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trc@timberlandresource.com

October 19, 2020

Jason Nottingham
1794 Fickle Hill Road
Arcata, CA 95521

Re: APN 208-271-002 / Permit Application No. 12647

The following is an evaluation of potential timberland conversion on cannabis cultivation sites and associated areas included in the Humboldt County Cannabis Permit Application #12647. Please accept this letter as the RPF's written report required by Humboldt County Code, Ordinance No. 2559 (Commercial Medical Marijuana Land Use), Section 55.4.12.2.4 as cited below.

"Where existing or proposed operations occupy sites created through prior unauthorized conversion of timberland, if the landowner has not completed a civil or criminal process and/or entered into a negotiated settlement with CALFIRE, the applicant shall secure the services of a registered professional forester (RPF) to evaluate site conditions and conversion history for the property and provide a written report to the Planning Division containing the RPF's recommendation as to remedial actions necessary to bring the conversion area into compliance with provisions of the Forest Practices Act. The Planning Division shall circulate the report to CAL-FIRE for review and comment."

Timberland Resource Consultants (TRC) inspected and evaluated the cultivation sites and associated areas on October 14, 2020. The RPF exercised due diligence in reviewing all sites and associated areas and available resources to fully assess potential timberland conversion and consequential impacts. This report evaluates the cultivation sites and associated areas for timber operations only. The scope of this report does not include: all other land alteration (such as grading, construction, and other permit-regulated activities), all property features and sites unrelated to cultivation activities, or any proposed, planned, or absent cultivation-related project sites. All findings are summarized in the report.

Project Location

APN: 208-271-002

Acreage: 41 acres

Legal Description: Section 32,

Township 2 North, Range 5 East,

Humboldt Base & Meridian, Humboldt County

Located on USGS 7.5' Quadrangle: Showers Mountain

Humboldt County Zoning: Forest Recreation

Site Address: None

Landowner/Timber Owner: Jason Nottingham

The property is located approximately 2 air miles northwest of the Dinsmore Store. Access to the property is via Bear Creek Road. From the junction of Highway 36 and Bear Creek Road, drive approximately 3.2 miles to Anderson Ford Road to the right/north. Turn right and continue approximately 0.25 miles to the property boundary.

Parcel Description & Timber Harvest History

Note: The property background has been summarized using personal accounts of the current landowner, digital orthographic quadrangle (DOQ) imagery, Humboldt County Web GIS, CAL FIRE Watershed Mapper v2, and Historic Aerials. To avoid speculation and maintain relevancy, the property background focuses mainly on the past 10-15 years.

The property consists of mature Douglas-fir encroachment in former oak woodlands consisting of Oregon white oak (*Quercus garryana*) and California black oak (*Quercus kelloggii*). There are signs of scattered old growth Douglas-fir stumps primarily along the creek bottoms and in the northeastern portion of the property suggesting that the stand was once a combination of oak woodland and scattered old growth Douglas-fir. Species composition is approximately 70% Douglas-fir and 30% black and white oak. Review of 1972 aerial imagery reveals clear signs of disturbance associated with timber harvesting such as skid roads, landings, truck roads, and changes in stand structure. Based upon the present size of the timber and associated stand structure/density; no subsequent major timber harvests appear to have occurred. There have been no subsequent commercial harvests per Cal Fire's Watershed Mapper (http://egis.fire.ca.gov/watershed_mapper/). The current landowner purchased the property on 5-10-2012.

Project Description

Two cultivation sites were inspected during the field assessment within APN 208-271-002. The following table lists the inspected site and its acreage; see detailed site description below.

Cultivation Site	Total Acreage	Converted?	Converted Acreage
Cultivation Site 1	0.99	Yes	0.99
Cultivation Site 2	0.46	Yes	0.46
TOTAL	1.45		1.45

Cultivation Site 1

Review of historic aerial imagery (<https://www.historicaerials.com/viewer>) from 1972 clearly shows the eastern portion of this site, which is adjacent to Anderson Ford Road as a former log landing constructed and used in the mid to late 1960's in association with the harvesting of old growth Douglas-fir. Review of subsequent aerial imagery (Google and NAIP) reveals that the northwestern portion of the cultivation site was initially developed between 2012 and 2014. The site was significantly expanded between 2015 and 2016 to its present size and configuration. Several small clumps of trees within the foot print of the converted area were subsequently removed between 2016 and 2018. The cultivation-related activities observed at Cultivation Site 1 impede the use of this space for current timber growth and harvesting; in this way, the landowner has effectively converted the single use of this space from timber production to cannabis cultivation.

