



ANALYSIS
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August 8, 2019

County of Sonoma
Department of Permit and Resource Management
2550 Ventura Avenue
Santa Rosa, Ca 95403

Subject: Septic System and Water Usage Observations

Worksite: VJB Vineyard & Cellars
60 Shaw Ave., Kenwood, CA
APN 050-275-028

Henry and Vittorio,

Per your request, Dimensions 4 Engineering has reviewed the water usage based on water meter readings from the Kenwood Water Company. We have compared the water usage to the proposed 1500 gallons per day capacity of the new subsurface drip system. Our finding and conclusions are as follows:

The property and facilities are currently being served by two septic systems with a total capacity of 840 gallons per day. The previous water meter usage report showed a peak monthly usage of 3577 gallons between the periods of April 2012 and January 2014.

The proposed subsurface drip system will have a capacity of 1500 gallons per day, an increase in capacity of 79% over the existing systems. An updated report for the time period of January 2018 to June 2019 shows a peak usage of 4039 gallons occurring in July 2018 with an average of 3045 gallons per month. Using the peak value, flows average out to approximately 950 gallons per week or 135 gallons per day. Taking a conservative approach by assuming all the flow is concentrated over the weekend days (Fri, Sat, and Sun) still only equates to approximately 320 gallons per day.

Using this extremely conservative approach, VJB Vineyard & Cellars will only be using 22% of their total septic capacity daily. In addition, this peak value only accounts for 38% of the currently existing 840 gallons septic capacity. Interpolating the peak monthly flow of 4039 gallons over 30 days results in an average daily flow of 135 gallons, less than 10% of the new proposed septic system.

The proposed subsurface drip system will consist of three main tank components; main septic tank, grease trap, and an Orenco AX-MAX75 pretreatment unit. The proposed 5000 gallon septic tank alone will be able to hold over 3 days of the maximum calculated 1500 gallons per day flow. This provides VJB Vineyard and Cellars ample time to address any septic issues that may arise during operations without posing as an environmental hazard to its surroundings.

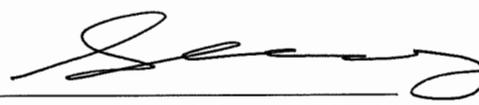
Customers partake mainly in wine tasting with an option to order food items from a limited menu. Due to the pre-prepped nature of the food served from their facilities and the usage of disposable utensils, we believe a 5 gallons per day per customers ordering food is more than adequate for septic usage calculations. Looking through sales records and receipts on their busiest days of the season (early September) we concluded that less than half the guests order prepared food. The rest of the guests are there strictly for wine tasting which is calculated at 3 gallons per day. With a peak employee count of 16 calculated at 15 gallons per day (240 gallons total), 1260 gallons remain for customer use. With assumptions of 160 guests ordering food (800 gallons) and 153 guests strictly wine tasting (460 gallons), we conservatively calculated that the facilities will be able to serve a total of 313 guests per day.

The business hours for VJB are from 10AM -4PM daily, for a total of 6 hours per day. We can interpolate the daily guest capacity of 313 guests to approximately 52 guests per hour over the 6 hour window. The 87 parking spaces in the proposed parking expansion and existing parking lot is fully capable of providing parking spaces for guests at any given time. Assuming 2 guests to a car, the 87 spaces should provide enough parking spaces for 174 guests at any given time to account for any potential surges during peak hours.

The proposed septic upgrades should be more than adequate to handle current loads and operations with enough capacity to absorb any additional loads and demands should it be necessary in the future.

Sincerely,

DIMENSIONS 4 ENGINEERING, INC.

By: 
Seung Jun Park (Ted), RCE 89409



cc: File