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Septic System Feasibility Report

Jessel Gallery and Prime Solum Tasting Room & Barrel Storage,
P12-00194 - UP
Planning Commission Hearing October 19, 2016

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SEPTIC FEASIBILITY REPORT

FOR THE

JESSEL ART GALLERY & PRIME SOLUM TASTING ROOM

PROJECT LOCATED AT

1019 ATLAS PEAK ROAD
NAPA, CA 94558

COUNTY: NAPA
APN: 039-320-008

INITIAL SUBMITTAL: AUGUST 24, 2015
REVISION 1: JANUARY 11, 2016

PREPARED FOR REVIEW BY:

NAPA COUNTY PLANNING, BULDING,
AND ENVIRONMENTAL SERVICES
1195 THIRD STREET
NAPA, CA 94559

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I. INTRODUCTION

Jessel Art Gallery and Prime Solum Tasting Room are applying to Napa County for individual Use Permits to operate independent businesses on a single parcel located at 1019 Atlas Peak Road in Napa County also known as Napa County Assessor's parcel number (APN) 039-320-008. In addition, the Jessel Art Gallery has been operating on the parcel for over thirty years and seeks to obtain an ex post facto use permit for the gallery. Conversely, Prime Solum is proposing a new tasting room to be operated on the subject parcel.

The parcel has four additional residential and business operations which include:

- A single family residence,
- A residential studio apartment,
- Del Dotto Winery,
- Whetstone Wine Cellars Tasting Room

Jessel Art Gallery includes a gallery, studio, and classroom in a building located on the southeastern area of the parcel. Prime Solum proposes to convert a storage building adjacent to the Jessel Art Gallery Building to a new wine tasting room. The residential studio is located on a second story of the Jessel building.

This report has been prepared for the following purposes:

- Synopsis of the completed site evaluations for the parcel;
- Synopsis of the available information related to the existing wastewater systems located on the parcel;
- Establish code compliant reserve areas for existing uses on the parcel;
- Provide a code-compliant wastewater treatment system (primary and reserve) for the Jessel Art Gallery and Prime Solum projects.

II. SITE EVALUATIONS

A site evaluation is required by Napa County to determine whether the in-situ soils are suitable for dispersal of treated effluent and determine the type of treatment and dispersal system allowed for the soils encountered. Following is a synopsis of the site evaluations completed on the subject parcel.

Site Evaluation #1: Applied Civil Engineering
Applied Civil Engineering (ACE), Napa, CA, completed a site evaluation on February 10, 2011, to locate suitable soils for wastewater dispersal and/or reserve areas at various locations on the parcel. This site evaluation was conducted to support the development of the Whetstone Wine Cellars Tasting Room use permit. ACE evaluated ten test pits and determined all test pits were suitable for wastewater dispersal. The soils encountered in these test pits were determined to be clay loam and sandy clay loam with soil depths ranging from 24" to 72". ACE prepared an "Onsite Wastewater Disposal Feasibility Study" for the Whetstone project. The completed site evaluation report denoting the test pit locations and soil findings can be found in Appendix 3 of this ACE Study. The Study is included in this report in Appendix 2.

Site Evaluation #2: Delta Consulting & Engineering
To supplement the ACE site evaluation, a second site evaluation was conducted by this office on July 22, 2015, to evaluate additional soil conditions on the slope between the Jessel/Prime Solum buildings and the Del Dotto Winery buildings. Four test pits were excavated and evaluated. The soils found were determined to be clay loam and sandy clay loam, soil depths ranging from 12" to 59", and with a moderate soil structure. The site evaluation denoting the test pit locations and soil findings can be found in Appendix 3 of this report.

The wastewater dispersal system for the combined Jessel/Prime Solum project will be located in the vicinity of Delta's site evaluation test pit #1 and ACE's site evaluation test pit #9. The reserve field is proposed to be placed over test pits #7 and #8 from the ACE site evaluation. See Appendix 5 for the proposed system layout.

III. EXISTING WASTEWATER FLOWS AND TREATMENT SYSTEMS

A. Wastewater Generation

As noted in Section I, four existing wastewater generating uses are located on the subject parcel. Each use has an associated septic tank and standard gravity leach field. The approximate location of the existing septic systems is shown in an exhibit located in Appendix 1. Following is a summary of each of the existing uses with a summary of their wastewater systems:

1. Single Family Residence (Western Residence aka "Winery Cottage")
   The single family residence is located at the northwest corner of the parcel. Based on the septic feasibility report prepared by ACE dated October 10, 2012, the estimated domestic wastewater generated from the residence is 450 gallons per day[1] and the septic tank and standard gravity leach field is located to the south of the existing residence. No changes will be made to the residence as part of the Jessel/Prime Solum entitlement process. There is no reserve area established for the residence. This report shall designate a reserve area for this use over ACE test pits #7 and #8. See Appendix 1 for the location of the Del Dotto Winery Buildings and the respective wastewater system.

2. Del Dotto Winery Building
   The three Del Dotto Winery Buildings are located along the east side of the property toward the central portion of the parcel. Based on a wastewater system calculations report prepared by Guadalupe Chavarria, P.E. dated December 13, 2013, the estimated process wastewater generated from the Del Dotto Winery Buildings is 867 gallons per day[2].

   According to Mr. Chavarria and Kim Withrow with Napa County Environmental Health, the Del Dotto Winery Buildings are served by two separate septic systems

[1] Onsite Wastewater Disposal Feasibility Study for the Whetstone Wine Cellars Tasting Bar, Applied Civil Engineering, table on page 6, Appendix 2.
[2] Del Dotto Winery New Winery, Residence(s), and Tasting Room, Quadalupe Chavarria, table page 1, Appendix 4.

(septic tank with standard gravity leach fields). As the southern septic system has been paved and is being used as a parking area (not allowed in County code), this system is proposed to be abandoned in place with the associated wastewater conveyed to the northern system. The northern septic system will be expanded to account for the additional wastewater flows. This work is not a part of this report. There is no reserve area established for the winery. This report shall designate a reserve area for the winery over ACE test pits #7 and #8. See Appendix 1 for the location of the Del Dotto Winery Buildings and the respective wastewater system.

3. Whetstone Wine Cellars Tasting Room
   The Whetstone Tasting Room is located at the northeast corner of the parcel along the eastern property line. Per a study completed by ACE, the estimated domestic wastewater generated from Tasting Room is 165 gallons per day[3]. According to the ACE Study, the septic tank and standard gravity leach field are to be installed in the vicinity of ACE's site evaluation test pits #4 and # 5 with a100% reserve field designed in the vicinity of ACE test pit #2[4]. See Appendix 1 for the location of the septic leach field and reserve field. As the ACE Study included designs for the primary and the reserve field, no changes will be made to the Whetstone primary or reserve system as part of the Jessel/Prime Solum entitlement process.

4. Residential Studio (Second floor of Jessel Art Gallery building)
   The one-bedroom residential studio is located on the second floor above the Jessel Art Gallery. Based on Napa County standards, the estimated domestic wastewater generated from the residential studio is 150 gallons per day. The wastewater flows from the Studio is combined with the art gallery in a septic tank and distributed to land via a gravity leach field. No reserve area is established for this system.

   As part of the Jessel/Prime Solum use permit, the existing wastewater system which serves the studio and the Jessel Gallery is be abandoned and replaced with a code compliant wastewater treatment system (primary and reserve). See Appendix 1 for the approximate location of the existing septic leach field to be abandoned.

B. Summary: Existing Wastewater Flow

The four uses on the property excluding the proposed Prime Solum Tasting Room and the existing Jessel Art Gallery are summarized below:

[3] ACE Feasibility Study, page 4, Appendix 2.
[4] ACE Feasibility Study, pages 4-5, Appendix 2

Table 1: Existing System Summary				
Use	Design Flow (GPD)	System Type	Reserve Established	Notes
Single Family Residence	450	ST/SG	No	Reserve to be established
Del Dotto Winery	867	ST/SG	No	Reserve to be established
Whetstone Tasting Room	167	ST/SG	Yes	Reserve established
Jessel Gallery/Studio	150	ST/SG	No	System to be abandoned, new system

A code compliant primary treatment system for the Jessel Gallery, the Studio Apartment, and Prime Solum Tasting Room are proposed to be combined into a single engineered treatment system. Reserve area for the Single Family Residence, Del Dotto Winery, Jessel Gallery, the Studio Apartment, and Prime Solum Tasting Room are to be established as part of this report.

IV. PROPOSED WASTEWATER TREATMENT SYSTEM: JESSEL GALLERY & PRIME SOLUM TASTING ROOM

A. Wastewater Generation

The domestic wastewater (DW) generated from Prime Solum, Jessel Art Gallery, and the residential studio are proposed to be combined into a single engineered wastewater treatment and dispersal system. The anticipated/design flowrate of the combined system is dependent on the number of employees, number of daily visitors, number of event visitors, and residential bedrooms.

The proposed marketing plans for both Prime Solum and Jessel Gallery are noted below:

Jessel Gallery

- Visitation: 8 guests per day
  - No visitation on the first Monday event
  - First Monday Event: 60 people on the first Monday of every month (not open to other visitations on days these events occur)
- Employees: 2 Full-Time Employees, 1 Part-Time Employee

Residential Studio

- One bedroom

Prime Solum

- Visitation:
  - 125 guests per day (Non-First Monday event days)
  - First Monday event at Jessel: 10 guests per day by appointment only
- Employees: 2 Full-Time Employees, 8 Part-Time Employees
- Catered Events: As described in the UP application. These events will utilize portable toilets, and will not result in additional wastewater flow.
- Meals Prepared Onsite: Up to 12 meals per day in the proposed kitchen

Based on the respective marketing plans for the Jessel Gallery and Prime Solum Tasting Room, there are two potential circumstances with respect to wastewater generation:

- Circumstance #1: The Jessel Gallery hosts a 'First Monday Event' of each month
- Circumstance #2: All other days of the month.

Both of these circumstances are analyzed as follows to determine the peak wastewater flowrate for the art gallery, Prime Solum, and the studio apartment:

Circumstance 1: First Monday Event

The first circumstance occurs when Jessel Art Gallery hosts the First Monday of the Month event. The table below summarizes of the anticipated/design flowrates based on the marketing plan:

Circumstance One: First Monday Event			
	Maximum Quantity (persons)	Waste Flow (GPP)*	Gallons Per Day
Residential Studio		120	120
Jessel Art Gallery			
Employees	3	15	45
First Monday Event	60	3	180
Prime Solum			
Employees	10	15	150
Visitation	10	3	30
		Total:	525

Table 2: Circumstance One – First Monday

The wastewater flow generated from the First Monday Event is **525 gallons per day**.

Circumstance 2: All other days of the month

The second circumstance occurs on all other days of a given month. See the table below for a summary of the proposed uses based on the marketing plan:

Circumstance Two: All Other Days			
	Maximum Quantity (persons)	Waste Flow (GPP)*	Gallons Per Day
Residential Studio		120	120
Jessel Art Gallery			
Employees	3	15	45
Visitation	8	3	24
Prime Solum			
Employees	10	15	150
Visitation	125	3	375
Kitchen: Meals	12	15	180
		Total:	**894**

Table 3: Circumstance Two – All Other Days

The domestic wastewater flow generated from all other days is 894 gallons per day.

Comparing the two circumstances, the maximum daily peak wastewater flowrate is derived from Circumstance 2 with an associated estimated wastewater flow rate of **894 gallons per day**. The combined code compliant wastewater treatment system to serve the Jessel Gallery, Prime Solum, and the studio will be designed to treat and disperse this flow.

B. Proposed Primary Treatment System

The wastewater treatment system for the combined wastewater generated by Prime Solum, Jessel Art Gallery, and the residential studio is proposed to be treated by a standard septic tank, an Orenco Systems AX-20 secondary treatment unit, and final dispersal via an engineered sub-surface drip system.

As discussed in Section II, two site evaluations have been completed on the parcel:

- Applied Civil Engineering: 10 test pits
- Delta Consulting & Engineering: 4 test pits

The proposed combined treated wastewater dispersal system will be centered over test pit #1 from the Delta site evaluation and test pit #9 from the ACE site evaluation. The soil type for test pit #1 and test pit #9 was classified as sandy clay loam and clay loam respectively with an associated acceptable depth of 48 inches. As Clay Loam has a more restrictive application rate of 0.60 gallons/ft^2/day than sandy clay loam, the clay loam application rate will be used for design purposes.

Based on the combined peak daily flow of 894 gallons per day and an application rate of 0.60 gallons/ft^2/day, an area of 1,490 square feet is required for the sub-surface drip dispersal system. The dispersal system will consist of nine (9) driplines at 83.33 feet each for a total length of 750 linear feet. See the proposed wastewater treatment dispersal system site map in Appendix 5 for the installation area.