Cultivation Site 2

Review of Google and NAIP aerial imagery shows that a portion (40%) of this site appears to have been an old logging landing. The site was cleared of trees and developed to its present size and configuration between 2012 and 2014. The cultivation-related activities observed impede the use of this space for current timber growth and harvesting; in this way, the landowner has effectively converted the single use of this space from timber production to cannabis cultivation.

Timberland Conversion Summary

TRC observed approximately 1.45 acres of potential timberland conversion for cultivation-related purposes. This total does not exceed the three-acre conversion exemption maximum and is in compliance with the California Forest Practice Act and the California Forest Practice Rules.

Limitations and Considerations for Timberland Conversion Activities

Watercourses and Water Resources

14CCR 1104.1(a)(2)(F): *"No timber operations are allowed within a watercourse and lake protection zone unless specifically approved by local permit (e.g., county, city)."*

No conversion areas exist within a Class I or II Watercourse and Lake Protection Zone (WLPZ).

Timberland conversion occurred within the Class III Equipment Limitation Zone (ELZ) at Cultivation Site 2. Development of the site resulted in the filling-in and diversion of a Class III watercourse away from its natural channel. Timberland conversion and timber harvesting within a Class III ELZ is not prohibited by the Forest Practice Rules; however, the significant alteration of the stream channel would have required a LSA 1600 Agreement from CDFW. In addition, per the Humboldt County General Plan, the Grading and Open Space Ordinance would have applied to this project (Forest Recreation zoning) and a Streamside Management Area of 50 feet would have been required on the Class III watercourse prohibiting timberland conversion and timber harvesting without a Special Permit.

Slash, Woody Debris, and Refuse Treatment

14 CCR 914.5(b): *"Non-biodegradable refuse, litter, trash, and debris resulting from timber operations, and other activity in connection with the operations shall be disposed of concurrently with the conduct of timber operations."*

14CCR 1104.1(a)(2)(D) – *Treatment of Slash and Woody Debris*

- 1) *Unless otherwise required, slash greater than one inch in diameter and greater than two feet long, and woody debris, except pine, shall receive full treatment no later than April 1 of the year following its creation, or within one year from the date of acceptance of the conversion exemption by the Director, whichever comes first.*
- 2) *All pine slash three inches and greater in diameter and longer than four feet must receive initial treatment if it is still on the parcel, within 7 days of its creation.*
- 3) *All pine woody debris longer than four feet must receive an initial treatment prior to full treatment.*
- 4) *Initial treatment shall include limbing woody debris and cutting slash and woody debris into lengths of less than four feet, and leaving the pieces exposed to solar radiation to aid in rapid drying.*
- 5) *Full treatment of all pine slash and woody debris must be completed by March 1 of the year following its creation, or within one year from the date of acceptance of the conversion exemption by the Director, whichever comes first.*
- 6) *Full slash and woody debris treatment may include any of the following:*
 - a) *Burying;*
 - b) *Chipping and spreading;*
 - c) *Piling and burning; or*
 - d) *Removing slash and woody debris from the site for treatment in compliance with (a)-(b). Slash and woody debris may not be burned by open outdoor fires except under permit from the appropriate fire protection agency, if required, the local air pollution control district or air quality management district. The burning must occur on the property where the slash and woody debris originated.*
- 7) *Slash and woody debris, except for pine, which is cut up for firewood shall be cut to lengths 24 inches or less and set aside for drying by April 1 of the year following its creation. Pine slash and woody debris which is cut up for firewood shall be cut to lengths 24 inches or less and set aside for drying within seven days of its creation.*
- 8) *Any treatment which involves burning of slash or woody debris shall comply with all state and local fire and air quality rules.*

The RPF observed slash, woody debris, and logs from past conversion activities at several locations along the periphery of Cultivation Site 2. Because this site shall be decommissioned, full slash treatment is not required. Slash may be lopped and scattered. Lopping is defined as *Severing and spreading of slash so that no part of it remains more than 30 inches above the ground.*

Limitations and Considerations for Timberland Conversion Activities (Cont.)

923.4. Construction and Reconstruction of Logging Roads and Landings.

The cultivation site was not constructed per 14CCR 923.4(j), which states:

Where constructed fills will exceed three feet in vertical thickness, fill slopes shall be inclined no greater than 65 percent.

A small segment of fill slope, approximately 50-75 feet in length and 3-4 feet in depth, located along the southeastern periphery of Cultivation Site 2, is perched and too steep. Concurrent with the restoration and remediation of this site per CDFW 1600 Agreement #1600-2017-0419-R1; the fill slope shall be pulled back to a slope steepness no greater than 2:1 or 50%.

