

JACOBSZOOM & ASSOCIATES, INC.

natural resource planning & management

Oak Mitigation Plan

Prepared for:

Siegler Springs Investments LLC
11615 Siegler Springs
Kelseyville, CA 95451

Prepared by: Erik Snow

Registered Professional Forester #3101

Jacobszoon and Associates Inc.

707-485-5544

January 3, 2024

Introduction

The proposed cannabis cultivation development will be established in areas of the project property with established low elevation Ponderosa pine (*Pinus ponderosa*) and black oak (*Quercus kelloggii*) forests. Pure pockets of black oak exist in portions of the property. The understory can be characterized by annual grass, *Ceanothus* spp., and conifer and oak regeneration. Coppice regeneration for black oak was observed in open areas recently burned by the Valley Fire as well as in the understory of pines and mature black oaks.

The Project Site was surveyed by Jacobszoon and Associates, Inc. Professional Forester Erik Snow on June 23, 2022. Approximately three acres of oak woodland habitat on the property will be affected by the removal of black oak trees and a variety of life stages. The area to be converted contains black oaks up to 28" DBH, and averages 8" DBH. The average height of trees slated for removal is 40 feet. All trees were observed to be in good health. 76 Black oaks over 6" DBH are designated for removal. See Table 4 for a complete breakdown by DBH and species.

In total, the development of the proposed cultivation operation will result in the disturbance of approximately 3 acres of ponderosa pine and black oak habitat and the removal of 76 oak trees over 6" DBH. To comply with the California Oak Woodlands Conservation Act, 228 oaks will be protected and irrigated each year for seven years to mitigate the loss because of project development. The number of trees to be replaced by species at the three to one ratio are listed below.

Table 1: Number of trees to be replaced by species at 3:1.

Black Oak
76

Compliance with the California Oak Woodlands Conservation Act

The Oak Woodlands Protection Act and the County of Lake identify mitigation standards and requirements for projects that remove oak woodlands.

Under the Oak Woodlands Protection Act, Lake County shall require one or more oak woodland alternatives "to mitigate the significant effect of the conversion of oak woodlands." Alternatives to mitigate the significant effect of the conversion of oak woodlands: replace removed trees at a rate of 3:1 and maintain trees pursuant to Section 4526 of Senate Bill No. 1334 terminating seven years after the trees are planted.

For the purposes of this oak mitigation plan. An oak tree is defined as any true oak species present on the property that exceeds 6" DBH or 20' in total height.



Mitigation Plan

Acorns will be harvested directly from species within the vicinity of the oak restoration site in late fall when the acorns are beginning their transition from green to brown. Jacobszoon & Associates, Inc. biological staff or any other qualified biologist or forester will collect, sort, store, and plant trees in addition to selecting saplings within the Restoration Site to protect. Oak regeneration guidelines are adapted from “Regenerating Rangeland Oaks in California” and will be followed for the harvesting, care, and planting of acorns.

Acorns will be planted in basins containing three to five acorns across approximately 11.5 acres of oak woodland directly east and south of the conversion site, as well as along the margins of the conversion site and roads on the property. Acorn basins will be spaced a minimum of approximately 20-25 feet apart to allow for trees to reach full size at maturity and within a naturalistic manner using the surrounding trees as a model.

A critical factor affecting young oak seedlings is competing vegetation. Adjacent plants, especially grasses, can consume much of the available soil moisture leaving little for the seedlings. A 3-foot diameter circle around each plant is to be cleared of all vegetation by hand weeding or hoeing. A 3-foot diameter thick layer of wood chips will be placed around the base of each tree, to protect against weeds and help conserve moisture by reducing evaporation from the soil surface. Tree shelters will be placed over the acorn basins to deter herbivory by wildlife and encourage growth of saplings by creating a greenhouse effect. Drip irrigation will be used to water the trees.

Additional mitigation measures will be implemented based on project needs as the project unfolds to ensure survival.

Irrigation

All plants will require irrigation for seven years and will therefore be watered with a temporary drip irrigation system installed by the landowner. Recommendations for irrigation are listed in the table below.

Maintenance

Mitigation requires the maintenance and monitoring of plantings over a seven-year period. Weed growth reaches its peak during mid-February through early May. In addition to the primary competitive impacts of weeds, large amounts of dead annual grasses can provide favorable habitat for voles or meadow mice which are predators of both acorns and seedlings. During this period, the area around each basin should be hand weeded every four to six weeks. Weed growth within the mulch will be the highest in Year 1; however, with proper weed management in the first year, there will be fewer weeds in the following years, resulting in greatly diminished maintenance. Recommended maintenance activities by year are included in ***Table 2: Mitigation Maintenance Schedule***.



