April 2011
#10-01

Christine M. Secheli
Napa County Environmental Management
1195 Third Street, Suite 101
Napa, CA 94559

Re: Onsite Wastewater Disposal Feasibility Study for the Eagle Eye Winery, 6595 Gordon Valley Road, Napa County, CA, APN 033-160-018

Dear Ms. Secheli:

At the request of William & Roxanne Wolf, Bartelt Engineering has evaluated the feasibility of providing onsite wastewater disposal for the proposed winery to be located at 6595 Gordon Valley Road in Napa County, California.

This feasibility study is based on a land survey performed by Michael W. Brooks and Associates, Inc., Professional Land Surveyors, in March 2010, and a site evaluation performed by Bartelt Engineering on June 30, 2010. The site evaluation was witnessed by Peter Ex of Napa County Department of Environmental management (see attached site evaluation forms).

The project proposes the construction of a new full crush winery facility capable of producing 30,000 gallons of wine per year. The proposed winery staff will consist of 2 full-time employees and 2 seasonal (harvest) employees. The Applicant intends to establish a private tasting room with tours and tastings; additionally, the Applicant plans to hold food and wine pairings and other special events at the winery. The following is a summary of the proposed marketing plan:

Description	Frequency	Number of Visitors
Private Tours & Tastings	2 per day	8 per tour
Food & Wine Pairings	3 per month	24 per event
Wine Club Events	4 per year	50 per event
Auction Related Events	2 per year	100 per event

It is planned that Private Tours and Tastings, and Food and Wine Pairings may be held on the same day. Wine Club Events and Auction Related Events will not be held on the same day. Tours and Tastings and Food and Wine Pairings will not be held on the same day as Wine Club Events or Auction Related Events. Portable toilet facilities will be provided for Auction Related Events.

As part of our work, we have reviewed the planned operational methods for the winery with our Client, reviewed the parcel files at the Napa County Department of Environmental Management, held conversations with Napa County Department of Environmental Management staff, and performed a reconnaissance of the site to view existing conditions.

This report and the attached Conceptual Site Plan will demonstrate that a winery can feasibly be developed on the parcel to produce 30,000 gallons of wine per year and adequately dispose of all wastewater onsite. Site evaluation results indicate that a wastewater pretreatment system will be required and either a pressure distribution field or a subsurface drip dispersal field could be constructed to dispose of the pretreated wastewater. This report will present the design of a pressure distribution system with pretreatment as recommended by Bartelt Engineering.

Water Use Analysis

A Phase One Water Availability Analysis has been completed by Bartelt Engineering for the proposed winery. According to the Phase One Analysis, the parcel is allotted 6.58 acre-feet of water per year. The Phase One Analysis estimates that the proposed water use for the entire parcel (existing vineyard and the proposed 30,000 gallon per year winery) will be approximately 3.95 acre-feet of water per year (see the Phase One Water Availability Analysis prepared by Bartelt Engineering dated April 2011 for more information on the proposed water use).

Winery Process Wastewater Flow

Peak Winery Process Wastewater Flow =

$$\frac{(30{,}000 \text{ gallons wine per year})(1.5 \text{ gallons water per 1 gallon wine})}{30 \text{ days of crush per year}}$$

Peak Winery Process Wastewater Flow = 1,500 gallons per day (gpd)

Average Winery Process Wastewater Flow:

$$\frac{(30{,}000 \text{ gallons wine per year})(6 \text{ gallons water per 1 gallon wine})}{365 \text{ days per year}}$$

Average Winery Process Wastewater Flow = 493 gpd

Winery Sanitary Wastewater Flow

Peak sanitary wastewater generated at the proposed facility can be itemized as follows:

Employees:

(2 full-time employees) x (15.0 gpd per employee) = 30 gpd

(2 seasonal (harvest) employees) x (15.0 gpd per employee) = 30 gpd

Private Tours and Tastings:

(16 guests per day) x (3.0 gpd per guest) = 48 gpd

Food and Wine Parings:

(24 guests per event) x (5.0 gpd per guest) = 120 gpd

Wine Club Events:

(50 guests per event) x (5.0 gpd per guest) = 250 gpd

Auction-Related Events: (Portable toilet facilities will be provided)

(100 guests per event) x (5.0 gpd per guest) = 500 gpd

Peak Sanitary Wastewater Flow:

Portable toilet facilities will be provided for Auction Related Events. All food served during wine club events and auction related events will be prepared offsite. The peak daily winery sanitary wastewater flow will be generated during Wine Club Events as shown below.

(Full Time Employees)	+	(Part Time Employees)	+	(Wine Club Events)
30 gpd	+	30 gpd	+	250 gpd

Peak Winery Sanitary Wastewater Flow = 310 gpd

Existing Residence Sanitary Wastewater Flow

Four Bedroom House

(150 gallons per day per bedroom) x (4 bedrooms) = 600 gallons per day

Total Proposed Site Wastewater Flow

The total proposed site wastewater flow is the combination of the proposed winery process wastewater, the proposed winery sanitary wastewater and the existing residence sanitary wastewater, and is shown as follows:

(Winery Process Wastewater)	+	(Winery Sanitary Wastewater)	+	(Residential Sanitary Wastewater)
1,500 gpd	+	310 gpd	+	600 gpd

Total Peak Wastewater Flow = 2,410 gpd

Proposed Wastewater Disposal Methods

Based on the proposed wastewater flows, the site evaluation performed by Bartelt Engineering on June 30, 2010 and available area on the site, Bartelt Engineering proposes to combine and dispose of the process wastewater and the sanitary wastewater via a pressure distribution system with wastewater pretreatment.

Proposed Winery Process Wastewater Disposal System

The proposed winery process wastewater treatment system will consist of several steps. The floor of the proposed winery building will be sloped so that all process wastewater is collected in trench drains and floor drains. The winery process wastewater collected in the trench drains and floor drains will then gravity flow into a septic tank fitted with a filter to remove finer solids. From the septic tank, the process wastewater will gravity flow to a recirculation/blend tank where it will be combined with effluent from the sanitary wastewater system's septic tanks. The combined effluent in the recirculation/blend tank will be treated by a pretreatment system before being stored in a dosing tank. Treated effluent in the dosing tank will be pumped to the pressure distribution field by a duplex pumping system.

Proposed Winery Sanitary Wastewater Disposal System

Bartelt Engineering proposes to dispose of the sanitary wastewater from the winery through the same wastewater disposal system as the winery process wastewater. Winery sanitary wastewater will gravity flow to a septic tank for solids removal. From the septic tank, sanitary wastewater will gravity flow to a recirculation/blend tank where it will be combined with effluent from the process wastewater system's septic tank. The combined effluent in the recirculation/blend tank will be treated by a pretreatment system before being stored in a dosing tank. Treated effluent in the dosing tank will be pumped to the pressure distribution field by a duplex pumping system.

Proposed Residential Sanitary Wastewater Disposal System

An existing onsite conventional septic system serves the existing residence at 6595 Gordon Valley Road. The age, type and size of the existing septic system are unknown. The Owner and the Engineer have agreed to size the proposed pressure distribution system to accept sanitary wastewater from the existing residence. Residential sanitary wastewater from the existing residence will gravity flow to a septic tank for solids removal. The existing septic tank will be inspected and utilized if appropriate. From the septic tank, the sanitary wastewater will gravity flow to a pump tank where it will be pumped to the combined effluent recirculation/blend tank. From the recirculation/blend tank, the effluent will be filtered through a pretreatment system before being stored in a dosing tank. The treated effluent in the dosing tank will be pumped to the pressure distribution field by a duplex pumping system.

Combined Effluent Pressure Distribution Field and Reserve Area

Based on the site evaluation performed by Bartelt Engineering on June 30, 2010, test pits #1 through #4, and #8 through #12 showed similar results and are acceptable for a pressure distribution system. The pressure distribution field and 100% reserve area will be located near test pits #1 through #4 and #8, #9 and #11 (see Conceptual Site Plan). The site evaluation determined that the soil in the area of these test pits is Clay Loam. According to Napa County Standards, a hydraulic loading rate of 0.6 gal/sf/day is allowed for this soil type. The minimum acceptable depth found during the site evaluation was approximately 42 inches. Napa County Standards require a minimum of 24 inches of useable soil below the pressure distribution lines when a wastewater pretreatment system is utilized.

Two inch Schedule 40 PVC pressure distribution laterals will be installed in 18 inch wide by 18 inch deep trenches with 14 inches of ¾ to 1½ Clear Lake lava rock under the invert of the distribution laterals, and 4 inches of ¾ to 1½ inch Clear Lake lava rock above the inverts of the distribution laterals to match original grade. The entire disposal field area will be covered with 12 inches of native soil to cap the field and facilitate surface water away from the disposal field. The proposed trench design provides 2.6 square feet of sidewall per lineal foot of trench. A soil application rate of 0.60 gallons per day per square foot of sidewall per gallon per day will be used based on the clay loam type soils found at this site. (See attached site evaluation and laboratory test results on soil texture analysis).

$$\text{Required length of trench} = \frac{2{,}410 \text{ gpd}}{(2.67 \text{ sf/lf})(0.60 \text{ gal/sf/lf})} = 1{,}505 \text{ lf of trench}$$

The proposed pressure distribution field layout will consist of sixteen (16) lines at 100 feet long for a total of 1,600 lf of trench. The existing slope within the proposed pressure distribution filed area requires 6.5 foot spacing between each distribution pipe lateral. The total area required for the pressure distribution wastewater disposal filed area is approximately 10,400 square feet. (see the Conceptual Site Plan for the proposed location of the pressure distribution field)

100% Reserve Area

There is adequate area available to designate a reserve area for a pressure distribution disposal field for wastewater disposal system as shown on the attached Conceptual Site Plan prepared by Bartelt Engineering dated April 2011.

