement in accordance with the standards.

In any land divisions where road and drainage improvements are proposed to be privately maintained, the developer shall furnish covenants calling for maintenance of such improvements. Covenants shall run with the land and be recorded with the final map or parcel map.

17. TRAFFIC CONTROL DEVICES

The California Manual on Uniform Traffic Control Devices (California MUTCD), the Caltrans Standard Specs and the Caltrans Highway Design manual shall be utilized to determine traffic warrants, design and construction procedures for all traffic control devices with the exception of left-turn lanes. Warrants for construction of a left-turn lane on County Maintained roads as defined in Sections 18.112.040 through 18.112.080 of the County Code shall be as follows:

Left-Turn Lane Warrants: Use Permits or modifications thereof shall trigger the application of the following warrants to determine the necessity for a left-turn lane for entering the proposed use.

1. Application of the following Left-Turn Lane Warrant Graph based on road average daily trips (ADT) and the projected ADT of the proposed use. The chart is a

representation of probable conflict between turning traffic and advancing traffic. Private Road or Driveway ADT is the total average daily traffic utilizing the facility. A left-turn lane will not be considered for uses generating an ADT of 10 or less.

2. If the corner sight distance in advancing direction, measured from the driveway, is less than required per Caltrans design standards (usually the posted speed limit multiplied by eleven, read in feet) a left-turn lane shall be installed.
3. If traffic conditions or turning movements pose a considerable threat to public life and safety, as recognized by the Director of Public Works, a left-turn lane shall be installed.

Design: Design of the left-turn lane shall be prepared by a Licensed Civil Engineer and be based on the County Standard Detail LTL-1, available at the Public Works Department. Installation of a left-turn lane on a public road shall require an encroachment permit issued by the Public Works Department and the property owner shall be required to enter into a one (1) year maintenance agreement including appropriate bonding.

EXHIBIT D

Amended Caymus Winery Traffic Impact Study

Prepared for the

County of Napa

Submitted by

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April 28, 2015

Balancing Functionality and Livability
Traffic Engineering • Transportation Planning

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Table 6
Project Trip Generation

Land Use	Daily Trips		Weekday PM Peak Hour			Weekend Midday Peak Hour		
	Weekday	Weekend	Trips	In	Out	Trips	In	Out
Net Increase on Roadways								
Existing Use	-355	-252	-125	-31	-94	-136	-68	-68
Proposed Use	478	480	170	43	127	258	129	129
Total Net-New Roadway Trips	**123**	**228**	**45**	**12**	**33**	**122**	**61**	**61**
Project Trips								
Permitted Use	-112	-105	-40	-10	-30	-48	-24	-24
Proposed Use	478	480	170	43	127	258	129	129
Total Net-New Project Trips	**366**	**375**	**130**	**33**	**97**	**210**	**105**	**105**

Trip Distribution

The pattern used to allocate new project trips to the street network was based on the existing traffic volumes at the study intersections and access points to the project site. The applied distribution assumptions for visitors, employees, and trucks for both weekday and weekend traffic are shown in Table 7.

Table 7
Trip Distribution Assumptions

User Group *Route*	Percent	Weekday Trips	Weekend Trips	PM Trips	MD Trips
Visitors					
SR 128 (from the west)	*50%*	*104*	*184*	*40*	*104*
SR 128 (from the east)	*50%*	*104*	*184*	*39*	*104*
Conn Creek Road (from the south)	*0%*	*0*	*0*	*0*	*0*
Subtotal	100%	208	368	79	208
Employees					
SR 128 (from the west)	*40%*	*51*	*3*	*16*	*1*
SR 128 (from the east)	*25%*	*32*	*2*	*10*	*0*
Conn Creek Road (from the south)	*35%*	*45*	*2*	*14*	*1*
Subtotal	100%	128	7	40	2
Trucks					
SR 128 (from the west)	*40%*	*12*	*0*	*4*	*0*
SR 128 (from the east)	*25%*	*8*	*0*	*4*	*0*
Conn Creek Road (from the south)	*35%*	*10*	*0*	*3*	*0*
Subtotal	100%	30	0	11	0
TOTAL		**366**	**375**	**130**	**210**

Trips were assigned based on the street network, project driveways and site plan. It was assumed that 100 percent of visitor related project trips would use the north driveway for both inbound and outbound trips. Inbound staff trips and trucks trips were assumed to use the southern driveway while all outbound employee trips and truck trips were assigned to the north driveway. Based on the above assumptions, the resulting project trips are shown in Figures 1 and 3.

Existing plus Project Conditions

Upon the addition of project-related traffic to the existing volumes, all of the study intersections are expected to operate at the same levels of service as without the project, except SR 128/SR 29 which degrades to unacceptable LOS E overall during the p.m. peak hour and to LOS F overall during the midday peak hour. The side street approaches continue operating at the same levels of service at SR 128/SR 29 and SR 128/Silverado Trail South. These results are summarized in Table 8 and copies of the Level of Service calculations are provided in Appendix B.

Table 8
Existing and Existing plus Project Peak Hour Intersection Levels of Service

Study Intersection *Approach*	Existing Conditions				Existing plus Project			
	Weekday PM Peak		Weekend MD Peak		Weekday PM Peak		Weekend MD Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. SR 128/Conn Creek Rd (north)	1.7	A	1.6	A	1.7	A	1.1	A
Conn Creek Rd (northbound)	*9.1*	*A*	*9.6*	*A*	*9.4*	*A*	*10.6*	*B*
2. SR 128/Conn Creek Rd (south)	1.2	A	1.2	A	2.0	A	1.2	A
Conn Creek Rd (southbound)	*9.2*	*A*	*9.2*	*A*	*9.4*	*A*	*9.2*	*A*
3. SR 128/Conn Creek Rd (west)	1.2	A	1.3	A	0.9	A	1.0	A
Conn Creek Rd (westbound)	*9.8*	*A*	*10.3*	*B*	*10.5*	*B*	*11.8*	*B*
4. SR 128/SR 29	14.3	B	**42.0**	**E**	**47.8**	**E**	**	**F**
Eastbound Approach	*29.7*	*D*	*85.3*	*F*	*30.7*	*D*	**	*F*
Westbound Approach	**	*F*	**	*F*	**	*F*	**	*F*
Signalized	8.3	A	9.6	A	10.8	B	12.9	B
5. SR 128-Conn Creek Rd/ Silverado Trail S	7.0	A	3.6	A	11.7	B	4.9	A
Eastbound Approach	*77.0*	*F*	*26.0*	*D*	*116.6*	*F*	*30.9*	*D*
Westbound Approach	*70.2*	*F*	*21.5*	*C*	*81.6*	*F*	*23.3*	*C*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*; ** Delay greater than 120 seconds; **Bold** text indicates deficient operation; Shaded cells = operation with installation of traffic signal

Finding: Under Existing plus Project conditions, SR 128/SR 29 would degrade from acceptable LOS B to unacceptable LOS E during the weekday p.m. peak hour and would further degrade from unacceptable LOS E to LOS F during the weekend midday peak hour. This intersection is already operating unacceptably during the weekend peak period and signalization or other improvements to facilitate access are supported in the General Plan and should be included in the County's traffic impact fee.

Recommendation: The project results in further deterioration of operation at SR 128/SR 29, including unacceptable operation during the weekday p.m. peak hour. However, because this project should be part of the traffic impact fee program, it is recommended that the applicant pay their traffic impact fee to mitigate project impacts. If the fee has not yet been adopted at the time when fees are to be paid, a proportional share fee of 6.8 percent could instead be levied on the condition that it is transferred into the traffic impact fee fund at such time as it is established. The proportional share calculation is provided in Appendix D.

Cumulative plus Project Conditions

Upon the addition of project-related traffic to cumulative volumes, all of the study intersections are expected to operate at LOS C or better, except SR 128/SR 29 which would be expected to degrade to unacceptable LOS F overall during the p.m. peak hour and continue operating at LOS F during the midday peak hour. The side street approaches at SR 128/SR 29 and SR 128/Silverado Trail South would

continue operating at the same levels of service. These results are summarized in Table 9 and copies of the Level of Service calculations are provided in Appendix B.

Table 9
Cumulative and Cumulative plus Project Peak Hour Intersection Levels of Service

Study Intersection *Approach*	Cumulative Conditions				Cumulative plus Project			
	Weekday PM Peak		Weekend MD Peak		Weekday PM Peak		Weekend MD Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. SR 128/Conn Creek Rd (north)	1.5	A	1.5	A	1.5	A	1.0	A
Conn Creek Rd (northbound)	*9.3*	*A*	*10.0*	*A*	*9.6*	*A*	*11.0*	*B*
2. SR 128/Conn Creek Rd (south)	1.2	A	1.4	A	2.1	A	1.3	A
Conn Creek Rd (southbound)	*9.2*	*A*	*9.2*	*A*	*9.4*	*A*	*9.2*	*A*
3. SR 128/Conn Creek Rd (west)	1.0	A	1.1	A	0.9	A	0.9	A
Conn Creek Rd (westbound)	*10.2*	*B*	*10.8*	*B*	*10.9*	*B*	*12.4*	*B*
4. SR 128/SR 29	17.8	C	**55.5**	**F**	**55.8**	**F**	**	**F**
Eastbound Approach	*57.4*	*F*	**	*F*	*67.9*	*F*	**	*F*
Westbound Approach	**	*F*	**	*F*	**	*F*	**	*F*
Signalized	9.2	A	11.2	B	11.6	B	15.4	B
5. SR 128-Conn Creek Rd/ Silverado Trail S	10.9	B	4.9	A	18.3	C	6.7	A
Eastbound Approach	*112.1*	*F*	*30.9*	*D*	**	*F*	*39.1*	*E*
Westbound Approach	*82.3*	*F*	*23.7*	*C*	*97.1*	*F*	*25.9*	*D*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*; ** Delay greater than 120 seconds; **Bold** text indicates deficient operation; Shaded cells = operation with installation of traffic signal

Finding: Under Cumulative plus Project conditions, operation at SR 128/SR 29 is expected to degrade from acceptable LOS C to LOS F during the weekday p.m. peak hour and the intersection would continue operating at unacceptable LOS F during the weekend midday peak hour, with increased delay on the stop-controlled side-street approaches. This is a significant impact.

Recommendation: The project applicant should pay the County's traffic impact fee at such time as it is established, or a proportional share in the interim, to support construction of a traffic signal at SR 128/SR 29.

Future plus Project Conditions

Upon the addition of project-generated traffic to the anticipated Future volumes, the study intersections are SR 128/Conn Creek Road are expected to operate at LOS A overall, while SR 128/SR 29 is expected to continue operating deficiently at LOS F and SR 128-Conn Creek Road/Silverado Trail South is expected to degrade from unacceptable LOS E to LOS F during both peak hours. These results are summarized in Table 10 and copies of the Level of Service calculations are provided in Appendix B.

Table 10
Future and Future plus Project Peak Hour Levels of Service

Study Intersection *Approach*	Future Conditions				Future plus Project			
	Weekday PM Peak		Weekend MD Peak		Weekday PM Peak		Weekend MD Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. SR 128/Conn Creek Rd (north)	1.4	A	1.4	A	1.5	A	1.0	A
Conn Creek Rd (northbound)	*9.1*	*A*	*9.8*	*A*	*9.4*	*A*	*10.7*	*B*
2. SR 128/Conn Creek Rd (south)	1.2	A	1.3	A	2.1	A	1.3	A
Conn Creek Rd (southbound)	*9.1*	*A*	*9.2*	*A*	*9.2*	*A*	*9.2*	*A*
3. SR 128/Conn Creek Rd (west)	1.0	A	1.1	A	0.8	A	0.9	A
Conn Creek Rd (westbound)	*9.8*	*A*	*10.5*	*B*	*10.4*	*B*	*11.9*	*B*
4. SR 128/SR 29	**504.2**	**F**	**710.0**	**F**	**676.6**	**F**	***>1,000***	**F**
Eastbound Approach	**	*F*	**	*F*	**	*F*	**	*F*
Westbound Approach	**	*F*	**	*F*	**	*F*	**	*F*
Signalized	15.3	B	20.0	C	19.8	B	35.8	D
5. SR 128-Conn Creek Rd/ Silverado Trail S	**42.4**	**E**	**44.3**	**E**	**66.8**	**F**	**68.8**	**F**
Eastbound Approach	**	*F*	**	*F*	**	*F*	**	*F*
Westbound Approach	**	*F*	**	*F*	**	*F*	**	*F*
With Traffic Signal	20.6	C	7.6	A	25.3	C	8.6	A

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*; ** Delay greater than 120 seconds; **Bold** text indicates deficient operation; Shaded cells = operation with installation of traffic signal

Finding: SR 128/SR 29 is expected to continue operating deficiently at LOS F while SR 128-Conn Creek Road would degrade to unacceptable LOS F. The project-added traffic would result in substantial further deterioration of operation at SR 128/SR 29 without implementation of improvements necessary to accommodate regional growth in areawide traffic.

Recommendation: The applicant should pay the applicable traffic impact fees or proportional share fees to support installation of traffic signals at SR 128/SR 29 and at SR 128/Silverado Trail South. The proportional share for Silverado Trail/SR 128 is 57.9 percent, as shown in the calculation provided in Appendix D.

Roadways

The additional traffic that the project would generate would reasonably be expected to be included in the growth projected by the County's traffic model.

The General Plan contains policies that support roadway improvements that would increase safety and access to the project site.

EXHIBIT E

NAPA COUNTY GENERAL PLAN

DRAFT

Environmental Impact Report

Volume I

February 16, 2007

PMC

STATE CLEARINGHOUSE
NO. 2005102088

EXISTING ROADWAY CAPACITY AND LEVEL OF SERVICE METHODOLOGY

To assess current conditions, the County roadway system was divided into 46 roadway segments representative of the County's overall network. Traffic volumes were provided by several different agencies including Napa County, Caltrans, the Napa County Transportation Planning Agency and the cities of American Canyon, Calistoga, Napa, Saint Helena, and Yountville. The PM peak hour was selected as the time period for study because in most areas of the County this is generally the time when traffic volumes and congestion is highest. It is also the time of the day/week for which the most data exists. When data for the PM peak hour was not available, a factor was applied to daily or AM peak hour volumes to estimate the missing data based on the percentage of daily traffic occurring in the PM peak hour at other nearby roadway segments. Also, because the PM peak-hour traffic volume data represented various years and months, data from the same peak months were selected for analysis (Dowling 2006).

Traffic conditions on roads and at intersections are generally characterized by their "level of service" or LOS. LOS is a convenient way to express the ratio between volume and capacity on a given link or at a given intersection, and is expressed as a letter grade ranging from LOS A through LOS F. Each level of service is generally described as follows:

LOS A- Free-flowing travel with an excellent level of comfort and convenience and freedom to maneuver.

LOS B- Stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in comfort, convenience, and maneuvering freedom.

LOS C- Stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream.

LOS D- High-density, but stable flow. Users experience severe restrictions in speed and freedom to maneuver, with poor levels of comfort and convenience.

LOS E- Operating conditions at or near capacity. Speeds are reduced to a low but relatively uniform value. Freedom to maneuver is difficult with users experiencing frustration and poor comfort and convenience. Unstable operation is frequent, and minor disturbances in traffic flow can cause breakdown conditions.

