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Water Availability Analysis

May 18, 2015

Napa County Planning, Building
and Environmental Services
Attn: Kim Withrow
1195 Third Street, Room 101
Napa, CA 94559

RE: Stag's Leap Wine Cellars
 5677 Silverado Trail
 Napa, CA
 APN 039-030-040
 Water Availability Analysis Update
 Project No. 2012088

Dear Ms. Withrow:

Enclosed is a revised Water Availability Analysis for Stag's Leap Wine Cellars (SLWC). The winery has an existing Use Permit (03469-UP) that allows for a 330,000 gallon winery, a Visitor Center, tasting visitors and events.

SLWC has applied for a major modification to the Use Permit to increase the size of marketing events and to replace their production building. The modifications will not change the operating parameters of the winery and the production level will not be increased. The number of winery employees and tasting guests are not proposed to increase. Projected water use increases will be minimal for the increase in event guests associated with the proposed marketing plan.

Since the previous WAA update, the frequency of events and number of guests have changed in the facility's marketing plan. The annual water usage has reduced slightly as a result. As shown in the enclosed water use flow breakdown associated with hospitality (see Enclosure B), the proposed marketing plan will decrease total water use by 0.038 ac-ft/yr. As shown in the enclosed revised Water Availability Analysis (see Enclosure A) the total water use flow for the entire facility was projected to be 8.60 ac-ft/yr. The increase for hospitality total water use is relatively minor with an increase of 0.6% and is therefore negligible.

If you have any questions, please don't hesitate to contact me at any time at (707) 636-9167.

Sincerely,

Stella Tan, PE
Staff Engineer

STAG'S LEAP WINE CELLARS
Project No. 2012088
May 18, 2015

SUMMIT ENGINEERING, INC.

Enclosures: A – Water Availability Analysis
 B – Water Use Flows

STAG'S LEAP WINE CELLARS
Project No. 2012088
May 18, 2015

SUMMIT ENGINEERING, INC.

ENCLOSURE A
WATER AVAILABILITY ANALYSIS



A Tradition of Stewardship
A Commitment to Service

Department of Public Works

1195 Third Street, Suite 201
Napa, CA 94559-3092
www.co.napa.ca.us/publicworks

Main: (707) 253-4351
Fax: (707) 253-4627

Donald G. Ridenhour, P.E.
Director

WATER AVAILABILITY ANALYSIS - PHASE ONE STUDY

Introduction: As an applicant for a permit with Napa County, It has been determined that Chapter 13.15 of the Napa County Code is applicable to approval of your permit. One step of the permit process is to adequately evaluate the amount of water your project will use and the potential impact your application might have on the static groundwater levels within your neighborhood. The public works department requires that a Phase 1 Water Availability Analysis (WAA) be included with your application. The purpose of this form is to assist you in the preparation of this analysis. You may present the analysis in an alternative form so long as it substantially includes the information required below. Please include any calculations you may have to support your estimates.

The reason for the WAA is for you, the applicant, to inform us, to the best of your ability, what changes in water use will occur on your property as a result of an approval of your permit application. By examining the attached guidelines and filling in the blanks, you will provide the information we require to evaluate potential impacts to static water levels of neighboring wells.

Step #1:

Provide a map and site plan of your parcel(s). The map should be an 8-1/2"x11" reproduction of a USGS quad sheet (1:24,000 scale) with your parcel outlined on the map. Include on the map the nearest neighboring well. The site plan should be an 8-1/2"x11" site plan of your parcel(s) with the locations of all structures, gardens, vineyards, etc in which well water will be used. If more than one water source is available, indicate the interconnecting piping from the subject well to the areas of use. Attach these two sheets to your application. If multiple parcels are involved, clearly show the parcels from which the fair share calculation will be based and properly identify the assessor's parcel numbers for these parcels. Identify all existing or proposed wells

Step #2: Determine total parcel acreage and water allotment factor. If your project spans multiple parcels, please fill a separate form for each parcel.

Determine the allowable water allotment for your parcels:

Parcel Location Factors

The allowable allotment of water is based on the location of your parcel. There are 3 different location classifications. Valley floor areas include all locations that are within the Napa Valley, Pope Valley and Carneros Region, except for areas specified as groundwater deficient areas. Groundwater deficient areas are areas that have been determined by the public works department as having a history of problems with groundwater. All other areas are classified as Mountain Areas.

