



March 12, 2019

Mr. Eric Gilliland
Purple Wine + Spirits
9119 Graton Road
Graton, CA 95444

Trip Generation and Parking Study for the Purple Wine + Spirits Project

Dear Mr. Gilliland;

W-Trans has completed a focused traffic study that addresses the potential change in trip generation and parking demand associated with the proposed change in operations for the Purple Wine + Spirits production facility located at 9119 Graton Road in the County of Sonoma.

Project Description

The proposed project would install a crush pad on-site with the ability to crush up to 10,000 tons of grapes annually, which is approximately 650,000 cases. With installation of the crush pad the facility would decrease total production for both wine and spirits from the currently permitted 3,000,000 cases per year to 1,500,000 cases. Additionally, the project would move approximately 91 full-time employees off-site. The facility would continue to operate between 6:00 a.m. and 7:00 p.m. during typical production activities and would operate 24 hours per day seven days a week, as needed, during harvest season, except for grape or crush trucks which would be limited to 7:00 a.m. to 5:00 p.m. A copy of the site plan is enclosed.

- File Number: UPE18-0091
- Address: 9119 Graton Road
- APN: 130-300-034, 130-300-009, 130-154-005
- Project Name: Purple Wine + Spirits Use Permit Modification
- Applicant Name: Purple Wine + Spirits

Trip Generation

Non-Harvest Conditions

Although Sonoma County's Winery Trip Generation Form was developed specifically for wineries, the form is also capable of estimating the amount of truck traffic associated with production of other beverages, including spirits, so was used to determine the potential trip generation for both existing and proposed conditions. Per County policy, three trips per day per employee were assumed. The trip generation form does not include guidance on peak hour trips, so it was assumed that two-thirds of all employees would generate an inbound trip to work during the weekday a.m. peak hour and an outbound trip leaving work during the weekday p.m. peak hour. Not all employees generate peak hour trips as some arrive for work at 6:00 a.m. and others do not get off until 7:00 p.m. depending on their shift. For truck traffic, it was assumed that approximately 10 percent of the total daily trips would occur during each peak hour and the distribution of trips inbound versus outbound would be even.

Based on application of these assumptions, the proposed project would be expected to generate an average of 146 standard passenger vehicle and truck trips daily including 30 trips during each of the morning and evening peak hours. When compared to the existing operation, the proposed reduction in production and employees would be expected to result in 298 fewer trips over the course of the day including 63 fewer trips during each peak hour.

Additionally, to account for the fact that trucks have a more substantial impact on traffic variables such as headway, speed, density, etc. than standard passenger vehicles, a passenger car equivalent (PCE) factor was

applied to show the difference in trip generation in terms of standard passenger vehicles. The *Highway Capacity Manual (HCM)*, 6th Edition provides PCE factors based on terrain and recommends using 2.0 for level terrain and 3.0 for rolling terrain. Because many of the roads surrounding Graton are curvy and rolling in nature, a ratio of three vehicles to one truck was used. After applying the PCE factor, it is estimated the proposed project would result in impacts similar to one that generates 348 fewer daily trips than the existing operation, including 67 fewer trips during each peak hour. These results are summarized in Table 1 and the Sonoma County Trip Generation Form is enclosed for reference.

Table 1 – Trip Generation Summary – Non-Harvest

Land Use	Units	Daily		AM Peak Hour			PM Peak Hour			
		Rate	Trips	Trips	In	Out	Trips	In	Out	
Existing										
Employees	133	3	399	89	89	0	89	0	89	
Truck Traffic	22.5	2	45	4	2	2	4	2	2	
PCE Truck Traffic			135	12	6	6	12	6	6	
Total Existing			444	93	91	2	93	2	91	
<i>Total PCE Existing</i>			534	101	95	6	101	6	95	
Proposed										
Employees	42	3	126	28	28	0	28	0	28	
Truck Traffic	10	2	20	2	1	1	2	1	1	
PCE Truck Traffic			60	6	3	3	6	3	3	
Total Proposed			146	30	29	1	30	1	29	
<i>Total PCE Proposed</i>			186	34	31	3	34	3	31	
Net Difference				-298	-63	-62	-1	-63	-1	-62
Net PCE Difference				-348	-67	-64	-3	-67	-3	-64

Notes: PCE = Passenger Car Equivalent

Harvest Conditions

Since the proposed project would include crush activities, traffic that would occur during harvest season was also tabulated, as shown in Table 2. Using the same rates as were used for Non-Harvest Conditions, a total of 189 daily trips are expected to occur during the peak season, including 36 trips during each peak hour. Compared to current conditions without on-site crush activities, the site would generate 255 fewer trips daily during harvest, including 57 fewer trips during the morning and evening peak periods. After applying the PCE factor, the proposed project would result 249 fewer trips daily during harvest, including 55 fewer trips during each peak hour.