LOS F- Forced or breakdown conditions. This condition exists wherever the volume of traffic exceeds the capacity of the roadway. Long queues can form behind these bottleneck points with queued traffic traveling in a stop-and-go fashion.

The methodology used for the LOS analysis was based on the Highway Capacity Manual, 2000 Edition. As discussed later, the analysis focused on road segments, rather than intersections, due to the nature of the project (i.e. a county-wide general plan rather than a site-specific development). For each of the roadway segments selected for analysis, an existing and future roadway classification was assigned. **Table 4.4-3** shows the various roadway classes and their peak hour capacities. The table is divided into three sections. Section one shows the total peak hour directional capacities for the roadway classifications for levels of service A through F. These roadway capacities are based upon procedures and criteria published by the Florida Department of Transportation (FDOT) and are used throughout the profession as standard practice for roadway capacities for determining level of service. Section two shows peak hour capacities (per lane) and finally section three shows the volume-to-capacity ratios for each roadway classification and each category of level of service. Reference is made, within these

tables, to the specific source of the data from the FDOT guidelines. To summarize, the procedures for determining future traffic volumes and calculating level of service are based upon the 2000 Highway Capacity Manual; however, the roadway capacities are based upon data developed by the Florida Department of Transportation.

It should be noted that the FDOT guidelines for peak hour capacities and level of service criteria are more fine grained or specific than the capacities utilized in the Solano/Napa County travel model. County staff and Dowling Associates evaluated the various roadway segments selected for analysis and assigned the roadway classifications and capacities derived from the FDOT guidelines that best reflect how these roadways function. The county-wide model is less discrete and uses a more generalized set of capacities to reflect the function of roadways in the network. For comparison, the generalized capacities used in the model were:

- Freeways = 1,600 to 2,000 vehicles per hour per lane
- Freeway ramps = 1,500 vehicles per hour per lane
- Expressways = 1,400 vehicles per hour per lane
- Arterials (Major)= 900 vehicles per hour per lane
- Arterials (Minor)= 800 vehicles per hour per lane
- Collectors = 500 vehicles per hour per lane

EXISTING MODEL UNADJUSTED TRAFFIC ESTIMATES

The Solano/Napa County travel demand model was adjusted for application in this EIR. The base year model is designed to reflect 2003 conditions as the base model year, and was calibrated using 2003 data. For the year 2030 forecasts, the model was developed using land use data from several sources that was collectively found to be consistent with regional land use forecasts. This section provides the peak hour levels of service at each of the analysis segments for the base year (2003) and the original (unadjusted) 2030 model configurations. Later sections explain adjustments to the model intended to reflect 2030 conditions under each of the EIR alternatives.

Weekday Traffic Conditions for Existing (2003) and Unadjusted Future (2030) Conditions

The land use assumptions in the original (unadjusted) travel demand model for the 2030 condition reflected the most recent ABAG forecasts, at the time of model creation (ABAG Projections 2003) as modified and agreed upon by the Napa County Transportation Planning Agency (NCTPA) and the majority of communities within Napa County and Solano County. Some negotiations occurred between major jurisdictions such as the City of Napa and American Canyon regarding land use intensities, types and distributions at the time the model was created.

The unadjusted model also assumed certain transportation network improvements by the year 2030. These include:

- Widening of Jamieson Canyon Road (SR 12) between Interstate 80 and State Route 29 for four lanes.
- Improvements to the State Route 29/Napa Valley Highway Interchange
- Installation of new traffic signals within St. Helena

- Construction of new roadway segments such as sections of Devlin Road and the planned Flosden/Newell extension to Green Island Road

- Provision of localized roadway capacity improvements such as additional turn lanes.

Table 4.4-3 shows the peak hour levels of service for each of the analysis locations used for this EIR. Two conditions are illustrated: 1) the base year 2003 volumes, and 2) the forecasted year 2030 volumes using the unadjusted model.

Under the existing conditions (year 2003 model), 13 out of 94 locations, representing seven out of 47 different roadway segments operate over LOS E and F. Some segments operate at substandard levels in only one direction. These include:

- State Route 12/121 - Cuttings Wharf Road to Stanley Road
- State Route 12 - Lynch Road to Kelly Road
- State Route 121 - Napa/Sonoma County Line to Old Sonoma Road
- State Route 29 - Green Island Road to American Canyon Road
- State Route 29 - Oakville Grade to Madison Street
- State Route 29 - Rutherford Cross Road (SR 128) to Oakville Grade
- State Route 29 - Chaix Lane to Zinfandel Lane

Under 2030 conditions, based upon the unadjusted year 2030 model, 27 out of 94 directional locations, representing 19 out of 47 different roadway segments were projected to operate at substandard LOS due to projected growth within the County and the region. Some segments operate at substandard levels in only one direction. These include:

- American Canyon Road - I-80 to Flosden Road
- Deer Park Road - Sanitarium Rd (North) to Silverado Trail
- Flosden Road - American Canyon Road to Solano/Napa County Line
- Napa Vallejo Hwy - Kaiser Road to Highway 29(SR 29/12)
- Petrified Forest Road - Foothill Boulevard (SR 128) to Franz Valley School Road
- Soscol Avenue - First Street to Silverado Trail
- State Route 12/121 - Cuttings Wharf Road to Stanley Road
- State Route 12 - Lynch Road to Kelly Road
- State Route 121 - Wooden Valley Road to Vichy Avenue
- State Route 128 - Napa/Sonoma County Line to Tubbs Lane
- State Route 128 - Tubbs Lane to Petrified Forest Road
- State Route 128 - Petrified Forest Road to Lincoln Avenue (SR 29)
- State Route 29 - Green Island Road to American Canyon Road
- State Route 29 - Oakville Grade to Madison Street
- State Route 29 - Rutherford Cross Road (SR 128) to Oakville Grade
- State Route 29 - Chaix Lane to Zinfandel Lane
- State Route 29 - Lodi Lane to Deer Park Road
- State Route 29 - Kelly Road to Jamieson Canyon Road (SR 12)
- State Route 29 - Napa-Vallejo Hwy (SR 221) to Carneros Hwy (SR 121/12)

TABLE 4.4-3
PEAK HOUR LEVELS OF SERVICE – 2003 AND UNADJUSTED 2030 MODEL

Number of	Segment Descriptions			Level Of Service	
Segment	RoadName	Segment Limit North / East	Segment Limit South / West	Existing 2003 Conditions	Original Year 2030 Model
1	AMERICAN CANYON ROAD	I-80	Flosden Road	LOS D	**LOS F**
2	AMERICAN CANYON ROAD	I-80	Flosden Road	LOS D	**LOS E**
3	CHILES POPE VALLEY RD	Pope Canyon Road	Lower Chiles Valley Road	LOS A	LOS B
4	CHILES POPE VALLEY RD	Pope Canyon Road	Lower Chiles Valley Road	LOS A	LOS A
5	DEER PARK RD	Sanitarium Rd (North)	Silverado Trail	LOS C	**LOS E**
6	DEER PARK RD	Sanitarium Rd (North)	Silverado Trail	LOS C	LOS C
7	DEER PARK ROAD	Silverado Trail	St. Helena Highway (SR 29/128)	LOS C	LOS D
8	DEER PARK ROAD	Silverado Trail	St. Helena Highway (SR 29/128)	LOS C	LOS C
9	FLOSDEN ROAD	American Canyon Road	Napa/Solano County Line	LOS C	LOS D
10	FLOSDEN ROAD	American Canyon Road	Napa/Solano County Line	LOS C	**LOS F**
11	HOWELL MOUNTAIN RD	Pope Valley Rd	N White Cottage Rd	LOS A	LOS C
12	HOWELL MOUNTAIN RD	Pope Valley Rd	N White Cottage Rd	LOS A	LOS A
13	NAPA VALLEJO HWY	Kaiser Rd	Highway 29(SR 29/12)	LOS D	**LOS F**
14	NAPA VALLEJO HWY	Kaiser Rd	Highway 29(SR 29/12)	LOS D	LOS D
15	OAK KNOLL AVE	Big Ranch Rd	Highway 29	LOS C	LOS C
16	OAK KNOLL AVE	Big Ranch Rd	Highway 29	LOS C	LOS C
17	OAKVILLE CROSS RD	Napa River	Highway 29	LOS A	LOS C
18	OAKVILLE CROSS RD	Napa River	Highway 29	LOS B	LOS B
19	OLD SONOMA ROAD	Buhman Avenue	Carneros Highway (SR 121/12)	LOS C	LOS C
20	OLD SONOMA ROAD	Buhman Avenue	Carneros Highway (SR 121/12)	LOS B	LOS B
21	PETRIFIED FOREST ROAD	Foothill Boulevard (SR 128)	Franz Valley School Road	LOS C	**LOS F**
22	PETRIFIED FOREST ROAD	Foothill Boulevard (SR 128)	Franz Valley School Road	LOS C	LOS C
23	POPE CANYON RD	Berryessa-Knoxville Rd	Chiles-Pope Valley Rd	LOS A	LOS B
24	POPE CANYON RD	Berryessa-Knoxville Rd	Chiles-Pope Valley Rd	LOS A	LOS A
25	SILVERADO TRL	0ak Knoll Ave	Hardman Ave	LOS C	LOS C
26	SILVERADO TRL	0ak Knoll Ave	Hardman Ave	LOS C	LOS D
27	SILVERADO TRL	Sage Canyon Rd (SR 128)	Yountville Cross Rd	LOS C	LOS C
28	SILVERADO TRL	Sage Canyon Rd (SR 128)	Yountville Cross Rd	LOS C	LOS D
29	SILVERADO TRL	Pope St	Zinfandel Ln	LOS C	LOS C
30	SILVERADO TRL	Pope St	Zinfandel Ln	LOS C	LOS D
31	SILVERADO TRL	Bale Ln	Deer Park Rd	LOS C	LOS C
32	SILVERADO TRL	Bale Ln	Deer Park Rd	LOS C	LOS C
33	SILVERADO TRL	Calistoga City Limits	Lincoln Ave (SR 29)	LOS C	LOS C
34	SILVERADO TRL	Calistoga City Limits	Lincoln Ave (SR 29)	LOS C	LOS C
35	SOSCOL AVE	First St	Silverado Trail	LOS D	**LOS F**
36	SOSCOL AVE	First St	Silverado Trail	LOS D	LOS D
37	SPRING MOUNTAIN ROAD	St. Helena City Limit	Langtry Road	LOS A	LOS C
38	SPRING MOUNTAIN ROAD	St. Helena City Limit	Langtry Road	LOS A	LOS B
39	STATE HIGHWAY 12/121	Cuttings Wharf Road	Stanely Road	LOS D	**LOS F**
40	STATE HIGHWAY 12/121	Cuttings Wharf Road	Stanely Road	**LOS F**	**LOS F**
41	STATE HIGHWAY 12	Lynch Road	Kelly Road	**LOS F**	**LOS F**
42	STATE HIGHWAY 12	Lynch Road	Kelly Road	**LOS E**	LOS B
43	STATE HIGHWAY 121	Wooden Valley Rd	Vichy Ave	LOS C	**LOS F**
44	STATE HIGHWAY 121	Wooden Valley Rd	Vichy Ave	LOS C	LOS C
45	STATE HIGHWAY 121	Circle Oaks Dr	Wooden Valley Rd	LOS B	LOS C
46	STATE HIGHWAY 121	Circle Oaks Dr	Wooden Valley Rd	LOS C	LOS C

TABLE 4.4-3 CONTINUED
PEAK HOUR LEVELS OF SERVICE – 2003 AND UNADJUSTED 2030 MODEL

Segment Number	Segment Descriptions			Level Of Service	
	RoadName	Segment Limit North / East	Segment Limit South / West	Existing 2003 Conditions	Original Year 2030 Model
47	STATE ROUTE 121	Napa/Sonoma County Line	Old Sonoma Rd	LOS F	LOS C
48	STATE ROUTE 121	Napa/Sonoma County Line	Old Sonoma Rd	LOS F	LOS C
51	STATE ROUTE 128	Napa/Sonoma County Line	Tubbs Lane	LOS C	LOS C
52	STATE ROUTE 128	Napa/Sonoma County Line	Tubbs Lane	LOS C	LOS F
53	STATE ROUTE 128	Tubbs Ln	Petrified Forest Rd	LOS C	LOS E
54	STATE ROUTE 128	Tubbs Ln	Petrified Forest Rd	LOS C	LOS C
55	STATE ROUTE 128	Petrified Forest Rd	Lincoln Ave (SR 29)	LOS C	LOS D
56	STATE ROUTE 128	Petrified Forest Rd	Lincoln Ave (SR 29)	LOS C	LOS F
57	STATE ROUTE 128	Napa River	St Helena Hwy (SR 29)	LOS C	LOS C
58	STATE ROUTE 128	Napa River	St Helena Hwy (SR 29)	LOS B	LOS B
59	STATE ROUTE 128	Chiles-Pope Valley Road	Silverado Trail	LOS C	LOS C
60	STATE ROUTE 128	Chiles-Pope Valley Road	Silverado Trail	LOS C	LOS C
61	STATE ROUTE 128	Monticell Road (SR 121)	Berryessa-Knoxville Road	LOS B	LOS B
62	STATE ROUTE 128	Monticell Road (SR 121)	Berryessa-Knoxville Road	LOS B	LOS C
63	STATE ROUTE 128	Napa/Yolo County Line	State ROUTE 121	LOS A	LOS C
64	STATE ROUTE 128	Napa/Yolo County Line	State ROUTE 121	LOS A	LOS A
65	STATE ROUTE 29	Napa/Lake County Line	Tubbs Lane	LOS C	LOS C
66	STATE ROUTE 29	Napa/Lake County Line	Tubbs Lane	LOS C	LOS C
67	STATE ROUTE 29	Green Island Rd	American Canyon Rd	LOS F	LOS F
68	STATE ROUTE 29	Green Island Rd	American Canyon Rd	LOS F	LOS F
69	STATE ROUTE 29	California Dr	Oak Knoll Ave	LOS C	LOS C
70	STATE ROUTE 29	California Dr	Oak Knoll Ave	LOS C	LOS C
71	STATE ROUTE 29	Oakville Grade	Madison St	LOS F	LOS F
72	STATE ROUTE 29	Oakville Grade	Madison St	LOS F	LOS F
73	STATE ROUTE 29	Rutherford Cross Rd (SR 128)	Oakville Grade	LOS E	LOS F
74	STATE ROUTE 29	Rutherford Cross Rd (SR 128)	Oakville Grade	LOS F	LOS F
75	STATE ROUTE 29	Chaix Ln	Zinfandel Ln	LOS F	LOS F
76	STATE ROUTE 29	Chaix Ln	Zinfandel Ln	LOS F	LOS F
77	STATE ROUTE 29	Lodi Lane	Deer Park Rd	LOS D	LOS F
78	STATE ROUTE 29	Lodi Lane	Deer Park Rd	LOS D	LOS F
79	STATE ROUTE 29	Kelly Rd	Jamieson Cyn Rd (SR 12)	LOS C	LOS F
80	STATE ROUTE 29	Kelly Rd	Jamieson Cyn Rd (SR 12)	LOS C	LOS F
81	STATE ROUTE 29	Napa-Vallejo Hwy (SR 221)	Kelly Rd	LOS C	LOS C
82	STATE ROUTE 29	Napa-Vallejo Hwy (SR 221)	Kelly Rd	LOS C	LOS B
83	STATE ROUTE 29	Napa-Vallejo Hwy (SR 221)	Carneros Hwy (SR 121/12)	LOS C	LOS F
84	STATE ROUTE 29	Napa-Vallejo Hwy (SR 221)	Carneros Hwy (SR 121/12)	LOS C	LOS C
85	STATE ROUTE 29	Imola Ave (SR 121)	Carneros Hwy (SR 121/12)	LOS C	LOS D
86	STATE ROUTE 29	Imola Ave (SR 121)	Carneros Hwy (SR 121/12)	LOS C	LOS B
87	TUBBS LN	Highway 29	Highway 128	LOS C	LOS D
88	TUBBS LN	Highway 29	Highway 128	LOS C	LOS C
89	WOODEN VALLEY RD	Monticello Rd (SR 121)	Napa/Solano Co Line	LOS A	LOS B
90	WOODEN VALLEY RD	Monticello Rd (SR 121)	Napa/Solano Co Line	LOS C	LOS C
91	YOUNTVILLE CROSS RD	Silverado Trail	Yountville Town Limits	LOS C	LOS C
92	YOUNTVILLE CROSS RD	Silverado Trail	Yountville Town Limits	LOS C	LOS C
93	ZINFANDEL LN	Silverado Trail	St Helena Hwy (SR 29&128)	LOS C	LOS C
94	ZINFANDEL LN	Silverado Trail	St Helena Hwy (SR 29&128)	LOS C	LOS B