Table 2: Mitigation Maintenance Schedule

Year	Maintenance Activities
Planting	Plant acorns between October and December to allow initial establishment during the wet season. Water as needed to ensure survival if rain is inconsistent. Clear weeds within a 3-foot diameter around acorn basins every four to six weeks and maintain a layer of mulch within a 3-foot diameter circle surrounding planting.
One	Water trees weekly (~15 gallons per week) with supplemental watering as needed if temperatures exceed 100 degrees for multiple days in a row. Replenish mulch in spring and remove weeds from the planting area as needed.
Two	Water trees weekly (~15 gallons per week) with supplemental watering as needed if temperatures exceed 100 degrees multiple days in a row. Replenish mulch in the spring. Remove weeds from the planting area, as necessary.
Three	Water trees as needed if temperatures exceed 100 degrees multiple days in a row, but do not water more often than twice per month. Replenish mulch in the spring. Remove weeds from the planting area, as necessary. Pruning may be necessary to remove defective limbs or deadwood under the discretion of a Qualified Arborist.
Four	Water trees as needed if temperatures exceed 100 degrees multiple days in a row, but do not water more often than twice per month. Replenish mulch in the spring. Remove weeds from the planting area, as necessary. Apply approximately 30 gallons per watering. Replenish mulch in the spring. Remove weeds from the planting area, as necessary.
Five	Water trees monthly. Replenish mulch in the spring. Remove weeds from the planting area, as necessary.
Six	Water trees monthly. Replenish mulch in the spring. Remove weeds from the planting area, as necessary.
Seven	Water trees monthly. Replenish mulch in the spring. Remove weeds from the planting area, as necessary.

Oak Planting and Restoration Site

The landowner will plant and protect a total of 327 oak trees for seven years to ensure successful establishment. Protected saplings and oak plantings will occur downslope of the proposed cannabis development area in habitat similar to that being impacted by development. The oak canopy within the proposed Restoration Site is composed of primarily black oak with portions of the restoration area containing ponderosa pine-mixed hardwood forest. Oak sapling recruitment was observed under the drip line of some mature black oaks within the Planting and Restoration Site adjacent to the proposed conversion area.



Monitoring Plan

Annual monitoring reports will be submitted by Jacobszoon and Associates, Inc. or another Forester or biologist of the landowners choosing to the Community Development Department of Lake County. The first annual report will be submitted by December 31st following the start of the project.

Monitoring will be conducted in the spring and fall to document tree survival and collect other pertinent data.

The report will include an executive summary containing all relevant data regarding the health and vigor of the oaks, discuss any replacement planting, invasive plant management efforts or other remedial measures taken, summarize any changes or recommendations for adaptive management for the site, and contain photos.

Table 3: Trees designated for removal by species and diameter class.

<i>Siegler Spring Conversion: Tree Removal Talley</i>			
	<i>Talley By Species</i>		
<i>Diameter at Breast Height</i>	<i>Ponderosa Pine</i>	<i>Sugar Pine</i>	<i>Black Oak</i>
8	5	1	20
10	4		25
12	2		7
14	3		4
16	2		8
18	4		6
20	4		3
22	3		2
24	4		
26	2		
28			1
30			
Total:	33	1	76

**Oak exhibiting post-fire coppice sprouting were counted as one tree.*



Report Author:

Erik Snow, RPF #3101

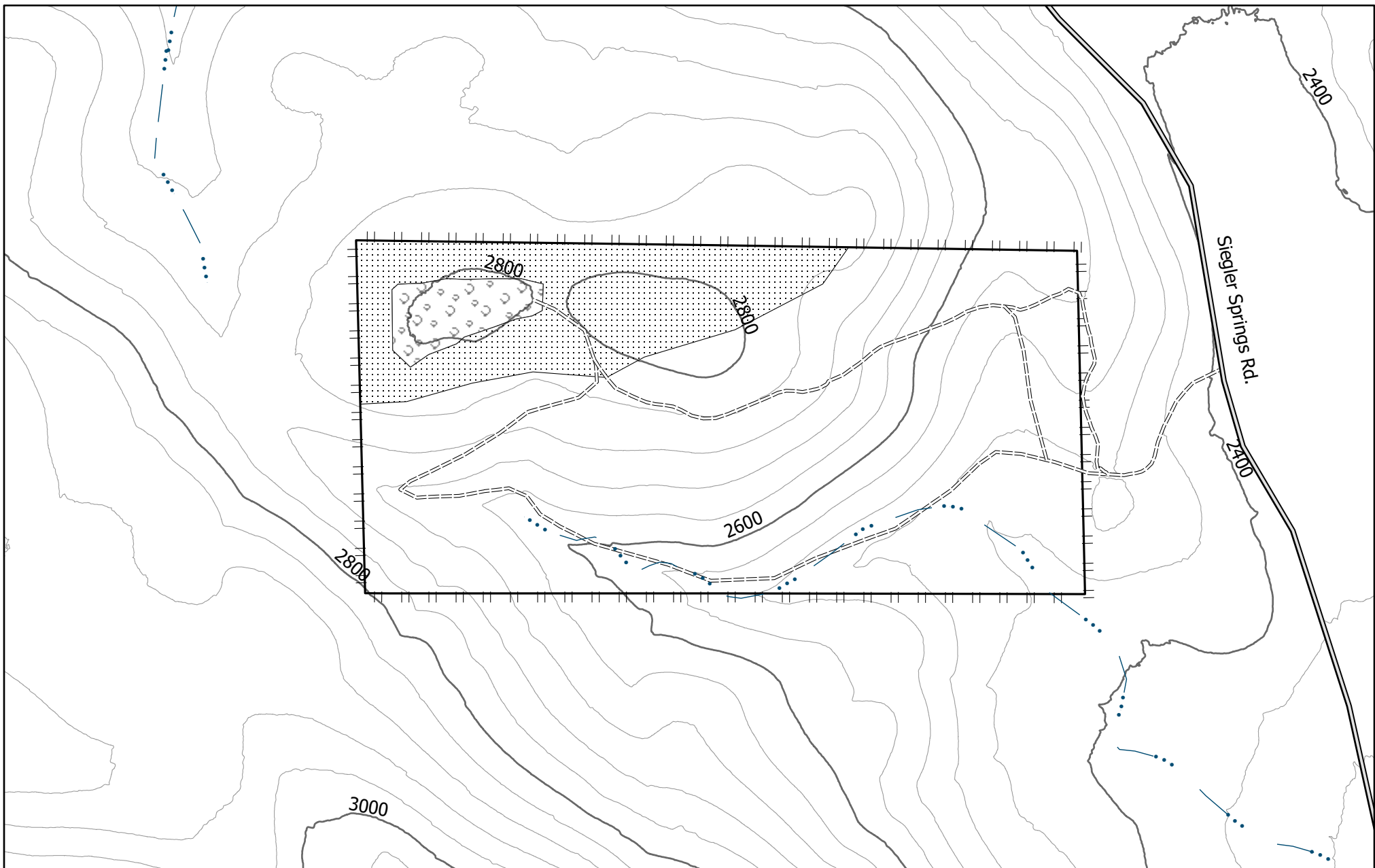
Erik Snow is a Professional Forester at Jacobszoon and Associates Inc. with six years of professional experience in forest management. He provides timber harvesting plans, non-industrial forest management plans, timberland appraisals, forest management plans, and forestland evaluations. She received a Bachelor of Science in Forestry and Natural Resources from California Polytechnic State University, San Luis Obispo in 2016.

Prior to working with Jacobszoon and Associates Inc., Mr. Snow has worked with Jefferson Resource Company and Jackson Demonstration State Forest to manage forestlands across the state of California. Erik revived his professional forestry license in January 2019. Additionally, Erik holds a Cal Fire Archaeological Training Certificate.

Sincerely,

Erik Snow
Registered Professional Forester #3101
Jacobszoon & Associates, Inc.





Siegler Springs Oak Mitigation

11615 Siegler Springs Rd.
 Sec 16, 17, 18, T12N, R08W, MDBM
 Clearlake Highlands USGS 7.5' Quad.
 Lake County, CA

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JACOBSZOOM & ASSOCIATES, INC.
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Ownership



Conversion Area



Potential Planting Areas



Private Seasonal Road



Public Permanent Road



Class 3 Watercourse

Contour = 40ft

E. Snow 12/12/2023