Biological Resources and Forest Stand Health

14 CCR 1104.1 (2)(H): "No sites of rare, threatened or endangered plants or animals shall be disturbed, threatened or damaged and no timber operations shall occur within the buffer zone of a sensitive species as defined in 14 CCR 895.1"

A query of the California Natural Diversity Database (CNDDDB) on October 12, 2020 revealed two observations of sensitive, rare, threatened, or endangered species or species of special concern within a 1.3-mile radius biological assessment area (BAA) surrounding the property. Tracy's sanicle and Oregon goldthread (vascular plants) were observed approximately one mile east of the conversion areas. Despite their "sensitive" status, neither species is state or federally listed, which would require protection under the Forest Practice Rules.

The query of the CNDDDB NSO Database revealed no known Northern Spotted Owl (NSO) Activity Centers within a 1.3-mile radius biological assessment area (BAA) surrounding the property.

No major forest health issues were observed during the field assessment. The property is located within Humboldt County, a Zone of Infestation (ZOI) for Sudden Oak Death (SOD) but the RPF observed no symptoms, signs, and evidence of oak mortality within the property. The conversion areas did not appear to include late successional stands, late seral stage forests, or old growth trees. The conversion areas did not include any trees that existed before 1800 A.D. and are greater than sixty (60) inches in diameter at stump height for Sierra or Coastal Redwoods and forty-eight (48) inches in diameter at stump height for all other tree species.

Cultural Resources

14 CCR 1104.1 (2)(I): "No timber operations are allowed on significant historical or archeological sites."

No archeological sites were observed during the TRC field assessment. The RPF conducted pre-field research for the project's geographic location and closely surveyed the converted sites and surrounding areas for presence or evidence of prehistoric or historic sites. The archaeological survey was conducted by Chris Carroll, a certified archaeological surveyor with current CALFIRE Archeological Training (Archeological Training Course #575). The survey consisted of examining boot scrapes, rodent disturbances, natural and manmade areas of exposed soils, and road and cultivation site surfaces.

Recommendations

In summary, TRC observed approximately 1.45 acres of timberland conversion for cultivation-related purposes. This total does not exceed the three-acre conversion exemption maximum. The conversion activities related to cannabis cultivation conducted on the property does not comply with the California Forest Practice Act and the California Forest Practice Rules. The RPF has the following recommendations.

1. Following the restoration of the Class III stream channel at Cultivation Site 2 per the CDFW 1600 Agreement and 401/404 permits; the landowner shall replant Cultivation Site 2 per the attached Restocking Plan.
2. The RPF observed slash, woody debris, and logs from past conversion activities at several locations along the periphery of Cultivation Site 2. Because this site shall be decommissioned; full slash treatment is not required. Slash may be lopped and scattered. Lopping is defined as *Severing and spreading of slash so that no part of it remains more than 30 inches above the ground*. If the landowner chooses full slash treatment please note that no burning or removal of logs shall occur within the Class III buffer zone.
3. A small segment of fill slope, approximately 50-75 feet in length and 3-4 feet in depth, located along the southeastern periphery of Cultivation Site 2, is perched and too steep. Concurrent with the restoration and remediation of this site per CDFW 1600 Agreement #1600-2017-0419-R1; the fill slope shall be pulled back to a slope steepness no greater than 2:1 or 50%.

Sincerely,



Chris Carroll, RPF #2628
Timberland Resource Consultants

Pictures



Picture 1: Cultivation Site 1. Photo date 10-14-2020.

Pictures



Picture 2: Cultivation Site 1. Photo date 10-14-2020.

Pictures



Picture 3: Cultivation Site 2. Dashed blue line is the location of the Class III's natural channel. The CDFW 1600 Agreement (1600-2017-0419-R1) requires remediation of the diverted stream back into its original channel. Photo date 10-14-2020.

Pictures



Picture 4: Cultivation Site 2. Dashed blue line is the location of the Class III's natural channel. The CDFW 1600 Agreement (1600-2017-0419-R1) requires remediation of the diverted stream back into its original channel. Photo date 10-14-2020.

Pictures



Picture 5: Untreated slash located in the southwestern portion of Cultivation Site 2. Because this site shall be decommissioned; full slash treatment is not required. Slash may be lopped and scattered per the requirements stated in this report. No burning or removal of logs shall occur within the Class III buffer zone. Photo date 10-14-2020.

Pictures



Picture 6: Untreated slash located along the northern periphery of Cultivation Site 2. Because this site shall be decommissioned; full slash treatment is not required. Slash may be lopped and scattered per the requirements stated in this report. No burning or removal of logs shall occur within the Class III buffer zone. Photo date 10-14-2020.