Source: Dowling Associates 2006

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ENGINEERING SOLUTIONS

July 13, 2016 (Revised)

Mr. Jonah Beer, Vice President/General Manager
Frog's Leap Winery
8815 Conn Creek Road
Rutherford, CA 94573

Subject: ***Focused Traffic Analysis for the Proposed Frog's Leap Winery Modifications Project – Located on Conn Creek Road (Napa County)***

Dear Mr. Beer:

This report provides a focused traffic analysis for the planned Frog's Leap Winery Modification project located at 8815 Conn Creek Road west of Silverado Trail (see Figure 1 for Project Vicinity Map). This study reflects our discussions with your consultant (Mr. Jeff Dodd) regarding the project characteristics and other adjacent approved/pending projects in the study area. In addition, new field reviews, traffic counts, and overall analyses of the project's effect on traffic were conducted based on comments received from Napa County Planning, Building, and Environmental Services.[1] These comments encompass level-of-service methodology, cumulative levels-of-service, and updated significance criteria from Fehr and Peers.[2] Consistent with the Initial Study, the existing conditions include the production, proposed employees, most of the visitation, and some marketing activities. These existing conditions are therefore, included as part of the baseline (basis) under the California Environmental Quality Act (CEQA) from which project impacts would be measured.[3] Some of the key issues evaluated in this study include the following: BASIS Language

- Existing and future weekday PM and weekend mid-day peak hour operations at Silverado Trail, the Frog's Leap Winery Project Driveway, and Rutherford Road intersections with Conn Creek Road;
- Near-term (Year 2016) traffic conditions reflecting other approved/pending winery projects in the study area including the recent Caymus Vineyards and Frank's Family Vineyards activity;
- Net increase in project trip generation relative to the 'existing conditions' from the proposed use permit modifications which include changes in the number of employees, and visitor data associated with the planned Agricultural Processing Center;
- Project site access at the Conn Creek Road driveway and potential improvements;
- Cumulative year 2030 (no project) conditions along Conn Creek Road, Rutherford Road, and Silverado Trail based on the Napa County General Plan Update EIR.

The following sections outline existing and future conditions with and without the net increase in traffic from proposed Frog's Leap Winery modifications based on input from Mr. Dodd and yourself.

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[1] *Ms. Shaveta Sharma, Planner III, Napa County Planning, Building, and Environmental Services, Comments on Frog's Leap Winery Use Permit-Major Modifications Application No. P14-00054, 8815 Conn Creek Road, September 11, 2014.*

[2] *Fehr & Peers, Guidelines for Interpretation of General Plan Circulation Policies on Significance Criteria, December 1, 2015.*

[3] *Ms. Shaveta Sharma, Planner III, Napa County Planning, Building, and Environmental Services, Meeting with Mr. John McDowell and Ms. Laura Anderson (Napa County)designating existing Frog's Leap Winery operations as "baseline" conditions for CEQA analyses, July 5, 2016.*

Where necessary, measures have been recommended to ensure acceptable traffic flow, circulation, and/or fair share contribution to regional cumulative traffic improvements along Conn Creek Road. I trust that this report responds to your needs. Please review this information and call me with any questions or comments.

Sincerely,

George Nickelson

George W. Nickelson, P.E., OMNI-MEANS Engineers & Planners

Attachments: Appendices

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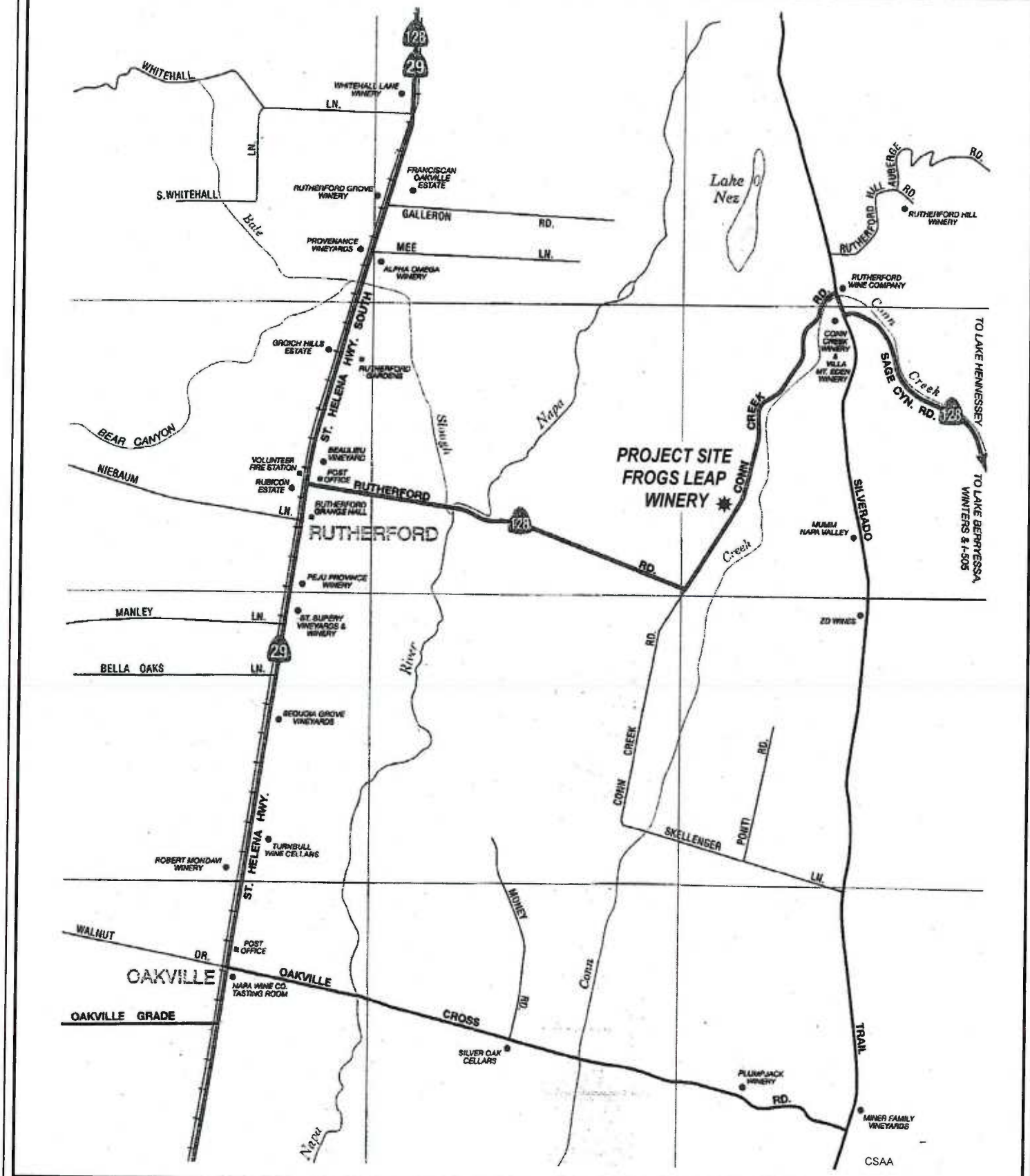

Project Vicinity Map

North

omni-means

figure 1

1. Existing Traffic Conditions

Roadways

Frog's Leap Winery is located at 8815 Conn Creek Road (State Route 128) on the west side of roadway between Rutherford Road (SR-128) and Silverado Trail. Located in Rutherford (Napa County), Conn Creek Road (via Rutherford Road) serves as one of connector roadways extending between State Route 29 and Silverado Trail in the Napa Valley. A brief description of key each roadway follows:

Conn Creek Road extends in a southerly direction from Silverado Trail through Skellenger Lane paralleling Silverado Trail to the west. Providing access to agricultural/vineyard areas, Conn Creek Road is a state highway (State Route 128) between Silverado Trail and Rutherford Road. Conn Creek Road is a rural, two-lane arterial roadway and provides direct access to the Frog's Leap Winery.

Rutherford Road extends for approximately 1.5 miles in an east-west direction between Conn Creek Road and State Route 29. Located south of the project site, Rutherford Road is also designated as State Route 128 and is rural, two-lane arterial roadway.

Silverado Trail extends in a northwest-southeast direction between St. Helena and Napa in the project study area. Located east of the project site, Silverado Trail functions as a two-lane rural highway and has two 12-foot travel lanes with 8-10 foot shoulders (striped each side) at its intersection with Conn Creek Road. The speed limit on Silverado Trail is 55 mph. Napa County defines Silverado Trail as a two-lane, rural arterial roadway.

Existing Intersection Volumes

In order to identify existing peak hour operating conditions, existing peak period traffic counts were conducted at the Frog's Leap Winery driveway and outlying intersections, both north and south of the driveway.[4] [5] Vehicle counts were conducted during a weekday PM commute period and a Saturday peak afternoon period at the following intersections:

1.	Silverado Trail/Conn Creek Road	Stop-control (Conn Creek Rd.)
2.	Frog's Leap Winery Driveway/Conn Creek Road	Stop-control (minor driveway)
3.	Rutherford Road/Conn Creek Road	Stop-control (Conn Creek Rd.)

Peak period vehicle counts were conducted on a weekday late afternoon (4:00-6:00 p.m.) and Saturday afternoon (1:00-4:00 p.m.). The resultant "peak hour" of traffic flow on Conn Creek Road occurs during 4:00-5:00 p.m. (Wednesday) and 1:15-2:15 p.m. (Saturday). Peak period counts were conducted during the non- harvest/crush season (November & May) and do not reflect peak traffic conditions on Conn Creek Road. Therefore, peak hour volumes on Conn Creek Road and Silverado Trail were increased by 9% based on Caltrans daily volume counts (peak month vs. non-

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[4] *Omni-Means Engineers and Planners, Weekday peak period (4:00-6:00 p.m.) and Weekend (Saturday) peak period (1:00-4:00 p.m) vehicle turning movement counts at the Frog's Leap Winery Driveway/Conn Creek Road intersection November, 13 and 16, 2013.*

[5] *Baymetrics Traffic Resources, Weekday peak period (4:00-6:00 p.m.) and Weekend (Saturday) peak period (1:00-4:00 p.m) vehicle turning movement counts at the Silverado Trail/Conn Creek Road and Rutherford Road/Conn Creek Road intersections, May 1 and 3, 2014.*

peak month).[6] As noted, the "existing" traffic conditions represent the CEQA baseline and include the production, proposed employees, most of the visitation, and some marketing activities. These existing conditions are therefore, included as part of the CEQA baseline (basis) from which project impacts would be measured. Existing weekday PM peak hour and weekend mid-day peak hour intersection volumes have been shown in Figure 2.

Roadway Volumes

Based on Caltrans daily traffic counts conducted along Conn Creek Road and Rutherford Road west of Silverado Trail, Conn Creek Road has a current average daily traffic (ADT) volume of 1,600 vehicles.[7] Caltrans designates an annual average ADT and a peak month ADT (1,600 ADT and 1,750 ADT). For the purpose of this study, the average annual ADT will be used for analysis. Based on Napa County's designation of Conn Creek Road as a two-lane rural arterial, an ADT of 1,600 reflects operations of LOS A.[8] Silverado Trail is currently carrying 10,548 ADT in the vicinity of SR-128 based on Napa County traffic volume records. Based on the same roadway designation this capacity would reflect LOS D operations.

Existing Intersection Operation

Intersection operation is one of the primary factors in evaluating the carrying capacity of a roadway network. Traffic conditions are measured by Level of Service (LOS), which applies a letter ranking to successive levels of intersection performance. LOS 'A' represents optimum conditions with free-flow travel and no congestion. LOS 'F' represents severe congestion with long delays at the approaches. For intersections with minor street stop control, the LOS reflects the delays experienced by the minor street approach. (LOS definitions and calculation worksheets are provided in the Appendix).

Conn Creek Road is stop-sign controlled at Silverado Trail. At this intersection, the roadway (Conn Creek Road) flairs to provide separate left-through and right-turn lanes. A winery driveway (Rutherford Ranch Winery) forms the north leg of the intersection opposite Conn Creek Road. Northbound and southbound left-turn lanes exist on Silverado Trail at this intersection to provide access to Conn Creek Road and the Rutherford Ranch Winery driveway.

The existing project driveway location at Conn Creek Road is a minor-street, stop-controlled intersection. Located at the east side of the parcel, the driveway consists of single lane approach that widens out considerably (large radius shoulders) at Conn Creek Road to provide for the eastbound right and left-turn movements onto the roadway. (The actual driveway entrance spans 120-feet along Conn Creek Road). This type of intersection is classified as three-way or (T-type) intersection. There is no northbound left-turn lane or southbound right-turn lane on Conn Creek Road at the existing project driveway.

At the Rutherford Road/Conn Creek Road intersection, Conn Creek Road is stop-sign controlled for both the northbound and westbound movements. Extending in an east-west direction, Rutherford Road intersects north-south Conn Creek Road where the roadway extends north towards Silverado Trail. Both roadways have two travel lanes.