Tank Sizing

The following table summarizes the underground storage tank requirements for the proposed pressure distribution septic system.

Septic Tank Wastewater Source	Peak Flow (gpd)	Retention Time (days)	Recommended Tank Capacity (gallons)
Process Wastewater	1,500	4	6,000
Winery Sanitary	310	3	1,500
Residential Sanitary	600	3	2,000
Recirculation/Blend	2,410	1.5	4,000
Dosing Tank	2,410	1.5	4,000

All septic tanks should have a Zabel A300 filter or approved equal installed at the outlet to aid in the screening of suspended solids and the reduction of BOD from the wastewater. All septic tanks should be sized to provide a minimum of three days retention time during peak wastewater flow.

The existing residential septic tank shall be inspected to determine if it meets the minimum 2,000 gallon size requirement. Due to the distance of the existing residence to the proposed drip dispersal field, the sanitary residential wastewater will need to be pumped to the recirculation/blend tank.

Both the recirculation/blend tank and the dosing tank should be sized for a minimum of one and a half days of peak flow capacity.

Conclusions

The Phase One Water Analysis shows that there is an adequate water allotment to support the addition of a 30,000 gallon per year winery on this parcel.

The parcel will be able to support the wastewater produced by the proposed 30,000 gallon winery and the existing residence utilizing a pressure distribution system.

The above calculations should be adequate for the Use Permit application to Napa County. Full design calculations and construction plans will be completed after approval of the Use Permit currently under consideration. If you have any questions regarding my recommendations please feel free to call me at (707) 258-1301.

Sincerely,

Paul N. Bartelt, P.E.
Principal Engineer

PNB:sd

enclosures

cc: William & Roxanne Wolf
Donna Oldford

Napa County Department of
Environmental Management

SITE EVALUATION REPORT

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 #: E10-00247
APN: 033-160-018
(County Use Only) Reviewed by: Date:

PLEASE PRINT OR TYPE ALL INFORMATION

Property Owner William & Roxanne Wolf	☒ New Construction ☐ Addition ☐ Remodel ☐ Relocation ☐ Other:
Property Owner Mailing Address 6595 Gordon Valley Road	☐ Residential - # of Bedrooms: Design Flow : gpd
City State Zip Napa CA 94558	☒ Commercial – Type: Winery Sanitary Waste: 910 gpd Process Waste: 1,500 gpd
Site Address/Location 6595 Gordon Valley Road , Napa, CA	☐ Other: Sanitary Waste: gpd Process Waste: gpd

Evaluation Conducted By:

Company Name Bartelt Engineering	Evaluator's Name Paul N. Bartelt, P.E.	Signature (Civil Engineer, R.E.H.S., Geologist, Soil Scientist)
Mailing Address: 1303 Jefferson Street, 200 B		Telephone Number (707) 258-1301
City State Zip Napa CA 94559		Date Evaluation Conducted June 30, 2010

Primary Area See below	Expansion Area See below
Acceptable Soil Depth: 42 in. Test pit #'s: TP# 1 thru #4 and #8 thru #12 Soil Application Rate (gal. /sq. ft. /day): 0.6-0.75	Acceptable Soil Depth: 42 in. Test pit #' : TP# 1 thru #4 and #8 thru #12 Soil Application Rate (gal. /sq. ft. /day): 0.6-0.75
System Type(s) Recommended: Pretreatment to Subsurface Drip Dispersal or Pressure Distribution	System Type(s) Recommended: Pretreatment to Subsurface Drip Dispersal or Pressure Distribution
Slope: 3 %. Distance to nearest water source: 100 ft.+	Slope: 3 %. Distance to nearest water source: 100 ft. +
Hydrometer test performed? No ☐ Yes ☒ (attach results)	Hydrometer test performed? No ☐ Yes ☒ (attach results)
Bulk Density test performed? No ☒ Yes ☐ (attach results)	Bulk Density test performed? No ☒ Yes ☐ (attach results)
Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)	Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)

Site constraints/Recommendations: This site evaluation was conducted on June 30, 2010 by Paul Bartelt, Rangel Gonzales and Rich Paxton of Bartelt Engineering. Peter Ex of Napa County Environmental Management Department visited the site to inspect soil conditions. Soil samples were collected and analyzed by bouyoucous hydrometer method by RGH Consultants. The soil sample result from test pit # 4 was assumed to be in error and was disregarded from this study. See the Septic System Feasibility Study prepared by Bartelt Engineering dated April 2011 for septic system recommendations.

Test Pit # 1

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-42		0-15	CL	MG	S	FRB	S	MVF/FF/ FM	MF/FM	None
42-68	G	0-15	CL	MG	S	FRB	S	MVF/FF	FF/FM	CMD

Slope = 4%. Acceptable soil depth to limiting condition: 42 inches;
Assigned soil application rate = STE 0.6 / PTE 0.75 gal /sf/day for an alternative sewage treatment system.

No groundwater observed.

Test Pit # 2 * Hydrometer Test Performed

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-36		0-15	L/SL	SAB	SH	VFRB	S	MVF/FF	FF/FM	None
36-60	G	0-15	CL	SAB	H	FRB	S	MVF/FF	FF/FM	None

Slope = 4%. Acceptable soil depth to limiting condition: 60 inches;
Assigned soil application rate = STE 0.6 / PTE 0.75 gal /sf/day for an alternative sewage treatment system.

No groundwater observed. *See attached Soil Texture Analysis by Bouyoucos Hydrometry Method prepared by RGH Consultants, Inc. dated July 8, 2010.

Test Pit # 3

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-47		0-15	CL	SAB	SH	FRB	S	MVF/FF	FF/FM	None
47-66	G	0-15	CL	SAB	SH	FRB	S	MVF/FF	MF/FVF/ MM/FC	CMD

Slope = 5%. Acceptable soil depth to limiting condition: 47 inches;
Assigned soil application rate = STE 0.6 / PTE 0.75 gal /sf/day for an alternative sewage treatment system.

No groundwater observed.

Test Pit # 4

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-68		0-15	CL	SSB	SH	FRB	S	MVF/MF/ FM	MF/CM	None

Slope = 2%. Acceptable soil depth to limiting condition: 68 inches;
Assigned soil application rate = STE 0.6 / PTE 0.75 gal /sf /day for an alternative sewage treatment system.

No groundwater observed.

Test Pit # 5 * Hydrometer Test Performed

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-23		0-15	CL	MSB	H	FRB	S	MVF/MF/ FM	MF/FVF/ FM	None
23-65	A	0-15	CL	SSB	VH	F	S	FF	FF/FM/ FC	FMD

Slope = 2%. Acceptable soil depth to limiting condition: 23 inches;
Assigned soil application rate = STE 0.6 / PTE 0.75 gal /sf /day for an alternative sewage treatment system.

No groundwater observed. *See attached Soil Texture Analysis by Bouyoucos Hydrometry Method prepared by RGH Consultants, Inc. dated July 8, 2010.

Test Pit # 6

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-21		0-15	CL	MSB	H	FRB	S	MVF/MF/ FM	MF/FVF/ FM	None
21-26	A	0-15	C	SSB	VH	F	S	FF	FF/FM/ FC	FMD

Slope = 2%. Acceptable soil depth to limiting condition: 21 inches;
Assigned soil application rate = STE 0.2 / PTE 0.25 gal /sf /day for an alternative sewage treatment system.

No groundwater observed.

Test Pit # 7

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-22		0-15	CL	MSB	H	FRB	S	MVF/MF/ FM	MF/FVF/ FM	None
22-34	A	0-15	C	SSB	VH	F	S	FF	FF/FM/ FC	FMD

Slope = 2%. Acceptable soil depth to limiting condition: 22 inches;
Assigned soil application rate = STE 0.2 / PTE 0.25 gal /sf/day for an alternative sewage treatment system.

No groundwater observed.

Test Pit # 8

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-46		0-15	CL	MS/SSB	SH	FRB	S	MVF/FF/ FM	MF/FM	None
46-67	G	0-15	CL	SSB	SH	FRB	S	MVF/FF	FF/FM	CMD

Slope = 4%. Acceptable soil depth to limiting condition: 46 inches;
Assigned soil application rate = STE 0.6 / PTE 0.75 gal /sf/day for an alternative sewage treatment system.

No groundwater observed.

Test Pit # 9

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-60	None	0-15	CL	SSB	SH	FRB	S	MVF/FF/ FM	MF/FM	None

Slope = 2%. Acceptable soil depth to limiting condition: 60 inches;
Assigned soil application rate = STE 0.6 / PTE 0.75 gal /sf/day for an alternative sewage treatment system.

No groundwater observed.

Test Pit # 10 *Hydrometer Test Performed

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-60	None	0-15	CL	SSB	SH	FRB	S	MVF/FF/ FM	MF/FM	None

Slope = 2.5%. Acceptable soil depth to limiting condition: 60 inches;
Assigned soil application rate = STE 0.6 / PTE 0.75 gal /sf/day for an alternative sewage treatment system.

