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## Exception to Napa County Road and Street Standards Application Packet

**ROAD EXCEPTION REQUEST FOR  
FLORA SPRINGS WINERY  
1978 WEST ZINFANDEL LANE, ST. HELENA, CA 94574  
PARCEL 4 (PREVIOUSLY APN 027-100-037)**

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Flora Springs Winery is applying for a Use Permit Modification to increase the current staffing and marketing plan for the existing winery located at 1978 West Zinfandel Lane, St. Helena, CA 94574. The subject parcel, previously APN 027-100-037, been distinguished as "Parcel 4" per the pending Lot Line Adjustment (reference #W15-00140).

The subject parcel is currently served by a private driveway that generally meets Section 13 of the 2016 Napa County Road and Street Standards (R&SS), which requires wineries to be served by a common driveway having a minimum width of 18 feet with two (2) foot shoulders. The driveway is 20 feet wide at minimum except when crossing a blueline stream over a historical bridge where it is 14.5 feet at its most narrow point.

Napa County's 2016 R&SS also require the pavement surface to provide unobstructed access to conventional drive vehicles, minimum vertical clearance of 15 feet and capable of supporting loads equivalent to the HS20-44 criterion (40,000 pound vehicle). Jeff Morris, P.E. of Morris Engineering in Ukiah, California has inspected the bridge and prepared documentation confirming the bridge meets the requirements of the H20-44 loading criterion.

This is a request to the Napa County Planning, Building & Environmental Services (PBES) - Engineering & Conservation Division to grant an exception from Section 13 of the Napa County R&SS revised on January 26, 2016 (Resolution 2016-06) for the width of the driveway across a historic bridge that serves the existing tasting room and existing winery facilities. The following considerations are provided to the Napa County Engineering Manager for an exception to be granted to the Napa County R&SS.

**PROJECT DESCRIPTION**

Currently, the subject parcel is developed with multiple winery buildings, a tasting room, vineyards and miscellaneous structures associated with vineyard activities. The public access road to the winery is a private driveway from the end of West Zinfandel Lane. The existing driveway also provides access to a neighboring parcel (APN 027-100-030).

It is our understanding that the project proposes to increase the staffing and marketing plan while continuing to operate an existing 120,000 gallon per year winery. To accommodate an increase in the staffing and marketing plan, two (2) domestic water storage tanks and one (1) septic tank are proposed for installation. Additionally, two (2) fire protection tanks will be installed as part of the project. An event parking plan has been prepared which includes required universal access parking. There are no planned improvements for the existing driveway.

Please refer to the attached Photographic Documentation of Site Conditions prepared by Bartelt Engineering for photographs of the existing driveway.



**EXCEPTION REQUEST AND JUSTIFICATION**

This exception requests an allowance for the existing driveway to continue to be used to serve the existing tasting room and winery buildings even though the width of the driveway through the section over the bridge will not meet the standard width criteria outlined in the Napa County R&SS.

Historic use supports that site distance and turnout area for the historic bridge is adequate. Both commercial and passenger vehicles have safely crossed the bridge for years. The historic bridge is abutted on both ends by a 20 foot wide driveway with 10+ foot wide vineyard avenues on either side of the existing driveway. The driveway intersection to APN 027-100-030 is 100+ feet from the end of the bridge while the entrance gate to Flora Springs Winery is 130+ feet from the bridge. The distances have been labeled on the associated Flora Springs Winery Use Permit Drawings prepared by Bartelt Engineering.

Section 3 of the Napa County R&SS allow for such exceptions when the following summarized criteria are met:

- 3.D.1) The exception will preserve unique features of the natural environment which includes, but is not limited to, natural water courses, steep slopes, geological features, heritage oak trees, or other trees of at least 6" dbh and found by the decision-maker to be of significant importance, but does not include man made environmental features such as vineyards, rock walls, ornamental or decorative landscaping, fences or the like.
- 3.D.3) The exception is necessary to accommodate other limiting factors such as recorded historical site or legal constraints.

A stone on the bridge has a marking of "1902". It is therefore believed that the structure is about 114 years old and it would be a shame to destroy a piece of Napa Valley's history. Allowing the site to remain helps preserve Napa Valley's heritage and unique rural charm. Furthermore, not approving the exception to the Napa County Road and Street Standards would require the destruction of the existing bridge and construction of a new bridge across the existing blueline stream.

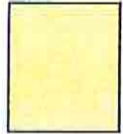
**SUMMARY**

For the reasons discussed herein, the Applicant respectfully requests an exception from the minimum road width set forth by the Napa County Road and Street Standards revised on January 26, 2016 (Resolution 2016-06) for the winery private driveway. It is Bartelt Engineering's opinion that a road exception for the historic bridge results does not impede on the functionality of the otherwise 20 feet minimum wide driveway and will preserve a historic structure and environmentally sensitive area.

MORRIS ENGINEERING

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May 5, 2016

JOB NO 16-102

Mr. Davin Duarte, Operations Manager  
Flora Springs Winery  
1978 W. Zinfandel Lane  
Saint Helena, CA 94574

**RE: OPINION OF BRIDGE CONDITION FOR TWO EXISTING BRIDGES ACROSS AN UNNAMED CREEK  
FOR ACCESS TO FLORA SPRINGS WINERY AND VINEYARDS IN SAINT HELENA, NAPA COUNTY, CA.**

Dear Mr. Duarte:

Earlier this year, we discussed with you the condition of two existing bridges over an unnamed creek at the Flora Springs Winery located at 1978 West Zinfandel Lane in Saint Helena, CA.

On February 24, 2016, we met with a representative of Flora Springs Winery and reviewed the two bridge sites.


