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Wastewater Feasibility Study

	RSA+ CONSULTING CIVIL ENGINEERS + SURVEYORS +		SERVING CALIFORNIA SINCE 1980	1515 FOURTH STREET NAPA, CALIFORNIA 94559 FAX 707 252.4966 OFFICE 707 252.3301
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707 252.3301 RSAcivil.com				

#4114031.0
September 15, 2014

Laura and Michael Swanton
 Laura Michaels Wines
 2250 Lake County Hwy
 Calistoga, CA 94515

RE: Septic System Recommendations
 2250 Lake County Hwy

Dear Laura and Michael:

RSA+ performed a site evaluation on your property on July 22, 2014. An area was found that is suitable for your 3 bedroom residence and winery domestic wastewater flows. Based on the soil type and properties identified in the site evaluation, a sub-surface drip system is recommended for this site. A site evaluation report proving area for a sub-surface drip system has been submitted to Napa County.

The sub-surface drip system will require pre-treatment prior to dispersal, as such the system will require the installation of a HOOT, Advantex, ^{NO NSF.} Pekasys Bubbler, or equivalent system. Each pre-treatment device would require different installation. The HOOT system would require replacing the existing septic tank with the HOOT treatment tank. The Advantex treatment system would require the installation of treatment pods that would treat water coming from the existing septic tank. These pods could be located in the landscaping near the dispersal field. The PekaSys bubbler unit could be retrofitted into the existing septic tank or greywater tank.

After being treated in one of the above pre-treatment systems, the effluent will then be pumped to a sub-surface drip dispersal field. The primary dispersal field and 200% reserve area will be located in the area of the two test pits. The primary field should be constructed in the lawn area. The reserve area will incorporate the surrounding landscaping. This reserve area is not constructed unless the system needs to be expanded in the future. In the event the system needs to be expanded, the landscaping will need to be removed to allow for the construction of additional drip lines. The area for the septic system will require six inches of sandy clay loam fill. The sub-surface drip system would need to be designed by an engineer. In addition to the cost of developing the design and creating the plans, this type of system requires that an annual operating fee be paid to the county. See attached exhibits for test pit locations and layout options.

We recommend an engineered system with pre-treatment and sub-surface drip dispersal for your project.

Respectfully,



Jeremy Sill, PE
Project Manager



Brett Frasier, EIT
Assistant Engineer

Encl.

Please attach an 8.5" x 11" plot map showing the locations of all test pits triangulated from permanent landmarks or known property corners. The map must be drawn to scale and include a North arrow, surrounding geographic and topographic features, direction and % slope, distance to drainages, water bodies, potential areas for flooding, unstable landforms, existing or proposed roads, structures, utilities, domestic water supplies, wells, ponds, existing wastewater treatment systems and facilities.

Permit #: E14-00558
APN: 017-230-009
(County Use Only) Reviewed by: _____ Date: _____

PLEASE PRINT OR TYPE ALL INFORMATION

Property Owner Julie and Michael Swanton	<input type="checkbox"/> New Construction <input type="checkbox"/> Addition <input type="checkbox"/> Remodel <input type="checkbox"/> Relocation <input type="checkbox"/> Other:
Property Owner Mailing Address 2250 Lake County Highway	<input type="checkbox"/> Residential - # of Bedrooms: _____ Design Flow : _____ gpd
City State Zip Calistoga CA 94515	<input checked="" type="checkbox"/> Commercial - Type: Winery Sanitary Waste: 525 gpd Process Waste: 0 gpd
Site Address/Location 2250 Lake County Highway, Calistoga, CA	<input type="checkbox"/> Other: Sanitary Waste: _____ gpd Process Waste: _____ gpd

Evaluation Conducted By:

Company Name RSA+	Evaluator's Name Brett Frasier	Signature (Civil Engineer, R.E.H.S., Geologist, Soil Scientist) 
Mailing Address: 1515 Fourth Street		Telephone Number (707) 252-3301
City State Zip Napa CA 94559		Date Evaluation Conducted July 22, 2014