Following is a flow chart of the proposed combined engineered sub-surface drip treatment system:

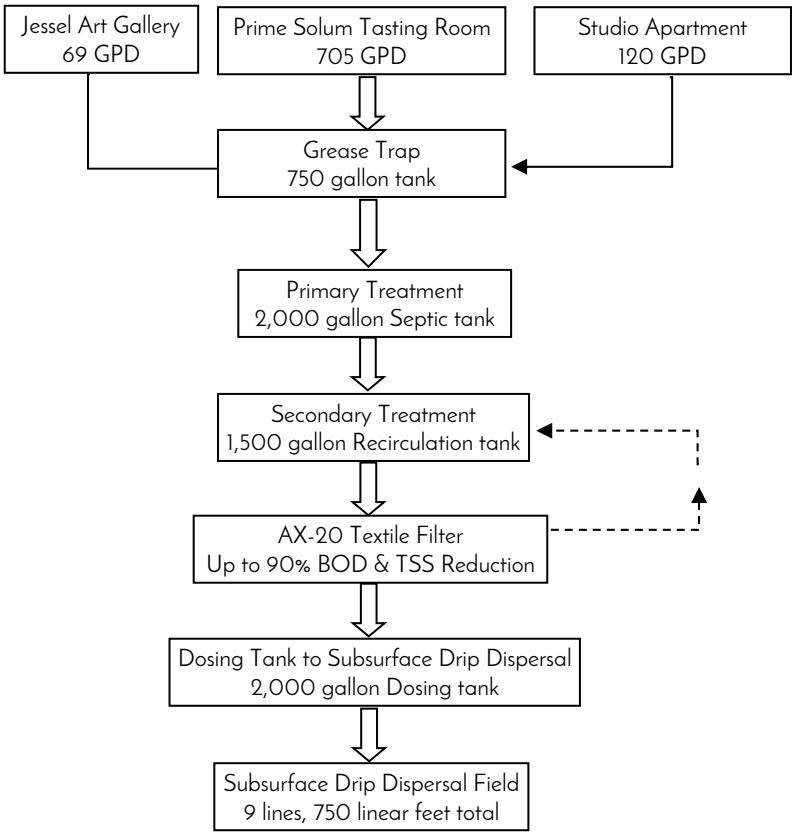

Figure 1: Proposed Wastewater Treatment System Schematic

C. Proposed Reserve Treatment System

In the event that the primary wastewater dispersal system fails, a reserve area is required to be designated. The reserve area must be sized to accept 100% of the daily flow for standard gravity systems and 200% of the daily flow rate for engineered systems. For the existing and proposed uses on the parcel (the single family residence, Del Dotto Winery, and the Jessel/Prime Solum/Studio), new reserve fields are required to be established. Following is a summary of the wastewater flows which require establishment of a reserve field:

Type of Use	Design Flow (GPD)
Single Family Residence	360
Del Dotto Winery Buildings	867
Jessel Art Gallery/Prime Solum	894
Total:	2,121

Table 4: Reserve Field Requirements

Based on the various uses, the daily peak wastewater flowrate is 2,121 gallons per day. Similar to the combined primary treatment dispersal system for Jessel/Prime Solum/Studio Apartment, the reserve field for these uses will be designed as an engineered sub-surface drip dispersal system with the necessary secondary treatment system to meet State dispersal standards for the associated use. The reserve field these uses will be centered over ACE site evaluation test pits # 7 and #8. The soil type for test pits #7 and #8 was classified as clay loam and has an application rate of 0.60 gallons/ft^2/day.

Based on the peak flowrate of 2,121 gpd, an application rate of 0.60 gallons/ft^2/day, and a 200% of the daily flowrate requirement, the reserve field requires a minimum area of 7,070 square feet (rounded to 7,100 square feet). See the proposed wastewater treatment system site map in Appendix 1 and Appendix 5.

V. CONCLUSION

Based on the analysis of the existing and proposed uses in this report, suitable soil and available area exists on the parcel for code compliant wastewater dispersal fields (primary and reserve) to serve the Jessel Art Gallery/Studio Apartment and Prime Solum projects and designate the required reserve area for the residence and Del Dotto Winery uses. The Whetstone Tasting Room has a code compliant primary and reserve fields established.

The existing septic system serving the Jessel Gallery/Studio Apartment will be abandoned per Napa County Standards and a new engineered treatment system with sub-surface drip dispersal will be required to be designed, permitted, and constructed to treat and disperse the wastewater generated from Jessel Gallery, Prime Solum, and the residential studio.

IX. APPENDIX

1 Overall Site Plan
2 ACE Study: Onsite Wastewater Disposal Feasibility Study for the Whetstone Wine Cellars Tasting Bar
3 Delta Consulting & Engineering: Site Evaluation Report
4 Calculations: Del Dotto Winery
5 Proposed Wastewater Treatment System Plan

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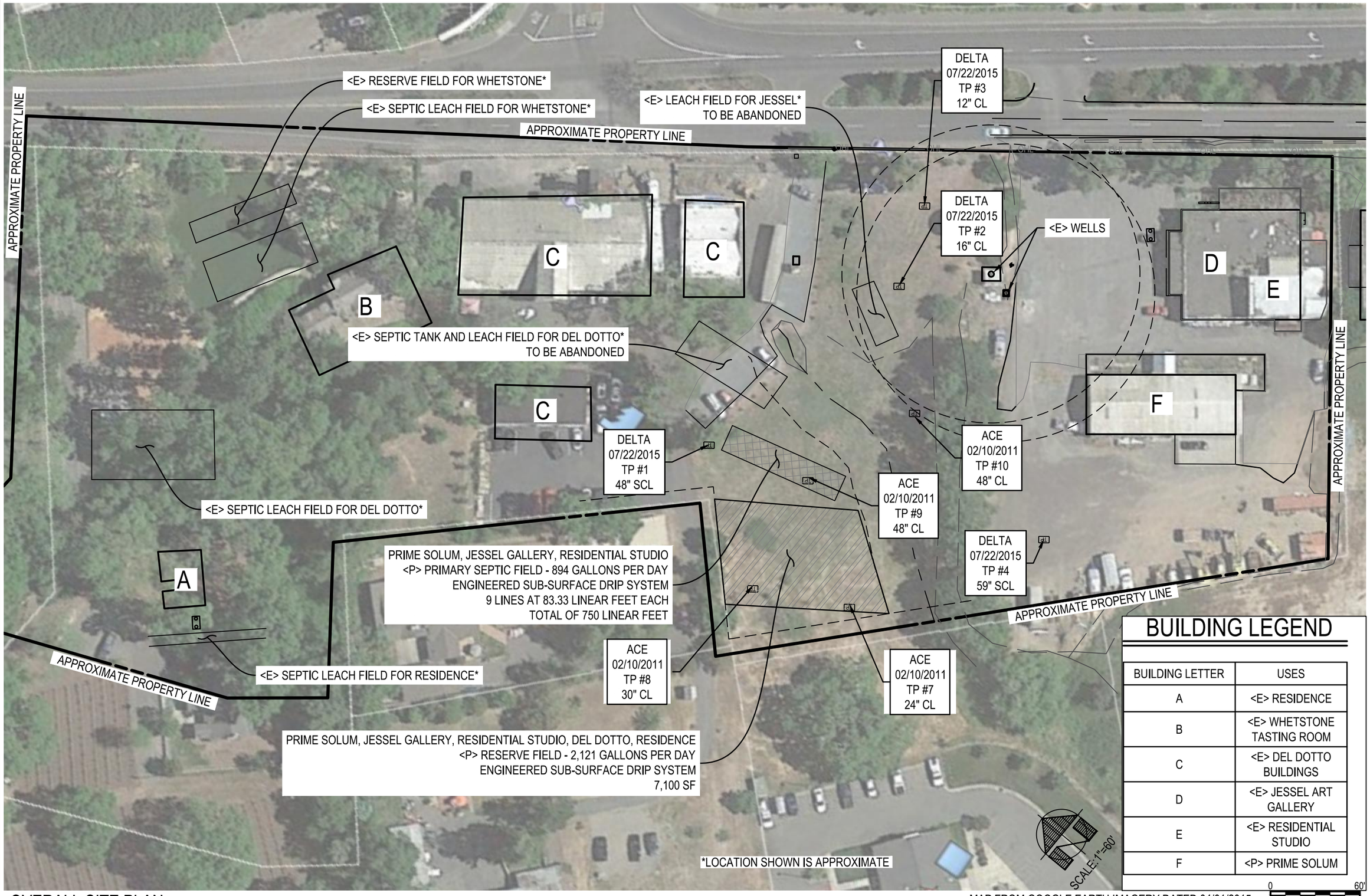
APPENDIX 1:

OVERALL SITE PLAN



BUILDING LEGEND

BUILDING LETTER	USES
A	<E> RESIDENCE
B	<E> WHETSTONE TASTING ROOM
C	<E> DEL DOTTO BUILDINGS
D	<E> JESSEL ART GALLERY
E	<E> RESIDENTIAL STUDIO
F	<P> PRIME SOLUM

OVERALL SITE PLAN

MAP FROM GOOGLE EARTH IMAGERY DATED 04/01/2015

SEPTIC FEASIBILITY
OVERALL SITE PLAN

NAPA CA

Madrone Engineering
1485 Main Street, Suite 103C, St. Helena, CA 94574
707.302.6280 tel

DATE: 12/30/2015
SCALE: 1"=60'
JOB #: 15.005
APN: 039-320-008

1 OF 1

APPENDIX 2:

APPLIED CIVIL ENGINEERING (ACE)
WHETSTONE WASTEWATER TREATMENT SYSTEM FEASIBILITY STUDY
AND
SITE EVALUATION
REVISION 2
FEBRUARY 10, 2011

ONSITE WASTEWATER DISPOSAL FEASIBILTY STUDY

FOR THE

WHETSTONE WINE CELLARS TASTING BAR

LOCATED AT:
1075 Atlas Peak Road
Napa, CA 94558
NAPA COUNTY APN 039-320-008

PREPARED FOR:
Whetstone Wine Cellars
c/o Michelle Whetstone
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Job Number: 10-137

Revision #1: July 12, 2012
Revision #2: October 10, 2012

Michael R Muelrath 10/10/2012

Michael R. Muelrath R.C.E. 67435 Date

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INTRODUCTION

Whetstone Wine Cellars is applying for a Use Permit to operate a wine bar in an existing building located 1075 Atlas Peak Road in Napa County, California. The subject property, known as Napa County Assessor's Parcel Number 039-320-008, is located along the west side of Atlas Peak Road, directly west of the Atlas Peak Road / Hillcrest Drive intersection.

The use permit application under consideration proposes the implementation and operation of a new wine bar within an existing stone building. The wine bar will have up to three employees and will host a maximum of 40 visitors per day. The facility will also host marketing events consisting of up to 6 winemaker's dinners per year with up to 12 guests, up to 10 trade events per year with up to 24 guests and 2 larger events (wine auction and release) per year. We understand that all food served to wine tasting patrons and marketing event guests will be provided by a catering company. No food preparation or dishwashing activities will take place onsite.

There will be no wine production activities performed at this building. All wine will be produced offsite and will be transported to this location for tasting and sales.

The building that will be used for the proposed wine tasting room is currently a single family residence. Wastewater disposal for the residence is via a standard septic tank and leach field type septic system located in the lawn area north of the existing building.

There are other existing residential and commercial uses on the subject parcel which include the following:

1. Single Family Residence located at the northwest corner of the property
2. Del Dotto Winery buildings and cave located south and southwest of the subject building (Bright Group also has office space in this building)
3. Jessel Gallery buildings located at the southeast corner of the property

Whetstone Wine Cellars and Applied Civil Engineering Incorporated (ACE) have consulted with Napa County Environmental Management Department and determined that the existing septic system will have to be brought up to current code standards or a new septic system will have to be installed because the building use is changing from residential to commercial. Furthermore, adequate reserve area must be identified for each of the existing septic systems to ensure that the site can support not only the wastewater disposal needs of the proposed tasting room but also the reserve area requirements for the other existing uses on the property. The remainder of this report describes the onsite soil conditions, the existing septic systems, predicted sanitary wastewater flow from the new tasting room and outlines the conceptual design of a new septic system to serve the proposed wine tasting bar and reserve area for the other existing septic systems.

SOILS INFORMATION

The United States Department of Agriculture Soil Conservation Service Soils Map for Napa County shows a majority of the parcel mapped as Coombs gravelly loam, 2 to 5 percent slopes and the northwestern corner of the parcel is mapped as Yolo loam, 0 to 2 percent slopes.

A site specific soils analysis was conducted during a site evaluation performed by Applied Civil Engineering Incorporated on February 10, 2011. The test pit locations are shown on the Whetstone Wine Cellars Tasting Bar Use Permit Conceptual Site Plan in Appendix 2. The site evaluation consisted of the excavation and observation of ten test pits in various portions of the property. During our site evaluation we found variable acceptable soil depths ranging from approximately 24 to 66 inches of loam and sandy clay loam soil with subangular blocky structure. Standing water was noted in Test Pits #9 and #10 at a depth of 48 inches. None of the other test pits exhibited free groundwater.

EXISTING SEPTIC SYSTEMS

There are five existing septic systems that serve the existing uses at the subject property. The approximate locations of each existing septic system are shown on the Whetstone Wine Cellars Tasting Bar Use Permit Conceptual Site Plan in Appendix 2. Following is a summary of the existing septic systems as we understand them to exist based on notes, installation permits and inspection reports obtained from the Napa County Environmental Management Department file:

Buller Residence (Proposed Tasting Bar)

According to an inspection report prepared by Napa Septic Tank Service, dated May 19, 1998, the existing residence is served by a standard septic tank and leach field type septic system. The septic tank has a capacity of 2,000 gallons and the leach field consists of 200 lineal feet of leach line with 800 square feet of sidewall area. During our site evaluation we uncovered one of the leach lines and found they are constructed of concrete drain tile that has partially collapsed.