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[6] *Caltrans, 2012 Traffic Volumes Book, Average and Peak Daily Traffic Volumes, State Route 128 west of Silverado Trail.*
[7] *Caltrans, 2012 Traffic Volumes Book, Average Daily Traffic (ADT) volumes, SR-128 west of Silverado Trail.*
[8] *Napa County Baseline Data Report, Transportation and Circulation, Table 11-1, Napa County Roadway Segment Daily LOS Volume Thresholds, 2005.*

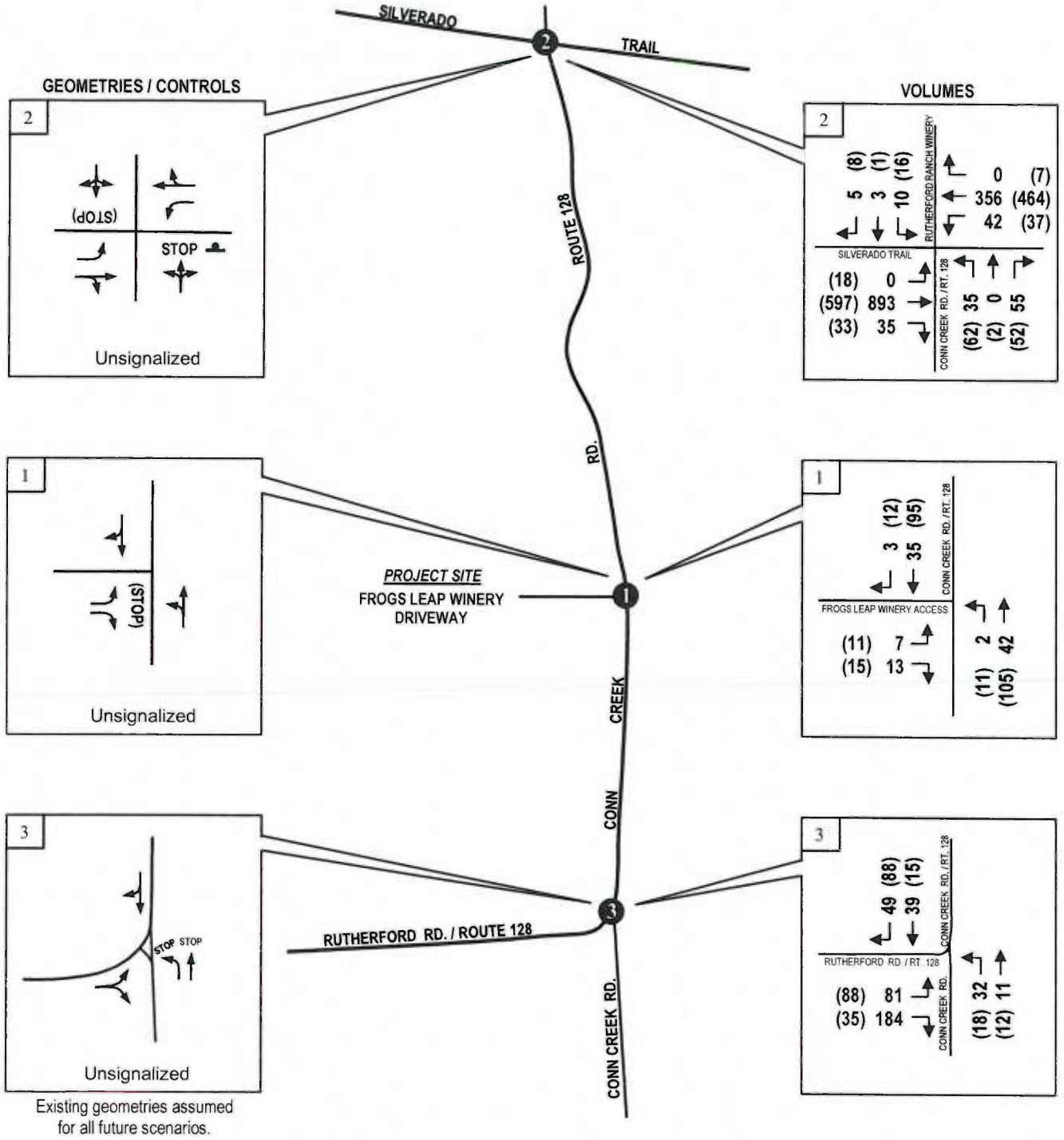
SILVERADO TRAIL
ROUTE 128
CONN CREEK RD.
RUTHERFORD RD. / ROUTE 128
CONN CREEK RD.
PROJECT SITE
FROGS LEAP WINERY DRIVEWAY
GEOMETRIES / CONTROLS
VOLUMES
STOP
Unsignalized
RUTHERFORD RANCH WINERY
SILVERADO TRAIL
CONN CREEK RD. / RT. 128
FROGS LEAP WINERY ACCESS
RUTHERFORD RD / RT 128
Existing geometries assumed for all future scenarios.
NOT TO SCALE
Existing Weekday PM and (Weekend) Peak Hour Volumes
North
omni-means
figure 2

TABLE 1
EXISTING AND NEAR-TERM (NO PROJECT) CONDITIONS: INTERSECTION LEVELS-OF-SERVICE WEEKDAY PM PEAK AND WEEKEND MID-DAY PEAK HOUR[1, 2]

#	Intersection	Control Type	Wkdy. PM LOS/Delay		Wknd. Mid-Day LOS/Delay	
			Existing (No Project)	Near-Term (No Project)	Existing (No Project)	Near-Term (No Project)
1	Frog's Leap Driveway/Conn Creek Rd.	Stop	A 8.7	A 9.0	A 9.4	A 9.9
2	Silverado Trail/Conn Creek Rd.	Stop	F 120.1	F 282.4	F 76.3	F 173.9
3	Rutherford Rd./Conn Creek Rd.	Stop	B 12.5	C 17.3	A 9.7	B 10.5

(1) Based on Highway Capacity Manual (HCM) 2010, Operations methodology for stop-sign controlled (unsignalized) intersections using Synchro-Simtraffic software. Intersection calculation yields an LOS and vehicle delay in seconds. Stated LOS refers to the minor street (stop-sign) controlled movement.
(2) Existing conditions represent the CEQA basis for measuring project impacts and already contain a portion of proposed use permit visitation, employment, and some marketing activities associated with Frog's Leap Winery operations.

Intersection levels-of-service have been updated based on the most recent Highway Capacity Manual (*HCM 2010*) operations methodology for unsignalized intersections. In addition, peak hour factors (PHF's) for each intersection approach have been incorporated into all existing and future intersection LOS calculations. The PHF is a measure of the traffic flow rate at each intersection approach. Based on field count data, these PHF's ranged from .38 to .92 dependent on each intersection. Intersection approaches with lower approach volumes typically have lower (and more conservative) PHF's. In addition, all through-traffic on Conn Creek Road (SR-128) was adjusted to reflect 28% truck traffic and has been incorporated into the LOS calculations based on the most recent Caltrans data for SR-128.[9] Existing weekday PM peak and weekend mid-day peak hour existing (no project) level-of-service has been shown in Table 1. As calculated during the weekday PM peak hour, the Frog's Leap Driveway /Conn Creek Road intersection is operating at LOS A (8.7 seconds) for the stop-sign controlled eastbound driveway turning movements onto Conn Creek Road. During the weekend (Saturday) mid-day peak hour, through-volumes on Conn Creek Road are slightly higher than weekday volumes. However, overall intersection operation is still very acceptable at LOS A (9.4 seconds). The Silverado Trail/Conn Creek Road intersection is operating at LOS F (120.1 seconds) during the weekday PM peak hour and LOS F (76.3 seconds) during the weekend mid-day peak hour. This LOS applies to the eastbound stop-sign controlled movements from Conn Creek Road and Rutherford Ranch Winery driveway onto Silverado Trail. The Rutherford Road/Conn Creek Road intersection is operating at LOS B (12.5 seconds) during the weekday PM peak hour and LOS A (9.7 seconds) during the weekend mid-day peak hour.

Based on the California Manual on Uniform Traffic Control Devices (CAMUTCD) peak hour signal warrant criteria, the three unsignalized study intersections were evaluated for signalization.[10] The peak hour warrant(s) are one of several standards to help determine if installation of a traffic signal is appropriate. Qualifying for signalization using the peak hour warrants does not necessarily mean a signal should be installed. The decision to install a traffic signal should be based on further studies utilizing additional warrants as presented in the California MUTCD. At this time, the Rutherford Road/Conn Creek Road and Frog's Leap Project Driveway/Conn Creek Road intersections would not qualify for signalization under the peak hour warrant. The Silverado

[9] *Caltrans, California State Route 128 Transportation Concept Report, Final, April 13, 2014.*
[10] *California Manual on Uniform Traffic Control Devices (CAMUTCD), Chapter 4C, Peak hour signal warrant (#3), 2012.*

Trail/Conn Creek Road intersection would just exceed the minimum peak hour volumes for signalization during the weekday PM peak hour and clearly exceeds the warrant during the weekend mid-day peak hour (the warrant graphs are provided in the Appendix).

2. Near-Term (No Project) Conditions

Near-Term Methodology

Both near-term (no project) and cumulative (year 2030) volume projections for Conn Creek Road and Rutherford Road (SR-128) and Silverado Trail were derived from the Napa County Transportation and Planning Agency's traffic volume forecasts found in the Napa County General Plan Update EIR.[11] The forecast increase in volume-to-capacity (v/c) ratio from Year 2003 to Year 2030 on SR-128 between SR-29 and the Napa River was applied to the Year 2003 peak hour two-way volumes (313 vehicles). This yielded a future volume of 867weekday PM peak hour vehicles on Conn Creek Road and Rutherford Road in the Year 2030. This would equate to an increase in traffic volumes of 3.9% per year to the Year 2030 on the roadways. Similarly, the increase in v/c ratio from Year 2003 to Year 2030 on Silverado Trail between Sage Canyon Road and Yountville Cross Road was applied to the Year 2003 peak hour two-way volumes (1,352 vehicles). This yielded a future volume of 2,052weekday PM peak hour vehicles on Silverado Trail at Sage Canyon Road (adjacent to Conn Creek Road). This would equate to an increase in traffic volumes of 1.56% per year to the Year 2030 on the roadway.

With regard to near-term (no project) conditions, the project applicant indicates a two-year window to the Year 2016 would allow for proposed project completion (construction of buildings, movement of staff). Based on this time period, weekday PM peak hour vehicle traffic would increase by 7.8% on Conn Creek Road and Rutherford Road and 3.12% on Silverado Trail. It is noted that no future volume projections are provided for the weekend (Saturday) mid-day peak hour. Therefore, weekend mid-day peak hour volumes on Conn Creek Road-Rutherford Road and Silverado Trail were increased uniformly by the same annual growth rate.

In addition to near-term background growth on Conn Creek Road, Rutherford Road, and Silverado Trail, other approved/pending projects in the immediate study area have been included in overall traffic growth at the request of County Planning staff.[12] Specifically, use modifications for the existing Caymus Vineyards winery and a new proposed winery facility for Frank's Family Vineyard (Wood Ranch). The Caymus Vineyard winery is located south of Frog's Leap Winery off Conn Creek Road whereas the Frank's Family Vineyard winery project would be located to the north off the same roadway. The proposed uses could be described as follows:

<u>*Caymus Vineyards Winery:*</u>
Production: 1.8 million gallons
Visitation: 346 weekday, 589 weekend
Employment: not available

<u>*Frank's Family Vineyards Winery:*</u>
Production: 475,000 gallons
Visitation: 50/day
Employment: 14 full-time, 8 part-time

.

Daily and peak hour weekday and weekend peak hour volumes have been based on actual traffic analyses performed for the project (Caymus Vineyards) and/or established trip generation

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[11] *Dowling Associates, Napa County General Plan Update, Technical Memorandum for Traffic and Circulation Supporting the Findings and Recommendations, February 9, 2007.*
[12] *Ms. Shaveta Sharma, Planner III, Napa County Planning, Building, and Environmental Services, Frog's Leap Winery Use Modification Application P14-00054 Letter of Completion (and personal communication), September 11, 2014.*

weekday and weekend factors established by Napa County.[13] Based on these sources, the two adjacent projects would be expected to generate 457 daily trips and 162 PM peak hour trips during the weekday period. On weekends, the projects would generate 426 daily trips with 261 mid-day peak hour trips.

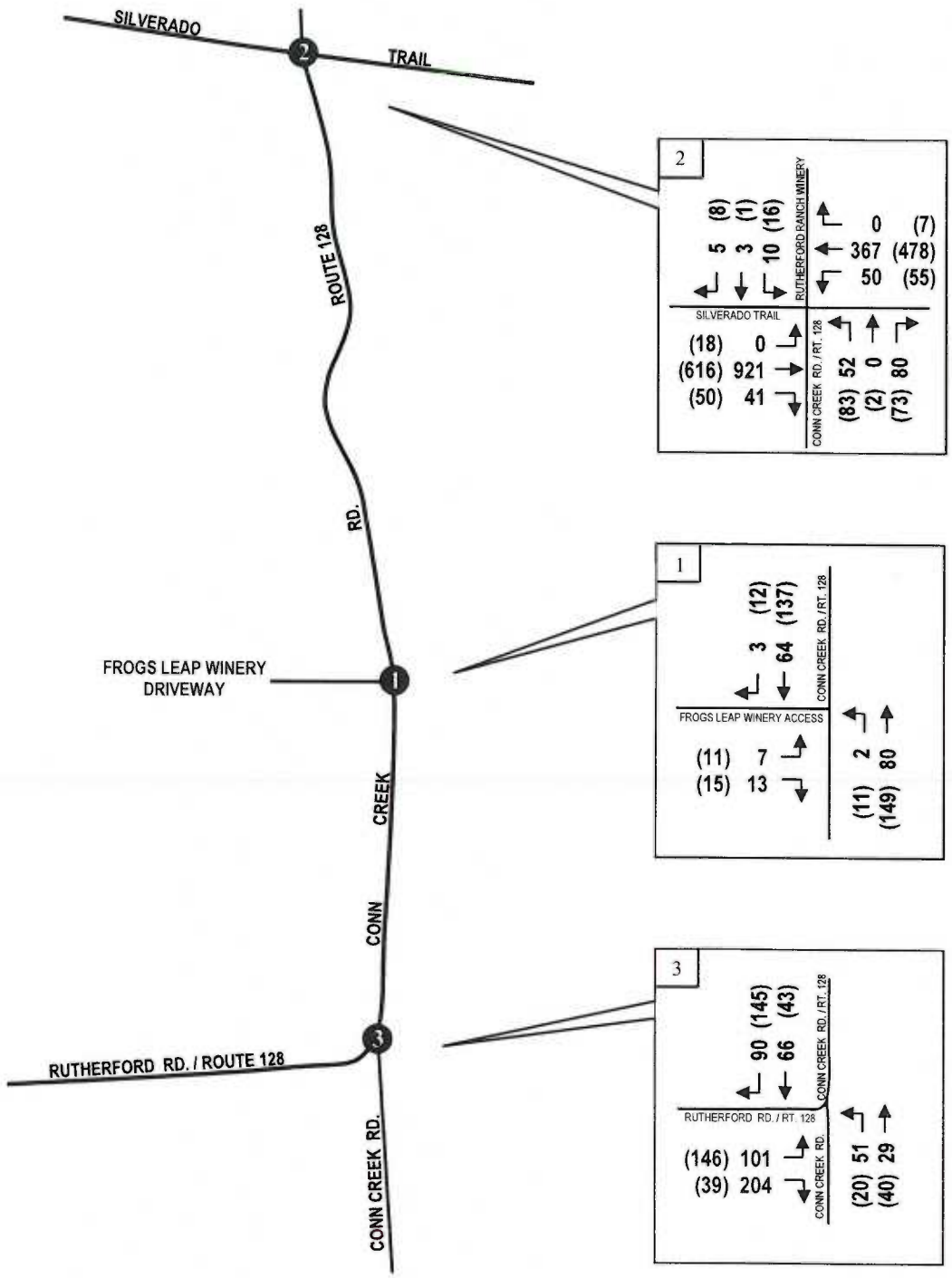
Near-term (no project) volumes for weekday PM peak hour and weekend mid-day peak hour have been shown in Figure 3.

