SECTION II PLAN OF OPERATIONS - ITEM #14

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 per 14 CCR § 1034(m) and 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		
	Un-evenaged		**Unevenaged Regeneration Methods (14 CCR § 913.2 [933.2, 953.2])** **NOTE: variation by District in (a)(2)(A)(1)**
[X]	Selection	107	
[X]	Group Selection	60	
[☐]	Transition		
	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** *Per 14 CCR § 1106.3(a), a Conversion Permit (TCP) must be recorded with the County prior to Timber Operations. **Describe any Timber Operations that may occur within No Harvest areas in SECTION II.
[☐]	Timberland Conversion*		
[☐]	Road Right-of-way		
[☐]	No Harvest**		
	Total Acreage:	167	

If the Silviculture acreage is different than the acreage in the legal description provide an explanation:
The THP is only in portions of the sections provided in the legal description.

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	I	- **As stated under 14 CCR 913.2(a)(1)(2)(A), 1, under the selection regeneration method, trees to be harvested or trees to be retained shall be Marked by or under the supervision of the RPF prior to felling operations. On site I lands at least 125 square feet per acre of basal area shall be retained.** - **As stated under 14 CCR 913.2(a)(2)(A)1**
Group Selection	II	- **As stated under 14 CCR 913.2(a)(2)(B) 1, 2, 3, & 4, at least 67% of the stocked plots must meet minimum basal area stocking requirements of 75 square feet of basal area per acre. Not more than 33% of the stocked plots may meet the minimum stocking standards utilizing 125-point count stocking standards of trees at least 17 years old upon completion of operations as per 14 CCR 917.2(b)(1). The residual stand shall contain trees that are representative of the best phenotypic quality of the preharvest stand.** - **As per 14 CCR 913.2(a)(2) not more than 33% of the harvest area covered by the Group Selections silvicultural method shall be covered by small group openings. Group clearings shall not exceed 2.5 acres in size and shall be separated by a logical logging unit.** - **Unless substantially damaged by fire, the RPF or supervised designee shall not exclude group clearing created by previous harvesting activities from the stocking survey. These stands are composed of Redwood, Douglas-fir, and mixed hardwood which is primarily tanoak and red alder.**

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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.** The flood prone areas will be marked with Single Tree Selection inside the WLPZ. Everything outside of the WLPZ will be marked with Group Selection. Everything will be tractor yarding units. No cable yarding is proposed.

Operational instructions to the LTO:

A few of unstable areas have been identified during THP field preparation. No timber operations are proposed on any unstable areas within the THP boundary. A minimum 30-foot No Harvest buffer is delineated around all unstable areas within the plan. Boundary will be flagged with pink "DO NOT CUT." All unstable areas within and adjacent to the plan area are presented on THP operations maps at the end of Section II. Group openings SHALL NOT be located within 100 feet upslope of any unstable area.

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:** The entire flood plain is marked with Single Tree Selection and everything outside of the flood plain is sample marked for Group Selection. **NOTE: Ensure the sample marking is complete prior to the preharvest inspection.**

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

All harvest trees shall be marked with a blue slash at approximately breast height on at least 3 sides of the tree and a blue base mark near ground level. All trees marked in orange paint are retention trees and not to be harvested.

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: Everything inside the WLPZ flagging will be Single Tree Selection, and everything outside of the WLPZ flagging will be Group Selection. All trees within the WLPZ shall be marked prior to the PHI. All trees not within the WLPZ shall be marked prior to logging operations.

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

Group B Species Management	
f1.[☐]Yes [X]No	Are group B species proposed for management? [ref. 14 CCR § 1034(l)]
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.[☐]Yes [X]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**

g.	**LTO Felling Instructions**
-Fallers will attempt to fall harvest trees in a manner that will reduce damage to future crop trees. Snags, GWT's and tanoaks marked for wildlife retention may be felled if they pose a safety threat. Felling of unmarked trees will be allowed when necessary for ensuring safety of equipment, infrastructure, and human life. Fallers shall consult with the RPF of record prior to felling any unmarked trees. Fallers shall fall trees to maintain maximum canopy cover. Fallers shall also look for active bird and wildlife nests during falling operations. IF such nests are located, the nest tree, screening trees, perch trees, and replacement trees shall be retained and left unharmed. CDFW and Cal Fire shall be notified for consultation regarding additional protection measures. Fallers shall also look for additional wildlife retention trees that shall be retained. Characteristics to look for include:	

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g.	LTO Felling Instructions
-Large lateral branches 6 inches or greater in diameter, trees with cavities larger than 3 inches that are 10 feet or higher above the ground. *-Basal cavities extending 3 or more feet above the ground and extending at least 6 inches inside the cavity.* *-Trees with extensive decay including fruiting bodies and cavity entrances.* *-Trees with known raptor nests.* *-Stand-alone granary trees with at least 100 small holes capable of containing acorns.*	

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, any 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: 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.**

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NOTE: When selecting Alternative Prescription (ITEM CC); Aspen, Meadow, Wet Area Restoration (ITEM DD); or White and Black Oak Woodland Management (ITEM EE), certain elements are required to be addressed per the forest practice rules. Complete and include the corresponding worksheets below. If Alternative Prescription; Aspen, Meadow, Wet Area Restoration; or White and Black Oak Woodland Management, are not being proposed then these pages may be removed.