<u>Primary Area</u>	<u>Expansion Area</u>
Acceptable Soil Depth: 26 in. Test pit #'s: 1, 2	Acceptable Soil Depth: 26 in. Test pit #'s: 1, 2
Soil Application Rate (gal. /sq. ft. /day): 0.6	Soil Application Rate (gal. /sq. ft. /day): 0.6
System Type(s) Recommended: Sub-surface Drip	System Type(s) Recommended: Sub-surface Drip
Slope: 2 %. Distance to nearest water source: 100+ ft.	Slope: 2 %. Distance to nearest water source: 100+ ft.
Hydrometer test performed? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (attach results)	Hydrometer test performed? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (attach results)
Bulk Density test performed? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (attach results)	Bulk Density test performed? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (attach results)
Percolation test performed? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (attach results)	Percolation test performed? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (attach results)
Groundwater Monitoring Performed? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (attach results)	Groundwater Monitoring Performed? No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> (attach results)
Site constraints/Recommendations: Small site: Test pits not excavated to limiting layer. Reasons for stopping exploration are as follows: Test pit #1: Wet soils encountered at bottom. Test pit #2: Test pit was dug by hand so the test pit was excavated to a similar depth as Test pit #1.	

Test Pit # 1

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-30"	Bottom	<25%	SCL	M/SB	S	VFRB	S	M/F-M	C/F-C	N/A

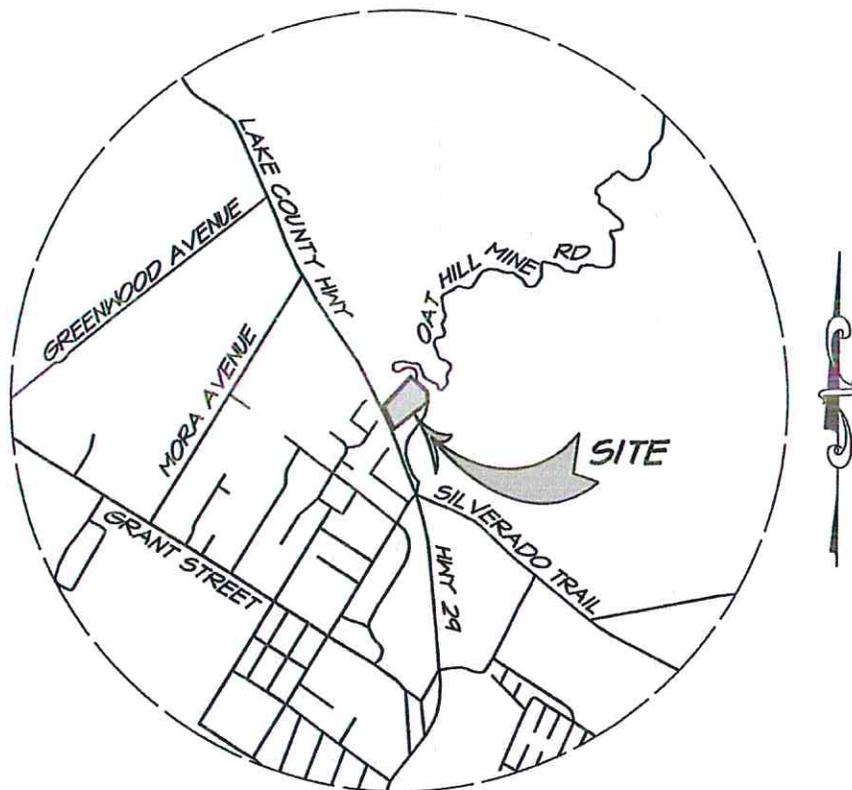
Test Pit # 2

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-26"	Bottom	<35%	SCL	M/SB	SH	FRB	S	C/F-M	M/F-C	N/A

Test Pit #

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			

LAURA MICHAEL WINES
VICINITY MAP
CALISTOGA CALIFORNIA



VICINITY MAP

SCALE: 1" = 2000'

