

Environmental Resource Management
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Oak Tree Restoration Plan (OTRP)

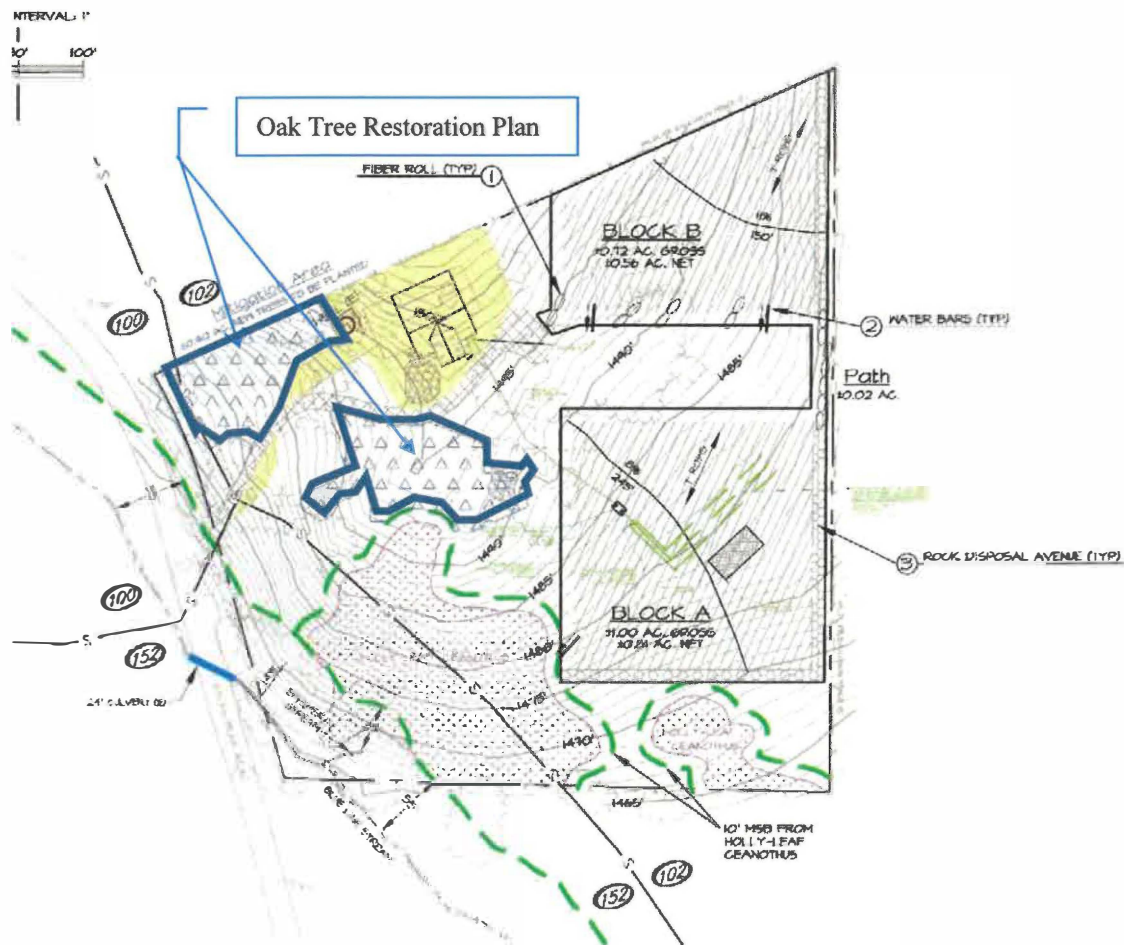
Atlas Rock Vineyards
3380 Atlas Peak Road

1-20-23 updated

This Oak Tree Restoration Plan (OTRP) is the new planting of approximately .4 gross acres of oak woodland. APN 033-010-059, a ± 4.84 acre parcel located at 3380 Atlas Peak Road, Napa. Onsite visit, 1-13-23 and 9-27-22.

The property was severely impacted by the 2017 Fire. Within the parcel boundaries are burned residences and outbuildings, burned vegetation, an access road, ± 0.6 acres of tree canopy and resident grasses. Primary access is from Atlas Peak Road.

A portion of the 4.84 acre property has been designated as an Oak Tree Restoration Plan (OTRP). Existing ground slopes in the Restoration area are generally flat. There is one blue line stream and one ephemeral stream: both near the southwest property corner of the property. There are no drainages associated with the OTRP. See a copy of the ECP map page 2 below.

