ITEM #14 - SILVICULTURE

- If more than one method or treatment is proposed, identify boundaries on a map per 14 CCR §1034(x)(2).
- List the approximate acreage for each proposed silviculture identified below. [ref. 14 CCR § 1034(m) & PRC § 4582(d)]

a.	Evenaged	Acres	
[☐]	Clearcutting		**Evenaged Regeneration Methods (14 CCR § 913.1 [933.1, 953.1])** **NOTE: variation by District in (a)(4)(A) and (d)(3) Shelterwood Removal Step**
[☐]	Seed Tree Seed Step		
[☐]	Seed Tree Removal Step		
[☐]	Shelterwood Preparatory Step		
[☐]	Shelterwood Seed Step		
[☐]	Shelterwood Removal Step		
	Unevenaged		**Unevenaged Regeneration Methods (14 CCR § 913.2 [933.2, 953.2])** **NOTE: variation by District in (a)(2)(A)(1)**
[**X**]	Selection	33	
[**X**]	Group Selection	301	
[**X**]	Transition	16	
	Intermediate Treatments		**Intermediate Treatments (14 CCR § 913.3 [933.3, 953.3])**
[☐]	Commercial Thinning		
[☐]	Sanitation Salvage		
	Alternative		**Alternative Prescriptions (14 CCR § 913.6 [933.6, 953.6])** Complete element form at the end of Item 14.
[☐]	Alternative Prescription		
	Special Prescriptions		**Special Prescriptions (14 CCR § 913.4 [933.4, 953.4])** If Aspen, Meadow, & Wet Area Restoration or Oak Woodland Management is proposed. Complete the corresponding element form provided at the end of Item 14.
[☐]	Special Treatment Area Prescription		
[☐]	Rehabilitation of Understocked Area Prescription		
[☐]	Fuel Break / Defensible Space		
[☐]	Variable Retention		
[☐]	Aspen, Meadow, & Wet Area Restoration		
[☐]	White and Black Oak Woodland Management		
[☐]	Special Harvesting Methods for Southern Subdistrict of the Coast District		Describe as (1), (2), or (3) in SECTION II in accordance with 14 CCR § 913.8.
	Non-Regeneration		**Non-Regeneration Harvesting** Please describe any timber operations that may occur within No Harvest areas in SECTION II.
[☐]	Timberland Conversion		
[☐]	Road Right-of-way		
[**X**]	No Harvest	6	
	Total Acreage:	356	

Silviculture	Tractor Logging Acres	Cable Yarding Acres
Selection	0	33
Group Selection	201	99
Transition	16	0
No Harvest	1	4

If the Silviculture acreage is different than the acreage in the legal description provide an explanation:

If there are any Alternative Prescriptions per 14 CCR § 913.6 [933.6, 953.6] or Special Treatment Area Prescriptions per 14 CCR § 913.4 [933.4, 953.4](a) proposed, list the silvicultural method that is most nearly appropriate or feasible to: (include a detailed description and justification in SECTION III)

Provide all proposed post-harvest stocking levels. If Site Class varies, then state the post-harvest stocking standard to be met by each applicable Site Class.
NOTE: Location of boundaries of timber-site classes needed for the determination of stocking standards to be applied, down to 20-acres minimum or as specified in district rules shall be mapped per 14 CCR § 1034(x)(12).

b. Post-Harvest Stocking to be Met at the Completion of Operations
[ref. 14 CCR §§ 913.2 [933.2, 953.2](a)(2) & 913.3 [933.3, 953.3](a)(1)]

Silvicultural Prescription	Site Class (I, II, III, IV, V)	Post-harvest stocking standard
Selection	II & III	On Site II and III lands at least seventy-five (75) square feet per acre of basal area shall be retained. The residual stand shall contain trees that are representative of the best phenotypic quality of the preharvest stand.
Group Selection	II & III	On Site II and III lands at least seventy-five (75) square feet per acre of basal area shall be retained. Not more than one third of the stocked plots may meet Stocking Standards utilizing the standards of 14 CCR § 912.7(b)(1), [932.7(b)(1); 952.7(b)(1)]. The minimum required age of the trees utilized under these standards shall be ten (10) years old, and shall be based on the percentage of the Plan area harvested by this method in Small Group clearings as described in the table below: Percentage of stand harvested as small group clearings: 20.0% or less Minimum age of trees utilizing the standards of 14 CCR § 912.7(b)(1): 10 **No new group openings proposed under this project, no stocking plots will be offset.** These stands are composed of Douglas-fir, grand fir, and redwood
Transition	II & III	As stated under 14 CCR 912.7(b)(2) an area treated under Transition shall contain a minimum of 50 square feet per acre of conifer immediately following harvest. Also, as stated under 913.2(b)(6) the post-harvest stand shall contain at least 15 square feet per acre of seed trees 12 inches dbh or greater. Where present in the preharvest stand, disease free,

b.	**Post-Harvest Stocking to be Met at the Completion of Operations** [ref. 14 CCR §§ 913.2 [933.2, 953.2](a)(2) & 913.3 [933.3, 953.3](a)(1)]	
		undamaged Seed Trees eighteen (18) inches d.b.h. or greater shall be retained post-harvest until the stand exceeds the minimum Seed Tree requirements of 14 CCR § 913.1(c)(1)(A). The Seed Trees shall be full crown, capable of seed production and representative of the best phenotypes available in the preharvest stand. Per 14 CCR 913.2(b)(8) the RPF estimates that the transition stands will be gaining conifer basal area at a rate of roughly 5 square feet per year on average over the next decade. If the transition area is left with 50 square feet of basal area per acre then in one decade the stands should have an average of 100 square feet of basal area per acre. In many areas the average post-harvest basal area per acre will be closer to 60 square feet. Some areas will be suitable for selection silviculture on the next entry while other areas may require another Transition harvest prior to a selection silviculture during the third entry that is estimated to occur in 20-30 years These stands are composed of Douglas-fir, grand fir, and redwood

Evenaged regeneration size	
c. [☐]Yes [**X**]No	Will evenaged regeneration step units be larger than those specified in the rules? **If "Yes" identify:** ☐ 20 acres tractor yarding ☐ 30 acres aerial or cable **If "Yes" what is proposed?** ☐ An increase to an evenaged tractor unit up to 30 acres where the Erosion Hazard Rating is low, and slopes are less than 30%. ☐ An increase to an evenaged harvest unit up to 40 acres . **If "Yes" provide substantial evidence, unless the increase in acreage is for tractor yarding units where EHR is low and slopes are <30%, that the THP contains measures to accomplish any one of the subsections per 14 CCR § 913.1 [933.1, 953.1](a)(2)(A)-(E) In SECTION III.** **Operational Instruction to the LTO needed to meet subsections (A)-(E) above shall be included in SECTION II.** **NOTE: Oversized units should be designated on the THP map(s) by size.**

Operational instructions to the LTO:

Timber Marking	
d1. [☐]Yes [**X**]No	Is the RPF requesting a waiver of required marking?

	NOTE: A marking waiver is not an option for selection, transition, or variable retention [ref. 14 CCR §§ 913.2 [933.2, 953.2](a)(1) & (b)(4), & 913.4 [933.4, 953.4](d)(9)].
d2. [**X**]Yes [☐]No	Are there any sample areas marked? [ref. 14 CCR §§ 913.1 [933.1, 953.1](a)(5), & 913.2 [933.2, 953.2](a)(1), 913.3 [933.3, 953.3](a)(3) & (b)(3)], & 913.4 [933.4](d)(9) &(f)(4), & 913.6 [933.6, 953.6](d)] **If "Yes" please describe: A minimum of 20 acres per silviculture have been marked prior to PHI.** **NOTE: Ensure the sample marking is complete prior to the preharvest inspection.**

Provide directions explaining how the LTO will determine what trees shall be harvested or retained:

Marking completed in (specify Location(s))	**Trees Marked** (Harvest / Retained)	**Completed By** (RPF / Designee)	**Area Marked** (Entire / Sample area)	**RPF Explanation if needed** (Optional)
Group Selection/Transition Units	Harvest	RPF/Designee	Sample area prior to PHI, Entire area prior to commencement of operations	Trees Selected for harvest will be marked with a solid blue band that is at least 4 feet off the ground and visible on at least 1 faces. A stump mark will be painted on two sides of the tree in a manner that will be visible on the stump once the tree has been felled. Trees with an "x", "L", or orange band are intended for retention.
Selection/Watercourse and Lake Protection Zones	Harvest	RPF/Designee	Entire prior to PHI	Within any Class I or II WLPZ, trees are marked with a horizontal blue stripe with a corresponding base mark below stump level may be harvested. Unmarked trees may be harvested within such areas for safety

				purposes or cable clearance. This exception is provided for in the THP (Reviewers, See Section III, Item 270)). No more than 3 trees within a 200 linear feet of WLPZ may be harvested under this exception. Compliance with all other applicable Forest Practice Rules is still required. The slash cleanout requirements of 14 CCR 916.3(b) are still in effect.
Class Ill ELZ	Harvest	RPF/Designee	Entire prior to commencement of falling operations	Trees in the Class Ill will be marked with a horizontal blue and two stump marks in a manner consistent with the prior explanation. Sprouting conifer species (I.e Coast Redwood} that do not have boles that overlap the channel zone can be selected for harvest at the discretion of the designee
Wet Area ELZs	Harvest	RPF/Designee	Entire prior to commencement of falling operations	Trees in the Wet Area ELZ will be marked with a horizontal blue and two stump marks in a manner consistent with the prior explanation

If more than one silvicultural method or group selection is used, provide instructions to the LTO identifying how boundaries of the different methods or groups have been identified:

- **Boundaries between Group Selection and Transition will be flagged utilizing green "SILVICULTURE BOUNDARY" flagging**
- **Selection Areas will be designated with WLPZ Flagging**

SECTION II PLAN OF OPERATIONS - ITEM #14

e.	**Forest Products to Be Harvested** [ref. 14 CCR § 1034(l)]				
[**X**]	Saw Logs	[**X**]	Poles	[**X**]	Clean Chips
[**X**]	Peeler Logs	[**X**]	Split Wood Products	[**X**]	Firewood
[**X**]	Fuel Wood	[**X**]	Fuel chips	[☐]	Other
[**X**]	Burl Wood				

Group B Species Management	
f1.[**X**]Yes [☐]No	Are group B species proposed for management? [ref. 14 CCR § 1034(l)] **Hack and squirt/ frilling may be implemented using Imazapyr or other approved herbicides to maintain Group A species composition. If treatments occur, they may include herbicide treatments on hardwood species including Tanoak (Notholithocarpus densiflorus) following completion of timber operations. True oak species within the genus Quercus are not proposed for treatment as part of this THP. Herbicide treatment may be performed following consultation with a licensed Pest Control Advisor** **Hardwood Retention** **The following hardwood retention standards apply to hardwood treatment areas. These standards shall not be deviated from except for safety reasons.** • **No hardwood control is allowed within flagged unstable area boundaries** • **Retain up to 4 hardwoods per acre greater than or equal to 24 inches dbh unless they pose a safety hazard, are in a logging road right-of-way, or are located in a cable corridor.** • **Retain hardwoods of any species, living or dead, marked 'NO' or marked for retention with yellow or orange paint.** • **Retain all hardwoods within any WLPZ. If a hardwood must be cut within the WLPZ for safety or operational reasons, then it is to be left on site to serve as Large Woody Debris (LWD).** • **Retain all true oak**
f2.[☐]Yes [**X**]No	Are group B or non-indigenous A species to be used to meet stocking standards? [ref. 14 CCR § 912.7 [932.7, 952.7](d)]
f3.[**X**]Yes [☐]No	Will group B species need to be reduced to maintain relative site occupancy of group A species? [ref. 14 CCR § 912.7 [932.7, 952.7](d)]
If any answer is "Yes" list the species, describe treatment, and provide LTO felling and slash treatment guidance. See table below	

Table for LTO Treatment Group B Species Management			
Species	**Treatment Method**	**Felling Instruction**	**Slash Treatment Instructions**
Tanoak	Hardwoods will be managed in accordance with 14 CCR 912.7(d), prior to the final completion of timber	See below	Slash generated at landings shall be spread on landings, skid trails or spur roads, chipped, or piled and burned.

Table for LTO Treatment Group B Species Management			
	operations. Hardwoods may be reduced through mechanical, physical, or chemical means. The LTO will be responsible for any manual treatment of hardwoods. If postharvest conditions warrant the application of an herbicide(s), a licensed Pest Control Advisor (PCA) will be consulted to provide site-specific prescription(s) at the time of application. Herbicide use shall be conducted under the guidelines established by the Department of Pesticide Regulation.		

g. LTO Felling Instructions

The LTO is responsible for verifying with the RPF responsible for professional advice, and through field review, that all timber marking has been completed prior to the start of timber felling operations in any given area.

Standing Culls: Within any unit where marking is not proposed (clearcuts, units with marking waivers, individual groups) trees falling under the harvest criteria which are obviously standing culls (more than 50% cull based on log volumes) **shall** be left by the LTO unless the trees pose a safety hazard. These trees will serve as snag recruits, future stand structure, and/or nesting/roosting sites for wildlife species. **NOTE TO LTO:** To put this in perspective, a tree with 4 - 16 foot logs has 40% of its' volume in the first log.

Timber fallers and **LTO:** You are reminded of the requirements of 14 CCR 916.3(b). Accidental depositions shall be removed from Lakes and Class I, II, or IV watercourses, including any material that may require removal by hand, the same day that the deposit occurs, subject to the operational restrictions of the THP. This means that if you do have an accident where a tree is deposited in a watercourse, and equipment is not available to remove it, you need to remove it by hand.

Trading Trees: Harvest conifers to be marked or designated as described in Item #14(d); leave all other conifers. Trading of trees is not allowed in WLPZs. Trading trees may occur outside of WLPZs for safety reasons or the minimum necessary for logging road clearance, cable corridor clearance, and those trees substantially damaged by logging operations as defined below.

Trees Substantially Damaged by Logging Operations: These trees may be harvested during the course of timber operations if they meet the following criteria. These are defined as: top knocked out of redwood to a 6 inches or larger top diameter, top knocked out of other conifer species to a 3 inches or larger top diameter, bole skinned up to 1/2 or more of the circumference of a redwood, bole skinned up to 1/3 or more of the

g.	**LTO Felling Instructions**

circumference of other conifer species. An "X" shall be sawn into the stump of any conifer harvested due to its being substantially damaged during logging operations. Exceptions to this allowance are as follows:

- Trees substantially damaged within a WLPZ shall be left standing except when they pose a safety hazard.

- Trees specifically designated for retention with paint, which are substantially damaged, shall be retained except when they pose a safety hazard.

In areas where harvest trees are designated with blue paint as described above in Item #14(d), leave all unmarked trees except as otherwise allowed for in this Plan.

Leave any tree marked "No", and/or marked with yellow or orange paint.

Regeneration [ref. 14 CCR § 913.5 [933.5, 953.5]]	
h. [☐]Yes [**X**]No	Will artificial regeneration be required to meet stocking standards? **If "Yes" an annual preliminary report of stocking shall be due between October 1st and December 31st, beginning two years following completion of operations.** **If "Yes" describe:**

Site Preparation	
Site Preparation per 14 CCR § 895.1 means, <u>any</u> activity involving mechanical disturbance of soils or burning of vegetation which is performed during or after completion of timber harvesting and is associated with preparation of any portion of a logging area for artificial or natural regeneration.	
i [☐]Yes [**X**]No	Will Site Preparation be used within the logging area?
If "Yes" provide a site preparation plan per 14 CCR § 915.4 [935.4, 955.4](a)-(h) including the following:	
(a) Whether Site Preparation will be required to meet stocking? ☐ Yes ☐ No	
(b) The general methods of Site Preparation to be used:	
(c) The types of equipment, if any, to be used for Mechanical Site Preparation and firebreak construction:	
(d) The methods for protecting any desirable residual trees in accordance with 14 § CCR 917.7 [937.7, 957.7]:	
(e) Explanations and justifications for any exceptions or alternatives to the standard Rules:	
(f) A map identifying the boundaries of Site Preparation areas, if different from logging area boundaries, and distinguishing areas by type of Site Preparation activity.	
(g) The name, address, and telephone number of the person responsible for conducting Site Preparation activities (shall be provided prior to conducting Site Preparation activities): Name:	

SECTION II PLAN OF OPERATIONS - ITEM #14

Site Preparation
Address: Telephone Number:
(h) The estimated timing of Site Preparation operations:

Regeneration Plan (rehabilitation of understocked areas or variable retention)	
j. [☐]Yes [**X**]No	Is a regeneration plan needed per 14 CCR § 913.4 [933.4, 953.4](b) or (d)? **If "Yes" provide a detailed description for the Review Team to evaluate how the proposed management prescription shall aid in restoring and enhancing the productivity of commercial timberland.** The regeneration plan shall include but not be limited to: ➢ Rehabilitation of understocked areas: site preparation, method of regeneration, and other information needed to evaluate the proposal by the Review Team. ➢ Variable Retention: Trees and elements retained, objectives intended to be achieved by retention, distribution, and quantity of retained trees, intended time period of retention, and potential future conditions or events the RPF believes would allow harvest of retained trees.

Regeneration plan:

Species-Specific Plan	
k. [**X**]Yes [☐]No [☐]N/A	Will trees of each native commercial species where present at the time of harvest be retained after harvest? [ref 14 CCR §§ 913.1[933,953](c)(1)(F), 913.1[933, 953](d)(2)(F), and 913.2[933.2, 953.2](d)] **If "No" provide a species-specific plan, which protects existing regeneration or provides for regeneration in lieu of retaining trees.** **NOTE: Only required for Unevenaged management, Seed Tree and Shelterwood regeneration methods.**

ITEM #15 – PESTS/FOREST DISEASES

Timber operations shall be conducted to minimize the build-up of destructive insect populations or the spread of forest Diseases. [ref. 14 CCR §§ 917.9 [937.9, 957.9](a)-(c) & 1034(v)]

a. [**X**]Yes [☐]No	Is this THP within an area that the Board of Forestry and Fire Protection has declared a Zone of per PRC § 4712 - 4718? **1. X** Infestation **2.** ☐ Infection **If "Yes" identify feasible measures being taken to mitigate adverse infestation or infection impacts from the timber operation per 14 CCR § 917.9 [937.9, 957.9](a).** **Reference Board of Forestry Technical Rule Addendum Number 3 for RPF considerations.**

Measures to mitigate adverse infestations or infections:

Measures to mitigate adverse infestation: PINE PITCH CANKER *(Fusarium circinatum)*
The THP area is within an area declared a 'Zone of Infestation or Infection' by the Board of Forestry with regard to Pine Pitch Canker. The following measures are required to address the potential presence of Pine Pitch Canker and to address the requirements ofl4 CCR 917.9-Technical Rule Addendum No. 3, Brood Material. While the section dealing with brood material is specifically addressed towards beetle outbreaks and infestations in heavy pine areas, it also applies here because beetles may aid in the dispersal of Pine Pitch Canker. Although there is no proposed harvest of pine species on this THP a large quantity of Bishop pine is located in parts of the plan area; should incidental pine trees be felled or knocked over(for safety or operations) they shall be treated as follows concurrently with timber felling or yarding operations, whichever caused the tree to be felled or knocked down:

Pine Slash shall be lopped and scattered. Timing and specifications for lopping are taken from 14 CCR 917.9 and Technical Rule Addendum #3 (B)(2): The following treatment is acceptable, provided it is completed as soon after brood material creation as is practical, but not later than one week.

- Lop all branches from the tops and sides of main stems which are more than 3 inches in diameter.
- Lopped stems may also be cut into short segments to reduce drying time and further reduce hazard.
- Branches shall be scattered so that stems have maximum exposure to solar radiation.
- Do not pile brood material.

Measures to mitigate adverse infestations or infections: SUDDEN OAK *DEATH(Phytophthora ramorum)*
The THP is located in an area designated as a Zone of Infestation with regard to *Phytophthora ramorum,* Sudden Oak Death (SOD). At issue is the movement of potential host species either within or outside of the Zone of Infestation. A Positive occurrence of Sudden Oak Death has been reported in The Sea Ranch community.

The following shall apply:
At this time, infected counties include: 1) Alameda 2) Contra Costa 3) Humboldt 4) Lake 5) Marin 6) Mendocino 7) Monterey 8)
Napa 9) San Francisco 10) San Mateo 11) Santa Clara 12) Santa Cruz 13) Solano 14) Sonoma 15) Trinity 16) Del Norte. This area is considered the Zone of Infestation for Sudden Oak Death.
There are both "Regulated Host Species" and "Associated Species".

Plants Proven to be Hosts of Phytophthora

ramorum

September 2022

Scientific Name	Common Name(s)
*Acer macrophyllum**	Bigleaf Maple

Acer pseudoplatanus	Planetree maple
*Adiantum aleuticum**	Western maidenhair fern
*Adiantum jordanii**	California maidenhair fern
Aesculus californica	California buckeye
Aesculus hippocastanum	Horse chestnut
*Arbutus menziesii**	Madrone
*Arctostaphylos manzanita**	Manzanita
Calluna vulgaris*	Scotch heather
Camellia spp.*	Camellia - all species, hybrids and cultivars
Castanea sativa*	Sweet chestnut
*Cinnamomum camphora**	Camphor tree
Fagus sylvatica	European beech
Frangula californica	California coffeeberry
Frangula purshiana	Cascara
Fraxinus excelsior	European ash
*Gaultheria procumbens**	Eastern teaberry
Griselinia littoralis*	Griselinia
Hamamelis virginiana*	Witch hazel
Heteromeles arbutifolia*	Toyon
Kalmia spp.*	Mountain laurel - all species, hybrids and cultivars
*Laurus nobilis**	Bay laurel
Lithocarpus densiflorus (Notholithocarpus densiflorus[2])	Tanoak
*Lonicera hispidula**	California honeysuckle
*Maianthemum racemosum (=Smilacina racemosa)**	False Solomon's seal
Michelia doltsopa (Magnolia doltsopa[2]*	Michelia
*Parrotia persica**	Persian ironwood
*Photinia fraseri**	Red tip photinia
*Pieris spp.**	Andromeda, Pieris - all species, hybrids and cultivars
Pseudotsuga menziesii var.	Douglas fir
Quercus agrifolia	Coast live oak
Quercus cerris	European turkey oak
Quercus chrysolepis	Canyon live oak
Quercus falcata	Southern red oak
*Quercus ilex **	Holm oak
Quercus kelloggii	California black oak
Quercus parvula var. shrevei	Shreve' s oak
*Rhododendron spp.**	Rhododendron (including azalea) - all species, hybrids and cultivars
*Rosa gymnocarpa**	Wood rose
*Salix caprea**	Goat willow
*Sequoia sempervirens**	Coast redwood
*Syringa vulgaris**	Lilac
*Taxus baccata**	European yew
*Trientalis latifolia**	Westem starflower
*Umbellularia californica**	California bay laurel, pepperwood, Oregon myrtle
*Vaccinium ovatum **	Evergreen huckleberry
Viburnum Spp	All Viburnum

***Unprocessed wood and wood products, including firewood, logs, lumber, and bark chips or mulch of species listed above and marked with an asterisk(*) are not regulated**

Note: Website https://www.aphis.usda.gov/aphis/ourfocus/planthealth/plant-pest-and-disease-probrams1pests-and- diseases/phytophthora-ramorum/sod. Last accessed June 17, 2024

Of these species the following are known to occur in the THP area: big leaf maple, western maidenhair fem, madrone, toyon, tanoak, California honeysuckle, false Solomon's seal, Douglas-fir, canyon live oak, rhododendron, coast redwood, wood rose, western starflower, California bay laurel and huckleberry

a) Host material permitted for removal:

- Firewood may be harvested from the THP area, so long as such wood is not smaller than four inches in diameter and does not leave the existing Zone of Infestation.
- The only *host material* that may be harvested for commercial purposes are tanoak/madrone logs and redwood basal burls. They may be harvested and shipped to destinations within the existing Zone of Infestation, subject to the requirements of the Compliance Agreement. If debarked, they may be harvested and shipped to any destination without restriction.

b) Except as permitted above, Host material shall not be moved outside of the existing Zone of Infestation.

c) This THP shall serve as the Compliance Agreement for removal of commercial host material from the THP area, within the Zone of Infestation. This Compliance Agreement is only valid for 1 year.

d) Should such activities continue during subsequent years, the plan shall be amended with current information and mitigations to meet compliance. No commercial host material shall be removed from the THP area, following this initial 1 -year period, until the THP is satisfactorily amended and updated as necessary to serve as the Compliance Agreement.

g) Information regarding Compliance:

(1) The potential destination(s) of commercial host material is unknown at this time. Prior to removal of the above noted commercial host materials from the THP area, the plan shall be amended to clarify the specific destination for these materials.

(2) Basal trunk/burl sprouts, small branches (less than 1 inch in diameter), and leaves (needles) of coast redwood and Douglas-fir are considered host materials. These host materials shall not be removed from the THP area except as provided for above in c.

(3) Chips or other host material, less than 4 inches in diameter, shall not be removed from the THP area.

(4) Movement of host material greater than 4 inches in diameter (as described in (c), above) does not require a closed container.

(5) Host debris (not actual logs - just leaves, twigs, and branches of host species, listed in item (b), above) shall be inspected for, and substantially removed from, equipment/vehicles

prior to departure from the plan area. The usual inspection shall consist of walking around each vehicle/piece of heavy equipment, including any load, and visually scanning for the presence of host debris, prior to movement from the THP area. This is the responsibility of the LTO responsible for hauling operations.

h) The RPF responsible for providing professional advice to the licensed timber operator pursuant to 14 CCR 1035.1(e), shall inform the LTO regarding regulations pertaining to SOD, current SOD hosts, extent of the regulated area, and operational requirements pertaining to the Compliance Agreement (this THP), prior to start-up of initial timber operations and throughout active timber operations as necessary regarding plan amendments to such.

b.[☐]Yes [**X**]No	Are there any other significant insect or forest disease problems within the THP area if outside a declared zone? **1.** ☐ Insect(s) **2.** ☐ Disease(s) **3.** ☐ Pest problems **4.** ☐ Other (provide a description of the problem) **If "Yes" describe proposed measures to improve the health, vigor, and productivity of the stand(s).**
Proposed measures:	

ITEM #16 – TYPE OF YARDING

[ref. 14 CCR § 1034(n)]

Logging System and Equipment to be Used

	GROUND - BASED (tractor, skidder, forwarder)		CABLE		OTHER (Special)
X	Tractor, including end/long lining	☐	Cable, ground lead	☐	Helicopter
X	Rubber tire skidder, forwarder	**X**	Cable, high lead	☐	Animal
X	Feller buncher	**X**	Cable, skyline	☐	Other (describe below)
X	Shovel yarding				
☐	Tethered operations				

NOTE: All Tractor operation restrictions apply to ground-based equipment. [ref. 14 CCR § 914.2 [934.2, 954.2]]

ITEM #17 – EROSION HAZARD RATING (EHR)

[ref. 14 CCR § 914.6 [934.6, 954.6](e)]

EHR (select all that apply)		Trail or Road Gradient (in percent)			
		10 or less	11-25	26-50	>50
		Waterbreak Spacing (in feet)			
X	Low	300	200	150	100
X	Moderate	200	150	100	75
☐	High	150	100	75	50
☐	Extreme	100	75	50	50

NOTE:

- **If more than one rating is checked, areas must be identified on a THP map down to 20 acres.**
- **Coastal District - areas with a high or extreme EHR(s) must be mapped down to 10 acres.**
- **If ratings checked do not match the EHR Worksheet clarify the discrepancy.**

EHR rating discrepancy:

ITEM #18 – SOIL STABILIZATION / EROSION CONTROL

[ref. 14 CCR § 923.5 [943.5, 963.5] - Erosion Control for Logging Roads and Landings]

[ref. 14 CCR § 914 [934, 954] - Harvesting practice and erosion control]

[ref. 14 CCR § 923.5 [943.5, 963.5](b)-(h), (j), (k), (p) - standard Forest Practice Operational rules pertaining to the timing and specifics for the installation of erosion control structures for Roads and Landings.

[ref. 14 CCR § 914.6 [934.6, 954.6](a)-(j),with variations for the Southern Subdistrict of the Coast Forest District within (i), - standard Forest Practice Operational rules pertaining to the timing and specifics for the installation of erosion control structures for harvesting practices, tractor, and cable operations.

Guidance on methods for hydrologic disconnection may be found in "Board of Forestry Technical Rule Addendum Number 5: Guidance on Hydrologic Disconnection, Road Drainage, Minimization of Diversion Potential, and High-Risk Crossings" (1st Edition, revised 4/21/15).

a. [☐]Yes [**X**]No	Are there any exceptions proposed to the above-listed standard operational requirements? **If "Yes" complete ITEM 18b (below) and provide the specific instruction to the LTO.**
b. [**X**]Yes [☐]No	Will there be any methods of stabilization used for erosion control? **If "Yes" check all that apply below:**
X	STRAW Mulch Depth (inches):____2-4_____ Percent coverage:_90%_____
X	SLASH Mulch ☐ Scattered Depth (inches):_____ Percent coverage:_____ **X** Packed Depth (inches):___2-4_minimum_____ Percent coverage:__75%__
X	GRASS SEEDING Describe seed source and provide LTO Instructions: Soil stabilization via grass seedlings may be utilized on a site specific basis as described in the Map Point table. If grass seed is used, use only California Native Plant Society approved noninvasive species. Consult with the landowner regarding appropriate species.
X	ROCK ARMORING Size:__Site Dependent, Refer to Map Point Table for more information_____ Installation instructions:
☐	REPLANTING Provide LTO instructions:
☐	INSTALLATION OF COMMERCIAL EROSION DEVICES Describe commercial devise and provide LTO instructions:
☐	OTHER Describe method and provide LTO instructions:
c. [☐]Yes [**X**]No	Are there any alternative practices to the standard harvesting or erosion control rules proposed? [ref. 14 CCR § 914.9 [934.9, 954.9]] **If "Yes" provide instructions to the LTO in SECTION II and the required explanation and justification in SECTION III. [ref. 14 CCR § 914.9 [934.9, 954.9]**

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All Watersheds **Logging roads / Landings**	**N/A**	**Description of Treatments**	**Protection Measures**	**Timing**
d. 14 CCR § 923.5[943.5, 963.5](i): treatments to prevent significant discharge where features cannot be hydrologically disconnected.	N/A			
e. 14 CCR § 923.5[943.5, 963.5](l) & (m): treatments for sidecast or fill; cuts and fills associated w/ approaches to watercourse crossings; bare areas w/in WLPZ.		Bare soil on logging road or landing cuts, fills, transported spoils, or sidecast that is created or exposed by timber operations shall be stabilized to the extent necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge. Sites to be stabilized include, but are not limited to: 1. Sidecast or fill exceeding 20 feet in slope distance from the outside edge of the logging road or a landing that has access to a watercourse or lake. 2. Cut and fills associated with approaches to logging road watercourse crossing of Class I or II waters or Class III waters where an ELZ, EEZ, or a WLPZ is required.	Treatment shall consist of seeding the exposed area with grass seed applied at a rate of 25 pounds per acre and mulching with straw to a depth of 2 inches. Do not use annual rye grass. Straw mulching should utilize clean straw (such as rice, barley, wheat, or weed-free straw). Slash may be substituted for straw, if the material is lopped and arranged to make adequate contact and coverage of the soil, to prevent or control erosion. Slash may not be used on the traveled surfaces of roads and landings unless the road or landing is designated for abandonment. Furthermore, slash shall not be used anywhere that will impede drainage, such as the edge of outsloped roads, above culvert inlets, in ditches, and in the channel zone portion of temporary tractor crossings.	For areas disturbed from May 1 to October 15, treatment shall be completed prior to the end of operations for the year or prior to the start of any rain that causes overland flow across or along the disturbed surface that could deliver sediment into a Watercourse or lake in quantities deleterious to the beneficial uses of water. For areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days of the

				creation of bare soil, whichever is earlier.
f. 14 CCR §923.5[943.5,963.5](n): When the natural ability of ground cover in WLPZ is inadequate to filter sediment.	N/A			
g. 14 CCR § 923.5[943.5,963.5](o): Exceptions to soil stabilization treatment timing.	N/A			
Watercourse crossings on logging roads				
h. 14 CCR § 923.9[943.9,963.9] (t)(1)-(3): Bare soil on fills, sidecast, timing of treatment.		Soil stabilization is required at logging road watercourse crossings where: Bare soil on fills or sidecast associated with Logging Road Watercourse crossings that are created or exposed by Timber Operations shall be stabilized to the extent necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge. Erosion control measures for the traveled surface of roads and landing surfaces are specified in 14 CCR§923.5 and 923. 7. Sites to be stabilized include, but are not limited to, sidecast or fill exceeding 20 feet in slope distance from the outside edge of the road surface at the Logging Road Watercourse crossing.	Should any of the conditions described to the left under "Description of Treatments" occur these areas will be stabilized one or a combination of the following: • Where straw mulch is used, the minimum straw coverage shall be 90 percent (2 inches deep at the time of application) and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of Timber Operations. • Where slash mulch is used, bare surface shall be covered with at least 4" of slash covering at least 75 percent of exposed surface. • Where rock armoring is used, aggregate ranging from 1-8" D50 shall be utilized. For slopes less than 30%, small rock (1"-4" 050) shall be used to cover exposed soil. For slopes greater than 30% slopes, larger aggregate (4-8" 050) shall be used to cover exposed soil. Minimum of 75% of exposed bare soil shall be covered. Where alternatives (including but not limited to: jute netting, silt fence, chemical stabilizers) are	For areas disturbed from May 1 to October 15, treatment shall be completed prior to the end of operations for the year or prior to the start of any rain that causes overland flow across or along the disturbed surface that could deliver sediment into a Watercourse or lake in quantities deleterious to the beneficial uses of water. For areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or

			utilized, products will be installed in a fashion to prevent significant sediment discharge in line with their use labels.	greater is forecast by the National Weather Service or within 10 days of the creation of bare soil, whichever is earlier.

SECTION II PLAN OF OPERATIONS - ITEM #18

Forest Practice Rules (FPR) require Specific Erosion Control / Soil Stabilization measures to be addressed within the proposed THP addressing, WLPZ & Protected ELZ & EEZs, within a non-ASP and exempt ASP watersheds. Please address the following table and the specific rule. If not applicable, so state.

Non-ASP & Exempt ASP watersheds WLPZ & Protected ELZ & EEZ	**N/A**	**Description of Treatments**	**Protection Measures**	**Timing**
i. 14 CCR § 916.7[936.7,956.7] Stabilization measures for WLPZ of CI & C II)	N/A			

Forest Practice Rules (FPR) require Specific Erosion Control / Soil Stabilization measures to be addressed within the proposed THP addressing WLPZ & Protected ELZ & EEZ, Roads and Landings and Watercourse Crossings, within an ASP Watershed or Immediately upstream of an ASP Watershed. Please address the following table and the specific rule. If not applicable, so state.