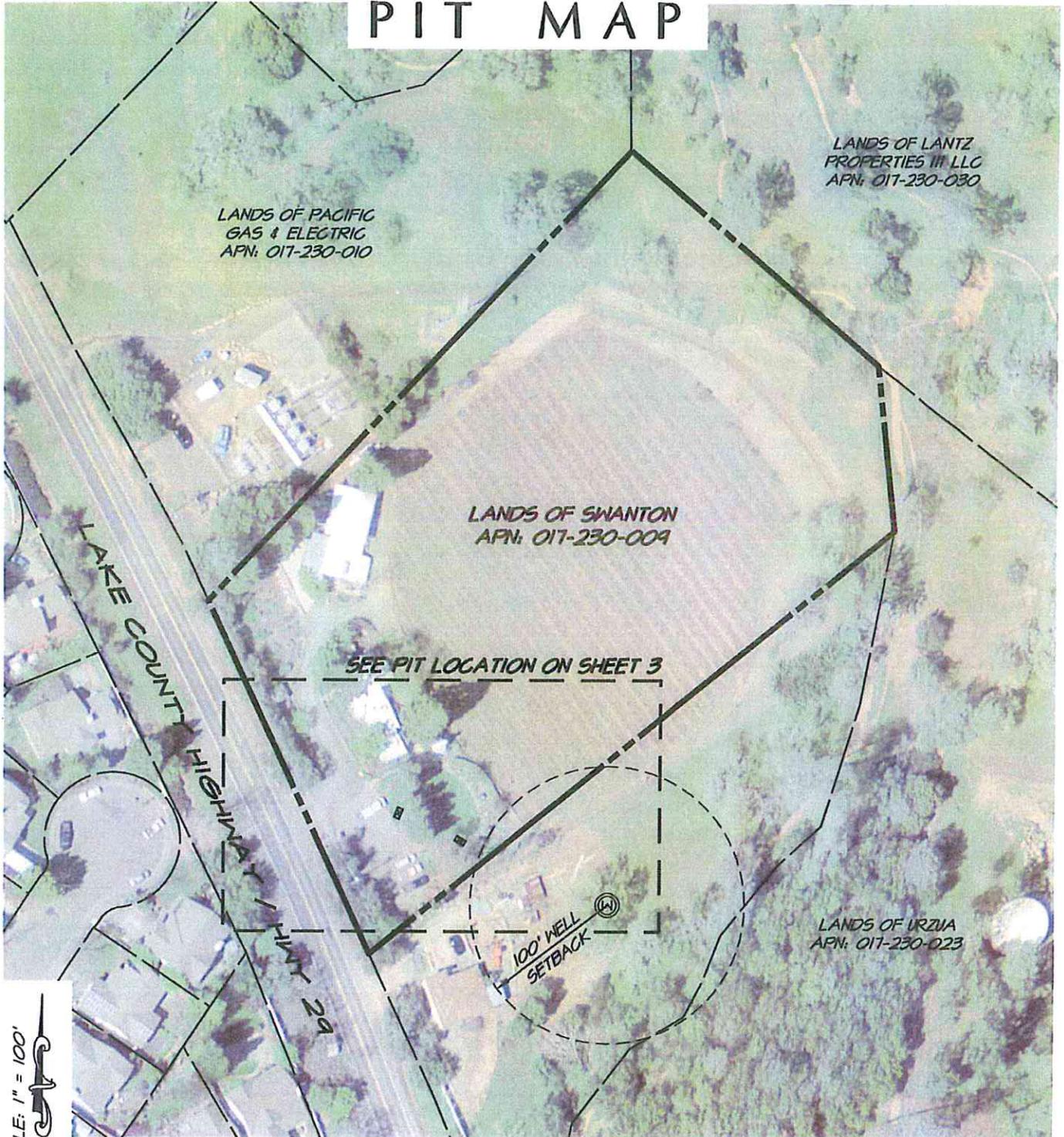


1515 Fourth Street
Napa, Calif. 94559
v 707.252.3301
f 707.252.4966

AUGUST 18, 2014

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LAURA MICHAEL WINES PIT MAP



SCALE: 1" = 100'

SITE EVALUATION DATE: JULY 22, 2014
APN: 017-230-009
ADDRESS: 2250 LAKE COUNTY HIGHWAY
CALISTOGA, CA 94515
ENV. HEALTH INSPECTOR: MAUREEN SHIELDS-BOWN