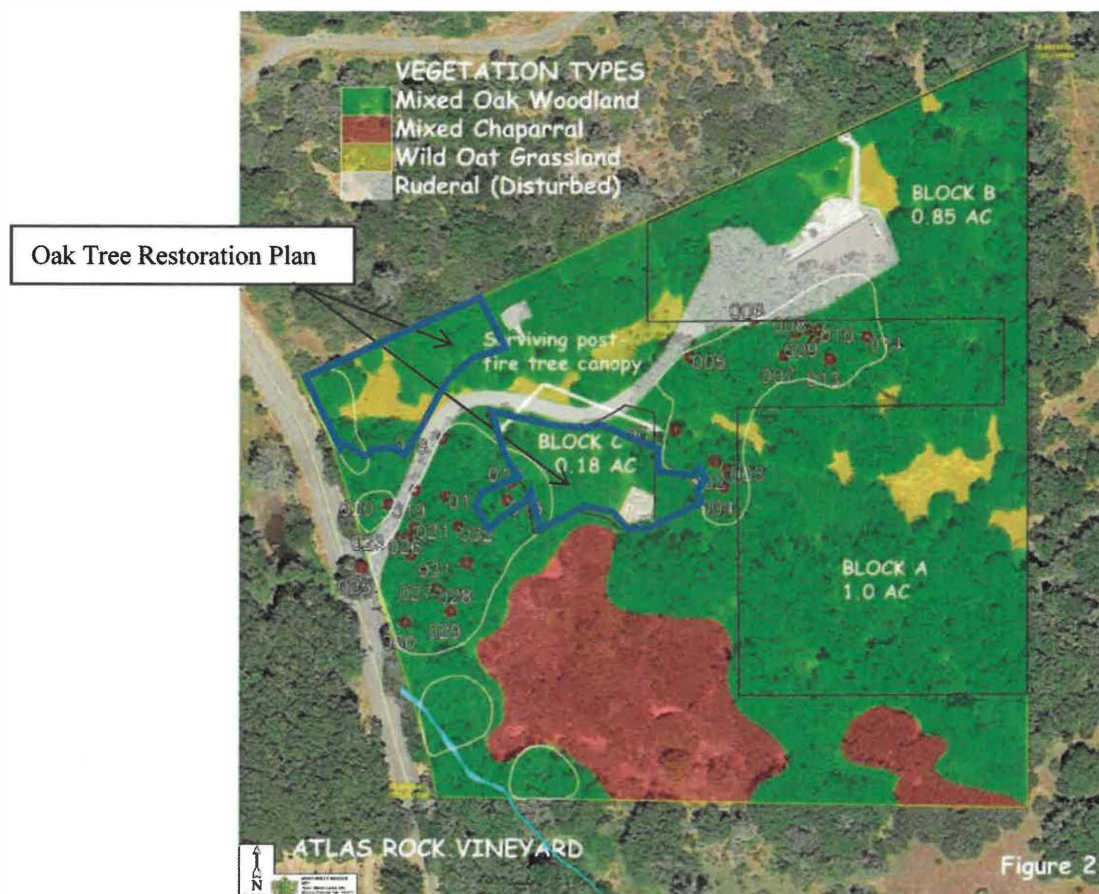


Soils within the Restoration area are primarily SCS #102, Aiken loam. These gently sloping to strongly sloping well-drained soils are mainly on foot slopes on uplands. The soils formed in material weathered from basic volcanic rock. Included in mapping were small areas of Boomer, Forward, Kidd, and Sobrante soils. The loam soils overlay weathered andesite tuff and conglomerate. Permeability of the Aiken soil is moderately slow. Runoff is slow to rapid depending upon slope. The hazard of erosion is slight too high. The natural vegetation consists of ponderosa pine, oaks, redwoods in moist draws, annual grasses, and brush in small areas that have been cleared.

The property contains three vegetation types (See Updated Biological Resource Assessment for Atlas Rock Vineyard Project dated 2-2-2022), Mixed Oak Woodland, Mixed Chaparral and Wild Oat Grassland. The Restoration area is primarily composed of Mixed Oak Woodland. See the excerpt and map from the BRA, page 7, below.