Western Residence (aka Winery Cottage)

According to an inspection report prepared by Napa Septic Tank Service, dated May 19, 1998, the existing residence is served by a standard septic tank and leach field type septic system. The two round septic tanks have a capacity of 400 gallons and the leach field consists of 160 lineal feet of leach line with approximately 500 square feet of sidewall area.

Del Dotto Winery

The Del Dotto Winery buildings are served by two separate septic systems. The southern septic system was inspected by Napa Septic Tank Service on May 19, 1998. According to the inspection report the system consist of a 4,000 gallon septic tank and approximately 180 lineal feet of leach line with approximately 800 square feet of sidewall area.

The second septic system serves the northern end of the building and the cave waste drains. The system was designed by Chaudhary and Associates in 1992 and is located in the northwest portion of the property immediately north of the existing cave portal. According to the design drawings the system consists of a 1,200 gallon sewage lift station located at the north end of the Del Dotto Winery building and two septic tanks located near the cave portal / leach field area. One septic tank is dedicated to domestic waste and the other tank is dedicated to winery process wastewater. The leach field consists of approximately 300 lineal feet of leach line and according to notes in the County file the system is designed to handle approximately 600 gallons per day.

Jessel Gallery

According to an inspection report prepared by Napa Septic Tank Service, dated May 19, 1998, the two existing buildings are served by a standard septic tank and leach field type septic system. The existing septic tank has a capacity of 4,000 gallons and the leach field consists of 200 lineal feet of leach line with approximately 750 square feet of sidewall area.

PREDICTED WASTEWATER FLOW

Wine Bar Sanitary Wastewater

The peak sanitary wastewater flow from the proposed wine tasting bar is calculated based on the number of winery employees, the number of daily visitors and the number of guests attending marketing events. In accordance with Table 4 of the Napa County Environmental Management Department "Regulations for Design, Construction, and Installation of Alternative Sewage Treatment Systems" we have used a design flow rate of 15 gallons per day per employee and 3 gallons per day per visitor for tours and tastings for events with light food service prepared offsite by a catering service. Table 4 does not specifically address design wastewater flows for guests at marketing events. Since the applicant is proposing that food for marketing events (winemaker's dinners and trade events) with up to 24 guests will be catered we have conservatively estimated 5 gallons per guest. Food for larger events will also be catered and portable sanitary facilities will be used for these events and therefore they are not included in this analysis. Furthermore, on event days the tasting bar will be closed to regular daily visitors. Based on these assumptions, the peak winery sanitary wastewater flows are calculated as follows:

Employees

Peak Sanitary Wastewater Flow = 3 employees X 15 gpd per employee

Peak Sanitary Wastewater Flow = 45 gpd

Daily Tasting Visitors

Peak Sanitary Wastewater Flow = 40 visitors per day X 3 gallons per visitor

Peak Sanitary Wastewater Flow = 120 gpd

Marketing Events

Peak Sanitary Wastewater Flow = 24 guests per day X 5 gallons per visitor 10X per yr.

Peak Sanitary Wastewater Flow = 120 gpd

Total Peak Winery Sanitary Wastewater Flow

Since the peak flow will be the same on a marketing event as on a regular day with the maximum number of visitors. The total peak flow is calculated as shown below:

Total Peak Winery Sanitary Wastewater Flow = 45 gpd + 120 gpd

Total Peak Winery Sanitary Wastewater Flow = 165 gpd

RECOMMENDATIONS

Septic System for Proposed Tasting Room

Due to the lack of acceptable soil depth below the existing trench bottoms as discovered in Test Pits #2 and #3 it is not possible to bring the existing septic system into compliance with current code requirements. Therefore, we recommend that the existing septic system be removed or abandoned in place and that a new septic system be installed to serve the proposed tasting bar.

Based on the anticipated wastewater flows outlined above and the finding of 60 to 72 inches of acceptable loam and loamy sand soil in the vicinity of Test Pits #4 and #5 with a moderate subangular blocky structure, we recommend that the wastewater generated at the proposed tasting room be disposed of onsite in a standard gravity distribution type septic system.

Required Disposal Field Area

The disposal field area is calculated based upon the design hydraulic loading rate for the soil conditions and the effective trench sidewall area. Based on the findings of 60 to 72 inches of acceptable soil depth and a minimum requirement of 36 inches of undisturbed soil between the trench bottom and the limiting condition, we recommend using 24 inch deep trenches with 12 inch tall Infiltrator chambers and 12 inches of native soil backfill to match existing grade. This

proposed trench configuration provides three square feet of sidewall area per lineal foot of trench. The design hydraulic loading rate for loam soil with a moderate subangular blocky structure is 0.33 gallons per square foot per day. Based on these design parameters, the required length of trench is calculated as follows:

$$\text{Required Length of Trench} = 165 \text{ gpd} \times \frac{1 \text{ square foot}}{0.33 \text{ gpd}} \times \frac{1 \text{ lineal foot}}{3 \text{ square feet}}$$

Required Length of Trench = 165 lineal feet, use 3-55 lineal foot laterals for a total of 165 lineal feet

Available Disposal Field Area

Based on the topographic map prepared by Albion Surveys, we have determined that there is enough area to install 165 lineal feet of standard gravity distribution laterals in the vicinity of Test Pits #4 and #5. The conceptual layout of the laterals is shown on the Whetstone Wine Cellars Wine Bar Use Permit Conceptual Site Plan prepared by Applied Civil Engineering Incorporated.

100% Reserve Area

Napa County code requires that an area be set aside to accommodate a future onsite wastewater disposal system in the event that the primary system fails. We recommend that the reserve area for the existing septic systems be designated in the vicinity of Test Pit #2. Based on the finding of 42 inches of acceptable sandy clay loam and sandy clay loam soil in that area we recommend that the reserve area be designed as a subsurface drip type septic system utilizing an application rate of 0.6 gallons per square foot per day. The reserve area should be 200% of the calculated area in accordance with Napa County Code. The required reserve area is calculated as follows:

$$\text{Required Disposal Field Area} = \frac{\text{Design Flow}}{\text{Soil Application Rate}} \times 200\%$$

$$\text{Required Disposal Field Area} = \frac{165 \text{ gpd}}{0.6 \text{ gpd per square foot}} \times 200\%$$

Required Disposal Field Area = 550 square feet

Based on our review of the existing site conditions, we have determined that there is enough area to set aside 550 square feet of reserve area in the vicinity of Test Pit #2 as shown on the Whetstone Wine Cellars Wine Bar Use Permit Conceptual Site Plan prepared by Applied Civil Engineering Incorporated.

It should also be noted that in the event that a subsurface drip type septic system is installed to replace the primary system pre-treatment will be required to reduce the organic loading to the disposal field area. Pre-treatment must reduce effluent strength to <30 mg/l BOD and <30 mg/l TSS.

Septic Tank Capacity

We recommend that the existing septic tank be removed per County requirements and that a new 1,200 gallon septic tank be installed to serve the proposed wine tasting bar. The 1,200 gallon septic tank will provide a minimum of seven days hydraulic retention time for peak wastewater flows and is the minimum size permitted by Napa County Environmental Management Department.

Reserve Area for Existing Septic Systems

In addition to supporting a new septic system for the proposed wine bar the site must also provide adequate reserve area for the existing septic systems that serve the other existing uses on the property. The total required reserve area for the existing septic systems is determined by the design flow for each system. The design flow for the Western Residence is based on an assumed 3 bedroom residence using 150 gallons per day per bedroom. The design flow for the Del Dotto Winery (North) system is based on the design calculations and notes in the County file. In order to determine the design flow for the other existing septic system where design calculations were not available we have calculated the theoretical design capacity based on the available sidewall area listed in the inspection reports prepared by Napa Septic Tank Service and a soil application rate of 0.33 gallons per square foot per day based on our review of the onsite soil conditions across the property during our site evaluation. Below is a summary of the design flow for each of the four existing septic systems that are to remain in service:

	Sidewall Area	Design Flow
Western Residence	N/A	450 gallons per day
Del Dotto Winery (North)	N/A	600 gallons per day
Del Dotto Winery (South)	800 square feet	267 gallons per day
Jessel / Holmes	750 square feet	250 gallons per day
Total	N/A	1,567 gallons per day

We recommend that the reserve area for the existing septic systems be designated in the vicinity of Test Pits #7, #8 and #9. Based on the finding of 24 to 48 inches of acceptable clay loam and sandy clay loam soil in that area and the limited amount of area available, we recommend that the reserve area be designed as a subsurface drip type septic system utilizing an application rate of 0.6 gallons per square foot per day. The reserve area should be 200% of the calculated area in accordance with Napa County Code. The required reserve area is calculated as follows:

$$\text{Required Disposal Field Area} = \frac{\text{Design Flow}}{\text{Soil Application Rate}} \times 200\%$$

$$\text{Required Disposal Field Area} = \frac{1{,}567 \text{ gpd}}{0.6 \text{ gpd per square foot}} \times 200\%$$

Required Disposal Field Area = 5,223 square feet

Based on our review of the existing site conditions, we have determined that there is enough area to set aside 5,223 square feet of reserve area in the vicinity of Test Pits #7, #8 and #9 as shown on the Whetstone Wine Cellars Wine Bar Use Permit Conceptual Site Plan prepared by Applied Civil Engineering Incorporated.

This analysis was performed to prove that there is adequate area to accommodate the existing septic system reserve area requirements only. We did not evaluate the condition of the existing septic systems or their suitability for serving the existing onsite uses.

It should be noted that other types of systems may be viable. For example, the Western Residence may be able to be served by a new standard septic system in the vicinity of Test Pit #6 if the existing system were to fail. It should also be noted that in the event that a subsurface drip type septic system is installed to replace an existing septic system pre-treatment will be required to reduce the organic loading to the disposal field area. Pre-treatment must reduce effluent strength to <30 mg/l BOD and <30 mg/l TSS.

CONCLUSION

It is our opinion that the proposed wine bar can be served by a new standard gravity distribution type onsite wastewater disposal system as generally outlined in this report. Furthermore, we have determined that there is adequate area available onsite to accommodate a reserve area for all of the existing septic systems. Full design calculations and construction plans should be prepared in accordance with Napa County Environmental Management Department standards at the time of building permit application.

APPENDIX 1: Site Topography Map

SITE TOPOGRAPHY MAP

REPRESENTS A PORTION OF THE USGS 7.5 MINUTE QUADRANGLE "NAPA"
REPRODUCED FROM NATIONAL GEOGRAPHIC TOPO!
OUTDOOR RECREATION MAPPING SOFTWARE

APPLIED CIVIL ENGINEERING INCORPORATED
2074 West Lincoln Avenue
Napa, CA 94558
(707) 320-4968 (707) 320-2395 Fax
www.appliedcivil.com

WHETSTONE WINE CELLARS

1075 ATLAS PEAK ROAD
NAPA, CA 94558
APN 039-320-008

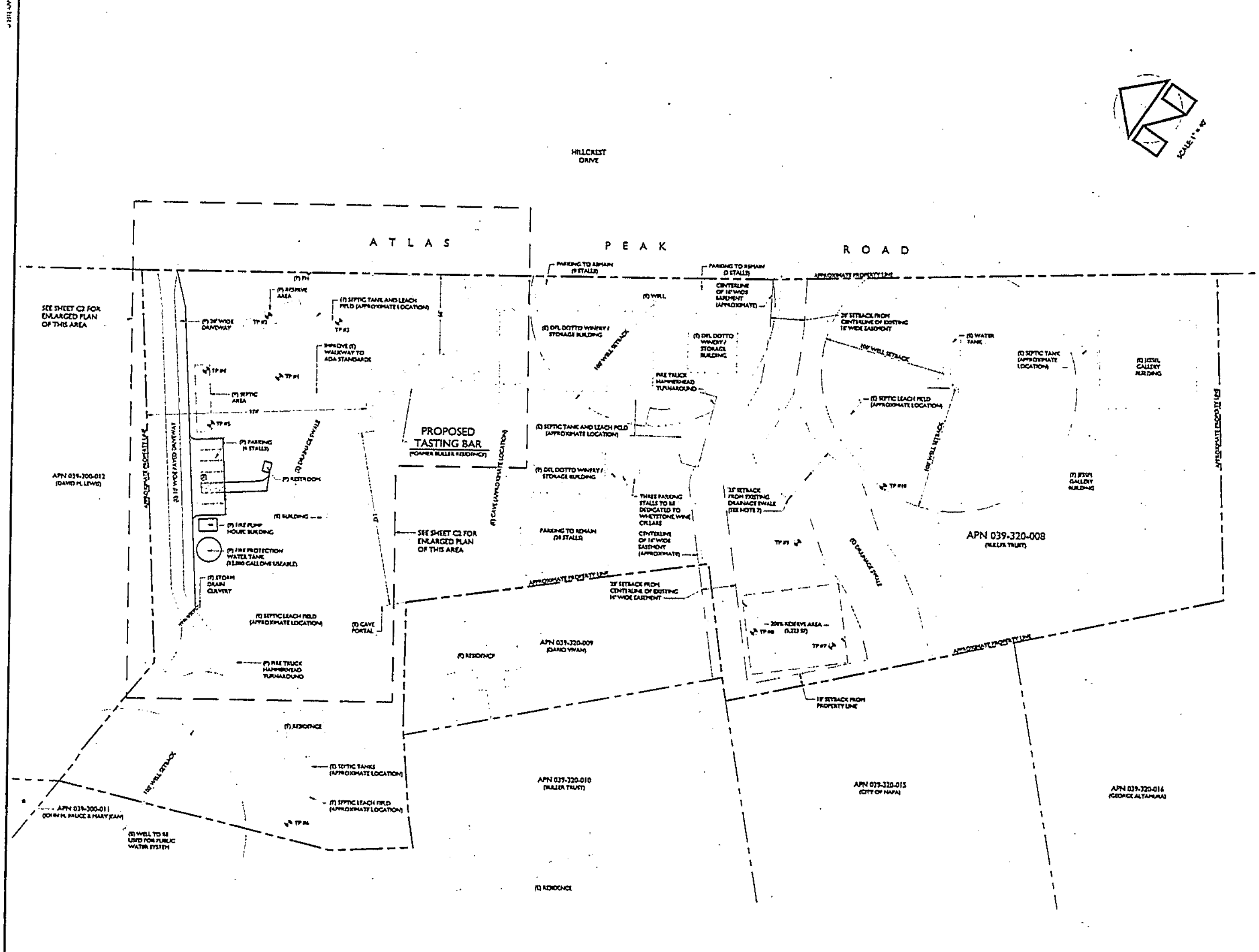
JOB NO. 10-137

JULY 2012

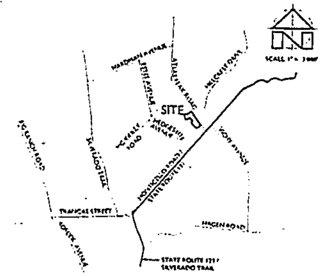
APPENDIX 2: Whetstone Wine Cellars Tasting Bar Use Permit Conceptual Site Plan
(Reduced to 8.5" X 11")