CONSULTING CIVIL ENGINEERS
**RIECHERS
& SPENCE**
ASSOCIATES

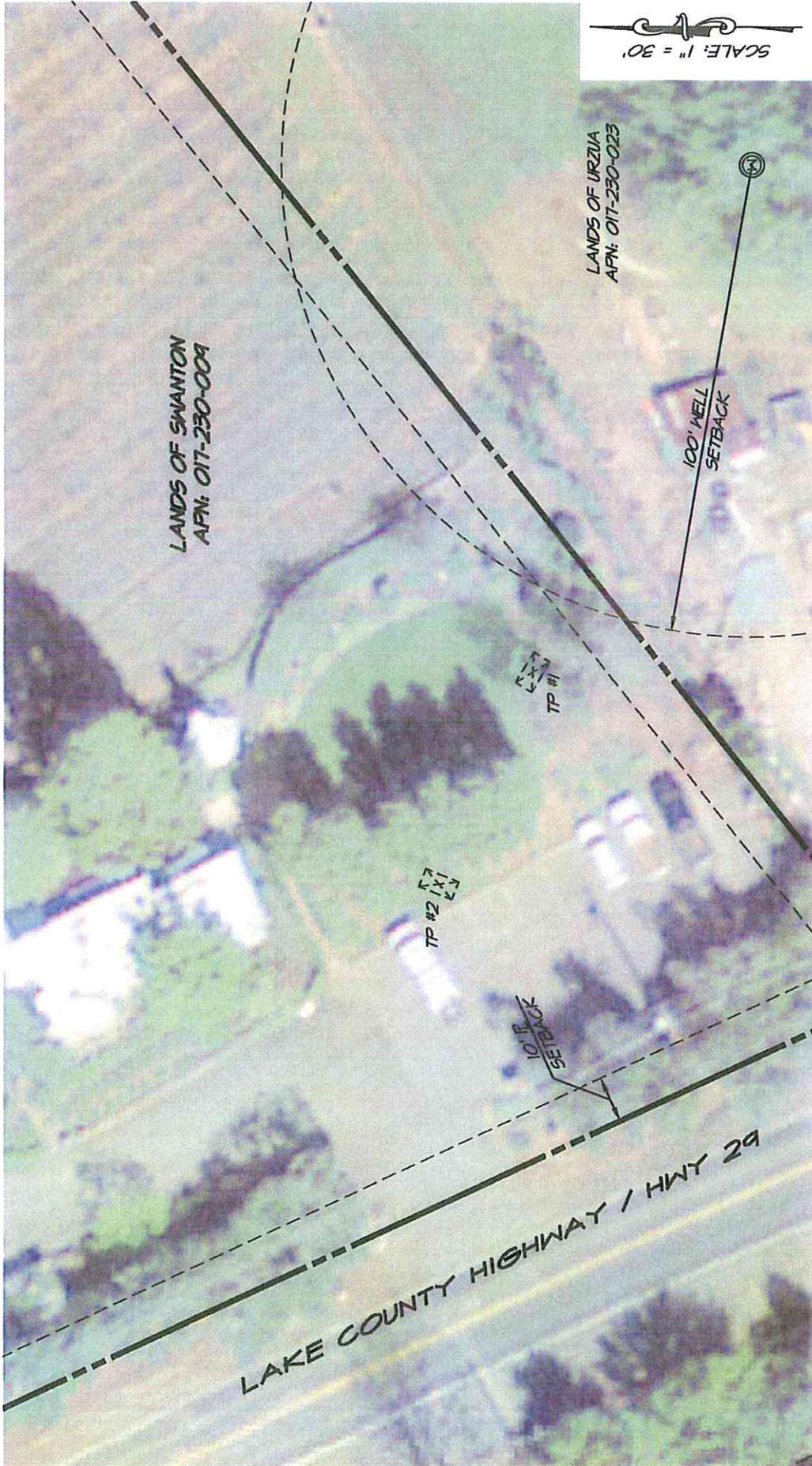
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Exh-Pitmap.dwg 2 OF 3

LAURA MICHAEL WINES PIT LOCATION



LEGEND
 TEST PIT

SITE EVALUATION DATE: JULY 22, 2014
 APN: 017-230-009
 ADDRESS: 2250 LAKE COUNTY HIGHWAY
 CALISTOGA, CA 94515
 ENV. HEALTH INSPECTOR: MAUREEN SHIELDS-BOWN

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 4114031.0 Exh-Fitmap.dwg 3 OF 3



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RECEIVED

NOV 16 2016

Napa County Planning Building
& Environmental Services

#4114031.0
November 3, 2016

Wyntress Balcher
Napa County Planning Division
1195 Third Street, Suite 210
Napa, CA 94559

RE: Laura Michael Wines Application No. P16-00033
Lake County Highway – APN 017-230-009
3rd Submittal