ASP Watersheds Logging roads / Landings	**N/A**	**Description of Treatments**	**Protection Measures**	**Timing**
j. 14 CCR § 916.9 [936.9,956.9] (n)(1)-(7): For WLPZ, & protected ELZ & EEZs.		(1)Soil stabilization is required for the following areas: a) Areas exceeding 100 contiguous square feet where Timber Operations have exposed bare soil. b) Approaches to tractor road watercourse crossing between the drainage facilities closest to the crossing. c) Any other area of disturbed soil that threatens to discharge sediment into waters in amounts that would result in a significant sediment discharge. d) Where the natural ability of ground cover is inadequate to protect beneficial uses of water by minimizing soil erosion or by filtering sediment, the plan shall specify protection measures to retain and improve	(2)Soil stabilization treatment measures may include, but need not be limited to: removal, armoring with rip-rap, replanting, mulching, seeding, installing commercial erosion control devices to manufacturer's specifications, or chemical soil stabilizers. (3) Where straw or slash mulch is used, the minimum straw coverage shall be 90 percent, and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of timber operations. (4) Where slash mulch is packed into the ground surface through the use of a tractor or equivalent piece of heavy equipment the minimum slash coverage shall be 75 percent.	For areas disturbed from May 1 to October 15, treatment shall be completed prior to the end of operations for the year or prior to the start of any rain that causes overland flow across or along the disturbed surface that could deliver sediment into a Watercourse or lake in quantities deleterious to the

Forest Practice Rules (FPR) require Specific Erosion Control / Soil Stabilization measures to be addressed within the proposed THP addressing WLPZ & Protected ELZ & EEZ, Roads and Landings and Watercourse Crossings, within an ASP Watershed or Immediately upstream of an ASP Watershed. Please address the following table and the specific rule. If not applicable, so state.

		the natural ability of the ground cover to filter sediment and minimize soil erosion.		beneficial uses of water. For areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days of the creation of bare soil, whichever is earlier
k. 14 CCR § 923.5 [943.5,963.5] (q)(3): For roads, landings, etc.		(1)Soil stabilization is required for the following areas: a) Areas exceeding 100 contiguous square feet where Timber Operations have exposed bare soil. b) Approaches to tractor road watercourse crossing between the drainage facilities closest to the crossing. c) Any other area of disturbed soil that threatens to discharge sediment into waters in amounts that would result in a significant sediment discharge. d) Where the natural ability of ground cover is inadequate to protect beneficial uses of water by minimizing soil erosion or by filtering sediment, the plan shall specify protection measures to retain and improve	(2)Soil stabilization treatment measures may include, but need not be limited to: removal, armoring with rip-rap, replanting, mulching, seeding, installing commercial erosion control devices to manufacturer's specifications, or chemical soil stabilizers. (3) Where straw or slash mulch is used, the minimum straw coverage shall be 90 percent, and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of timber operations. (4) Where slash mulch is packed into the ground surface through the use of a tractor or equivalent piece of heavy equipment the minimum slash coverage shall be 75 percent.	For areas disturbed from May 1 to October 15, treatment shall be completed prior to the end of operations for the year or prior to the start of any rain that causes overland flow across or along the disturbed surface that could deliver sediment into a Watercourse or lake in quantities deleterious to the

Forest Practice Rules (FPR) require Specific Erosion Control / Soil Stabilization measures to be addressed within the proposed THP addressing WLPZ & Protected ELZ & EEZ, Roads and Landings and Watercourse Crossings, within an ASP Watershed or Immediately upstream of an ASP Watershed. Please address the following table and the specific rule. If not applicable, so state.

		the natural ability of the ground cover to filter sediment and minimize soil erosion.		beneficial uses of water. For areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days of the creation of bare soil, whichever is earlierFor areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days of the creation of bare soil, whichever is earlier
l. 14 CCR § 923.9 [943.9,963.9] (t)(4): For watercourse crossings.		Soil stabilization is required at logging road watercourse crossings where: Bare soil on fills or sidecast associated with Logging Road Watercourse crossings that are created or exposed by Timber	Should any of the conditions described to the left under "Description of Treatments" occur these areas will be stabilized one or a combination of the following:	For areas disturbed from May 1 to October 15, treatment shall be completed prior to

Forest Practice Rules (FPR) require Specific Erosion Control / Soil Stabilization measures to be addressed within the proposed THP addressing WLPZ & Protected ELZ & EEZ, Roads and Landings and Watercourse Crossings, within an ASP Watershed or Immediately upstream of an ASP Watershed. Please address the following table and the specific rule. If not applicable, so state.				
		Operations shall be stabilized to the extent necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge. Erosion control measures for the traveled surface of roads and landing surfaces are specified in 14 CCR§923.5 and 923. 7. Sites to be stabilized include, but are not limited to, sidecast or fill exceeding 20 feet in slope distance from the outside edge of the road surface at the Logging Road Watercourse crossing.	• Where straw mulch is used, the minimum straw coverage shall be 90 percent (2 inches deep at the time of application) and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of Timber Operations. • Where slash mulch is used, bare surface shall be covered with at least 4" of slash covering at least 75 percent of exposed surface. • Where rock armoring is used, aggregate ranging from 1-8" D50 shall be utilized. For slopes less than 30%, small rock (1"-4" 050) shall be used to cover exposed soil. For slopes greater than 30% slopes, larger aggregate (4-8" 050) shall be used to cover exposed soil. Minimum of 75% of exposed bare soil shall be covered. Where alternatives (including but not limited to: jute netting, silt fence, chemical stabilizers) are utilized, products will be installed in a fashion to prevent significant sediment discharge in line with their use labels.	the end of operations for the year or prior to the start of any rain that causes overland flow across or along the disturbed surface that could deliver sediment into a Watercourse or lake in quantities deleterious to the beneficial uses of water. For areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days of the creation of bare soil, whichever is earlier.

SECTION II PLAN OF OPERATIONS - ITEM #19 to #22

ITEM #19 TRACTOR OPERATIONS IN AREAS DESIGNATED FOR CABLE YARDING

[ref. 14 CCR § 914.2 [934.2, 954.2]]	
a. [☐]Yes [☒]No	Will Non-Tethered Tractor Operations occur in areas designated for Cable Yarding on slopes over 50%? **If "Yes" provide site specific instructions to the LTO in SECTION II, including operation measures necessary to avoid or minimize significant effects.** **NOTE: Regardless of slope, boundaries of all areas where Tractor Operations are proposed in areas designated for Cable Yarding shall be mapped per 14 CCR § 1034(x)(17). In addition, provide an explanation and justification for any Tractor Operations in areas designated for Cable yarding in SECTION III.**

ITEM #20 ALTERNATIVE PRACTICES TO STANDARD RULES

[ref. 14 CCR § 914.9 [934.9, 954.9](a)]	
a. [☐]Yes [**X**]No	Is the RPF proposing any Alternative Practices to the standard rule on a site-specific basis? **If "Yes" provide instruction to the LTO in SECTION II on how the Alternative shall be implemented to maintain equal protection of the standard rule. In SECTION III, explain how the Alternative Practice proposed achieves environmental protection at least equal to that which would result from using measures stated in 14 CCR §§ 914.1-914.8, & 934.1-934.8, & 954.1-954.8.**

ITEM #21 GROUND BASED EQUIPMENT

[ref. 14 CCR 14 CCR § 914.2 [934.2, 954.2](a)-(i)]	
ASP NOTE: per 14 CCR § 916.9 (k)(1) – Year-around tractor road limitations, Tractor roads shall not be used when operations may result in significant sediment discharge and (m) Tractor Road Drainage Facility Installation - All tractor roads shall have drainage and/or drainage collection and storage facilities installed as soon as practical following yarding and prior to either (1) the start of any rain which causes overland flow across or along the disturbed surface within a WLPZ or within any ELZ or EEZ designated for watercourse or lake protection, or (2) any day with a National Weather Service forecast of a chance of rain of 30 percent or more, a flash flood warning, or a flash flood watch.	
Will ground-based equipment be used on:	
a. [**X**]Yes [☐]No	Unstable areas? (Only allowed if unavoidable) **If "Yes" the RPF shall develop specific measures to minimize the effect of operations on slope stability. Provide site specific instructions to the LTO in SECTION II and provide the required explanation and justification in SECTION III.** **Note to LTO: Within STZ-1 and STZ-2 Operations are restricted to existing stable skid trails that have been mapped and flagged by the RPF. When opening these skid trails, do not sidecast materials. Following operations and prior to the winter period these skid trails shall be waterbarred to the Extreme EHR. If not utilized, no treatment necessary.**

b. [**X**]Yes [☐]No	Slopes steeper than 65% **If "Yes" provide site specific instructions to the LTO in SECTION II and provide the required explanation and justification in SECTION III.** Note to LTO: Operations are restricted to a preflagged and mapped skid trail. This situation occurs on **low and moderate** EHR Soils. If utilized, these skid trails shall be waterbarred to the Extreme EHR standard following operations and prior to the winter period. If not utilized, no treatment necessary. Note to Reviewer: Refer to Section III for more information.
c. [☐]Yes [**X**]No	Slopes steeper than 50% where the erosion hazard rating (EHR) is High or Extreme**.** **If "Yes" provide site specific instructions to the LTO in SECTION II and provide the required explanation and justification in SECTION III.**
d. [**X**]Yes [☐]No	Slopes between 50% and 65% with a Moderate EHR at: (percentage based on average slope on sample areas of 20 acres)? **X** Existing tractor roads that do not require reconstruction. or ☐ New tractor roads at a location that has been shown on the THP map, flagged by an RPF or supervised designee prior to the pre-harvest inspection, or prior to the start of timber operations if a PHI was not required. **If "Yes" provide site specific instructions to the LTO in SECTION II.** **Note to LTO: Where this scenario occurs operations are limited to pre-flagged stable skid trails. After operations and prior to the winter period skid trails in these areas shall be waterbarred to the Extreme EHR Standard. If not utilized, no treatment necessary.**
e. [☐]Yes [**X**]No	Slopes over 50% which lead without flattening to sufficiently dissipate water flow and trap sediment before it reaches a watercourse or lake? **If "Yes" provide site specific instructions to the LTO in SECTION II and provide the required explanation and justification in SECTION III.**
NOTE: Per 14 CCR 1034(x)(15) all exceptions must be located on a map. If any question above is answered "Yes" then tractor road locations must be flagged on the ground prior to the PHI or the start of timber operations if a PHI is not required.	

ITEM #22 INTENTIONALLY BLANK BY CAL FIRE

ITEM # 23 – WINTER OPERATIONS

Per 14 CCR § 895.1:
"Winter Period" means the period between November 15 and April 1, Except under special County Rules per 14 CCR §: 925.1 (Santa Clara), 926.18 (Santa Cruz), 927.1 (Marin), 965.5 (Monterey)

"Extended wet weather period" means the period from October 15 to May 1.

- **Tractor roads (except as otherwise provided in the rules):**
  - All waterbreaks shall be installed no later than the beginning of the winter period of the current year of timber operations.
  - Installation of drainage facilities and structures is required from October 15 to November 15 and April 1 to May 1 on all constructed skid trails and tractor roads prior to sunset if the National Weather Service forecast is a "chance" (30% or more) of rain within the next 24 hours per 14 CCR § 914.6 [934.6, 954.6](a).
- **Logging roads and landings used for timber operations shall have adequate drainage**:
  - Upon completion of use for the year or by October 15, whichever is earlier.
  - An exception is that drainage facilities and drainage structures do not need to be constructed on logging roads and landings in use during the extended wet weather period provided that all such drainage facilities and drainage structures are installed prior to the start of rain that generates overland flow per 14 CCR § 923.5 [943.5, 963.5](j).
- When the term Winter Period Operating Plan (WPOP) is used below, all the requirements per 14 CCR § 914.7 [934.7, 954.7](b) must be addressed.

Winter Operations	
If timber operations are proposed within the winter period, the RPF may propose to operate under a: • WPOP [ref. 14 CCR § 914.7 [934.7, 954.7](b)] • In-lieu winter operating plan [ref. 14 CCR § 914.7 [934.7, 954.7]]	
a. [X]Yes [☐]No	Will timber operations occur during the winter period?
Winter Period Operating Plan (WPOP)	
A WPOP is required when winter operations will occur under the following conditions: • Site preparation, Road and landing construction • Temporary logging road watercourse crossings will not be removed • At tractor watercourse crossings • Temporary logging roads or landings • Roads to be abandoned or deactivated • Operations are proposed in an ASP watershed or immediately upstream **NOTE: When a WPOP is required, provide operational instructions for the LTO in SECTION II**	
b. [☐]Yes [X]No	Will mechanical site preparation be conducted during the winter period? **If "Yes" then a WPOP is required per 14 CCR § 914.7 [934.7, 954.7](a).**
c. [☐]Yes [X]No	Will roads be constructed during the winter period? **If "Yes" a WPOP is required per 14 CCR § 914.7 [934.7, 954.7] addressing logging road and landing construction and reconstruction per 14 CCR § 923.4 [943.4, 963.4](l).**
d. [☐]Yes [X]No	Will landings be constructed during the winter period? **If "Yes" a WPOP is required per 14 CCR § 914.7 [934.7, 954.7] addressing logging road and landing construction and reconstruction per 14 CCR §923.4 [943.4, 963.4](l).**

SECTION II PLAN OF OPERATIONS - ITEM #23

e. [☐]Yes [**X**]No	Will temporary logging road watercourse crossings be left in place during the winter period? **If "Yes" a WPOP is required per 14 CCR § 923.9 [943.9, 963.9](r).**
f. [☐]Yes [**X**]No	Will tractor watercourse crossings be used during the winter period? **If "Yes" a WPOP is required per 14 CCR § 914.8 [934.8, 954.8](d).** **NOTE: If an exception is proposed provide an explanation and justification in SECTION III.**
g. [☐]Yes [**X**]No	Will temporary logging roads be used during the winter period? **If "Yes" a WPOP is required per 14 CCR §§ 923.6 [943.6, 963.6](f) & 923.8 [943.8, 963.8](d).**
h. [☐]Yes [**X**]No	Will temporary landings be used during the winter period? **If "Yes" a WPOP is required per 14 CCR §§ 923.6 [943.6, 963.6] & 923.8 [943.8, 963.8].**
i. [☐]Yes [**X**]No	Will logging roads to be abandoned or deactivated, be open (not blocked) during the winter period? **If "Yes" a WPOP is required per 14 CCR §§ 923.6 [943.6, 963.6](f) & 923.8 [943.8, 963.8](d).**
ASP Watersheds or Immediately Upstream	
j. [**X**]Yes [☐]No	Are timber operations proposed during the extended wet weather period? **If "Yes" then a WPOP is required per 14 CCR §§ 916.9 [936.9, 963.9](l) & (l)(1).**
k. [☐]Yes [**X**]No	Will logging roads construction or reconstruction occur within the extended wet weather period? **If "Yes" provide specific measures to be taken during operations in SECTION II per 14 CCR §§ 923.6 [943.6, 963.6] (h)(6) & 923.4 [943.4, 963.4](s)(2).**
l. [**X**]Yes [☐]No	Will logging road use occur within the extended wet weather period? **If "Yes" provide specific measures to be taken during operations in SECTION II per 14 CCR §§ 923.6 [943.6, 963.6] (h)(6) & 923.4 [943.4, 963.4](s)(2).**
m. [**X**]Yes [☐]No	Will landing construction or reconstruction occur within the extended wet weather period? **If "Yes" provide specific measures to be taken during operations in SECTION II per 14 CCR §§ 923.6 [943.6, 963.6] (h)(6) & 923.4 [943.4, 963.4](s)(2).**
n. [**X**]Yes [☐]No	Will landing use occur within the extended wet weather period? **If "Yes" provide specific measures to be taken during operations in SECTION II per 14 CCR §§ 923.6 [943.6, 963.6] (h)(6) & 923.4 [943.4, 963.4](s)(2).**
o. [**X**]Yes [☐]No	Will any watercourse crossing drainage structures be constructed during the extended wet weather period? **If "Yes" provide specific measures to be taken during operations in SECTION II per 14 CCR § 923.9 [943.9, 963.9](t)(4)(E).** **This may occur during periods of unsaturated soil. Refer to WPOP box 4 below for more information. Additionally, this may be subjected to restrictions from the project LSAA.**
p. [**X**]Yes [☐]No	Will any watercourse crossing drainage structures be reconstructed during the extended wet weather period? **If "Yes" provide specific measures to be taken during operations in SECTION II per 14 CCR § 923.9 [943.9, 963.9](t)(4)(E).** **This may occur during periods of unsaturated soils. Refer to WPOP box 4 below for**

	more information. Additionally, this may be subjected to restrictions from the project LSAA.
NOTE: If any of the questions above are answered "Yes" then a WPOP is required:	
q. [**X**]Yes [☐]No	Does the RPF choose to prepare a WPOP per 14 CCR § 914.7 [934.7, 954.7](b)(1-12)?

ITEM FF (NOTE: If a WPOP is not being proposed then the table below is not required)

Winter Period Operating Plan (WPOP)	
Per 14 CCR § 914.7 [934.7, 954.7](b) the WPOP shall include the specific measures to be taken during the winter period to avoid or substantially lessen erosion, soil movement into watercourses and soil compaction from timber operations. The WPOP shall address the following:	
1) Erosion Hazard Rating:	**Low and Moderate**
2) Mechanical Site preparation methods:	**None Proposed**
3) Yarding system: ***(Constructed skid trails and tractor road watercourse crossings)***	**Ground based and cable yarding.**
4) Operating Period:	**a.) Timber falling: Timber falling may be conducted during the winter period. The felling of trees that have a chance of accidentally entering a Class I or II watercourse shall be deferred until such time when equipment is available on-site to remove such trees from the watercourse.** **b.) Ground-based yarding: Ground based yarding shall be done only during dry rainless periods and shall not be conducted when saturated soil conditions that may produce significant sediment discharge are present. Significant Sediment Discharge (14 CCR 895.1) means soil erosion that is currently, or may be in the future, discharge to watercourses or lake in quantities that violate Water Quality requirements or result in significant individual or cumulative adverse impacts to the beneficial uses of water. Ground based operations that produce a Significant Sediment Discharge which causes a visible increase in turbidity to receiving Class I, II, III, or IV water is prohibited. Saturated soil conditions (14 CCR 895.1) means:** **"soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur. Indicators or saturated soil conditions may include, but are not limited to: (1) areas of ponded water, (2) pumping of fines from the soil or road surfacing material during timber operations, (3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load, such as the creation of wheel ruts, (4)**

Winter Period Operating Plan (WPOP)	
	spinning or churning of wheels or tracks that produces a wet slurry, or (5) inadequate traction without blading wet soil or surfacing materials." Use of tractor roads and watercourse crossings within any WLPZ/ELZ will be prohibited during the winter period. **c.) Cable yarding: No limitations specific to the winter period except those limitations pertaining to roads and landings.** **Indicators or saturated soil conditions:** **In yarding areas, condition may be evidenced by:** **Reduced traction by equipment indicated by spinning or churning of wheels or tracks in excess of normal performance,** **Inadequate traction without blading wet soil,** **Soil displacement in amounts that cause visible increase in turbidity of downstream waters in a receiving I, II, III, of IV waters, or in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters, or** **Creation of ruts greater than would be normal following a light rainfall.** **On LOGGING ROADS AND LANDING SURFACES, saturated soil conditions may be evidenced by:** **Reduced traction by equipment as indicated by spinning or churning of wheels or tracks in excess or normal performance,** **Inadequate traction without blading wet soil,** **Soil displacement in amounts that cause visible increase in turbidity of the downstream waters in receiving Class I, II, III, or IV waters, or in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters, or creation of ruts greater than would be created by traffic following normal road watering, which transports surface material to a drainage facility that discharges directly into a watercourse.** **Soils or road and landing surfaces that are hard frozen are excluded from this definition.** **d.) Road and Landing Use: Use of logging roads and landings shall not take place at any location where saturated soil conditions exist, where a stable logging road or landing operating surface does not exist, where a stable logging road or landing operating surface does not exist, or when visibly turbid water from the road or landing surface, or inside ditch may reach a time of year when operations may result in significant sediment discharge to watercourse(s), except in emergencies to protect the road, to reduce erosion, to protect water quality, or in response to public safety needs (14 CCR 923.6(b)).**

Winter Period Operating Plan (WPOP)	
	e.) Road construction and reconstruction (defined in 14 CCR 895.1), if proposed, may only occur during the between Oct. 15 – Nov. 14 and April 2 – May 1 in periods of low antecedent soil moisture. This also includes the construction or reconstruction of watercourse crossings. No road construction is proposed under this THP. **f.) Road upgrades (upgrading seasonal roads to permanent roads) may be conducted during the Winter Period when soils are not "saturated". Saturated soil conditions (14 CCR 895.1) means: "soil and/or surface material pore spaces are filled with water to such an extent that runoff is likely to occur. Indicators of saturated soil conditions may include: (1) areas of ponded water, (2) pumping of fines from the soil or road surfacing material during timber operations, (3) loss of bearing strength resulting in the deflection of soil or road surfaces under a load, such as the creation of wheel ruts, (4) spinning or churning of wheels or tracks that produces a wet slurry, or (5) inadequate traction without blading wet soil or surfacing materials."** **g.) Road maintenance (grading) may occur during the Winter Period as long as the road system is dry. A dry road is one in which moisture is less or equal to that found during normal road watering (dust abatement) treatments or light rainfall. Further, equipment is not rutting a road surface or pumping fines causing visibly increased turbidity in any drainage facility which drains directly to a Class I, II, III, or IV waters.**
5) Erosion Control facilities timing:	**During the Winter Period, erosion control structures shall be installed on all tractor roads prior to the end of the day if the U.S. Weather Service forecast is a "chance" (30% or more) of rain before the next day, and prior to weekend or other shutdown periods (14 CCR 914.7 (c)(2)). Additionally, to ensure compliance with 14 CCR 914.7(c)(2), the amount of tractor roads open, at any given time during the winter period, will be limited to the amount that can be winterized in one single day. Upgraded permanent roads will have drainage facilities and structures installed prior to the winter period at intervals along the road that are no greater than the guidelines in Table 19 (Handbook for Forest,Ranch, & Rural Roads, Weaver and Hagans, Rev 2015) and frequent enough to disperse road surface runoff so as to avoid gully formation and minimize erosion of the road surface, erosion of the inside ditches and other drainage facilities, and erosion at the outfalls of drainage facilities and structures.**
6) Consideration of form of precipitation: ***(rain or snow)***	**The dominant forms of precipitation are expected to be rain and fog. Hail and snow are rare occurrences.**
7) Ground conditions: ***(soil moisture conditions, frozen)***	**Use of logging roads and landings shall not occur when saturated soil conditions exist on the logging road, or when a stable operating surfaces does not exist on the logging road. No use of seasonal roads during the defined Winter Period, except for emergency logging road maintenance and for ATV traffic, unless such**

Winter Period Operating Plan (WPOP)	
	roads are upgraded to permanent logging road status, or as outlined herein. Due to the climate of the area, soil conditions are not expected to become hard frozen. See other restrictions on operations after rainfall events elsewhere in this Item.
8) Silvicultural system ground cover:	**The following Silvicultures are proposed: Selection, Group Selection, Transition, and No Harvest.** **All areas of the plan are expected to retain a vegetative cover in the form of overstory/understory vegetation, slash, and associated logging debris.**
9) Operations within the WLPZ:	**Operations within the WLPZ/ELZ during the winter period will be limited to:** **a) The felling of trees. Trees shall be felled away from watercourse, in such a manner as to facilitate the removal of logs from the WLPZ/ELZ with minimized disturbance to vegetation and ground cover.** **b) Long-lining of logs.** **c) Cable Yarding** **d) Road maintenance as defined in Item 4 above**
10) Equipment limitations:	**See THP Section II, Item 23, FF (4)(b-g), 7, and 9(b-d) above.**
11) Known Unstable Areas:	**No use of ground-based equipment on unstable areas is permitted during the winter period. Limited ground-based operations are proposed along existing stable skid trails within STZ-1 and STZ-2 outside of the winter period.** **Timber operations conducted on unstable areas during saturated conditions shall be limited to timber felling and cable yarding where deflection is sufficient to avoid unnecessary ground disturbance.**
12) Logging roads and landings:	**See Item 4 above**

In-Lieu Winter Period Operation Plan	
r. [☐]Yes [**X**]No	Does the RPF choose the in-lieu winter operating plan option as allowed per 14 CCR § 914.7 [934.7, 954.7](c)(1)-(3)? **If "Yes" specify the procedures listed in subsections (1) and (2), and list the site specific measures for operations in the WLPZ and unstable areas as required by subsection (3).**
s. [☐]Yes [☐]No [**X**] N/A	Will the in-lieu winter operating plan include operations within WLPZ(s) or unstable area(s) during the winter period? **If "Yes" provide site specific measures per 14 CCR § 914 [934, 954] to protect the beneficial uses of water in SECTION II as instructions to the LTO.**

Hauling and heavy equipment use roads and landings during the Winter Period	
t. [☐]Yes [**X**]No	Will <u>roads</u> be used for log hauling and heavy equipment use during the winter period where there will <u>not</u> be a stable operating surface or surfaced with rock to a depth and quantity sufficient to maintain a stable operating surface? **If "Yes" provide an explanation and justification in SECTION III. [ref. 14 CCR §§ 923.6 [943.6, 963.6](g) & 914.7[934.7,954.7]]**

SECTION II PLAN OF OPERATIONS - ITEM #23

u. [☐]Yes [**X**]No	Will <u>landings</u> be used for log hauling and heavy equipment use during the winter period where there will <u>not</u> be a stable operating surface or surfaced with rock to a depth and quantity sufficient to maintain a stable operating surface? **If "Yes" provide an explanation and justification in SECTION III. [ref. 14 CCR §§ 923.6 [943.6, 963.6](g) & 914.7[934.7,954.7]]**
Hauling and heavy equipment use on hydrologically disconnected or saturated soils	
v. [☐]Yes [**X**]No	Will <u>roads</u> be used for log hauling and heavy equipment use during the winter period on roads that are <u>not</u> hydrologically disconnected and exhibit saturated soil conditions? **If "Yes" provide an explanation and justification in SECTION III. [ref. 14 CCR §§ 923.6 [943.6, 963.6](g) & 914.7[934.7,954.7]]**
Watercourse crossing removal	
w. [☐]Yes [**X**]No	Will any logging road watercourse crossing proposed for removal and/or stabilization be left in place during the winter period? **If "Yes" provide operational instructions to the LTO addressing the specifics of the applicable CDFW 1600 agreement, Lake and Streambed alteration agreement or otherwise specify in SECTION II. [ref. 14 CCR § 923.9 [943.9, 963.9](p)(4)]**

ITEM # 24 – ROADS AND LANDINGS

Road Construction and Reconstruction	
a. [☐]Yes [**X**]No	Is there <u>new</u> Logging Road <u>construction</u> proposed? [ref. 14 CCR § 1034(o)] **If "Yes" select the classification and provide the approximate length of each and address per 14 CCR § 923.4 [943.4, 963.4]:** ☐ Permanent approximate length in feet: _____ ☐ Seasonal approximate length in feet: _____ ☐ Temporary approximate length in feet: _____
b. [☐]Yes [**X**]No	Is there <u>existing</u> Logging Road <u>Reconstruction</u> proposed? [ref. 14 CCR § 1034(o)] **If "Yes" select the classification and provide the approximate length of each and address per 14 CCR § 923.4 [943.4, 963.4]:** ☐ Permanent approximate length in feet: _____ ☐ Seasonal approximate length in feet: _____ ☐ Temporary approximate length in feet: _____
c. [☐]Yes [**X**]No	Will proposed Logging Road construction or Reconstruction be wider than single lane with turnouts? **If "Yes" address per 14 CCR §§ 923.2 [943, 963](c) & 923.2 [943.2, 963.2](d)(1)**
d. [☐]Yes [**X**]No	Will proposed Logging Road construction or Reconstruction be located on: ☐ Unstable Areas? ☐ Connected Headwall Swales? **If "Yes" address per 14 CCR § 923.1 [943.1, 963.1](d).**
e. [☐]Yes [**X**]No	Will proposed Logging Road construction or Reconstruction: ☐ Have grades greater than 20%? ☐ Have grades greater than 15% that extend greater than 500 continuous feet? **If "Yes" address per 14 CCR §§ 923.2 [943.2, 963.2](d)(2), & 923 [943, 963](c).** **NOTE: per 14 CCR § 1034(x)(5)(A) new road construction and reconstruction segments exceeding 15% for 200 feet shall be mapped. Additionally, exceptions may be approved where there is no other feasible access for harvesting of timber or where use of a gradient greater than 20% will serve to reduce soil disturbance.**
f. [☐]Yes [**X**]No	Except at the following locations [ref. 14 § CCR 923.1 [943.1, 963.1](b)-(c)] … • Existing Logging Road Watercourse crossings. • Logging Road Watercourse crossings to be constructed or Reconstructed that are approved as part of the Fish and Game Code process (F&GC § 1600 et seq.). • Logging Road Watercourse crossings of Class III Watercourses that are dry at the time of use. Will proposed <u>Logging Road</u> construction or Reconstruction be located within any of the following (check all that apply): ☐ 150 feet of a Class I Watercourse and Lake Transition Line (WLTL)? ☐ 100 feet of a class II WLTL on slopes greater than 30%? **NOTE: only for construction** ☐ Class I, II, III, IV Watercourse or Lake? ☐ A Watercourse and Lake Protection Zone (WLPZ)? ☐ Marshes, Wet Meadows, or Other Wet Areas? **If "Yes" address per 14 CCR § 923 [943, 963](c).**

SECTION II PLAN OF OPERATIONS ITEM - #24 & #25

Road Construction and Reconstruction	
g. [☐]Yes [**X**]No	Will proposed Logging Road construction or Reconstruction be located across 100 feet or more lineal distance on: ☐ Slopes over 65%? ☐ Slopes over 50% which are within 100 feet of the boundary of a WLPZ that drains toward the zoned watercourse or lake? **If "Yes" address per 14 CCR §§ 923.2 [943.2, 963.2](a)(7) & 923.4 [943.4, 963.4](n).**
h. [☐]Yes [**X**]No	Will proposed Logging Road construction or Reconstruction be flagged or otherwise identify the location of operations? **If "No" address per 14 CCR § 923.3 [943.3, 963.3](c).**

Road Abandonment and Deactivation	
i. [☐]Yes [**X**]No	Is there road Abandonment proposed? [ref. 14 CCR § 1034(o)] **If "Yes" select the classification and provide the approximate length of each and address per 14 CCR § 923.8 [943.8, 963.8]:** ☐ Permanent approximate length in feet: _____ ☐ Seasonal approximate length in feet: _____ ☐ Temporary approximate length in feet: _____
j. [☐]Yes [**X**]No	Is there road Deactivation proposed? **If "Yes" select the classification and provide the approximate length of each and address per 14 CCR § 923.8 [943.8, 963.8]:** ☐ Permanent approximate length in feet: _____ ☐ Seasonal approximate length in feet: _____ ☐ Temporary approximate length in feet: _____
k. [**X**]Yes [☐]No	Is there watercourse crossing Abandonment or Deactivation proposed? [ref. 14 CCR § 923.9 (p)(1-4)] **If "Yes" describe specific measures to prevent significant sediment discharge per 14 CCR § 923.8 [943.8, 963.8] and map per 14 CCR § 923.9 [943.9, 963.9](e). Additionally, provide the blockage design per 14 CCR § 923.8 [943.8, 963.8](d).** **Note to reviewer/LTO: refer to Sec II, Item 38 Map Point Table and Map Point Map for description and location.**

Landing Construction and Reconstruction	
l. [**X**]Yes [☐]No	Is there any new Landing construction or Reconstruction proposed? **If "Yes" address per 14 CCR §§ 923.4 & 923.6(a).** **Note to LTO/Reviewer: The LTO may construct landings less than ½ acre in size to facilitate timber harvesting if necessary, provided these landings are not located within the WLPZ or an Unstable Area.**

SECTION II PLAN OF OPERATIONS ITEM - #24 & #25

Landing Construction and Reconstruction	
m. [☐]Yes [**X**]No	Will proposed Landing construction or Reconstruction exceed one half acre in size? **If "Yes" address per 14 CCR §§ 923 [943, 963](c) & 923.2 [943.2, 963.2](e)(2).** **NOTE: per 14 CCR § 1034(x)(5)(D) if any landing exceeds ¼ acre in size or requires substantial excavation, the location shall be mapped.**
n. [☐]Yes [**X**]No	Will proposed Landing construction or Reconstruction be located on: ☐ Unstable Areas? ☐ Connected Headwall Swales? **If "Yes" address per 14 CCR § 923.1 [943.1, 963.1](d).**
o. [☐]Yes [**X**]No	Except at the following locations [ref. 14 § CCR 923.1 [943.1, 963.1](b)-(c)] … • Existing Logging Road Watercourse crossings. • Logging Road Watercourse crossings to be constructed or Reconstructed that are approved as part of the Fish and Game Code process (F&GC § 1600 et seq.). • Logging Road Watercourse crossings of Class III Watercourses that are dry at the time of use. Will proposed <u>Landing</u> construction or Reconstruction be located within any of the following (check all that apply): ☐ 150 feet of a Class I Watercourse and Lake Transition Line (WLTL)? ☐ 100 feet of a class II WLTL on slopes greater than 30%? **NOTE: only for construction** ☐ Class I, II, III, IV Watercourse or Lake? ☐ A Watercourse and Lake Protection Zone (WLPZ)? ☐ Marshes, Wet Meadows, or Other Wet Areas? **If "Yes" address per 14 CCR § 923 [943, 963](c).**
p. [☐]Yes [**X**]No	Will proposed Landing construction or Reconstruction be located across 100 feet or more lineal distance on: ☐ Slopes over 65%? ☐ Slopes over 50% which are within 100 feet of the boundary of a WLPZ that drains toward the zoned watercourse or lake? **If "Yes" address per 14 CCR §§ 923.2 [943.2, 963.2](a)(7) & 923.4 [943.4, 963.4](n).**
q. [☐]Yes [**X**]No	Is any Landing Abandonment or Deactivation proposed? **If "Yes" describe specific measures to prevent significant sediment discharge per 14 CCR §§ 923.8 [943.8, 963.8] et seq. & 923.9 [943.9, 963.9](e) & (p).**

SECTION II PLAN OF OPERATIONS ITEM - #24 & #25

Significant Erosion Site(s)	
r. [**X**]Yes [☐]No	Is there any significant erosion site(s)? [ref. 14 CCR §§ 923.1 [943.1, 963.1] (e)(1)-(5), & 923.9 [943.9, 963.9](a)] **If "Yes" select all that apply:** ☒ Existing ☒ Potential **If "Yes" select all that apply:** Associated within the logging area at? ☒ Logging road(s) ☐ Landing(s) ☒ Watercourse crossing(s) **NOTE: For each significant existing or potential erosion site, provide the following:** ➢ **Description of current condition of the site.** ➢ **Identify which sites can be feasibly treated, and which sites cannot.** ➢ **Specify treatments for those sites that can be feasibly treated.** ➢ **Indicate logical order of treatment for those which have feasible treatment.** ➢ **Include in a map point table, and map which identifies the erosion site by mapped referenced identifier consistent with mapped locations.**

NOTE: If any question listed above in Item# 24 is checked "Yes" Provide:

- **Operations Instructions to the LTO, per rule requirement(s) in SECTION II.**
- **Any required explanation and justification should be included in SECTION III.**

ITEM #25 ASP WATERSHEDS

a. [**X**]Yes [☐]No [☐]N/A	Will hauling on roads and landings be limited to those which are hydrologically disconnected from watercourses to the extent feasible, and exhibit a stable operating surface? **If "No" address the exception per 14 CCR § 923.6 [943.6,963.6](h)(3).**
b. [**X**]Yes [☐]No	Is there any proposed logging road(s) or landing(s) construction or reconstruction located in ASP watersheds or immediately upstream and contiguous to, any watershed with listed anadromous salmonids? If "Yes" address the following in SECTION III: ➢ **How the proposed operations will fit into the systematic layout pattern? [ref. 14 CCR § 923.1 [943.1. 963.1](g)(1)].** ➢ **What, if any, offsetting mitigation measures are needed to minimize potential adverse impacts to watersheds from the road system (including but not limited to, abandonment of logging road(s) and landing(s)? [ref. CCR § 923.1 [943.1. 963.1](g)(2)].** ➢ **Specific provisions for the protection of salmonid habitat for all logging road(s) construction on slopes, greater than 50% with access to a watercourse or lake. [ref. 14 CCR § 923.4 [943.4, 963.4](s)(1)].** ➢ **Specific erosion control measures for all permanent and seasonal roads with a grade of 15% or greater which extends 500 feet or more. [ref. 14 CCR § 923.5 [943.5, 963.5](q)(2)].** Note to Reviewer: See Sec. III, Item 25(b) for more information.