Items CC, DD and EE do not apply to this THP. These items are excluded from the THP.

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:

Pine Pitch Canker:

The proposed plan area is within the Pine Pitch Canker (Fusarium circinatum) Zone of Infestation. While Monterey Pine (Pinus radiata) and Bishop Pine (Pinus murricata) are most susceptible to Pine Pitch Canker (PPC) fungus, neither species is found within the THP area. Findings from ground surveys during harvest plan preparation have not indicated any infestation into the proposed plan area. Douglas-fir (Pseudotsuga menziesii), a PPC host, is proposed for harvest. According to Jack Marshall (Retire, CDF) only ornamental Douglas-fir trees have been infected by this disease. Any potentially susceptible Douglas-fir trees are isolated from the THP area, and no evidence of the disease has been detected. There are no pine species within the THP.

Sudden Oak Death (SOD):

The proposed THP area lies within the Sudden Oak Death (Phytophthora ramorum) Zone of Infestation. Findings from ground surveys during harvest plan preparation have not indicated any infestation into the proposed plan area. The plan area is within a county regulated for Sudden Oak Death (SOD) and contains several host species. A list of regulated counties and hosts is provided within the compliance agreement below courtesy of (www.suddenoakdeath.org) updated September 2014.

All SOD host material with bark can only be moved outside the regulated area with a valid compliance agreement as per CCR Div. 4, Sub Chapter 6, Section 3700. To comply with CDFA regulations and for the THP/NTMP within a SOD zone of infestation to be considered a compliance agreement equivalent, it must address mitigation measures to avoid movement of host material. If the plan submitter intends to continue using the plan as the compliance agreement, the THP/NTMP must be amended to reflect current SOD information and mitigation measures.

SOD Compliance Agreement Information

A.) *Counties Regulated for SOD:*

1. *Alameda*
2. *Contra Costa*
3. *Humbolt*
4. *Lake*
5. *Marin*
6. *Mendocino*
7. *Monterey*
8. *Napa*
9. *San Mateo*
10. *Santa Clara*

11. *Santa Cruz*
12. *San Francisco*
13. *Solano*
14. *Sonoma*
15. *Trinity*
16. *Del Norte*

B.) *List of host species known at the time of plan submittal. Regulated host material consists of: (1). Plant parts (except acorns and seeds) from these species:*

Scientific Name	**Common Name**
Acer macrophyllum	Bigleaf maple
Adiantum aleuticum	Western maidenhair fern
Adiantum jordanii	California maidenhair fern
Aesculus californica	California buckeye
Arbutus menziesii	Madrone
Arctostaphylos manzanita	Manzanita
Frangula californica (=*Rhamnus californica*)	California coffeeberry
Frangula purshiana (=*Rhamnus purshiana*)	Cascara
Heteromeles arbutifolia	Toyon
Lithocarpus densiflorus	Tanoak
Lonicera hispidula	California honeysuckle
Maianthemum racemosum (=Smilacina racemosa)	False Solomon's seal
Pseudotsuga menziesii var.*menziesii*	Douglas-fir
Quercus agrifolia	Coast live oak
Quercus chrysolepis	Canyon live oak
Quercus kelloggii	California black oak
Quercus parvula var. *shrevei*	Shreve's oak
Rhododendron spp.	Rhododendron (including azalea)
Rosa gymnocarpa	Wood rose
Sequoia sempervirens	Coast redwood
Trientalis latifolia	Western starflower
Umbellularia californica	California bay laurel/pepperwood
Vaccinium ovatum	Evergreen huckleberry

(2). Basal trunk/burl sprouts, small branches (less than one inch in diameter), and leaves (needles) from coast redwood (Sequoia sempervirens) and Douglas-fir (Psuedotsuga menziesii var menziesii).
(3). Unprocessed wood and wood products (except when completely free of bark) and products of plants listed above in subsection (1), including but not limited to, bark, chips, fuelwood, mulch, and dried or preserved wreaths.
(4). Any other product, article or means of conveyance when it is determined by the secretary, based upon generally accepted scientific principles, that it presents a risk of spreading the pest because it is a host or potential carrier of the pest.

C.) Host material associated with timber operations may be removed from the regulated area in the form of sawlogs, firewood, mulch, chip, dried or preserved wreaths, and other unprocessed timber products.

D.) If any host material is to be moved out of the regulated area, it will not be moved from the regulated area until the appropriate State and Federal permits are obtained. A copy of the permit and specific mitigation measures for that destination shall be amended into the plan prior to moving any host materials authorized under the permit. Host material is not proposed to be removed from the regulated area.

E.) If host material is to be moved within the regulated area, include a statement whether or not the THP/NTMP is to be used as the compliance agreement: **This THP/NTMP is to be used as the Compliance Agreement.**

i) If the THP/NTMP will not be used as the compliance agreement, a copy of the current compliance agreement should be provided at the time of approval, provided during the review process, or provisions should be included in the plan to provide for amending the agreement into the plan prior to operations.

ii) If the THP/NTMP will be used as the compliance agreement:

(1) Provide the destination of the host material: Fuelwood will potentially be transported to local residences in Mendocino County. Sawlogs may be transported to sawmills and log yards in Willits, Ukiah, Cloverdale, Asti, Eureka, Korbel, Weaverville, or Scotia.