WHETSONE WINE CELLARS TASTING BAR

USE PERMIT CONCEPTUAL SITE PLAN



OVERALL SITE PLAN
SCALE: 1" = 40'



LOCATION MAP
SCALE: 1" = 3,000'

PROJECT INFORMATION

PROPERTY OWNER:
DALE A. & DELORES R. BULLER TRUST
POST OFFICE BOX 737
RAIL ROAD FLAT, CA 95248

APPLICANT:
WHETSTONE WINE CELLARS
c/o MICHELLE WHETSTONE
POST OFFICE BOX 10039
NAPA, CA 94581
(707) 254-0600

SITE ADDRESS:
1075 ATLAS PEAK ROAD
NAPA, CA 94558

ASSESSOR'S PARCEL NUMBER:
039-320-008

PARCEL SIZE:
6.65 ± ACRES

PROJECT SIZE:
0.2± ACRES

ZONING:
COMMERCIAL LIMITED (CL)

WATER SOURCE:
PRIVATE WELLS

WASTEWATER DISPOSAL:
MULTIPLE PRIVATE SEPTIC SYSTEMS

SHEET INDEX:

C1	OVERALL SITE PLAN
C2	CONCEPTUAL TASTING BAR SITE PLAN

PROJECT DESCRIPTION:

THE PROPOSED PROJECT INVOLVES CONVERTING AN EXISTING STONE BUILDING, FORMERLY THE BULLER RESIDENCE, INTO A WINE TASTING BAR. A NEW SEPTIC SYSTEM, PARKING AREA AND FIRE PROTECTION SYSTEM WILL ALSO BE REQUIRED FOR THE NEW USE. ALL OTHER SITE FEATURES ARE TO REMAIN.

NOTES:

1. TEST PITS ONE THROUGH TEN (TP #1 - TP #10) WERE EXCAVATED BY BILL HUGHES ON FEBRUARY 10, 2011 AND WERE WITNESSED BY A REPRESENTATIVE OF APPLIED CIVIL ENGINEERING INCORPORATED AND NAPA COUNTY ENVIRONMENTAL MANAGEMENT DEPARTMENT.
2. FADED BACKGROUND REPRESENTS EXISTING TOPOGRAPHIC FEATURES. TOPOGRAPHIC INFORMATION IN THE IMMEDIATE VICINITY OF THE TASTING ROOM WAS TAKEN FROM THE "TOPOGRAPHIC MAP OF A PORTION OF THE LANDS OF WHETSTONE WINE CELLARS" PREPARED BY ALBION SURVEYS, INC., DATED APRIL 2011. MAPPING FOR THE REMAINDER OF THE PARCEL WAS OBTAINED FROM THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM DATABASE. APPLIED CIVIL ENGINEERING INCORPORATED ASSUMES NO LIABILITY REGARDING THE ACCURACY OR COMPLETENESS OF THE TOPOGRAPHIC INFORMATION.
3. CONTOUR INTERVAL: ONE (1) FOOT, HIGHLIGHTED EVERY FIVE (5) FEET
4. BENCHMARK: NAPA COUNTY BENCHMARK 769-C NGVD '29 PLUS 2.63' TO NAVD '88
5. THE PROPERTY LINES SHOWN ON THESE PLANS DO NOT REPRESENT A BOUNDARY SURVEY. THEY ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.
6. EXISTING SEPTIC SYSTEM AND CAVE LOCATIONS SHOWN HEREON ARE APPROXIMATE BASED RECORDS FROM NAPA COUNTY FILES. THE LOCATIONS ARE PROVIDED FOR GENERAL INFORMATION ONLY. THE EXACT LOCATIONS SHOULD BE VERIFIED PRIOR TO ANY WORK BEING PERFORMED NEAR AN EXISTING SEPTIC SYSTEM OR CAVE.
7. TWENTY FIVE (25) FOOT SETBACK TO DRAINAGE SWALE MAY BE REDUCED TO TEN (10) FEET IF A NEW STORM DRAIN PIPE WAS INSTALLED AND THE DRAINAGE SWALE WAS FILLED IN.

APPLIED CIVIL ENGINEERING INCORPORATED
2074 West Lincoln Avenue
Napa, CA 94558
(707) 253-9148 (707) 320-2395 Fax

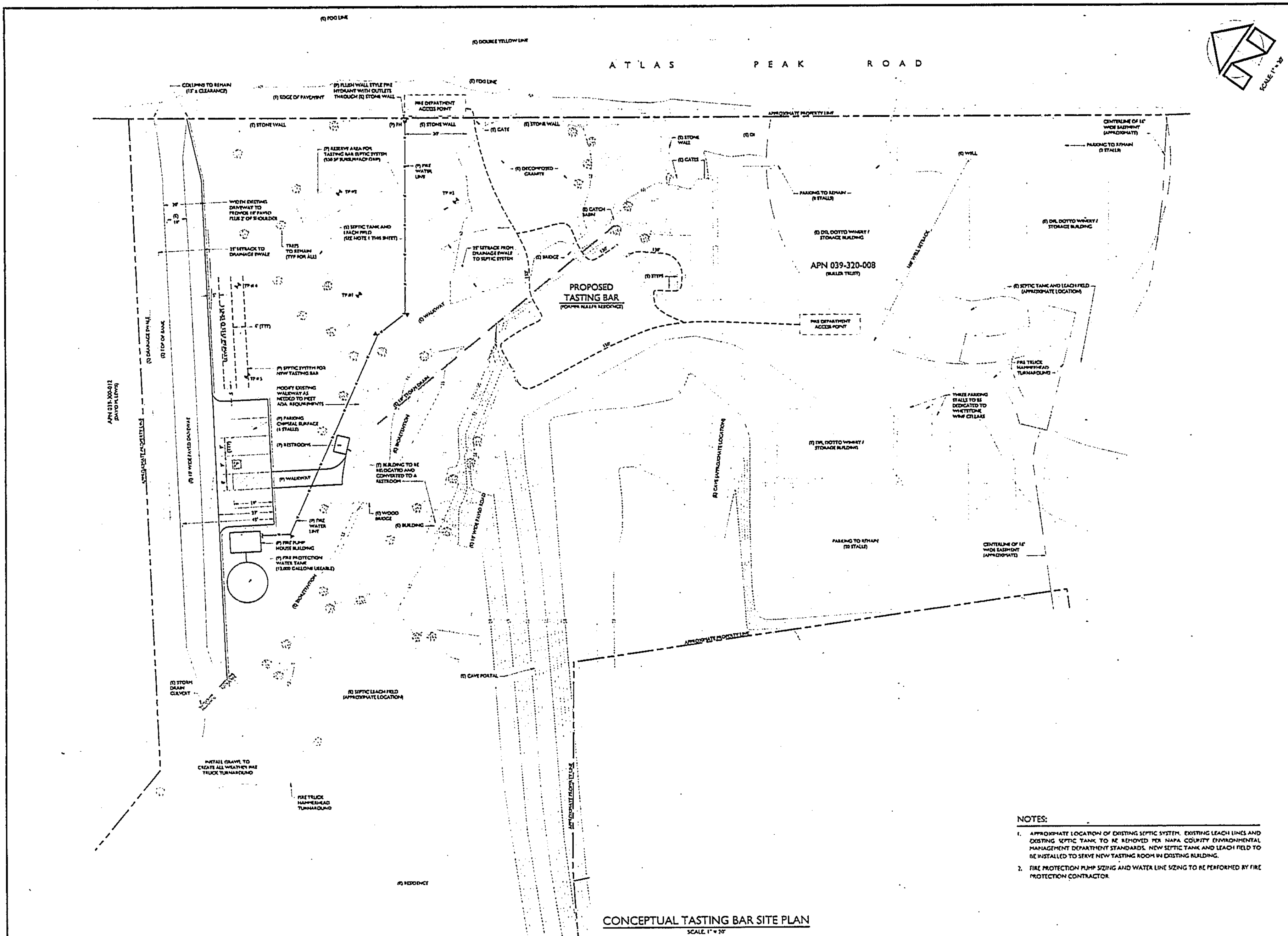
REGISTERED PROFESSIONAL ENGINEER MICHAEL R. MUELRATH NO. 67435 STATE OF CALIFORNIA CIVIL

DESIGNED BY: MRM
DRAWN BY: RT
CHECKED BY: MRM

WHETSONE WINE CELLARS TASTING BAR
USE PERMIT CONCEPTUAL SITE PLAN
OVERALL SITE PLAN

WHETSTONE WINE CELLARS
c/o MICHELLE WHETSTONE
1075 ATLAS PEAK ROAD
NAPA, CA 94558
NAPA COUNTY APN 039-320-008

DATE:	OCTOBER 2012
JOB NUMBER:	10-137
FILE:	10-137 CONC.DWG
ORIGINAL SIZE:	24" X 36"
SCALE:	AS NOTED
SHEET NUMBER:	C1 of 2



CONCEPTUAL TASTING BAR SITE PLAN

SCALE: 1" = 20'

NOTES:

1. APPROXIMATE LOCATION OF EXISTING SEPTIC SYSTEM. EXISTING LEACH LINES AND EXISTING SEPTIC TANK TO BE REMOVED PER NAPA COUNTY ENVIRONMENTAL MANAGEMENT DEPARTMENT STANDARDS. NEW SEPTIC TANK AND LEACH FIELD TO BE INSTALLED TO SERVE NEW TASTING ROOM IN EXISTING BUILDING.
2. FIRE PROTECTION PUMP SIZING AND WATER LINE SIZING TO BE PERFORMED BY FIRE PROTECTION CONTRACTOR.

APPLIED CIVIL ENGINEERING INCORPORATED
2074 West Lincoln Avenue
Napa, CA 94558
(707) 320-4968 (707) 320-2395 Fax
www.appliedcivil.com

DESIGNED BY: MRM
DRAWN BY: AT
CHECKED BY: MRM

WHETSONE WINE CELLARS TASTING BAR
USE PERMIT CONCEPTUAL SITE PLAN
CONCEPTUAL TASTING BAR SITE PLAN

WHETSTONE WINE CELLARS
c/o MICHELLE WHETSTONE
1075 ATLAS PEAK ROAD
NAPA, CA 94558
NAPA COUNTY APN 039-320-008

DATE: OCTOBER 2012
JOB NUMBER: 10-137
FILE: 10-137 CONC DWG
ORIGINAL SIZE: 24" X 36"
SCALE: AS NOTED
SHEET NUMBER: C2 of 2

APPENDIX 3: Site Evaluation Report

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 #:E11-00022
APN: 039-320-008
(County Use Only) Reviewed by: Date: 3/27/13

PLEASE PRINT OR TYPE ALL INFORMATION

Property Owner Dale and Delores Buller Trust	X New Construction ☐ Addition ☐ Remodel ☐ Relocation ☐ Other: New guest house
Property Owner Mailing Address Post Office Box 737	X Residential - # of Bedrooms: 3 Design Flow : 360-450 gpd
City: Rail Road Flat State: CA Zip: 95248	X Commercial – Type: Winery Sanitary Waste: 100 to 200 gpd Process Waste: 0 gpd
Site Address/Location 1075 Atlas Peak Road Napa, CA 94558	☐ Other: Sanitary Waste: gpd Process Waste: gpd

Evaluation Conducted By:

Company Name Applied Civil Engineering Incorporated	Evaluator's Name Michael R. Muelrath, R.C.E. 67435	Signature (Civil Engineer, R.E.H.S., Geologist, Soil Scientist) Michael R. Muelrath
Mailing Address: 2074 West Lincoln Avenue		Telephone Number (707) 320-4968
City: Napa State: CA Zip: 94558		Date Evaluation Conducted February 10, 2011

Primary Area

Acceptable Soil Depth: 60 to 72 inches Test pit #'s: 4 & 5

Soil Application Rate (gal. /sq. ft. /day): 0.33 (STD), 0.5 (PD), 0.7 (Drip)

System Type(s) Recommended: Standard, PD, Drip

Slope: <5% Distance to nearest water source: 100+ feet

Hydrometer test performed? No X Yes ☐ (attach results)

Bulk Density test performed? No X Yes ☐ (attach results)

Percolation test performed? No X Yes ☐ (attach results)

Groundwater Monitoring Performed? No X Yes ☐ (attach results)

Expansion Area

Acceptable Soil Depth: 24 to 66 inches Test pit #'s: 4, 5, 6, 7, 8, 9 &10

Soil Application Rate (gal. /sq. ft. /day): 0.33 (STD @ 4, 5, 6), 0.6 (Drip at 7-10)

System Type(s) Recommended: Standard and Drip

Slope: 5% to 15% Distance to nearest water source: 100+ feet

Hydrometer test performed? No X Yes ☐ (attach results)

Bulk Density test performed? No X Yes ☐ (attach results)

Percolation test performed? No X Yes ☐ (attach results)

Groundwater Monitoring Performed? No X Yes ☐ (attach results)

Site constraints/Recommendations:

This site evaluation was performed to locate an area on the subject parcel to install a septic system to serve a new tasting room that is being planned within the existing stone building (formerly known as the Buller Residence). The subject building is located north of the Del Dotto (formerly Hedgeside) winery. Secondarily, our goal was also to to locate reserve areas for the other septic systems that exist on the parcel (Jessel Gallery / Michael Holmes Design, Del Dotto Winery (2 systems) and residence at northwest corner of property).