ITEM #26 - WATERCOURSE LAKE PROTECTION ZONE (WLPZ) PROTECTION MEASURES

Watercourses

The intent of Watercourse and lake Protection is to ensure that timber operations do not potentially cause significant adverse site-specific and cumulative impacts to the beneficial uses of water, native aquatic and riparian-associated species, and the beneficial functions of riparian zones; or result in an unauthorized take of listed aquatic species; or threaten to cause violation of any applicable legal requirements.
[ref. 14 CCR § 916 [936, 956]]

a. [X]Yes [☐]No — Are there any watercourses or lakes classified as a Class I through Class IV within or adjacent to the plan area? (check all that apply)

	Within Plan area	Adjacent to Plan area
X Class I:	X	X
X Class II:	X	X
X Class III:	X	X
☐ Class IV:	☐	☐
☐ Lakes:	☐	☐
X Wet Areas:	X	X
☐ Other:	☐	☐

If "Yes" to above question:

- Include class of the water feature.
- What is the associated WLPZ or ELZ and width.
- Provide Watercourse description and protection measures; [ref. 14 CCR § 916.5 [936.5, 956.5], Table I. and/or 14 CCR § 916.9 [936.9, 956.9] et seq].
- Specify if Class III or IV watercourses will have a WLPZ or ELZ.
- Map the location of Watercourses and lakes with Class I, II, III, or IV waters. [ref. 1034(x)(9)]

b. [X]Yes [☐]No — Are there Class III or IV watercourses to be protected with a WLPZ or ELZ?

If "Yes" describe and provide LTO instructions in SECTION II. [ref. 14 CCR 916.4 [936.4, 956.4](c)]

Watercourse descriptions, protection measures, and LTO instructions:

LTO instructions:
No even aged silviculture is proposed therefore no outer zone protections apply.

Slope Class	Class I with confine channel Zone Width Core/Inner	Class-IIL WLPZ Zone Width Core/Inner	Class-IIs WLPZ Zone Width Core/Inner	Class III ELZ Width	Wet Areas ELZ Width
<10%	30/70	30/70	15/35	30	25
10-30%	30/70	30/70	15/35	30	25
30-50%	30/70	30/70	15/60	50	25
>50%	30/70	30/70	15/85	50	25

- * Note: Outer zone only needed when adjacent to even aged silviculture.

Class I watercourses:

Class I watercourses:
Within the Plan:

Indian Creek

Adjacent to Plan:

Wheatfield Fork of the Gualala River.

General Class I watercourse protection measures:

- The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. If the above noted canopy levels are lacking in any given area timber is not marked for removal in that area, however it may be marked elsewhere in the zone.
- Silvicultural methods are limited to commercial thinning or single tree selection.
- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.
- Pursuant to 14 CCR 916.9(f)(2)(B)4, the thirteen (13) largest dbh conifers (live or dead) on each acre of the area that encompasses the Core and Inner Zones shall be retained. The retained confers shall be selected from within the THP area that lies within 100 feet of the watercourse transition line.
- Pursuant to 14 CCR 916.9(f)(2)(B)5, large trees that are most conducive to recruitment to provide for beneficial functions of riparian zones shall be given priority for retention.

Class I watercourse confined channel with uneven aged silviculture adjacent:
The enforceable standard for shade canopy retention is:

- Core Zone, within 30 feet of the watercourse transition line, no timber operations except for those listed in {14 CCR 916.9(e)(1)(A)-(F)}. No timber operations are proposed within any channel zone of a Class I watercourse.
- Inner Zone, 70 feet wide from the core zone, maintain a minimum 80% overstory canopy. Harvest trees are marked with blue paint.
- The WLPZ is flagged at a minimum width of 100 feet with blue/white striped “Lake and Watercourse Protection Zone” flagging in addition to solid red flagging for greater visibility.
- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.
- Pursuant to 14 CCR 916.9(f)(2)(B)4, the thirteen (13) largest dbh conifers (live or dead) on each acre of the area that encompasses the Core and Inner Zones shall be retained. The retained confers shall be selected from within the THP area that lies within 100 feet of the watercourse transition line.

<u>Class II Watercourses:</u>

- Multiple named and unnamed Class II watercourses exist within or adjacent to the proposed Plan area. Current shade canopy levels along Class II watercourses range from near 60% to >90%.

<u>Class II-L Watercourse Protections</u>

- Class II-L Watercourses in the coastal anadromy zone: Silvicultural systems for harvesting are limited to the use of commercial thinning or single tree selection modified to meet the following requirements:
- When commercial thinning is used, the QMD of conifer trees greater than 8 inches dbh in the preharvest project area shall be increased in the postharvest stand.
- Sanitation-Salvage is prohibited except as provided in 14 CCR § 916.9 [936.9, 956.9], subsections (s), (t) and (u).

- Postharvest stand shall have a minimum 80% overstory canopy cover in the Coast and Southern Forest Districts of the coastal anadromy zone and a minimum 70% overstory canopy cover in the Northern Forest District of the coastal anadromy zone. The postharvest canopy may be composed of both conifers and hardwood species and shall have at least 25% overstory conifer canopy.
- Postharvest stand shall retain the 13 largest conifer trees (live or dead) on each acre of the area that encompasses the Core and Inner Zones.
- Large trees retained to meet 14 CCR § 916.9 [936.9, 956.9], subsections (g)(2)(B)(2.)(i) and (iii) above that are the most conducive to recruitment to provide for the beneficial functions of Riparian zones (e.g., trees that lean towards the channel, have an unimpeded fall path toward the Watercourse, are in an advanced state of decay, are located on unstable areas or downslope of such unstable areas, or have undermined roots) are to be given priority to be retained as future recruitment trees.
- .

Class II-S Watercourse Protection

- The enforceable standard for shade canopy retention for Class II-S watercourses is:
- Core Zone is from 0 to 15 feet from the watercourse transition line, no timber operations except for those listed in {14 CCR 916.9(e)(l)(A)-(F)}. No timber operations are proposed within any channel zone of a Class II except for work at map points, watercourse crossings and full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(l)(A)-(F)}.
- Inner Zone is variable width, slope dependent, ranging from 35 to 85 feet from the core zone, a minimum 50% multi-story canopy shall be retained within this zone.
- The WLPZ is flagged at a slope dependent width of 50, 75 or 100 feet with blue/white striped "Lake and Watercourse Protection Zone" flagging.
- The overstory canopy must be composed of at least 25% overstory conifer canopy post-harvest. If the above noted canopy levels are lacking in any given area timber is not marked for removal in that area, however it may be marked elsewhere in the zone.
- WLPZ identification, flagging, and timber marking shall be completed prior to the PHI.

Class III Watercourses:

- There are multiple unnamed Class III watercourses within or adjacent to the proposed Plan area. The centerlines of Class III watercourses are flagged with solid blue flagging. The Boundaries of the ELZ will not be flagged. Class III watercourses are generally described as tributaries to Class I or Class II watercourses. These Class III watercourses are shown on the Operators Maps. The Class III watercourses within the project range in characteristics from well defined channels which only flow in response to precipitation events, to poorly defined channels which have storm flows which are so low that resulting channels are difficult to observe or follow.
- The following are the minimum requirements for timber operations in Class III watercourses per 14ccr 916.9(h):

(1) Establish a 30 foot wide ELZ on both sides of the watercourse for slopes less than 30% and an additional 20 foot ELZ where sideslopes are >30%. The ELZ is measured from the WTL. Within the ELZ:
  (A) no new construction of tractor roads permitted;
  (B) no ground based equipment on slopes >50%; and

(C) ground-based operations are limited to existing stable tractor roads that show no visible evidence of sediment deposition being transported into the adjacent watercourse or to the use of feller-bunchers or shovel yarding.

(2) Retain all pre-existing large wood on the ground within the ELZ that is stabilizing sediment and is necessary to prevent potential discharge into the watercourse.

(3) Retain all pre-existing down wood and debris in the channel zone.
(4) Retain hardwoods, where feasible, within the ELZ.
(5) Retain all snags (except as required for safety) within the ELZ.
(6) Retain all countable trees needed to achieve resource conservation standards in 14 CCR 912.7 within the ELZ.
(7) Retain all trees in the channel zone which show visible indicators of providing bank or bed stability, excluding sprouting conifers that do not have boles overlapping the channel zone. Visible indicators of stability include roots that permeate the bank or provide channel grade control.
(8) Exceptions pursuant to 14 CCR§ 916.9 [936.9, 956.9], subsections (e)(l)(A)-(F) are permitted in any ELZ and channel zone. No timber operations are proposed within any channel zone of a Class III except for work at map points, watercourse crossings, harvesting of spouting conifers with boles that do no overlap the channel zone, channel trees full suspension cable yarding when necessary to transport logs through the channel zone as allowed pursuant to {14 CCR 916.9(e)(l)(A)-(F)}.

- Soil deposited into Class III watercourses shall be removed prior to the completion of operations or October 15th, whichever comes first, except as noted in the winter operating plan.
- Per 916.4(c)(3) - Slash deposited into Class III watercourses shall be removed or stabilized prior to the completion of operations or October I 5th, whichever comes first, except as noted in the winter operating plan. If slash is stabilized it shall be stabilized (such that the debris does not create the potential for diversion of the watercourse or the potential build up of excess sediment in amounts greater than found in the watercourse where there is no logging associated debris).

<u>Non-linear Aquatic Features:</u>

Wet Areas:
For specific locations of wet areas please refer to the Operators Maps located at the end of Section II. If a stable logging road or tractor road surface cannot be maintained at any of these locations during hauling or skidding operations overflow can be drained with a small temporary pipe or simply ditched to prevent rutting of the logging road or tractor road surface. When these logging road or tractor road segments are winterized the existing drainage patterns shall be maintained or re-established.

Wet areas outside of Class I or II WLPZs and Class III channel zones shall be given an ELZ flagged identified with SOLID RED flagging. Within this ELZ 50% total canopy shall be retained. The 50% total canopy shall be comprised of at least 25% of the pre-existing overstory conifers. The marking of trees shall conform to the local surrounding method (i.e. blue for harvest, orange for retention). Class II Wet Areas will be protected utilizing Class II WLPZ Protections, no Class II wet areas were identified in this project area.

Tractor operations in the ELZs for wet areas/ are limited to the existing flagged tractor roads.

Seeps:
A seep is a feature created by anthropogenic structures (e.g. truck road, tractor road, landing) which intercepts subsurface flow and may create wet ditches, possibly including pools, that may support hydrophytic vegetation. No protection is afforded to seeps. Typically, they may be drained to ensure continued functionality and use of infrastructure of the ownership. Instances where a feature associated with the inside ditch of a road is substantial in size or habitat value, and its presence does not threaten the continued use and existence of the road, the feature may be called a wet area and afforded the appropriate protection.

c1. [**X**]Yes [☐]No	Is there any <u>tractor</u> road watercourse crossings that require mapping? [ref. 14 CCR § 1034(x)(7)]
c2. [**X**]Yes [☐]No	Will <u>tractor</u> road watercourse crossings involve the use of a culvert? **If "Yes" state the minimum diameter and length for each culvert. [ref. 14 CCR § 914.8 [934.8, 954.8](e)]** **Refer to Sec II, Item 38. Map Point Table for minimum pipe diameters.** **Culverts used for tractor road crossings shall have inlet/outlet that extend a minimum of 1 foot past the fill utilized in the crossing.**

Map Reference Points (MRP)	Culvert Diameter	Culvert Length

d. [☐]Yes [**X**]No	Is there a Master Agreement for Timber Operations (MATO) for Streambed Alteration Agreement (SAA) approved by the Department of Fish and Wildlife for any portion of this Plan? MATO or SSA Number: _____ **If "Yes" provide a list of the crossings, water drafting sites, or other water features to be used during operations and provide the conditions to be utilized and or consider including the conditions of the MATO or SAA as operational instructions to the LTO in SECTION II.**

MATO or SAA Instructions to LTO	
Specific water feature under MATO or SAA (crossings, drafting sites, etc.)	Conditions of MATO or SAA to be utilized at each specific feature

e. [**X**]Yes [☐]No	Is this THP Review Process to be used to meet Department of Fish and Wildlife CEQA review requirements? **If "Yes" attach the required 1611 Addendum at the end of SECTION II and include any supporting information and analysis in SECTION III.** **NOTE: List instructions to the LTO in SECTION II for installation and protection measures per THP from instructions or CDF Mass Mailing (07/02/1999) "Fish and Game Code 1611 Agreements and THP Documentation."**

LTO Instructions:
This THP is being used as the 1611 review mechanism for 22 map points. Please refer to the Map Point Table in Sec II, Item 24 for specific activities at these sites. Upon issuance of the agreement it shall be incorporated into the THP as the enforceable standard. Where standards in the 1611 conflict with other standards in the THP the standards in the 1611 are the enforceable standard

Map Point	Feature	Tributary to
3	Watercourse Crossing	Wheatfield Fork of the Gualala River
4	Watercourse Crossing	Wheatfield Fork of the Gualala River
6	Watercourse Crossing	Wheatfield Fork of the Gualala River
7	Watercourse Crossing	Wheatfield Fork of the Gualala River
8	Watercourse Crossing	Wheatfield Fork of the Gualala River
11	Watercourse Crossing	Wheatfield Fork of the Gualala River
12	Watercourse Crossing	Wheatfield Fork of the Gualala River
13	Watercourse Crossing	Wheatfield Fork of the Gualala River
14	Watercourse Crossing	Wheatfield Fork of the Gualala River
15	Watercourse Crossing	Wheatfield Fork of the Gualala River
16	Watercourse Crossing	Wheatfield Fork of the Gualala River
18	Watercourse Crossing	Wheatfield Fork of the Gualala River
19	Watercourse Crossing	Wheatfield Fork of the Gualala River
41	Watercourse Crossing	Wheatfield Fork of the Gualala River
42	Watercourse Crossing	Wheatfield Fork of the Gualala River
49	Tractor Crossing	Wheatfield Fork of the Gualala River
50	Tractor Crossing	Wheatfield Fork of the Gualala River
53	Watercourse Crossing	Wheatfield Fork of the Gualala River
57	Complex	Wheatfield Fork of the Gualala River
60	Watercourse Crossing	Wheatfield Fork of the Gualala River

63	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**
2601-(*Valley Crossing)*	**Drafting Site(1600-2019-0161-R3 Expires: 12/31/2023)**	**South Fork of the Gualala River**

f. [☐]Yes [**X**]No	Are any exceptions provided under Fish & Game code 1600 et seq., and made an enforceable part of the Plan? **If "Yes" identify the exceptions and provide the enforceable standards as instructions to the LTO in SECTION II. [ref. 14 CCR § 923 [943, 963](d)]**
g. [☐]Yes [**X**]No	Will new drainage structures and facilities on watercourses that support fish or listed aquatic species be constructed? **If "Yes" structures and facilities shall be fully described and allow unrestricted passage of all life stages of fish or listed aquatic species, and natural movement of bedload. Provide operational instructions to the LTO in SECTION II. [ref. 14 CCR §§ 914.8 [934.8, 954.8](c) & 923.9 [943.9, 963.9](c)]**

Watercourse Crossings	
The location of all new permanent constructed and reconstructed, and temporary logging road watercourse crossings, including those crossings to be abandoned or deactivated, shall be shown on a map. If the structure is a culvert intended for permanent use, the minimum diameter of the culvert and the method(s) used to determine the culvert diameter shall be specified in the Plan. [ref. 14 CCR § 923.9 [943.9, 963.9](e)]	
h1. [**X**]Yes [☐]No	Are there any <u>new permanent</u> constructed logging road watercourse crossings requiring mapping? Note to LTO and Review: Refer to Sec II, Item 38 Map Point Table and Map Point Map for description and location of crossings.
h2. [**X**]Yes [☐]No	Are there any <u>new reconstructed</u> logging road watercourse crossings requiring mapping? Note to LTO and Review: Refer to Sec II, Item 38 Map Point Table and Map Point Map for description and location of crossings.
If "Yes" to either of the above crossing questions provide the <u>method used for sizing crossing</u>: **Magnitude and Frequency** **NOTE: Permanent watercourse crossings that are constructed or reconstructed <u>shall</u> accommodate the estimated 100-year flood flow, including debris and sediment loads. [ref. 14 CCR § 923.9(f)]**	
h3. [**X**]Yes [☐]No	Are there any watercourse crossings to be <u>abandoned</u> or <u>deactivated</u>? Note to LTO and Review: Refer to Sec II, Item 38 Map Point Table and Map Point Map for description and location of crossings.
i. [☐]Yes [**X**]No	Is there any exception to flagging or otherwise identifying the location of any constructed or reconstructed road watercourse crossing prior to the pre-harvest inspection? **If "Yes" provide the explanation and justification in SECTION III. [ref. 14 CCR § 923.9 [943.9, 963.9](e)(1)]**

j. [☐]Yes [**X**]No	Will other methods for diversion of overflow at culvert crossings be utilized (other than critical dips) in the construction or reconstruction of logging road watercourse crossings which culverts? **If "Yes" provide instructions to the LTO in SECTION II identifying the methods to be used for the diversion of overflow at watercourse crossings. [ref. 14 CCR § 923.9 [943.9, 963.9](j)]**
Watercourse crossings and associated fills and approaches shall be constructed and maintained to prevent diversion of stream overflow down the road, and to minimize fill erosion should the drainage structure become obstructed. [ref. 14 CCR § 923.9[943.9, 963.9](k)]	
k1. [**X**]Yes [☐]No	Are there any existing watercourse crossings that are located on logging roads within the logging area?
k2. [**X**]Yes [☐]No	Are there any watercourse crossing proposed for construction located on logging roads within the logging area? **If "Yes" identify the crossing and provide the methods to mitigate or address the diversion of stream overflow at the crossing. [ref. 14 CCR § 923.9 [943.9, 963.9](k)]** Note to LTO and Review: Refer to Sec II, Item 38 Map Point Table and Map Point Map for description and location of crossings.
l. [**X**]Yes [☐]No	Will rock be used to stabilize crossing outlets? **If "Yes" rock used to stabilize outlets of crossings shall be adequately sized to resist mobilization of soil and significant sediment discharge. The range of rock size shall be described within the Plan as instruction to the LTO in SECTION II, describe the range of the rock dimensions to be used. [ref. 14 CCR § 923.9 [943.9, 963.9](l)]**
m. [☐]Yes [**X**]No	Watercourse crossing proposed to be reconstructed or removed, are there any significant volumes of sediment accumulated upstream of the watercourse crossing? **If "Yes" provide instructions to the LTO, in SECTION II, describing how the material will be stabilized, removed (to the extent feasible), and in conformance with CDFW agreements, where applicable. [ref. 14 CCR § 923.9 [943.9, 963.9](n)]**
n1. [☐]Yes [**X**]No	Do logging road watercourse crossing drainage structures and other erosion control features have a high historical fail rate within the project area?
n2. [☐]Yes [**X**]No	Do or will existing watercourse crossings utilizing a culvert have large amounts of fill material covering the culvert making up the crossing? **If "Yes" drainage structures and erosion control features shall be oversized, designed for low maintenance, reinforced, or removed before the completion of timber operations or as specified in the approved plan. [ref. 14 CCR § 923.9 [943.9,963.9](o)]** **NOTE: Provide instruction to the LTO in SECTION II identifying these crossings and how they will be treated.**
Guidance on reducing the potential for failure at high-risk watercourse crossings may be found in "Board of Forestry Technical Rule Addendum Number 5: Guidance on Hydrologic Disconnection, Road Drainage, Minimization of Diversion Potential, and High-Risk Crossings" (1st Edition, revised 4/21/15).	
o. [**X**]Yes [☐]No	Will any logging road watercourse crossing be removed? **If "Yes" provide instructions to the LTO, in SECTION II, describing the removal plan pursuant to the standards per 14 CCR § 923.9 [943.9, 963.9](p)(1)-(4).**

	Note to LTO: Refer to Section II, Item 38 Map Point Table and Typicals

Plans Located Within an ASP Watershed	
p1. [**X**]Yes [☐]No	Will timber operations occur within a class I WLPZ?
p2. [☐]Yes [**X**]No	Will timber operations occur within a WLPZ adjacent to a restorable Class I watercourse? **If "Yes" address per 14 CCR § 916.9 [936.9, 956.9](f)(2)(A)-(E).**
There shall be no timber operations within a channel zone with the exception of those conditions listed within 14 CCR § 916.9 [936.9, 956.9](e)(1)(A)-(E).	
q1. [☐]Yes [**X**]No	Will there be any timber operations within the channel zone of any watercourse? **If "Yes" identify the location and type of timber operations to be conducted and provide instructions to the LTO in SECTION II.**
There shall be no logging road(s) or landing(s) planned for construction or reconstruction in the CMZ or Core Zone of a Class I watercourse or within 150 feet of a watercourse transition line, with the exception of those conditions listed within 14 CCR § 916.9 [936.9, 956.9](e)(1)(A)-(E) & 916.9 [936.9, 956.9](v). [ref. 14 CCR § 923.1 [943.1, 963.1](h)]	
q2. [☐]Yes [**X**]No	Will there be any logging road(s) or landing(s) constructed in the CMZ or Core Zone of a Class I? **If "Yes" identify the location and provide instructions to the LTO in SECTION II.**
For ASP Watersheds, a description of all existing permanent Class I watercourse crossings shall be provided, where fish are always or seasonally present or fish passage is restorable. [ref. 14 CCR § 923.9 [943.9, 963.9](d)]	
r1. [☐]Yes [**X**]No	Are there existing permanent Class I crossings where fish are always present?
r2. [☐]Yes [**X**]No	Are there existing permanent Class I crossings where fish are seasonally present?
r3. [☐]Yes [**X**]No	Are there existing permanent Class I crossings where fish passage is restorable?
If "Yes" to any of the above crossing questions, provide a description of the existing permanent Class I watercourse crossings. Include where the current crossing conditions may be adversely affecting fish passage and identify the proposed measures, if feasible, to address the conditions.	
s. [**X**]Yes [☐]No	Will water drafting occur in association with the timber operations? **If "Yes" timber operations shall comply with Fish and Game Code Section 1600, et seq.**
t. [☐]Yes [**X**]No	Is there a Fish and Game Code Section 1600 Master Agreement for Timber Operations which addresses water drafting? **If "Yes" provide the operational restrictions from the Master Agreement in SECTION II as instructions to the LTO.** **If "No" describe the water drafting site conditions and proposed water drafting activity in the Plan, per 14 CCR § 923.7 [943.7, 963.7](I)(2)(A)-(G).**

SECTION II PLAN OF OPERATIONS - ITEM #27

ITEM #27 - WLPZ IN-LIEU OR ALTERNATIVE PRESCRIPTION

In Lieu Practices may be proposed by the RPF in lieu of a standard rule for site specific practices, to be approved by the Director per 14 CCR § 916.1 [936.1, 956.1]. An Alternative prescription for the protection of watercourses and lakes may be developed by the RPF or proposed by the Director per 14 CCR § 916.6 [936.6, 956.6] on a site-specific basis, provided the alternative prescription will achieve compliance with the standards set forth in 14 CCR §§ 916.3 [936.3, 956.3] & 916.4 [936.4, 956.4](b).	
If "Yes" for any of the questions below, include operational information to the LTO for each item selected "Yes" in SECTION II. Provide the explanation and justification in SECTION III.	
a. [**X**]Yes [☐]No	Are there any site-specific practices proposed in lieu of, or as an alternative, to the prohibition of the construction or use of tractor roads listed below? Per 14 CCR § 916.3 [936.3, 956.3](c), Timber operators shall not construct or use tractor roads in a Class I, II, III, IV watercourses, wet meadows, and other wet areas unless explained and justified in the Plan by the RPF. Except at: • Prepared tractor crossing described in 14 CCR § 914.8 [934.8, 954.8](b) • Class III watercourse crossings dry at the time of use • At new and existing tractor road crossings approved as part of a Fish and Game Code Process (F&GC 1600 et seq.) **Note to LTO and Reviewer: The use of existing skid trails within the WLPZ is proposed. The location of the proposed operations may be found in Sec II, Item 38, Operations Map. All equipment is restricted to skid trails flagged with solid yellow 'SKID TRAIL' flagging within the WLPZ. After operations skid trails will be waterbarred to the Extreme EHR Standard and disturbed soils shall be slash packed or mulched to the standards in Sec II, Item 18.**
b. [☐]Yes [**X**]No	Are there any site-specific practices proposed in lieu of, or as an alternative, to the retention of non-commercial vegetation bordering and covering meadows and wet areas? [ref. 14 CCR § 916.3 [936.3, 956.3](d)]
c. [☐]Yes [**X**]No	Are there any site-specific practices proposed in lieu of, or as an alternative, to the Directional felling of trees within any WLPZ away from the watercourse or lake? [ref. 14 CCR § 916.3 [936.3, 956.3](e)]
d. [☐]Yes [**X**]No	Are there any site-specific practices proposed in lieu of, or as an alternative, to the standard WLPZ width identified in 14 CCR § 916.5 [936.5, 956.5], Table I?
e. [☐]Yes [**X**]No	Are there any site-specific practices proposed in lieu of, or as an alternative, to the protection of a Class IV watercourse? [ref. 14 CCR §§ 916.4 [936.4,956.4](c) & 916.5[936.5, 956.5], Table I]
f. [**X**]Yes [☐]No	Are there any site-specific practices proposed in lieu of, or as an alternative, to the exclusion of heavy equipment from the WLPZ except at those locations listed below? Per 14 CCR § 916.4 [936.4, 956.4](d)&(f), Heavy equipment shall not be used in timber falling, yarding, or site preparation within the WLPZ unless such use is explained and justified in the THP and approved by the Director. Except at: • Prepared tractor crossing described in 14 CCR § 914.8 [934.8, 954.8](b)

	• Class III watercourse crossings dry at the time of use • Existing road crossings • New tractor and road crossings approved as part of a Fish and Game Code Process (F&GC 1600 et seq.) **Note to LTO and Reviewer: The use of existing skid trails within the WLPZ is proposed. The location of the proposed operations may be found in Sec II, Item 38, Operations Map. All equipment is restricted to skid trails flagged with solid yellow 'SKID TRAIL' flagging within the WLPZ. After operations skid trails will be waterbarred to the Extreme EHR Standard and disturbed soils shall be slash packed or mulched to the standards in Sec II, Item 18.**
g. [☐]Yes [**X**]No	Are there any site-specific practices proposed in lieu of, or as an alternative, to the establishment of ELZ(s) for Class III watercourses unless side slopes are, 30% and EHR is low? [ref. 14 CCR § 916.4 [936.4, 956.4](c)(1)]
h. [☐]Yes[**X**]No	Are there any site-specific practices proposed in lieu of, or as an alternative, to the Retention of at least 50% of the overstory canopy in the WLPZ? [ref. 14 CCR § 916.5 [936.5, 956.5](e)"G"]
i. [☐]Yes [**X**]No	Are there any site-specific practices proposed in lieu of, or as an alternative, to the Retention of at least 50% of the understory in the WLPZ? [ref. 14 CCR § 916.5 [936.5, 956.5](e)"G"]
j. [**X**]Yes [☐]No	Are there any additional in lieu or alternative prescriptions proposed for watercourse or lake protection? Item 27(j)-Additional in-lieu and/or alternative watercourse and lake protection practices. LTO - The ln-Lieu practice proposed is to allow you to harvest, due to safety considerations (including cable clearance), unmarked trees within a WLPZ. Harvesting of any unmarked tree within the WLPZ for this reason must comply with any other applicable Forest Practice Rules and THP requirements (e.g. retention of 13 largest trees, maintenance of necessary canopy, surface cover, etc.). Guidance for you to comply with this practice is included in Item 14(d). Reviewer - See Section lll, Item 27(j) for complete in-lieu discussion

ITEM #28 - DOMESTIC WATER NOTIFICATIONS

[ref. 14 CCR § 1032.10]

The THP submitter shall provide notice by letter to all other landowners within 1,000 feet downstream of the THP boundary whose ownership adjoins or includes a Class I, II, or IV watercourse(s) which receives surface drainage from the proposed timber operations.

The notice shall request that the THP submitter be advised of surface domestic water use from the watercourse, within the THP or within 1,000 feet downstream of the THP boundary.

When required to notice by letter, publication shall also be given one time by the THP submitter in a newspaper of general circulation in the area affected by the proposed project.

Such letter and publication shall notify the adjoining party:

- of the proposed timber operation
- describe its legal location
- identify the name, if any, of the watercourse it may affect
- request a response by the property owner within ten days of the post-marked date on the letter or the date of publication as appropriate

The RPF may propose, with justification and explanation, an exemption to such notification requirements, and the Director may agree.

Copies of either notice, proof of service and publication, and any responses shall be attached to the THP when submitted.

If domestic use is noted, the Plan shall contain mitigations necessary to protect domestic water use.

NOTE: The Plan shall not be submitted until ten days after the above notification(s) have been completed.

a. [**X**]Yes [☐]No	Are there any landowners within 1,000 feet downstream of the THP boundary whose ownership adjoins or includes a class I, II or IV watercourse(s) which receive surface drainage from the proposed timber operations? **If "Yes" include copies of either notice, proof of service and publication, and any responses in THP SECTION V. [ref. 14 CCR § 1032.10]**
b.[☐]Yes [**X**]No [☐]N/A	Is an exemption to the notification requirements requested? (check notification requesting to be exempted) ☐ Letter ☐ Newspaper ☐ Both **If "Yes" provide the explanation and justification for the exemption request in THP SECTION III.**
c. [☐]Yes [**X**]No [☐]N/A	Was any information received in response to domestic water notifications? **If "Yes" copies of any responses received shall be attached to the THP when submitted. [ref. 14 CCR § 1032.10]**
d. [☐]Yes [**X**]No [☐]N/A	Were there any additional mitigation measures needed beyond that required by standard watercourse and lake protection rules? **If "Yes" provide the site-specific instruction to the LTO in THP SECTION II.**

ITEM #29 - SENSITIVE WATERSHEDS

[ref. 14 CCR § 916.8 [936.8, 956.8]]	
a. [☐]Yes [**X**]No	Is any part of the THP area within a Sensitive Watershed as designated by the Board of Forestry and Fire Protection? **If "Yes" identify the watershed and list the special rules, operating procedures, or mitigation that will be used to protect the resources identified at risk.**

Watershed	Special Rule	Mitigation Measures Protecting Resources Identified at Risk

SECTION II PLAN OF OPERATIONS - ITEM #30 & #31

ITEM #30 – HAZARD REDUCTION

[ref. 14 CCR §§ 917 [937, 957] & 917.2 [937.2, 957.2]]	
a. [☐]Yes [**X**]No	Will slash treatment occur within 100 feet of the edge of the traveled surface of a public road? **Situation does not occur.**
b. [☐]Yes [**X**]No	Will slash treatment occur within 50 feet of the edge of the traveled surface of permanent private roads open for public use where permission to pass is not required? **Situation does not occur.**
c. [☐]Yes [☐]No [**X**] N/A	[SOUTHERN DISTRICT only] Will slash treatment occur within 50 feet of the edge of the traveled surface of permanent and seasonal private roads open for public use where permission to pass is not required?
If "Yes" to 30a, 30b, or 30c above; how will slash created, or trees knocked down by road construction or timber operations shall be treated by? (select all that apply): ☐ Lopping for Fire Hazard Reduction ☐ Chipping ☐ Burying ☐ Piling and Burning ☐ Removal ☐ Other (explain):	
d. [☐]Yes [**X**]No	Are there any Approved and Legally Permitted Habitable Structures within the project area or within 200 feet of the project area requiring slash treatment? **If "Yes" identify distance slash treatment will occur:** ☐ Within 100 feet of permanent structure ☐ Between 100-200 feet of permanent structure **If "Yes" and indicate the method of treatment proposed (select all that apply):** ☐ Lopped for Fire Hazard Reduction ☐ Piled and Burned ☐ Removed ☐ Chipped ☐ Other (explain):
e. [☐]Yes [**X**]No	Has the RPF or Director determined there is an unusual fire risk or other hazard exists within the proposed project area? **If "Yes" then lopping may be required within 200-500 feet of permanent structures per 14 CCR § 917.2 [937.2, 957.2](c).**
f. [☐]Yes [**X**]No	Is the RPF proposing alternatives to treating slash along roads and within 200 feet of structures? **If "Yes" explain and justify how equal fire protection will be provided. The explanation and justification shall include all the information required per 14 CCR § 917.2 [937.2, 957.2](d).** **NOTE: For a description of where the alternative is proposed, mapping is suggested.**

ITEM #31 - PILING AND BURNING

[ref. 14 CCR § 917.2 [937.2, 957.2](a)(1)-(3)]

SECTION II PLAN OF OPERATIONS - ITEM #30 & #31

a. [☐]Yes [**X**]No	Is the RPF proposing any alternatives to the timing requirements for slash to be treated by piling and burning? **If "Yes" provide an explanation and justification in the Plan to be approved by the Director.**

ITEM # 32 - BIOLOGICAL RESOURCES

Listed Species Including Habitat	
Timber operations shall be planned and conducted to maintain suitable habitat for wildlife species as specified by the provisions of Article 9 of the Forest Practice Rules. [ref. 14 CCR § 919 [939, 959]]	
a. [**X**]Yes [☐]No	Are there any listed species, including their habitat(s), which are rare, threatened, or endangered under federal or state law, or a sensitive species by the Board of Forestry associated with the THP area? [ref. 14 CCR § 1034(w)] **If "Yes" identify the species and the provisions for the protection of the species.**

Northern Spotted Owl (NSO) Protection Measures

1. The THP area is within the range of the Northern Spotted Owl and contains habitat suitable for Northern Spotted Owls. There are three known NSO activity center(s) within 0.7 miles of the plan boundary as shown on the THP Maps and discussed in the NSO addendum located in THP Section 5. This species is Federally and State listed as "Threatened". See NSO addendum for additional information.
2. In order to meet the requirements of 14 CCR 919.9 the plan will comply with 14 CCR 919.9(d) using Scenario 4 of the Northern Spotted Owl Take Avoidance Scenarios 11/1/2019.

The plan complies with Scenario 4 in the following ways:

- The THP area contains suitable habitat for NSOs.
- There are known NSO activity centers within 0.7 miles of the plan boundary.
- NSO surveys will be conducted and will be in conformance with the most current USFWS survey protocol and the Northern Spotted Owl Take Avoidance Analysis and Guidance for California Coast Forest District Attachment A, dated March 15, 2011.
- The proposed project is in compliance with the USFWS Attachment A Take Avoidance Analysis - Coast 3/15/2011.
- This proposed project is in compliance with the USFWS Attachment A Take Avoidance Analysis - Coast Redwood Region 11/1/2019 for NSO habitat protection measures and operational procedures.

For the year(s) of operation on the THP area, timber operations shall not commence until protocol surveys have been completed for the current, and/or immediately preceding, survey period; the results have been provided to CAL FIRE; and the results have been incorporated into the THP. Surveys shall be submitted prior to each year of operations. Once a consistency determination has been made, survey results shall be valid until 2/1 of the following year.

VI. Post-Harvest Habitat Retention and Typing

Within the 0.7 mile radius (985 acres) of each Activity Center please use the following:

1) Retain habitat to maximize attributes desirable for NSO.
2) Retain at least 500 acres of suitable (Nesting/Roosting/Foraging) NSO habitat, post-harvest, as follows:
a) Retain 200 acres of Nesting/Roosting Habitat within a 0.7 mile radius of the Activity Center consisting of:
i) 100 acres of the 200 acres of Nesting/Roosting habitat retained should be contiguous, or contiguous as possible with the Activity Center. ·
ii) An additional 100 acres of Nesting/Roosting with in the 0.7 mile radius:
(1) For the second 100 acres. maintain Nesting/Roosting habitat with a minimum of 66% of the pre-harvest basal area per acre of trees at least 11" DBH.

b) Retain at least 300 acres of Suitable NSO habitat, post-harvest, of at least Foraging quality. Remove no more than 1/3 of the remaining suitable habitat in excess of 500 acres within 0.7 mile of an Activity Center during the life of the timber operations.

EXCEPTIONS TO ATTACHMENT A: None.

VII. Road Use

To avoid take of NSO from noise disturbance during the breeding season, road use within 0.25 mile (1,320 feet; or see Service 2006 for other potential buffer distances based on site-specific ambient and project-generated noise) of an occupied NSO activity center should not occur until July 10, unless:

1) Protocol surveys determine that NSO are non-nesting, or that nesting has failed (note that activity centers occupied in year 1 and/or year 2 cannot be determined to be non-nesting or failed until on or after May 1 in years 3 through 6), or;

2) The activity center is within 165 feet of a major highway that typically has high traffic year-round (Hwy 1, 36, 101, 128, 299, etc.) and the appurtenant road is not within 165 feet of the activity center.