No groundwater observed. *See attached Soil Texture Analysis by Bouyoucos Hydrometry Method prepared by RGH Consultants, Inc. dated July 8, 2010.

Test Pit # 11

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-43		0-15	CL	SSB	SH	FRB	S	MVF/FF/ FM	MF/FM	None
43-65	G	0-15	CL	SSB	SH	FRB	S	MVF/FF	FF/FM	CMD

Slope = 1%. Acceptable soil depth to limiting condition: 43 inches;
Assigned soil application rate = STE 0.6 / PTE 0.75 gal /sf/day for an alternative sewage treatment system.

No groundwater observed.

Test Pit # 12

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-65	None	0-15	CL	SSB	SH	FRB	S	MVF/FF/ FM	MF/FM	None

Slope = 1%. Acceptable soil depth to limiting condition: 65 inches;
Assigned soil application rate = STE 0.6 / PTE 0.75 gal /sf/day for an alternative sewage treatment system.

No groundwater observed.

Table of Abbreviations

Boundary	Texture	Structure	Consistence			Pores	Roots	Mottling
			Side Wall	Ped	Wet			
A=Abrupt <1" **C**=Clear 1"-2.5" **G**=Gradual 2.5"-5" **D**=Difuse >5"	**S**=Sand **LS**=Loamy Sand **SL**=Sandy Loam **SCL**=Sandy Clay Loam **SC**=Sandy Clay **CL**=Clay Loam **L**=Loam **C**=Clay **SiC**=Silty Clay **SiCL**=Silty Clay Loam **SiL**=Silt Loam Si=Silt	**W**=Weak **M**=Moderate **S**=Strong --- **G**=Granular **PL**=Platy **Pr**=Prismatic **C**=Columnar **AB**=Angular Blocky **SB**=Subangular Blocky --- **M**=Massive **C**=Cemented	**L**=Loose **S**=Soft **SH**=Slighty Hard **H**=Hard **VH**=Very Hard **ExH**=Extremely Hard	**L**=Loose **VFRB**=Very Friable **FRB**=Friable **F**=Firm **VF**=Very Firm **ExF**=Extremely Firm	**NS**=NonSticky **SS**=Slightly Sticky **S**=Sticky **VS**=Very Sticky --- **NP**=NonPlastic **SP**=Slightly Plastic **P**=Plastic **VP**=Very Plastic	**Quantity:** **F**=Few **C**=Common **M**=Many **Size:** **VF**=Very Fine **F**=Fine **M**=Medium **C**=Coarse	**Quantity:** **F**=Few **C**=Common **M**=Many **Size:** **VF**=Very Fine **F**=Fine **M**=Medium **C**=Coarse **VC**=Very Course	**Quantity:** **F**=Few **C**=Common **M**=Many **Size:** **F**=Fine **M**=Medium **C**=Coarse **VC**=Very Course **ExC**=Extremely Coarse **Contrast:** **Ft**=Faint **D**=Distinct **P**=Prominent

Attach additional sheets as needed

Alternative Sewage Treatment System Soil Application Rates

TEXTURE	STRUCTURE		APPLICATION RATE (Gal/ft^2 /day)	
	Shape	Grade	STE[1]	PTE[1,2]
Coarse Sand, Sand, Loamy Coarse Sand	Single grain	Structureless	1.0	1.2
Fine Sand, Loamy Fine Sand	Single grain	Structureless	0.6	1.0
Sandy Loam, Loamy Sand	Massive	Structureless	0.35	0.5
	Platy	Weak	0.35	0.5
	Prismatic, blocky, granular	Weak	0.5	0.75
		Moderate, Strong	0.8	1.0
Loam, Silt Loam, Sandy Clay Loam, Fine Sandy Loam	Massive	Structureless		
	Platy	Weak, moderate, strong		
	Prismatic, blocky, granular	Weak, moderate	0.5	0.75
		Strong	0.8	1.0
Sandy Clay, Silty Clay Loam, Clay Loam	Massive	Structureless		
	Platy	Weak, moderate, strong		
	Prismatic, blocky, granular	Weak, moderate	0.35	0.5
		Strong	0.6	0.75
Clay, Silty Clay	Massive	Structureless		
	Platy	Weak, moderate, strong		
	Prismatic, blocky, granular	Weak		
		Moderate, strong	0.2	0.25

1. See Table 1 in the Design, Construction and Installation of Alternative Sewage Treatment Systems.
2. A higher application rate for pretreated effluent may only be used when pretreatment is not used for one foot of vertical separation credit.

MINIMUM SURFACE AREA GUIDELINES TO DISPOSE OF 100 GPD OF SECONDARY TREATED EFFLUENT FOR SUBSURFACE DRIP DISPERSAL SYSTEMS

		Soil Absorption Rates		Design Application Rate (Gal/ft^2/day)	Total Area Required Sq. ft./100 gallons per day
Soil Class	Soil Type	Est. Soil Perc. Rate minutes/inch	Hydraulic Conductivity inches/hour		
I	Coarse sand	1 – 5	>2	1.400	71.5
I	Fine sand	5 – 10	1.5 – 2	1.200	83.3
II	Sandy loam	10 – 20	1.0 – 1.5	1.000	100.0
II	Loam	20 – 30	0.75 – 1.0	0.700	143.0
III	Clay loam	30 – 45	0.5 – 0.75	0.600	167.0
III	Silt - clay loam	45 – 60	0.3 – 0.5	0.400	250.0
IV	Clay non-swell	60 – 90	0.2 – 0.3	0.200	500.0
IV	Clay - swell	90 – 120	0.1 – 0.2	0.100	1000.0

1. For design purpose, the "Soil Type" category to be used in the above table shall be based on the most restrictive soil type encountered within two feet below the bottom of the drip line.
2. Dispersal field area calculation: Total square feet area of dispersal field = Design flow divided by loading rate.

Conventional Sewage Treatment System Soil Application Rates

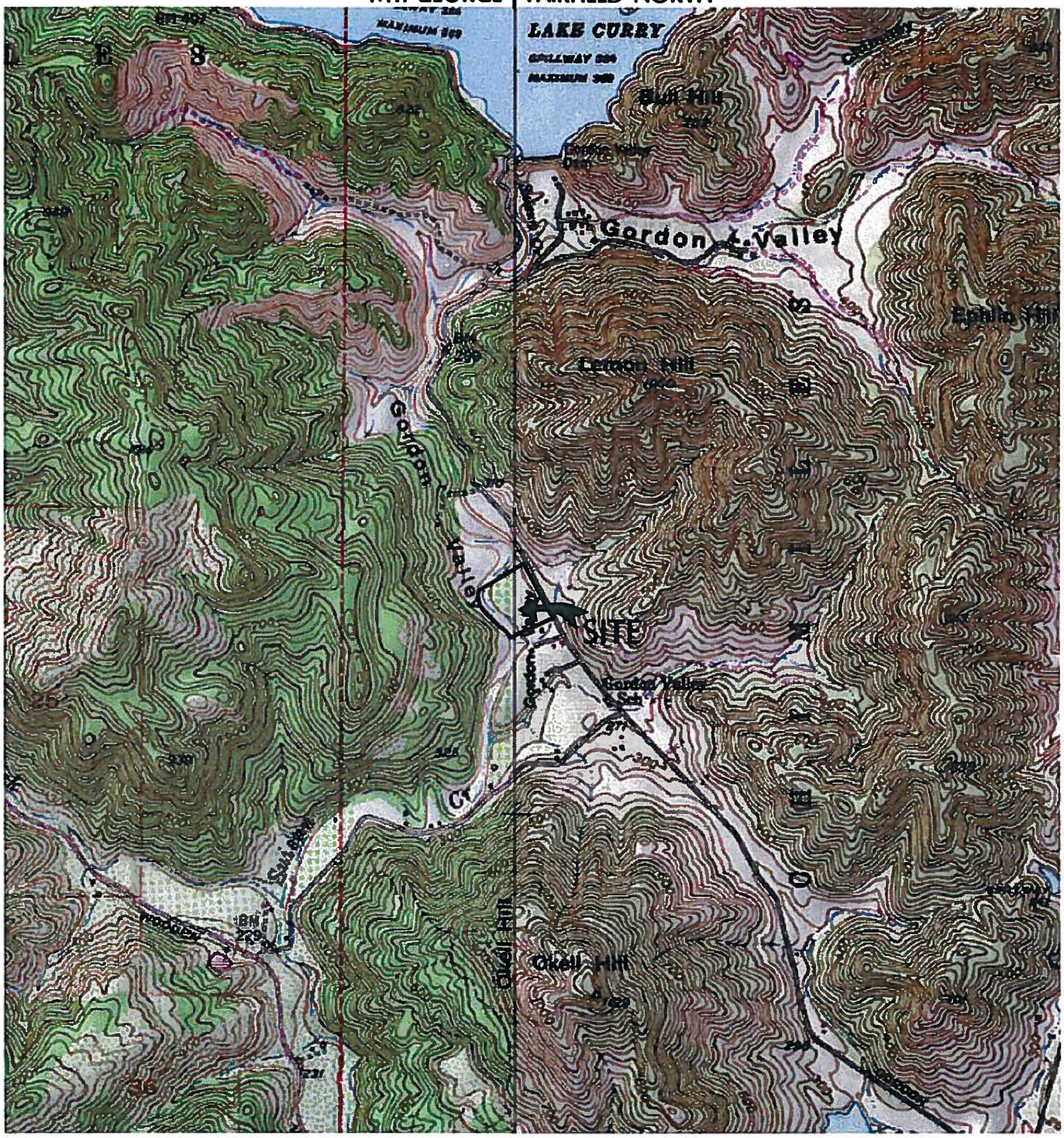
TEXTURE	STRUCTURE		APPLICATION RATE (Gal/ft^2 /day)
	Shape	Grade	STE
Coarse Sand, Sand, Loamy Coarse Sand	Single grain	Structureless	Prohibited
Sandy Loam, Loamy Sand	Massive	Structureless	Prohibited
	Platy	Weak, mod, strong	Prohibited
	Prismatic, blocky, granular	Weak	0.33
		Moderate, strong	0.5
Loam, Silt Loam, Sandy Clay Loam, Fine Sandy Loam	Massive	Structureless	Prohibited
	Platy	Weak, mod, strong	Prohibited
	Prismatic, blocky, granular	Weak	0.25
		Moderate, Strong	0.33
Clay Loam	Massive	Structureless	Prohibited
	Platy	Weak, moderate, strong	Prohibited
	Prismatic, blocky, granular	Weak, moderate	0.25
		Strong	0.33
Sandy Clay, Silty Clay Loam	Massive	Structureless	Prohibited
	Platy	Weak, moderate, strong	Prohibited
	Prismatic, blocky, granular	Weak, moderate	Prohibited
		Strong	0.25
Clay, Silty Clay	Massive	Structureless	Prohibited
	Platy	Weak, moderate, strong	Prohibited
	Prismatic, blocky, granular	Weak	Prohibited
		Moderate, strong	Prohibited

