

**WATER AVAILABILITY ANALYSIS FOR  
THE DAKOTA SHY WINERY  
771 SAGE CANYON ROAD, NAPA COUNTY, CA  
APN 030-120-024**

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As required by Napa County Planning, Building & Environmental Services this study outlines a Water Availability Analysis for the Dakota Shy Winery Use Permit Modification Application.

**SITE PLAN**

A USGS site map showing the site and approximate property line locations is included in the site plans section of this application. Information regarding the location of the existing wells and structures is shown on the enclosed Use Permit Drawings prepared by Bartelt Engineering. Information regarding the location of the existing wells on adjacent properties is shown on the Neighboring Well Location Exhibit included with this study.

**PROJECT DESCRIPTION**

Currently, the 6.0± acre parcel contains olive and fruit orchards, a single family residence, guest house and pool house with some minor landscaped areas, a pool, winery, tennis court, two (2) wells, 36 inch City of Napa water main, septic fields and a Use Permit that allows for a production of 1,000 gallons per year of wine.

It is our understanding that the project proposes to expand the existing full crush winery operations on the above referenced parcel with the intent of increasing the facility's wine production capability from 1,000 gallons to 14,000 gallons of wine per year. Along with the increase in wine production, the project proposes a light staffing and marketing plan. The project proposes four (4) full-time employees, one (1) part-time employee and two (2) seasonal (harvest) employees. The project also proposes to offer private tour and tasting appointments for a maximum number of 20 guests per day and 140 guests per week. Additionally, the Applicant intends to host two (2) wine club/release events per year for groups of up to 40 guests. All Private Tours and Tastings and Wine Club/Release Events will have food catered with all food preparation and washing of tableware and serving dishes performed by an offsite catering service.

The following table summarizes the existing and proposed marketing plans:

<b>TABLE 1: MARKETING PLAN SUMMARY</b>				
Description	Frequency		Number of Persons	
	Current	Proposed	Current	Proposed
Private Tours & Tastings	0 per day	4 per day	0 per appointment	5 per appointment
Wine Club/Release Events	0 per year	2 per year	0 per event	40 per event

It is planned that Private Tours and Tastings along with Wine Club/Release Events may be held on the same day. Furthermore, all events will be catered with all food preparation, washing of tableware and serving dishes performed by an offsite catering service.

### PROJECTED WATER CONSUMPTION

The total water consumption for the existing and proposed uses on the parcel is calculated below using the Napa County Engineering & Conservation Division Water Availability Analysis, Phase I Study, Attachment A: Estimated Water Use Guidelines.

<b>TABLE 2: PHASE ONE WATER AVAILABILITY ANALYSIS SUMMARY</b>	
<u>Current Water Use</u>	(acre-feet/year)
Residence (Primary)	0.75
Residence (Secondary)	0.25
Winery (1,000 gallons per year)	0.03
Winery (Domestic & Landscaping)	0.01
Olive & Fruit Orchard (1.69 acres)	6.76
<b>Total Current Water Use</b>	<b>7.80</b>
<u>Proposed Water Use</u>	
Residence (Primary)	0.75
Residence (Secondary)	0.25
Winery (14,000 gallons per year, Office and Tasting Room)	0.31
Winery (Domestic & Landscaping)	0.07
Vineyard (0.78± acres of irrigation)	0.39
Vineyard (0.78± acres of heat and frost protection)	0.40
<b>Total Proposed Water Use</b>	<b>2.17</b>

At the request of Napa County Planning, Building and Environmental Services Department, a more detailed analysis of water use (demand) was performed based on the proposed production, marketing, and landscape and vineyard irrigation values. A similar water use (demand) analysis was performed on the current (existing) residential and vineyard irrigation use so that the comparison would be more accurate. The current domestic water use (demand) was determined using standard industry values while the irrigation per vine per season use (demand) value was provided by the Dakota Shy Winemaker.