3) After July 9th and until the end of the breeding season, road use within any core use area should be limited to use of existing roads, maintenance, and map point work.
4) At the discretion of the NSO review agencies, deviations to the above road use guidelines may be made depending on proposed noise minimizations (e.g., speed limits and compression brake restrictions), duration, distance of the noise source from the activity center, site topography (i.e., significant topography exists between the noise source and the activity center), and existing pre-project use.

EXCEPTIONS TO ATTACHMENT A: Exception for appurtenant road use on the following existing permanent roads: None

VIII. Timber Harvest Operations

A 0.25-mile seasonal restriction on timber operations (except for road use after July 9th) applies to every known NSO activity center during the breeding season, unless it is determined via a site monitoring visit, "activity center search" (Revised 2011 NSO Survey Protocol), that NSO are not nesting, or nesting failure has occurred. If it cannot be determined whether NSO are nesting, or nesting failure cannot be determined, the 0.25 mile seasonal restriction should stay in effect for timber operations until after July 31st. In lieu of the standard distance of 0.25 mile, project proponents may opt to use distances as described under the most recent version of AFWO's document entitled "Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California" (Service 2006; https://www.fws.gov/arcata/es/birds/NSO/documents/MAMUNSO%20Harassment%20Guidance%20NW%20CA%202006Jul31.pdf).

For all known Activity Centers, timber operations should adhere to the following recommendations:

1) Within any (either 100- or 40-acre) core use area polygon of an NSO activity center:

a) Outside the breeding season, limited timber operations (i.e., only road use and maintenance, map point work, tail-hold placements, use of existing skid roads, and loading) may be conducted, provided no trees >11" DBH are cut or removed by the operations, and no new cable corridors, skid trails, or roads are constructed in the core use area.

b) During the NSO breeding season, timber operations (including use of roads before July 9), should not occur within any core use area, except as allowed in subsections 4 and 5, below.

EXCEPTIONS TO ATTACHMENT A: None.

2) Timber operations outside any core use area, but within 0.25 mile of an NSO activity center:

a) Outside the breeding season, timber operations may be conducted.
b) During the breeding season, timber operations should not proceed unless protocol surveys determine that nesting NSOs are not present or that nesting has failed.

EXCEPTIONS TO ATTACHMENT A:
Exception to 2) a) above None.
Exception to 2) b) above. Exception for appurtenant road use outside the core area, but within 0.25 mile of an NSO activity center on the following existing permanent roads: None

3) For all NSO activity centers, prior to May 15th (until the recommended May 15 or later survey is completed):
a) Timber operations (except helicopter yarding or staging) should be conducted only >0.25 mile from the activity center.
b) Helicopter yarding and staging should occur only >0.5 mile from the activity center.

EXCEPTIONS TO ATTACHMENT A:
Exception to 3) a) above. Exception for appurtenant road use within 0.25 mile of an NSO activity center on the following existing permanent roads: None.

Exception to 3) b) above None.

4) For NSO activity centers where current nesting status has been determined (to protocol) to be non-nesting or failed nesting, or when fledglings are greater than 0.25 miles from the nest tree:

a) Limited timber operations (road use and maintenance, map point work, use of existing skid roads, tail-hold placements and loading) may be conducted within any core use area of the activity center provided no trees >11" DBH are cut or removed by the operations, and no new cable roads or corridors or skid roads or trails are created in the core use area.

b) Full timber operations, including helicopter yarding and staging, may be conducted within 0.25 mile but not within any core use area. Helicopter flyovers should not occur within 1,000 feet of the activity center.

EXCEPTIONS TO ATTACHMENT A:
Exception to 4) a) None
Exception to 4) b) None.

5) For NSO activity centers, where status has been determined to be nesting, nesting unknown, or nesting is presumed according to the Revised 2011 NSO Survey Protocol:

a) For activity centers where fledging status has not been determined, timber operations should be conducted only in approved THP areas that are >0.25 mile from the activity center until the end of the breeding season.
b) Helicopter yarding and staging should occur only on approved THP areas >0.5 mile from the activity center.

EXCEPTIONS TO ATTACHMENT A:
Exception to 5) a) above. Exception for appurtenant road use within 0.25 mile of an NSO activity center on the following existing permanent roads: None

Exception to 5) b) above None.

6) For any NSO activity center, regardless of current nesting status:
a) If NSO move to a new location (>1,000 feet from the historical activity center), the appropriate protection measures should be provided to each activity center, or consultation with NSO review agencies should occur to evaluate the status of what may be multiple activity centers

EXCEPTIONS TO ATTACHMENT
A: Exception to 6) a) above None. Both old and new AC's will be protected until a TA is completed and amended into the plan.

Listed and Sensitive Animal Species Table					
Animal Species	**Species type**	**FEDERAL**	**STATE**	**BOF** Sensitive	**Protection measures**

Listed and Sensitive Animal Species Table					
	Mammal / bird / reptile / amphibia / fish / Invertebrate	Threatened / endangered /	Threatened / endangered / candidate		
Humboldt Marten (*Mares caurina humbodltensis)*	**Mammal**	**Threatened**	**Endangered**		**If a marten is sighted in a harvest unit during timber operations, all timber operations shall be suspended within that unit and company biologists shall be notified. If a den or habitation of a marten is discovered, all operations (per PRC Section 4527) shall additionally be suspended within a 375-foot radius buffer around the den or habitation. The Department of Fish and Wildlife and Department of Forestry and Fire Protection shall then be immediately notified. After consultation, a minor amendment to the THP reflecting the protections agreed upon by the Plan submitter and the Department of Fish and Wildlife shall be filed with the Director of the Department of Forestry and Fire Protection.**
Townsend's Big-eared Bat (Corynorhinus townsendii)	**Mammal**		**CDFW: Species of special concern**		**Suitable maternity and/or hibernaculum colony roost habitats include abandoned mines, caves, abandoned anthropogenic structures, and large (42 inch dbh) residual trees (conifer or hardwood) with a basal hollow opening of 2 square feet (with a minimum dimension opening of 2 feet); hereinafter referred to as a "legacy tree".** **If any new legacy tree(s) meeting the above definition is discovered within the Plan or within 400 feet of the Plan area on the timberland owner's property during timber operations, then timber operations, consisting of felling or yarding, shall cease within 400 feet of the legacy tree until field reviewed by RPF or Plan**

Listed and Sensitive Animal Species Table					
					biologists. A map depicting the location of the legacy tree(s) shall be amended into the Plan. No yarding or felling of trees shall occur within 400 feet of the identified legacy tree(s) between April 1 and September 15 unless surveys are completed to determine if COTO are present or not.
Gray Wolf (Canis lupus)	Mammal	Endangered	Endangered		Although unlikely to occur, protection measures are given in the next sentence should a gray wolf be observed in the plan area. If any sighted wolves, identified rendezvous locations or active den is observed all timber operations within ¼ mile will be suspended and the RPF will consult with CDFW and CALFIRE The results of the consultation shall be amended into the plan.
Osprey(Pandion haliaetus)	Bird	None	None	Yes	If an active nest tree is located on the THP, operations will cease in a 5-acre buffer around the nest site until a consultation with The Department of Fish and Wildlife and Department of Forestry and Fire Protection to determine an appropriate buffer size. Within the buffer zone: all designated Nest Trees, perch trees, screening trees, and replacement trees shall be left standing and unharmed. If the RPF believes that retention is not feasible, he/she may propose construction of an artificial nest structure as an alternative.

Listed and Sensitive Animal Species Table					
					Critical Period: **From March 1 to April 15th for all active nests and extended until August 1st for occupied nests. During the critical period, at Nest Sites where Osprey have shown historical tolerance to disturbance, Timber Operations are permitted using a gradual approach to the nest, except that no cutting is permitted. Where Osprey are determined by the Director to be intolerant to Timber Operations, no Timber Operations are permitted within the Buffer Zone unless the Director determines that there are no feasible alternatives.** **No helicopter yarding is proposed on this THP.**
Bald Eagle(*Haliaeetus leucocephalus*)	**Bird**	**Delisted**	**Endangered**	**Yes**	**If an active nest tree is located on the THP, operations will cease in a 40-acre buffer around the nest site until a consultation with The Department of Fish and Wildlife and Department of Forestry and Fire Protection to determine an appropriate buffer size.** **Within the Buffer:** **no clear cutting is allowed within the Buffer Zone. Selection, commercial thinning, sanitation-salvage, and the shelterwood regeneration method, except for the removal step, are permitted if all trees are marked prior to preharvest inspection. All Nest Trees containing active nests, and all designated perch trees, screening trees and replacement trees, shall be left standing and unharmed.** **Critical Period:** **January 15 until either August 15 or four weeks after fledgling, as determined by the Director. During this critical period, no**

Listed and Sensitive Animal Species Table					
					Timber Operations are permitted within the Buffer Zone. Exceptions may be approved by the Director, after consultation with the The Department of Fish and Wildlife and Department of Forestry and Fire Protection to allow hauling on existing roads that normally receive use within the Buffer Zone during the critical period. **No Helicopter yarding is proposed on this THP.**
Great *Egret(Ardea alba)*	**Bird**	**None**	**None**	**Yes**	**No Great Egret rookeries are known to exist in the THP area. If Egrets are observed nesting in the THP area during the period of March 15 to July 15, halt operations (other than one time logging road use for egress) within 150 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and approved by The Department of Fish and Wildlife and Department of Forestry and Fire Protection. If 5 or more nests are noted in close proximity to one another, halt all operations within 300 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and approved by The Department of Fish and Wildlife and Department of Forestry and Fire Protection.**

Listed and Sensitive Animal Species Table					
Great Blue Heron(Ardea herodias)	**Bird**	**None**	**None**	**Yes**	**No Heron rookeries are known to exist in the THP area. If Herons are observed nesting in the THP area during the period of March 15 to July 15, halt operations within 150 feet of the suspected nesting site (other than one time logging road use for egress) and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and approved by The Department of Fish and Wildlife and Department of Forestry and Fire Protection. If five or more nests are noted in close proximity to one another halt all operations within 300 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and approved by The Department of Fish and Wildlife and Department of Forestry and Fire Protection.**
Northern Goshawk(Accipiter gentilis)	Bird	None	None	Yes	**This species is not known to occur in the THP area. If you observe this species nesting in the THP area halt all operations, (other than one time logging road use for egress) within 527 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence operations until appropriate measures have been taken by the Plan Submitter and approved by The Department of Fish and Wildlife and Department of Forestry and Fire Protection.**
Golden Eagle(Aquila chrysaeto)	Bird	None	None	Yes	**This species is not known to occur in the THP area. If you observe this species nesting in the THP area halt all operations, other than standard logging road use for egress, within 333 feet of the suspected nesting site and notify the Plan Submitter. Do not recommence**

Listed and Sensitive Animal Species Table					
					operations until appropriate measures have been taken by the Plan Submitter and approved by The Department of Fish and Wildlife and Department of Forestry and Fire Protection.
Marbled Murrelet(Brachyramphus marmoratus)	Bird	Threatened	Endangered	Yes	**No known Marbled Murrelet habitat occurs within or adjacent to the plan. The nearest known observance is near Clipper Mills Bridge, which is approximately 2.85 miles away from the plan.** **Should Marbled Murrelets exhibit occupied behaviors in the plan area, all operations (other than one time logging road use for egress) will be suspended within 0.5 miles of the observation so CDFW can be consulted to determine the extent of the occupied stand and to develop appropriate protection measures with a minimum disturbance buffer of ¼ mile and a no operations buffer of 300-feet from the occupied stand.** **At this time no additional protections are required, and no guidance to the LTO is deemed necessary other than to comply with the THP.**
Coho salmon Pop. 2(*Oncorhynchus kisuthch)*	**Fish**	**Threatened**	**Threatened**		**Protective measures for the Coho Salmon and other aquatic wildlife species have been incorporated into the silvicultural methods in Item #14, soil stabilization measures in Item #18, watercourse protection measures included in Item #26, and other provisions of the THP.**
Chinook Salmon-California Coastal ESU(Oncorynchus tshawytscha)	**Fish**	**Threatened**	**Threatened**		**Protective measures for the Chinook Salmon and other aquatic wildlife species have been incorporated into the silvicultural methods in Item #14, soil stabilization measures in Item #18, watercourse protection measures included in**

Listed and Sensitive Animal Species Table					
					Item #26, and other provisions of the THP.
Steelhead- Northern California ESU(*Oncorhynchus mykiss*)	**Fish**	**Threatened**	**None**		**Protective measures for the steelhead Salmon and other aquatic wildlife species have been incorporated into the silvicultural methods in Item #14, soil stabilization measures in Item #18, watercourse protection measures included in Item #26, and other provisions of the THP.**
Northwestern Pond Turtle(*Actinemys marmorata*)	**Reptile**	**Proposed Threatened**			**Aquatic Habitat is present within and adjacent to the THP. Basking habitat exists along the active channel and associated gravel bars of the Gualala River well outside of the plan area. No Upland Habitat was observed within the project area.** **Protective measures for aquatic wildlife species have been incorporated into the silvicultural methods in Item #14, soil stabilization measures in Item #18, watercourse protection measures included in Item #26, and other provisions of the THP. These measures project aquatic habitat and basking habitat.**
California Red Legged Frog(*Rana draytonii)*	**Amphibian**	**Threatened**	**CDFW-Species of Concern**		**<u>The following CRLF restrictions will also protect the Yellow legged frog if any exist in the same habitat.</u>** **The California Red Legged frog will be protected by adhering to USFWS Scenario III and Scenario IV for the wet and dry weather periods respectively (see below for specifics). The wet weather period is defined as starting with the first frontal rain system depositing a minimum of 0.25 inches of rain after October 15 and ends on April 15. (Note to LTO - These wet and dry periods very slightly from the wet weather periods described elsewhere in the plan so make sure that you**

Listed and Sensitive Animal Species Table					
					understand the differences and the restrictions involved.) **The dry weather period starts April 16 and ends with the first frontal rain system which deposits a minimum of 0.25 inches of rain.** **Scenario III mitigations apply during the red legged frog wet weather period as defined above.** **Scenario III: Suitable habitat within 2 miles of harvest units or in units and harvest activities planned within 300 feet of suitable habitat during the wet season (applies to winter period falling and to any other activities that are allowed elsewhere in the plan between April 1 and April 15th and between the first ¼ inch rain after October 15th and before Nov 15th).** **No take is estimated only under the following conditions:** **i. During the wet weather period for Class III watercourse, when dry, maintain a 30-foot no cut buffer, trees felled away from watercourse** **ii. During the wet weather period for Class II watercourse and intermittent ponds/wetlands that meet the definition of suitable habitat, where water is present, 300 foot no cut buffer; where dry, 30-foot no cut buffer, no equipment within 75 feet of annual high water mark, trees felled away from suitable habitat.** **iii. During the wet weather period for Class I watercourse and permanent ponds/wetlands that meet the definition of suitable habitat - no cutting and no equipment within 300 feet of this suitable habitat.**

Listed and Sensitive Animal Species Table					
					Scenario IV mitigations that apply during the red legged frog dry weather period as defined above. **Scenario IV: Suitable habitat within 2 miles of harvest units or in units and harvest activities planned within 300 feet of suitable habitat during the dry season.** **i. All suitable habitats must maintain a 30-foot no-cut buffer; no equipment within the no-cut buffer; trees felled away from suitable habitat.** **Under both of the above scenarios, the following operational conditions must also be included:** **1) Pile burning must be outside the 300-foot buffer of suitable habitat** **2) No herbicide use allowed within 300 feet of suitable habitat except for direct application to stumps** **3) Roads and landings, if constructed, must be at least 300 feet from suitable habitat, and construction must occur in the dry season.** **2) Water drafting from suitable habitat (for dust abatement) must be done with a hose placed in a bucket in a deep pool. The bucket must be covered by < 1 inch mesh, and the mouth of the hose must be covered by 1/4 inch mesh** **No known occurrences of this species occur within the project area. If a CRLF is observed operations shall cease within 200 feet(with the exception of road utilization) and CDFW shall be contacted as soon as possible to develop further protection measures.**

Listed and Sensitive Animal Species Table					
Behren's Silverspot Butterfly(*Speyeria zerene behrensii*)	**Insect**	**Endangered**			**No known occurrences within the THP area. If this species is identified in the plan area no operations shall occur within 25 feet of the identified individuals and the Plan Submitter shall be notified as soon as possible. The plan submitted will contact CALFIRE to develop protection measures.**
Lotis Blue Butterfly(*Lycaeides argyrognomon lotis*)	**Insect**	**Endangered**			**No known occurrences within the THP area. If this species is identified in the plan area no operations shall occur within 25 feet of the identified individuals and the Plan Submitter shall be notified as soon as possible. The plan submitted will contact CALFIRE to develop protection measures.**
Western Bumblebee((*Bombus occidentalis*)	**Insect**		**Candidate**		**There is potential habitat for the Western Bumble Bee within the THP area. There are no known occurrences within the THP area, and none were observed during THP layout. No bumble Bee nests were observed during layout. If a nest or individual is observed all operations within 25 feet of the nest or individual shall stop and the observer shall contact the Plan Submitter who will contact CDFW to develop protection measures. An appropriate no disturbance buffer zone(as determined by CDFW) shall be established around the nest to reduce the risk of disturbance or incidental take while the plan submitter and CDFW develop protection measures.**
The Suckley's Cuckoo bumble bee (*Bombus suckleyi)*	**Insect**		**Candidate**		**Open meadows largely confined to mountainous regions are considered the bee's most important habitat types for their life cycle. There are no occurrences within the THP area nor the BAA.**

Listed and Sensitive Animal Species Table					
					Because this species relies on its host, the Western bumble bee, selected habitat must overlap with the needs of the host species. Since meadows and wet areas are afforded protection measures under the FPRs and under this THP, habitat modification will not result from operations under this THP. <u>If a nest or individual is observed, all operations within 25 feet of the nest or individual shall stop and the observer shall contact the Plan Submitter,</u> who will contact CDFW to develop protection measures. An appropriate no disturbance buffer zone(as determined by CDFW) shall be established around the nest to reduce the risk of disturbance or incidental take while the plan submitter and CDFW develop protection measures.
Crotch's Bumble Bee(*Bombus crotchii*)	**Insect**		**Candidate**		**The Crotch's bumble bee (Bombus crotchii, CBB) was given candidate status under CESA on September 30, 2022. Candidate species are given protection under CESA until a determination is made on the listing status. There are few historic records for this species in north coastal California, and the CBB primarily persists in coastal habitats of southern California and around Sacramento. Grasslands and shrublands are considered the bee's most important habitat types for their life cycle. Since timber harvesting will occur only within forested areas pursuant to this THP, affects to grasslands and shrublands are generally not expected. Therefore, habitat modification will not result from operations under this THP.**

Listed and Sensitive Animal Species Table					
					If a nest or individual is observed all operations within 25 feet of the nest or individual shall stop and the observer shall contact the Plan Submitter, who will contact CDFW to develop protection measures. An appropriate no disturbance buffer zone(as determined by CDFW) shall be established around the nest to reduce the risk of disturbance or incidental take while the plan submitter and CDFW develop protection measures. There are no occurrences within the THP area nor the BAA.

Non-Listed Species Impacts	
b.[☐]Yes [**X**]No	Are there any non-listed species which may be significantly impacted by the Plan? [ref. 14 CCR § 1034(w)] **If "Yes" identify the species and the provisions for the protection of the species.**

Species	Protection measures

ITEM # 33 – SNAGS

Within the logging area all snags shall be retained to provide wildlife habitat with the exception of snags for safety reasons. [ref. 14 CCR § 919.1[939.1, 959.1](a)-(f)]	
a.[**X**]Yes [☐]No	Are there any snags which must be felled for fire protection or safety reasons? The LTO may fell snags for safety reasons, locations of any such snags is unknown at this time.
b.[☐]Yes [**X**]No	Will snags over 20 feet in height and 16 inches dbh be felled within 100 feet of a main ridge that is suitable for fire suppression? **If "Yes" the ridge shall be delineated on a THP map.**
c. [☐]Yes [**X**]No	Will snags over 20 feet in height and 16 inches dbh be felled within 100 feet of all public roads, permanent roads, seasonal roads, landings or railroads? (select all that apply) ☐ Public Roads ☐ Permanent Roads ☐ Seasonal Roads ☐ Landings ☐ Railroads The LTO may fell snags along roads and landings that pose a potential safety hazard.

d.[**X**]Yes [☐]No	Will snags be felled where federal and state safety laws and regulations require the felling of snags?
e.[☐]Yes [**X**]No	Will snags be felled within 100 feet of structures maintained for human habitation?
f. [**X**]Yes [☐]No	Will merchantable snags be felled in any location as provided for in the Plan? Bear killed redwood snags may be felled and harvested by the LTO.
g.[☐]Yes [**X**]No	Will snags be felled as required to control insect or disease concerns?

ITEM # 34 - LATE SUCCESSIONAL FOREST STANDS

a.[☐]Yes [**X**]No	Are any Late Successional Forest stands proposed for harvest? [ref. 14 CCR § 919.16 [939.16, 959.16]] **If "Yes" describe measures to be implemented by the LTO to avoid long-term significant adverse effects on fish, wildlife, and listed species known to be primarily associated with late-successional forests.**
Description:	

ITEM # 35 - OTHER WILDLIFE PROTECTION REQUIRED BY FOREST PRACTICE RULES

a.[☐]Yes [**X**]No	Are there any other provisions for wildlife protection required by the rules? [ref. 14 CCR § 919] **If "Yes" describe.**
Description:	

Southern Forest District Only	
Where present at time of timber harvest, 400 sq. ft. basal area of oak per 40 acres should be retained and protected, giving preference to deciduous oaks. Oaks should be retained on areas designated by CDFW as deer migration corridors, holding areas, or key ranges when consistent with good forestry practices. [ref. 14 CCR § 959.15(A)]	
b.[☐]Yes [☐]No	Will timber operations occur where the pre-harvest stand consists of 400 square feet basal area of oak per 40 acres?
c. [☐]Yes [☐]No	Is any of the proposed harvest area within an area designated by CDFW as deer migration corridors, holding areas, or key ranges?
	If "Yes" to one or both questions above provide direction to the LTO identifying oak retention shall occur to comply with 14 CCR §959.15. Provide site-specific instructions to the LTO on how oak tree protection will be accomplished. Include a map for improved clarity.

ITEM # 36 - ARCHAEOLOGICAL / HISTORICAL CULTURAL RESOURCES

a. [X]Yes [☐]No	Has an archaeological or historical survey been made on the area to be harvested? [ref. 14 CCR § 1034(s)] **NOTE: A Confidential Archaeological Addendum (CAA) shall be included in SECTION VI of this Plan. If any archaeological sites exist, protection measures for timber operations shall be outlined in the CAA and a meeting will take place with the LTO per 14 CCR § 1035.2. This information is confidential and not available to the public or review agencies, other than CAL FIRE per California Government Code § 7297.005 and 14 CCR § 969.1(a)(2)(F).**
b. [X]Yes [☐]No	Has there been a current archaeological records check conducted from the appropriate Information Center for the entire area proposed for Timber Operations? [ref. 14 CCR § 929.1 [949.1, 969.1](a)(1)] **NOTE: A previously-conducted archaeological records check for the property may be used to satisfy this requirement if it covers the entire area proposed for Timber Operations and if it meets the definition of "current archaeological records check" per 14 CCR § 895.1.**

ITEM # 37 - GROWTH AND YIELD INFORAMTION

a. [☐]Yes [X]No	Has any inventory or growth and yield information been designated “trade secret”? **If “Yes” include the confidential growth and yield information in SECTION VI.** **NOTE: This information is confidential and not available to the public or review agencies, other than CAL FIRE. [ref. California Government Code § 7297.705, Evidence Code §§ 1040 & 1060, & Civil Code §§ 3426 et seq.]**

ITEM # 38 - SPECIAL INSTRUCTIONS OR CONSTRAINTS

Condition (Flagging codes, water drafting, paint colors, etc.)	Instruction
Pink 'THP BOUNDARY'	Boundary of THP. - Don't fell trees outside except for safety. This may also designate property lines
Pink 'Do Not Cut'	A no harvest boundary.
Blue/White 'LAKE AND WATERCOURSE PROTECTION ZONE'	Watercourse and Lake Protection Zones
Solid Red	Wet Area Buffer
Lime Green 'Silviculture Boundary'	Silvicultural System Boundary
Orange 'Truck Road'	Centerlines of existing or proposed truck roads.
Black/Yellow Striped	Logging System Boundary (Tractor/Cable)
Solid Blue	Class Ill centerline. Triple flag denotes end of segment.

Condition (Flagging codes, water drafting, paint colors, etc.)	Instruction
Yellow 'SKID TRAIL'	Pre-flagged tractor road. Triple flag or flagging across skid trail denotes end of skid trail.
Orange/White Striped 'SPECIAL TREATMENT ZONE'	Boundary of unstable area.

LTO REMINDER:

Notify of Start Up: The person responsible for notifying CAL FIRE of start up of operations may be any one of the following: LTO, RPF or Plan Submitter.

CAL FIRE will be notified in accordance with 14 CCR 1035.4 using one or more of the contacts below:

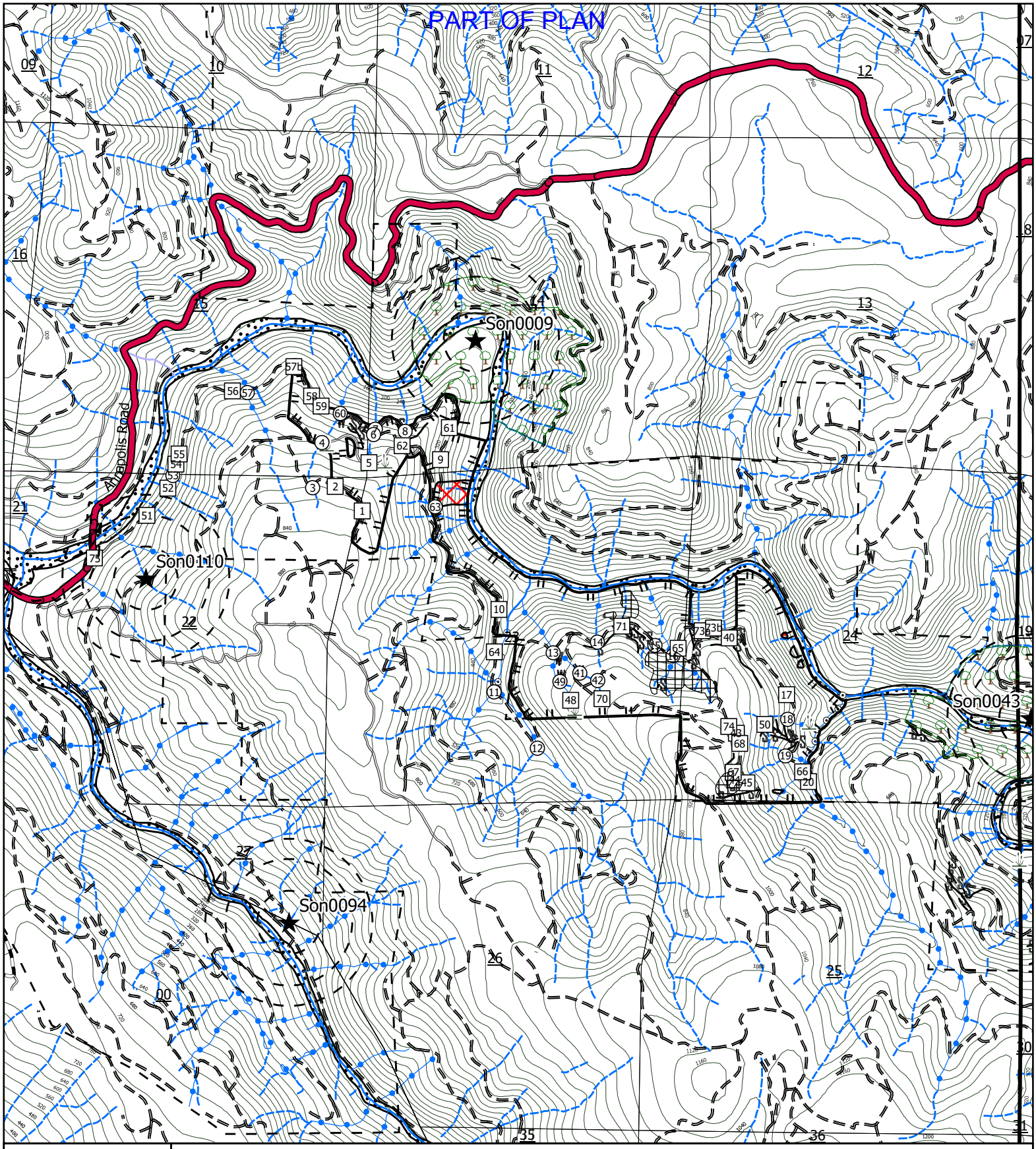
Telephone: MEU, Howard Forest Resource Management – (707) 4459-7440

Mail: Address: 17501 North Highway 101, Willits CA 95490

Email: current office technician using the formula – FirstName.LastName@fire.ca.gov (the actual name-email does not have to be provided, only the generic email contact info)

Dedicated Email: Dedicated email for correspondence including start up notifications: meu.resourcemanagement@fire.ca.gov

When notifying, have the THP number available and earliest start date.



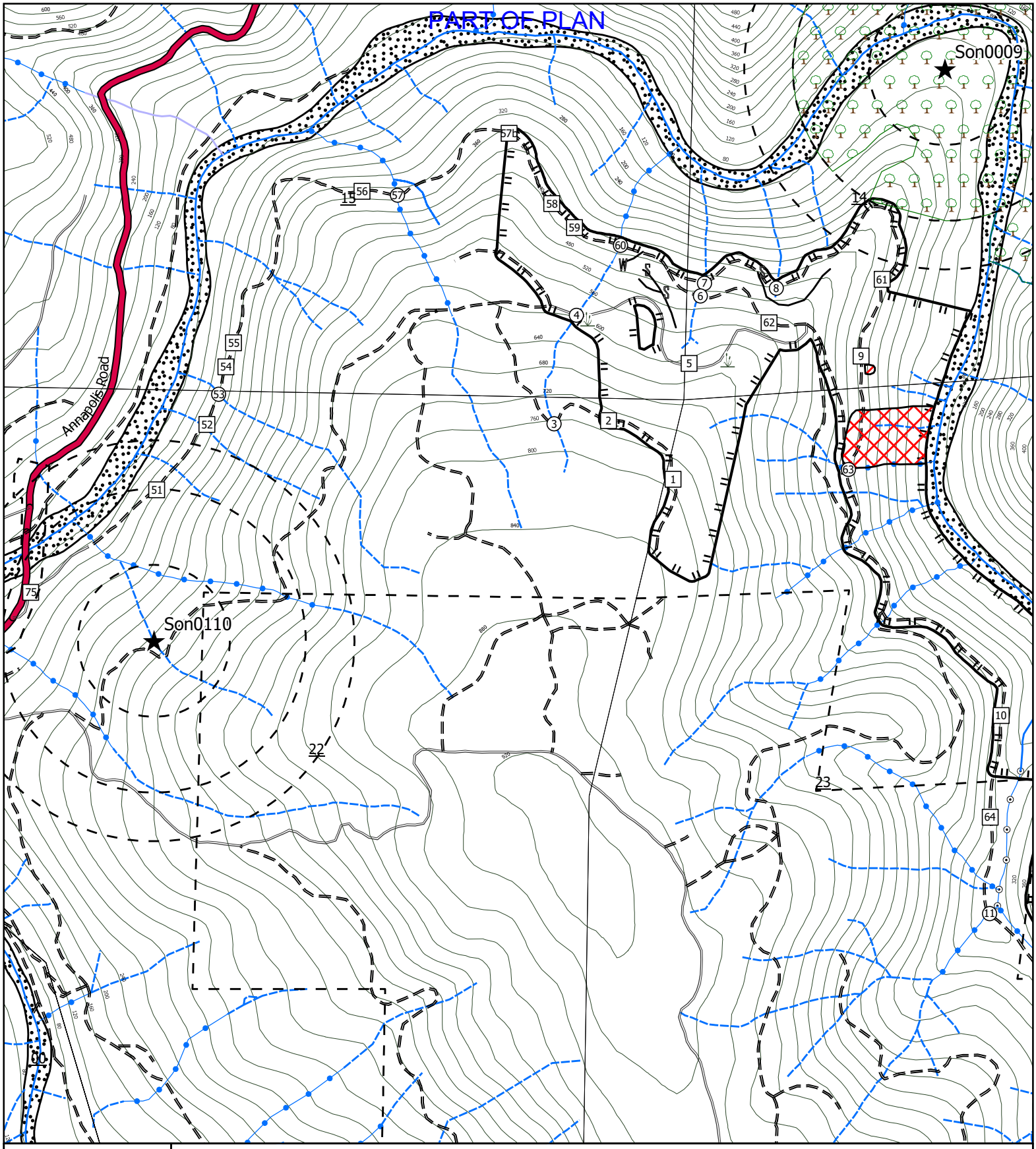
Pepper THP
Map Point Map
Overview

N

Scale: 1:24,000
Contour Interval: 40 ft.

Legend

- THP Boundary
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road
- Public Paved Road
- Steep Slope Skid Trail
- WLPZ Skid Trail
- Pepper Map Points
  - 1600 Site
  - Other Map Point
- 79 Gualala River Polygon
- Wet Area
- GRT Ownership
- No Harvest Area
- NSO Core Area
- NSO Buffers: 500 ft, 1,000 ft and .25 Miles



Pepper THP
Map Point Map

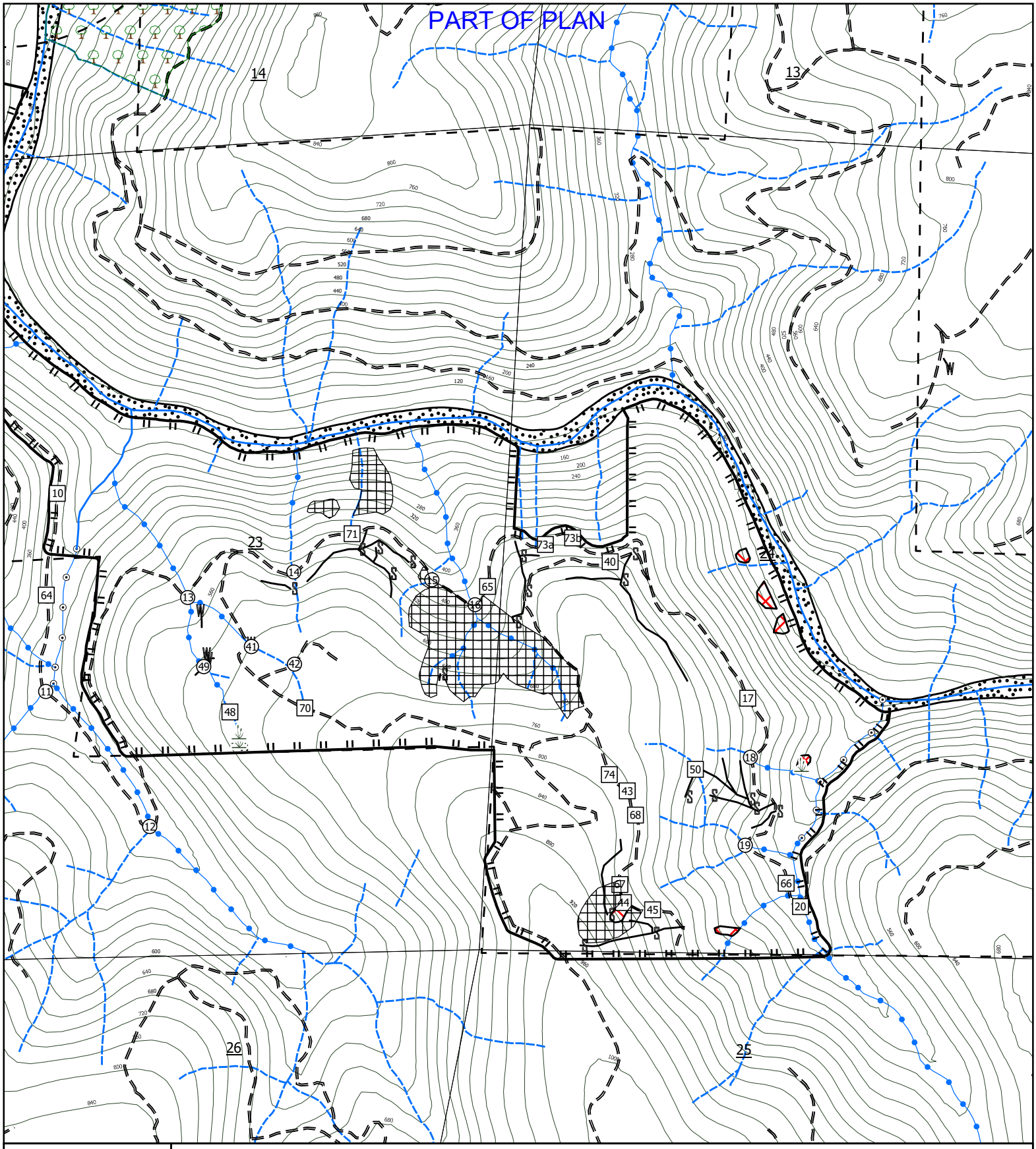
1 of 2

N

Scale: 1:10,000
Contour Interval: 40 ft.