Pictures



Picture 7: Perched fill located along Cultivation Site 2's eastern periphery, which shall be pulled back to a minimum 2:1 slope steepness. Photo date 10-14-2020.

Pictures



Picture 8: Native vegetation in the form of Douglas-fir and Pacific madrone seedlings and saplings located in the eastern portion of Cultivation Site 2. All native vegetation shall be protected from restoration activities to the extent feasible. Photo date 10-14-2020.

APN 208-271-002

Location Map

 Property Boundary

Map Scale 1" = 2,000'
Section 32, T2N. R5E, HB&M
Showers Mountain 7.5' USGS










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APN 208-271-002

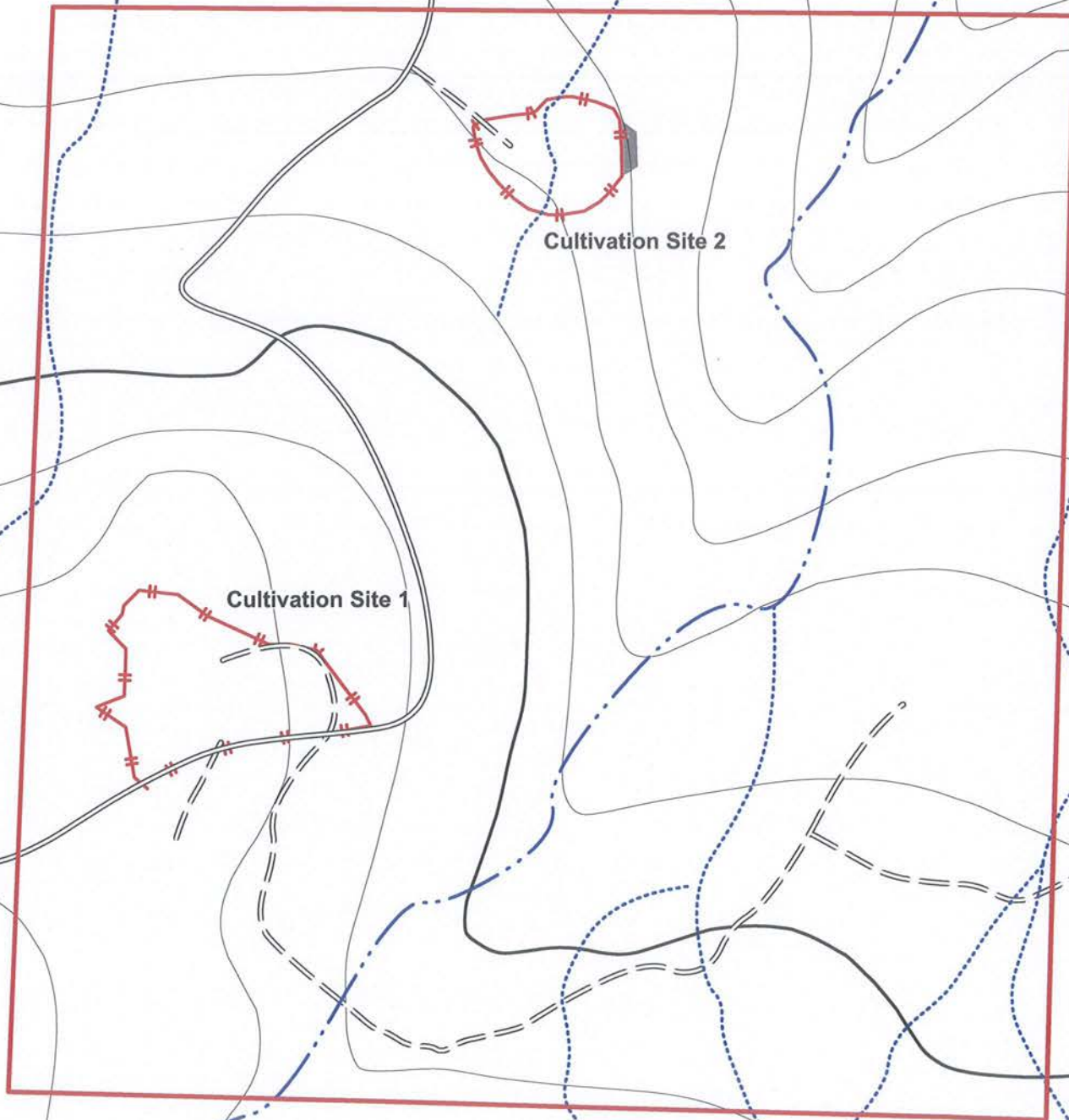
Conversion Evaluation Map

-  Property Boundary
-  Cannabis Cultivation Site / Timberland Conversion
-  Seasonal Dirt/Rock Road
-  Anderson Ford Road / Permanent Rocked Road
-  Class II Watercourse
-  Class III Watercourse
-  Perched fill material to be removed