<b>TABLE 3: DETAILED WATER AVAILABILITY ANALYSIS SUMMARY</b>	
<u>Current Water Use</u>	(acre-feet/year)
Residence (Primary)	0.84
Residence (Secondary)	0.17
Winery (Process wastewater; 1,000 gallons per year)	0.02
Winery (Domestic & Landscaping)	0.01
Olive & Fruit Orchard (1.69 acres)	6.76
<b>Total Current Water Use</b>	<b>7.80</b>
<u>Proposed Water Use</u>	
Residence (Primary residence based on 5 bedroom)	0.84
Residence (Secondary residence based on 1 bedroom)	0.17
Winery (Process wastewater; 14,000 gallons per year)	0.26
Winery (Domestic & Landscaping)	0.36
Winery Marketing (Private Tours and Tastings and Wine Club/Release Events)	0.16
Vineyard (0.78± acres of irrigation)	0.37
Vineyard (0.78± acres of heat and frost protection)	0.40
<b>Total Proposed Water Use</b>	<b>2.56</b>

**Allowable Water Allotment**

(Calculated using Napa County Policy for water usage in valley floor areas)

1.0 acre-feet/acre of site – valley floor

The following calculation assumes that the entire 6.0 acre parcel lies in an area designated as “Valley Floor”.

Acceptable water use = 6.0 acres x 1.0 acre-feet/year = 6.0 acre-feet/year

The above analysis shows that the projected water usage will be less than the current water usage and less than the acceptable threshold water usage for the subject parcel.

## **EXISTING WATER SOURCE**

According to the Property Owner, Well #1 is capable of producing a total flow rate of approximately 60 gallons per minute (gpm). This well will continue to be used for site irrigation and to maintain the fire protection tank at full capacity. Residential water use will continue to be provided by the City of Napa. Recently a new well (Well #2) was drilled that meets the requirements of Title 22. Well #2 will be used for all potable uses associated with the winery and winemaking process including but not limited to equipment cleaning and rinsing. According to the Well Completion Report<sup>1</sup>, Well #2 is capable of producing approximately 40 gpm. Since the project may fall under the requirements of a Transient Non-Community Water System, a water treatment system may be required by Napa County Environmental Health. The location of the wells are shown on the Use Permit Drawings. The newest well (Well #2) has been permitted by Napa County and constructed, but is currently not in use.

## **SUMMARY AND CONCLUSIONS**

The estimated water demand for the proposed Dakota Shy Winery development at 771 Sage Canyon Road is projected to be less than the existing water usage and less than the acceptable threshold water usage level in accordance with the Napa County Water Availability Policy; therefore, a Phase Two Analysis should not be required.

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<sup>1</sup> *Well Completion Report* dated 10/14/2014  
Dakota Shy Winery  
Water Availability Analysis



A Tradition of Stewardship  
A Commitment to Service

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## WATER AVAILABILITY ANALYSIS PHASE 1 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 assessors 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 complete 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 circle 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

Assessors Parcel Number(s)	Parcel Size (A)	Parcel Location Factor (B)	Allowable Water Allotment (A) X (B)
030-120-024	6.0	1.0	6.0 acre-feet per year

**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:**

Residential	<u>1.00</u> af/yr
Farm Labor Dwelling	<u>0.00</u> af/yr
Winery	<u>0.04</u> af/yr
Commercial	<u>0.00</u> af/yr
Vineyard*	<u>0.00</u> af/yr
Other Agriculture	<u>6.76</u> af/yr
Landscaping	<u>0.00</u> af/yr
Other Usage (List Separately):	
_____	_____ af/yr
_____	_____ af/yr
_____	_____ af/yr

**PROPOSED USE:**

Residential	<u>1.00</u> af/yr
Farm Labor Dwelling	<u>0.00</u> af/yr
Winery	<u>0.38</u> af/yr
Commercial	<u>0.00</u> af/yr
Vineyard*	<u>0.79</u> af/yr
Other Agriculture	<u>0.00</u> af/yr
Landscaping	<u>0.00</u> af/yr
Other Usage (List Separately):	
_____	_____ af/yr
_____	_____ af/yr
_____	_____ af/yr

**TOTAL:** 7.80 af/yr

**TOTAL:** 2,541,641 gallons\*\*

**TOTAL:** 2.17 af/yr

**TOTAL:** 707,097 gallons\*\*

\*Water use for vineyards should be no lower than 0.2 AF—unless irrigation records are available that show otherwise.

\*\*To determine your existing and proposed total water use in gallons, multiply the totals (in acre- feet) by 325,851 gal/AF.

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