"Mixed Oak Woodland:

This woodland consists of co-dominant California black oak (*Quercus kelloggii*), California bay (*Umbellularia californica*), and coast live oak (*Quercus agrifolia*). These occur as remaining undisturbed trees in small copses underlain by a shrub layer consisting of a continuation of the more mesic members of the surrounding chaparral. The pre-fire community was clearly denser and more shaded as indicated by the persistence of some mesic (moist soil) woodland groundcover species. These include grand hound's tongue (*Cynoglossum grande*), hedgehog dogtail (*Cynosurus echinatus*), climbing bedstraw (*Galium porrigens* var. *porrigens*), and Pacific blacksnakeroot (*Sanicula crassicaulis*). However, the current post-fire ground cover consists primarily of exposed boulders and bedrock. Areas of remaining post-fire trees are marked with white polygons in **Figure 2**."



"Core habitat within the Atlas Rock property was eliminated by fire in 2017. What were once continuous mixed oak woodlands on the property were burned and subsequently felled and removed. As shown in Figure 2, intact woodland cover is now limited to two small copses near the center of the 2-acre parcel and individual trees along the western property boundary. While this woodland would recover if left in its natural state over a number of decades, this process has been lengthened by the removal of burned stumps that may have stump sprouted from mature root systems."

The OTRA was completely burned in the 2017 fire. In this area all vegetation was cut at the stump and removed. No stumps were removed. See Photos attached showing stump retention and sprouting.

Napa County Application Completeness Determination letter dated 3-9-22

a. ECPA plans and/or narrative: Please provide revised plans and/or narrative that include, show or clarifying the information below:

- ii. **Oak Woodland Mitigation:** The Mitigation Map shows a proposed 0.43-acre tree replant area, which would meet a 2:1 mitigation ratio required by General Plan Policy CON-24 based on the vegetation retention analysis pursuant to NCC §18.108.027. Please submit an oak tree restoration plan prepared by a qualified biologist or other qualified professional, for review and approval by the Conservation Division. The restoration plan shall include an implementation and monitoring schedule with dates and timeframes, planting details, and maintenance or management specifications that includes an overall 80% success rate for plantings after 5 years.

Update, 1-20-22. The tree planting area has been changed from .43 acres in one block to .40 acres in two blocks. The planting goal remains the same. Onsite visit 1-13-23.

The tree planting goal for this mitigation is 70 trees per acre (based on 25' spacing) of species found in the Mixed Oak Woodland vegetation type. This .40 acre planting area should contain a total of 28 trees ($70 * .40 = 28$). Onsite review of the .40 planting area on 9-28-2022 and again on 1-13-23 found that most of the dead vegetation was cut and removed. All stumps were left in place. A tree and stump count found 1 Black oak tree standing and in good condition, 2 Coast Live Oaks standing and in good condition, 7 Coast Live Oak stumps sprouting and 14 California Bay Laurel stumps sprouting. All of the natural sprouting was in very good condition as can be seen in the attached photos. It should be noted that each of the sprouting stumps will become at least two trees or more. They have been counted as one tree as a conservative approach.

Trees to be planted, updated based on an onsite visit 1-13-22.

Scientific Name	Common Name	Existing	To be planted	Total by species
Quercus kelloggii	California Black Oak	1	2	3
Quercus agrifolia	Coast Live Oak	9	2	11
Umbellularia Californica	California Bay Laurel	14	0	14
				28
Tree count, .40 ac = 17,424 sq ft., 25' spacing = 625 sq ft, $17,424 / 625 = 28$ This is equivalent to 70 trees per acre on a 25' spacing.				

This table summarizes the species and number of trees to be planted.

Planting requirements

Planting should be done with a maximum of 25' spacing between existing trees and planted trees. Seedling size and species may vary as necessitated by availability. Due to current drought conditions it is suggested that seedling size be limited to a maximum size of 1 gallon containers. This will help minimize short term watering requirements. In order to assure survival and minimize water usage direct root water should be implemented. Each plant should have a 3" perforated pipe installed within 1' of the seedling. The pipe should be 2 to 3 feet in length, vertical to the ground surface and filled with drain rock. All watering should be done inside of the drainpipe. (note, a 36' pipe ½ full of rock will hold approximately 1 gallon) Water usage is estimated at 10 gallons per plant the first year and 5 gallons per plant the second year. Once established, these wildland plants should not need additional watering. The slopes are predominantly flat with a somewhat southerly aspect. Soils are somewhat rocky, but planting is not expected to be issue. The plantings should maintain an on-center spacing of approximately 25 feet but avoid planting in rows where possible. Planting will occur in between October 1 and February 28, with the preference in mid-winter (December,

January), following precipitation to take advantage of moisture in soils. Because planting will occur during the wet season plantings should be conducted using hand tools with any associated vehicles parked on paved or rocky roads. Plantings should be done on the north side of existing brush to take advantage of reduced temperature and increased soil moisture during the summer months. Competing brush, grass and vegetation should be monitored and removed if competition for shade, light and soil moisture impact the planted seedlings and the existing sprouting trees.