Legend

- THP Boundary
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road
- Public Paved Road
- Steep Slope Skid Trail
- WLPZ Skid Trail
- Pepper Map Points
  - 1600 Site
  - Other Map Point
- 80 Gualala River Polygon
- Wet Area
- GRT Ownership
- No Harvest Area
- NSO Core Area
- NSO Buffers: 500 ft, 1,000 ft and .25 Miles



Pepper THP
Map Point Map
2 of 2

N

Scale: 1:10,000
Contour Interval: 40 ft.

Legend

- THP Boundary
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road
- Public Paved Road
- Steep Slope Skid Trail
- WLPZ Skid Trail
- Pepper Map Points
  - 1600 Site
  - Other Map Point
- 81 Gualala River Polygon
- Wet Area
- GRT Ownership
- No Harvest Area
- NSO Core Area
- NSO Buffers: 500 ft, 1,000 ft and .25 Miles

Map Point	Type	Description	Treatment	SEPES	ECP Site	Treatment Priority	1600
1	Swale Crossing	Swale Crossing with earthen dip in place . Functioning	If wet at time of operations install a 4" flex pipe to drain feature and remove after operations. After operations and prior to the winter period reestablish dip at site.	N	N	L	N
2	Swale/Wet Area Crossing	Swale/wet area crossing with a dip in place across road. Functioning	If wet at time of operations install a 4" flex pipe to drain feature and remove after operations. After operations and prior to the winter period reestablish dip at site.	N	N	L	N
3	Crossing (Ford)	Temporary Class III Watercourse Crossing with rock armored outlet. Minor erosion occurring at outlet. Functioning	If wet at time of operations install a 4" flex pipe to drain feature and remove after operations. After operations and prior to the winter period remove temporary crossing. Refer to Sec II, Item 38, Typicals.	Y	Y	L	Y
4	Crossing (Ford)	Class III crossing utilizing 18" metal culvert, rusting through. Class III is diverted 20' down inside ditch prior to crossing.	After operations and prior to the winter period remove 18" culvert and: • Install a 30" minimum culvert crossing. Refer to Sec II, Item 38, Typicals. <u>OR</u>	Y	Y	L	Y

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			• Install a rock ford utilizing 12” D50 rock. Refer to Sec II, Item 38, Typicals, Rock Ford				
5	DRC	18"Ditch Relief Culvert, rusted through, with a downspout.	Replace with 18” culvert and install rock energy dissipater at outlet; refer to typicals for energy dissipater design and rock sizing. D50=8”	N	N	L	N
6	Crossing	Class III Watercourse Crossing utilizing 24” metal culvert and downspout. Culvert is rusting through.	Replace with 24” culvert and install either a downspout or rock energy dissipater. Refer to typicals.D50=12”	Y	Y	L	Y
7	Crossing	24” metal culvert with deformed upper half of inlet, does not impact functionality. Culvert is shotgunned.	Deformity to culvert is in the upper half of the inlet and does not impact functionality. Retain culvert. Install rock energy dissipater or downspout below outlet; refer to typicals. D50=12”	Y	Y	L	Y
8	Crossing (Ford)	Class III watercourse that crosses road with no drainage structure in place.	If wet at time of operations install 4” flex pipe to drain feature. After operations and prior to the winter period remove culvert(if installed) and install a rocked	Y	Y	L	Y

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			ford utilizing 9” D50 rock Refer to Sec II, Item 38, Typicals, Rock Ford.				
9	Unstable Area	Several outboard edge road failures associated with an unstable area downslope of road.	Do not use road past this point.	N	N	N/A	N
10	Unstable Area	Outboard edge road failure narrowing road surface to 10’ wide for 18’.	Prior to the winter period install water bars 50’ east and west of site to direct road surface flows away from site. Cut into bank slough as necessary to regain minimum required operational road surface. Feather material into road or backend haul to stable location, do not sidecast.	N	N	H	N
11	Crossing	48” metal culvert at Class II watercourse crossing, culvert is rusting through and has a shotgunned outlet. Fill failure has occurred above outlet. No evidence of overtopping observed.	Replace with a 48” minimum culvert and install new culvert to grade. Rock armor inlet. D50=36” OR Remove crossing following operations, refer to Item 38 Typicals	Y	Y	M	Y

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12	Crossing	Pulled Class-II crossing, functioning.	Install a Temporary Spittler Stream Crossing or Temporary Straw Bale Crossing. Utilize a 24" minimum culvert for the crossing. Prior to the winter period remove crossing, refer to typicals.	N	Y	L	Y
13	Crossing	30" metal culvert with downspout, culvert is rusting through.	Replace with a 36" minimum culvert and install energy dissipater at outlet, refer to typicals. D50=24" <u>Treatment Priority: Low</u>	Y	Y	M	Y
14	Crossing (Ford)	Class III watercourse that crosses road via dip. Functioning.	if wet at time of operations install 4" flex pipe to drain feature. If wet at time of operations install 4" flex pipe to drain feature. After operations and prior to the winter period remove culvert(if installed) and install a rocked ford utilizing 6" D50 rock Refer to Sec II, Item 38, Typicals, Rock Ford.	N	Y	L	Y

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15	Crossing (Ford)	Class III watercourse that crosses road via dip. Functioning.	if wet at time of operations install 4” flex pipe to drain feature. If wet at time of operations install 4” flex pipe to drain feature. After operations and prior to the winter period remove culvert(if installed) and install a rocked ford utilizing 9” D50 rock Refer to Sec II, Item 38, Typicals, Rock Ford.	N	Y	L	Y
16	Crossing	36” metal culvert at Class II watercourse crossing with downspout. Culvert is rusting through.	Replace with a 42” minimum culvert and install energy dissipater at outlet, refer to typicals. D50=36" <u>Treatment Priority:Low</u>	Y	Y	M	Y
17	Bank Seep Drainage	Bank seep draining across road with no drainage feature in place.	If wet at time operations install 4” flex pipe to drain feature. After operations and prior to the winter period apply slash or mulch to the outside edge of road for stability.	N	N	M	N
18	Complex	Feature 1:Class III crossing utilizing a 24” metal culvert, rusting through. Feature 2: Bank slump narrowing	Feature 1: Replace culvert with 24” minimum culvert, refer to typicals. Feature 2: install 2 waterbars east of site(50’ and 100’) to direct surface flows off site. Cut into sloughed material as	Y	Y	M	Y

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		road surface to 6’ and minor outboard edge fill failure.	necessary to regain minimum required operating surface. To the extent feasible retain submerchantable Douglas-fir immediately below road.				
19	Crossing	36” metal culvert rusting through at inlet.	Replace culvert with a 42” minimum culvert, refer to typicals	Y	Y	M	Y
20	Crossing	Pulled Crossing, Functioning	No treatment proposed.	N	N	N/A	N
40	Unstable Area	Cutbank Failure that is blocking road surface with sloughed materials and standing trees .A minor fill failure is located east of site.	If the road is utilized clear debris and either end haul to a stable location to dump spoils or feather soils into road surface. No side casting permitted. Install waterbar 25’ upslope of fill failure to direct water away from site.	N	N	L	N
41	Crossing	Pulled Class II crossing. Functioning	Install a Temporary Spittler Stream Crossing or Temporary Straw Bale Crossing. After operations and prior to the winter period, remove the temporary crossing. Refer to Sec II, Item 38, Typicals	N	Y	L	Y
42	Crossing (Ford)	Class III watercourse that crosses road via dip. Functioning.	if wet at time of operations install a 4” flex pipe to drain feature. After operations and prior to the winter period remove	N	Y	L	Y

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			temporary crossing. Refer to Sec II, Item 38, Typicals				
43	Swale Crossing	Swale crossing with dip in place. Functioning.	if wet at time of operations install a 4" flex pipe to drain feature. After operations and prior to the winter period remove pipe and fill associated with flex pipe installation and reestablish dip at site.	N	N	L	N
44	Swale Crossing/Unstable area	Swale crossing with dip in place. Functioning	Swale Crossing:if wet at time of operations install 4" flex pipe to drain feature. After operations and prior to the winter period remove pipe and fill associated with flex pipe installation and reestablish dip at site. Unstable Area: Refer to Sec II, Item 19-22	N	N	L	N
45	Unstable Area	Area of settling fill on outboard edge of road.	Retain five redwoods and Douglas-fir marked with orange to the extent feasible. To regain necessary operational road surface width remove sloughed materials. Install water bar west of site at location marked with an orange painted "W".	N	N	L	N
48	Tractor Crossing	Existing Class III Tractor Classing.	IF UTILIZED :if wet at time of operations	N	N	L	N

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		Functioning	install a 4” flex pipe to drain feature. After operations and prior to the winter period remove tractor crossing and return to grade. IF NOT UTILIZED: No treatment				
49	Tractor Crossing	Existing Class II Tractor Classing. Functioning	IF UTILIZED: install a 24" culvert to drain feature. After operations and prior to the winter period remove tractor crossing and return to grade. IF NOT UTILIZED: No treatment.	N	Y	L	Y
50	Tractor Crossing	Existing Class III Tractor Classing. Functioning	IF UTILIZED :if wet at time of operations install a 4” flex pipe to drain feature. After operations and prior to the winter period remove tractor crossing and return to grade. IF NOT UTILIZED: No treatment	N	N	L	N
51	Other	Road is ramped up over a cutbank/fill failure. Road prism narrows to 16 feet. Feature has	Construct waterbar 50’ upslope of site to direct water way from site following operations and prior to the winter period.	N	N	L	N

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		revegetated, no evidence of recent soil displacement was observed, and no over steepened fill was observed	Do not sidecast materials when grading through site.				
52	Other	Fill failure. No over steepened fill observed.	Construct waterbar 50' upslope of site to direct water way from site following operations and prior to the winter period. Do not sidecast materials when grading through site.	N	N	L	N
53	Watercourse Crossing/ Complex	Feature 1: Class III Watercourse crossing utilizing a 24" metal culvert, functioning. ½ round downspout is partial detached. Feature 2: 42 feet north is a minor fill failure, no over steepened fill observed.	Feature 1: Reattach or replace downspout. Remove bay laurel that is impacting downspout if necessary. Feature2: Install waterbar 25' upslope to direct flows away from site. Do not sidecast materials when grading through site.	Y	Y	L	Y
54	DRC	18" metal ditch relief culvert with ½ round downspout, rusting through at outlet.	Replace with 18" culvert and downspout	N	N	L	N

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55	Other	26.2 foot tall cutbank failure, no recent soil displacement observed. Feature has mostly revegetated. Road is passible to pick up trucks, road may need to be widened to permit heavy equipment access.	Cut into slumped material as necessary to regain minimum necessary width to utilize road. Material may be feathered into road surface or hauled to stable location. Do not sidecast.	N	N	L	N
56	DRC	18” metal ditch relief culvert, rusting out.	Replace with an 18” culvert.	N	N	L	N
57	Complex	Feature 1: An area of settling fill impacting roughly 4 feet of the road surface. Feature 2: Located 300 feet west of Feature 1. Class II crossing utilizing a 30” culvert with a downspout. Inlet is at base of steep rock fall. Culvert inlet has begun to rust through	***Refer to CEG Report for more information*** Feature 1: roadway be ramped into and out of the slump area during operation. If soft subgrade is encountered at the time of operations, geofabric consisting of Mirifi 600X or equivalent may be placed on the roadway and covered with gravel surfacing. Following operations, the roadway should be returned to its original conditions and grade and the cracks and slumped area sealed so that positive drainage is maintained and not concentrated in the slump area. We recommend the roadway be maintained	Y	Y	M	Y

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			with a crown down the center line to encourage sheet flow drainage to both the outboard perimeter and inner v-ditch. The inner earthen v-ditch should be maintained to flow to the existing culvert located to the west. Feature 2: Replace with a 42” culvert. To the extent feasible. Excavations should extend no deeper than is required to install the new culvert and seat it on firm rock or soils. As possible maintain the large alders to the east and west of the culvert replacement. The culvert should be extended utilizing a downspout downslope to discharge onto erosion resistant areas as identified by the RPF in the field with flagging.				
57b	DRC	18” metal culvert rusting, rusting out.	Replace with an 18” culvert	N	N	L	N
58	DRC	18” metal culvert rusting, rusting out.	Replace with an 18” culvert	N	N	L	N

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59	DRC	18” metal culvert rusting, rusting out.	Replace with an 18” culvert	N	N	L	N
60	Watercourse Crossing	24” metal culvert with downspout. Culvert is functioning, downspout rusting out.	Replace downspout or install rock energy dissipater. D50=12” Enhance critical dip after operations.	Y	Y	L	Y
61	Other	Settling fill along outboard edge of road.	Install waterbars 25’ either side of the feature to direct water away from site. No sidecasting permitted.	N	N	L	N
62	DRC	18” metal culvert, inlet is buried. Outlet observed to be in good condition.	Excavate inlet and inspect for rust. Replace with 18” minimum culvert if necessary.	N	N	L	N
63	Watercourse Crossing	24” metal culvert. Inlet is buried and outlet is rusting through.	Replace with 36” minimum culvert. refer to typicals	Y	Y	M	Y
64	Other	2 fill failures located 25’ apart. Road is still passable.	Install waterbars 25’ either side of site. No sidecasting within site	N	N	L	N
65	Other	Bank slump partially blocks road.	Clear sloughed material. Do not sidecast materials.	N	N	L	N
66	Other	Bank slump partially blocks road for approx. 80’. Reduced road width to 10’.	Clear sloughed material to regain necessary road width. Do not sidecast materials when grading through site.	N	N	L	N
67	Other	Minor bank slump, partially	Clear sloughed materials. Do no sidecast	N	N	L	N

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		blocking road	materials when grading through site				
68	Other	Minor bank slump, partially blocking road. Opposite of the bank slump is a minor fill failure. Fill failure has conifers growing on site and does not have oversteepened fill.	Clear sloughed materials. Install waterbars 25' either side of feature. Do no sidecast materials when grading through site.	N	N	L	N
70	Other	Road crosses swale above head of Class III watercourse.	If wet at time of operations install a 4" flex pipe to drain feature and remove after operations. After operations and prior to the winter period establish waterbar 25' either side of site to direct water off road.	Y	Y	L	N
71	Swale Crossing	Swale crossing dip at the top of a Class III Watercourse, Functioning.	If wet at time of operations install a 4" flex pipe to drain feature and remove after operations. After operations and prior to the winter period establish waterbar 25' either side of site to direct water off road.	N	N	L	N
73a	Other	Fill failure on the outboard side of the road. Road is 14' wide through site.	If too narrow for operations, gain width by benching into cut-slope. Do not side cast spoils. Spoils should be removed to an appropriate location and stabilized.	N	N	L	N

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73b	Other	Bank slump blocks the road for approx. 30'.	Ramp up and over cut slope failure. If not practical, remove spoils to a suitable location and stabilize.	N	N	L	N
74	Other	Slump failure within outboard fill within low gradient slopes. Likely related to underlying unstable materials activated by the placement of fill. Appears to be minimal risk of sediment delivery if activated.	Ramp in and out of the failure area. Install water bars 25' either side of feature following operations and prior to the winter period to minimize water intrusion in the slump area.	N	N	L	N
75	Other	Fill Failure on outboard edge of paved road, road is passable through site. Fill failure is located on Sonoma County property on the flood plain of the Wheatfield Fork of the Gualala River. This fill failure is believed to have occurred the week of March 17,2025. A buried 18" culvert was observed at the base of this feature.	Sandbags will be placed on GRT road around edge fill failure on pavement to direct surface flows away from the site. The landowner has contacted Sonoma County.	Y	N	H	N

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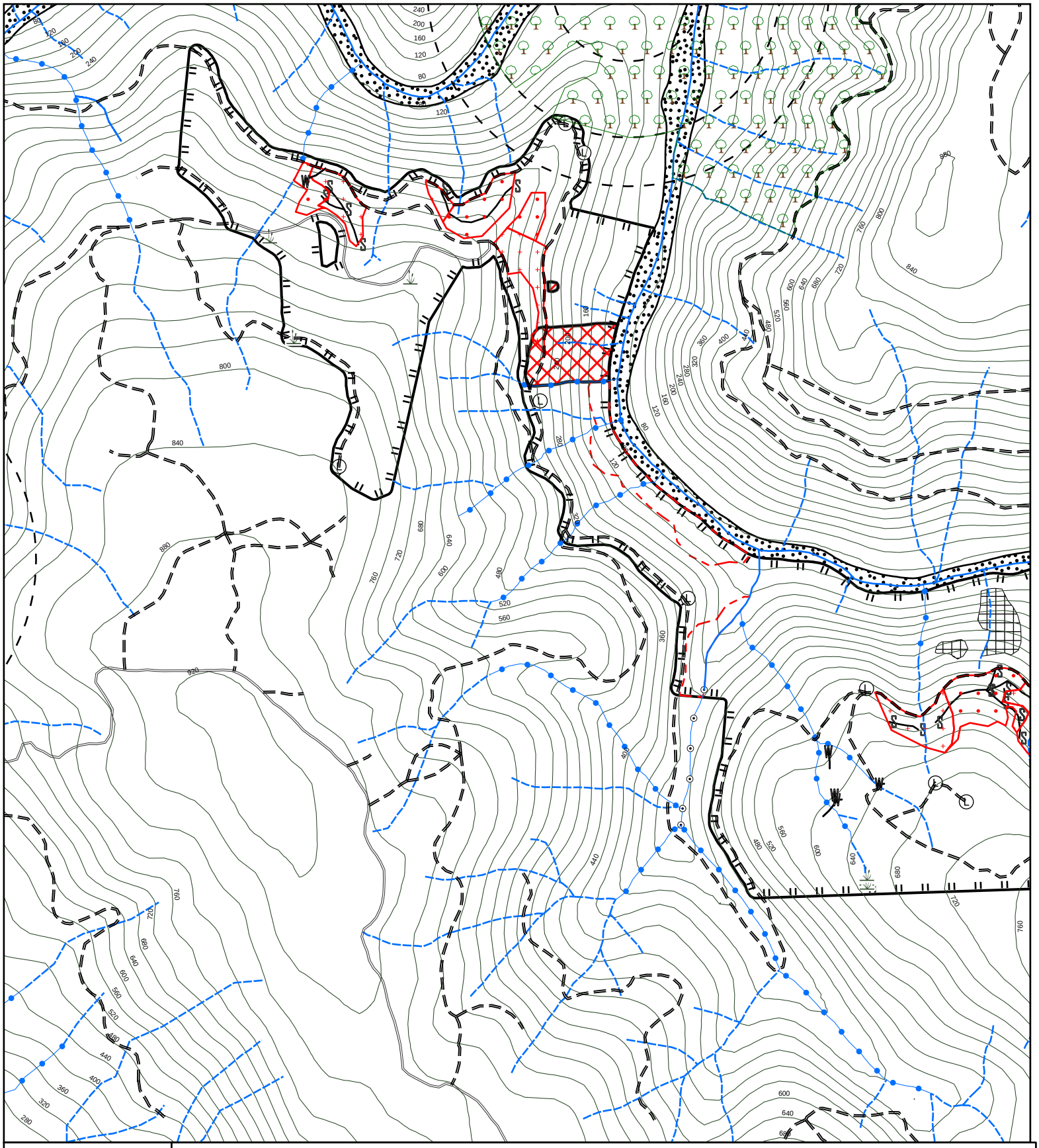

Pepper THP
Operations Map
Page 1 of 2

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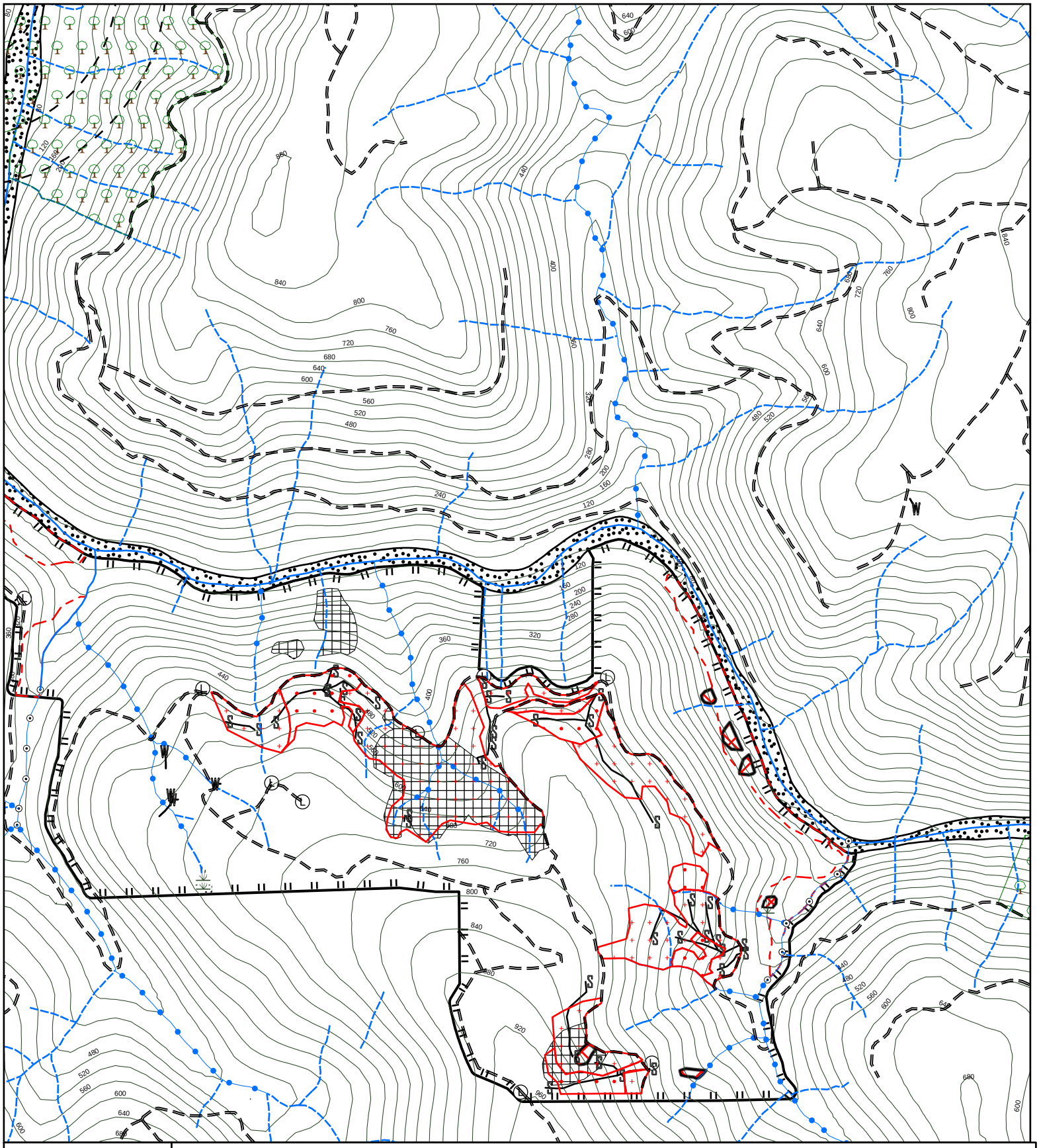
Scale: 1:10,000
Contour Interval: 40 ft.

Legend

- THP Boundary
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road
- Wet Area
- Steep Slope Skid Trail
- WLPZ Skid Trail
- Pepper Map Points
- 1600 Site
- Other Map Point
- 93 Gualala River Polygon
- GEO STZ
- Inner Gorge
- Landings
- Slopes 50%-65%
- Slopes 65%+
- No Harvest Area
- NSO Core Area
- NSO Buffers: 500 ft, 1,000 ft and .25 Miles

6/12



Pepper THP
Operations Map
Page 2 of 2

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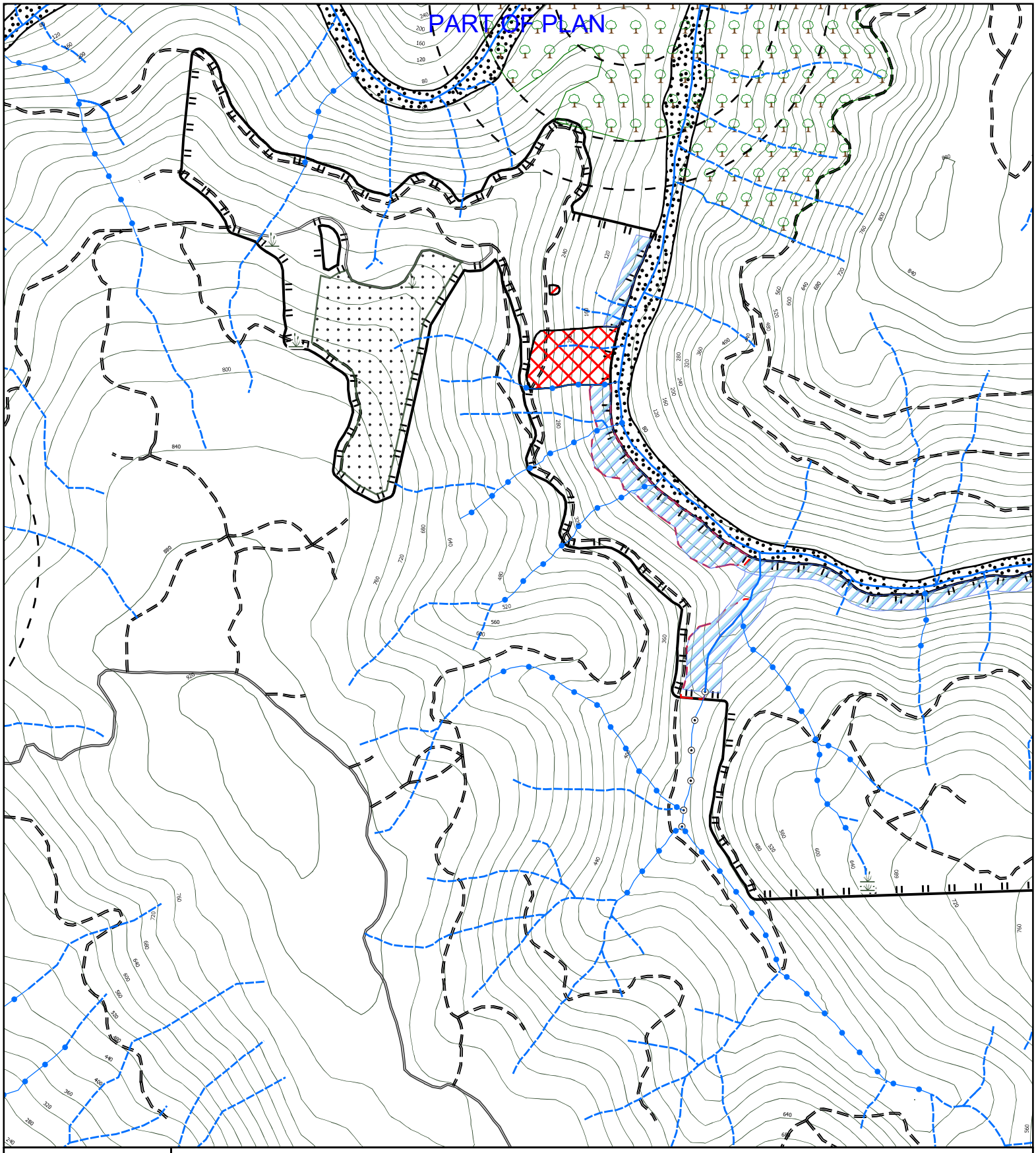

Pepper THP
Silv Map
Page 1 of 2

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Scale: 1:10,000
Contour Interval: 40 ft.

Legend

- THP Boundary
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road
- Wet Area
- NSO Core Area
- Gualala River Polygon
- Inner Gorge
- No Harvest
- GEO STZ

Silviculture*:

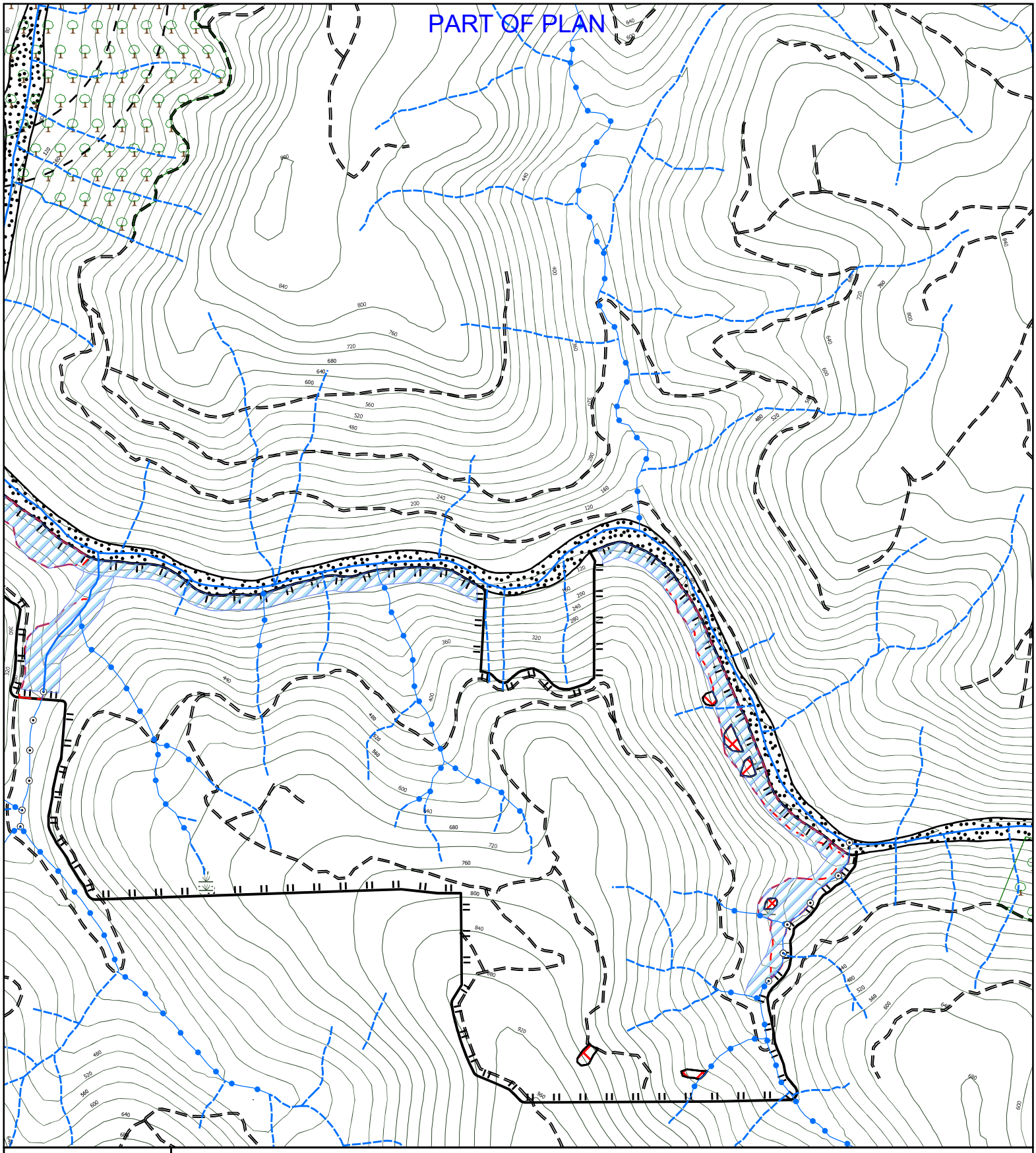
- Selection
- Transition

* All other Areas Group Selection

NSO Buffers:
500 ft, 1,000 ft and .25 Miles

95

PART OF PLAN



Pepper THP
Silv Map
Page 2 of 2

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Scale: 1:10,000
Contour Interval: 40 ft.

Legend

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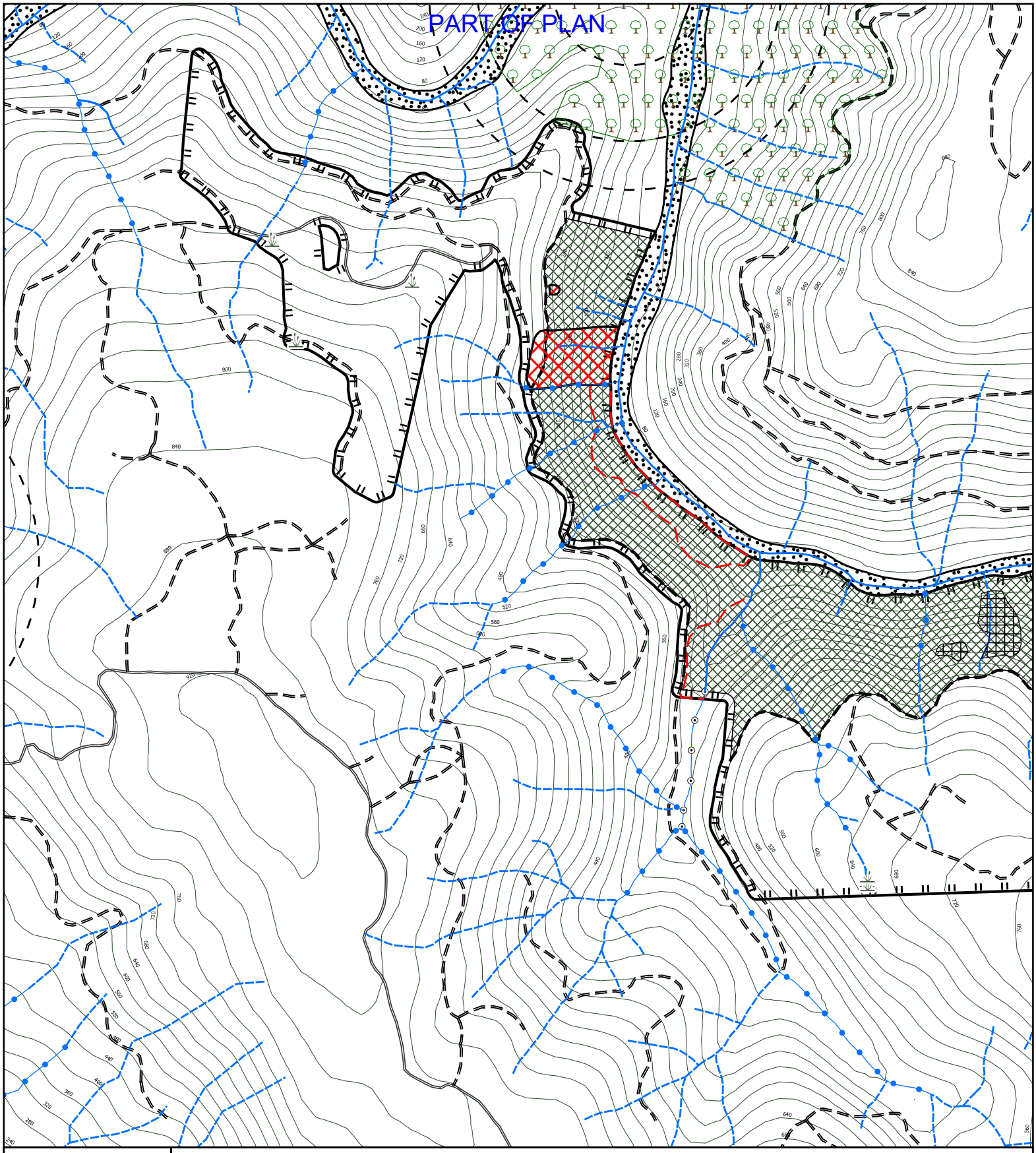
500 ft, 1,000 ft and .25 Miles



Pepper THP
Silv Map
Page 1 of 2

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Scale: 1:10,000
Contour Interval: 40 ft.