Please underline your location classification below (Public Works can assist you in determining your classification if necessary):

Valley Floor	1.0 acre feet per acre per year
Mountain Areas	0.5 acre feet per acre per year
MST Groundwater Deficient Area	0.3 acre feet per acre per year

Assessor's Parcel Number(s)	Parcel Size (A)	Parcel Location Factor (B)	Allowable Water Allotment (A) X (B)

Step #3:

Using the guidelines in Attachment A, tabulate the existing and projected future water usage on the parcel(s) in acre-feet per year (af/yr). Transfer the information from the guidelines to the table below.

EXISTING USE:		PROPOSED USE:	
Residential	_____ af/yr	Residential	_____ af/yr
Farm Labor Dwelling	_____ af/yr	Farm Labor Dwelling	_____ af/yr
Winery	_____ af/yr	Winery	_____ af/yr
Commercial	_____ af/yr	Commercial	_____ f/yr
Vineyard*	_____ af/yr	Vineyard*	_____ af/yr
Other Agriculture	_____ af/yr	Other Agriculture	_____ af/yr
Landscaping	_____ af/yr	Landscaping	_____ af/yr
Other Usage (List Separately):		Other Usage (List Separately):	
_____	_____ af/yr	_____	_____ af/yr
_____	_____ af/yr	_____	_____ af/yr
_____	_____ af/yr	_____	_____ af/yr

TOTAL: _____ af/yr
_____ gallons**

TOTAL: _____ af/yr **TOTAL:**
TOTAL: _____ gallons**

Is the proposed use less than the existing usage? () Yes () No () Equal

Step #4:

Provide any other information that may be significant to this analysis. For example, any calculations supporting your estimates, well test information including draw down over time, historical water data, visual observations of water levels, well drilling information, changes in neighboring land uses, the usage if other water sources such as city water or reservoirs, the timing of the development, etc. Use additional sheets if necessary.

Conclusion: Congratulations! Just sign the form and you are done! Public works staff will now compare your projected future water usage with a threshold of use as determined for your parcel(s) size, location, topography, rainfall, soil types, historical water data for your area, and other hydrogeologic information. They will use the above information to evaluate if your proposed project will have a detrimental effect on groundwater levels and/or neighboring well levels. Should that evaluation result in a determination that your project may adversely impact neighboring water levels, a phase two water analysis may be required. You will be advised of such a decision.

Signature: _____ **Date:** _____ **Phone:** _____

WATER AVAILABILITY ANALYSIS - PHASE ONE STUDY

Attachment A: Estimated Water Use Guidelines

Typical Water Use Guidelines:

Primary Residence	0.5 to 0.75 acre-feet per year (includes some landscaping)
Secondary Residence	0.20 to 0.30 acre-feet per year
Farm Labor Dwelling	0.06 to 0.10 acre-feet per person per year

Non-Residential Guidelines:

Agricultural:

Vineyards	
Irrigation only	0.2 to 0.5 acre-feet per acre per year
Heat Protection	0.25 acre feet per acre per year
Frost Protection	0.25 acre feet per acre per year
Farm Labor Dwelling	0.06 to 0.10 acre-feet per person per year
Irrigated Pasture	4.0 acre-feet per acre per year
Orchards	4.0 acre-feet per acre per year
Livestock (sheep or cows)	0.01 acre-feet per acre per year

Winery:

Process Water	2.15 acre-feet per 100,000 gal. of wine
Domestic and Landscaping	0.50 acre-feet per 100,000 gal. of wine

Industrial:

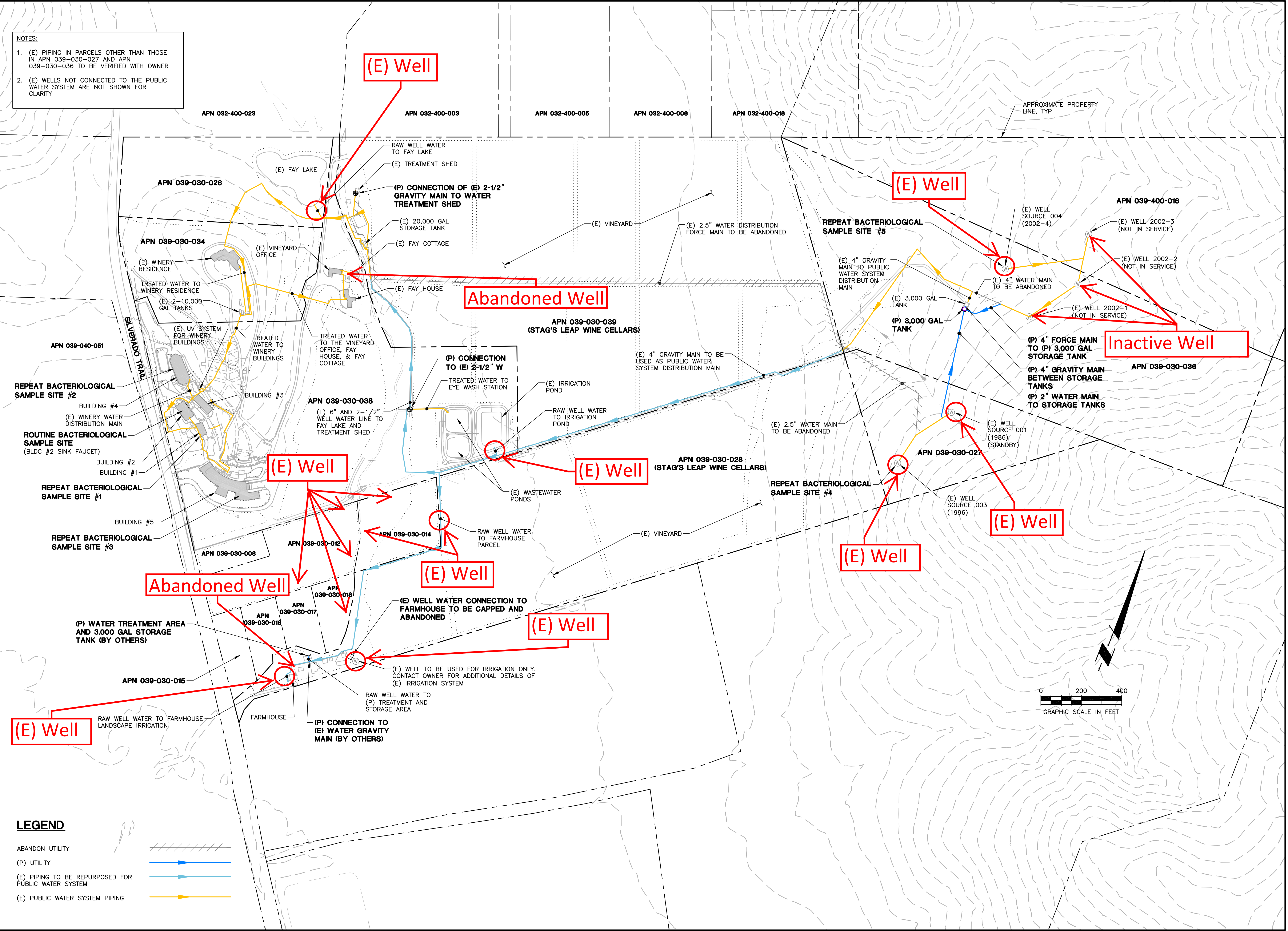
Food Processing	31.0 acre-feet per employee per year
Printing/Publishing	0.60 acre-feet per employee per year

Commercial:

Office Space	0.01 acre-feet per employee per year
Warehouse	0.05 acre-feet per employee per year

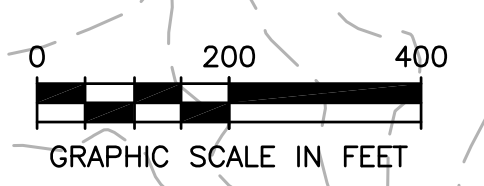
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NOTES:
1. (E) PIPING IN PARCELS OTHER THAN THOSE IN APN 039-030-027 AND APN 039-030-036 TO BE VERIFIED WITH OWNER
2. (E) WELLS NOT CONNECTED TO THE PUBLIC WATER SYSTEM ARE NOT SHOWN FOR CLARITY



LEGEND

ABANDON UTILITY	//////
(P) UTILITY	—————▶
(E) PIPING TO BE REPURPOSED FOR PUBLIC WATER SYSTEM	—————▶
(E) PUBLIC WATER SYSTEM PIPING	—————▶



STAG'S LEAP WINE CELLARS
Project No. 2012088
May 18, 2015

SUMMIT ENGINEERING, INC.