Table 2 – Trip Generation Summary – Harvest

Land Use	Units	Daily		AM Peak Hour			PM Peak Hour		
		Rate	Trips	Trips	In	Out	Trips	In	Out
Employees	47	3	141	31	31	0	31	0	31
Truck Traffic	24	2	48	5	3	2	5	2	3
<i>PCE Truck Traffic</i>			144	15	9	6	15	6	9
Total Harvest			189	36	34	2	36	2	34
Total PCE Harvest			285	46	40	6	46	6	40

Parking

County Requirements

The project was analyzed to determine whether the existing parking supply would be sufficient to satisfy County requirements. Per Section 19.48.040 of the County of Sonoma Code of Ordinances, general manufacturing, industrial, and processing uses are required to provide parking at a rate of one space per 500 square feet of floor area for the first 20,000 square feet and then one space per 1,000 square feet thereafter, while storage and warehousing uses are required to provide parking at a rate of one space for each 1,000 square feet.

The site includes approximately 158,458 square feet of storage space and approximately 21,786 square feet of production floor area, resulting in a need for 200 parking spaces on-site to satisfy County requirements; the existing parking supply of 76 spaces is therefore deficient by 124 spaces.

Estimated Demand

Because the site does not meet County of Sonoma parking requirements based on floor area, demand was estimated based on employees to see if parking would be expected to be adequate with the proposed changes to the Use Permit. The Purple Wine + Spirits facility is not open to the public so its parking demand is generated almost exclusively by employees, with only an occasional vendor. The site currently has 76 parking spaces for 133 employees, so many employees park on streets in the surrounding vicinity, including Graton Road, Bowen Street, and Railroad Avenue. The proposed project would move approximately 91 full-time employees to a different site leaving 42 employees on-site year round. During harvest, an additional 35 employees would be needed resulting in 77 total employees. No changes are proposed to the site's existing parking supply of 76 spaces.

Parking demand for the proposed project was estimated using information available from the US Census American Community Survey (ACS) 2013-2017 five-year estimates. Commuting to work statistics for the community of Graton show an employee to vehicle occupancy rate of 1.02 employees per vehicle. Based on this information, approximately 0.98 parking spaces would be needed per employee and the existing supply would be adequate to accommodate the expected demand during both non-harvest and harvest conditions. Both County requirements and expected demand are shown in Table 3.

Table 3 – Parking Demand Summary

Methodology	Units	Rate	Parking Spaces
Land Use			
County Requirements			
Storage	158,458 sf	1 space/1,000 sf	158
Production < 20,000 sf	20,000 sf	1 space/500 sf	40
Production > 20,000 sf	1,786 sf	1 space/1,000 sf	2
Total County Requirements			200
Expected Demand			
Non-Harvest			
Employees	42	0.98 space/1 employee	41
Harvest			
Employees	77	0.98 space/1 employee	75
Proposed On-site Supply			76

Notes: sf = square foot

Finding – Though insufficient to satisfy County requirements, the existing parking supply would be adequate to accommodate the anticipated demand with the proposed changes to the Use Permit. It is noted that the supply is more than adequate to meet the parking demand associated with the production space, which is where most employees work. It appears unreasonable to expect that 158 parking spaces would be needed for the storage area given that this space requires a limited number of employees compared to the production space.

Conclusions

Although the proposed project would add crush activities, the reduced production and employment levels would more than offset the additional truck traffic associated with harvest. In fact, even during harvest the facility would be expected to generate fewer daily and peak hour trips than under existing conditions. Because the proposed project would result in a reduction in trips year round, it is reasonable to conclude that the change in land use would have a *less-than-significant* and, in fact, beneficial impact on traffic operation. Additionally, existing parking supply would be adequate to accommodate demand during both typical operation and harvest season.