CONVENTIONAL SEWAGE TREATMENT SYSTEM SOIL APPLICATION RATES BASED ON PERCOLATION RATES	
Percolation Rate (mpi)	Application Rate (STE)
< 5 MPI	Prohibited
5 to 10 MPI	0.5
10-20 MPI	0.33
20-60 MPI	0.25
[illegible]0 MPI	Prohibited

TOPOGRAPHIC SITE LOCATION INFORMATION

USGS 7.5 MINUTE QUADRANGLE "MT. GEORGE" / "FAIRFIELD NORTH" Scale: 1" = 2000'

MT. GEORGE | FAIRFIELD NORTH



T. 6 N.

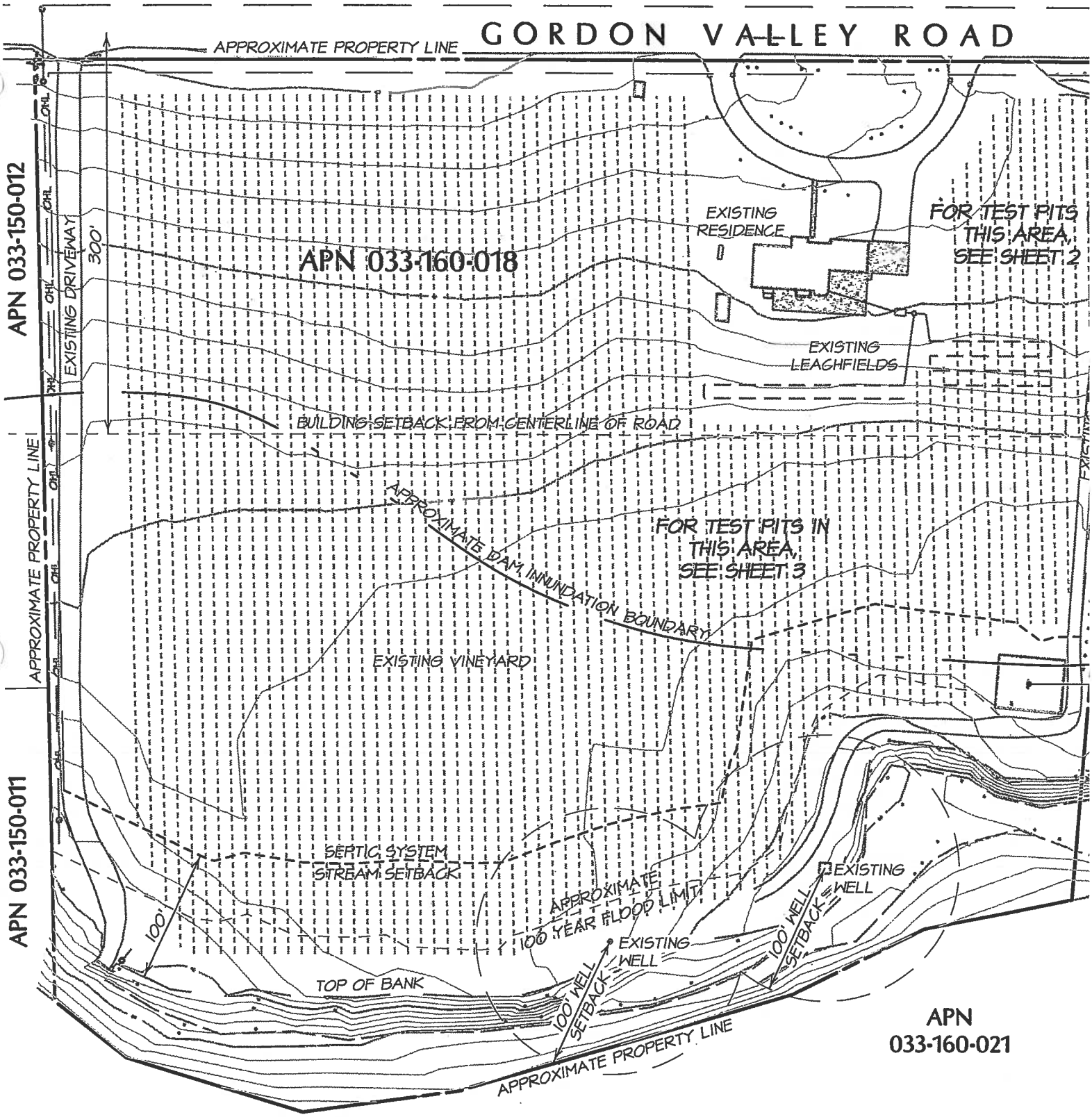
R. 3 W. R. 2 W.

BARTELT engineering
civil engineering · land planning
1303 jefferson street, 200 B, napa, ca 94559
(707) 258-1301 · fax (707) 258-2926

Eagle Eye Winery
6595 Gordon Valley Road
Napa CA, 94558
APN 033-160-018

Job no. 10-01 April 2011

EXCERPT



BARTELT engineering
civil engineering · land planning
1303 jefferson street, 200 B, napa, ca 94559
(707) 258-1301 · fax (707) 258-2926

OVERALL

SCA

April 2011
#10-01

Nate Galambos
Napa County Public Works Department
1195 Third Street, Suite 201
Napa, CA 94559

Re: Phase One Water Availability Analysis for the Eagle Eye Winery, 6595 Gordon Valley Road, Napa County, California, APN 033-160-018

Dear Mr. Galambos:

As required by the County of Napa Public Works Department, and the Interim Policy approved by the Planning Commission on March 6, 1991, this letter outlines a Phase One Water Availability Analysis for the Eagle Eye Winery Use Permit application.

As outlined in the Interim Policy a reconnaissance level report for this site has been prepared with the following items being pertinent to the study:

Site Plan

A USGS site map showing the site and approximate property line locations is attached. Information regarding the locations of the existing wells and proposed structures is shown on the enclosed Conceptual Site Plan prepared by Bartelt Engineering dated April 2011. Information regarding the location of the existing wells on adjacent properties was unavailable at the time this report was prepared.

Project Description

It is our understanding that two new winery buildings will be constructed and that the proposed winery will be a full crushing facility with a production of 30,000 gallons of wine per year. The proposed winery staff will consist of 2 full-time employees and 2 seasonal (harvest) employees. The Applicant intends to establish a private tasting room with tours and tastings; additionally, the Applicant plans to hold food and wine pairings and other special events at the winery. The following is a summary of the proposed marketing plan:

Description	Frequency	Number of Visitors
Private Tours & Tastings	2 per day	8 per tour
Food & Wine Pairings	3 per month	24 per event
Wine Club Events	4 per year	50 per event
Auction Related Events	2 per year	100 per event

It is planned that Private Tours and Tastings, Food and Wine Pairings, Wine Club Events and Auction Related Events will not be held on the same day.

Currently, the 13.16 ± acre parcel (APN 033-160-018) is planted with 5.9 ± acres of vineyard of which 1.61 ± acres will be removed as part of the proposed development.

Projected Water Consumption

The total water consumption for the existing and proposed uses on the parcel are calculated below using quantities provided in the staff report from County of Napa Public Works Department.

Current Water Use Using Napa County Interim Policy

Primary Residence (Four Bedroom House)	Domestic Water Provided by City of Vallejo
Vineyard (5.9 acres – (No Heat or Frost Protection)	2.95 acre-feet/year
Other Irrigation	1.00 acre-feet/year
Total	3.95 acre-feet/year

Projected Water Use Calculations Using the Bartelt Engineering Wastewater Disposal Feasibility Study and Napa County Interim Policy

Primary Residence (Four Bedroom House)	Domestic Water Provided by City of Vallejo
Vineyard (4.29 acres – (No Heat or Frost Protection)	2.15 acre-feet/year
Other Irrigation	1.00 acre-feet/year
Winery (30,000 Gallons of Wine per Year)	0.80 acre-feet/year
Total	3.95 acre-feet/year

Acceptable Threshold Water Use
(Calculated using Napa County Interim Policy for water usage in mountain areas)

0.5 acre-feet/acre of site – mountain areas

The following calculation assumes that the entire 13.16 acre parcel lies in an area designated as mountain.