Legend

- THP Boundary
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- Class II-L Watercourse
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- GEO STZ

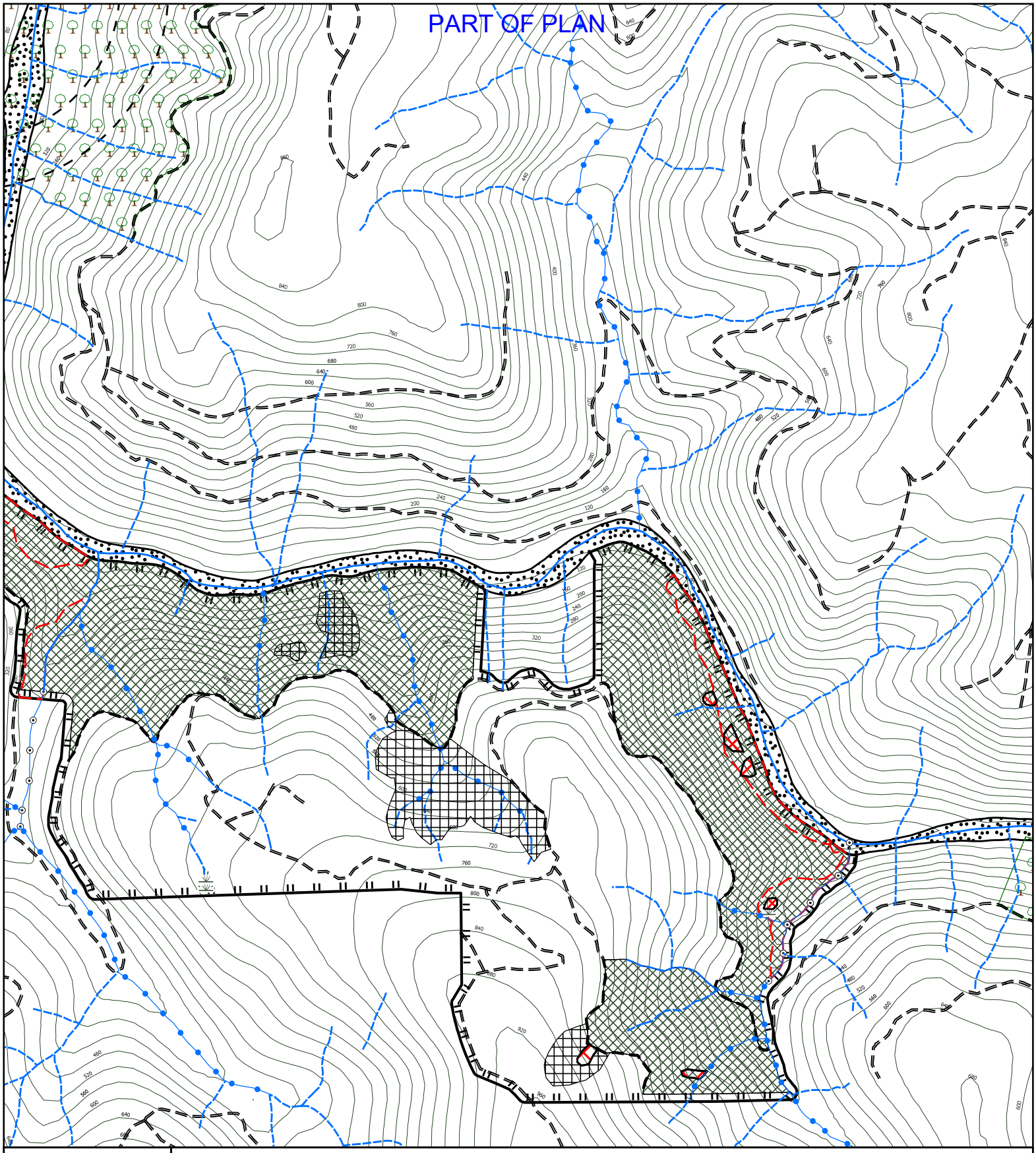
Yarding Method*:

- Cable

* All other areas Tractor

NSO Buffers:
500 ft, 1,000 ft
and .25 Miles

PART OF PLAN



Pepper THP
Silv Map
Page 2 of 2

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Contour Interval: 40 ft.

Legend

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- GEO STZ

Yarding Method*:

- Cable

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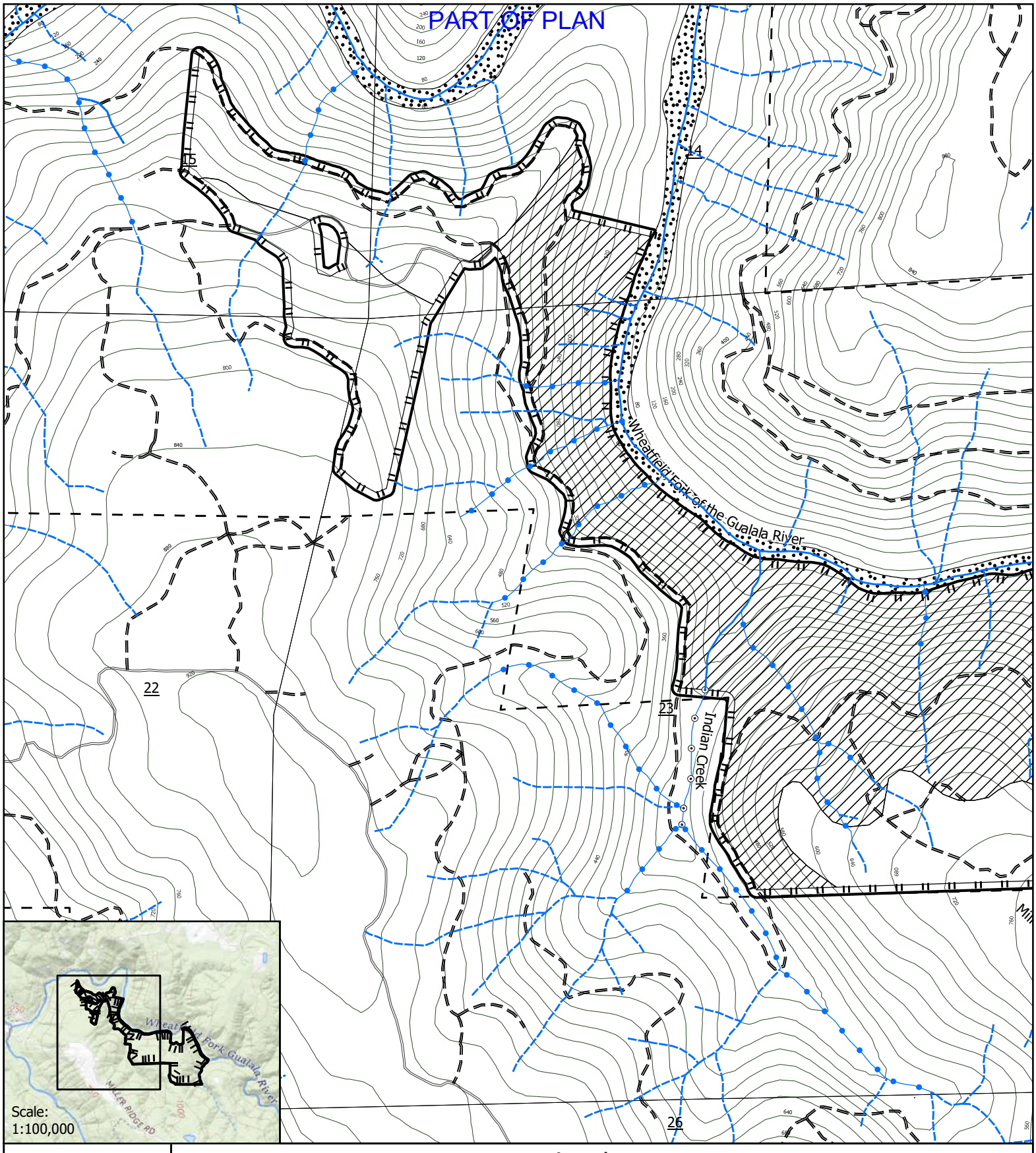
NSO Buffers:
500 ft, 1,000 ft
and .25 Miles

98

PART OF PLAN



Pepper THP

EHR Map

Page 1 of 2

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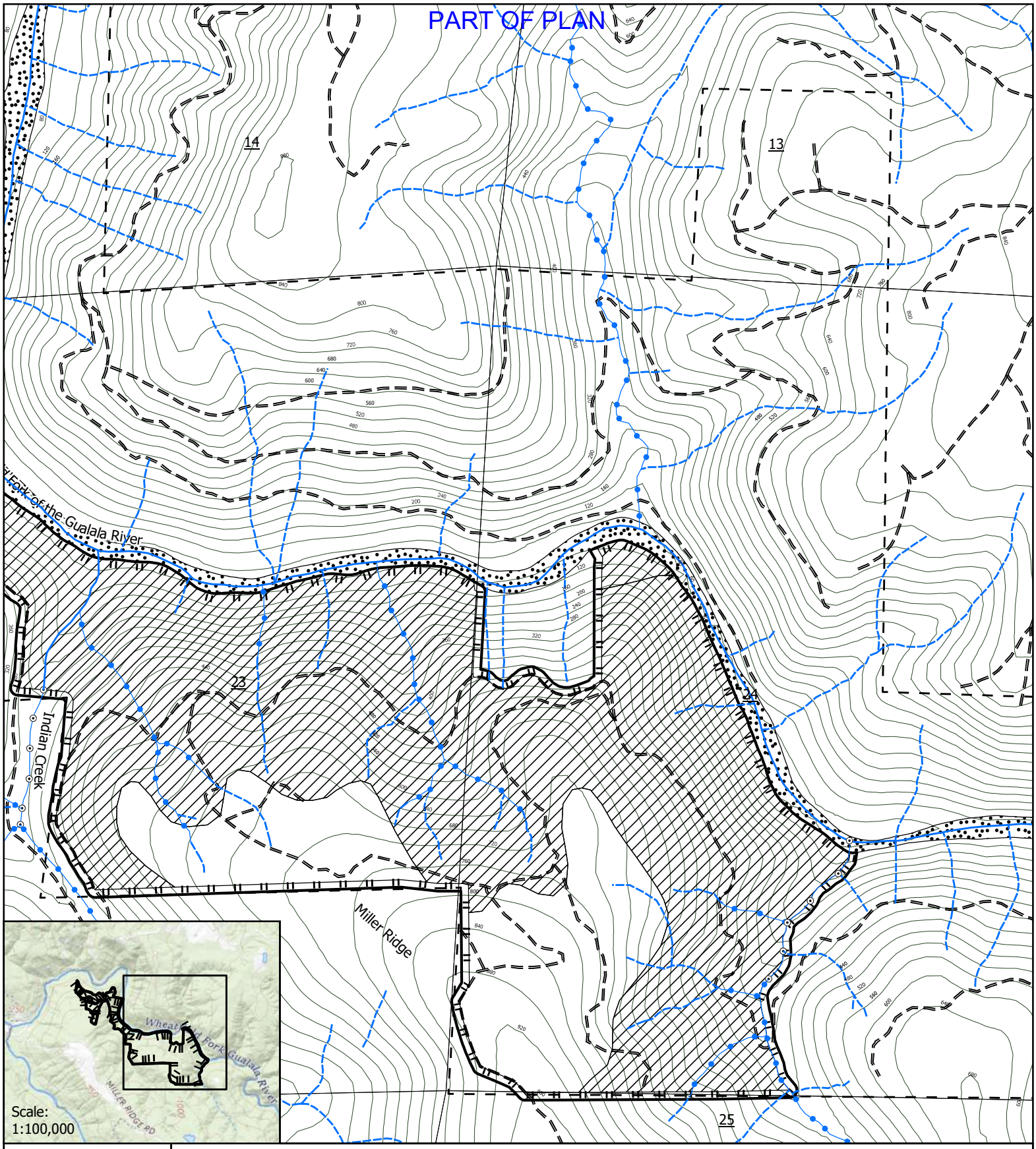
Scale: 1:10,000
Contour Interval: 40 ft.

Legend

- GRT Ownership
- THP Boundary
- Gualala River Polygon
- Private Permanent Road
- Private Seasonal Road
- Erosion Hazard Rating
  - Low
  - 99 Moderate
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse

Received 07/14/2025
Coast Area Office
Resource Management

PART OF PLAN



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Pepper THP

EHR Map

Page 2 of 2

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Scale: 1:10,000
Contour Interval: 40 ft.

Legend

- GRT Ownership
- THP Boundary
- Gualala River Polygon
- Private Permanent Road
- Private Seasonal Road
- Erosion Hazard Rating
  - Low
  - 100 Moderate
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse

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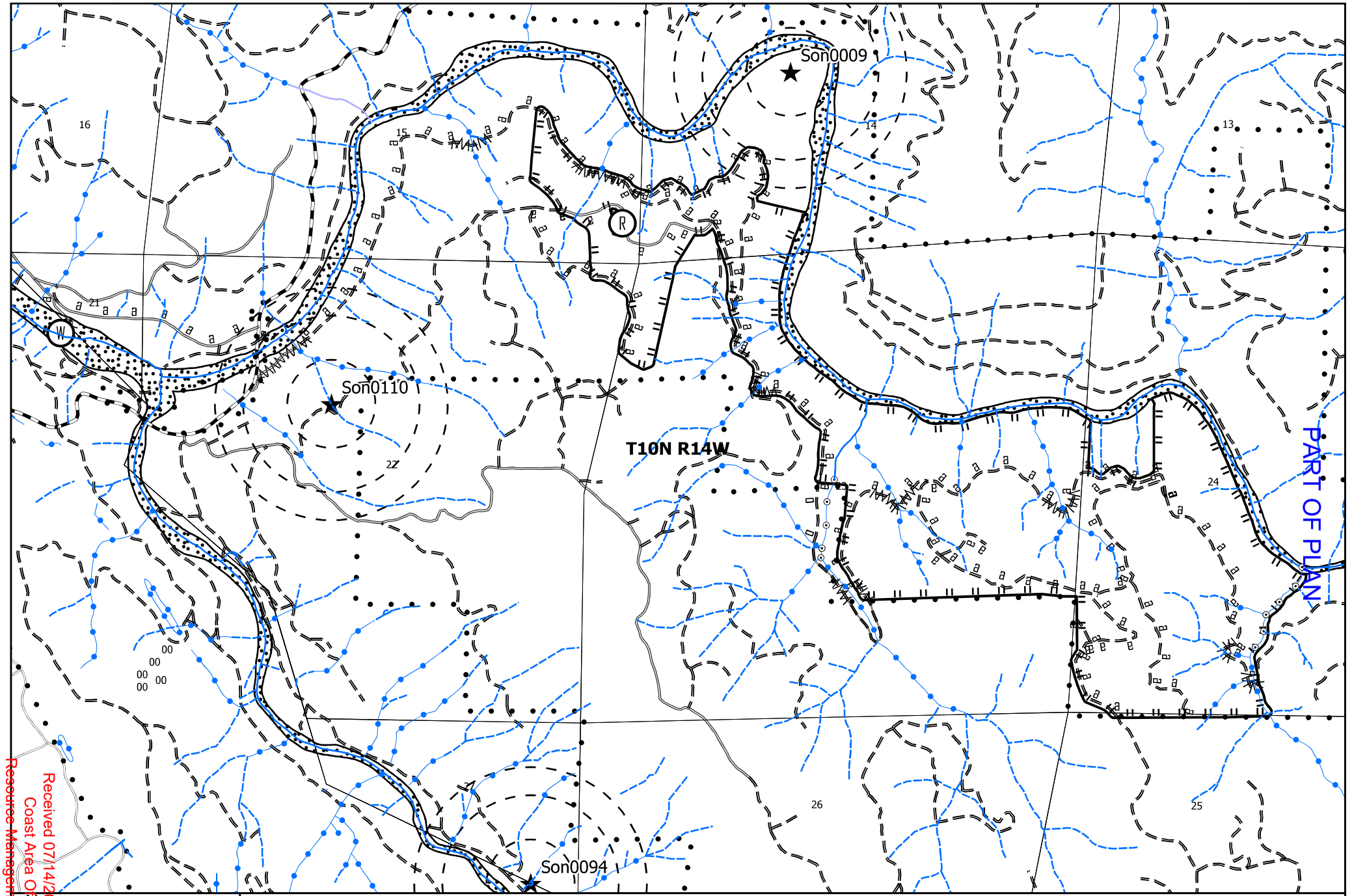

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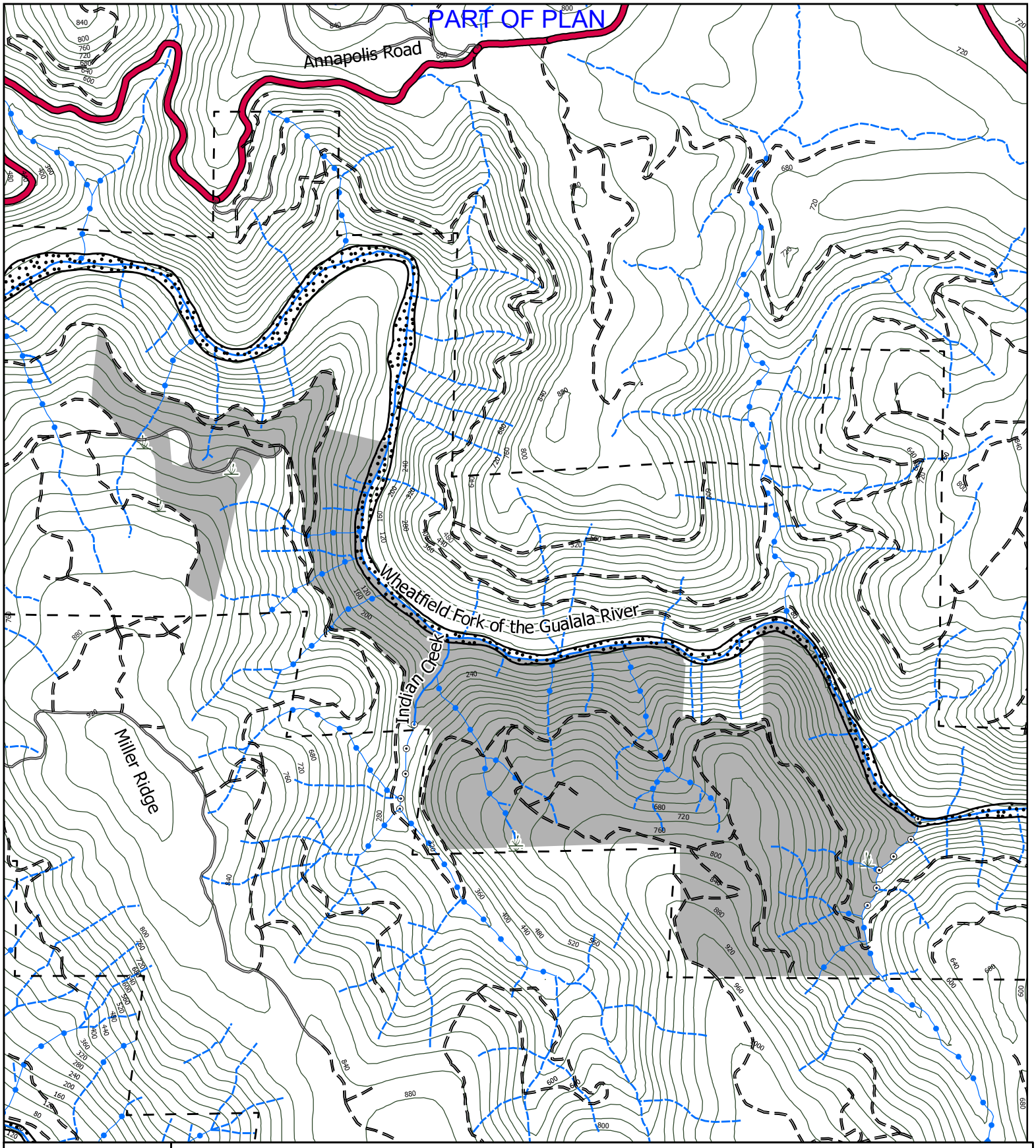
Pepper THP
Appurtenant Road Map

Portions of:
T10N R14W Sec 14,
15,22,24,&24

Scale: 1:17,000

- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Gualala River Polygon
- Public Permanent Road
- Private Permanent Road
- Private Seasonal Road
- NSO Activity Center
- GRT Property
- Rock Pit
- Water Drafting
- Appurtenant Road
- WLPZ Appurtenant Road
- WLPZ Off Property Haul Road
- Off Property Haul Road
- NSO Buffers: 500 ft, 1,000 ft and .25 Miles

7/7



Pepper THP Hydrology/ Property Map

N

Scale: 1:16,000
Contour Interval: 40 ft.

Legend

- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road
- Public Paved Road
- Wet Area
- Gualala River Polygon
- THP Boundary
- GRT Ownership

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Resource Management

Relevant Portions of CEG Report

Inner Gorge Areas

Regional mapping (Fuller 2002, Best 2024) has mapped areas of inner gorge geomorphology along the WFG and within a north-south trending Class II watershed located near the center of the THP. A discussion on the features indicative of Inner Gorge areas has been provided in the Geomorphology discussion above. In general, our review of the areas of mapped Inner gorge is consistent with those provided in California Geological Note 50 (CGS, 2013). As noted in our previous discussion, the geomorphic features and extent of the Inner gorge areas were highly variable across the THP, however, in general our site observations concurred with those areas delineated by Fuller. In addition, our site observations have delineated additional areas which show features consistent with inner gorge geomorphology, specifically, coalescing scars originating from landsliding and erosional processes caused by active stream erosion with slopes generally over 65 percent. These additionally delineated areas appear consistent with small slides mapped by Best which are described as within inner gorge slopes and were noted adjacent to the base of debris slopes and large mapped rockslide complexes mapped by Fuller near the eastern extent of the THP.

Watercourse Lake Protection zones and Inner Gorge areas

The establishment of Watercourse Lake Protection Zones (WLPZ) protects sensitive riparian habitat; helps maintain stability along erodible stream banks; and is part of establishing the variable and complex hydrologic conditions necessary for sediment retention and regulated transport. Steep and erodible terrain within the THP complicates the delineation of WLPZ. Actively downcutting streams traversing steep terrain and areas of deep-seated landslides create Inner Gorge areas which are defined as geomorphic features formed by coalescing scars originating from landsliding and erosional processes caused by active stream erosion (CGS., 2013). These sensitive areas are naturally prone to landslides and erosion, conditions which may be accelerated or increased due to changed conditions during timber harvest (roadway and landing construction, removal of vegetation and changed hydrogeologic conditions). It is our opinion that the existing requirements within WLPZ(14 CCR 916.6) provide suitable mitigation for timber harvest activities within stable Inner Gorge areas. Within the THP, areas designated as WLPZ and their associated operational protection measures should be extended to the upslope limits of those areas designated as Inner Gorge. The increased protection will mitigate the potential for increased landslides within Inner Gorge terrain through increased post-harvest stock, post-harvest canopy cover, retention of large diameter trees (Class I and Class II-L), no harvest within the inner core zones, directionally falling of trees away from watercourse, and other operational limitations. In addition, site observations and available mapping

indicate that failed skid trails represent a significant portion of the landsliding observed within the Inner Gorge.No road construction or utilization of skid trails is proposed within the mapped Inner Gorge features.

General Recommendations

The recommendations provided below are intended to provide guidance to the RPF for common road rehabilitation and repair conditions which are likely to be encountered during operations.

Wet Road Surface Conditions

If the RPF, or his designee, determines prior to operations that the road surface is too wet for hauling, the road can be stabilized by surfacing the road with a minimum of 6 inches of durable coarse rock; if needed separate rock from native material by a woven geotextile fabric (e.g. Mirafi® 600X). A dip graded across the road with a 4"-6" drain pipe in the axis of the dip, beneath the rock, may be needed if considerable seepage water is encountered, provided it does not concentrate flows in unstable areas.

Unstable Fills

Cracking or slumping fills that have the potential to deliver sediment to a watercourse should be stabilized by excavating the cracking material, sloping the remaining fill at 1.5H:1V, and either using the spoils to outslope the road, or stabilizing as described below.

Spoils Disposal

Spoils generated during road work should be placed in a manner that minimizes soil erosion and instability. Unless otherwise specified, disposal sites should be away from any WLPZ or unstable areas. Spoils should be inclined no steeper than 1.5H:1V. If spoils are placed in a location where there is a risk for sediment delivery (e.g. on the margin of a WLPZ), stabilize by mulching or seeding to prevent surface erosion until vegetation becomes established.

Cut Slope Failures

Slope failures where road access is partially blocked by debris from the cutslope should be left on the road surface, avoid sidecasting debris. The road should be reopened by removing any large organic material from the debris and working with the failed material to create a ramp in the road grade. This will allow for road access while minimizing the amount of grading needed on the slide body

Site-Specific Observations

The following are pertinent site-specific observations on portions of the THP that were reviewed as part of this assessment. Applicable mitigation measures and general recommendations are referenced as needed.

Slide Features

Map#803 - Slump/instability below roadway. Evidence of historic grading. Designate no-cut with 25' setbacks from edge of unstable area. Refer to RPF discussion attached to this report.

S2/Map#464 - Slump failure of historic skid trail within an area of hummocky topograph. The slump failure of the skid trail was mapped by Best and the surrounding area appears unstable and subject to soil creep. RPF has designated this feature and the surrounding area as no harvest. Refer to RPF discussion attached to this report.

S3 - Failure of outboard edge of roadway. Failure appears to be related to debris slide slope below which extends to the Class II tributary downslope. Inner Gorge designation will be extended upslope to the outboard edge of the roadway.

Map#427,Map#433, Map#558 - Small landslide failures associated with historic skid trails. Slide features appear dormant. Best has classified as within Inner Gorge areas.
Refer to RPF discussion attached to this report.

Map#560,Map#561, Map#524 - Small landslide failures associated with historic skid trails. Slide features appear dormant. Best has classified as within Inner Gorge areas.
Additional information is provided in the RPF discussion attached to this report.

Map#928 - Small landslide failure associated with historic skid trails. Slide features appear dormant.
Additional information is provided in the RPF discussion attached to this report.

Map#949 and Map#1039 - Small landslide failures associated with historic skid trails. .
Additional information is provided in the RPF discussion attached to this report.

Map#467 - Small landslide failures associated with historic skid trails. Slide features appear dormant. Best has classified as within Inner Gorge areas. Additional information is provided in the RPF discussion attached to this report.

S14/ Map Point 44 - Large slump upslope of skid trail. Translational rockslide which has blocked the skid trail and includes much large woody debris. It appears that the failure originated at a legacy skid trail. The slump debris has blocked the truck road. Remove debris to a suitable location for stabilization and ramp up and over remaining debris. As possible, retain large stumps and woody debris within the slump to improve stability. Retain 1.5 horizontal to 1 vertical cut slopes within debris.

Roadway Features

Map Point 57 - large slump extending approximately 50 feet along outboard roadway fills. Appears to be a result of underlying unstable materials activated by roadway construction and changed drainage features. Cracking and minor slumping of approximately 1 vertical foot were observed within the roadway. The feature is mapped within a large landslide complex mapped by Fuller and Huffman. Based on site topography, the failure plane appears located 5-10' below the surface. Site stability is likely being maintained by the presence of abundant large woody debris and slash which has been placed along the outboard edge of the roadway which is buttressing the roadway fills. Fuller and Huffman have mapped the site as underlain by a large landslide complex. It is impractical to repair the slide area and excavation may increase instability of the site. The site is further complicated by the presence of oversteep and potentially unstable cut slopes above. It is recommended that the roadway be ramped into and out of the slump area during operation. If soft subgrade is encountered at the time of operations, geofabric consisting of Mirifi 600X or equivalent may be placed on the roadway and covered with gravel surfacing. Following operations, the roadway should be returned to its original conditions and grade and the cracks and slumped area sealed so that positive drainage is maintained and not concentrated in the slump area. We recommend the roadway be maintained with a crown down the center line to encourage sheet flow drainage to both the outboard perimeter and inner v-ditch. The inner earthen v-ditch should be maintained to flow to the existing culvert located to the west.

Map Point 57 - Culvert replacement. Per RPF the culvert is to be replaced with a 42" diameter pipe. This culvert will be constructed within a potentially

the failure area. Install water bars during winterization to minimize water intrusion in the slump area.

Map Point 68 - Cut slope and fill failure. Ramp up and over cut slope failure. If not practical, remove spoils to a suitable location and stabilize.

Map Point 44 - Large slump blocking roadway. Remove debris to a suitable location for stabilization and ramp up and over remaining debris. As possible, retain large stumps and woody debris within the slump to improve stability. Retain 1.5 horizontal to 1 vertical cut slopes within debris.

R11 - Existing skid trail in an area designated as Special Treatment Zone. RPF proposes to use during operations to provide access for tractor yarding. Skid trail appears stable and suitable for use. Multiple slumps and downed trees were observed within the skid trail. Debris should not be sidecast. Spoils may be spread on the roadway to improve the roadbed and improve drainage. Prior to use the skid trail should be outsloped to provide positive drainage by sheet flow to the outboard perimeter. Slash may be placed on the outboard slopes to improve stability and minimize sediment transport.

Special Treatment Zones.

STZ1 - Steep slopes above Class II and Class III watercourses. Observed abundant downed trees upslope (conifer and hardwood), and wood choked drainages. Within the STZ, retain a minimum 100 square foot per acre basal area (conifer and hardwood), dispersed post-harvest. No new group opening permitted. Ground based tractor yarding to be limited to existing stable skid trails as designated by the RPF. Feature encompasses Map #123.

STZ2 - Steep slopes with some evidence of soil creep. (areas of hummocky topography, pistol butted trees). Within the STZ, retain a minimum 100 square foot per acre basal area (conifer and hardwood), dispersed post-harvest. No new group openings permitted. Ground based tractor yarding to be limited to existing stable skid trails as designated by the RPF. Retain trees upslope of the roadway located at the base of the STZ to improve stability. RPF to mark trees to be retained with orange paint and harvest trees with blue paint.

Conclusions

Based on available literature and site mapping, site review, and review of the silviculture methods with the RPF it is my opinion that the proposed timber operations will not result in a significant increase in landsliding and/or sediment delivery to WFG and its tributaries, provided in the THP and the mitigation measures and general recommendations proposed in this assessment, are properly implemented.

improve stability and minimize sediment transport.

Special Treatment Zones.

STZ1 - Steep slopes above Class II and Class III watercourses. Observed abundant downed trees upslope (conifer and hardwood), and wood choked drainages. Within the STZ, retain a minimum 100 square foot per acre basal area (conifer and hardwood), dispersed post-harvest. No new group opening permitted. Ground based tractor yarding to be limited to existing stable skid trails as designated by the RPF. Feature encompasses Map #123.

STZ2 - Steep slopes with some evidence of soil creep. (areas of hummocky topography, pistol butted trees). Within the STZ, retain a minimum 100 square foot per acre basal area (conifer and hardwood), dispersed post-harvest. No new group openings permitted. Ground based tractor yarding to be limited to existing stable skid trails as designated by the RPF. Retain trees upslope of the roadway located at the base of the STZ to improve stability. RPF to mark trees to be retained with orange paint and harvest trees with blue paint.

RPF Geology Discussion

During the layout process the plan area has been walked extensively by the RPF and supervised designees. The THP proposes the use of selection, group selection, transition, and no harvest silviculture which is all require a high retention of basal area which has lower impacts on evapotranspiration rates and rainfall interception by canopy when compared with evenaged silvicultures. The landowner has a history of maintaining and upgrading roads and watercourse crossings which are mitigations measures that may serve to protect slope stability. The harvest area contains a large quantity of coast redwoods and tanoak which rapidly stump sprout allowing for root structures to remain intact. Further mitigations found throughout the plan include adherence to WLPZ protections(see Section III for proposed in lieu practices), limiting ground based equipment to existing stable skid trails on slopes over 50%, and a review of LIDAR and Aerial Imagery by the RPF along with on the ground inspection to assess areas of concern. A review of the California Geologic Survey landslide inventory revealed multiple features that underlay the project area. A supplemental map showing the location of these feature is included in Sec II. Outside of areas described below; the RPF did not observe any obvious indicators of potential slope instability associated with the features that appear on the CGS maps. No protection measures are proposed for these features outside of the inherent limitations of the FPRs and the Plan. As no protections are proposed these landslides do not appear on the operations maps for this plan to avoid cluttering the maps.

Slides identified in the Watershed Landslide Table and Map are identified with MAP#.

A review of the Landslide Inventory Map, past geology maps, and field inspection reveals areas of concern within the plan boundary described below:

Assets Identified:

Downslope of project area is the Wheatfield Fork of the Gualala River.

Upslope of project area is industrial forest lands owned by Mendocino Redwood Company.

Unstable area description and protection measures: (Refer to Sec. II Item 38, Geology Map for locations)

Map#803/ Map Point 9 Description: An area of multiple outboard edge road failures associated with a logging road, no delivery of soil to a watercourse was observed. The features are generally well vegetated with brush and small conifers.

Protection Measures: The utilization of a partial harvesting system(Group Selection) adjacent to the mapped feature. A 25 foot no cut buffer has been applied to the perimeter of this area and is flagged with SPECIAL TREATMENT ZONE(STZ) flagging. DO NOT use road past STZ Flagging. No treatment of hardwoods shall be conducted within this area. Cable corridors shall be limited to a width no wider than 20 feet through the flagged feature. No treatment of hardwoods shall occur within the boundary of this feature.

RPF Geology Discussion

Map#464/Unstable Area 2 Description: A feature beginning just below an intact logging road that has resulted in the failure of the downslope road and extends downslope to the WLPZ but does not appear to impact the Class I watercourse. The WLPZ downslope of this feature is well vegetated. The area surrounding the Class III Watercourse is poorly vegetated, other areas within the no cut buffer are generally well vegetated. Map#464 is a second unstable area with a defined scarp located immediately south of unstable area 2. The terrain around these two features is generally hummocky.

Protection measures: The utilization of a partial harvesting system adjacent to the mapped feature. A mapped not cut buffer has been applied to the feature with and is designated with SPECIAL TREATMENT ZONE Flagging. Do not use or reestablish road within the STZ boundary to Map Point 9. No cable corridors may pass through the flagged extent of this feature. No treatment of hardwoods shall occur within the boundary of this feature.

Map#561 : A feature with defined scarp-like perimeter largely located within a Class I WLPZ, some pistol butting observed within the boundary of the feature, but no evidence of recent soil displacement or delivery to watercourses was observed. Feature is attributed to a legacy skid trail. Encompassed within a larger Inner Gorge Feature, refer to CEG Report for more information on the Inner Gorge morphology.

Protection Measures: The utilization of a partial harvesting system adjacent to the mapped feature. WLPZ has been extended to create a 25-foot buffer around site. No trees marked for harvest within this feature. Only 1 cable corridor is permitted to pass through the feature. Cable corridors shall be the minimum width necessary to safely within the feature(no greater than 20 feet wide). No hardwood treatment is permitted within the WLPZ. Encompassed within a larger Inner Gorge Feature, refer to CEG Report for more information on the Inner Gorge morphology.

