Timberland Resource Consultants

165 South Fortuna Boulevard, Fortuna, CA 95540
707-725-1897 • fax 707-725-0972
trc@timberlandresource.com

March 15, 2019

Mermaid Spring Estate, LLC
Attention: Erik Stugard
PO Box 942
Garberville, CA 95560

Dear Erik,

Re: APN 216-025-002
Application #12471

This report is in response to Department Policy Statement No. 16-002, which states, "*If a workable alternative cultivation site exists on a parcel and its relocation will bring the cultivation into compliance with performance standards of the CMMLUO, this approach could meet the objectives of the CMMLUO provided it is the environmentally superior option.*"

As a Third-Party representative to the Water Board and Registered Professional Forester managing your property for timber production, Timberland Resource Consultants recommends relocating Cultivation Area H to Cultivation Area F and Cultivation Area G as shown on the attached WRPP Maps. The relocation of Cultivation Area H to Cultivation Area F and Cultivation Area G is proposed for the following reasons detailed below;

1. Cultivation Area H does not comply with Water Board Order No. 2015-0023, Standard Condition (I)(A)(3)(a), which states that:

   "*While 200-foot buffers are preferred for Tier 2 sites, at minimum, cultivation areas and associated facilities shall not be located or occur within 100 feet of any Class I or II watercourse or within 50 feet of any Class III C watercourse or wetlands.*"

   The cultivation site is located within a bowl-shaped feature, which is potentially hydrologically connected to a downstream Class III watercourse via an "unclassified watercourse". Although not technically located within a "watercourse", shallow emergent groundwater is intercepting the cultivation area in various locations, which has the potential to coalesce during intense rainfall events and reach a downstream Class III watercourse. Even in the absence of surface flow, nutrients from imported soil, which are rich in nitrogen and phosphorus, could potentially leach into the shallow groundwater creating downstream nutrient pollution.

   Cultivation Area F and Cultivation Area G are located on a broad, trending ridge with no watercourses within 200-300+ feet, and thus a more environmentally desirably location.

2. Cultivation Area H is located in a forested setting surrounded by Northern spotted owl habitat. Potential disturbance impacts to NSOs can be minimized or avoided by movement into a non-forested setting such as Cultivation Area F and Cultivation Area G. See Biological Assessment for more detail.

3. The relocation area (Cultivation Area F and Cultivation Area G) is more environmentally desirable due to its slope steepness, which is essentially flat. Cultivation Area H is steeper, which increases the likelihood for erosion. Water Board Order No. 2015-0023 acknowledges most of the potential water quality impacts from cannabis cultivation activities are associated with erosion and sediment delivery, among other factors. The Order requires that *"management practices must address erosion control*". The movement of the pre-existing site to the flatter site is in response to language contained in the Order, which clearly requires minimization of controllable erosion.

4. Beginning July 2019, the Cultivator will no longer be covered under Water Board Order No. 2015-0023 and will be subject to State-wide Order WQ 2017-0023-DWQ. The Cannabis Policy provides criteria to evaluate the threat to water quality based on site conditions. The threat is risk-based based upon: (a) Disturbed area, (b) Slope of disturbed area, and (c) Proximity to a surface water body.

   Cultivation Area H is characterized as a "Moderate Risk" to water quality per State Water Resources Control Board Order WQ 2017-0023-DWQ. A cultivation site is classified as moderate risk if <u>any</u> part of the disturbed area is located on a slope greater than 30 percent. This site could also be considered "High" risk if there were future signs of hydrologic connectivity between the shallow emergent groundwater, which is intercepting the cultivation area, and the downstream Class III watercourse.

   In either case, the movement of Cultivation Area H to Cultivation Area F and Cultivation Area G will allow the Cultivator to potentially obtain "Tier 1 Status" (Dischargers cultivate cannabis commercially outdoors and have a disturbed area equal to or greater than 2,000 square feet and less than 1 acre\43,560 square feet) with a "Low Risk" designation with regards to State-wide Order WQ 2017-0023-DWQ. Sites that pose a higher threat to water quality (e.g., disturb a larger area, located on a steeper slope, or located close to a surface water body) require a greater level of regulatory oversight, which translates to higher costs to achieve water quality protection. Minimizing risk by moving the site not only results in environmental superiority, but also saves time, money and resources from preparing additional technical reports.