Map Scale 1" = 200'
Section 32, T2N, R5E, HB&M

Cultivation Site 2


Cultivation Site 1





APN 208-271-002

CNDDB Map

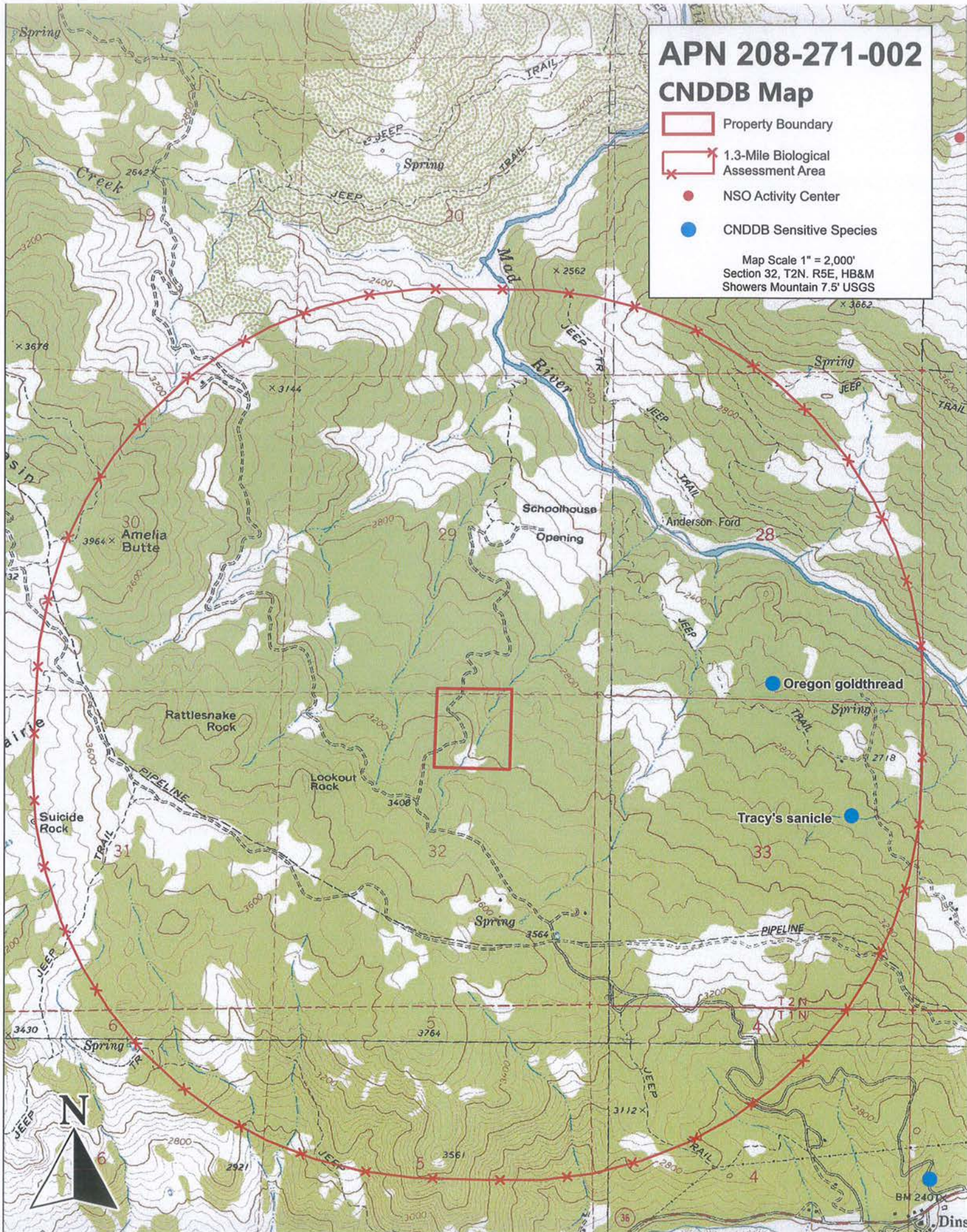
 Property Boundary

 1.3-Mile Biological Assessment Area

 NSO Activity Center

 CNDDB Sensitive Species

Map Scale 1" = 2,000'
Section 32, T2N. R5E, HB&M
Showers Mountain 7.5' USGS





RESTOCKING PLAN

FOR

208-271-002

October 18, 2020

165 South Fortuna Blvd

Fortuna, CA 95540

707-725-1897

707-725-0972 Fax

trc@timberlandresource.com

Restocking Plan

Restocking Area: See attached Restocking Plan Map

Site	Total Acreage	# Trees at 10'x10' Spacing
Cultivation Site 2	0.46	200

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: Concurrent with the grading required to restore the Class III stream diversion and removal of perched fill material; the landowner shall ensure that all graded and/or disturbed surfaces be ripped with heavy equipment to help facilitate replanting. Areas that are left undisturbed from heavy equipment, in the interest of protecting native vegetation and conifer/hardwood regeneration, may be planted with a pick/shovel.

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 Douglas-fir and oak woodland. The areas to be planted occur within California Seed Zone 303 at approximately 3,200 feet in elevation.

Recommendation: The landowner shall plant Douglas-fir (best suited for Seed Zone 340 at ~3,000-foot elevation) at a uniform spacing no less than 10-feet by 10-feet, or 435 trees per acre.

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.

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.

Restocking Plan

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 seedling to remove any air pockets.
5. See Appendices A-D for illustrations for correct planting techniques.

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 Korb, 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.

Monitoring 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). A **Countable Tree** per 14CCR 895.1 must be in place at least two growing seasons among other requirements. 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 minimum 300-point count stocking level is maintained or achieved 2-years 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 planting process.

Certification: Within five years of planting, a report of stocking shall be submitted to the county by an RPF, which certifies that the area meets the minimum stocking standards of 14 CCR 912.7.