We hope this information is adequate to address the potential traffic issues associated with the proposed project. Please contact us if you have any further questions. Thank you for giving us the opportunity to provide these services.

Sincerely,

Cameron Nye, EIT
Assistant Engineer III

Dalene J. Whitlock, PE, PTOE
Senior Principal

DJW/cn/SOX273.L1

Enclosures: Site Plan, Sonoma County Trip Generation Form

Trip Generation

Facility: Purple Wine and Spirits
Location: 9119 Graton Road
Proposed Annual Full Production: 1500000 cases

PRODUCTION OPERATIONS

Employee traffic using passenger vehicles, in average ADT

Item Description	Employees				Trips			
	Existing	Proposed (year round)	Proposed (harvest period)	Proposed (bottling period)	Existing	Proposed (year round)	Proposed (harvest period)	Proposed (bottling period)
Production	7	3	5	--	21	9	15	--
Cellar / Storage	27	12	36	--	81	36	108	--
Administrative	33	5	6	--	99	15	18	--
Sales	0	0	0	--	0	0	0	--
Bottling	66	22	--	0	198	66	--	0
Other staff (describe):					0	0	0	0
Totals	133	42	47	0	399	126	141	0

Truck traffic associated with winery and spirit operations (average ADT during period of activity)

Item Description	Existing	Average	Harvest
Grape Importation Truck loads per year: 500; 500 truck(s) at 20 tons/truck Dates of Activity: August through October	0.00	0.00	15.87
Juice Importation Truck loads per year: 318.46 truck(s) at 6500 gallons per truck Dates of Activity: January through December	12.11	3.37	10.11
Juice/Fruit Exportation Truck loads per year: None Dates of Activity: January through December	0.00	0.00	0.00
Pomace Disposal Truck loads per year: 170; 170 truck(s) at 20 tons/truck Dates of Activity: August through October Disposed: Offsite	0.00	0.00	5.40
Bottle Delivery Truck loads per year: 630.25 truck(s) at 2380 cases/truck Dates of Activity: January through December	10.00	5.00	5.00
Barrel Delivery Truck loads per year: 82.67 truck(s) at 150 barrels/truck Dates of Activity: June through October	3.15	1.57	1.57
Finished Wine Transportation to storage/sales Truck loads per year: 1217.53 truck(s) at 1232 cases/truck Dates of Activity: January through December	19.33	9.66	9.66
Less Backhauls Truck loads per year: 0 Dates of Activity:	0.00	0.00	0.00
Miscellaneous trips Truck loads per year: 47.81 trucks Dates of Activity: January through December	0.38	0.38	0.38
Totals	44.97	19.99	48.00

SUMMARY

Item Description	Existing	Average	Harvest
Employee Traffic	399	126	141
Truck Traffic	45	20	48
Tasting Room Traffic (employees and visitors)	0	0	0
Miscellaneous other traffic generators	0	0	0
Totals	444	146	189

Trip Generation

Variation in ADT during the course of a typical full production year (Existing Trips)

Generator	January	February	March	April	May	June
Employees	399	399	399	399	399	399
Visitors	0	0	0	0	0	0
Trucks	41.82	41.82	41.82	41.82	41.82	44.97
Total Trips	441	441	441	441	441	444

Month	July	August	September	October	November	December
Employees	399	423	423	423	399	399
Visitors	0	0	0	0	0	0
Trucks	44.97	44.97	44.97	44.97	41.82	41.82
Total Trips	444	468	468	468	441	441

Variation in ADT during the course of a typical full production year (Proposed Project Trips)

Generator	January	February	March	April	May	June
Employees	126	126	126	126	126	126
Visitors	0	0	0	0	0	0
Trucks	18.41	18.41	18.41	18.41	18.41	19.99
Total Trips	144	144	144	144	144	146

Month	July	August	September	October	November	December
Employees	126	207	207	207	126	126
Visitors	0	0	0	0	0	0
Trucks	19.99	48.00	48.00	48.00	18.41	18.41
Total Trips	146	255	255	255	144	144

Notes:

Total may not equal sum of trips for individual generators due to rounding.

Employees - Assume 3 ADT per employee

Visitors - Assume 2.5 person per vehicle occupancy