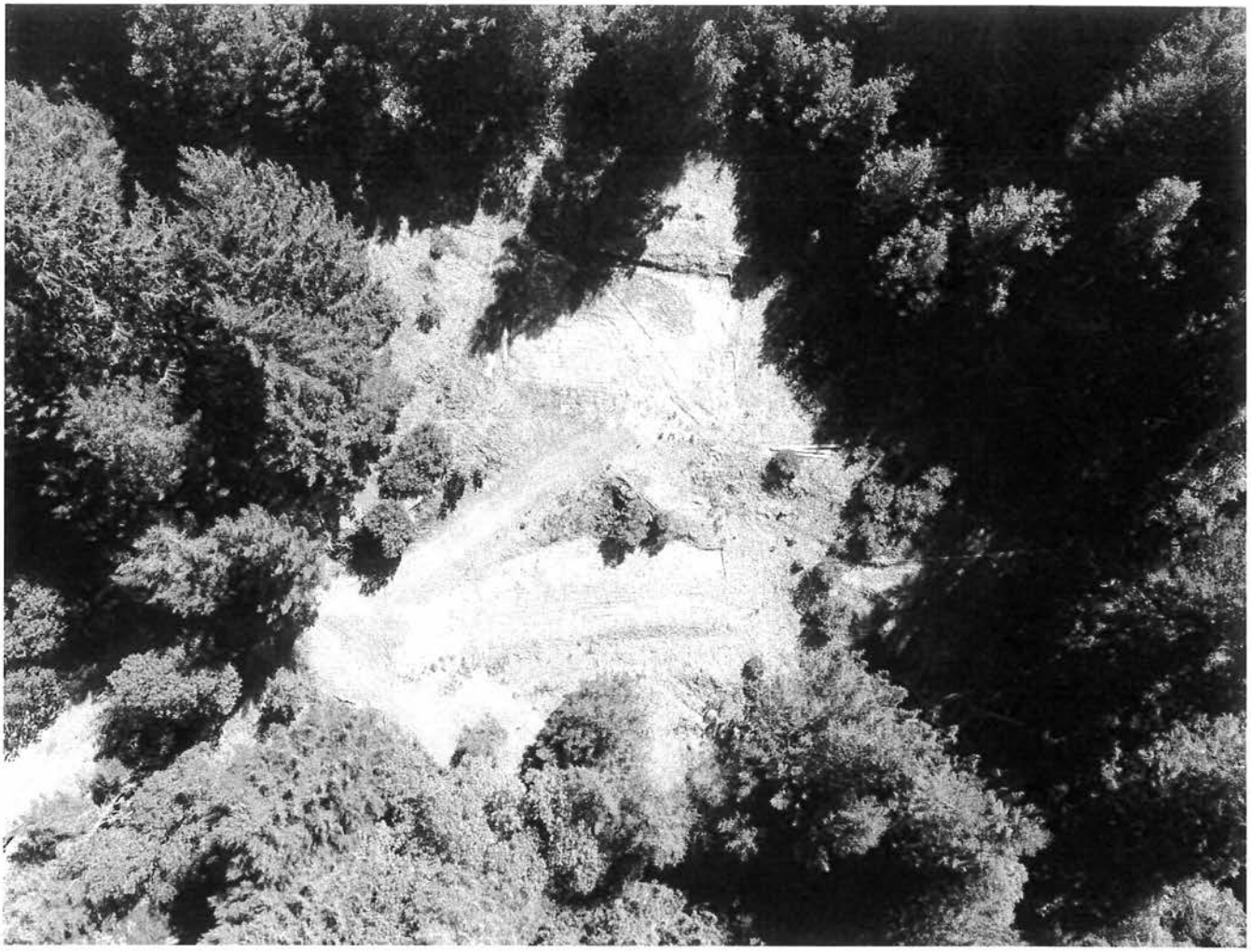
Cultivation Area H Restoration:

The cultivator has already removed all cannabis cultivation related infrastructure and material from the site, including imported soil. In addition, the entire site was grass-seeded and straw-mulched several years ago and is well vegetated. Per review of 1968 historic aerial imagery, this site was formerly a log landing. Based upon the topographic layout of the existing truck and skid road network; re-use of this log landing will be needed to facilitate future timber harvesting operations. The Forest Practice Rules and Act requires re-use of existing roads, skid trails, and landings to the extent feasible to minimize loss of growing space. Cultivation Area H is well vegetated with local grasses, brush, and conifer/hardwood regeneration, and no excavation and grading back to pre-existing contours is proposed or necessary to protect the beneficial uses of water. To improve timberland productivity, TRC recommends that the landowner re-plant Cultivation Area H with conifers per the attached Restocking Plan. Within two years following re-stocking, the landowner shall have an RPF certify that Cultivation Area H meets the stocking standards of 14CCR 912.7.