Near-Term (No Project) Intersection/Roadway Operation

With near-term (no project) volumes, study intersection LOS has been calculated and are shown in Table 1. The Frog's Leap Driveway/Conn Creek Road intersection would experience very slight increases in vehicle delays during the weekday PM peak hour and/or weekend mid-day peak hour. For the minor street (driveway) outbound turning movements, LOS would continue to operate at LOS A (9.0 secs.) During the Saturday mid-day peak, intersection LOS would remain at A (9.9 secs.). The Silverado Trail/Conn Creek Road intersection would operate at LOS F (282.4 seconds) during the weekday PM peak hour and LOS F (173.9 seconds) during the weekend mid-day peak hour. This LOS applies to the stop-sign controlled movements from Conn Creek Road and Rutherford Ranch Winery driveway onto Silverado Trail. The Rutherford Road/Conn Creek Road intersection would operate at LOS C (17.3 seconds) during the weekday PM peak hour and LOS B (10.5 seconds) during the weekend mid-day peak hour.

Based on CAMUTCD peak hour signal warrant criteria (Warrant #3), the Frog's Leap Driveway/Conn Creek Road and Rutherford Road/Conn Creek Road intersections would not qualify for signalization with near-term (no project) volumes. The Silverado Trail/Conn Creek Road intersection would continue to satisfy the peak hour signal warrant during both the weekday PM peak and weekend mid-day peak hour. ADT on Conn Creek Road would increase to 2,182 (LOS A). ADT on Silverado Trail would increase to 11,014 (LOS D).

[13] *W-Trans, Traffic Impact Study for Caymus Winery, Prepared for the County of Napa, October 3, 2104.*



NOT TO SCALE

Near Term Without Project
Weekday PM and (Weekend) Peak Hour Volumes

North

omni-means

figure 3

3. Napa County Significance Criteria

The County of Napa's significance criteria has been based on a review of the Napa County Transportation and Planning Agency and Napa County General Plan documentation on roadway and intersection operations. In addition, updated criteria for unsignalized intersections based on adopted criteria in the Fehr and Peers "Guidelines for Interpretation of General Plan Circulation Policies on Significance Criteria" has been applied to minor street stop-sign controlled intersections. Specifically, the Circulation Element of the County's General Plan and new guidelines for significance criteria outline the following significance criteria specific to intersection operation:

Intersections

- The County shall seek to maintain a Level of Service D or better at all intersections, except where the level of service already exceeds this standard (i.e. Level of Service E or F) and where increased intersection capacity is not feasible without substantial additional right-of-way;
- No single level of service standard is appropriate for un-signalized intersections, which shall be evaluated on a case-by-case basis to determine if signal warrants are met;
- 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, the peak hour signal warrant criteria should also be evaluated and presented for informational purposes; or
- 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 ten percent or more of the traffic on a side-street approach for side-street stop-controlled intersections; the peak hour signal warrant criteria should also be evaluated and presented for informational purposes.

  Example: The side-street approach at an intersection operates at LOS F during the peak hour without the Project. The existing volume on that approach is 200 vehicles during that peak hour. A Project is anticipated to add 10 vehicles to the stop-controlled approach during the peak hour. Therefore, the Project contribution percentage would be calculated as follows:

  10 trips / 200 existing side-street approach = 5% Project Contribution

The above example calculation would be used for any project study intersection operating at LOS E or F without Project traffic and the proposed project would be adding peak hour vehicle trips (i.e. the Silverado Trail/Conn Creek Road currently operates at LOS F without proposed project trips).

Further significance criteria are based on County and CEQA guidelines and apply mainly to intersection operation and access. A significant impact occurs if project traffic would result in the following:

- Cause an increase in traffic which is substantial in relation to existing traffic load and capacity of the street system (i.e. result in a substantial increase in either the number of vehicle trips, the volume capacity ratio on roads, or congestion at intersections);
- Exceed either individually or cumulatively, an LOS standard established by the county congestion management agency for designated roads or highways;
- Result in a change of traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment);
- Result in inadequate emergency vehicle access;
- Project site or internal circulation on the site is not adequate to accommodate pedestrians and bicycles;

4. Proposed Project Impacts

Project Description

Proposed winery related operations would include completion of the Agricultural Processing Center buildings as part of the overall Use Permit modification application. Based on discussions with the project applicant, current activities at the winery related to employee staffing and visitors would not increase beyond what is currently occurring as a result of these new uses.[14] In addition, there are no increases in wine production. The new use permit would allow the transferring of some staff members and storage from an existing building to other office space and building areas. The Agricultural Processing Center (APC) building would allow the winery to serve its visitors and guests more efficiently. The proposed use permit modification would largely bring the winery into compliance with existing activities currently occurring on-site.

Proposed project components can be described as follows:

• Production	Gallons:	240,000 (annually)
• Employees:	Weekday:	30 full-time, 5 part-time
	Weekend:	10 full-time, 5 part-time
• Visitors:	Weekday:	125 visitors
	Weekend:	300 visitors
• Trucks:	Weekday:	2 trucks per day
	Weekend:	2 trucks per day

Daily operations for the proposed Frog's Leap Winery project would involve an all on-site winery operation with a maximum annual production of 240,000 gallons. All fruit would be processed on-site during the year with the majority occurring during the harvest/crush season. 125 weekday visitors are expected with a maximum of 300 daily visitors on a Saturday/Sunday. Visitor hours would be limited between 10:00 a.m. – 6:00 p.m. and would be by appointment only. Employment is expected to be a maximum (on-site) of 30 full-time employees and 5 part-time employees during the weekdays and 10 full-time and 5 part-time during weekend periods. The proposed project's marketing plan can be described as follows:[15]

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[14] *Mr. Jonah Beer, Vice President/General Manager, Frog's Leap Winery, Personal communication on December 6, 2013.*
[15] *Mr. Jonah Beer, Vice President/General Manager, Frog's Leap Winery, Employee and guest data, October 28, 2013.*

Winery Marketing Plan

- One (1) event per week: maximum of 20 guests with food prepared on-site;
- One (1) event per month: maximum of 150 guests (catered);
- Four (4) events per year: maximum of 500 guests (catered).

Project Trip Generation/Distribution

The Frog's Leap Winery's total net increase in weekday and weekend peak hour and daily traffic volumes have been calculated and are shown in Table 2. Peak hour project trip generation has been based on rates developed from actual counts performed at the winery. Based on employee attendance data supplied by the project applicant, all weekday (35) and weekend (15) employees were present during the peak hour vehicle counts. During the weekday peak hour of traffic flow (4:00-5:00 p.m.), the winery is closed to new visitation. The recorded driveway trips represented two visitor/guest trips with the remaining trips attributed to employees. During the weekend mid-day peak hour (1:15-2:15 p.m.), all recorded driveway trips represented visitor/guest trips. Daily trip generation has been based on employee peaking factors and auto occupancy rates for visitors using recent winery research conducted by the Napa County Conservation, Development, and Planning Department.[16] Based on ultimate employee and visitor/guest data with the APC building in use, the proposed project would be expected to generate (gross) 202 weekday daily trips with 30 PM peak hour trips (6 in, 24 out). During a typical weekend (Saturday), the project would be expected to generate (gross) 255 daily trips with 86 mid-day (afternoon) peak hour trips (40 in, 46 out). Allowing for the existing CEQA baseline of existing trips on the roadway network, the net increase in daily and peak hour project trips during the weekday period would total 34 daily trips (202 – 168 = 34) with five (30-25 = 5) PM peak hour trips. During the weekend (Saturday) period, the project's net increase in daily trips would total 110 trips (255 - 145 = 110) with 37 (86 – 49 = 37) mid-day peak hour trips.

During the six-week harvest crush season, the proposed project is expected to generate an average of 287 Saturday daily trips. Based on the largest marketing event attendance of 500 persons (four times per year), there would total generation of 403 event trips.

To determine traffic conditions with the proposed project, the calculated project trips were added to existing volumes. Based on observed turning percentages at the Frog's Leap driveway, the weekday PM peak hour project trips were distributed 33% to/from the north and 67% to/from the south on Conn Creek Road. Saturday mid-day peak hour project trip distribution was distributed with 41% to/from the north and 59% to/from the south on Conn Creek Road.

The net increase in weekday PM peak hour and Saturday weekend mid-day peak hour project trips have been shown in Figure 4. Existing plus project and near-term plus project volumes have been shown in Figure 5 and 6.

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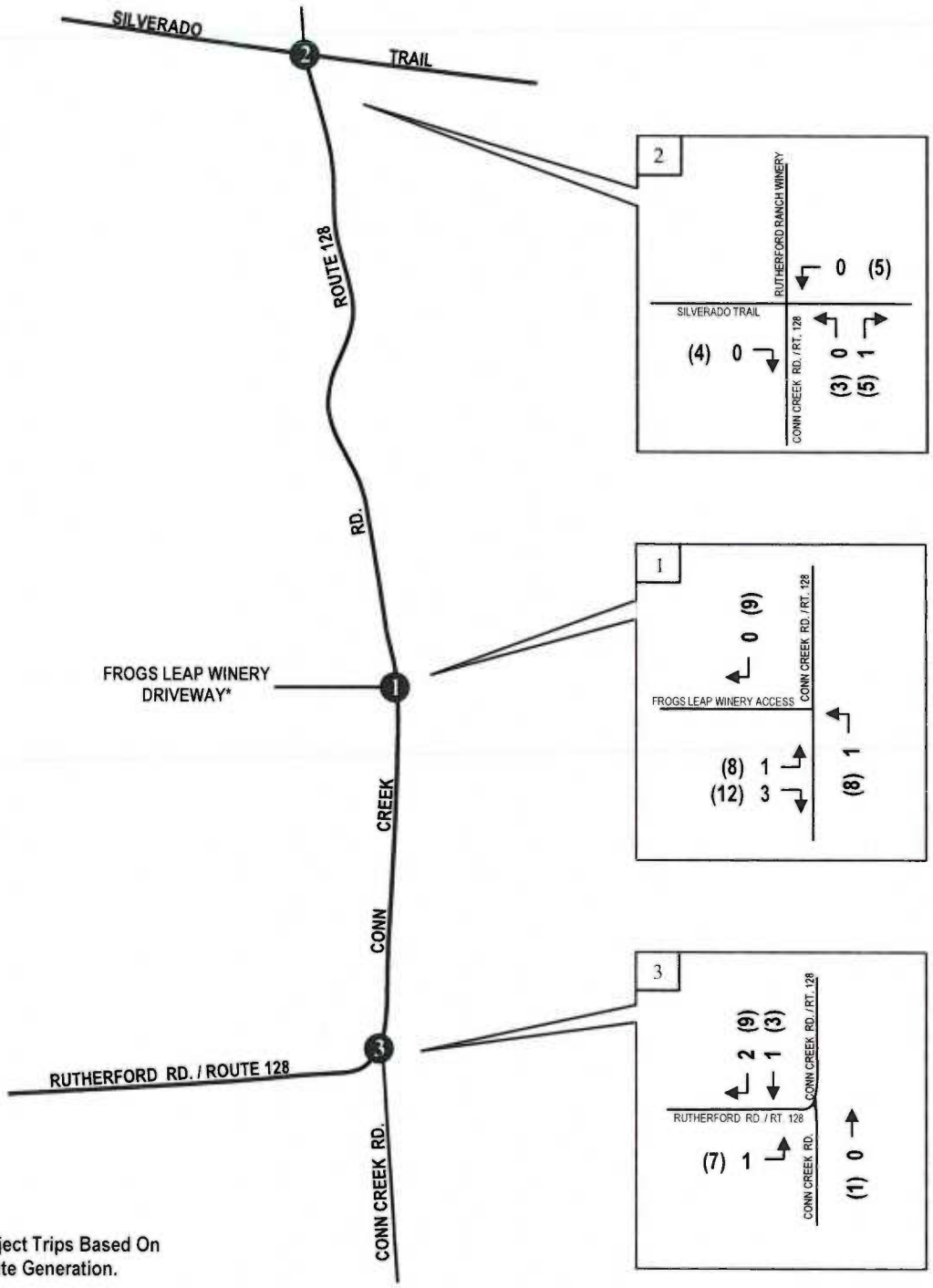
[16] *County of Napa, Conservation, Development, and Planning Department, "Use Permit Application Package," Napa County Winery Traffic Generation Characteristics, 2012.*

TABLE 2
NET INCREASE IN DAILY AND PEAK HOURTRIP GENERATION:
PROPOSED FROG'S LEAP WINERY PROJECT

Weekday Daily Traffic:		
125 visitors/2.6 persons per vehicle x 2 one-way trips	=	96 daily trips
30 full-time employees x 3.05 one-way trips	=	92 daily trips
5 part-time employees x 1.90 one-way trips	=	10 daily trips
240,000 gallons/1,000 x .009 daily trucks x 2 o-w trips	=	4 daily trips
Total Gross Weekday Daily Trips	**=**	**202 daily trips**
Less CEQA Basis (-168 existing trips) net increase:	**=**	**34 daily trips**
Weekday PM Peak Hour Traffic:		
125 visitors x 0.056 trips/visitor	=	7 peak hour trips
35 full-time/part-time employees x 0.657 trips/emp.	=	23 peak hour trips
Total Gross Weekday PM Peak Hour Trips	**=**	**30 trips (6 in, 24 out)**
Less CEQA Basis (-25 existing trips) net increase:	**=**	**5 trips (1 in, 4 out)**
Weekend (Saturday) Daily Traffic:		
300 visitors/2.8 persons per vehicle x 2 one-way trips	=	214 daily trips
10 full-time employees x 3.05 one-way trips	=	31 daily trips
5 part-time employees x 1.90 one-way trips	=	10 daily trips
Total Gross Weekend (Saturday) Daily Trips	**=**	**255 daily trips (gross)**
Less CEQA Basis (-145 existing trips) net increase:	**=**	**110 daily trips (net)**
Weekend (Saturday) Peak Hour Traffic:		
300 visitors x 0.286 trips/visitor	=	86 peak hour trips
15 full-time/part-time employees x 0 trips/emp.	=	0 peak hour trips
Total Gross Weekend (Saturday) Peak Hour Trips	**=**	**86 trips (40 in, 46 out)**
Less CEQA Basis (-49 existing trips) net increase:	**=**	**37 trips (17 in, 20 out)**
Weekend (Saturday) Daily Harvest/Crush Traffic:		
300 visitors/2.8 persons per vehicle x 2 one-way trips	=	214 daily trips
15 full time employees x 3.05 one-way trips	=	46 daily trips
5 part-time employees x 1.90 one-way trips	=	10 daily trips
240,000 gallons/1,000 x .009 daily trucks x 2 o-w trips	=	4 daily trips
900 annual ton grapes (o-h)/144 daily trucks x 2 o-w trips	=	13 daily trips
Total Weekend (Saturday) Daily Harvest/Crush Trips	**=**	**287 daily trips**
Largest Marketing Event – Additional Traffic		
20 event staff x 2 one-way trips per person	=	40 event trips
500 visitors / 2.8 visitors per vehicle x 2 o-w trips	=	357 event trips
3 trucks x 2 one-way trips	=	6 event trips
Total Largest Event Marketing Trips:	**=**	**403 event trips**

Source: Production, employee, and visitor data provided by Mr. Jonah Beer (project applicant), October, November, December, 2013. Daily calculations based on County of Napa, Conservation, Development, and Planning Department, "Use Permit Application Package," Napa County Winery Traffic Generation Characteristics, 2012. Peak hour calculations based on rates developed from weekday peak hour and Saturday mid-day peak hour driveway counts at Frog's Leap Winery combined with visitor and employee data for specific count days.