Acceptable water use = 13.16 acres x 0.5 acre-feet/year = 6.58 acre-feet/year

The above analysis shows that the projected water usage will be equal to the current water usage and meets the acceptable threshold water usage for the subject parcel.

Existing Water Source and Storage Capacity

According to the Property Owner, the existing onsite well is capable of producing a total flow rate of approximately 15 gallons per minute (gpm). Well water will be used to satisfy irrigation, winery, and fire protection requirements. Ground water will be pumped from the existing wells into new onsite storage tanks per County of Napa and/or California Department of Forestry Standards (size and quantity of tanks to be determined at a later date).

Summary and Conclusions

The estimated water demand for the proposed Eagle Eye Winery development at 6595 Gordon Valley Road is projected to meet the acceptable threshold water usage level in accordance with the Interim Water Availability Policy; therefore, a Phase Two and/or Phase Three Analysis should not be required. The above information and the attached plans should assist you in processing the subject Use Permit. If you have any questions regarding the information provided, please feel free to call me.

Sincerely,

Paul N. Bartelt, P.E.
Principal Engineer

PNB:sd

Enclosures

cc: William & Roxanne Wolf
Donna Oldford

COUNTY of NAPA

ROBERT J. PETERSON, P.E.
Director of Public Works
County Surveyor-County-Engineer
Road Commissioner

DONALD G. RIDENHOUR, P.E.
Assistant Director of Public Works

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 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 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)
033-160-018	**13.16 acres**	**0.5**	**6.58 acre-feet/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:		**PROPOSED USE:**	
Residential	-0- af/yr	Residential	-0- af/yr
Farm Labor Dwelling	-0- af/yr	Farm Labor Dwelling	-0- af/yr
Winery	-0- af/yr	Winery	0.8 af/yr
Commercial	-0- af/yr	Commercial	-0- af/yr
Vineyard*	2.95 af/yr	Vineyard*	2.15 af/yr
Other Agriculture	1.0 af/yr	Other Agriculture	1.0 af/yr
Landscaping	-0- af/yr	Landscaping	-0- af/yr
Other Usage (List Separately):		Other Usage (List Separately):	
_____	_____ af/yr	_____	_____ af/yr
_____	_____ af/yr	_____	_____ af/yr
_____	_____ af/yr	_____	_____ af/yr
TOTAL:	3.95 af/yr	**TOTAL:**	3.95 af/yr
TOTAL:	101,993 gallons**	**TOTAL:**	101,993 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 325,821 gal/AF.

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

Please see attached letter regarding Phase One Water Availability Analysis for the Eagle Eye Winery prepared by Bartelt Engineering dated April 2011.

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:** 4-4-11 **Phone** (707) 255-1301

NAPA COUNTY CONSTRUCTION SITE RUNOFF CONTROL REQUIREMENTS
APPENDIX A – PROJECT APPLICABILITY CHECKLIST

Construction Site Runoff Control Applicability Checklist	County of Napa Department of Public Works 1195 Third Street, Suite 201 Napa, CA 94559 (707) 253-4351 www.co.napa.ca.us/publicworks

Project Address:	Assessor Parcel Number(s):	Project Number: *(for County use Only)*
6595 Gordon Valley Road Napa, CA 94558	033-160-018	

INSTRUCTIONS

Structural projects that require a building and/or grading permit must complete the following checklist to determine if the project is subject to Napa County's Construction Site Runoff Control Requirements. This form must be completed and submitted with your permit application(s). Definitions are provided in the Napa County Construction Site Runoff Control Requirements policy. **Note:** If multiple building or grading permits are required for a common plan of development, the total project shall be considered for the purpose of filling out this checklist.

DETERMINING PROJECT APPLICABILITY TO THE CONSTRUCTION SITE RUNOFF CONTROL REQUIREMENTS

- ✓ If the answer to question 1 of Part A is "Yes" your project is subject to Napa County's Construction Site Runoff Control requirements and must prepare a Stormwater Pollution Prevention Plan (SWPPP). The applicant must also comply with the SWRCB's NPDES General Permit for Stormwater Associated with Construction Activity and must provide a copy of the Notice of Intent (NOI) and Waste Discharge Identification (WDID).
- ✓ If the answer to question 1 of Part A is "No", but the answer to any of the remaining questions is "Yes" your project is subject to Napa County's Construction Site Runoff Control requirements and must prepare a Stormwater Quality Management Plan (SQMP).
- ✓ If every question to Part A is answered "No" your project is exempt from Napa County's Construction Site Runoff Control Requirements, but must comply will all construction site runoff control standard conditions attached to any building or grading permit (see Appendix D of the Napa County Construction Site Runoff Control Requirements).
- ✓ If any of the answers to the questions in Part A is "Yes", complete the construction site prioritization in Part B below.

OVER

NAPA COUNTY CONSTRUCTION SITE RUNOFF CONTROL REQUIREMENTS
APPENDIX A – PROJECT APPLICABILITY CHECKLIST

Part A: Determine Construction Phase Stormwater Requirements

Would the project meet any of these criteria during construction?

1. Propose any soil disturbance of one acre or more? ..... (Yes) No
2. Does the project propose any soil disturbance greater than 10,000 square feet?..... (Yes) No
3. Does the project propose grading, earth moving, or soil disturbance on slopes 15% or greater?..... Yes (No)
4. Does the project propose earthmoving of 50 cubic yards or more?..... (Yes) No
5. Does the project propose soil disturbance within 50 feet of a stream, ditch, swale, curb and gutter, catch basin or storm drain that concentrates and transports stormwater runoff to a "receiving water" (i.e., Waters of the State defined as all waters, including but not limited to, natural streams, creeks, rivers, reservoirs, lakes, ponds, water in vernal pools, lagoons, estuaries, bays, the Pacific Ocean, and ground water)? (Yes) No

Part B: Determine Construction Site Priority

Projects that are subject to the Construction Site Runoff Control Requirements must be designated with a priority of high, medium, or low. This prioritization must be completed with this form, noted on the plans, and included in the SWPPP or SQMP. Indicate the project's priority in one of the checked boxes using the criteria below. The County reserves the right to adjust the priority of projects both before and during construction.

Note: The construction priority does NOT change construction Best Management Practice (BMP) requirements that apply to projects. The construction priority does affect the frequency of inspections that will be conducted by County staff and associated fees.

Select the highest priority category applicable to the project.

☒ High Priority
- a) Projects with soil disturbance of one acre or greater.
- b) Projects on slopes of 30% or greater.
- c) Projects proposing new storm drains.

☐ Medium Priority
- a) Projects on slopes from 5% to 29%.
- b) Projects with soil disturbance between 10,000 sq. ft and one acre.
- c) Projects with earthmoving of 50 cubic yards or more.

☐ Low Priority
- a) Projects with soil disturbance within 50 feet stream, ditch, swale, curb and gutter, catch basin or storm drain that concentrates and transports stormwater runoff to a "receiving water".

Name of Owner or Agent (Please Print):	Title:
William & Roxanne Wolf	Owners
Signature of Owner or Agent:	Date:
	9/10/2010

NAPA COUNTY CONSTRUCTION SITE RUNOFF CONTROL REQUIREMENTS
APPENDIX B - WQCP/SWPPP GENERAL INFORMATION FORM

FOR OFFICE USE ONLY

SUBMITTAL DATE: _____ **FILE #:** _____ **APN #:** _____

USGS QUAD: _____ **CalWatershed:** _____

REQUEST: _____

_____

PERMIT: ☐ Building ☐ Grading **TYPE:** ☐ Private ☐ Public (County) ☐ Public (Other)

CATEGORY: ☐ Structure ☐ Driveway ☐ Road ☐ Reservoir ☐ Cave ☐ Other

FINAL APPROVAL: Date: _____

Deposit: $ _____ _____ _____ _____

Deposit *Receipt Number* *Received By* *Date*

TO BE COMPLETED BY APPLICANT

(Please type or print legibly)

Applicant's Name: William & Roxanne Wolf **Company:** Eagle Eye Wines

Telephone #: (707) 427-1600 **Fax #:** (707) 427-1616 **E-Mail:** bill@EagleEyeWine.com

Mailing Address: 6595 Gordon Valley Road, Napa, CA 94558

No *Street* *City* *State* *Zip*

Status of Applicant's Interest in Property: Owners

Property Owner's Name: Same

Telephone #: (____) _____ **Fax #:** (____) _____ **E-Mail:** _____

Mailing Address: _____

No *Street* *City* *State* *Zip*

Qualified Contact Person's Name: _____ **Company:** _____

Telephone #: (____) _____ **Fax #:** (____) _____ **E-Mail:** _____

Mailing Address: _____

No *Street* *City* *State* *Zip*

Site Address/Location: 6595 Gordon Valley Road, Napa

No *Street* *City*

Assessor's Parcel #: 033-160-018 **Gated:** ☐ Yes ☐ No

Parcel Size: 13.16 acres **Disturbed Area:** _____ ☐ acres ☐ ft^2 **Amount of Cut & Fill:** _____ yds^3

Percent Slope: Minimum: _____ Maximum: _____ Average: _____

Min distance between disturbed area and Stormwater Conveyance System (creeks, ditches, reservoirs, storm drains, etc.): _____ feet

Construction of New Storm Drains: ☐ Yes ☐ No **Construction within Waters of the State:** ☐ Yes ☐ No

Project Priority (See Applicability Checklist, Appendix A, Section B): ☐ Low ☐ Medium ☐ High

SIGNATURE: I hereby certify that all the information contained in this application, including but not limited to, this application form, the supplemental information sheets, site plan, plot plan, cross sections/elevations, is complete and accurate to the best of my knowledge. I hereby authorize such investigations including access to County Assessor's Records as are deemed necessary by the Department of Public Works for evaluation of this application and preparation of reports related thereto, including the right of access to the property involved.