Sincerely,

Chris Carroll, RPF #2628
Timberland Resource Consultants

Pictures



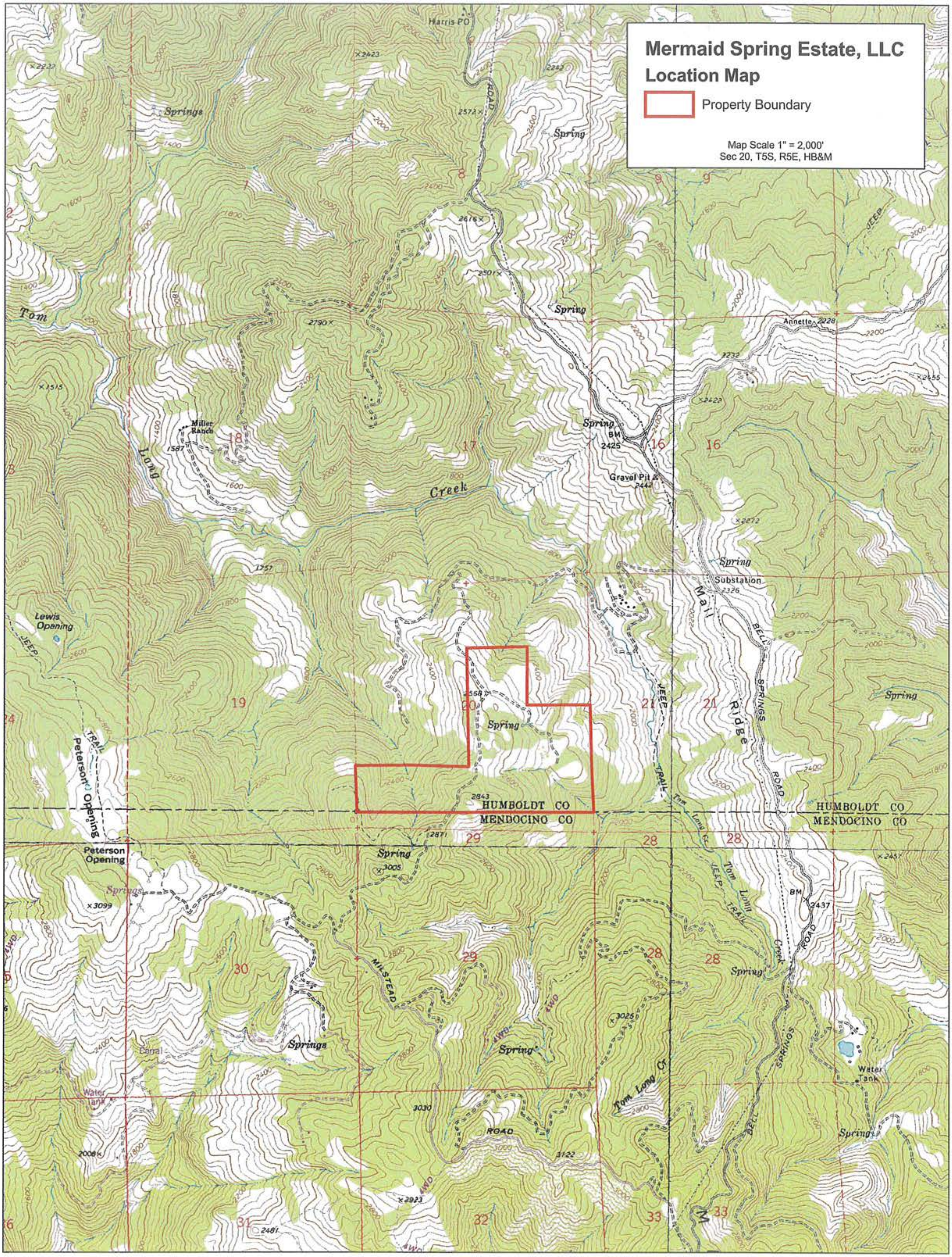
Picture 1: Cultivation Area H. Photo date 3-15-2019.

Pictures

Picture 2: Cultivation Area F & G. Photo date 3-15-2019.

Pictures

Picture 3: Cultivation Area F & G. Photo date 3-15-2019.