ENCLOSURE B
WATER USE FLOWS

WATER USE FLOWS

Water use will remain unchanged for employees, wine tasting, food and wine pairing, and private promotional tastings with lunch meals. The proposed modified Use Permit will increase water use associated with private promotional tastings with dinner meals and for private trade events, as outlined below.

Existing Use Permit Flows:

The annual water use for events are as detailed below for the existing Use Permit.

Private promotional tasting with lunch meals:

$$50 \text{ events} \times 60 \text{ people} \times 15 \text{ gal/person} \times 1 \text{ ac-ft}/325,851.4 \text{ gal} = 0.138 \text{ ac-ft/yr}$$

Private promotional tasting with dinner meals:

$$50 \text{ events} \times 60 \text{ people} \times 15 \text{ gal/person} \times 1 \text{ ac-ft}/325,851.4 \text{ gal} = 0.138 \text{ ac-ft/yr}$$

Private Food and Wine Pairing Seminars:

$$50 \text{ events} \times 35 \text{ people} \times 15 \text{ gal/person} \times 1 \text{ ac-ft}/325,851.4 \text{ gal} = 0.081 \text{ ac-ft/yr}$$

$$\text{Total} = \underline{\underline{0.357 \text{ ac-ft/yr}}}$$

Proposed Use Permit Flows:

Private promotional tasting with lunch meals:

$$10 \text{ events} \times 80 \text{ people} \times 15 \text{ gal/person} \times 1 \text{ ac-ft}/325,851.4 \text{ gal} = 0.037 \text{ ac-ft/yr}$$

$$40 \text{ events} \times 40 \text{ people} \times 15 \text{ gal/person} \times 1 \text{ ac-ft}/325,851.4 \text{ gal} = 0.074 \text{ ac-ft/yr}$$

Private promotional tasting with dinner meals:

$$6 \text{ events} \times 100 \text{ people} \times 15 \text{ gal/person} \times 1 \text{ ac-ft}/325,851.4 \text{ gal} = 0.028 \text{ ac-ft/yr}$$

$$20 \text{ events} \times 80 \text{ people} \times 15 \text{ gal/person} \times 1 \text{ ac-ft}/325,851.4 \text{ gal} = 0.074 \text{ ac-ft/yr}$$

$$25 \text{ events} \times 35 \text{ people} \times 15 \text{ gal/person} \times 1 \text{ ac-ft}/325,851.4 \text{ gal} = 0.040 \text{ ac-ft/yr}$$

Private Food and Wine Pairing Seminars:

$$50 \text{ events} \times 25 \text{ people} \times 15 \text{ gal/person} \times 1 \text{ ac-ft}/325,851.4 \text{ gal} = 0.058 \text{ ac-ft/yr}$$

$$\text{Total} = \underline{\underline{0.310 \text{ ac-ft/yr}}}$$

Private trade events:

Private trade events (including wine tasting only) are not included in the existing Use Permit. These proposed events include the following annual water use:

$$4 \text{ events} \times 250 \text{ people} \times 3 \text{ gal/person} \times 1 \text{ ac-ft}/325,851.4 \text{ gal} = \underline{0.009 \text{ ac-ft/yr}}$$

Total Proposed Change to Annual Water Use:

$$\text{Proposed Water Usage: } 0.310 \text{ ac-ft/yr} + 0.009 \text{ ac-ft/yr} = 0.319 \text{ ac-ft/yr}$$

$$\begin{aligned} \text{Change} &= \text{Existing} - \text{Proposed} \\ &= 0.357 \text{ ac-ft/yr} - 0.319 \text{ ac-ft/yr} = 0.038 \text{ ac-ft/yr} \end{aligned}$$

The total decrease in annual water use is 0.038 ac-ft/yr.