Dear Wyntress:

On behalf of our Clients, Laura and Michael Swanton, we are submitting the following items for your use permit resubmittal check:

- Three (3) sets of revised Use Permit Plans
- Two (2) sets of reduced Use Permit Plans
- One (1) copy of revised Project Description
- One (1) copy of the Revised Variance Application

Please find below RSA+'s response to Napa County Planning, Engineering, and Environmental Health comments dated June 24, 2016:

NAPA COUNTY PLANNING DIVISION COMMENTS:

Use Permit Drawings

Comment 1: The plans submitted depict a new detached bathroom for winery guest. Per Section 18.1104.230(b) any new construction for wineries predating adoption of the Winery Definition Ordinance must comply with current setback requirements. For this winery that would require the proposed bathroom to be setback over 600 feet. Alternatively, the applicant can construct an attached bathroom, so long as the bathroom does not encroach any closer to the road, then a Variance application and reasons for why the variance should be granted must be submitted for review.

Response 1: A revised variance application has been completed and is included in the Use Permit resubmittal.

Response 6: Answered below

Comment 7: Additional comments on your application from CalFire are forthcoming under separate cover.

Response 7: Ok.

ENVIRONMENTAL HEALTH DEPARTMENT COMMENTS:

Comment 1: Written response indicates the proposed bathroom will not be located on the existing process wastewater system serving the winery. The location of the tank and leach line serving the winery must clearly be shown and accurately labeled on the site plan.

Response 1: The septic tank lid and leach line for the winery septic system is shown on sheet UP2. The current lid that is partially on the edge of the ADA parking space is traffic rated already as the forklift and delivery trucks have run over this routinely in the past. The manhole is a D&L Foundry sanitary sewer manhole.

Comment 2: Provide calculations showing how 735 square feet of area for the proposed wastewater system and reserve area was determined. Based upon my calculation (9 employees, 3 bedroom house, and 12 visitors) a larger area is required.

Response 2: The number of employees is not 9 that will use the facility, it's 1 and the 12 guests. Of the 9 people who work for the vineyard, 8 of them are seasonal workers that are on-site once a month for 6 months.

Comment 3: With the neighboring well setback, highway setback and building setbacks the area available for the new system and reserve is very limited in size. The existing standard wastewater system will be abandoned according to the written response from RSA+; however, the existing system is located in the same area as the proposed wastewater system. The applicant must show the location of the existing wastewater system on the site plan. Additional area for the new system and reserve area may be required in order to provide adequate spacing between the new and old system.

Response 3: As discussed in a meeting with Ms. Kim Withrow, the current layout of the septic system is 4 – 50' lines running parallel to the highway at 10' spacing. Per Kim, it's OK to abandon system and not remove the lines but place new lines in between the old lines. The area for the increased use and it's reserve area is shown on the plans.

Comment 4: Reserve area was identified for the domestic wastewater generated onsite, but reserve area for the process wastewater system must also be identified.

Response 4: No reserve area is shown for the processed wastewater system as there are no changes to the winery operations proposed. We do however understand that a backup plan is needed in the case of a system malfunction. The backup plan for the winery wastewater is treat and re-use.

NAPA COUNTY ENGINEERING AND CONSERVATION DIVISION COMMENTS:

Use Permit Application, Various Winery Information Sheets, Project Description and Supporting Reports

Comment 1: Please provide a copy of the Project Guidance for Stormwater Compliance checklist. A copy is attached for your use.

Response 1: Completed previously

Comment 2: If your project requires or proposes any new or reconstructed impervious surfaces, then please provide a copy of the Stormwater Control Plan (SCP) prepared for your project in accordance with the Bay Area Stormwater Management Agencies (BASMAA) manual titled – “Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties.” A copy of this manual is available on the PBES Department website for your use and information.

Response 2: Completed previously

Conceptual Site Plan and Grading Plan

Comment 3: Please provide the overall cut and fill information on the site plans.

Response 3: Completed previously

Comment 4: Please provide information on the plans for any temporary and permanent spoils placement. Will spoils be off-hauled?

Response 4: Completed previously

Comment 5: Please include the dimensions and slopes of all existing and proposed access drives on the plans from the State Right of Way to the project site. Previous response noted. Please see comment below regarding the road exception request.