

Monte Cristo Vineyards

Updated Drought Management Plan

Major Use Permit Application UP 21-14

The Urgency Ordinance approved by the Lake County Board of Supervisors on July 27th, 2021 (Ordinance No. 3106) requires applicants to provide a plan depicting how the applicants plan to reduce water use during a declared drought emergency. A Drought Management Plan was included in the Hydrology Report prepared by Realm Engineering on August 18, 2021 for the Monte Cristo Vineyard's (MCV) Major Use Permit Application (UP 21-14). However, given the current historic and persistent drought Lake County is currently experiencing, MCV has decided that additional/extra water conservation and drought management measures are necessary to ensure water resources protection until the current drought emergency declared by the State of California on May 11, 2021 has ended.

As outlined in the Hydrology Report, MCV's proposed 22-acre commercial cannabis cultivation operation would have an estimated annual water use requirement of 45.8 acre-feet. Additionally, for the last two decades MCV has operated a 128-acre commercial vineyard on the Project Property, which will be reduced from 128 acres to 88 acres as a result of establishing the proposed commercial cannabis cultivation operation. The estimated annual water use requirement of the 128-acre commercial vineyard is 85.3 acre-feet (when utilizing standard vineyard management and irrigation practices), which would be reduced to 58.7 acre-feet for the remaining 88-acre commercial vineyard after establishment of the proposed cultivation operation.

The Hydrology Report indicated an estimated average annual aquifer/groundwater recharge rate of approximately 176.25 acre-feet per year. That estimate was calculated from an average annual precipitation rate of 2.6 feet across MCV's 452-acre property ($452 \text{ acres} \times 2.6 \text{ feet} = 1175 \text{ acre-feet}$), with a 15 percent recharge rate ($1175.2 \text{ acre-feet} \times 0.15 = 176.25 \text{ acre-feet}$). However, this estimate does not account for severe drought conditions, as Lake County has been experiencing since 2020. The California Department of Water Resources ranked Water Year 2021 (October 1st, 2020 through September 30th, 2021) as the State's fourth driest on record. During Water Year 2021, less than 10 inches (approximately 9.5 inches) of precipitation fell on the USGS Cache Creek Precipitation Gage near Lower Lake, CA (closest USGS Precipitation Gage to the Project Property). If we rerun the calculations above using this precipitation data, we can obtain the following estimate for groundwater recharge during Water Year 2021.

$1175 \text{ acres} \times 0.8 \text{ feet (Water Year 2021 Precipitation for Lower Lake, CA)} = 940 \text{ acre-feet}$
 $940 \text{ acre-feet} \times 0.15 \text{ (aquifer/groundwater recharge rate)} = 141 \text{ acre-feet}$

Estimated Severe Drought Value for Groundwater Recharge = 141 acre-feet

The estimated amount of water available to recharge the aquifer under the Project Property during a severe drought year (141 acre-feet) is still greater than the estimated annual water usage of the proposed cannabis cultivation operation (45.8 acre-feet) and remaining 88-acre commercial vineyard (58.7 acre-feet). Nevertheless, MCV does not plan to establish all of the proposed outdoor canopy area until the current drought emergency has ended (detailed below).

In response to the current drought emergency declaration, and to ensure both success and decreased impacts to the surrounding areas, MCV will only establish 64 percent of the total proposed outdoor cannabis canopy area, reducing the total proposed outdoor cannabis canopy area from 22 acres to 14 acres until the current drought emergency has ended. This would reduce the estimated annual water usage of the proposed cannabis cultivation operation from 45.8 acre-feet to 29.3 acre-feet. Additionally, MCV would continue to implement the water conserving irrigation practices outlined in the Hydrology Study, to ensure that there is no increase in water usage until after the current drought emergency has ended. MCV would implement the Drought Management Plan outlined in the Hydrology Study in response to all future drought emergency declarations.