Sincerely,










Chris Carroll, RPF# 2628
Timberland Resource Consultants

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APN 208-271-002

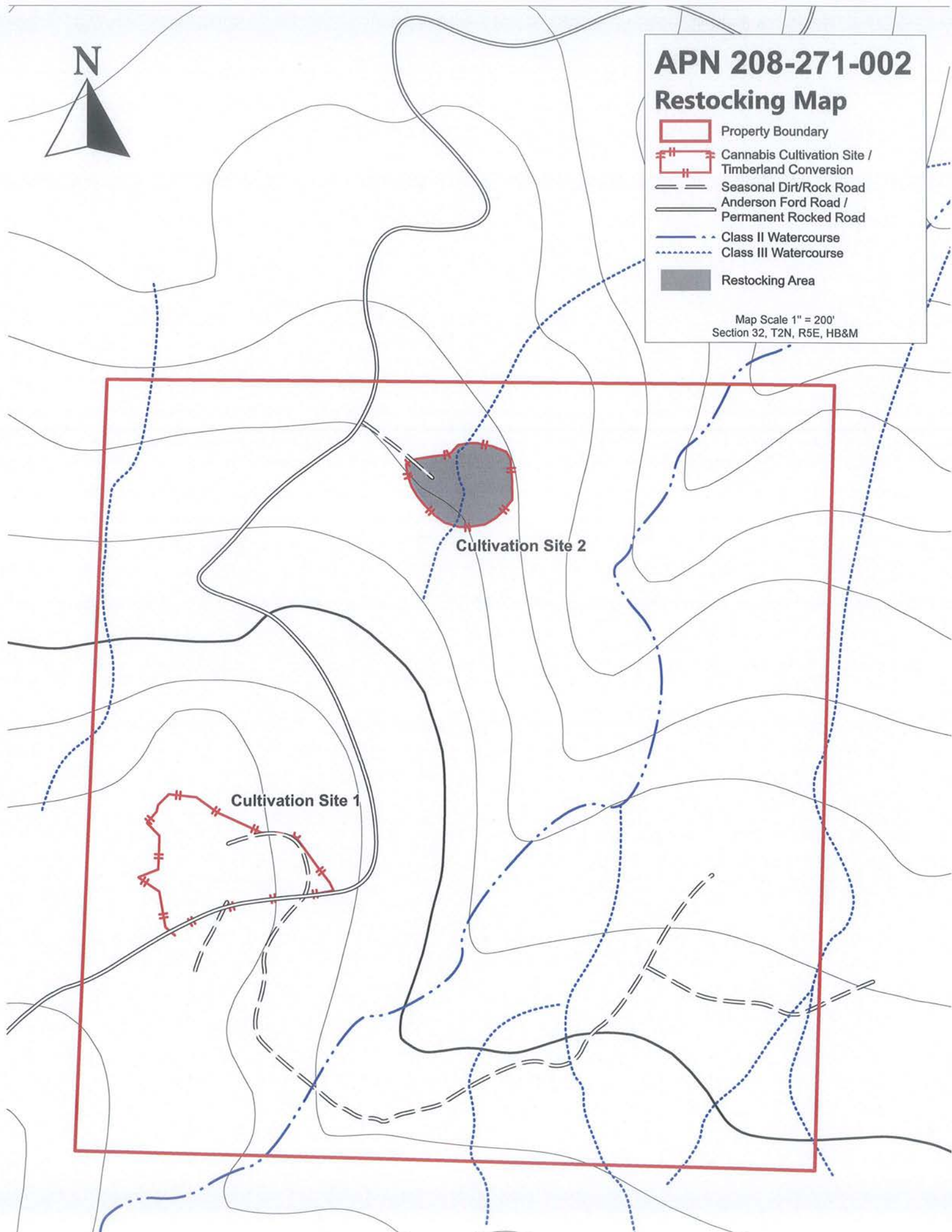
Restocking Map

-  Property Boundary
-  Cannabis Cultivation Site / Timberland Conversion
-  Seasonal Dirt/Rock Road
-  Anderson Ford Road / Permanent Rocked Road
-  Class II Watercourse
-  Class III Watercourse
-  Restocking Area

Map Scale 1" = 200'
Section 32, T2N, R5E, HB&M

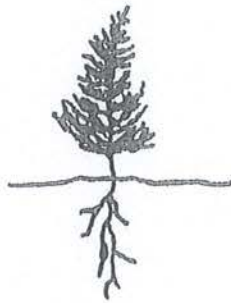
Cultivation Site 2

Cultivation Site 1



APPENDIX A

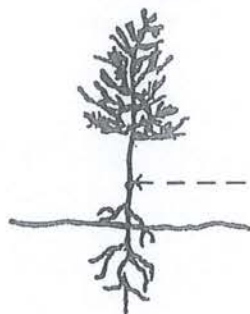
CORRECT METHOD OF SEEDLING PLANTING



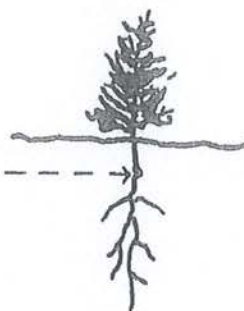
- Soil firmly packed around roots.