Maintenance Specifications

Maintenance activities in the tree planting areas during the 5-year monitoring period following planting will include the following tasks as needed:

- 1) erosion control and repair should such be evident.
- 2) inspection for signs of vandalism or other disturbance of the tree planting area by people or wildlife; and
- 3) inspections for colonization of problematic non-native plants and action to control their spread. Removal of non-native species in the tree planting area will be conducted as needed and recommended in the annual Monitoring Report. Removal of non-native species may be conducted by applicant or vineyard manager during annual maintenance.
- 4) In order to assure survival and minimize water usage, **direct root watering** should be implemented. Each plant should have a 3" perforated pipe installed within 1' of the seedling. The pipe should be 2 to 3 feet in length, vertical to the ground surface and filled with drain rock. All watering should be done inside of the drainpipe. (Note, a 36' pipe ½ full of rock will hold approximately 1 gallon) Water usage is estimated at 10 gallons per plant the first year and 5 gallons per plant the second year. Once established, these wildland plants should not need additional watering.
- 5) Irrigation should be applied under the direction of the vineyard manager, landscape contractor, forester, or similar. The irrigation schedule should be reviewed by the vineyard manager and adjusted as needed. The goal is to get the planted seedlings to survive on their own in a timely manner. Irrigation design should be field fitted and under the advisement of the vineyard manager, landscape contractor, forester, or similar.

Annual monitoring and report letter

A brief letter report outlining the as-built conditions of the tree planting area will be prepared and submitted to the County of Napa within 45 days of the completion of planting. The report will document any deviations between this plan and final layout of the tree plantings (e.g., field-fitting planting is acceptable, irrigation system).

Monitoring of the tree planting area will occur annually over the five year period. Data will be collected during each annual monitoring visit to assess the successful establishment of the planted trees.

Monitoring will be performed by a vineyard manager, landscape contractor, forester, or similar. The monitoring will consist of traversing the entirety of the planting area and documenting survivorship of the trees, general observations of growth and vigor of the trees, and any threats to the overall success of the planting. Over topping of competing vegetation should take place annually for the 5 year period. This will help insure survival and success of the planted seedlings. An annual monitoring letter shall be submitted to the county of Napa prior to the end of each of the 5 winter periods. Pictures may be submitted with the annual monitoring letter.

Recommended success criteria are as follows:

- 80% survival on each of the 5 years. Any mortality of the planted seedlings should be replaced as soon as is practical, given soil and weather conditions.
- Year 5: Survival of the planted trees shall be 80%

Failure of success criteria

If annual or final success criteria are not met, the Applicant and/or their agent(s) will prepare an analysis of the cause(s) of failure and, if determined necessary by the County of Napa and the Applicant, propose remedial action. The Applicant will be responsible at that time for reasonably funding the contingency procedures necessary for completion of the re-establishment and restoration project.

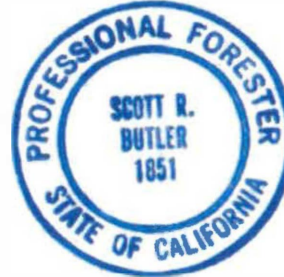
Notification of Completion

Upon completion of the fifth year of monitoring, a final report will be provided to the County of Napa detailing the results of the final year of monitoring. If the tree planting area has met the success criteria at the end of the five-year period, then the final report will recommend no further actions. If the tree planting area has not met the success criteria by the end of the five year period, then the final report may recommend additional corrective measures and/or extending the monitoring period. When the tree planting has met the success criteria or revised criteria agreed to by the County of Napa, the planting plan will be considered complete.

Thank you,

SRB

Scott R. Butler



California Bay
Laurel stump, boot
is for scale



California Bay
Laurel stump



Coastal Live Oak
stump



California Bay
Laurel stump



California Bay Laurel sprouted from the burned tree. Note fence for scale.



Coastal Live Oak
stump



Coast Live Oak



California Bay
Laurel stump





California Bay Laurel stumps, note the ring of trees. Evidence of previous fire in the landscape.

The photograph shows a forest floor covered in a thick layer of fallen, orange-brown leaves. Several large, dark, charred tree stumps are visible, some with distinct growth rings. A white arrow points to one of these stumps. In the background, a dense stand of thin, vertical tree trunks is visible, suggesting a ring of trees. The scene is illuminated by bright sunlight, creating strong shadows.