Adequate area for a new system to serve the proposed tasting room was discovered in the vicinity of Test Pits #4 & #5. The acceptable soil depth would allow for the use of a standard system. The reserve area can also be accommodated in the area of Test Pits #4 & #5. Reserve area for the existing residence at the northwest corner of the property and for the Jessel Gallery / Michael Holmes Design septic system and the Del Dotto Winery septic systems (2) can be accommodated in the vicinity of Test Pits #7 - #10. The Whetstone Wine Cellars Use Permit Conceptual Site Plan illustrates the location of each test pit, the approximate locations of the existing septic systems and the proposed reserve area designations as well as the property line, drainage course and well setbacks.

We recommend that the drainage swale located in the vicinity of Test Pits #7-#10 be hard piped if the reserve areas are developed to minimize the required setback.

Test Pit #1

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-60	G	0-15	SCL	MSB	S	VFRB	S	CF/CM	CF/CM/ FC	NONE
60-72		0-15	L	WSB	S	VFRB	SS	CF/FM	FF	CMD (red)

Acceptable soil depth = 60" (Would need groundwater monitoring to prove water table is below 60" due to mottling)

Test Pit #2

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-42	G	0-15	SCL	MSB	S	VFRB	S	CF/CM	CF/CM/ FC	NONE
42-66	G	0-15	L	WSB	S	VFRB	SS	CF/FM	FF	CMD (red)
66-78		0-15	S	G	L	NONE	NS	CF/CM	FF	NONE

Acceptable soil depth = 42" (Would need groundwater monitoring to prove water table is below 42" due to mottling)

Test Pit #3

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-36	G	0-15	SCL	MSB	S	VFRB	SS	CF/CM	CF	NONE
36-72		0-15	S	G	L	NONE	NS	CF/CM	FF	NONE

Acceptable soil depth = 36"

Test Pit #4

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-48	G	0-15	L	MSB	S	VFRB	SS	CF/CM/ CC	CF/CM/ CC	NONE
48-72		0-15	LS	WSB	SH	FRB	NS	CF/CM/ FC	FF	NONE

Acceptable soil depth = 72"

Test Pit #5

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-42	G	0-15	L	MSB	S	VFRB	SS	CF/CM/ CC	FF/FM	NONE
42-60	C	0-15	L	MSB	S	VFRB	SS	CF/FM	NONE	NONE
60-72		0-15	S	G	L	NONE	NS	CF/CM	FF	NONE

Acceptable soil depth = 60"

Test Pit #6

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-30	G	0-15	L	MSB	S	VFRB	SS	CF/CM/ CC	CF/CM/ CC	NONE
30-66		0-15	LS	MSB	SH	FRB	NS	FF/FM	NONE	NONE

Acceptable soil depth = 66"

Test Pit #7

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-24	C	0-15	CL	MSB	S	VFRB	SS	CF/CM	CF	NONE
24 +			HARDPAN							

Acceptable soil depth = 24"

Test Pit #8

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-30	C	0-15	CL	MSB	S	VFRB	SS	CF/CM	CF	NONE
30 +			HARDPAN							

Acceptable soil depth = 30"

Test Pit #9

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-30	G	0-15	CL	MSB	SH	FRB	SS	CF/FM	CF	NONE
30-64		0-15	SCL	MSB	SH	FRB	SS	CF/FM	FF	NONE

Acceptable soil depth = 48" (Due to groundwater seeping in at 48" TO 64")

Test Pit #10

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-30	G	0-15	CL	MSB	SH	FRB	SS.	CF/FM	CF	NONE
30-64		0-15	SCL	MSB	SH	FRB	SS	CF/FM	FF	NONE

Acceptable soil depth = 48" (Due to groundwater seeping in at 48" TO 64")

LEGEND

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

Notes:
Structure is recorded as Modifier then Structure - for example, Moderate (M) Subangular Blocky (SB) is recorded as MSB
Pores and Roots are recorded as Quantity then Size – for example Few (F) Coarse (C) is recorded as FC
Mottling is recorded as Quantity then Size then Contrast – for example Few (F) Coarse (C) Distinct (D) is recorded as FCD

APPENDIX 4: Information Regarding Existing Septic Systems

NAPA COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT RECEIVED

EXISTING INDIVIDUAL SEPTIC SYSTEM INSPECTION REPORT FORM

BULLER RESIDENCE.

JUN 11 1998

DEPT. OF ENVIRONMENTAL MANAGEMENT

PROPERTY OWNER DALE BULLER DATE 5/19/98

ADDRESS 1075 ATLAS PEAK Rd. APN 39 - 032 - 08

PRIMARY TREATMENT-SEPTIC TANK

Distance from closest well:
this parcel 100+ adjacent parcel 100'+
Distance from foundation 50'±
Distance from property line 50'±
Material-tank CONC. lid —
Number of compartments TWO
Total Capacity 2000 gals ±

Date tank was last pumped 5/17/95
Pumped by N.S.T.
Pre-fab tank or poured in place (describe) POURED IN PLACE
Inside length 10' width 6' depth 5'

SECONDARY TREATMENT-DISPOSAL FIELD (if other than leach field describe below)

Distance from closest well:
this parcel 100+ adjacent parcel 100+
Distance from foundation 60'±
Distance to property line 15'±
Number of lines 2

Total length on leach line 200
Amount of filter material:
below pipe 18"
above pipe 6"
Trench width 24" depth 36"±

Total effective sidewall 800'
Type of pipe TILE
Type of filter material gravel
Depth of cover over rock 18"+

GENERAL INFORMATION

Is the house/structure presently occupied YES How many bedrooms 3
If commercial use-how many employees (FT and PT) ____ How many units served by this system ____
Any other septic systems on the property YES If yes, how many 3

CONDITION OF SYSTEM

Make a statement on the condition of the septic tank and interior surfaces, including baffles and fittings. How was this determined? SEPTIC TANK IS IN GOOD CONDITION FITTING AND BAFFLE ARE IN PLACE TANK DOES NOT NEED PUMPING. THIS TANK IS MUCH LARGER THAN IS NORMAL REQUIRED FOR HOUSE HOLD USAGE.

Note: If tank is over five years old, it must be inspected (pumping is required to allow inspection).

Make a statement on the condition of the sump/pump (if applicable), including size, alarm, structure, etc.

N/A.

Make a statement on the condition of the distribution box, leaching lines, etc. How was the length and location of the disposal field determined DIST. BOX IS O.K. LEACH LINES ARE WORKING GOOD. LINES WERE PROBED & SNAKED FOR LENGTH & LOCATION. ALSO FROM OWNER'S KNOWLEDGE OF SYSTEM.

Note: Information on disposal field must be determined by physically locating each line by exposing the ends. All distribution boxes must be uncovered and inspected.

A PLOT PLAN OF THE SEPTIC SYSTEM AND ALL OTHER IMPROVEMENTS MUST BE ATTACHED TO THIS REPORT-DISTANCE TO PONDS/STREAMS, WELLS, BUILDINGS, ETC. MUST BE SHOWN

Joe Lawrence

(Licensed Contractor) C-42 #254028

Note: In order to secure clearance of an individual sewage disposal system from the Department of Environmental Management, the system must be inspected by a licensed sewage contractor and the completed form returned to our office for evaluation. It should be accompanied by a plot plan showing the septic system, wells, buildings and other improvements on the property and the 100% expansion area.

EXISTING INDIVIDUAL SEPTIC SYSTEM INSPECTION REPORT FORM

WINERY COTTAGE

PROPERTY OWNER DALE BULLER DATE 5/19/98

ADDRESS 1075 ATLAS PEAK Rd APN 39-030-028

PRETREATMENT-SEPTIC TANK

Distance to nearest well:

parcel 100± adjacent parcel 100+ last pumped 5/17/95

Distance from foundation 5' Pumped by N.S.T.

from property line 100'+ located in place

material CONC. — PRE-FAB

Number of tanks TWO ROUND TANKS length ___ width ___ depth 5'

Capacity 400 gals± 36" diam.

leach field

160' 500'

100± adjacent parcel 100+ OB

10'+ 10-12 Type of gravel

Distance to property line 45'± 2"+ Depth of 18"

Number of lines 3 18 depth 36

INFORMATION

YES TWO (2)

any other septic systems on the property YES If yes, how many 3

TANKS ARE IN GOOD STRUCTURAL CONDITION BAFFLES ARE IN PLACE. TANK WERE PUMPED 3 YRS AGO. THESE TANKS ARE SOMEWHAT SMALL

but, would only require more frequent pumping if any expansion of cottage ~~were made~~

N/A.

DIST. BOX IS OK. LEACH LINES ARE WORKING PROPERLY. LINES WERE SNAKED FOR LENGTH & LOCATION.

Note: Information on disposal

All distribution boxes must be uncovered

A PLOT PLAN OF THE SEPTIC

TO THE

C-42 #254028

NAPA COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
EXISTING INDIVIDUAL SEPTIC SYSTEM INSPECTION REPORT FORM

JESSELL/MILLER BLDG.

RECEIVED
JUN 11 1998
DEPT. OF ENVIRONMENTAL MANAGEMENT

PROPERTY OWNER DALE BULLER DATE 5/19/98
ADDRESS 1019 ATLAS PEAK RD. APN 39 - 030 - 020

PRIMARY TREATMENT-SEPTIC TANK

Distance from closest well:
this parcel 100+ adjacent parcel 100'+
Distance from foundation 5' ±
Distance from property line 50' ±
Material-tank CONCRETE lid —
Number of compartments TWO
Total Capacity 4000 GALS +

Date tank was last pumped 6/12/96
Pumped by NST
Pre-fab tank or poured in place (describe) POURED IN PLACE
Inside length 16' width 7' depth 5'

SECONDARY TREATMENT-DISPOSAL FIELD (if other than leach field describe below)

Distance from closest well:
this parcel 100+ adjacent parcel 100+
Distance from foundation 20' ±
Distance to property line 100'+
Number of lines 3

Total length on leach line 200'
Amount of filter material:
below pipe 12"
above pipe 4" ±
Trench width 24" depth 30"+

Total effective sidewall 750 ft
Type of pipe OB
Type of filter material gravel
Depth of cover over rock 12"+

GENERAL INFORMATION

Is the house/structure presently occupied YES How many bedrooms —
If commercial use-how many employees (FT and PT) 5 How many units served by this system 1
Any other septic systems on the property YES If yes, how many 3

CONDITION OF SYSTEM

Make a statement on the condition of the septic tank and interior surfaces, including baffles and fittings. How was this determined? SEPTIC TANK IS IN GOOD STRUCTURAL CONDITION FITTINGS ARE IN PLACE IN TANK. TANK WAS PUMPED 2 yrs. AGO. THIS IS A VERY LARGE TANK AND COULD HANDLE MUCH MORE USAGE IF NEEDED.

Note: If tank is over five years old, it must be inspected (pumping is required to allow inspection).

Make a statement on the condition of the sump/pump (if applicable), including size, alarm, structure, etc. SUMP TANK IS GOOD NEW PUMP WAS INSTALLED LESS THAN TWO YRS AGO. IS WORKING GOOD AT THIS TIME

Make a statement on the condition of the distribution box, leaching lines, etc. How was the length and location of the disposal field determined DIST. BOX IS O.K. LEACH LINES ARE WORKING PROPERLY INFO ON SYSTEM IS FROM OUR RECORDS OF INSTALLATION IN JAN. 1976.

Note: Information on disposal field must be determined by physically locating each line by exposing the ends. All distribution boxes must be uncovered and inspected.