Mermaid Spring Estate, LLC
Location Map
Property Boundary
Map Scale 1" = 2,000'
Sec 20, T5S, R5E, HB&M
HUMBOLDT CO
MENDOCINO CO
Tom Long Creek
Mail Ridge
Bell Springs Road
Peterson Opening
Lewis Opening
Miller Ranch
Harris PO
Gravel Pit
Substation
Annette
Milstead
Spring
Springs

Water Resource Protection Plan

Site Map [WDID# - 1B16640CHUM]

Timberland Resource Consultants

Property Boundary

Cultivation Area

Pond

Roads
- Permanent
- Seasonal
- Legacy Timber

Watercourses
- Class II
- Class III
- Un-classified

House

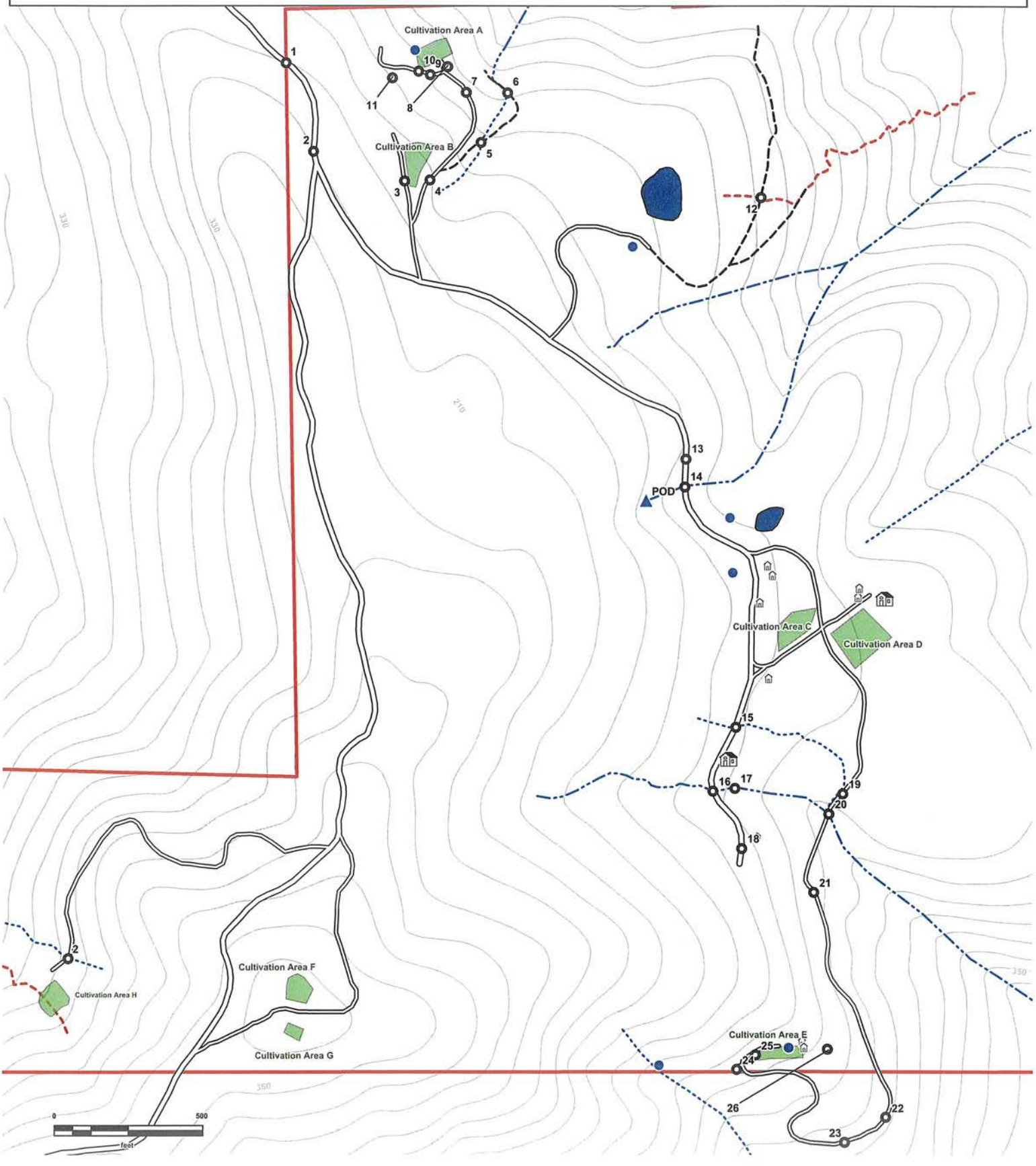
POD

Site

Structure

Tank

WDID# - 1B161035CHUM



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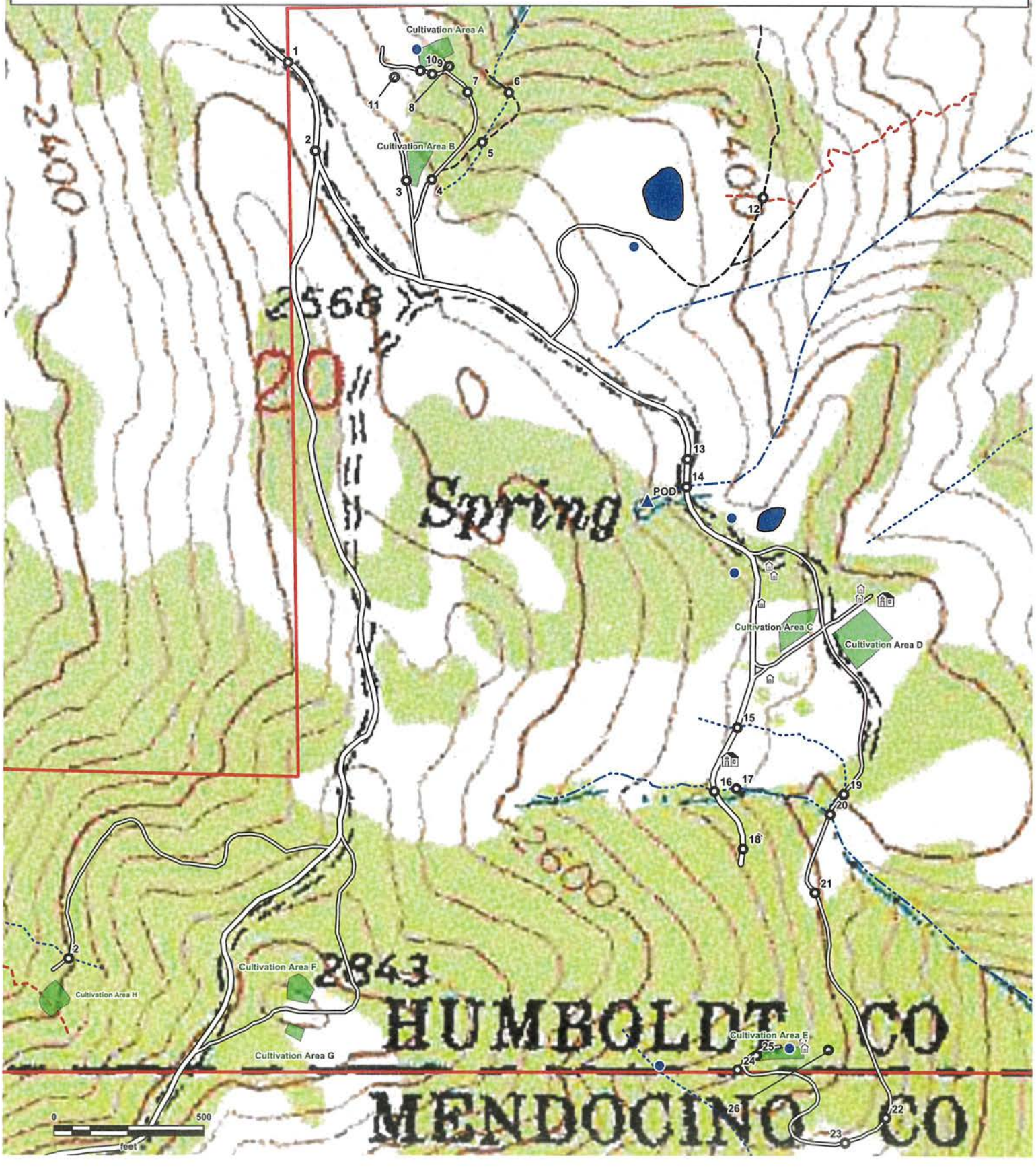

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WDID# - 1B161035CHUM

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RESTOCKING PLAN

FOR

APN 216-025-002

March 16, 2019

165 South Fortuna Blvd
Fortuna, CA 95540
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707-725-0972 Fax
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Regeneration Plan for Cultivation Area H

Site Preparation: Site preparation is commonly utilized to facilitate timber stand establishment. The primary objective of this practice is to create an area suitable for planting seedlings and establishing a new stand of trees. Site preparation activities remove or reduce competing vegetation, reduce or remove unwanted trees and logging debris, and prepare the soil to ultimately promote the growth and survival of desired tree species. There are many methods of site preparation that fall under either chemical or mechanical site preparation. Subsoiling/ripping is a mechanical site prep method for heavy soils on cutover timberlands or agricultural lands that have a compacted layer at or below the soil surface that limits root growth and development. Subsoiling/ripping increases aeration and water-holding capacity of compacted soils and breaks up root restricting hardpans and/or traffic pans. Chemical preparation includes broadcast and directed herbicide application.