On April 6, 2016, we reviewed the two bridges to develop an opinion as to the ability of both bridges to provide access for trucks. We also collected survey information to provide a topographic map of the bridge sites. We measured the geometry of each bridge. We plan to provide a basic, general topographic map and CADD details of the bridges and bridge sites as documentation for our opinion. Our visual review and opinion is based on the ability of the bridges to provide safe access for HS-20 trucks, with impact, and is limited in scope by our agreement with Flora Springs. Our opinion considers the safety condition of the bridges as they currently exist. Based on our visual review and measurements, it is our opinion that both bridge superstructures are currently capable of safely providing access for HS20-44 trucks to the winery.



Following is a short list of the condition and considerations for the bridges. More will follow in a brief report summarizing our review and the basis for our opinions.

We appreciate the opportunity to review the existing bridges and provide this opinion. Please call if you have any questions or would like to discuss the project.

Sincerely,

  
Jeffrey S. Morris, P.E. #46005

5/5/16



#### **BRIDGE 1:**

Bridge 1 is the Southern bridge and the main access to the Flora Springs Winery. It is a stone arch bridge, with a circular opening approximately 10'-3" diameter on concrete foundations. Arch headwalls and barrier walls are also mortared stone. The bridge is similar in construction to many bridges throughout the Napa Valley that have generally been performing well for many years. A stone on the bridge has a marking of "1902", so the bridge is believed to be about 114 years old. A cover has been added to the bridge with steel frames and wood framing, but while that portion of the bridge was measured during the review and will be generally shown on bridge CADD drawings, it was not considered in the capacity of the bridge.

#### **BRIDGE 2:**

Bridge 2 is the Northern bridge and provides secondary access to the Flora Springs Winery. It has an appearance similar to bridge 1, but is actually a railcar superstructure with a concrete deck placed on top of the railcar girders. The abutment walls and foundations are cast-in-place concrete, and the abutment wall foundation floor slab appears to cross the entire creek. There is a steel channel for flashboards at the downstream end of the abutment walls. The railcars appear to be box car bottoms, and are relatively old, since they are riveted steel sections and plate. Riveted railcar girders were replaced by welded girders in about the 1940's and 1950's, so the girders are believed to have been built at least about 60 – 70 years

ago. The superstructure appears to be two sections of boxcar bottoms or similar relatively light and low-profile railcars placed side-by-side. Additional steel (a 15" Steel Channel) was placed just outside of the girders on both the upstream and downstream side to slightly widen the bridge and provide for forming the concrete deck. The effective span of the railcar girders in this bridge is about 9'-6", which is a very short span for railcars.

#### **BRIDGES, GENERAL CONCERNS AND DISCUSSION:**

Scour: Scour is often a significant concern for small and large bridges in this area. Morris Engineering and/or JS Morris Construction, Inc. have replaced many bridges in the area over the past 25 years, and one of the largest concerns often is very often scour. However, since this is a very small creek and the foundations appear to be embedded well into the existing competent soil, scour does not appear to have been a problem for the strength capacity of either bridge and is not expected to be a significant concern.

Foundation settlement: We did not significantly review the condition of either bridge foundation, since they were not accessible and the bridges have been in service for many years, and do not appear to have concerns regarding settlement. Even with relatively heavy HS20 trucks, the ratio of Live Load to Dead Load for these bridges is very low, so we have considered the foundations to be adequate without significant testing. Our experience with these types of bridge is that foundation settlement, especially differential settlement, can cause very significant distress to walls and other structural elements, and can cause the bridge to become unsafe. However, these problems tend to develop slowly, and are generally show obvious cracking due to settlement. Based on our visual review, this does not appear to be a significant concern for either bridge.

Stone Arch (Bridge 1 only): Soil lateral loading of headwalls, driving surface: Construction of this type of stone arch bridge was common about the time this bridge was built. Typically, wood falsework was provided for the arch, stones were placed for the arch, then the headwalls, then the structure was filled with soil. Later the barrier wall stones were stacked and mortared on the headwalls. The headwalls are generally "gravity" type retaining walls, where the gravity weight of the walls must be greater than the lateral loading in order to be stable. This appears to be not a problem for this bridge. The driving surface of the bridge in this case is not generally a significant structural element.

Concrete Deck Slab, Abutment Walls and footings (Bridge 2 only): It has been common over the years to pour a concrete deck slab to replace the original wood flooring of these type of railcar girders when they are used for bridges. That is the case for Bridge 2. We do not know



the extent of reinforcing for the deck, however, the span for the deck between the railcar center sill and side sill elements is very small, so the deck has performed well over the years and should be serviceable for a reasonable amount of time. Also, the condition of the concrete deck is generally more of a serviceability concern than a safety concern, so the deck is considered safe to a reasonable degree until serviceability becomes a problem due to cracking. However, the deck surface does show cracking, and the condition of the concrete deck will probably be dependent on how much this bridge is used by heavy vehicles. As a serviceability measure, if significant heavy traffic is expected, we recommend an epoxy coating with a broadcast aggregate (sand) cover to extend the life of the concrete deck. An example would be Dayton-Superior Unitex Pro-Poxy type III Bridge Deck Overlay System. Alternatively, if the cracking becomes a problem, replacing the driving surface portion of the concrete deck slab would be an option. The abutment walls and footings appear to be good condition, and are performing well for bridge 2.

Railcar Girders (Bridge 2 only): The railcar girder elements for bridge 2 appear to be in generally good condition for the amount of time that they have been in service. The Center Sills, Side Sills, crossies and bolsters appear to have little section loss, and are generally performing well.

Stone Barrier Railings: The stone barrier railings for both bridges appear to be in generally good condition.

Others: Other considerations were reviewed, and can be discussed at the site if requested.