A PLOT PLAN OF THE SEPTIC SYSTEM AND ALL OTHER IMPROVEMENTS MUST BE ATTACHED TO THIS REPORT-DISTANCE TO PONDS/STREAMS, WELLS, BUILDINGS, ETC. MUST BE SHOWN

(Licensed Contractor)

Note: In order to secure clearance of an individual sewage disposal system from the Department of Environmental Management, the system must be inspected by a licensed sewage contractor and the completed form returned to our office for evaluation. It should be accompanied by a plot plan showing the septic system, wells, buildings and other improvements on the property and the 100% expansion area.

NAPA COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
EXISTING INDIVIDUAL SEPTIC SYSTEM INSPECTION REPORT FORM RECEIVED
WINERY BLDG.

JUN 11 1998
DEPT. OF ENVIRONMENTAL MANAGEMENT

PROPERTY OWNER DALE BULLER DATE 5/19/98
ADDRESS 1075 ATLAS PEAK Rd. APN 39-032-08

PRIMARY TREATMENT-SEPTIC TANK

Distance from closest well:
this parcel 100'+ adjacent parcel 100'+
Distance from foundation 5'+
Distance from property line 100'±
Material-tank CONC. lid —
Number of compartments TWO
Total Capacity 4000 gals +

Date tank was last pumped 11/20/94
Pumped by N.S.T.
Pre-fab tank or poured in place (describe) POURED IN PLACE
Inside length 20' width 8 depth 5

SECONDARY TREATMENT-DISPOSAL FIELD (if other than leach field describe below)

Distance from closest well:
this parcel 100'+ adjacent parcel 100'+
Distance from foundation 20'±
Distance to property line 100'±
Number of lines 2-3 ??

Total length on leach line 180'± Total effective sidewall 800
Amount of filter material:
below pipe 15"+ Type of pipe TILE
above pipe — Type of filter material grave
Trench width 24" depth 40"± Depth of cover over rock 18"~

GENERAL INFORMATION

Is the house/structure presently occupied — How many bedrooms —
If commercial use-how many employees (FT and PT) ? How many units served by this system 1
Any other septic systems on the property YES. If yes, how many 3

CONDITION OF SYSTEM

Make a statement on the condition of the septic tank and interior surfaces, including baffles and fittings. How was this determined? SEPTIC TANK IS IN GOOD CONDITION, FITTS. AND BAFFLE ARE IN PLACE. THIS TANK IS VERY LARGE AND IS CAPABLE OF HANDLING MUCH MORE USAGE

Note: If tank is over five years old, it must be inspected (pumping is required to allow inspection).

Make a statement on the condition of the sump/pump (if applicable), including size, alarm, structure, etc. N/A.

Make a statement on the condition of the distribution box, leaching lines, etc. How was the length and location of the disposal field determined LEACH LINE WAS SNAKED WAS APPROX 90' LONG APPEARS TO BE 2 or 3 LINES. SUPPOSED TO BE SAME LENGTHS. OTHER LINES WERE

Note: Information on disposal field must be determined by physically locating each line by exposing the ends. All distribution boxes must be uncovered and inspected. probed for LOCATION & depth of gravel & cover.

A PLOT PLAN OF THE SEPTIC SYSTEM AND ALL OTHER IMPROVEMENTS MUST BE ATTACHED TO THIS REPORT-DISTANCE TO PONDS/STREAMS, WELLS, BUILDINGS, ETC. MUST BE SHOWN

(Licensed Contractor) C-42 - #254028

Note: In order to secure clearance of an individual sewage disposal system from the Department of Environmental Management, the system must be inspected by a licensed sewage contractor and the completed form returned to our office for evaluation. It should be accompanied by a plot plan showing the septic system, wells, buildings and other improvements on the property and the 100% expansion area.

10/1/98

Pre-app 20,000 gpy winery (nourish and wine shop.

- existing septic system needs to be inspected to determine exactly what's there (2 or 3 tanks)
- another winery tank would technically be needed but existing tank is 4,000 gal - so maybe not in this case

FLOWS - Sanitary:

ex. emp. in this building (#9 on plan)
7 × 15 = 105

ex. emp. in other buildings using this on
3 × 8 = 25±

no longer use septic

new emp. = 3 Full time + Part tim
= 3(15) + 1(10±) = 55±

Visitors = 30 peak
30(2.2) = 66

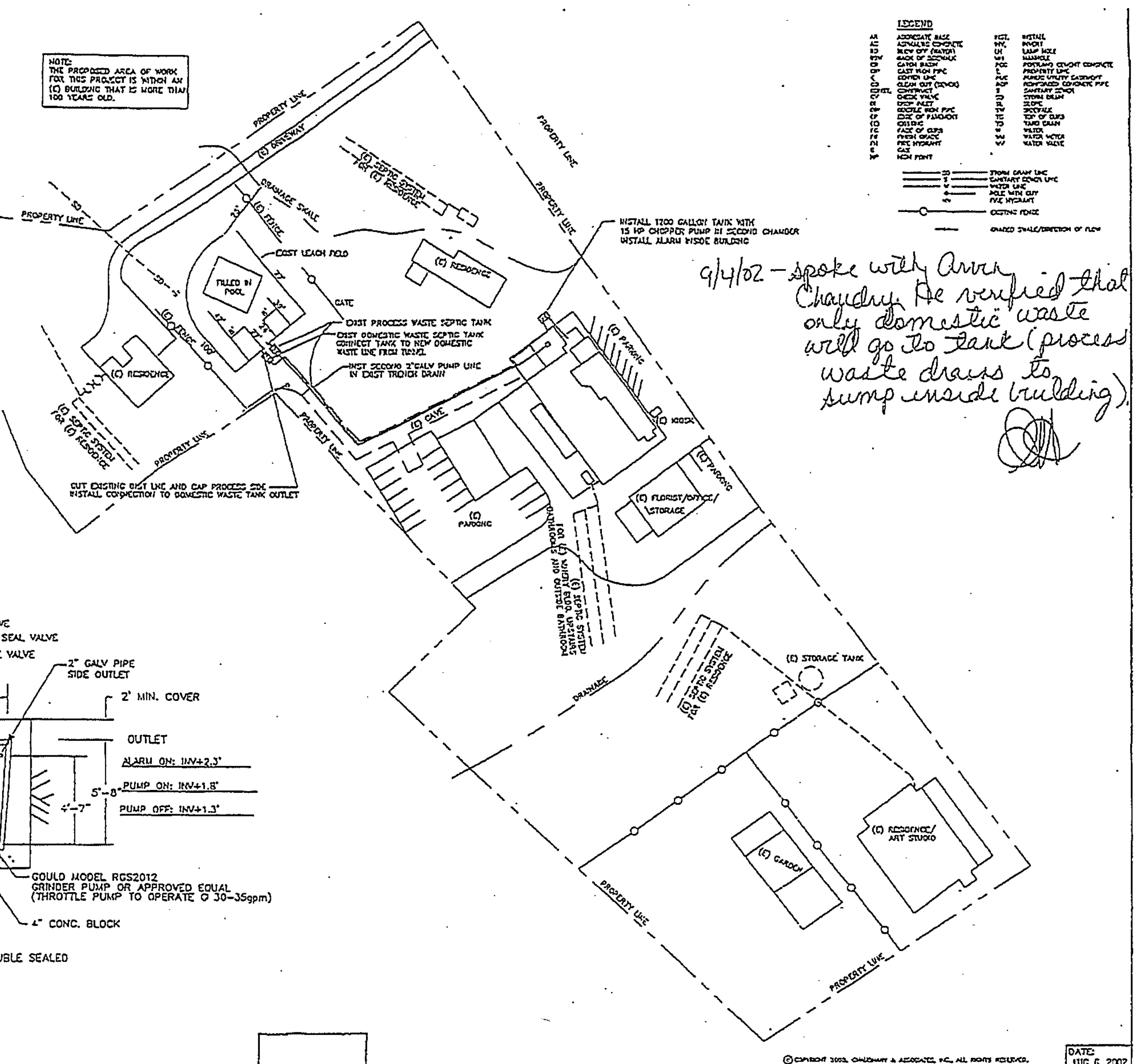
total sanitary = 250 gpd ± (over)

9/4/02

total domestic flows → 121 gpd
process waste → ~500 gpd (use permit)
TOTAL = 621 gpd
System has 48" trenches & 300' of line = 600 gpd.
leachfield is okay - DA

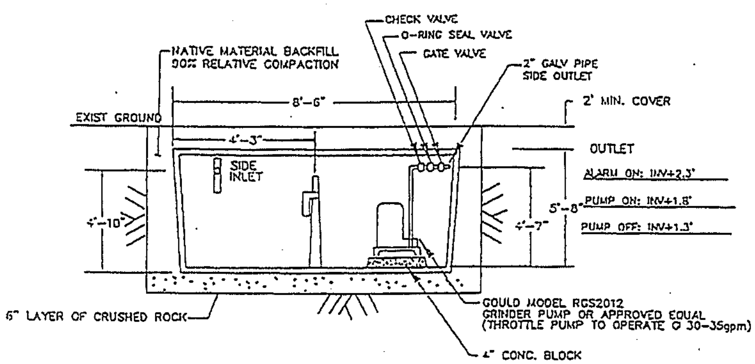
GENERAL NOTES

1. ALL WORKMANSHIP AND MATERIALS FOR BOTH ON-SITE AND OFF-SITE IMPROVEMENTS SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE COUNTY OF NAPA, AND/OR THE 1992 EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS AND STANDARD PLANS. THE ON-SITE IMPROVEMENTS SHALL BE INSPECTED BY THE OWNER'S ENGINEER.
2. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR BEING FAMILIAR WITH THE PROVISIONS AND REQUIREMENTS CONTAINED IN THE COUNTY STANDARD SPECIFICATIONS. CONTRACTOR SHALL HAVE A COPY AVAILABLE AT THE JOB SITE AT ALL TIMES.
3. CONTRACTOR SHALL REQUEST INSPECTIONS A MINIMUM OF 24 HOURS IN ADVANCE.
4. CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY COMPANIES 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO EXISTING UTILITY LINES UNLESS ENCROACHMENT PERMIT SPECIFIES OTHERWISE.
5. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (U.S.A.) AT (800) 227-2600 PRIOR TO START OF ANY CONSTRUCTION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING UTILITIES IN THE FIELD. LOCATIONS OF UTILITIES AND UNDERGROUND FACILITIES SHOWN ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY.
7. CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT BARRICADES TO PROVIDE FOR SAFETY OF THE GENERAL PUBLIC.
8. CONTRACTOR SHALL USE STANDARD EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES.
9. ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
10. CONTRACTOR SHALL CONFORM TO EXISTING STREETS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION AND AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADE OR CROSS SLOPES, LOW SPOTS OR HAZARDOUS CONDITIONS.
11. CONTRACTOR SHALL COORDINATE ALL NECESSARY UTILITY RELOCATIONS, IF REQUIRED, WITH THE APPROPRIATE UTILITY COMPANIES.
12. CONTRACTOR SHALL CONDUCT ALL GRADING OPERATIONS IN SUCH A MANNER AS TO PRECLUDE WIND BLOWN DIRT AND DUST AND RELATED DAMAGE TO NEIGHBORING PROPERTIES. SUFFICIENT WATERING TO CONTROL DUST IS REQUIRED AT ALL TIMES. CONTRACTOR SHALL ASSUME LIABILITY FOR CLAIMS RELATED TO WIND BLOWN MATERIAL. IF THE DUST CONTROL IS INADEQUATE AS DETERMINED BY THE PUBLIC WORKS DIRECTOR OR HIS DESIGNATED REPRESENTATIVE, THE CONSTRUCTION WORK SHALL BE TERMINATED UNTIL CORRECTIVE MEASURES ARE TAKEN. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER EROSION CONTROL.
13. ONE WEEK PRIOR TO INSTALLATION OF THE NEW LINES, THE CONTRACTOR SHALL EXPOSE EXISTING UNDERGROUND UTILITY LINES AT POINTS WHERE CROSSINGS OF THE EXISTING AND NEW UTILITY LINES OCCUR, FOR THE ENGINEER TO REVIEW AND RESOLVE ANY GRADE CONFLICTS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS OF REPAIRING ANY INJURIES OR DAMAGE TO EXISTING UTILITIES CAUSED BY HIM.
15. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL SECURE CONSTRUCTION PERMITS FROM THE COUNTY OF NAPA, AND OTHER AGENCIES AS NECESSARY AND PAY ALL FEES INCLUDING INSPECTION FEES THEREFOR.
16. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
17. ALL SEPTIC SYSTEM WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS OF THE NAPA COUNTY DEPT OF ENVIRONMENTAL HEALTH AND PER THE MANUFACTURERS RECOMMENDATIONS.
18. CONTRACTOR SHALL HANDLE AND DISPOSE OF ALL TOXIC, CONTAMINATED AND ASBESTOS MATERIALS IN ACCORDANCE WITH PRESCRIBED LOCAL, STATE AND FEDERAL REGULATIONS.
19. CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION OF BURIED PIPE FROM CONSTRUCTION LOADS.