Recommendation: Cultivation Area H requires no mechanical site preparation such as subsoiling/ripping prior to planting.

Types of Seedlings: Harvested and/or understocked timberlands should be artificially regenerated with naturally-occurring conifer species and cultivars well-adapted to the timber stand's specific climate, elevation, and other environmental conditions. Planting seedlings from appropriate seed zones and elevation ranges ensures better seedling success and, eventually, a more resilient timber stand. Specifically, timberland within the property is characterized by tanoak-dominated stands with minor a component of Douglas-fir. The property occurs within California Seed Zone 093 from 2,200 to 2,800 feet in elevation.

Recommendation: The landowner shall plant Douglas-fir seedlings (best suited for Seed Zone 093 at 2,200- to 2,800-foot elevation) at a uniform spacing no less than 10-feet by 10-feet, or 435 trees per acre. If deer browsing is expected (based on landowner's local knowledge), then the density can be slightly increased to account for potential mortality and/or damage.

Most conifer seedlings that come from nurseries are available in two forms: bareroot seedlings and containerized seedlings. Bareroot seedlings are essentially stock whose roots are exposed at the time of planting. Bareroot seedlings are grown in nursery seedbeds and lifted from the soil in which they are grown to be planted in the field. Containerized seedlings are grown individually in a variety of hard-walled vessels or in peat pots from seed. They're typically more expensive than bareroots but usually have a higher survival rate after planting due to their well-formed root system.

Recommendation: Given the conditions of the site and the higher survival rate associated with containerized stock, use containerized seedlings if available.

Regeneration Plan

Seedling Care: Seedling care and handling is extremely important to ensure post planting survival.

Recommendation: For long-term storage (more than 3 days), store seedlings at 33 to 36 degrees Fahrenheit. For short-term storage (several hours to less than 3 days), store below 42 degrees Fahrenheit. At the planting site, take care not to let the roots dry out and avoid exposure to the sun or warmer temperatures.

Planting Instructions: When planting seedlings, the landowner or tree planter should abide by the following:

1. Tree planting shall only occur in winter or early spring. Tree planting should not occur if the ground is frozen or during unusually warm periods.
2. Dig a hole at least one inch deeper and wider than the seedling roots. If planting from a container, dig the hole an inch deeper and wider than the container.
3. Place the seedling into the hole taking care not to bend the taproot, or main vertical root, and cover with soil.
4. Pack the soil down firmly around the seeding to remove any air pockets.
5. See Appendices A-D for illustrations for correct planting techniques.

Seedling Survival: Although a newly planted stand immediately fulfills stocking standards, the timber stand must continually contain an average density of at least 300 trees per acre (or 12-foot by 12-foot spacing) in order to meet the intent of the California Forest Practice Rules (CFPRs). Seedling survival can vary widely depending on several factors including genetics, weather, herbivory, etc. Monitoring growth and success of planted seedlings is key to ensure a 300-point count stocking level is maintained 2-3 year after planting.

Recommendation: Monitor growth and success of planted trees one year after planting. Conduct a point count stocking sampling survey (protocol described in CFPRs 14CCR 1072). If less than 55% of the planted area meets the 300-point count minimum stocking level, repeat the replanting process. Consider consulting an RPF for continued timber management in this area.

Stock Purchase: Ideally, landowners should procure seedlings from sources growing local, site-specific stock. Appropriate stock is determined by stand type, seed zone, elevation, as well as other factors like soil type, site quality, and weather.

Recommendation: The RPF recommends acquiring conifer seedlings from Green Diamond Resource Company's nursery in Korbel, California. For inquiries, contact Nursery Superintendent Glen Lehar at (707) 668-4439. He will recommend the appropriate stock based on geographic area and site conditions.

Sincerely,

Chris Carroll, RPF# 2628
Timberland Resource Consultants