(2) If the destination is unknown at the time of filing, indicate that an amendment will be submitted clarifying the specific destination, prior to removal of host material from the site: If destinations change, a minor amendment will be submitted to CalFire identifying location.

(3) If chips or other material originating from host plant parts, less than 4" in diameter, are indicated as one of the products, the THP/NTMP must indicate that the material will be moved in a closed container. No host material less than 4 inches in diameter is proposed for movement from the site.

(4) Movement of material greater than 4 inches in diameter does not require a closed container.

(5) Describe procedures for inspecting vehicles which leave the plan area to ensure that the vehicles are free of host debris (leaves, twigs, and branches): The LTO shall ensure all vehicles and logging equipment are free from regulated host material prior to leaving the plan area. The LTO shall inspect all vehicles and logging equipment before they leave the harvest area and remove tops less than 4 inches in diameter and debris from host plant species including limbs, twigs, and leaves.

F.) The RPF of record shall amend the THP, if significant changes to the plan occur, to include current mitigations to meet compliance.

G.) A statement indicating who will be responsible to inform the LTO prior to startup of initial operations during any given year regarding current SOD hosts, regulated area, and operational requirements necessary to be in conformance with SOD mitigation measures. The RPF responsible for providing professional advice to the LTO pursuant to 14 CCR 1035.1(e), shall inform the LTO of

this information. **The RPF shall inform the LTO of any new host species discovered between plan approval and beginning of timber operations if the new host species are within the plan area.**	
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	☐	Cable, high lead	☐	Animal
X	Feller buncher	☐	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: *There is one small area of soil type that is rated at a Low EHR. The remainder of the THP is rated at Moderate EHR. The entire THP will be addressed as Moderate EHR. Therefore, no Erosion Hazard Ratings map will be included in the THP.*

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 Percent coverage: 90
X	SLASH Mulch **X** Scattered Depth (inches): 12 Percent coverage: 75 **X** Packed Depth (inches): 12 Percent coverage: 75
☐	GRASS SEEDING Describe seed source and provide LTO Instructions:
☐	ROCK ARMORING Size: 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.	X			
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.		Where bare mineral soil exposure occurs withing a WLPZ, EEZ, or ELZ in areas greater or equal to 100 contiguous square feet in size (resulting from operations associated roads and landings), sidecast or fill exceeding 20 feet in slope distance from a logging road or landing that has access to a watercourse or lake, cuts and fills associated with approaches to logging road watercourses crossing of Class I or Class II watercourses, or Class III watercourses where an ELZ, EEZ, or a WLPZ is required, then the exposed soil shall be stabilized using the measures listed to adequately prevent significant sediment discharge.	Soil Stabilization Measures: • Mulch at a minimum of 2" of straw mulch covering at least 90% of bare mineral soil. • For slash packing: a minimum of 75% of bare mineral soil shall be covered. • Logging slash may be used in-lieu of straw mulch with exception to truck road crossings. • The LTO is responsible for accomplishing the listed soil stabilization measures.	For all areas disturbed outside the extended wet weather period (May 1st—October 15th) shall be treated prior to October 15th or any rain event that causes overland flow that could deliver sediment from a disturbed area to a water in quantities deleterious to the beneficial uses of water, whichever comes first. Areas used during the extended wet weather period (October 15th—May 1st) shall be treated prior to any day with a chance of rain 30 percent or greater by forecast of the National Weather Service or within 10 days, whichever comes first.

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f. 14 CCR §923.5[943.5,963.5](n): When the natural ability of ground cover in WLPZ is inadequate to filter sediment.	**X**			
g. 14 CCR § 923.5[943.5,963.5](o): Exceptions to soil stabilization treatment timing.	**X**			
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.		Any areas within a WLPZ, EEZ, or ELZ greater or equal to 100 contiguous square feet, approaches to watercourse logging road crossings, and areas with potential to deposit sediment into watercourses shall be treated for erosion control by methods including, but not limited to, rock armoring, straw mulching, chemical soil stabilizers, or commercial erosion control devices. Areas treated with straw mulch shall have 90 percent coverage and shall be re-treated following reuse or has less than 90 percent surface coverage. Slash packing will not be utilized for erosion control on bare soils on logging road watercourse crossings. Natural ground cover shall be retained and improved where the natural ground cover is inadequate to minimize soil erosion and filter sediment. The above does not include existing roads in the flood prone areas along the streams and rivers.	Soil Stabilization Measures: • Mulch at a minimum of 2" of straw mulch covering at least 90% of bare mineral soil. • Natural ground cover shall be retained and improved where the natural ground cover is inadequate to minimize soil erosion and filter sediment. • The LTO is responsible for accomplishing the listed soil stabilization measures.	For all areas disturbed outside the extended wet weather period (May 1st—October 15th) shall be treated prior to October 15th or any rain event that causes overland flow that could deliver sediment from a disturbed area to a water in quantities deleterious to the beneficial uses of water, whichever comes first. Areas used during the extended wet weather period (October 15th—May 1st) shall be treated prior to any day with a chance of rain 30 percent or greater by forecast of the National Weather

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				Service or within 10 days, whichever comes first.