*Net New Project Trips Based On Existing Site Generation.

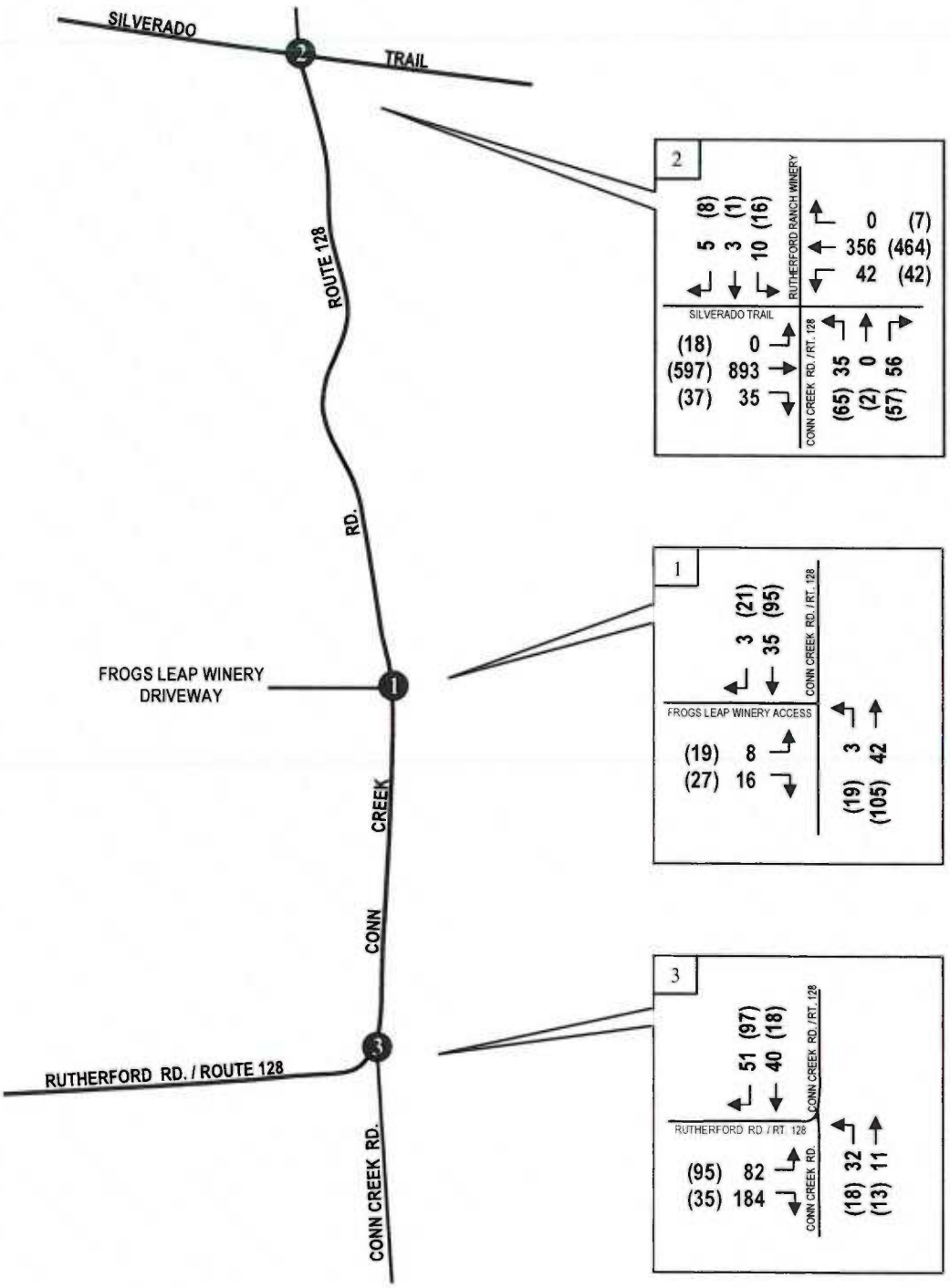
NOT TO SCALE

Weekday PM and (Weekend) Peak Hour Project Trips

North

omni-means

figure 4



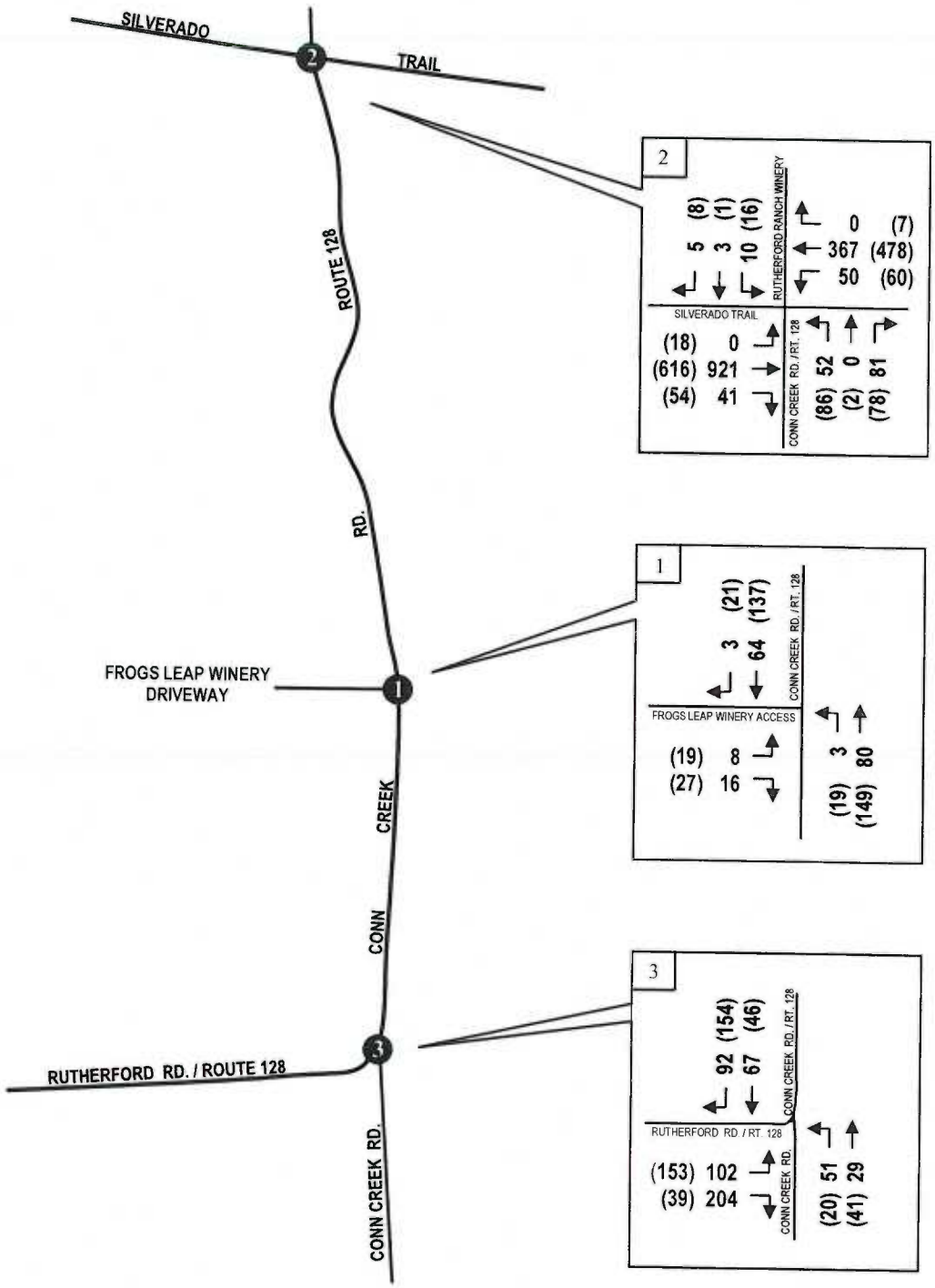
NOT TO SCALE

Existing + Project Weekday PM and (Weekend) Peak Hour Volumes

North

omni-means

figure 5



NOT TO SCALE

Near Term + Project Weekday PM and (Weekend) Peak Hour Volumes

North

omni-means

figure 6

Project Effects on Roadway/Intersection Operation

A. Existing Plus Project Conditions

Upon project completion, the fully operational winery would be expected to generate approximately 65 daily trips southwest of the site and 45 daily trips northeast of the site on Conn Creek Road. This would represent a net increase of 7 percent to the daily volumes on Conn Creek Road. The combined existing plus project volume of 1,711 daily trips would remain well within the carrying capacity of a two-lane, rural arterial roadway with conditions equivalent to LOS 'A'. Silverado Trail would continue to operate at LOS D with a daily volume of 10,593 vehicles with proposed project traffic.

During the peak winery activity periods, the winery would generate 5 net new trips beyond the existing baseline generation of 25 trips for a total of 30 weekday PM peak hour trips. During the Saturday mid-day peak hour, the project would generate an additional 37 net new trips beyond the existing baseline generation of 49 trips for a total of 86 total trips. Weekday PM peak hour and weekend mid-day peak hour intersection levels of service were evaluated with proposed project traffic and are shown in Table 3.

With existing (counted) plus fully operational winery traffic volumes, project study intersections would be operating at similar LOS as under existing (no project) conditions. During the weekday PM peak hour, both the Frog's Leap Driveway/Conn Creek Road and Rutherford Road/Conn Creek Road intersections would operate at LOS A and B, respectively. The Silverado Trail/Conn Creek Road intersection would continue to operate at LOS F. During the weekend mid-day peak hour, the Frog's Leap Driveway/Conn Creek Road and Rutherford Road/Conn Creek Road intersections would continue to operate at LOS A with the Silverado Trail/Conn Creek Road intersection operating at LOS F. Overall vehicle delay (in seconds) would increase slightly as a result of proposed project traffic.

Based on updated County significance criteria for side-street stop controlled intersections; the intersection of Silverado Trail/Conn Creek Road has been evaluated for proposed project impacts since it is operating at LOS F without proposed project trips. County guidelines indicate that a significant impact would be identified if the project would contribute 10 percent or more vehicle trips to the stop-controlled approach of Conn Creek Road at Silverado Trail during the selected peak hours. Currently, the Silverado Trail/Conn Creek Road meets the peak hour signal warrant criteria under existing conditions without proposed project trips. The addition of proposed project trips would not change its status of meeting the peak hour signal warrant criteria. Proposed project trips would merely add to this existing peak hour signal warrant condition. Under existing plus project conditions for the Saturday mid-day peak hour, the project would add 7 percent to the overall eastbound peak hour approach volumes on Conn Creek Road at Silverado Trail (8 project trips / 116 existing volumes = 7%) and this is identified as ***less-than-significant*** based on County criteria.

The Silverado Trail/Conn Creek Road intersection meets the peak hour signal warrant criteria under existing conditions. County guidelines indicate potential mitigation may include adding a signal if conditions are appropriate, geometric modifications to the intersection configuration, changes to the Project to reduce its peak hour trip generation, or converting an intersection to a roundabout per Policy CIR-13.5. The Silverado Trail/Conn Creek Road intersection would

TABLE 3
EXISTING PLUS PROJECT AND NEAR-TERM PLUS PROJECT CONDITIONS:
INTERSECTION LEVELS-OF-SERVICE
WEEKDAY PM PEAK AND WEEKEND MID-DAY PEAK HOUR[1,2]

#	Intersection	Control Type	Wkdy. PM LOS/Delay		Wknd. Mid-Day LOS/Delay	
			Existing + Project	Near-Term + Project	Existing + Project	Near-Term + Project
1	Frog's Leap Driveway/Conn Creek Rd.	Stop	A 8.7	A 9.0	A 9.6	B 10.1
2	Silverado Trail/Conn Creek Rd.	Stop	F 120.1	F 282.4	F 84.9	F 195.6
3	Rutherford Rd./Conn Creek Rd.	Stop	B 12.6	C 17.5	A 9.8	B 10.6

(1) Based on Highway Capacity Manual (HCM) 2000, Operations methodology for stop-sign controlled (unsignalized) intersections using Synchro-Simtraffic software. Intersection calculation yields an LOS and vehicle delay in seconds. Stated LOS refers to the minor street (stop-sign) controlled movement.
(2) Existing conditions represent the CEQA basis for measuring project impacts and already contain a portion of proposed use permit visitation, employment, and some marketing activities associated with Frog's Leap Winery operations.

continue to meet the peak hour signal warrant with proposed project traffic. The intersection of Frog's Leap Driveway/Conn Creek Road and Rutherford Road/Conn Creek Road would not meet the minimum volume required for signalization under CAMUTCD peak hour warrant criteria.

B. Near-Term Plus Project Conditions

With near-term plus project conditions, daily traffic volumes on Conn Creek Road would increase to 2,293 ADT. Again, this would be well within the carrying capacity of a two-lane, rural arterial roadway and reflect LOS A conditions. Silverado Trail would increase to 11,059 ADT with proposed project traffic and continue to operate at LOS D.

With near-term plus project traffic volumes, the two intersections of Frog's Leap Driveway/Conn Creek Road and Rutherford Road/Conn Creek Road would continue to operate at acceptable levels (LOS A, B, or C) during both the weekday PM peak hour and weekend mid-day peak hour periods. The Silverado Trail/Conn Creek Road intersection would continue to operate at LOS F during both the weekday PM peak hour and during the weekend mid-day peak hour with proposed project traffic (minor street approaches). As under existing plus project conditions, near-term plus project traffic would add to existing peak hour signal warrant satisfaction at the Silverado Trail/Conn Creek Road intersection.

The intersections of Frog's Leap Driveway/Conn Creek Road and Rutherford Road/Conn Creek Road intersections would not meet the minimum volume required for signalization under CAMUTCD peak hour warrant criteria. The Silverado Trail/Conn Creek Road intersection would continue to meet the peak hour signal warrant with near-term plus proposed project traffic.

5. Site Access/Design Parameters

Sight Distance

Vehicle sight distance at the existing Frog's Leap Driveway/Conn Creek Road intersection was evaluated. The required vehicle visibility or "corner sight distance" is a function of travel speeds Conn Creek Road. Caltrans design standards indicate that for appropriate corner sight distance, "a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the

cross road and the driver of an approaching vehicle in the right lane of the main highway". Caltrans design guidelines also indicate that the minimum corner sight distance "shall be equal to the stopping sight distance".