NOTE:
THE PROPOSED AREA OF WORK FOR THIS PROJECT IS WITHIN AN (E) BUILDING THAT IS MORE THAN 100 YEARS OLD.
N
PROPERTY LINE
(E) DRIVEWAY
DRAINAGE SWALE
(E) FENCE
FILLED IN POOL
EXIST LEACH FIELD
GATE
(E) RESIDENCE
(E) SEPTIC SYSTEM FOR (E) RESIDENCE
EXIST PROCESS WASTE SEPTIC TANK
EXIST DOMESTIC WASTE SEPTIC TANK CONNECT TANK TO NEW DOMESTIC WASTE LINE FROM TRIVEL
INST SECOND 2"GALV PUMP LINE IN EXIST TRENCH DRAIN
CUT EXISTING EXIST LINE AND CAP PROCESS SIDE INSTALL CONNECTION TO DOMESTIC WASTE TANK OUTLET
INSTALL 1200 GALLON TANK WITH 15 HP CHOPPER PUMP IN SECOND CHAMBER INSTALL ALARM INSIDE BUILDING
(E) CAVE
(E) PARKING
(E) DOCK
(E) FLORIST/OFFICE/STORAGE
(E) SEPTIC SYSTEM FOR (E) WINERY BLDG. UPSTAIRS BATHROOMS AND OUTSIDE BATHROOM
DRAINAGE
(E) STORAGE TANK
(E) SEPTIC SYSTEM FOR (E) RESIDENCE
(E) GARAGE
(E) RESIDENCE/ ART STUDIO
LEGEND

9/4/02 – spoke with Arvin Chaudry. He verified that only domestic waste will go to tank (process waste drains to sump inside building).



CHECK VALVE
O-RING SEAL VALVE
GATE VALVE
NATIVE MATERIAL BACKFILL 90% RELATIVE COMPACTION
2" GALV PIPE SIDE OUTLET
8'-6"
2' MIN. COVER
EXIST GROUND
4'-3"
OUTLET
SIDE INLET
ALARM ON: INV+2.3'
PUMP ON: INV+1.8'
PUMP OFF: INV+1.3'
4'-10"
5'-8"
4'-7"
6" LAYER OF CRUSHED ROCK
GOULD MODEL RGS2012 GRINDER PUMP OR APPROVED EQUAL (THROTTLE PUMP TO OPERATE @ 30-35gpm)
4" CONC. BLOCK

JENSEN JS-1200 PRE-CAST CONCRETE SEPTIC TANK (1200 GALLON) OR APPROVED EQUAL, DOUBLE SEALED

PUMP TANK
NO SCALE
(LOOKING TOWARDS BUILDING)

NO.	DATE	REVISIONS	BY	APPD
	12/20	CORRECTED FENCE & MISC LOCATION OF NON-SEPTIC ITEMS	AC	AC

	BY	SIGNATURES	DATE
DESIGNED		AC	12/00
CADD		AC	12/00
CHECKED		AC	12/00

CHAUDHARY & ASSOCIATES, INC.
Engineers • Surveyors • Planners • Inspectors
2072 VILLA LANE
NAPA, CALIFORNIA 94558
Telephone (707) 255-2729

PREPARED FOR:
MR. DARIO DEL DOTTO
1055 ATLAS PEAK ROAD
NAPA, CA 94558
TEL #: 255-3037

SCALE: 1"=40'

DOMESTIC SEPTIC SYSTEM PLAN
DEL DOTTO WINERY
1055 ATLAS PEAK ROAD
NAPA COUNTY APN 039-320-008 CALIFORNIA

DATE: AUG 6, 2002
SHEET 1 OF 1 SHEETS
FILE NO. 00-12-197

madrone
engineering

APPENDIX 3:

DELTA CONSULTING & ENGINEERING SITE EVALUATION REPORT
JULY 22, 2015

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 #:	E15-00583
APN:	039-320-008
(County Use Only) Reviewed by:	Date:

PLEASE PRINT OR TYPE ALL INFORMATION

Property Owner BULLER TRUST	☐ New Construction ☐ Addition ☐ Remodel ☐ Relocation ☒ Other: New tasting room/Compliance to current standards
Property Owner Mailing Address 190 SOUTH ORCHARD AVENUE, SUITE C-200	☐ Residential - # of Bedrooms: Design Flow : gpd
City State Zip VACAVILLE CA 95688	☒ Commercial – Type: Sanitary Waste: 2001 gpd Process Waste: gpd
Site Address/Location 1019 ATLAS PEAK ROAD NAPA, CA 94558	☐ Other: Sanitary Waste: gpd Process Waste: gpd

Evaluation Conducted By:

Company Name Delta Consulting & Engineering	Evaluator's Name Bryan Jackson, P.E.	Signature (Civil Engineer, R.E.H.S., Geologist, Soil Scientist)
Mailing Address: 1104 Adams Street, Suite 203		Telephone Number 707/963-8456
City State Zip St. Helena CA 94574		Date Evaluation Conducted 07/22/2015

Primary Area	**Expansion Area**
Acceptable Soil Depth: 48 in. Test pit #'s: 1, 9, 10	Acceptable Soil Depth: 24 in. Test pit #'s: 7 & 8
Soil Application Rate (gal. /sq. ft. /day): 0.60	Soil Application Rate (gal. /sq. ft. /day): 0.6
System Type(s) Recommended: Sub-Surface Drip	System Type(s) Recommended: Sub-Surface Drip
Slope: 12 %. Distance to nearest water source: >100 ft.	Slope: 10 %. 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)
Percolation test performed? No☒ Yes☐ (attach results)	Percolation test performed? No☒ Yes☐ (attach results)
Groundwater Monitoring Performed? No☒ Yes☐ (attach results)	Groundwater Monitoring Performed? No☒ Yes☐ (attach results)

Site constraints/Recommendations:

Only four new test pits were dug on July 22, 2015 witnessed by Rebecca Setliff from Napa County Environmental Health. Both the primary area and expansion area will utilize test pits #7, 8, 9, and 10 which was previously done by Applied Civil Engineering Incorporated. See the site evaluation report prepared by Applied Civil Engineering dated February 10, 2011 for more information on test pits #7-10.

Test Pit # 1

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-15	G	30	CL	S-SB	SH	F	SS	C/M	F/M	N/A
15-48		5	SCL	M-AB	SH	FRB	SS	F/F	N/A	N/A

Test Pit # 2

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-16	G	25	CL	M-SB	SH	F	SS	C/M	F/M	N/A
16+	DENSE CLAY									

Test Pit # 3

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-12	G	25	CL	M-SB	SH	FRB	SS	C/M	F/M	N/A
12+	DENSE CLAY									

Attach additional sheets as needed

Test Pit # 4

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-59		40	CL	M-SB	SH	F	SS	C/F	N/A	N/A

Test Pit #

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

Test Pit #

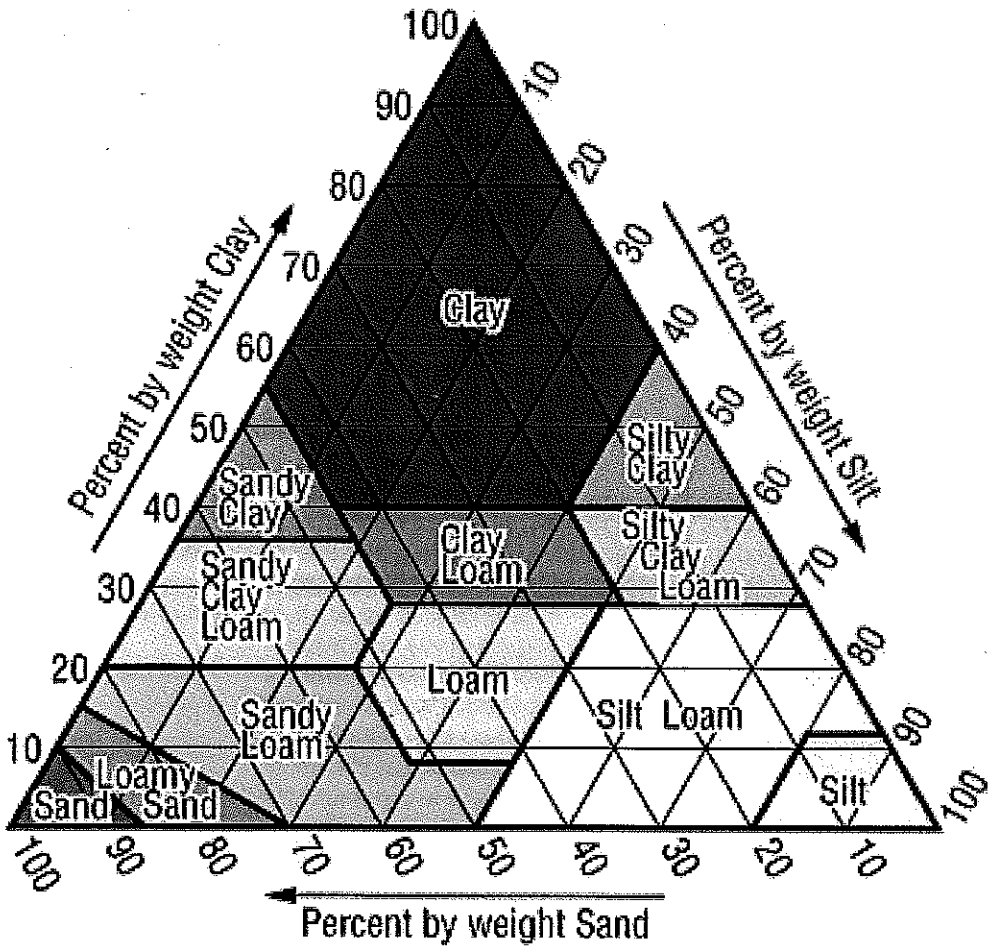
Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			