_____ _____ _____ 9/10/2010

Signature of Applicant *Date* *Signature of Property Owner* *Date*

Adopted Date: December 12, 2006

NAPA COUNTY POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS
APPENDIX A – APPLICABILITY CHECKLIST

Post-Construction Runoff Management Applicability Checklist	County of Napa Department of Public Works 1195 Third Street Napa, CA 94559 (707) 253-4351 for information

Project Address:	Assessor Parcel Number(s):	Project Number: *(For County use Only)*
6595 Gordon Valley Road, Napa, CA	033-160-018	

Instructions:

Structural projects requiring a use permit, building permit, and/or grading permit must complete the following checklist to determine if the project is subject to the Post-Construction Runoff Management Requirements. In addition, the impervious surface worksheet on the reverse page must also be completed to calculate the amount of new and reconstructed impervious surfaces proposed by your project. This form must be completed, signed, and submitted with your permit application(s). Definitions are provided in the Post-Construction Runoff Management Requirements policy. **Note:** If multiple building or grading permits are required for a common plan of development the total project shall be considered for the purpose of filling out this checklist.

POST-CONSTRUCTION STORMWATER BMP REQUIREMENTS (Parts A and B)

- ✓ If any answer to Part A are answered "yes" your project is a "Priority Project" and is subject to the Site Design, Source Control, and Treatment Control design standards described in the Napa County Post-Construction Runoff Management Requirements.
- ✓ If all answers to Part A are "No" and any answers to Part B are "Yes" your project is a "Standard Project" and is subject to the Site Design and Source Control design standards described in the Napa County Post-Construction Runoff Management Requirements.
- ✓ If every question to Part A and B are answered "No", your project is exempt from post-construction runoff management requirements.

Part A: Priority Project Categories

Does the project meet the definition of one or more of the priority project categories?

1. Residential with 10 or more units ..... Yes (No)
2. Commercial development greater than 100,000 square feet ..... Yes (No)
3. Automotive repair shop ..... Yes (No)
4. Retail Gasoline Outlet ..... Yes (No)
5. Restaurant ..... Yes (No)
6. Parking lots with greater than 25 spaces or greater than 5,000 square feet ..... Yes (No)

*Refer to the definitions section for expanded definitions of the priority project categories.

Part B: Standard Project Categories

Does the project propose:

1. A facility that requires a NPDES Permit for Stormwater Discharges Associated with **Industrial** Activities? ..... Yes (No)
2. New or redeveloped impervious surfaces 10,000 square feet or greater, excluding roads? ..... (Yes) No
3. Hillside residential greater than 30% slope. ..... Yes (No)
4. Roadway and driveway construction or reconstruction which requires a Grading Permit ..... (Yes) No
5. Installation of new storm drains or alteration to existing storm drains? ..... (Yes) No
6. Liquid or solid material loading and/or unloading areas? ..... Yes (No)
7. Vehicle and/or equipment fueling, washing, or maintenance areas, excluding residential uses? ..... Yes (No)
8. Commercial or industrial waste handling or storage, excluding typical office or household waste? ..... (Yes) No

Note: To find out if your project is required to obtain an individual General NPDES Permit for Stormwater discharges Associated with Industrial Activities, visit the State Water Resources Control Board website at www.swrcb.ca.gov/stormwtr/industrial.html

NAPA COUNTY POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS
APPENDIX A – APPLICABILITY CHECKLIST

Impervious Surface Worksheet

Project phasing to decrease impervious surface area shall not exempt the project from Post-Construction Runoff Management requirements. A new development or redevelopment project must comply with the requirements if it is part of a larger common plan of development that would result in the creation, addition and/or reconstruction of one acre or more of impervious surface. (For example, if 50% of a subdivision is constructed and results in 0.9 acre of impervious surface, and the remaining 50% of the subdivision is to be developed at a future date, the property owner must comply with the Post-Construction Runoff Management requirements.

Type of Impervious Surface	Impervious Surface (Sq Ft)			Total New and Reconstructed Impervious Surfaces (Sq Ft)
	Pre-Project (if applicable)	New (Does not replace any existing impervious area)	Reconstructed (Replaces existing impervious area)	
Buildings, Garages, Carports, other Structures with roofs	6,362 ±	11,230±	-0-	11,230 ±
Patio, Impervious Decking, Pavers and Impervious Liners	2,080 ±	-0-	-0-	-0-
Sidewalks and paths	135 ±	-0-	-0-	-0-
Parking Lots	-0-	1,071 ±	-0-	1,071 ±
Roadways and Driveways,	6,300 ±	17,511 ±	-0-	17,511 ±
Off-site Impervious Improvements	-0-	-0-	-0-	-0-
Total Area of Impervious Surface (Excluding Roadways and Driveways)	8,577 ±	12,301 ±	-0-	12,301 ±

Incorrect information on proposed activities or uses of a project may delay your project application(s) or permit(s).

I declare under penalty of perjury, that to the best of my knowledge, the information presented herein is accurate and complete.

Name of Owner or Agent (Please Print):	Title:
William & Roxanne Wolf	Owners
Signature of Owner or Agent:	Date:
	9/10/2010

NAPA COUNTY POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS
APPENDIX B – APPLICATION FOR SRMP REVIEW

FOR OFFICE USE ONLY

SUBMITTAL DATE: _____ **FILE #:** _____ **APN #:** _____

USGS QUAD: _____ **CalWatershed:** _____

REQUEST: _____

_____

USE PERMIT CATEGORY: ☐ Hillside Residence ☐ Subdivision ☐ Commercial Facility **TYPE:** ☐ Private ☐ Public

BUILDING AND/OR GRADING PERMIT: ☐ Structure ☐ Driveway ☐ Road ☐ Reservoir ☐ Cave ☐ Other

FINAL APPROVAL: Date: _____

Deposit: $ _____ _____ _____ _____

Deposit *Receipt Number* *Received By* *Date*

TO BE COMPLETED BY APPLICANT

(Please type or print legibly)

Applicant's Name: William & Roxanne Wolf **Company:** Eagle Eye Wines

Telephone #: (707) 427-1600 **Fax #:** (707) 427-1616 **E-Mail:** bill@EagleEyeWine.com

Mailing Address: 6595 Gordon Valley Road, Napa, CA 94558

No *Street* *City* *State* *Zip*

Status of Applicant's Interest in Property: Owners

Property Owner's Name: Same

Telephone #: (____) _____ **Fax #:** (____) _____ **E-Mail:** _____

Mailing Address: _____

No *Street* *City* *State* *Zip*

Site Address/Location: 6595 Gordon Valley Road, Napa

No *Street* *City*

Assessor's Parcel #(s): 033-160-018

SIGNATURE: I hereby certify that all the information contained in this application, including but not limited to, this application form, the Stormwater Runoff Management Plan (SRMP), the supplemental information sheets, site plan, plot plan, cross sections/elevations, is complete and accurate to the best of my knowledge. I hereby authorize such investigations including access to County Assessor's Records as are deemed necessary by the Department of Public Works for evaluation of this application and preparation of reports related thereto, including the right of access to the property involved.

_____ _____ _____ 9/10/2010

Signature of Applicant Date Signature of Property Owner Date

NAPA COUNTY POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS
APPENDIX E – SOURCE CONTROL BMP SELECTION WORKSHEET

All Standard and Priority Projects must complete and sign the Source Control BMP Selection Worksheet and submit it with their Stormwater Runoff Management Plan (SRMP).

Date of Application: _____

Project Number: *(For County Use Only)*

Type of Application: ☒ Use Permit ☐ Building Permit ☐ Grading Permit

Project Location or Address: 6595 Gordon Valley Road, Napa, CA 94558

Project Name: Eagle Eye Winery

Property Owner Name: William and Roxanne Wolf

Applicant's Name: William and Roxanne Wolf

☒ Owner ☐ Contractor ☐ Engineer/Architect ☐ Developer

Applicant's Address: 6595 Gordon Valley Road, Napa, CA 94558

Applicant's Phone: _____ **Fax:** _____ **E-mail:** _____

Parcel/Tract #: _____ **Lot #:** _____ **APN:** _____

Fill out the table below to indicate which Source Control BMPs in Chapter 4.2 apply to your project.