New radar speed surveys of Conn Creek Road were conducted for the roadway in the project area.[17] The "critical" vehicle speed (the speed at which 85% of all surveyed vehicles travel at or below) along Conn Creek Road was measured at 48 mph. Caltrans' design standards indicate that these vehicle speeds require a stopping sight distance of 415-430 feet, measured along the travel lanes on Conn Creek Road.[18] Based on field measurements, sight distance from the current Frog's Leap Winery driveway to the north on Conn Creek Road is approximately 460 feet. Sight distance from the existing driveway to the south is at least 1,600 feet. Therefore, the sight distance recommendations would be met for the speed limit and measured vehicle speeds. It is noted that sight distance to the north is predicated on keeping the shoulder free of vegetation/plantings adjacent to existing vineyards.

Left-Turn Lane/Right-Turn Lane Warrants

The existing plus project and near-term plus project volumes were compared with the Napa County guidelines for installing a northbound left-turn lane on Conn Creek Road at the Frog's Leap Winery driveway.[19] (The warrant graphs for weekday and Saturday conditions are provided in the Appendix). Napa County left-turn lane warrants are based on the combination of total proposed project daily trips at the driveway and overall ADT on Conn Creek Road. With 201-255 daily weekday/weekend trips at the proposed project driveway and 2,438 daily trips on Conn Creek Road, a northbound left-turn lane ***would be warranted*** on Conn Creek Road.

Existing plus project and near-term plus project volumes were also compared with Caltrans guidelines for installing a left-turn lane on Conn Creek Road at the project driveway. Compared to Napa County standards, Caltrans guidelines for installation of a left-turn lane are based on peak hour volumes and include actual left-turn volumes. As identified under near-term plus project conditions (worst case), the winery would generate 30 peak hour trips (gross) on a typical Friday and 86 peak hour trips (gross) on a Saturday, while the peak hour volumes on Conn Creek Road are projected to be 144 vehicles on Friday and 286 vehicles on Saturday.

The peak hour traffic volumes at the winery access have been compared with left turn lane warrants outlined in a Caltrans intersection design guide.[20] By comparing the advancing and opposing S.R. 128 volumes with the percentage of left turning vehicles into the access road, the volumes are **well below** the Caltrans minimum threshold at which a left turn lane would be warranted.

The projected right turn volumes at the site driveway are well below minimum thresholds at which right turn lane would be required (right turn lane warrant graphs are included in the Appendix).[21]

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[17] *Omni Means Engineers & Planners, Radar vehicle speed surveys, Conn Creek Road, November 16, 2013.*
[18] *Caltrans, Highway Design Manual, Table 405.1A, Corner (Stopping) Sight Distance, 6th Edition, 2009.*
[19] *Napa County, Adopted Road and Street Standards, revised November 21, 2006.*
[20] *Caltrans, Highway Design Manual, 6th Edition, 2009.*
[21] *Transportation Research Board, National Cooperative Highway Research Program Report 279, "Intersection Channelization Design Guide," November, 1985.*

Project Access and Circulation

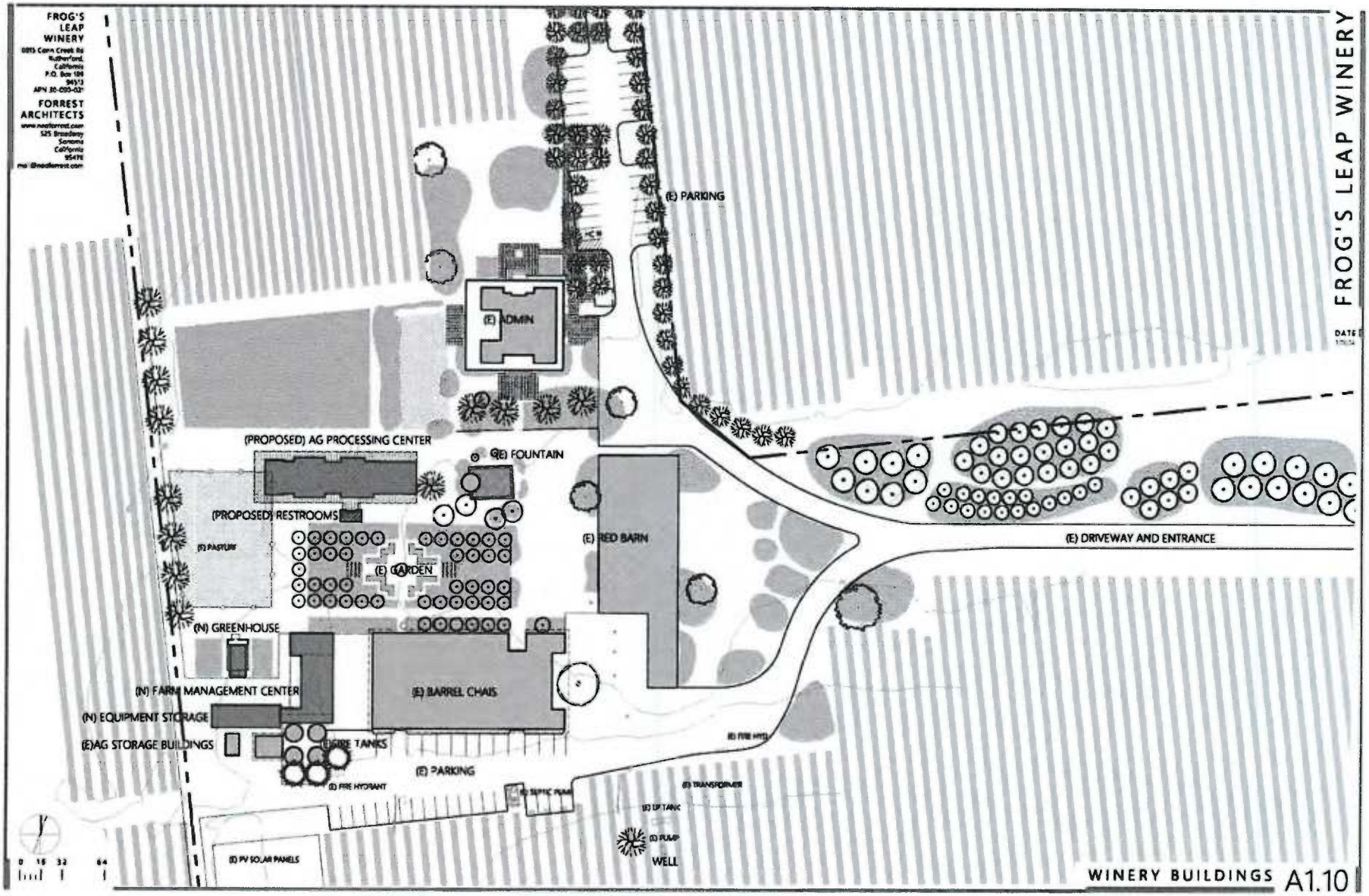
Proposed project driveway access to/from Conn Creek Road would remain unchanged from existing conditions. As shown in Figure 7 (Project Site Plan), the Frog's Leap driveway extends west from Conn Creek Road to existing winery and administrative buildings. Approximately 460 feet west of Conn Creek Road the driveway splits; a northern driveway provides access to administrative buildings and parking areas whereas the remaining driveway continues west providing access to winery buildings and additional parking areas. The proposed Farm Management Building would be located on the west side of the facility (as would the proposed Agricultural Processing Center building) and would be most easily accessed for this western driveway. The internal driveway widths serving both winery and administrative uses meet the County's minimum requirement of an 18-foot travel width. The vehicle circulation area in front of the main buildings would allow access for emergency vehicles (fire trucks) and parking.

The Napa County Transportation & Planning Agency (NCTPA) in cooperation with Napa County and local City agencies is developing bicycle routes as outlined in the Napa Countywide Bicycle Plan.[22] The plan encourages new developments to incorporate bicycle friendly design. Conn Creek Road has minimal striped shoulder areas (less than two feet--both directions). However, some visitors may utilize bicycles to access the proposed project. The project would provide bicycle racks for visitors to the proposed winery.

Marketing Events

The winery proposes to host the following marketing large events: four annual events with 500 guests (each). Based on standard auto occupancy rates, these annual 500-person events would be expected to generate approximately 403 trips (202 in, 201 out) including visitors and staff. These events are typically of sufficient duration in length that the inbound and outbound trips occur in separate hours, thus the number of trips on the street network at one time are half of the total volume. These events are usually held outside of typical peak traffic periods (during the middle of the day or later than 6:00 p.m.) and therefore generally do not impact peak hour operations and no other visitation or events would occur during the annual events. It is noted that the winery would not be open to visitation on the days when the winery hosts a 500-person marketing event. Additionally, the winery would be closed to visitation when hosting a 150-person marketing event that occurs within normal visitation hours.

[22] *Napa County, Countywide Bicycle Plan (2012), Planning Area-North Valley, May 2012.*



Project Site Plan

North

omni-means

figure 7

6. Cumulative Conditions

Cumulative Year 2030 Projections

Model Forecast

As outlined in near-term (no project) conditions, cumulative (Year 2030) volume projections on Conn Creek Road-Rutherford Road (SR-128) and Silverado Trail were derived from the Napa County Transportation & Planning Agency's traffic volume forecasts in the Napa County General Plan Update EIR and approved/pending winery development on Conn Creek Road identified by the County (Caymus Vineyards & Frank Family Vineyards). The forecast increase in volume-to-capacity (v/c) ratio from Year 2003 to Year 2030 on Conn Creek Road-Rutherford Road between SR-29 and the Napa River was applied to the Year 2003 peak hour two-way volumes (313 vehicles). This yielded a future volume of 867 weekday PM peak hour trips on Conn Creek Road in the Year 2030. This would equate to an increase in traffic volumes of 3.9% per year to the Year 2030. Similarly, the increase in v/c ratio from Year 2003 to Year 2030 on Silverado Trail between Sage Canyon Road and Yountville Cross Road was applied to the Year 2003 peak hour two-way volumes (1,352 vehicles). This yielded a future volume of 2,052 weekday PM peak hour vehicles on Silverado Trail at Sage Canyon Road (adjacent to Conn Creek Road). This would equate to an increase in traffic volumes of 1.56% per year to the Year 2030 on the roadway.

Since future volume traffic forecasts are only available for the weekday PM peak hour and not for a Saturday mid-day peak hour, northbound and southbound volumes on Conn Creek Road were uniformly increased by the same percentage as listed above.

Cumulative Operating Conditions

Although cumulative volumes are conservative, the forecast volumes would yield acceptable LOS 'A-B' conditions (2,600-5,300 ADT) on Conn Creek Road-Rutherford Road. Applying the same weekday PM peak hour increase to daily traffic volumes (as a conservative measure), existing ADT on Conn Creek Road-Rutherford Road would increase from 1,600 trips to 2,656 daily trips (LOS B). Existing ADT on Silverado Trail would increase from 10,548 trips to 13,345 daily trips (LOS D).

Table 4 shows projected weekday PM peak hour and weekend mid-day peak hour intersection operation under cumulative year 2030 (no project) and with project conditions. The existing Frog's Leap Winery/Conn Creek Road intersection would operate at acceptable conditions (LOS B or better) using County volume projections. With proposed project traffic, driveway intersection operation would operate at LOS A during the weekday PM peak hour and LOS B during the weekend mid-day peak hour.

The Rutherford Road/Conn Creek Road intersection would be operating at LOS D during the weekday PM and LOS C during weekend mid-day peak hour under cumulative year 2030 (no project) conditions. These operations would remain unchanged with proposed project traffic. The Silverado Trail/Conn Creek Road intersection would be operating at LOS F during both the weekday PM and weekend mid-day peak hours under cumulative year 2030 (no project) conditions. Calculated vehicle delays under cumulative year 2030 (no project) conditions exceed 300 seconds for the stop-sign controlled approach of Conn Creek Road. Again, these operations would remain unchanged with proposed project traffic. It is noted that cumulative

TABLE 4
CUMULATIVE YEAR 2030 (NO PROJECT) AND PLUS PROJECT CONDITIONS:
INTERSECTION LEVELS-OF-SERVICE
WEEKDAY PM PEAK AND WEEKEND MID-DAY PEAK HOUR

#	Intersection	Control Type	Wkdy. PM LOS/Delay		Wknd. Mid-Day LOS/Delay	
			Year 2030 (No Project)	Year 2030 + Project	Year 2030 (No Project)	Year 2030 + Project
1	Frog's Leap Driveway/Conn Creek Rd.	Stop	A 9.1	A 9.2	B 10.0	B 10.2
2	Silverado Trail/Conn Creek Rd.	Stop	OVR	OVR	OVR	OVR
3	Rutherford Rd./Conn Creek Rd.	Stop	D 31.1	D 32.0	C 20.6	C 21.5

Based on Highway Capacity Manual (HCM) 2000, Operations methodology for stop-sign controlled (unsignalized) intersections using Synchro-Simtraffic software. Intersection calculation yields an LOS and vehicle delay in seconds. Stated LOS refers to the minor street (stop-sign) controlled movement. OVR = Delay exceeds 300 seconds.

impacts are based on volume projections from the Napa County General Plan EIR Update.[23] A proposed project finding of a significant impact at the Silverado Trail/Conn Creek Road intersection is consistent with conclusions in the GP EIR Update which found overall operating conditions significant/unavoidable at this intersection.

Based on updated County significance thresholds for cumulative impacts; a Project's contribution to a cumulative condition would be calculated as the Project's percentage contribution to the total growth in traffic. A Project impact would be identified if the overall contribution is equal to or greater than five percent. Based on existing and cumulative weekday PM and weekend mid-day peak hour intersection volumes at the Silverado Trail/Conn Creek Road intersection, the proposed project's net contribution to the intersection the overall volumes would be as follows:

Weekday PM: 1 Project Trip / (2,278 cumulative volume – 1,434 existing volume) = <1.0%
Weekend MD: 17 Project Trips / (2,058 cumulative volume – 1,297 existing volume) = 2.2%

As calculated above, the proposed project's overall contribution to cumulative volumes would not exceed five percent at Silverado Trail/Conn Creek Road intersection.

The Frog's Leap Winery Driveway/Conn Creek Road and Rutherford Road/Conn Creek Road intersections would not qualify for signalization under cumulative year 2030 conditions. The Silverado Trail/Conn Creek Road intersection would continue to qualify for signalization under these same conditions.

Additional improvements to the street network are anticipated and have been included in the General Plan's Improved 2030 Network model. As noted, the County has also adopted several measures identified in the General Plan to reduce vehicle trips through public transit and Transportation Demand Management (TDM) strategies: "The project should support programs to reduce single occupant vehicle use and encourage alternative travel modes."

- In keeping with the policy, the winery project provides bicycle racks for visitors who may arrive by bike. The project should also promote the use of public transportation and

[23] *Dowling Associates, Napa County General Plan Update, Technical Memorandum for Traffic and Circulation Supporting the Findings and Recommendations, February 9, 2007.*

carpooling of employees (by adjusting work schedules, etc.) to facilitate the use of other transportation modes.