- No air pockets.
- Roots straight with no J or L bends.
- Root collar at or slightly below ground level.
- Root not pruned.

ERROR IN PLANTING

Too shallow



Too Deep

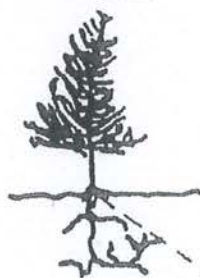


Root Collar

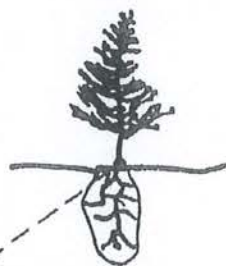
- Hole not deep enough.
- Root collar and upper roots exposed.
- Roots dry out.

- Hole is too deep.
- Root collar buried.

J or L Roots



Air Pockets



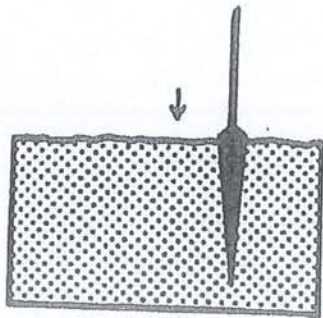
Root Collar

Hole is not deep enough — planting in rocky soil.
Roots cannot effectively take up water.
Tree not wind-firm.

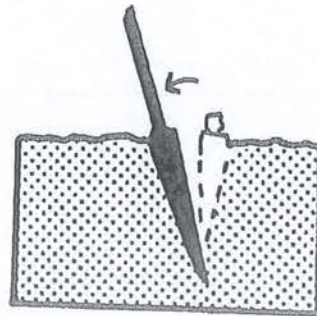
- Soil not firmly packed around roots.
- Air pocket forms.
- Roots dry out.