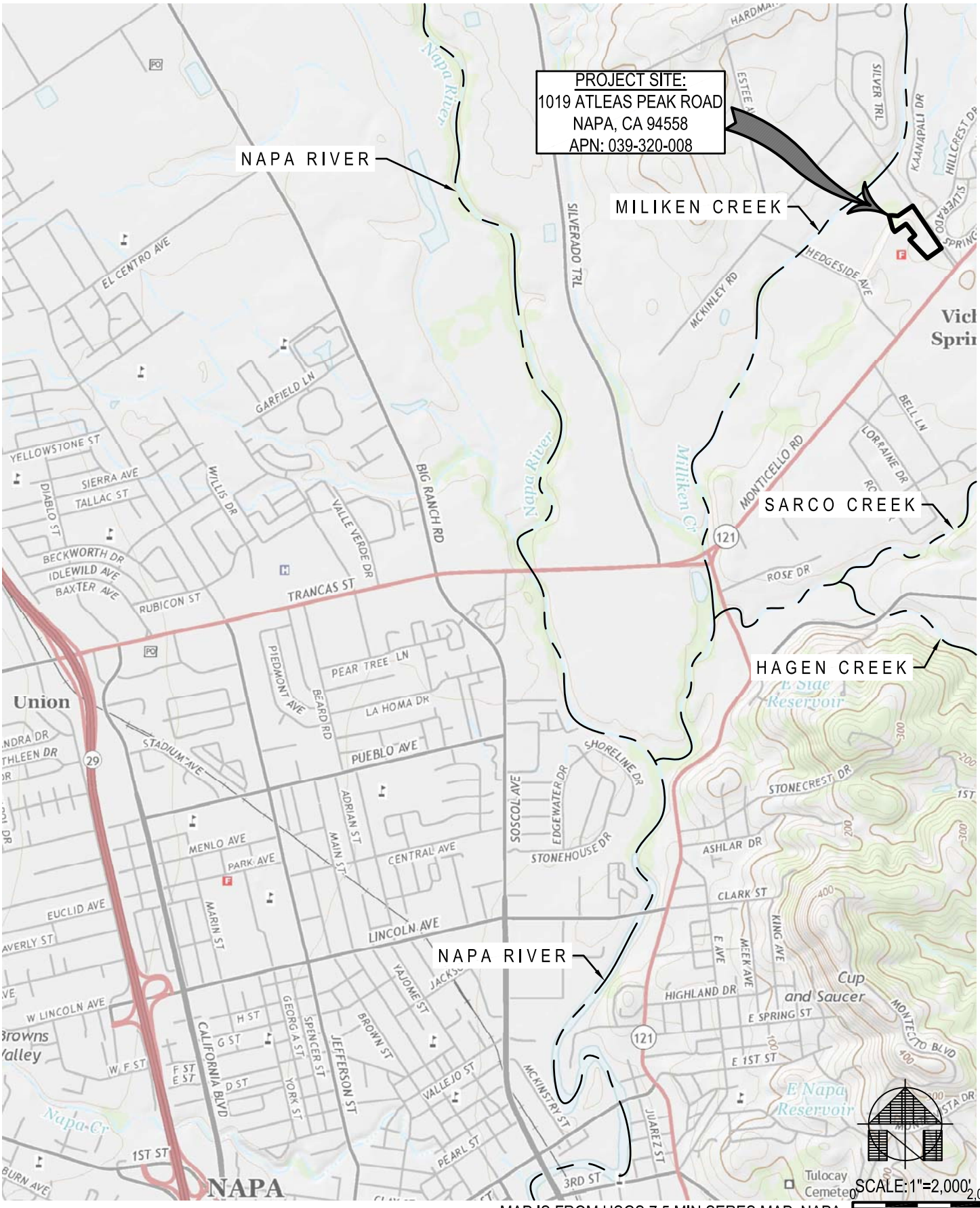
Attach additional sheets as needed

ABBREVIATIONS

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

U.S.D.A. SOIL CLASSIFICATION TRIANGLE





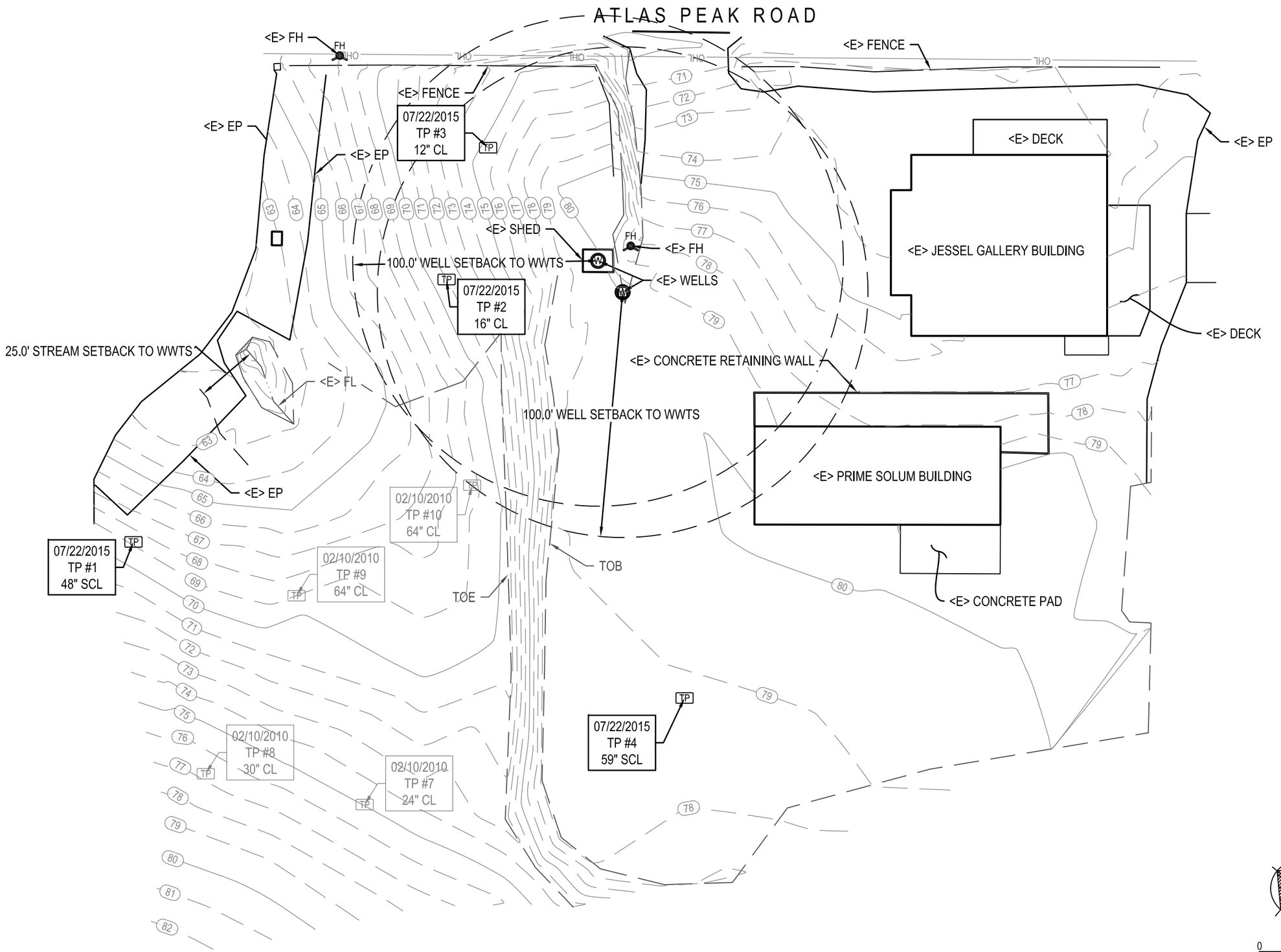
MAP IS FROM USGS 7.5 MIN SERES MAP: NAPA

SITE EVALUATION
VICINITY MAP

DELTA CONSULTING & ENGINEERING
OF ST. HELENA
1104 ADAMS STREET, SUITE 203 - ST. HELENA, CALIFORNIA 94574
707-963-8456 + 707-963-8528 FAX

DATE: 08/03/2015	JOB # O-122
SCALE: 1"=2,000'	APN: 039-320-008

SHEET 1 OF 2



TEST PIT LOCATION MAP

SITE EVALUATION
TEST PIT LOCATION MAP

NAPA CA

DELTA CONSULTING & ENGINEERING
OF ST. HELENA
1104 ADAMS STREET, SUITE 203 - ST. HELENA, CALIFORNIA 94574
707-963-8456 + 707-963-8528 FAX

DATE:	08/03/2015
SCALE:	1"=40'
JOB #:	O-122
APN:	039-320-008

2 OF 2

APPENDIX 4:
CALCULATIONS

DEL DOTTO WINERY WASTEWATER CALCULATIONS

Del Dotto WINERY
NEW WINERY, RESIDENCE(S) AND TASTING ROOM
1055 Atlas Peak, Ca
APN 039-320-008
Existing waste water system Calculations

Project and Site Background

The Buller Family Trust owns the property(6.65AC) located at 1055 Atlas Peak in, Napa County, CA. There is a series of mix uses on the property with various septic systems. There are a total of 5 different systems on the property.

System	Design flow	leach lines	tank	use
Del Dotto north	600 gallons per day (gpd)	300	2-1200	Winery
Del Dotto South	267 gpd	180	1-4000	Winery
Whetstone (new 2013?)	165 gpd	165	1200	Wine Bar
Residence	450 gpd	200	2000	residence
Jessel/holmes	250 gpd	200	4000	museum

The onsite uses include: a residence, whetstone tasting bar, Del Dotto Winery and Jessel Museum.
These same uses are identified in a report by Applied Engineering dated 10/10/2012 for the Whetstone wine bar waste water system,
The Whetstone wine bar currently is served by new system of 165 lf with a 1200 gallon tank as described in the Applied Engineering's report.

Site Evaluations of existing systems

The Del Dotto winery is a permitted winery use for 20,000 gallons of wine. However the winery does not crush or rack wine onsite. It stores wine in barrels and uses a mobile wine truck for bottling. There are 15 employees onsite, 10- 50 events per year and is applying for 50 guests on weekdays and 75 guest on weekends. Visitation to the winery is by appointment only. There are two existing septic system serving the Del Dotto Winery.

Attached are three septic system reports for the existing systems performed on May 19, 1998 by Napa Septic Service.

Guadalupe S. Chavarria, PE QSD/QSP
Civil Engineer CA Lic. 37970
QSD-QSP
cel 707-799-5432
P.O. Box 1782
Windsor CA 95492
fax 707 838 9161
gschavarria@yahoo.com

Del Dotto Winery , 1055 Atlas Peak, Napa Ca
Waste water system
December 13. 2013

Existing Flows

The proposed project will include the following sewage generating sources.
15 employees
10-50 person events (catered)
50 visitors during the week with 75 on the weekends
Barrel washing at 2.5 gallons per barrel (by observation)

Basis	**flow gpd**	
Employee	15	5 winery and 10 office
visitor	3	
visitor catered	5	
Visitor onsite food prep	10	

On weekend there are only 5 employees at the winery.

Employee Flows

15 FT Employees x 15 gpd/employee	=	225 gpd
Total Employee Flow	=	**225 gpd**

Tasting Visitor Flows

75 visitors x 3 gpd/visitor weekend	=	**225 gpd**
50 vistors x 3 gpd/visitor weekday	=	**150 gpd**

Event Visitor Flows

Tastings are "by appointment" and will not occur the same day as any of the approved onsite events.

Wine Marketing Events – 50 visitors 10 per year with catered food (no onsite food preparation).

Wine Marketing Event

50 meals x 3 gpd	=	150 gpd
Total	=	**150 gpd**

Guadalupe S. Chavarria, PE QSD/QSP
Civil Engineer CA Lic. 37970
QSD-QSP
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P.O. Box 1782
Windsor CA 95492
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qsdcivil@yahoo.com

Barrel washing 2.5 gal x 50 barrels = 125 gpd

Barrel washing is done by pumping out the wine and washing the barrels. The wash is then pumped into a tote tank and deposited in the 1200 septic tank. no drains?

High flows

The highest combination happens during the week, 10 employees, 50 guests and barrel washing.

Employee Flow + Event Flow+ barrel washing	=	Total Flow
225 gpd +150 gpd +125 gpd	=	**500 gpd**

A design flow 500 gpd shall be used to review the existing leach field systems.

Tank System Sizing

There are two existing septic systems both standard systems.

Northern system use

5 employees	75 gpd
50 visitors	250 gpd
Total	325 gpd

Barrel washing 125 gpd goes to the northern field

Total to northern field 500 gpd < 600 gpd capacity

Septic Tank

Orenco Systems, Inc. recommends the use of a septic tank, which can provide a minimum of 4 days retention of peak flows for a commercial type operation:

Northern field

325 gpd x 4 days = 1300 gallons

1- 1,200 gallon tank is provided. This provides for 3.69 days of retention at peak flows.

Because there are only 10 events per year the 1200 tank is adequate provided solid waste (like food scraps) is separated from the waste stream.

Sump Tank

Guadalupe S. Chavarria, PE QSD/QSP
Civil Engineer CA Lic. 37970
QSD-QSP

cel 707-799-5432
P.O. Box 1782
Windsor CA 95492

fax 707 838 9161
qsdqspcivil@yahoo.com

Napa County requires that 1.5 times the design volume be provided in the sump tank for subsurface drip systems.

325 gpd x 1.5 days = 488 gallon

The County also requires that one day's storage be provided above the high-water alarm for the sump tank, 480+325 = 813 gallons. Due to both requirements, a tank of 1,200 **gallon is provided for the system.**

Southern Field (serving the upper floor)
10 employees 150 gpd < 267 gpd capacity

Septic
Orenco Systems, Inc. recommends the use of a septic tank, which can provide a minimum of 4 days retention of peak flows for a commercial type operation:

150 gpd x 4 days = 600 gal a 4000 gallon tank is provided
This results in 26.7 days retention time 150gpd /4000 gallons

It is my opinion that the existing systems are adequate for the existing and proposed flows. The current systems serving the Del Dotto are working without any visual failures.

Please call me if you have any questions or comments.

Guadalupe S. Chavarria, PE

Enclosed 5 sets of site plans, site investigation

REGISTERED PROFESSIONAL ENGINEER
GUADALUPE SOSA CHAVARRIA
LIC. NO. C037970
Exp. 3/31/13
CIVIL
STATE OF CALIFORNIA

Guadalupe S. Chavarria, PE QSD/QSP
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madrone
engineering

APPENDIX 5:

PROPOSED PRIMARY WASTEWATER TREATMENT SYSTEM
FOR PRIME SOLUM & JESSEL ART GALLERY

AND

PROPOSED 200% RESERVE AREA FOR:
PRIME SOLUM
JESSEL ART GALLERY
RESIDENTIAL STUDIO
DEL DOTTO WINERY
RESIDENCE

PRIME SOLUM, JESSEL ART GALLERY, RESIDENTIAL STUDIO, DEL DOTTO, RESIDENCE
<P> RESERVE FIELD - 2,121 GALLONS PER DAY
ENGINEERED SUB-SURFACE DRIP SYSTEM
7,100 SF

APPROXIMATE PROPERTY LINE

10.0' WWTS SETBACK TO PROPERTY LINE

ACE
02/10/2011
TP #7
24" CL

ACE
02/10/2011
TP #8
30" CL

APPROXIMATE PROPERTY LINE

DELTA
07/22/2015
TP #4
59" SCL

25.0' STREAM/SWALE SETBACK

PRIME SOLUM & JESSEL ART GALLERY
<P> PRIMARY SEPTIC FIELD - 894 GALLONS PER DAY
ENGINEERED SUB-SURFACE DRIP SYSTEM
9 LINES AT 83.33 LINEAR FEET EACH FOR A TOTAL OF 750 LINEAR FEET (1500 SF)

ACE
02/10/2011
TP #9
48" CL

ACE
02/10/2011
TP #10
48" CL

DELTA
07/22/2015
TP #1
48" SCL

<E> DEL DOTTO BUILDING*

APPROXIMATE PROPERTY LINE

<E> WAREHOUSE
<P> PRIME SOLUM BLDG

100' WELL SETBACK (TYP)

DELTA
07/22/2015
TP #2
16" CL

<E> JESSEL ART GALLERY BLDG

DELTA
07/22/2015
TP #3
12" CL

<E> DEL DOTTO BUILDING*

<E> DEL DOTTO BUILDING*

APPROXIMATE PROPERTY LINE

SCALE: 1" = 40'

N

0 40'
Scale in feet

PROPOSED WASTEWATER TREATMENT

MAP FROM GOOGLE EARTH IMAGERY DATED 04/01/2015

SEPTIC FEASIBILITY
PROPOSED WASTEWATER TREATMENT

NAPA CA

Madrone Engineering
1485 Main Street, Suite 103C, St. Helena, CA 94574
707-302-6280 tel

DATE:	12/30/2015
SCALE:	1"=40'
JOB #:	O-122
APN:	039-320-008

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