Map#560& S9/Map#524 Description: potential unstable areas identified via LiDAR derived hillshade. Features attributed to legacy skid trails. Observed to be well stocked with conifer. No recent soil displacement or sediment delivery to watercourses was observed.

Protection Measures The utilization of a partial harvesting system adjacent to the mapped features. WLPZ has been extended to create a 25-foot buffer around site. No trees marked for harvest within this feature. Only 1 cable corridor per feature is permitted to pass through the feature. Cable corridors shall be the minimum width necessary to safely within the feature(no greater than 20 feet wide). No hardwood treatment is permitted within the WLPZ. Encompassed within a larger Inner Gorge Feature, refer to CEG Report for more information on the Inner Gorge morphology.

Map#427 Description: Unstable area attributed to legacy skid trail. Feature originates 75' upslope of skid trail, but trail prism is generally intact through site. Basal area within feature is 130 ft^2 with 85% canopy closure.

Protection Measures: Utilize cable logging system and group selection silviculture. No group openings proposed near the feature. A 15 buffer around the feature designated with the Special Treatment Zone flagging has been established. Retain 100 ft^2 and 60% of existing canopy cover, area will be marked prior to PHI. No treatment of hardwoods shall occur within the boundary of this feature. Cable corridors shall be limited to no wider than 20 feet through the mapped landslide areas and shall be limited to utilizing the minimum necessary number of corridors through the flagged site boundary.

RPF Geology Discussion

Map#433 & S5/Map#558 Description: Two features identified as being related to legacy skid trails. The area between the two features is generally hummocky, but no signs of recent soil displacement was observed. A mapped a STZ that encompasses both unstable features and the surrounding hummocky ground has been established and is flagged in the field using Special Treatment Zone flagging. Basal within the STZ is 145 ft^2 and 85% canopy cover, excluding a few localized areas within minimal basal area. These localized areas have a large number of small conifer and brush species.

Protection Measures: Utilize cable logging system and group selection silviculture. No group openings proposed near the feature. A 15 buffer around feature designated with Special Treatment Zone flagging has been established. Where feasible, retain a minimum of 100 ft^2 and 60% of existing canopy cover. In the localized areas where the retention requirement cannot be met by preharvest conditions, no trees will be felled except to provide for safety. area will be marked prior to PHI. Cable corridors shall be limited to no wider than 20 feet through the mapped landslide areas and shall be limited to utilizing the minimum necessary number of corridors through the flagged site boundary. No treatment of hardwoods shall occur within the boundary of this feature.

Map#928: An area of instability that appears to originate from legacy skid trails. A wet area is located at the base of this feature. Feature has been observed to be well stocked with conifer. No recent soil displacement was observed.

Protection Measures: The utilization of a partial harvesting system adjacent to the mapped feature. WLPZ has been extended to create a 25 foot buffer around the feature. Only 1 cable corridor per feature is permitted to pass through the feature. Cable corridors shall be the minimum width necessary to safely within the feature(no greater than 20 feet wide). No hardwood treatment is permitted within the WLPZ.

Map Point 44 Description: an unstable area that appears to originate upslope of road from a legacy skid trail. Associated fill failure blocks existing road, road prism appears intact underneath debris. Additional information may be found in the CEG Report.

Protection Measures: clear sloughed materials blocking road, either back-end haul material to a stable location or feather the material into the road surface. No side cast is permitted. A 25-foot no cut buffer around feature has been established and is designated with Orange/White 'SPECIAL TREATMENT ZONE' Flagging. Equipment is limited to the existing truck road through this feature.

Map#949 Description: A legacy skid trail failure within the WLPZ of Class II watercourse. Area has revegetated and no evidence of recent soil displacement was observed.

Protection Measure: No mitigation proposed outside of the inherent constraints of the THP. The skid trail is not proposed for utilization.

Map#1039 Description: Shallow feature that seems to originate from a falling tanoak which knocked over several other trees. The feature extends from the watercourse channel to 150' upslope. Delivery of approximately 1 yard of soil into the downslope watercourse was observed. Based on observations in the field this feature appears to be related to natural processes and is not directly related to timber harvesting. Feature is mapped 100 feet upstream from Best, CEG mapping.

RPF Geology Discussion

Protection Measures: The utilization of a partial harvesting system(Group Selection) adjacent to the mapped feature. A 25 foot no cut buffer has been applied to the perimeter of this area and is flagged with

RPF Geology Discussion

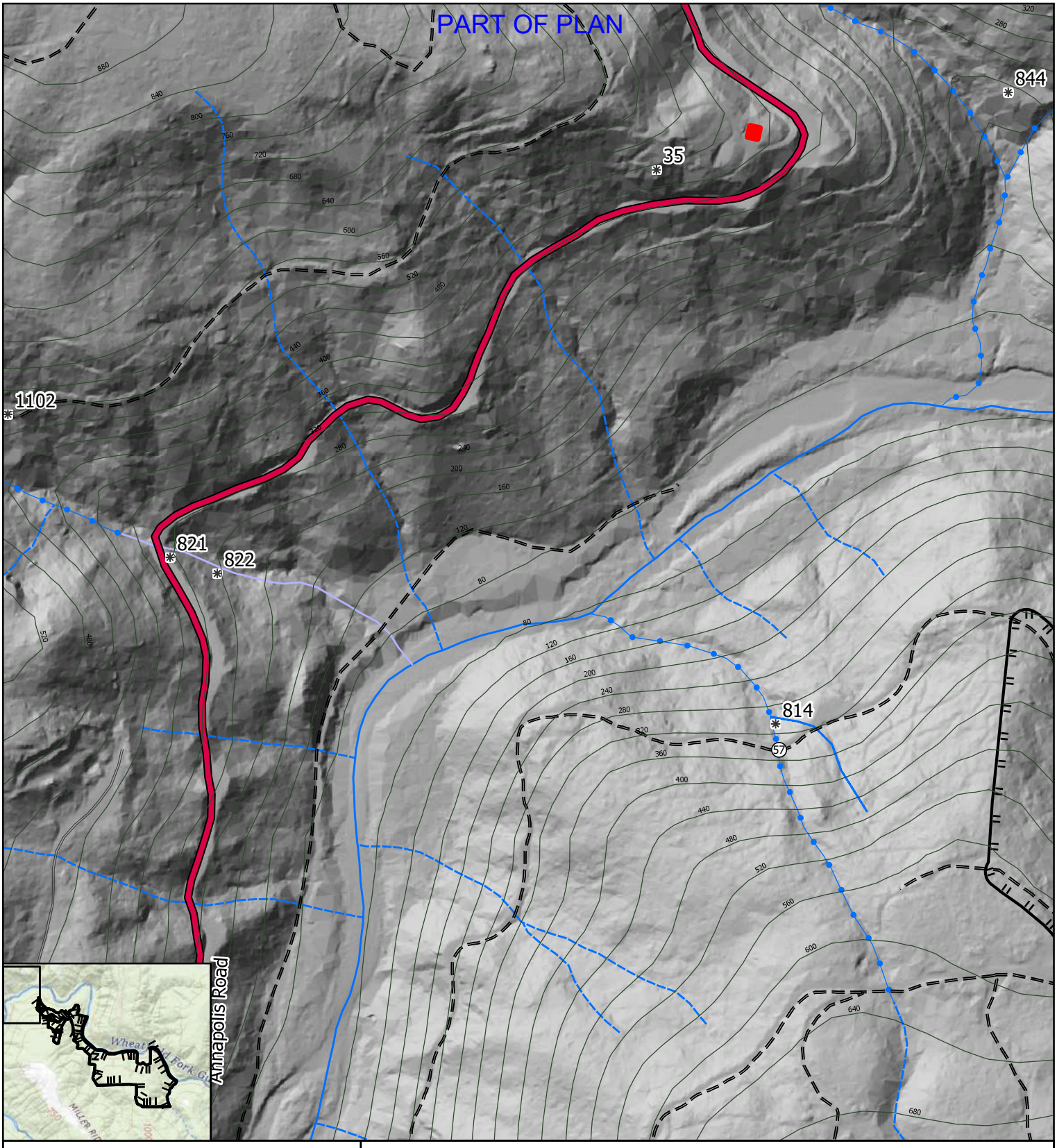
SPECIAL TREATMENT ZONE(STZ) flagging. No treatment of hardwoods shall occur within the boundary of this feature.

Map#467 Description: An unstable area with well defined scarps partially within plan boundary. Extent of feature is too small to map accurately. Feature is located entirely within WLPZ.

Protection Measures: The area surrounding the feature will be harvested utilizing a partial harvest system(Selection/WLPZ). No trees are marked for harvest within 25 feet adjacent to the feature. No hardwood treatment is permitted within the WLPZ.

Map#114 Description: a mapped feature located immediately downslope of the project. No obvious indicators of slope instability that could be impacted by proposed operations were observed.

Protection Measures: None proposed.



Pepper THP Site Observation Map

N

Elevation Source:
Sonoma Veg Map,2013

Scale: 1:5,000

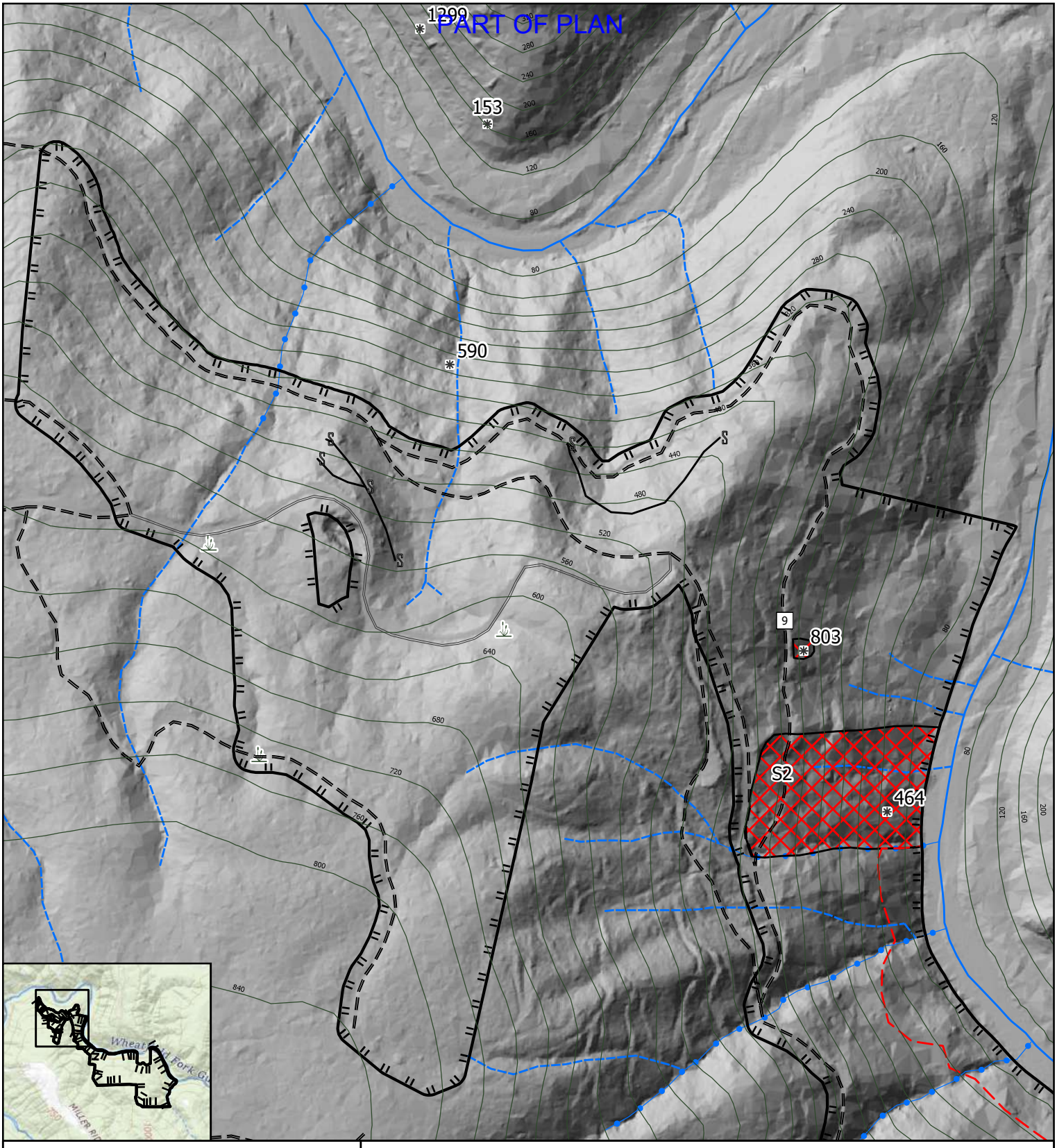
0 600 Feet

Contour Interval:40'

Explanation

- Public Paved Road
- STZ
- Other Map Point
- Wet Areas
- 1600 Site
- Steep Slope Skid Trail
- THP Boundary
- Inner Gorge
- GRT Slide Inventory Point
- No Harvest Area
- Sonoma Structures
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road

Figure:				
5	T10N R14W Sec 14,15,22 23, and 24	Portions of Stewarts Point and Annapolis 7.5' USGS Topo Quad	Prepared For: Gualala Redwood Timber	Prepared By: J. Kilgore, CFG	Date: 3/27/2024



Pepper THP Site Observation Map

N

Elevation Source:
Sonoma Veg Map,2013

Scale: 1:5,000

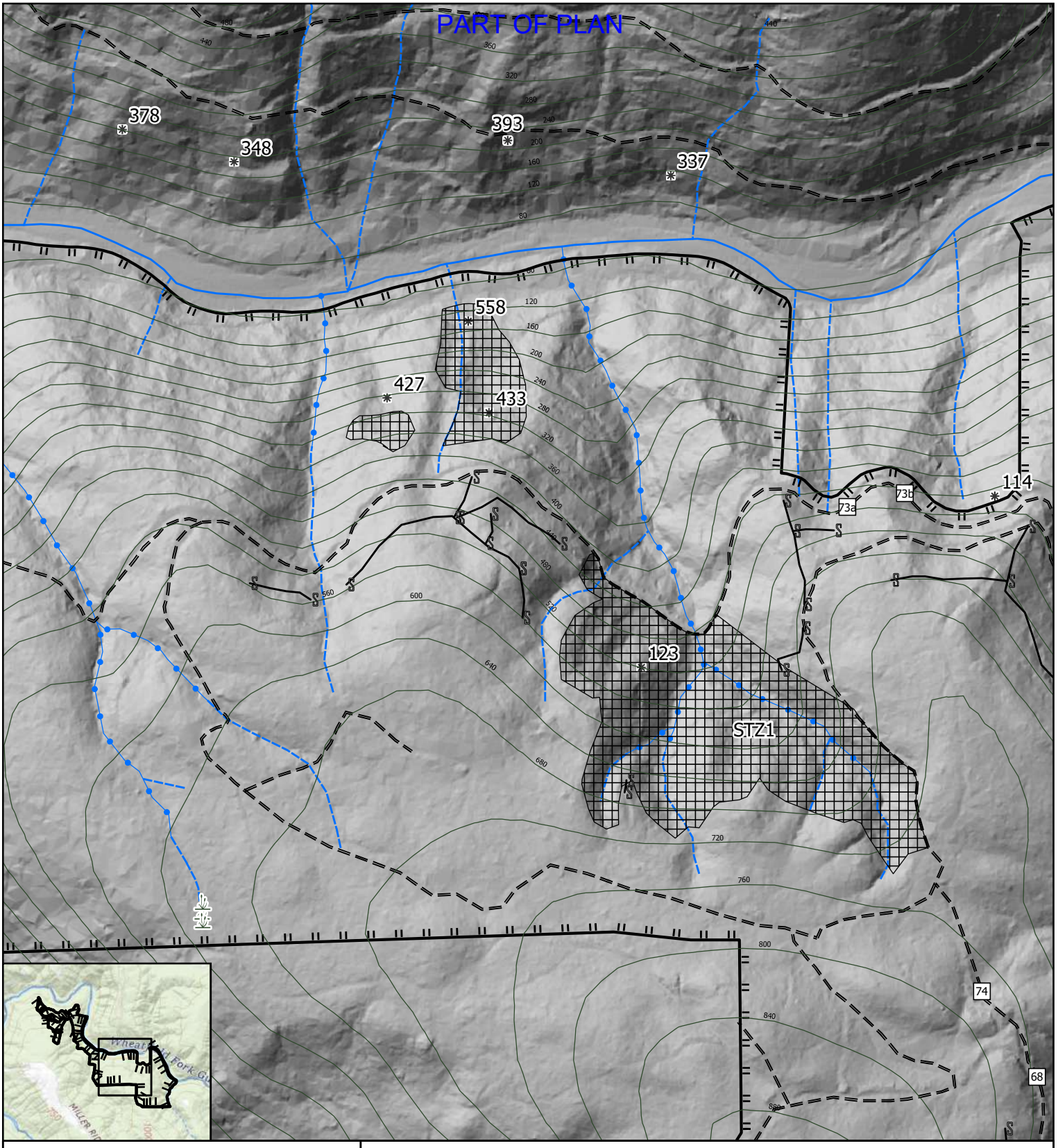
0 600 Feet

Explanation

- Public Paved Road
- STZ
- Other Map Point
- Wet Areas
- 1600 Site
- THP Boundary
- Inner Gorge
- GRT Slide Inventory Point
- No Harvest Area
- Sonoma Structures
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road

Contour Interval:40'

Figure:				
6	T10N R14W Sec 14,15,22 23, and 24	Portions of Stewarts Point and Annapolis 7.5' USGS Topo Quad	Prepared For: Gualala Redwood Timber	Prepared By: J. Kilgore, CFG	Date: 3/27/2024



Pepper THP Site Observation Map

N

Elevation Source:
Sonoma Veg Map,2013

Scale: 1:5,000

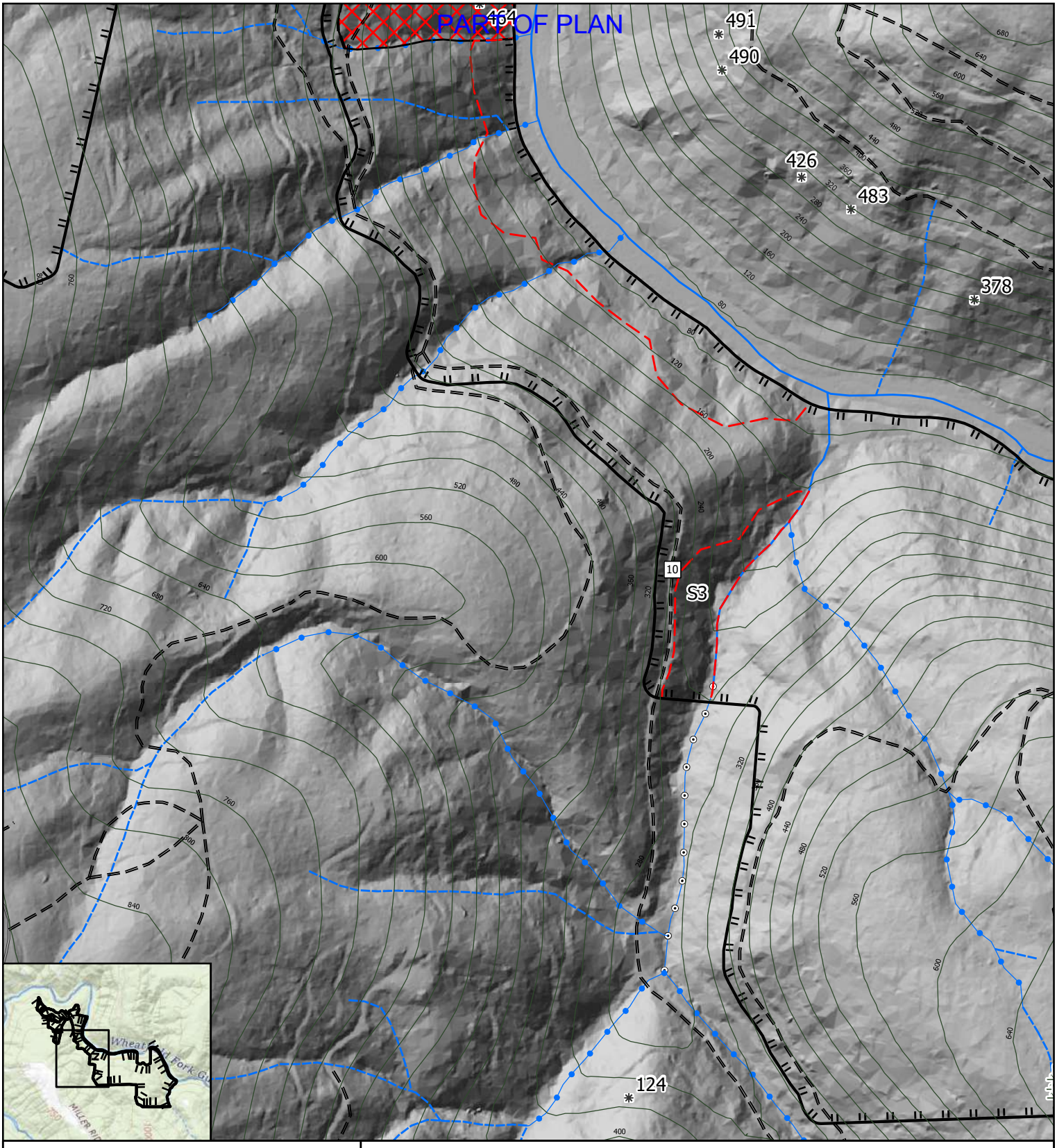
0 600 Feet

Contour Interval:40'

Explanation

- Public Paved Road
- STZ
- Other Map Point
- Wet Areas
- 1600 Site
- Steep Slope Skid Trail
- THP Boundary
- Inner Gorge
- GRT Slide Inventory Point
- No Harvest Area
- Sonoma Structures
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road

Figure:					
7	T10N R14W Sec 14,15,22 23, and 24	Portions of Stewarts Point and Annapolis 7.5' USGS Topo Quad	Prepared For: Gualala Redwood Timber	Prepared By: J. Kilgore, CEG	Date: 3/27/2024



Pepper THP Site Observation Map

N

Elevation Source:
Sonoma Veg Map,2013

Scale: 1:5,000

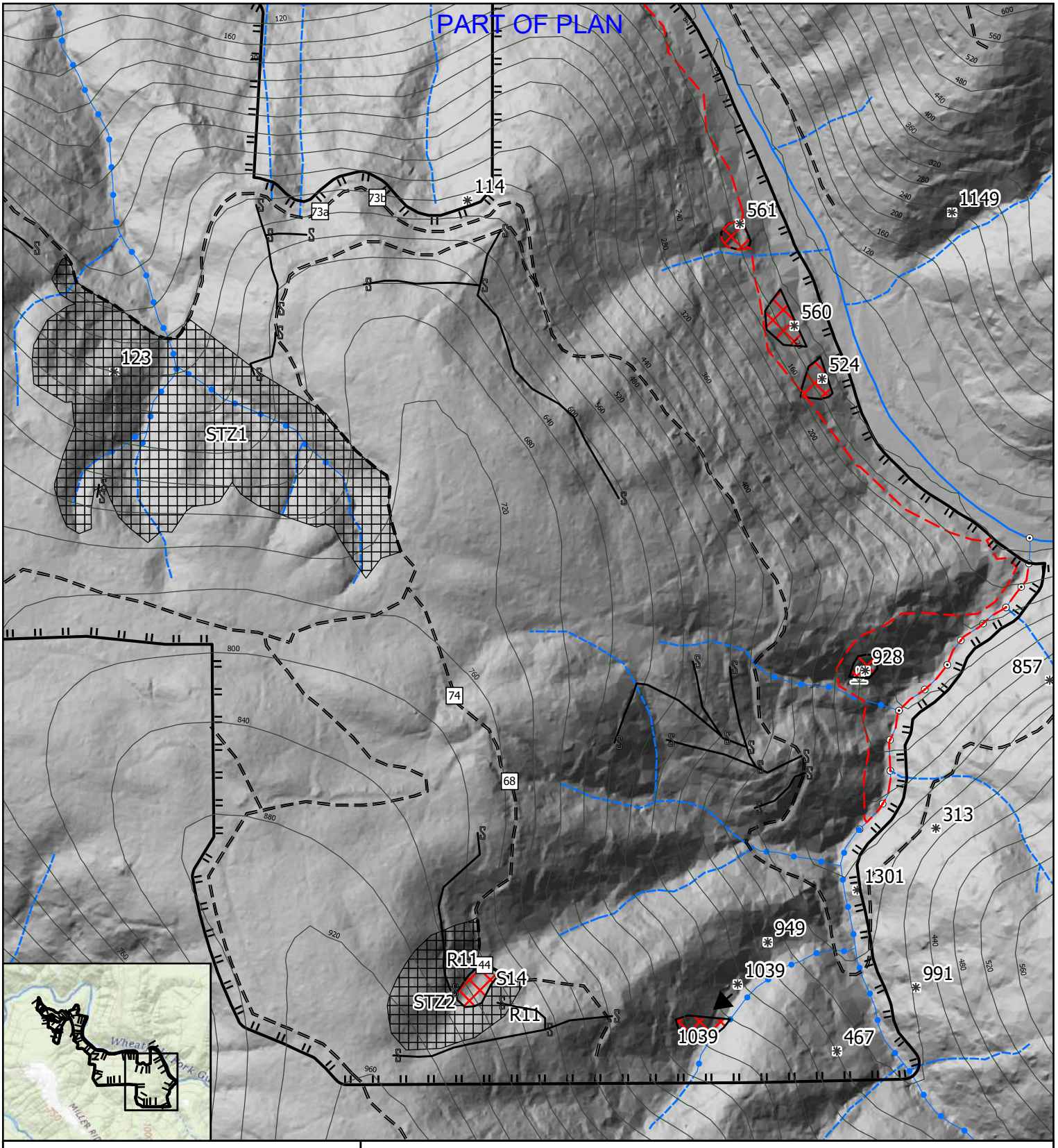
0 600 Feet

Contour Interval:40'

Explanation

- Public Paved Road
- STZ
- Other Map Point
- Wet Areas
- 1600 Site
- Steep Slope Skid Trail
- THP Boundary
- Inner Gorge
- GRT Slide Inventory Point
- No Harvest Area
- Sonoma Structures
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road

Figure:				
8	T10N R14W Sec 14,15,22 23, and 24	Portions of Stewarts Point and Annapolis 7.5' USGS Topo Quad	Prepared For: Gualala Redwood Timber	Prepared By: J. Kilgore, CFG	Date: 3/27/2024



Pepper THP Site Observation Map

N

Elevation Source:
Sonoma Veg Map,2013

Scale: 1:5,000

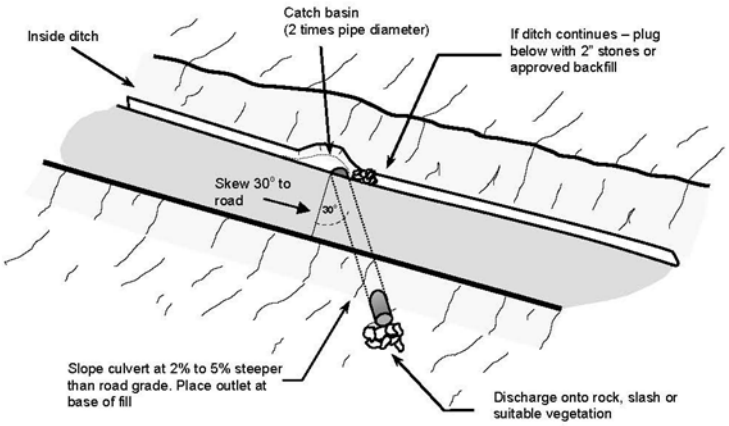
0 600 Feet

Contour Interval:40'

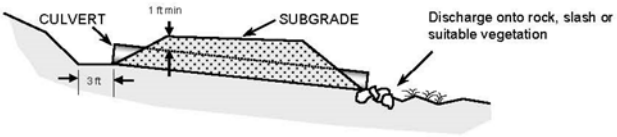
Explanation

- Public Paved Road
- STZ
- Other Map Point
- Wet Areas
- 1600 Site
- Steep Slope Skid Trail
- THP Boundary
- Inner Gorge
- GRT Slide Inventory Point
- No Harvest Area
- Sonoma Structures
- Class I Watercourse
- Class II-L Watercourse
- Class II-S Watercourse
- Class III Watercourse
- Private Seasonal Road
- Private Permanent Road

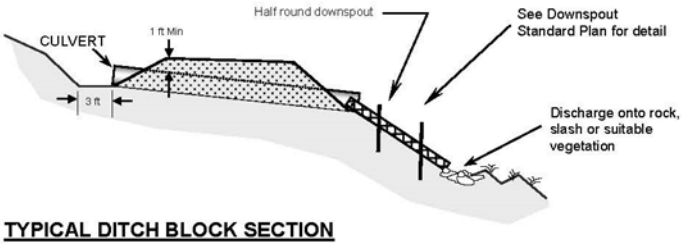
Figure:					
9	T10N R14W Sec 14,15,22 23, and 24	Portions of Stewarts Point and Annapolis 7.5' USGS Topo Quad	Prepared For: Gualala Redwood Timber	Prepared By: J. Kilgore, CEG	Date: 3/27/2024



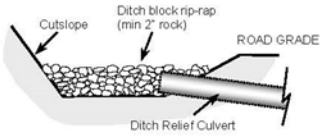
TYPE "A" DITCH RELIEF CULVERT
(no downspout)



TYPE "B" DITCH RELIEF CULVERT
(with round or half round downspout)



TYPICAL DITCH BLOCK SECTION



NOTES

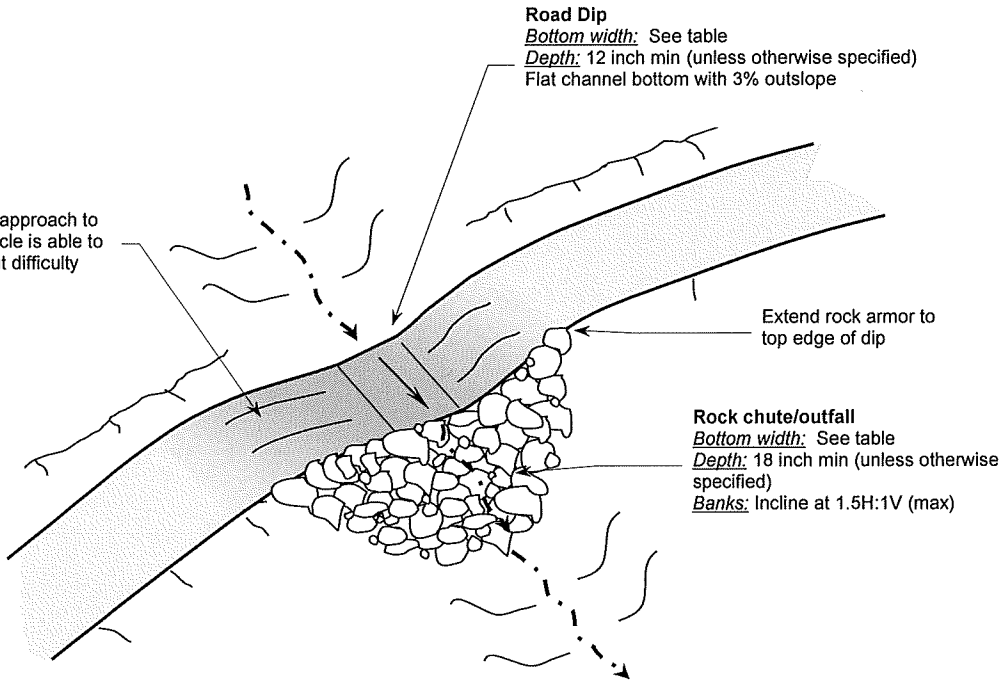
- Backfill should be compacted alongside and over top of the culvert.
- Culverts should extend a minimum of 1' beyond base of road fill, or flume used to carry flow beyond fill.
- Rock, slash or suitable vegetation should be used at discharge point.

	DITCH RELIEF CULVERT STANDARD PLAN	**Standard Detail**
		Date: April 1, 2014

PART OF PLAN

DIAGRAM 4

ROCK FORD – FOREST ROAD

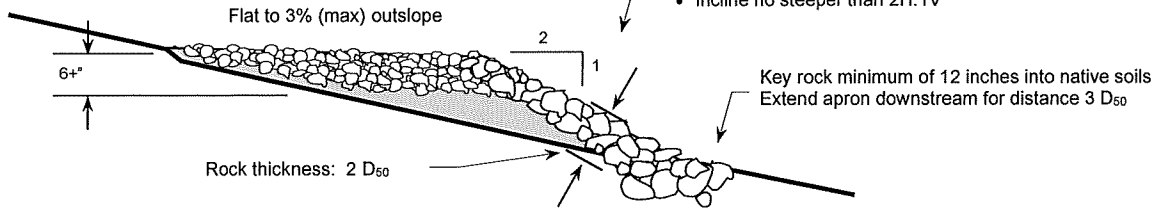


AGGREGATE ROAD BASE:

- See table for rock size
- Place rock minimum 6 inches deep
- *Note: If specified, separate base from native with woven geotextile fabric (Mirifi 700X or equivalent)*

OUTFALL ARMOR:

- See table for D_{50} rock size (unless otherwise specified)
- Rock rip-rap shall consist of approved sound durable angular rock
- Rock should generally be well-graded (incorporating mix of sizes; see table for range)
- Voids shall be filled with smaller rock to prevent piping around the larger rock
- Larger rock to be placed at base of apron
- 2 D_{50} minimum rock thickness
- Incline no steeper than 2H:1V



	ROCK FORD – FOREST ROAD TYPICAL SPECIFICATIONS	Standard Detail
		Diagram #4

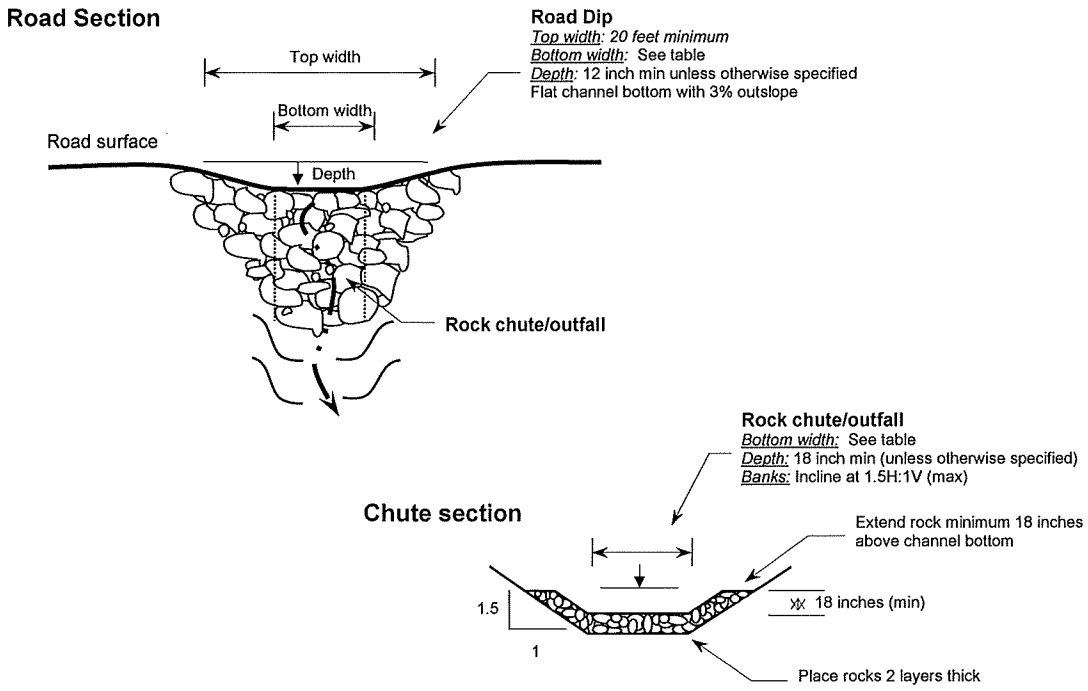


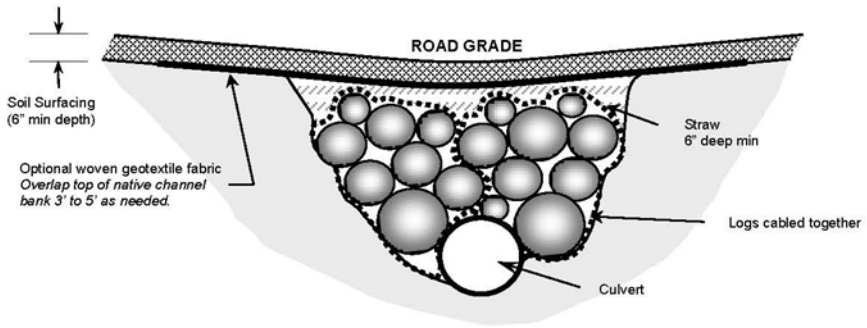
TABLE 1
CHANNEL WIDTH AND ROCK SIZE

Peak Discharge Q (Cfs)	Minimum Channel Bottom Width (ft)	Rock Chute/outfall		Road surface
		Median rock diameter D_{50} (in)	Range $D_{10} - D_{85}$ (in)	Median Rock diameter D_{50} (in)
2	2′	6″	5″ - 8″	3″ minus
5	2′	9″	6″ - 12″	3″ minus
10	2′	12″	10″ - 16″	3″ minus
15	2′	14″	10″ - 18″	3″ minus
20	4′	14″	10″ - 18″	3″ minus
30	4′	16″	12″ - 20″	3″ – 6″
40	4′	18″	12″ - 24″	3″ – 6″
>40	Site-specific design required			

NOTES

- **Details are typical and intended for use as a guideline. Adjustments may be required to local site conditions.**
- **It is the responsibility of the RPF or design professional to ensure the applicability of these specifications at any given site.**
- Specifications apply to low to moderate gradient watercourses where the outfall of the ford is inclined no steeper than 2H:1V (50%) and where the maximum discharge is less than 40 cfs.
- Rock fords are not recommended on roads steeper than 15% grade due to the difficulty in installing an adequate sized dip.
- The design specifications here are based on *Design of Rock Chutes* (Robinson et al., 1998), US Forest Service publications *Low-water Crossings: Geomorphic, Biologic and Engineering Design Considerations* (Clarkin et al., 2006) and *Low-Volume Roads Engineering: Best Management Field Guide* (Keller and Sherar, 2003).