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 Cl & C II)	X			

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.		Any areas within a WLPZ, EEZ, or ELZ greater or equal to 100 contiguous square feet, approaches to watercourse skid trail crossings, and areas with potential to deposit sediment into watercourses shall be treated for erosion control by methods including, but not limited to, rock armoring, slash packing, straw mulch, chemical soil stabilizers, or commercial erosion control devices. Areas treated with straw or slash mulch shall have 90 % coverage and shall be re-treated following reuse or has less than 90% surface coverage. Where slash packing is utilized, surface coverage must be a minimum of 75%. Natural ground cover shall be retained and improved where the natural	Soil Stabilization Measures: • Temporary watercourse crossings shall be dipped out and slash packed to a minimum of 75% coverage or straw mulched. • Natural ground cover shall be retained wherever feasible within WLPZ's, EEZ's, and ELZ's. • Bare mineral soil at truck road crossings shall be straw mulched at least 2" in depth with at least 90% coverage. • The LTO is responsible for completing these erosion control measures.	For all areas disturbed outside the extended wet weather period(May 1st —October 15th) shall be treated prior to November 15th or any rain event that causes overland flow that could deliver sediment from a disturbed area to the beneficial uses of water, whichever comes first. Areas used during the extended wet

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.

		ground cover is inadequate to minimize soil erosion and filter sediment. **The above does not apply to roads within the flood prone areas of streams and rivers.**		**weather period (October 15th—May 1st) shall be treated prior to any day with a chance of rain 30% or greater by forecast of the National Weather Service or within 10 days, whichever comes first.**
k. 14 CCR § 923.5 [943.5,963.5] (q)(3): For roads, landings, etc.		**All seasonal and permanent logging roads shall be out sloped where desirable and drained with water breaks and/or rolling dips. Where straw mulch is utilized, surface coverage shall be a minimum of 90%, and any area reused or exhibits less than 90% coverage shall be treated prior to extended wet weather period beginning October 15th. Slash packing will not be used for soil stabilization on logging roads.**	**Soil Stabilization Measures:** **IN addition to provisions listed under 14 CCR 923.5(q)(2), all permanent and seasonal logging roads and landings with grades 15% or greater that extend 500 or more continuous feet shall have specific erosion control mitigations stated in the plan. Within the WLPZ, and within any ELZ or EEZ designated for watercourse or lake protection, treatments to stabilize soils, minimize soil erosion, and prevent significant sediment discharge shall be described in the plan as follows:** **In addition to the requirements of subsections (l)-(o), soil stabilization is required for the following areas:** **1. Areas exceeding 100 continuous square feet where Timber Operations have exposed bare soil, and** **2. Disturbed logging road and landing cut banks and fills, and** **3. Any other area of disturbed soil that threatens to cause significant sediment discharge.**	**Pertinent roads and landings disturbed outside the extended wet weather period (May 1st-October 15th) shall be treated prior to October 15th (if not in use) or any rain event that causes overland flow that could deliver sediment from a disturbed area to a water in quantities deleterious to the beneficial uses of water, whichever comes first. Areas used during the extended wet weather period (October 15th—May**

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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 & 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.

			Where the natural ability of ground cover is inadequate to protect the beneficial uses of water by minimizing soil erosion or by filtering sediments within any ELZ or EEZ designated for watercourse or lake protection, the plan shall specify protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion.	1st) shall be treated prior to any day with a chance of rain 30% or greater by forecast of the National Weather Service or within 10 days, whichever comes first.
I. **14 CCR § 923.9 [943.9,963.9] (t)(4):** For watercourse crossings.		All permanent and seasonal roads shall be out sloped wherever desirable and drained with water breaks and/or rolling dips. Water breaks or dips shall be constructed up slope of watercourse crossings as to hydrologically disconnect runoff from watercourses. Where straw mulch is utilized on bare mineral soil, surface coverage shall be a minimum of 90%, and any area reused or those exhibiting less than 90% coverage shall be treated prior to the extended wet weather period beginning October 15th. Slash packing will not be used for soil stabilization on logging roads.	Soil Stabilization Measures: In watersheds with listed anadromous salmonids and in planning watersheds immediately upstream of, and contiguous to, any watershed with listed anadromous salmonids, treatments to stabilize soils, minimize soil erosion, and prevent significant sediment discharge within the WLPZ and within any ELZ or EEZ designated for watercourse or lake protection shall be described in the plan as follows: In addition to the requirements under 14 CCR 923.9(p)(1)-(3), soil stabilization is required for the following: 1. Areas exceeding 100 continuous square feet where Timber Operations have exposed bare soil, and 2. Disturbed logging road and landing cut banks and fills, and 3. Any other area of disturbed soil that threatens to cause significant sediment discharge.	Watercourse crossings used prior to the extended wet weather period (May 1st—October 15th) shall be treated prior to October 15th or any rain event that caused overland flow that could deliver sediment from a disturbed area to a water in quantities deleterious to the beneficial uses of water, whichever comes first. Areas used during the extended wet weather period (October 15th—May 1st) shall be treated prior to any day with a chance of

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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 & 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.

				rain 30% or greater by forecast of the National Weather Service or within 10 days, whichever comes first.