Check box to indicate proposed activity	Land Use/Activities	Limited Exclusion (Check box if project is excluded)	Source Control BMP Standard
✓	Roads and driveways.	None	4.2.A
✓	Parking Areas	None	4.2.B
✓	New or Reconstructed Stormwater Conveyance Systems	None	4.2.C
✓	Storm drain inlets and open channels or creeks.	☐ Detached Residential Homes	4.2.D
✓	Landscaping	None	4.2.E
✓	Trash Storage Areas.	☐ Detached Residential Homes	4.2.F
N/A	Pools, Spas, and Fountains.	None	4.2.G
✓	Roofs, Gutters, and Downspouts.	None	4.2.H
N/A	Loading and Unloading Dock Areas	None	4.2.I
N/A	Outdoor Material Storage Areas.	☐ Detached Residential Homes	4.2.J
✓	Processing Areas.	None	4.2.K
N/A	Vehicle and Equipment Repair and Maintenance Areas	☐ Detached Residential Homes	4.2.L
N/A	Vehicle and Equipment Wash Areas	☐ Detached Residential Homes	4.2.M
N/A	Food Service Equipment Cleaning	None	4.2.N
✓	Interior Floor Drains.	None	4.2.O
N/A	Fueling Areas.	None	4.2.P

Incorrect information on proposed activities or uses of a project may delay your project application(s) or permit(s).

I declare under penalty of perjury, that to the best of my knowledge, the information presented herein is accurate and complete.

Name of Owner or Agent (Please Print):	Title:
Willian & Roxanne Wolf	Owners
Signature of Owner or Agent:	Date: 9/10/2010

Stormwater Runoff Management Plan

Eagle Eye Winery
6595 Gordon Valley Road
Napa County, California
April 2011

This project proposes to develop a winery at 6595 Gordon Valley Road in Napa County, California. The proposed winery will be a full crush facility with the capacity to produce 30,000 gallons of wine per year. The existing site features consist of vineyards, driveways, a four bedroom house and a barn. The proposed project will include the demolition of a portion of the existing vineyard and the construction of a winery, paved access roads, and an onsite wastewater disposal system.

The following table summarizes the existing and proposed impervious surfaces for the project:

	Existing Impervious Area (square feet)	Proposed Impervious Area (square feet)
Existing House	2,040	2,040
Existing House Paved Driveway	6,300	6,300
Existing House Paved Path	135	135
Existing House Patio	2,080	2,080
Existing Barn	4,322	4,322
Proposed Winery Process Building	0	3,600
Proposed Barrel Storage Building	0	3,600
Proposed Crush Pad & Tank Storage	0	3,760
Trash Enclosure	0	270
Parking	0	1,071
Paved Driveway at Winery	0	11,800
Driveway to Winery	0	5,711
Total (square feet)	14,877	44,689
Total (acre)	0.34	1.03

Drainage Study:

A drainage study for the Eagle Eye Winery project was completed following the Napa County Post-Construction Runoff Management Requirements. According to the attached Applicability Checklist, the proposed project is a Standard Project.

The drainage area flowing through the project site was estimated based on Napa County Geographic Information Services Topographic Information. The drainage area was estimated to be 10.6 acres as shown on the attached Drainage Study Exhibit. The soil type was determined based on the Napa County Soil Survey and

was found to be 146-Haire Loam, 2 to 9 percent slopes and 181-Yolo Loam, 0 to 2 percent. The soil hydrologic group for Haire Loam and Yolo Loam are Group C and B respectively. According to the TR-20 drainage study results the increase of 0.69 acres of impervious area does not significantly increase the stormwater runoff volume for the 2-year, 24-hour storm event. Please see the attached TR-20 drainage study results for more information about drainage study parameters and results. According to the TR-55 drainage study results, the increase of 0.69 acres of impervious area does not significantly increase the peak stormwater runoff flowrate for the 2-year, 24-hour storm event. Please see the attached TR-55 drainage study results for more information about drainage study parameters and results.

The vegetation surrounding the proposed project footprint is vineyard with cover crop. The proposed buildings and driveways will drain into landscaped or vegetated areas before draining to Suisun Creek. All swales have been designed to maintain bank stability.

Anticipated Activities and Pollution Sources:

See the Source Control BMP Selection Worksheet (Appendix E) attached. The following is a list of the anticipated pollution sources for the proposed project:

- Roads and driveways
- Parking areas
- New or reconstructed stormwater conveyance systems
- Storm drain inlets and open channels or creeks
- Landscaping
- Trash storage areas
- Roofs, gutters and downspouts
- Loading and unloading dock areas
- Processing areas
- Interior floor drains

Stormwater Conveyance Systems:

As shown on the attached Conceptual Site Plan, the stormwater conveyance systems will consist of vegetated drainage swales, storm drains and sheet flow over the site.

The site is located within the National Flood Insurance Program, 100-year flood zone. The approximate edge of the flood plain is shown on the Conceptual Site Plan set. The proposed buildings will be built a minimum of 2 feet above the estimated 100-year base flood elevation.

Existing vegetation between the stormwater conveyance system and the project footprint consists of vegetated landscaped areas, vegetated swales and vineyard with cover crop. Proposed impervious areas will drain into landscaped areas,

crop encompass most of the watershed area accept for very small amounts of landscaping and olive trees which are located around the existing buildings as shown on the conceptual site plan. Vegetated vineyards usually maintain a minimum cover of 75%.

The existing and proposed swales are designed to meet standard BMP swale characteristics. The side slopes of the swales will be 3:1 or flatter. Bank stability for this typical swale design is very high with very low risk of erosion. Swales will be installed with erosion control blankets and/or seeded to further improve bank stability.

Site Design BMPs and Source Control BMPs

The following design guidelines are encouraged by Napa County:

- Reducing imperviousness (such as, new surface parking lots), preserving and/or enhancing vegetation adjacent to receiving waters, using natural drainage courses in the stormwater conveyance system, and minimizing clearing and grading
- Providing runoff storage measures dispersed throughout a site's landscape with the use of a variety of infiltration, retention, and detention runoff practices
- Implementing hydrologically functional landscape design and management practices

Site Design BMPs:

As stated above, the drainage study indicates that no significant increase in stormwater runoff volume or flowrate is anticipated due to the proposed development. The following site design BMPs are suggested for implementation during the proposed project:

- Pervious pavement for walkways, patios and some parking.
- Utilization of natural drainage ways.
- Impervious areas and rooftop downspouts should drain to vegetated areas.
- Vegetated swales for stormwater conveyance system.
- Maintain landscaped areas and vineyard cover crop.

Source Control BMPs:

<u>Roads and Driveways</u>
Roads and driveways have been designed to meet the requirement of the Napa County Road and Street Standards. Runoff from roads and driveways will be directed to vegetated areas before draining off site.

Parking Areas
Some parking areas may be constructed with pervious pavement. Stormwater draining from the parking areas will drain through landscaped areas vegetated swales or vineyards before draining offsite.

New or Reconstructed Stormwater Conveyance Systems
Energy dissipaters will be installed at all stormwater conveyance system outlets as required. All drainage swales will be lined with vegetation to protect from erosion and for stormwater treatment requirements.

Landscaping
Landscaping will be designed to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. If landscaped areas are used to detain or retain stormwater, the design should use plant species that are tolerant of saturated soil conditions. Plants shall be selected considering pest-resistance, soil types, and climate conditions.

Trash and Recycling Storage Areas
Trash and recycling storage areas will be constructed according to the City of Napa Solid Waste and Recycling Enclosure Standards. Trash and recycling enclosures will be graded and covered to prevent excess rainwater from entering the area.

Roofs, Gutters and Downspouts
Stormwater runoff from rooftops and downspouts will drain through vegetated areas to promote sediment removal and infiltration.