7. Summary and Conclusions

Daily and Peak Hour Operations

Allowing for the existing CEQA baseline on the roadway network, proposed use permit components associated with a Frog's Leap Winery upon project completion would generate 34-110 net new daily trips during the weekday and weekend periods (respectively). Proposed project traffic would represent an increase of seven (7) percent over the existing Conn Creek Road-Rutherford Road volume of 1,600 daily trips and would continue to operate at very acceptable levels (1,711 ADT = LOS A). Silverado Trail would continue to operate at LOS D with a daily volume of 10,593 vehicles with proposed traffic. With near-term (approved/pending) development traffic volumes, the near- term and near-term plus project conditions would continue to operate acceptably. Near-term daily volumes on Conn Creek Road-Rutherford Road are expected to be approximately 2,182 ADT without the project and 2,293 with the project trips, representative of LOS A conditions. Silverado Trail is expected to have 11,014 ADT without the project and 11,059 ADT with the proposed project indicative of LOS D operations.

The Frog's Leap Winery Driveway/Conn Creek Road and Rutherford Road/Conn Creek Road intersections would be operating at acceptable conditions (LOS A-B) under both existing plus project and near-term plus project conditions for both weekday PM and weekend mid-day peak hour conditions. The Silverado Trail/Conn Creek Road intersection would continue to operate at LOS F under existing plus project conditions for both the weekday and weekend peak hours. With near-term plus project conditions, the Silverado Trail/Conn Creek Road intersection would continue to operate at LOS F during the weekday PM and weekend mid-day peak hours, respectively.

Based on updated County significance criteria for side-street stop controlled intersections; the intersection of Silverado Trail/Conn Creek Road has been evaluated for proposed project impacts since it is operating at LOS F without proposed project trips. County guidelines indicate that a significant impact would be identified if the project would contribute 10 percent or more vehicle trips to the stop-controlled approach of Conn Creek Road at Silverado Trail during the selected peak hours. Currently, the Silverado Trail/Conn Creek Road meets the peak hour signal warrant criteria under existing conditions without proposed project trips. The addition of proposed project trips would not change its status of meeting the peak hour signal warrant criteria. Proposed project trips would merely add to this existing peak hour signal warrant condition. Under existing plus project conditions for the Saturday mid-day peak hour, the project would add seven (7) percent to the overall eastbound peak hour approach volumes on Conn Creek Road at Silverado Trail (8 project trips / 116 existing volumes = 7%) and this is identified as ***less-than-significant*** based on County significance criteria. The Silverado Trail/Conn Creek Road intersection meets the peak hour signal warrant criteria under existing conditions. County guidelines indicate potential mitigation may include adding a signal if conditions are appropriate, geometric modifications to the intersection configuration, changes to the project to reduce its peak hour trip generation, or converting an intersection to a roundabout per Policy CIR-13.5. The Silverado Trail/Conn Creek Road intersection would continue to meet the peak hour signal warrant with proposed project traffic. The intersection of Frog's Leap Driveway/Conn Creek Road and Rutherford Road/Conn Creek Road would not meet the minimum volume required for signalization under CAMUTCD peak hour warrant criteria.

Warrant and Vehicle Sight Distance

The existing plus project and near-term plus project volumes were compared with the Napa County guidelines for installing a northbound left-turn lane on Conn Creek Road at the Frog's Leap Winery driveway.[24] (The warrant graphs for weekday and Saturday conditions are provided in the Appendix). Napa County left-turn lane warrants are based on the combination of total proposed project daily trips at the driveway and overall ADT on Conn Creek Road using both existing CEQA baseline conditions with net new project trips. With 202-255 daily weekday/weekend trips at the proposed project driveway and 2,438 daily trips on Conn Creek Road, a northbound left-turn lane ***would be warranted*** on Conn Creek Road.

Existing plus project and near-term plus project volumes were also compared with Caltrans guidelines for installing a left-turn lane on Conn Creek Road at the project driveway. Compared to Napa County standards, Caltrans guidelines for installation of a left-turn lane are based on peak hour volumes and include actual left-turn volumes. As identified under near-term plus project conditions (worst case), the winery would generate 30 peak hour trips on a typical Friday and 86 peak hour trips on a Saturday, while the peak hour volumes on Conn Creek Road are projected to be 144 vehicles on Friday and 286 vehicles on Saturday.

The peak hour traffic volumes at the winery access have been compared with left turn lane warrants outlined in a Caltrans intersection design guide.[25] By comparing the advancing and opposing S.R. 128 (Conn Creek Road) volumes with the percentage of left turning vehicles into the access road, the volumes are **well below** the Caltrans minimum threshold at which a left turn lane would be warranted. In addition, vehicle queuing analysis conducted for the intersection indicates the northbound left-turn movement from Conn Creek Road into the Frog's Leap driveway would require approximately one vehicle length (95% queue @ 30 feet) during normal weekday PM peak hour or Saturday mid-day peak hour conditions (see vehicle queuing report sheet in the Appendix).[26]

The projected right turn volumes at the site driveway are well below minimum thresholds at which right turn lane would be required (right turn lane warrant graphs are included in the Appendix).[27]

New radar speed surveys of Conn Creek Road were conducted for the roadway in the project area.[28] The "critical" vehicle speed (the speed at which 85% of all surveyed vehicles travel at or below) along Conn Creek Road was measured at 48 mph. Caltrans' design standards indicate that these vehicle speeds require a stopping sight distance of 415-430 feet, measured along the travel lanes on Conn Creek Road.[29] Based on field measurements, sight distance from the current Frog's Leap Winery driveway to the north on Conn Creek Road is approximately 460 feet. Sight distance from the existing driveway to the south is at least 1,600 feet. Therefore, the sight distance recommendations would be met for the speed limit and measured vehicle speeds. It is noted that

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[24] *Napa County, Adopted Road and Street Standards, revised November 21, 2006.*
[25] *Caltrans, Highway Design Manual, 6th Edition, 2009.*
[26] *Vehicle queuing analysis, Frog's Leap Driveway/Conn Creek Road, Saturday mid-day peak hour, Near-term plus project conditions (worst case), Synchro-Simtraffic software (version 6.0).*
[27] *Transportation Research Board, National Cooperative Highway Research Program Report 279, "Intersection Channelization Design Guide," November, 1985.*
[28] *Omni Means Engineers & Planners, Radar vehicle speed surveys, Conn Creek Road, November 16, 2013.*
[29] *Caltrans, Highway Design Manual, Table 405.1A, Corner (Stopping) Sight Distance, 6th Edition, 2009.*

sight distance to the north is predicated on keeping the shoulder free of vegetation/plantings adjacent to existing vineyards.

Vehicle Circulation/Access

Proposed project driveway access to/from Conn Creek Road would remain unchanged from existing conditions. As shown in Figure 7 (Project Site Plan), the Frog's Leap driveway extends west from Conn Creek Road to existing winery and administrative buildings. Approximately 460 feet west of Conn Creek Road the driveway splits; a northern driveway provides access to administrative buildings and parking areas whereas the remaining driveway continues west providing access to winery buildings and additional parking areas. The proposed Farm Management Building would be located on the west side of the facility (as would the proposed Agricultural Processing Center building) and would be most easily accessed for this western driveway. The internal driveway widths serving both winery and administrative uses meet the County's minimum requirement of an 18-foot travel width. The vehicle circulation area in front of the main buildings would allow access for emergency vehicles (fire trucks) and parking.

Cumulative Year 2030 Conditions

Cumulative (Year 2030) volume projections on Conn Creek Road were derived from the Napa County Transportation & Planning Agency's traffic volume forecasts in the Napa County General Plan Update EIR and adjacent approved/pending winery development identified by the County. The Frog's Leap Driveway/Conn Creek Road and Rutherford Road/Conn Creek Road intersections would operate at acceptable levels (LOS D or better) with or without proposed project traffic during the weekday PM and weekend mid-day peak hours. The Silverado Trail/Conn Creek Road intersection would be operating at LOS F with or without proposed project traffic during the same weekday and weekend peak hours. Overall vehicle delay for the side-street stop control (eastbound Conn Creek Road) approach would exceed 300 seconds without proposed project trips.

The Silverado Trail/Conn Creek Road intersection was evaluated further based on updated County significance thresholds for cumulative impacts; a Project's contribution to a cumulative condition would be calculated as the Project's percentage contribution to the total growth in traffic. A Project impact would be identified if the overall contribution is equal to or greater than five percent. . Based on existing and cumulative weekday PM and weekend mid-day peak hour intersection volumes at the Silverado Trail/Conn Creek Road intersection, the proposed project's net contribution to the intersection the overall volumes would be as follows:

Weekday PM: 1 Project Trip / (2,278 cumulative volume – 1,434 existing volume) = <1.0%
Weekend MD: 17 Project Trips / (2,058 cumulative volume – 1,297 existing volume) = 2.2%

As calculated above, the proposed project's overall contribution to cumulative volumes would not exceed five percent at Silverado Trail/Conn Creek Road intersection and would be considered ***less-than-significant***. The intersection currently meets the peak hour signal warrant with existing (no project) volumes. It is noted that cumulative impacts are based on volume projections from the Napa County General Plan EIR Update.[30]

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[30] *Dowling Associates, Napa County General Plan Update, Technical Memorandum for Traffic and Circulation Supporting the Findings and Recommendations, February 9, 2007.*

Finally, ADT volumes on Conn Creek Road would be in the LOS A-B range at 2,656 vehicles with proposed project traffic. ADT volumes on Silverado Trail would be in the LOS D range at 13,345 vehicles with proposed project traffic.

APPENDIX

Level of Service Definitions

Level of Service Calculations

Signal Warrant Sheet

Radar Speed Surveys (Conn Creek Rd. @ Frog's Leap Winery Driveway)

Right-Turn Lane Warrant Sheet

Napa County Left-Turn Lane Warrant Graph

Caltran's Left-Turn Lane Warrant Graph

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Synchro-Simtraffic Vehicle Queuing Report Sheet

LEVEL-OF-SERVICE CRITERIA FOR INTERSECTIONS

LEVEL OF SERVICE	TYPE OF FLOW	DELAY	MANEUVERABILITY	CONTROL DELAY (SECONDS/VEHICLE)		
				SIGNALIZED	UNSIGNALIZED	ALL-WAY STOP
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operations.	≤ 10.0 secs	≤ 10.0	≤ 10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10 and ≤ 20.0 secs.	>10 and ≤ 15.0	>10 and ≤ 15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20 and ≤ 35.0 secs.	>15 and ≤ 25.0	>15 and ≤ 25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles of stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35 and ≤ 55.0 secs.	>25 and ≤ 35.0	>25 and ≤ 35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles, waiting upstream of the intersection.	>55 and ≤ 80.0 secs.	>35 and ≤ 50.0	>35 and ≤ 50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	> 80.0 secs.	> 50.0	> 50.0

References: 1. Highway Capacity Manual, Fourth Edition, Transportation Research Board, 2000,

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	7	13	2	42	35	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	14	2	46	38	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	90	40	41			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	90	40	41			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	910	1032	1568			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	22	48	41
Volume Left	8	2	0
Volume Right	14	0	3
cSH	1587	1568	1700
Volume to Capacity	0.01	0.00	0.02
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.7	0.3	0.0
Lane LOS	A	A	
Approach Delay (s)	8.7	0.3	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	13.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	11	15	11	105	95	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	16	12	114	103	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	248	110	116			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	248	110	116			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	99			
cM capacity (veh/h)	735	944	1472			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	28	126	116
Volume Left	12	12	0
Volume Right	16	0	13
cSH	1636	1472	1700
Volume to Capacity	0.02	0.01	0.07
Queue Length 95th (ft)	1	1	0
Control Delay (s)	9.3	0.8	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	0.8	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	35	0	55	10	3	5	42	356	0	1	893	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	0	60	11	3	5	46	387	0	1	971	38
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			1									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1477	1470	990	1481	1489	387	1009			387		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1477	1470	990	1481	1489	387	1009			387		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	60	100	80	86	97	99	93			100		
cM capacity (veh/h)	96	119	299	79	116	661	687			1172		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	98	20	46	387	1	1009
Volume Left	38	11	46	0	1	0
Volume Right	60	5	0	0	0	38
cSH	205	112	687	1700	1172	1700
Volume to Capacity	0.48	0.17	0.07	0.23	0.00	0.59
Queue Length 95th (ft)	58	15	5	0	0	0
Control Delay (s)	37.6	43.9	10.6	0.0	8.1	0.0
Lane LOS	E	E	B		A	
Approach Delay (s)	37.6	43.9	1.1		0.0	
Approach LOS	E	E				

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	65.9%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	62	2	52	16	1	8	37	464	7	18	597	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	67	2	57	17	1	9	40	504	8	20	649	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			1									
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1300	1298	667	1306	1312	508	685			512		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1300	1298	667	1306	1312	508	685			512		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	48	99	88	85	99	98	96			98		
cM capacity (veh/h)	129	152	459	113	149	565	909			1053		

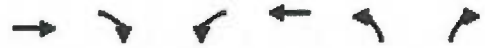
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	126	27	40	512	20	685
Volume Left	67	17	40	0	20	0
Volume Right	57	9	0	8	0	36
cSH	213	154	909	1700	1053	1700
Volume to Capacity	0.59	0.18	0.04	0.30	0.02	0.40
Queue Length 95th (ft)	83	15	3	0	1	0
Control Delay (s)	43.8	33.3	9.1	0.0	8.5	0.0
Lane LOS	E	D	A		A	
Approach Delay (s)	43.8	33.3	0.7		0.2	
Approach LOS	E	D				

Intersection Summary				
Average Delay	4.9			
Intersection Capacity Utilization	50.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	81	184	39	49	32	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	88	200	42	53	35	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			288		326	188
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			288		326	188
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		95	99
cM capacity (veh/h)			1274		646	854

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	288	96	47
Volume Left	0	42	35
Volume Right	200	0	12
cSH	1700	1274	689
Volume to Capacity	0.17	0.03	0.07
Queue Length 95th (ft)	0	3	5
Control Delay (s)	0.0	3.7	10.6
Lane LOS		A	B
Approach Delay (s)	0.0	3.7	10.6
Approach LOS			B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	88	35	15	88	18	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	96	38	16	96	20	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			134		243	115
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			134		243	115
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	99
cM capacity (veh/h)			1451		737	938

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	134	112	33
Volume Left	0	16	20
Volume Right	38	0	13
cSH	1700	1451	806
Volume to Capacity	0.08	0.01	0.04
Queue Length 95th (ft)	0	1	3
Control Delay (s)	0.0	1.2	9.7
Lane LOS		A	A
Approach Delay (s)	0.0	1.2	9.7
Approach LOS			A

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	25.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	7	13	2	80	64	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	14	2	87	70	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	162	71	73			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162	71	73			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	827	991	1527			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	22	89	73
Volume Left	8	2	0
Volume Right	14	0	3
cSH	1525	1527	1700
Volume to Capacity	0.01	0.00	0.04
Queue Length 95th (ft)	1	0	0
Control Delay (s)	8.9	0.2	0.0
Lane LOS	A	A	
Approach Delay (s)	8.9	0.2	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	15.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	11	15	11	149	137	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	16	12	162	149	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	341	155	162			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	341	155	162			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	99			
cM capacity (veh/h)	649	890	1417			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	28	174	162
Volume Left	12	12	0
Volume Right	16	0	13
cSH	1535	1417	1700
Volume to Capacity	0.02	0.01	0.10
Queue Length 95th (ft)	1	1	0
Control Delay (s)	9.8	0.6	0.0
Lane LOS	A	A	
Approach Delay (s)	9.8	0.6	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		