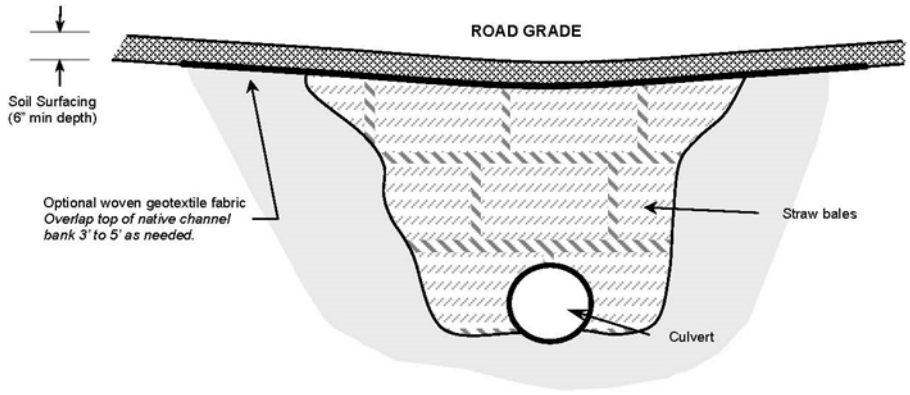
	ROCK FORD – FOREST ROAD TYPICAL SPECIFICATIONS	Standard Detail
		Diagram #4



NOTES

1. If there is flow in channel install 12" diameter culvert at stream grade (unless otherwise specified). This may require moving rocks or wood debris in channel. Minimize the amount of disturbance to channel banks.
2. Groups of logs cabled together shall be carefully placed in the axis of the channel to raise the road surface to grade. Placement of the cable logs should be done in a manner to minimize the amount of ground disturbance to the channel banks. The length of fill logs or culvert shall be 20' or greater (unless otherwise specified).
3. Equipment shall avoid operations in the channel.
4. Cables may be used to choke logs in bundles in the channel.
5. Place 6" minimum layer of straw over the logs and then capped by a minimum of 6" of compacted earth to create a stable running surface. Woven geotextile fabric may be required to separate fill from straw.
6. At the conclusion of operations, first remove any soil, then straw, and finally logs and the culvert.
7. Remove soil from channel and taper channel banks if specified. Mulch disturbed ground with straw or native materials.

	TEMPORARY "SPITTLER" STREAM CROSSING	**Standard Detail**
		Date: April 1, 2014



NOTES

8. If there is flow in channel install 12" diameter culvert at stream grade (unless otherwise specified). This may require moving rocks or wood debris in channel. Minimize the amount of disturbance to channel banks.
9. Place straw bales in channel to interlock around the culvert. Fill with straw bales up to the level of the banks. The straw bales and culvert length shall be 20 feet or greater (unless otherwise specified).
10. Equipment shall avoid operations in the channel.
11. Cap straw bales with a minimum of 6" of compacted earth to create a stable running surface. Woven geotextile fabric may be required to separate fill from straw.
12. At the conclusion of operations, first remove any soil, then straw bales and the culvert.
13. Remove soil from channel and taper channel banks if specified. Mulch disturbed ground with straw or native materials.

Lyme Redwood Forest Company	**TEMPORARY STRAW BALE STREAM CROSSING**	**Standard Detail** Date: April 1, 2014

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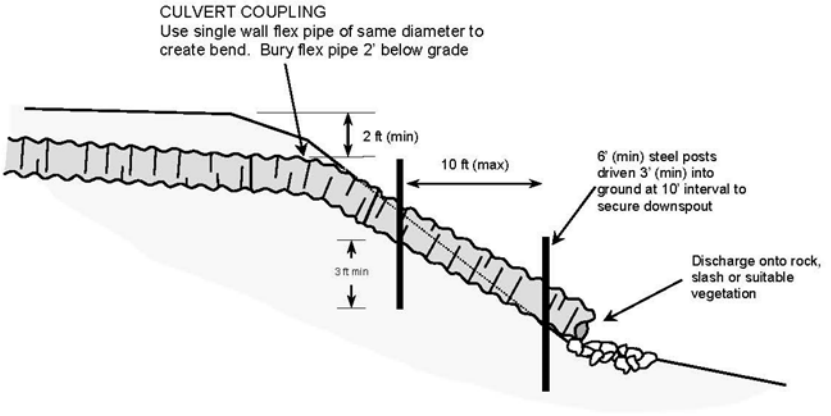
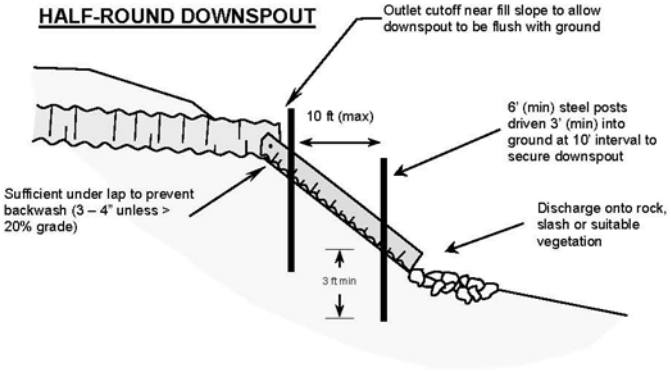
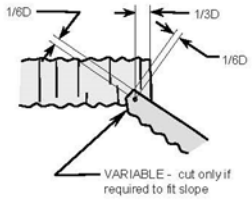
118.4

FULL-ROUND DOWNSPOUT



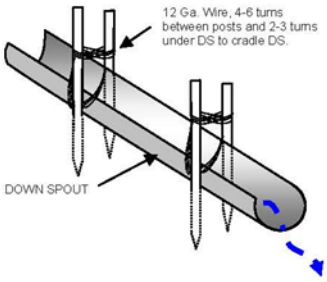
HALF-ROUND DOWNSPOUT

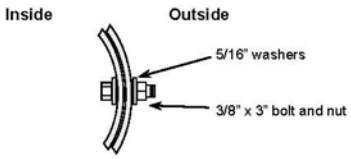




HALF ROUND CONNECTION

DOWNSPOUT STAKE WIRING DETAIL





BOLT DETAIL

	DOWNSPOUT STANDARD PLAN	Standard Detail Date: April 1, 2014

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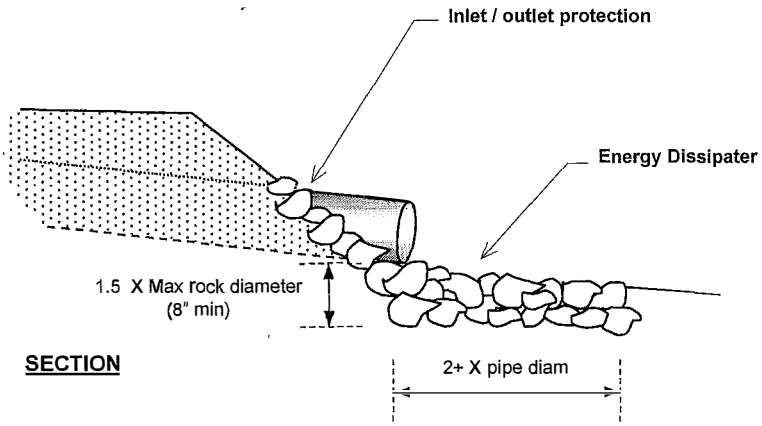
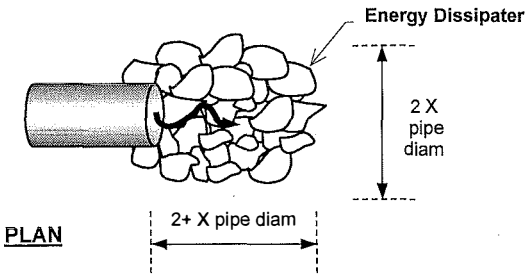




NOTES

- **Inlet/outlet protection**
  - Armor inlet and outlet to top of culvert with rock rip rap
  - Riprap shall consist of approved well graded sound durable angular rock unless otherwise specified
  - 50% of rock (D_{50}) shall be larger than 8 inches minimum diameter unless otherwise specified
  - Rock shall be keyed minimum 1.5 times diameter into bed and banks unless otherwise specified

- **Energy dissipater**
  - Culvert shall discharge onto rock energy dissipater / apron aligned with native channel as shown on plans or directed
  - Unless otherwise specified in plans or directed by geotechnical consultant, armor shall consist of approved sound durable angular rock adequately sized for design flow. Preliminary rock size is specified in Table C.
  - Rock apron shall extend a minimum of 2 time pipe diameter downstream of outlet and be a minimum of 2 times pipe diameter wide. Apron may taper downstream on steeper gradient channels.
  - Rock shall be embedded into channel a minimum of 1.5 times maximum rock diameter. Subexcavate channel bed and banks in areas to receive rock. Rock shall be placed to form a uniform grade at the pipe outlet in a manner to prevent flow from eroding around the edge of the apron.
  - Separate rock from native soils with approved geotextile fabric if specified on plans or directed
  - Compact loose soils adjacent to rock rip rap

TABLE C

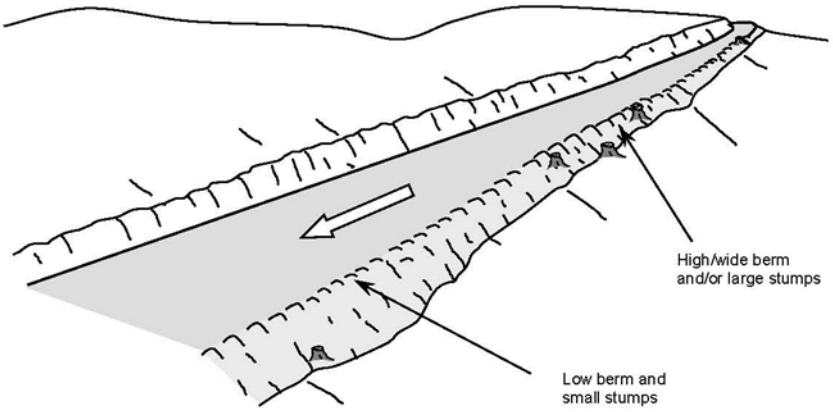
Pipe Diameter	D_{50} Rock Size (50% of rock larger than specified)	
	Diameter	Weight
< 18"	8+"	Gabion+
24"	12"	¼ T
36"	24"	½ T
48"	36"	1½ T

5H ENERGY DISSIPATER (Typical)
NTS

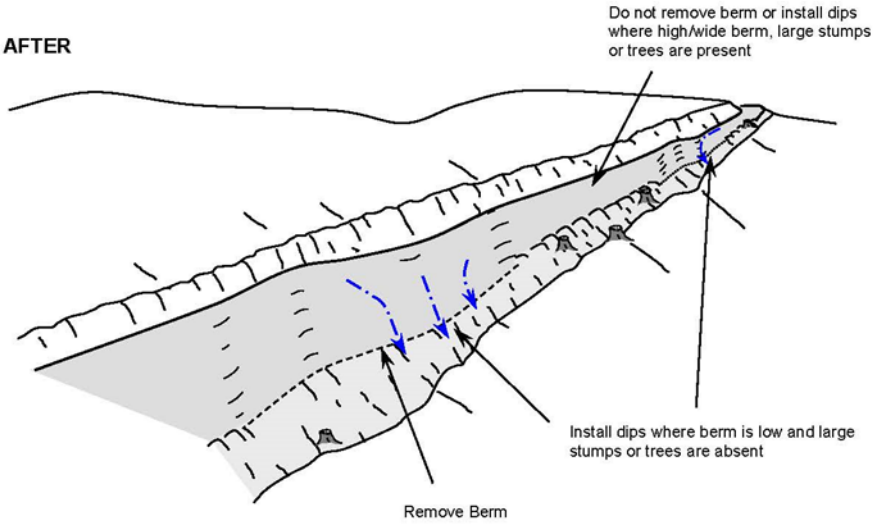
TIMOTHY C. BEST, CEG ENGINEERING GEOLOGY AND HYDROLOGY	**ENERGY DISSIPATER TYPICAL SPECIFICATIONS**	**Standard Detail 5H** Date: May 3, 2009

ROLLING DIP APPLICATION ON EXISTING ROADS

BEFORE



AFTER



NOTE: See Rolling Dip Standard Plan for design specifications

	ROLLING DIP APPLICATION ON EXISTING ROADS	Standard Detail
		Date: April 1, 2014

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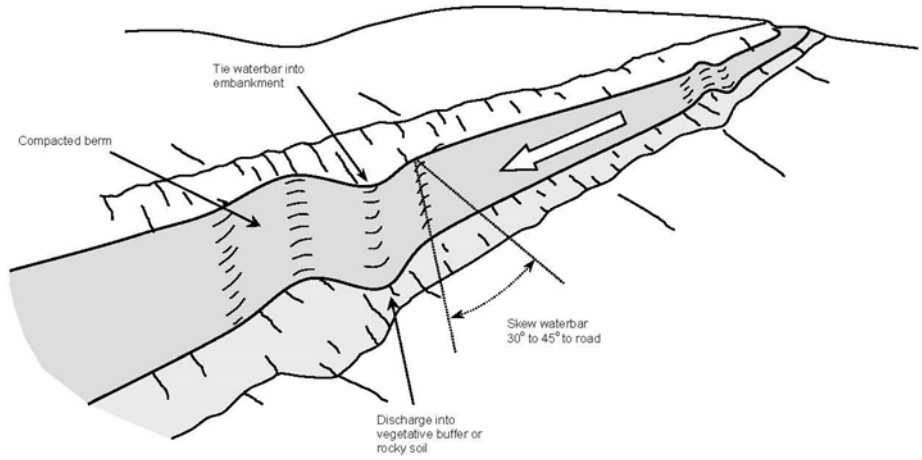
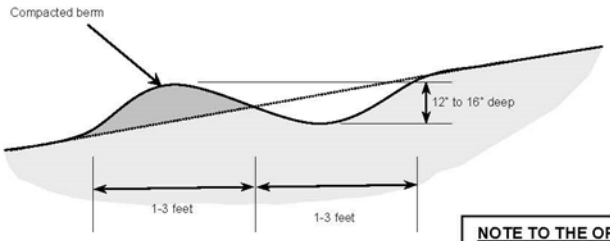




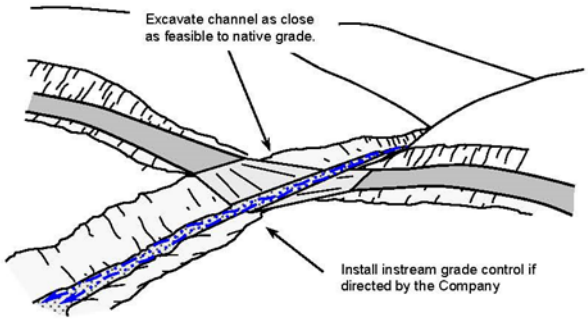
NOTE TO THE OPERATOR

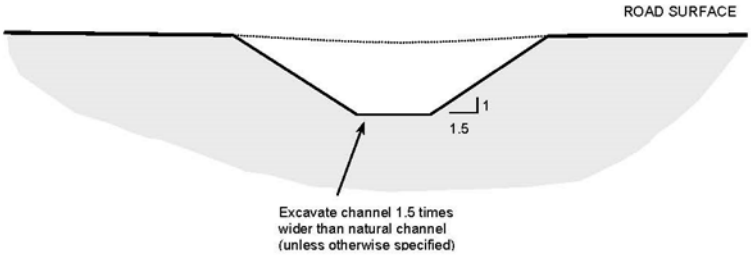
The typical and associated guidelines are intended to: (1) provide for waterbar construction and (2) provide consistent implementation on managed Timberlands. Effective drainage facilities on native surface logging roads minimize erosion, maintain the integrity of the road prism and reduces future road maintenance issues. It is understood that site-specific conditions may require deviation(s) from the typical approach. Primary considerations should be given to waterbar outlet location.

NOTES

1. Identify waterbar locations that take advantage of natural drainage features and minimize the amount of disturbance required for waterbar construction
2. All waterbars shall begin at the intersection of the roadbed surface and the cut slope and run the entire width of the road surface prism.
3. Waterbar length shall not exceed 1.5 times the width of the road surface.
4. Acceptable waterbars shall be skewed 30 to 45 degrees.
5. All waterbars shall have free flowing outlets with minimum 2% grade in the bottom of the channel that discharge onto vegetative surfaces or less erodible material where possible.
6. Native materials used to construct downslope berm shall be compacted with equipment to minimize wear resulting from trespass and/or administrative use.
7. Waterbar depth measured from the bottom of the waterbar channel to the top of the compacted berm must be between 12" and 16" high.
8. Compacted waterbars must be passable in a 4WD vehicle unless otherwise specified in the contract or by a logging supervisor in writing.

	WATERBAR STANDARD PLAN	**Standard Detail**
		Date: April 1, 2014

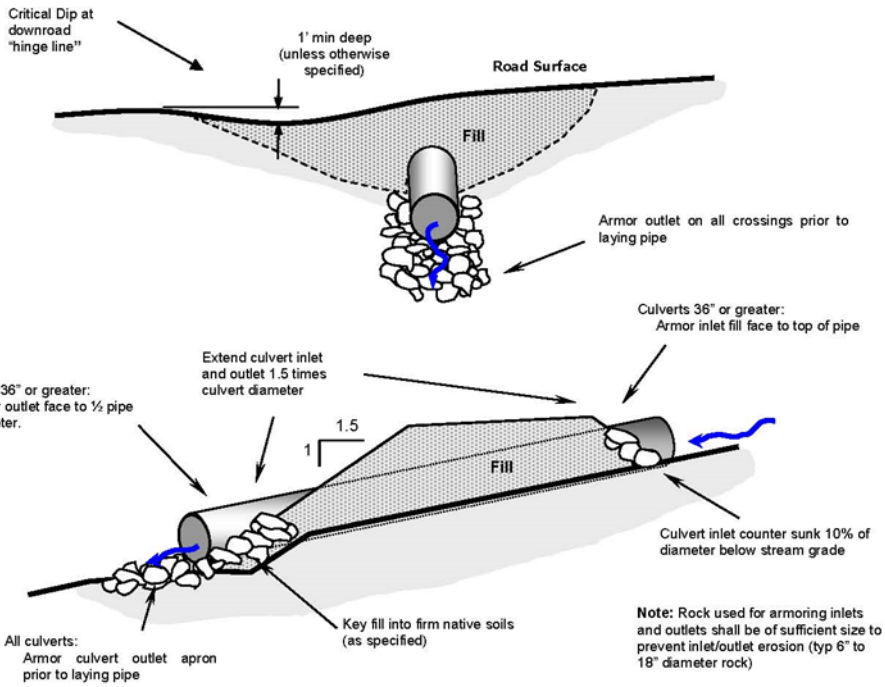


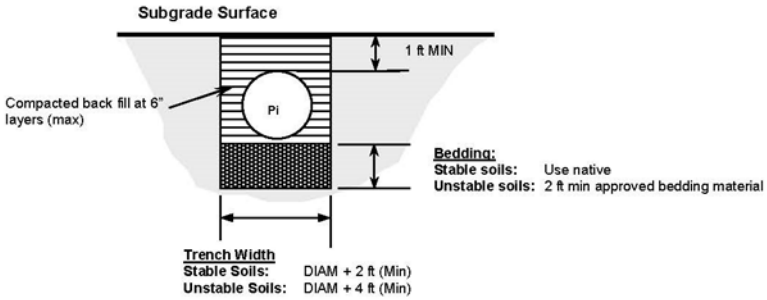


NOTES

1. Excavate a channel that is 1.5 times wider than the natural channel (unless otherwise specified).
2. Excavated channel shall be as close as feasible to the grade and orientation of the natural channel
3. Channel banks shall be excavated to a 1.5:1 slope unless otherwise specified in the plan or directed by the Company.
4. Spoils shall be placed and compacted along a stable portion of the inboard edge of the road, unless otherwise specified. Fill shall be placed in a manner to prevent future erosion.
5. Install instream grade control if directed by the Company. Grade control shall consist of large wood or rock and is intended to prevent stream down cutting.
6. Mulch disturbed ground.
7. Conform to requirements Department of Fish and Game 1600 permits where applicable.
8. Attempt to leave 5 foot wide ATV passageway on upstream side. May require use of straw vs. slash.

	TEMPORARY WATERCOURSE CROSSING REMOVAL PLAN	**Standard Detail**
		Date: April 1, 2014





Notes:

- The culvert bed shall be clean and free of large woody debris and large rocks.
- Unsuitable foundation material (highly plastic material – "blue goo") shall be excavated below the invert elevation of the culvert to an approximate depth of 2 feet and a width of at least the culvert diameter plus 4 feet.
- Unsuitable material shall be replaced with selected granular foundation material and compacted to obtain a uniform foundation.
- Select mineral soil shall be used for culvert backfill. The back fill shall be free of lumps, chunks, highly plastic material, and organic materiel
- No rocks greater than 3" in any dimension placed closer than 1 foot to the culvert.
- Back fill shall be compacted to a degree greater than the surrounding soils. Soil moisture shall be adequate to achieve suitable compaction
- See Text for more detail.

	PERMANENT WATERCOURSE CROSSING STANDARD PLAN	Standard Detail Date: April 1, 2014

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Notification Information List Pursuant toFish and Game Code Section 1611

IMPORTANT: In order to facilitate processing of Streambed Alteration Notifications via Fish and Game Code (FGC) Section 1611, the Department of Fish and Game (Department) recommends all information requested below be attached in Item 26(d) of Timber Harvesting Plans (THP's) in Sections II or III, as appropriate. In accordance with FGC Section 1611, the Department is not required to process the notification until the THP and the notification fee have been received by the Department. Please send the notification fee directly to the appropriate Department regional office.

Please provide the following information for notification of Lake or Streambed Alteration Activities in accordance with the "Guidelines for Lake or Streambed Alteration Notification via Timber Harvesting Plans".

1. Basic data, including all the following: Please Refer to Section I of this plan. The Contact person is the same as the RPF.

a) The name of each lake and the name and watercourse classification of each stream the lake or streambed alteration activities will affect, including the nearest downstream watercourse or waterbody.

Map Point	Feature	Tributary to	Lattitude	Longitude	Legal, All MDBM
3	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.704618N	123.399033W	T10N R14W Sec 22
4	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.706569N	123.398544W	T10N R14W Sec 15
6	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.70696N	123.395631W	T10N R14W Sec 14
7	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.707211N	123.39559W	T10N R14W Sec 14
8	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.70714N	123.393933W	T10N R14W Sec 14
11	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.6959N	123.388784W	T10N R14W Sec 23
12	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.693483N	123.38634W	T10N R14W Sec 23
13	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.697605N	123.38558W	T10N R14W Sec 23

14	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.698111N	123.383092W	T10N R14W Sec 23
15	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.698023N	123.379921W	T10N R14W Sec 23
16	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.697563N	123.378962W	T10N R14W Sec 23
18	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.694906N	123.372497W	T10N R14W Sec 24
19	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.693252N	123.37255W	T10N R14W Sec 24
41	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.696791N	123.384014W	T10N R14W Sec 23
42	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.696368N	123.383054W	T10N R14W Sec 23
49	**Tractor Crossing**	**Wheatfield Fork of the Gualala River**	38.696388N	123.38516W	T10N R14W Sec 23
53	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.705016N	123.406873W	T10N R14W Sec 22
57	**Complex**	**Wheatfield Fork of the Gualala River**	38.70868N	123.402719W	T10N R14W Sec 15
60	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.707864N	123.397509W	T10N R14W Sec 15
63	**Watercourse Crossing**	**Wheatfield Fork of the Gualala River**	38.703863N	123.392187W	T10N R14W Sec 23
2601-(Valley Crossings)	**Drafting Site**	**South Fork of the Gualala River**	38.702664N	123.418943W	T10N R14W Sec 21

a) A single map or diagram clearly showing all the following:
   i. All lake and stream encroachments, with a number or other appropriate identifying label.
   ii. All roads, with a number or other appropriate identifying label
   iii. All watercourse classifications (i.e., Class I, II, or III).
   iv. Access from a named public road.
   v. A north arrow and scale.

Please refer to the end of Section II for the THP Map Points and Features Map and Appurtenant Roads Maps.

b) A description of the types of lake or stream encroachments the applicant intends to construct, install, use or remove (e.g., a corrugated metal pipe, “Humboldt” crossing, impoundment for water diversion, water drafting

sites, bank stabilization, rocked ford, bridge, etc.), and whether they will be temporary or permanent. If multiple lake or stream encroachments are proposed, the applicant should include a table that describes each type of encroachment (e.g., permanent culvert, temporary bridge, rock revetment, etc.), watercourse classification, culvert size and encroachment map reference number.

Please refer to the Map Points Table in Section II, Item 24 of this THP document.

c) A description of the fish and wildlife and botanical resources the work could adversely affect, including riparian resources and special status species (i.e., species listed under the California Endangered Species Act ("CESA") and/or the federal Endangered Species Act ("ESA"), species fully protected under state law, and/or species of special concern). If the work could adversely affect any listed species, the applicant should indicate whether consultation under CESA or ESA has commenced and if so, the current status of the consultation. Applicant should also provide the biological opinion, as applicable.

Northern Spotted Owls are known to occur within or near the project area. Coho salmon and steelhead trout are known to occur throughout the Gualala River watershed. A floristic survey has been completed and added into Section V. Please refer to the THP Sections 2 and 3, Item 32 for additional information concerning wildlife and botanical resource issues.

d) Indicate if the work takes place in, adjacent to, or near a river that has been designated as "wild and scenic" under state or federal law.

N/A

1. Information about each lake and stream encroachment, including the following:

a) Construction plans, including specific details, cross sections, and dimensions**.**

Please refer to the Map Points Table in Item 24 of Section II.

b) If water will be present and diversion of flow around the work site is necessary, the volume of water to be diverted and the method of diversion.

Stream flow is not anticipated during crossing installations. Most crossings are on Class III Watercourses that remain dry during summer months. If water is present, a coffer dam, water pump, and hose will divert any stream flow present during Map Point work.

c) If water drafting is proposed, provide drafting site information (i.e. estimated volume, drafting rate, timing, etc.). Indicate if the activity will be done pursuant to a water right application or permit.

The estimated volume per day is 10,000 gallons. Water drafting may occur between April 1st and November 15th. These parameters are only applicable to the stated sites for the duration of this LSAA.

<u>Water Tanks</u>

If water tanks are in place, it is anticipated it will take 12 to 48 hours to fill 10,000 gallons in tanks. It is estimated that ~10,000 gallons/day may be needed for dust abatement from water truck and/or tank drafting.

d) The materials (e.g., soil, sand, gravel, ¼- to ½-ton rip-rap, large wood, etc.) and volumes that will be used for and/or removed from the lake or stream encroachment, the dimensions of the area to be excavated and the dimensions of the area to be filled.

Map Point	Material Removed (Yds Fill)	Material Added (Yds Fill)	Comment
3	>1 (Soil)	0	Dip
4	2(Soil)	0	Dip
6	5(Soil)	5(Soil)	Culvert Crossing
7	0	0	Culvert Crossing
8	>1(Soil)	0	Dip
11	5(Soil)	5(Soil)	Culvert Crossing
12	0(Soil)	0(Soil)	Temporary Culvert Crossing
13	8(Soil)	8(Soil)	Culvert Crossing
14	>1 (Soil)	0	Dip
15	>1 (Soil)	0	Dip
16	6(Soil)	6(Soil)	Culvert Crossing
18	>5(Soil)	>5(Soil)	Culvert Crossing
19	5(Soil)	5(Soil)	Culvert Crossing
41	>1 (Soil)	0	Dip
42	>1 (Soil)	0	Dip
46	>1 (Soil)	0	Dip
49	1 (Soil)	1(Soil)	Tractor Crossing
50	1 (Soil)	1(Soil)	Tractor Crossing
57	3(Soil)	3(Soil)	Culvert Crossing
63	3(Soil)	3(Soil	Culvert Crossing
2601-(Valley Crossings)	3	3	Class I off channel drafting;sump.

e) Specify the type of equipment to be used.

Excavator, crawler tractor, and dump truck for watercourse crossings. Water truck and excavator for water drafting.

f) Proposed work periods including the date or conditions requiring temporary crossing removal.

If dry: April 1 through November 15. If wet: May 15 through October 30.

g) The species composition and density of vegetation to be removed or disturbed as a result of lake or streambed alteration activities. Indicate if sensitive plant surveys have been completed within areas which will be affected by lake or stream encroachments. Include any plans to restore the affected riparian or hydrophytic vegetation.

Small amounts of vegetation within and around crossing upgrades. A floristic survey has been conducted and can be found in Sec V.

h) Mode of impact to fish, wildlife and botanical resources (i.e., changes in sediment and/or flow delivery rates, dewatered or impounded watercourses, destabilized stream banks, erosion causing sediment deposition, changes to or elimination of riparian vegetation, reduced canopy effects on microclimate and/or water temperature, etc.).

Direct disturbance will be limited to the project vicinities. Significant changes in flow, stream volume, bank stability, reduced riparian vegetation, canopy reduction, and water temperature increase are not anticipated with crossing upgrade activities.

i) Measures included to protect fish, wildlife and botanical resources (i.e., avoidance measures, sediment control measures, construction time periods, methods to divert water around or away from the work site, special measures necessary to protect special-status species, a post-work action plan including measures to minimize soil erosion, revegetation, etc.).

Soil disturbance during crossing installation or removal shall be kept to a minimum necessary for maneuvering and properly installing and removing drainage structures. Water diversion around crossings will involve a pump, coffer dam, and hose to redirect water back into the watercourse channel. Bare mineral soil shall be treated as outlined in Item 18 of this document.

j) Calculations or other data used to size culverts.

Magnitude and Frequency Method for 100-year flood flow (A > 50 acres)

No.	Crossing	Area (acres) A	Basin maximum elevation (ft)*	Crossing elevation (ft)*	Area (mi^2) A	Avg. Annual Precipitation (in/yr) P	Average Basin Elevation H	100-yr flood flow Q_{100} (cfs) North Coast[1] (NC)	Sierra[2] (S)	North-east[3] (NE)	Central Coast[4] (CC)
1	***11***	66	880	280	0.103	50	580	***59.7***	***73.7***	***60.6***	***79.7***
2	***13***	16.8	760	520	0.026	50	640	***18.3***	***21.7***	***22.3***	***25.2***
3	***16***	16.5	800	520	0.026	50	660	***18.0***	***21.2***	***22.0***	***24.9***
4	***18***	6.7	840	400	0.010	50	620	***8.2***	***9.8***	***11.4***	***11.7***
5	***19***	16	920	360	0.025	50	640	***17.5***	***20.8***	***21.5***	***24.2***
6	***6***	9	560	440	0.014	50	500	***10.6***	***13.4***	***14.1***	***14.9***
7	***57***	24.6	860	360	0.038	50	610	***25.4***	***30.7***	***29.4***	***34.8***
8	***63***	14.21	800	320	0.022	50	560	***15.8***	***19.4***	***19.7***	***21.9***
9					0.000	50	0	***0.0***	***#DIV/0!***	***0.0***	***0.0***
10					0.000	50	0	***0.0***	***#DIV/0!***	***0.0***	***0.0***

See below for M&F equations

Rational Method for 100-year flood flow (A < 200 acres, best < 100 acres)

		$T_c = 60((11.9 \times L^3)/H)^{0.385}$			$Q_{100} = CIA$			
No.	Crossing	Channel length (to top of basin) (mi) L	Elevation difference (ft) H	Concentration time (min) Tc	Runoff coefficient C	Return-Period Precipitation (in/hr) I*	Area (acres) A	100-yr flood flow (cfs) Q100
1	***11***	0.45	600	*5*	0.3	3.7	66	***73.3***
2	***13***	0.04	240	*0*	0.3	3.7	16.8	***18.6***
3	***16***	0.01	280	*0*	0.3	3.7	16.5	***18.3***
4	***18***	0.22	440	*3*	0.3	3.7	6.7	***7.4***
5	***19***	0.06	560	*1*	0.3	3.7	16	***17.8***
6	***6***	0.08	120	*1*	0.3	3.7	9	***10.0***
7	***57***	0.44	500	*6*	0.3	3.7	24.6	***27.3***
8	***63***	0.19	480	*2*	0.3	3.7	14.21	***15.8***

Magnitude & Frequency Q_{100} equations

NC (1) $Q_{100} = 48.5(A)^{0.866}(P)^{0.556}$

S (2) $Q_{100} = 20.6(A)^{0.874}(P)^{1.24}(H)^{-0.250}$

NE (3) $Q_{100} = 0.713(A)^{0.731}(P)^{1.56}$

CC (4) $Q_{100} = 11.0(A)^{0.84}(P)^{0.994}$

k) For bridge installations: indicate if the abutments or road approaches will encroach into the floodplain or channel; provide the calculations or data used to determine bridge height and flow capacity; describe the type of abutments and scour protections with dimensions; provide any engineering reports or plans; etc.
Bridge installation is not proposed as part of this THP.

l) Describe any torrent, debris or landslide conditions at each encroachment.
None.

End of the Notification Information List Pursuant to Fish and Wildlife Code Section 1611.

End of 1611 information

DIRECTOR OF FORESTRY AND FIRE PROTECTION

This Timber Harvesting Plan conforms to the rules and regulations of the Board of Forestry and the Forest Practice Act:

By: Tim Holliday — Forester II

(Printed Name) (Title)

DocuSigned by:
Tim Holliday
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(Signature) (Date)