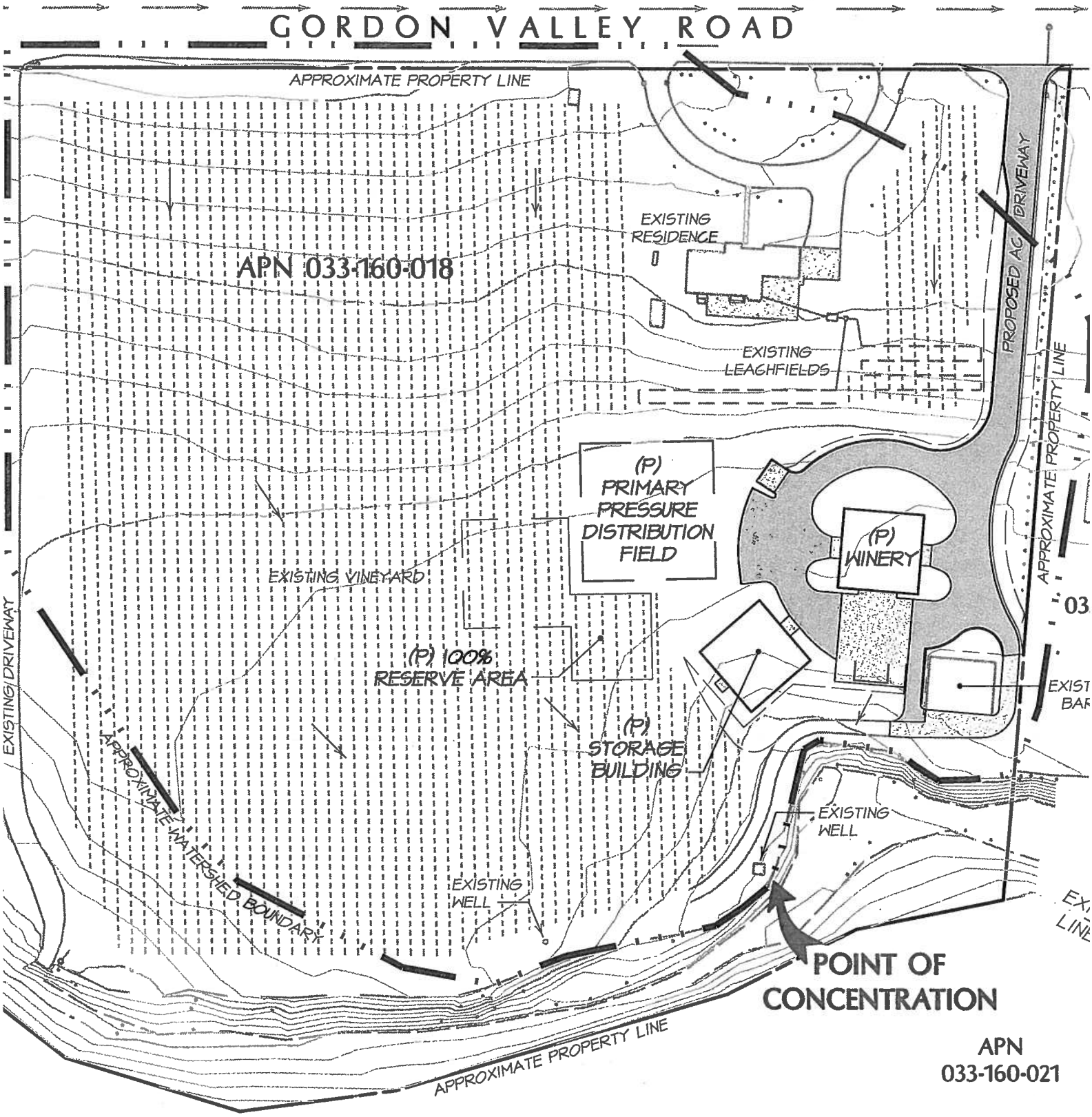
Processing Areas
Winery processing areas and food service equipment cleaning should be done in a covered area to prevent rainwater intrusion. Winery processing and food service equipment cleaning areas will drain to floor drains where the wastewater will be directed through the proposed onsite wastewater treatment system.

Interior Floor Drains
Interior floor drains will be plumbed to the wastewater treatment system.

Conclusions:

The proposed development of Eagle Eye Winery will not increase the overall stormwater runoff volume for the 2-year, 24-hour storm event. The project will be designed with adequate stormwater BMPs to prevent stormwater pollution and treat stormwater through the use of landscaped areas, vegetated swales and vineyards.

RECEIPT



WATERSHED MAP
PROPOSED CONDITIONS

SCALE: 1" = 100'

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ing
d planning
pa, ca 94559
) 258-2926

Eagle Eye Winery Traffic Generation Calculations
Bartelt Engineering
JRG- April 2011

Employees

	Employees	Trips per Day per Employee	Employees per Auto	Total Employee Trips per Day
Full Time	2	3.2	1.05	6
Seasonal	2	2	1.05	4
Peak	4		1.05	4

Visitors

	Amount	Trips per Day per Visitor	Visitors per Auto	Trips per Day
Weekday	40	2	2.6	31
Weekend	40	2	2.8	29
Food & Wine Pairings	40	2	2.8	29
Wine Club Event	50	2	2.8	36
Auction Related Events	100	2	2.8	71

Service Vehicles **(30,000 gallon per year winery)**

	Trips per 1,000 gals per Season	Trips per Season	Trips per Day
Grapes	1.52	46	1.3
Materials/Supplies	1.47	44	1.2
Case Goods	0.8	24	0.7

Eagle Eye Vineyards

TRAFFIC INFORMATION

Project Trip Generation							
	Personnel / Visitors				Vehicle Trips		
	Operations Daily M – F	Marketing Events Minimum Weekends	Maximum		Operations Daily M – F	Marketing Events Minimum Weekends	Maximum
Operating Hours	8	8	8		8	8	8
Employees				Employee Trips			
Full-Time	2	2	2	Full-Time	6	6	6
Seasonal Peak	2	2	2	Seasonal Peak	4	4	4
Peak Hours				Peak Hours	4	4	4
Total Employees	4	4	4	Total Employee Trips	10	10	10
Event Support Staff				Event Support Staff			
Full-Time	2	2	2	Full-Time	6	6	6
Seasonal Peak	2	2	2	Seasonal Peak	4	4	4
Total Support Staff	4	4	4	Total Support Staff Trips	10	10	10
Visitors	40	50	100	Visitor Trips	31	36	71
Peak Hours				Peak Hours	18	21	41
Total Visitors	40	50	100	Total Visitor Trips	31	36	71
				Total Trucks – Deliveries, Shipping, etc. Trips	2	2	2
Grand Total	44	54	104		43	48	83
Provide supporting documentation for trip generation rates							
Submit separate spreadsheets for existing & proposed operations, include a trip generation grand total.							

Number of People Onsite					
	Full-Time	Seasonal Peak	Marketing Events	Marketing Events	Marketing Events
No. Employees					
Support Staff, caterers, clean-up, etc.	4	4	4	4	4
Visitors	40	40	40	50	100
Residents	2	2	2	2	2
Grand Total	46	46	46	56	106

APPS-Traffic Information

COVER ONLY

RGH CONSULTANTS

Experience is the difference

PRELIMINARY GEOLOGIC AND GEOTECHNICAL STUDY REPORT

EAGLE EYE WINERY
6596 GORDON VALLEY ROAD
NAPA, CALIFORNIA

Project Number:

6513.01.01.2

Prepared For:

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Prepared By:

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STATE OF CALIFORNIA

April 29, 2010

Cover Letter

Archaeological Resource Service

A CULTURAL RESOURCES EVALUATION OF THE PROPOSED EAGLE EYE WINERY, 6595 GORDON VALLEY ROAD, NAPA COUNTY, CA.

SUBMITTED BY: SALLY EVANS, ARCHAEOLOGICAL RESOURCE SERVICE

SUBMITTED FOR: WILLIAM AND ROXANNE WOLF, EAGLE EYE WINERY, C/O BARTELT ENGINEERING, ST. HELENA

March 24, 2010 **A.R.S. Project 10-008**

PROJECT SUMMARY

Archaeological Resource Service was retained to conduct a cultural resource inventory of the 13.6-acre property at 6595 Gordon Valley Road, located in an unincorporated area of southeastern Napa County, CA. The purpose of the study was to determine if the construction of a winery building and associated utilities within the property will impact any potentially significant cultural resources. The study included background research regarding the physical and cultural settings of the project area and previously conducted archaeological studies and known sites within a half-mile; and a field survey of the parcel.

The study identified the presence of CA-Nap-193 within the parcel. This site is a potentially significant prehistoric Native American site and based on some of the artifacts found, appears to be a Late Period (post A.D. 1100) site. Current observations about the site were recorded on a Department of Parks and Recreation (DPR) 523 supplement form.

The location of the proposed winery building is about 150 feet away from CA-Nap-193 and will avoid it; however archaeological monitoring was recommended due to its close proximity.

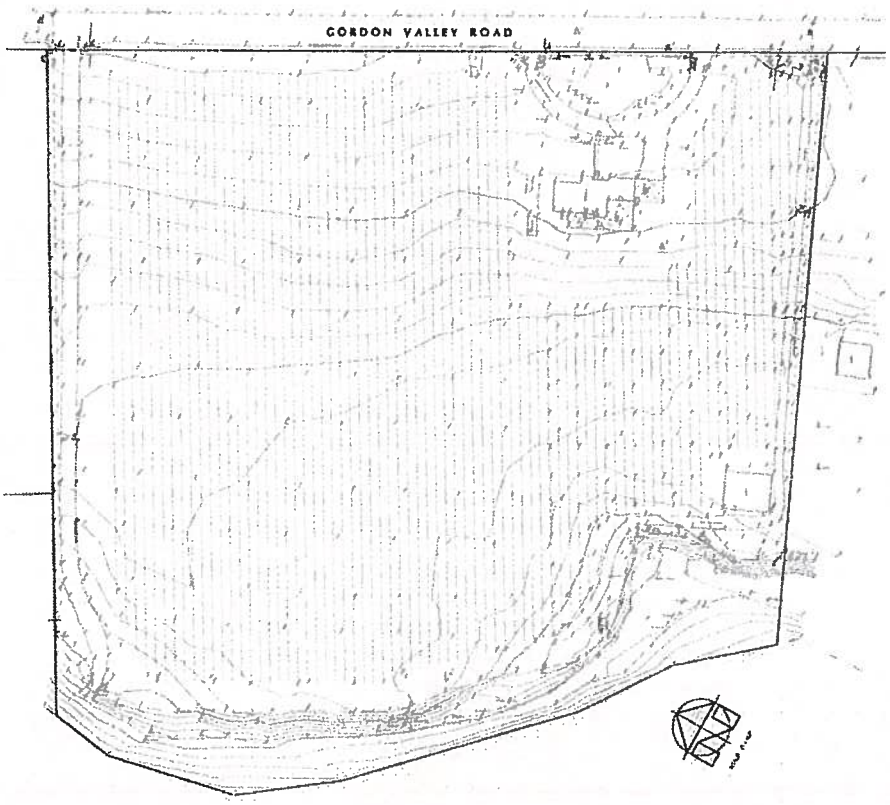

FIGURE 1: PRELIMINARY SITE PLAN PREPARED BY BARTELT ENGINEERING, NAPA.

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