APPENDIX B
PLANTING WITH A FLAT BAR

1. Insert flat bar straight down.

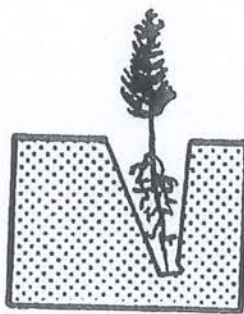


2. Pull flat bar backward to open hole.

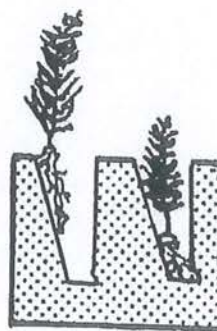


3. Remove flat bar and place seedling at correct depth with root collar at or slightly below ground level.

Correct

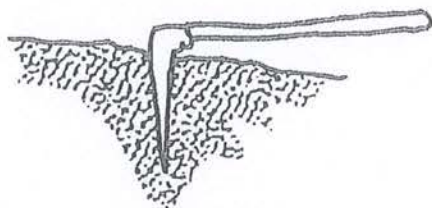


Incorrect

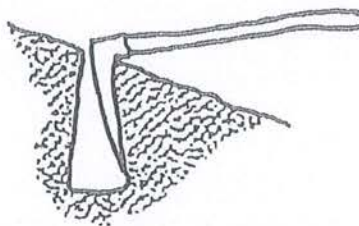


APPENDIX C
PLANTING WITH A HOE

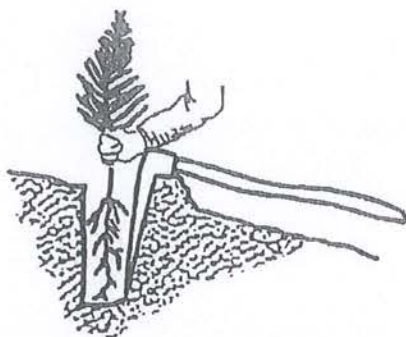
1. Swing hoe to get full penetration.



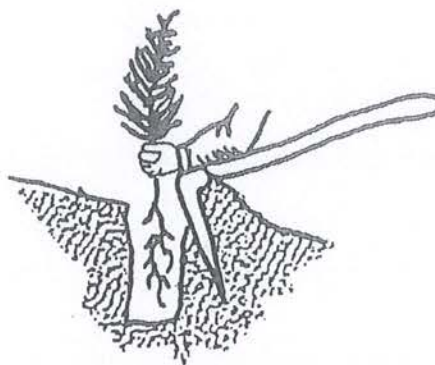
2. Lift handle and pull up to widen hole.



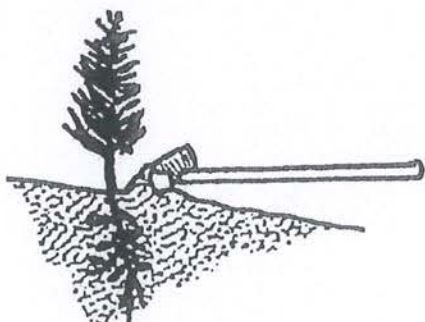
3. Place seedling while using hoe to hold back soil.



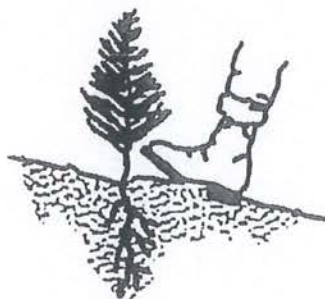
4. Use hoe to pack soil at bottom of hole.



5. Use hoe to pack soil at top hole.



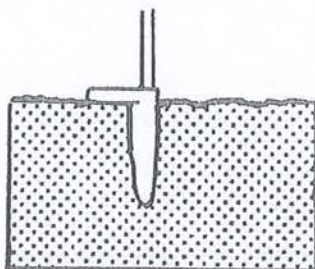
6. Firm soil around seedling with feet.



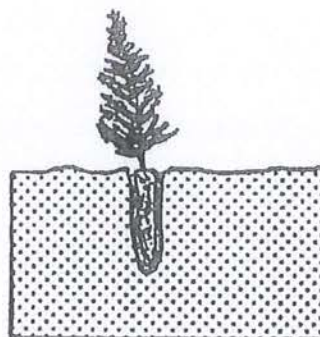
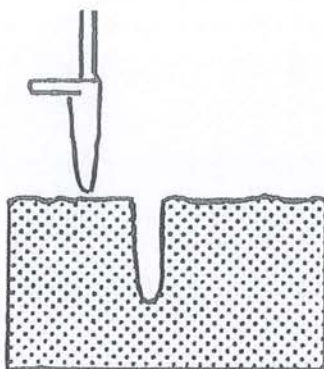
APPENDIX D

PUNTING WITH A PLUG BAR

1. Insert plug bar straight down until plug bar footrest is level with ground.



2. Remove plug bar and place seedling in hole.



3. Firm soil around seeding with heel of boot.

