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County of Sonoma
Permit & Resource Management Department

NATURAL RESOURCES RESPONSE – MINOR SUBDIVISION

DATE: October 09, 2019

TO: Permit and Resource Management Department, Project Review Section
ATTN: Ross Markey

FROM: Robert Pennington, P.G., Natural Resources Geologist

PROJECT TYPE: Minor Subdivision

SUBJECT

File Number:	MNS18-0004
Applicant Name:	Cort Munselle
Owner Name:	Famiglia Liberata LLC
Site Address:	1276 Jensen Ln., Windsor
APN:	162-020-007

Project Description:
Request for a Minor Subdivision of one (1) lot 37 acres in size creating three (3) lots 12.3, 10.39, and 15.34 acres in size.

Comment:

A previous letter dated April 22, 2019 requested a geologic study that addresses surface fault rupture and slope stability, and a hydrogeologic study. In response the applicant provided technical reports pertaining to each subject. Reports were reviewed and found to be sufficient. Brief summaries and responses are provided below.

1. **Surface Fault Rupture**

The proposed building envelopes are located within Earthquake Fault Zone for the Rodgers Creek Fault (EFZ). Earthquake Fault Zones are defined by the California Geological Survey, and are designated by Sonoma County as within the Geologic Hazard Combining Zone (G district). The code sections below are relevant to development within the G district.

> **Sec. 26-70-020. - Permitted uses.**
> All uses permitted within the respective district with which the G district is combined shall be permitted, except that no structure intended for human occupancy or otherwise defined as a project in the Alquist-Priolo Special Studies Zone Act, shall be permitted to be placed across the trace of an active fault or within fifty feet (50') of the surface trace of any fault.

> **Sec. 26-70-030. - Geologic reports required.**
> Geologic reports shall be required for development of properties within the G district and shall describe the hazards and shall include mitigation measures to reduce risks to acceptable levels.

The applicant provided a Fault Rupture Hazard Evaluation prepared by PJC & Associates, Inc. dated September 5, 2019 (Fault Study). The Fault Study included a review of available geologic maps and publications, interpretation of geomorphic features, discussion of historic earthquakes activity and earthquake probabilities, and a subsurface exploration of the site. The Fault Study documented that the project parcel and proposed building sites are within the active fault zone of the Rodgers Creek Fault; however, the subsurface investigation did not identify any surface fault traces of an active or inactive fault within 50 feet of the proposed building envelopes, as proposed in the tentative subdivision map titled "Proposed Chalk Vista Subdivision" prepared by Munselle Engineer Civil Engineering, dated July 25, 2019.

The subsurface exploration involved excavating trenches with a depth of 3 to 7 feet in an orientation that was roughly perpendicular to the expected direction of the Rodgers Creek Fault. Total trench length was roughly 300 feet. The trench of locations were designed to intersect any fault that could pass within 50 feet of the proposed building envelopes. Once excavated, the trench walls were observed and logged. No indication of faulting was noted.

I conducted a site visit on July 23, 2019 to observe the walls of the excavated trenches. During my field review I did not observe any features indicative of active fault movement. The Fault Study has been reviewed and is found to accurately characterize the site. No further information is requested in regard to surface fault rupture.

2. Slope Stability

The project site is located within or in close proximity to active landslide features as Presented in Geology for Planning in Sonoma County Special Report 120, California Division of Mines and Geology, 1980. Mapping was completed at a regional scale and not suitable for site specific evaluation; however, a site specific slope stability analysis was requested.

The applicant provided a Slope Stability Study prepared by PJC & Associates, Inc. dated September 19, 2019 (Slope Stability Study). The Slope Stability Study included a review of available geologic maps and publications, interpretation of geomorphic features, subsurface exploration of the site, laboratory testing of soil samples, and quantitative analysis of slope stability. The Slope Stability Study documented that the project parcel and proposed building sites are within landslide features as mapped in Special Report 120. Field investigation and interpretation of geomorphic terrain using LiDAR did not identify any active or inactive landslide features within or overlapping the proposed building envelopes, as proposed in the tentative subdivision map titled "Proposed Chalk Vista Subdivision" prepared by Munselle Engineer Civil Engineering, dated July 25, 2019. A number of active landslide features were identified in the nearby area, but none were interpreted as posing a risk to development within proposed building envelopes.

Proposed building sites for Lots 1 and 2 are on gently sloping terrain with slope angles below roughly 10% and were interpreted to have low potential for slope failure. The proposed building envelope for Lot 3 is on moderately steep terrain with a slope between 10 and 20%. The Slope Stability Study

included a quantitative slope stability analysis using site specific soil properties. Results indicated stable conditions under static and seismic event conditions.

The Slope Stability Study has been reviewed and is found to be sufficient. No further information is requested in regard to slope stability.

3. Hydrogeologic Study

The proposed project is located within the medium priority Santa Rosa Plain groundwater basin defined by the California Department of Water Resources Bulletin 118. According to PRMD Policy 8-1-14, discretionary projects within medium and high priority groundwater basins are subject to requirements of General Plan Policy WR-2e. General Plan Policy WR-2e calls for a hydrogeologic study that details potential impacts to groundwater resources from the project.

A hydrogeologic study was prepared for the project by O'Connor Environmental Inc. dated May 15, 2019 (OEI Report). The OEI Report estimated the project would result in up to 2.25 acre feet per year of increased groundwater pumping. The OEI Report presented data on nearby wells, a summary of the aquifer conditions, and recharge based off a soil water balance model. Recharge (104 acre feet per year) is expected to be greater than or equal to groundwater withdrawals (52 acre feet per year) under proposed conditions for the project aquifer recharge area (134 acres). This is corroborated by increasing or stable trends in water level as observed in monitoring wells located within roughly 0.7 and 1.0 miles west of the project site. The OEI Report concluded there is little potential to negatively impact groundwater supply, groundwater levels in neighboring wells, and surface waters. My review of the report finds that the analysis is well documented and of appropriate detail and effort to support the findings.

Conditions of approval related to groundwater supply or monitoring are not recommended for this project at this time.

Please feel free to contact Robert Pennington, Professional Geologist, at Robert.Pennington@sonoma-county.org or (707) 565-1352, should you have any questions on the above information.

cc: Applicant: Cort Munselle
Owner: Famiglia Liberata LLC