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ITEM #19 TRACTOR OPERATIONS IN AREAS DESIGNATED FOR CABLE YARDING

[ref. 14 CCR § 914.2 [934.2, 954.2]]	
a. [☐]Yes [**X**]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. [☐]Yes [**X**]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.**
b. [☐]Yes [**X**]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.**
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. [☐]Yes [**X**]No	Slopes between 50% and 65% with a Moderate EHR at: (percentage based on average slope on sample areas of 20 acres)? ☐ 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.**
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

No response necessary, place holder for potential future additions.

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.[☐]Yes [**X**]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. [☐]Yes [**X**]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. [☐]Yes [**X**]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).**
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).**
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)?

SECTION II PLAN OF OPERATIONS - ITEM #23

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:	The Erosion Hazard Ratings throughout the plan area are Low and Moderate in tractor yarding locations. The Estimated Surface Erosion form for the plan area is located in Section V as required by 14 CCR 912.5.
2) Mechanical Site preparation methods:	No mechanical site preparation is proposed
3) Yarding system: ***(Constructed skid trails and tractor road watercourse crossings)***	Ground-based yarding is the only proposed yarding.
4) Operating Period:	a. Timber falling: Timber falling may be conducted any time outside of the Winter Period. 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) spinning or churning of wheels or tracts 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. **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

Winter Period Operating Plan (WPOP)	
	waters in a receiving 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 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 downstream waters in a receiving 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, 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 c. *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, 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)). d. Road construction and reconstruction (defined in 14 CCR 895.1) during the extended wet weather period may only occur during ***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. e. Road upgrades (upgrading seasonal roads to permanent roads) may be conducted during the Extended Wet Weather 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."

SECTION II PLAN OF OPERATIONS - ITEM #23

Winter Period Operating Plan (WPOP)	
	f. Road maintenance (grading) may occur during the Extended Wet Weather 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 Extended Wet Weather 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 Extended Wet Weather 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 and Ranch Roads, Weaver and Hagans , Rev 2015) and frequent enough to disperse road surface runoffs so as to avoid fully 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)***	Expected precipitation is in the form of rain. Hail may occur during colder weather events. Snow may occur but is rare and unlikely.
7) Ground conditions: ***(soil moisture conditions, frozen)***	Ground-based yarding and road use shall cease when soils are saturated as defined in Item 4(c) and (d), Operating Period, above.
8) Silvicultural system ground cover:	The proposed Silvicultural systems include **Single Tree Selection and Group Selection.** This is discussed in THP Section II and III, Item 14, and shown on the Silviculture Map at the end of Section II. Most areas of the plan will retain a dense vegetative cover in the combines form of overstory/understory vegetation, slash, and associated logging debris.
9) Operations within the WLPZ:	Operations within the WLPZ/ELZ will not take place during the winter period.
10) Equipment limitations:	See THP Section II, Item 23, 4(b-f).
11) Known Unstable Areas:	All unstable areas have been intentionally avoided from harvesting activities with a minimum 30-foot "No Harvest" buffer in order to reduce potential instability and impacts to the beneficial uses of soil and water.
12) Logging roads and landings:	See Item 4(d) above.

SECTION II PLAN OF OPERATIONS - ITEM #23

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 [**X**]No [☐] 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 roads be used for log hauling and heavy equipment use during the winter period where there will not 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]]**
u. [☐]Yes [**X**]No	Will landings be used for log hauling and heavy equipment use during the winter period where there will not 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 roads be used for log hauling and heavy equipment use during the winter period on roads that are not 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)]**

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

ITEM # 24 – ROADS AND LANDINGS

NOTE: If the Plan proposes exceptions pursuant to 14 CCR 923 [943, 963](c), provide site specific instructions to the LTO in SECTION II and provide the required explanation and justification in SECTION III.

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. [**X**]Yes [☐]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: 90 ☐ 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. [**X**]Yes [☐]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)?

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

Road Construction and Reconstruction	
	☐ Marshes, Wet Meadows, or Other Wet Areas? **If "Yes" address per 14 CCR § 923 [943, 963](c).**
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:** ☐ 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:** ☐ Permanent approximate length in feet: _____ ☐ Seasonal approximate length in feet: _____ ☐ Temporary approximate length in feet: _____
If "Yes" to i. or j. above, describe the specific measures to prevent significant sediment discharge per 14 CCR § 923.8 [943.8, 963.8] and provide the blockage design per 14 CCR § 923.8 [943.8, 963.8](d)	
k. [☐]Yes [**X**]No	Is there watercourse crossing Abandonment or Deactivation proposed? [ref. 14 CCR § 923.9 (p)(1-4)] **If "Yes" map per 14 CCR § 923.9 [943.9, 963.9](e).**

Landing Construction and Reconstruction	
l. [☐]Yes [**X**]No	Is there any new Landing construction or Reconstruction proposed? **If "Yes" address per 14 CCR §§ 923.4 [943.4, 963.4] & 923.6 [943.6, 946.6](a).**
m. [☐]Yes [☐]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 [☐]No	Will proposed Landing construction or Reconstruction be located on: ☐ Unstable Areas? ☐ Connected Headwall Swales?

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

Landing Construction and Reconstruction	
	If "Yes" address per 14 CCR § 923.1 [943.1, 963.1](d).
o. [☐]Yes [☐]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 Landing 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 [☐]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).**

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 in Item# 24 listed above is checked "Yes", provide operations instructions to the LTO in SECTION II, and include any required explanation and justification in SECTION III of the Plan.

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Page

CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

MAP POINT (MP) Identifier	SITE DESCRIPTION (SD) (See Key)	Watercourse CLASS (WC) or feature	EXISTING Culvert Diameter Size (EC)	PROPOSED Culvert Diameter Size (PC)	Geologist used? Yes or No	1600? Yes or No	Potential Sediment Discharge (PSD) in cu. yds. (See Key)	Implementation Priority (IP) (See Key)
	MITIGATION AND/OR MANAGEMENT MEASURES: If needed, provide additional details of site; and/or describe proposed treatment							

*NOTE: Write "NA" or "---" if a box is not applicable to the map point

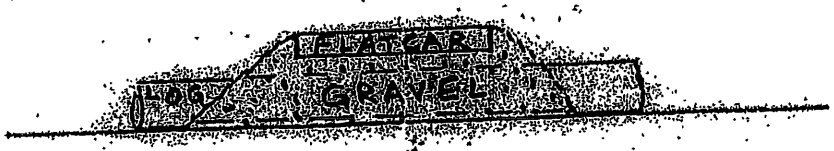
MP: *1*	**SD:** CR	**WC:** III	**EC:** NA	**PC:** NA	**Geo Used?** *NO*	**1600?** *No*	**PSD:** NA	**IP:** NA
	Mitigation/Management Measures: The existing seasonal road crosses a Class III watercourse. There is a permanent rock ford in place. No action is necessary.							
MP: *2*	**SD:** CR	**WC:** III	**EC:** NA	**PC:** NA	**Geo Used?** *NO*	**1600?** *No*	**PSD:** NA	**IP:** NA
	Mitigation/Management Measures: The existing seasonal road crosses a Class III watercourse. An existing rock ford is in place. No action is necessary.							
MP: *3*	**SD:** CR	**WC:** III	**EC:** NA	**PC:** NA	**Geo Used?** *NO*	**1600?** *YES*	**PSD:** NA	**IP:** NA
	Mitigation/Management Measures: The existing seasonal road crosses a Class III watercourse. There is a dry ford in place. If water is present at the time of use install a temporary 6-inch culvert							
MP: *4*	**SD:** CR	**WC:** I	**EC:** NA	**PC:** 30-inches	**Geo Used?** *NO*	**1600?** *Yes*	**PSD:** NA	**IP:** NA
	Mitigation/Management Measures: The existing seasonal road crosses the South Fork Gualala River, a Class I watercourse. Install a temporary bridge. Remove the crossing by November 1. See the diagram on the next page.							
MP: *5*	**SD:** CR	**WC:** III	**EC:** NA	**PC:** NA	**Geo Used?** *NO*	**1600?** *Yes*	**PSD:** NA	**IP:** MED
	Mitigation/Management Measures: The existing seasonal road crosses a Class III watercourse. There is a dry ford in place. If water is present at the time of use install a temporary 6-inch culvert.							
MP: *6*	**SD:** CR	**WC:** III	**EC:** 18"	**PC:** 24"	**Geo Used?** *NO*	**1600?** *YES*	**PSD:** 5 CY	**IP:** MED
	Mitigation/Management Measures: The existing seasonal road crosses a Class III watercourse. There is an 18-inch culvert in place with considerable rust. Replace the culvert with a new 24-inch culvert to channel grade with the same alignment as the existing culvert. If the culvert were to fail 5 cubic yards of sediment could erode.							

Diagram #2

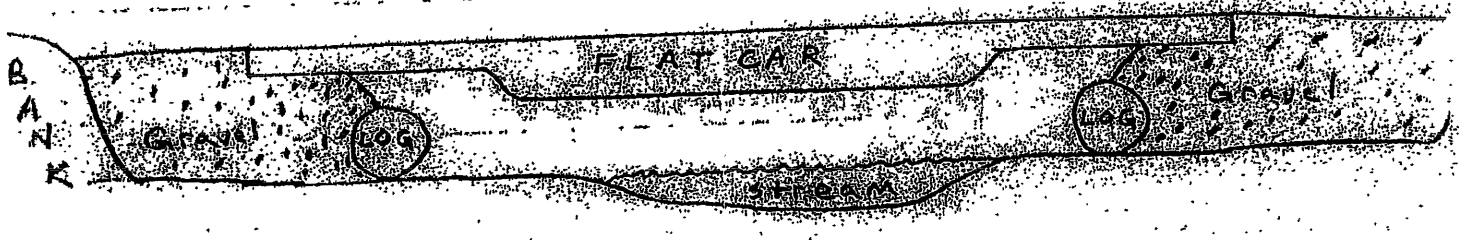
TYPICAL RAILROAD FLATCAR BRIDGE

– LOW WATER SEASONAL INSTALLATION –

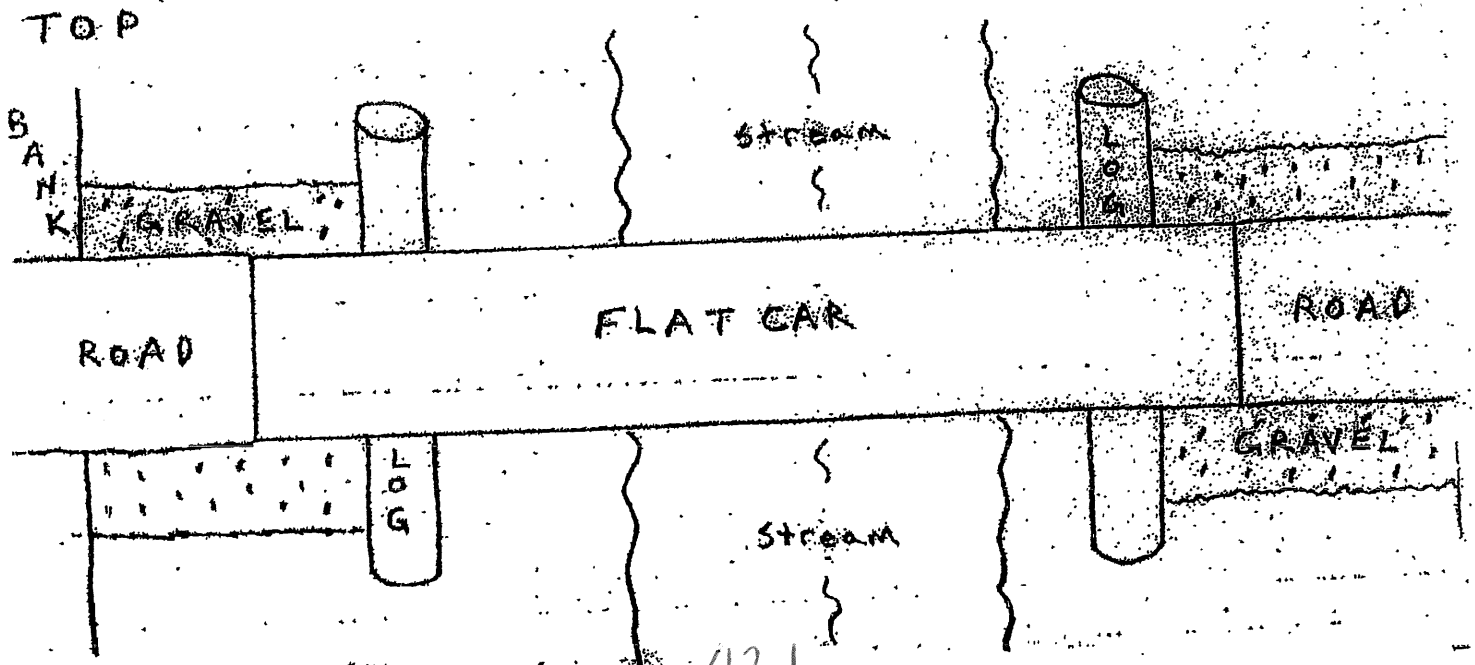
END



SIDE



TOP



[redacted]

1 inch = Approx. 10 feet

CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

MP: *7*	**SD:** CR	**WC:** II	**EC:** NA	**PC:**NA	**Geo Used?** **NO**	**1600?** **Yes**	**PSD:** NA	**IP:** NA
	Mitigation/Management Measures: The existing seasonal road crosses a Class II watercourse. There is a Rock Ford in place. This crossing will likely require a temporary 6-inch culvert during use.							
MP: *8*	**SD:** CR	**WC:** III	**EC:** RD	**PC:** NA	**Geo Used?** *NO*	**1600?** *No*	**PSD:** NA	**IP:** NA
	Mitigation/Management Measures: The existing seasonal road crosses a Class III watercourse. There is a dry ford in place. No action is necessary							
MP: *9*	**SD:** CR	**WC:** II	**EC:** 30	**PC:** NA	**Geo Used?** *NO*	**1600?** *No*	**PSD:** NA	**IP:** MED
	Mitigation/Management Measures: The existing seasonal road crosses a Class II watercourse. There is a culvert in place. The outlet of the culvert is partially blocked. Clean the outlet of the culvert.							
MP: *10*	**SD:** CR	**WC:** II	**EC:** NA	**PC:** NA	**Geo Used?** *NO*	**1600?** *Yes*	**PSD:** NA	**IP:**_NA
	Mitigation/Management Measures: The existing seasonal road crosses a class II watercourse. Install a temporary 6-inch culvert during operations. Remove the culvert and any fill prior to November 1.							
MP: 11	**SD:** CR	**WC: II**	**EC:** NA	**PC:** NA	**Geo Used?** *NO*	**1600?** *Yes*	**PSD:** NA	**IP:** NA
	Mitigations/Management Measures: The existing seasonal road crosses a class II watercourse. Install a temporary 6-inch culvert during operations. Remove the culvert and any fill prior to November 1.							

CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

MP: 12	**SD**: CR	**WC II**	**EC**: NA	**PC**: NA	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**: NA	**IP**: NA
	Mitigations/Management Measures: The existing seasonal road crosses a class II watercourse. The watercourse is dry at this location for the majority of the year. It will require some minor reshaping for hauling logs. Install a temporary 6-inch culvert during operations. Remove the culvert and any fill prior to November 1.							
MP: 13	**SD**: CR	**WC II**	**EC**: NA	**PC**: NA	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**: NA	**IP**: NA
	Mitigations/Management Measures: The existing seasonal road crosses a class II watercourse. The watercourse is dry at this location for the majority of the year. It will require some minor reshaping for hauling logs. Install a temporary 6-inch culvert during operations. Remove the culvert and any fill prior to November 1.							
MP: A	**SD**: UA	**WC:** I	**EC**: NA	**PC**: NA	**Geo Used**? *NO*	**1600**? *NO*	**PSD**: NA	**IP**: NA
	Mitigations/Management Measures: At this location there is a large redwood that was growing below the truck road. Apparently, the Gualala River undermined the roots and it slid into the river. The tree is hanging over the truck road and is now dead. There is enough room to travel on the road under the tree but the RPF does not know how stable the tree is and there is the possibility that it could move further and come down in the truck road. If the tree needs to be removed for safety, if may be removed.							
MP: B	**SD**: UA	**WC:** RC	**EC**: 18	**PC**: NA	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**: 10 CY	**IP**: MED
	Mitigations/Management Measures: At this location there is a relief culvert that is rusted through. In the last THP, 1-11-087-SON, there was armoring and logs place at the outlet of the culvert to act as an energy dissipator. These objects are now gone. What likely happened is that the fill became saturated from the water leaking through the culvert and caused the fill to fail. The outer 2 feet of the road along with approximately 50 cubic yards of material was lost. It is proposed to remove the culvert and move the road away from the river and next to the existing cutbank. The road extends to the cut bank but it has a mound of dirt covering it. The road is to be out sloped for 150 feet on either side of the location of the removed culvert. Lay back the outside edge of the road to that of the adjacent slopes. All bare soil below the road shall be treated per Item 18. Note that the road at this location is within the WLPZ of the South Fork Gualala River.							

CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

MP: 14	**SD**: CR	**WC II**	**EC**: 24"	**PC**: NA	**Geo Used**? *NO*	**1600**? *No*	**PSD**: 25 CY	**IP**: MED
	Mitigations/Management Measures: The existing seasonal road crosses a Class II watercourse. There is a 24 inch culvert in place. Clean the inlet of the culvert. If the culvert were to fail, 25 cubic yards of material could be lost.							
MP: 15	**SD**: CR	**WC II**	**EC**: NA	**PC**: NA	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**: NA	**IP**:
	Mitigations/Management Measures: The existing seasonal road crosses a class II watercourse. The watercourse is dry at this location for the majority of the year. It will require some minor reshaping for hauling logs. Install a temporary 6-inch culvert during operations. Remove the culvert and any fill prior to November 1.							
MP: 16	**SD**:	**WC II**	**EC**: NA	**PC**: NA	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**: NA	**IP**:
	Mitigations/Management Measures: The existing seasonal road crosses a class II watercourse. The watercourse is dry at this location for the majority of the year. It will require some minor reshaping for hauling logs. Install a temporary 6-inch culvert during operations. Remove the culvert and any fill prior to November 1.							
MP: 17	**SD**: CR	**WC III**	**EC**: NA	**PC**: NA	**Geo Used**? *NO*	**1600**? *No*	**PSD**: NA	**IP**:
	Mitigations/Management Measures: The existing seasonal road crosses a Class III watercourse. There is a dry ford in place. No action is necessary.							

CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

MP: 18	**SD**: CR	**WC III**	**EC**: NA	**PC**: NA	**Geo Used**? *NO*	**1600**? *No*	**PSD**: NA	**IP**:
	Mitigations/Management Measures: The existing seasonal road crosses a Class III watercourse. There is a dry ford in place. No action is necessary.							
MP: 19	**SD**: CR	**WC III**	**EC**: 18-inch	**PC**: NA	**Geo Used**? *NO*	**1600**? *No*	**PSD**: NA	**IP**:
	Mitigations/Management Measures: The existing seasonal road crosses a Class III watercourse. There is an 18-inch iron pipe in place. No action is necessary.							
MP: 20	**SD**: CR	**WC II**	**EC**: 24-inch	**PC**: size for 24 acre	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**: 40 CY	**IP**: MED
	Mitigations/Management Measures: The existing seasonal road crosses a Class II watercourse. There is a 24-inch iron pipe in place that is badly rusted. If the pipe were to fail 40 cubic yards of material could be lost. Replace the pipe with a new 36 inch culvert set to channel grade. Lower the road grade over the culvert by two feet to form a critical dip. The road width can be reduced by 5 feet.							
MP: 21	**SD**:CR	**WC II**	**EC**: 36"	**PC**:	**Geo Used**? *NO*	**1600**? *No*	**PSD**: NA	**IP**:
	Mitigations/Management Measures: The existing seasonal road crosses a Class II watercourse. There is a 36-inch culvert in place. No action is necessary.							
MP: 22	**SD**: CR	**WC** wet area and III	**EC**: 30"	**PC**: 24"	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**: 2 CY	**IP**: MED
	Mitigations/Management Measures: The existing seasonal road crosses a spring on the inside of the road and a Class III below the road. There is a 30" iron pipe in place that has rusted through. Replace the pipe with a 24-inch culvert set to channel grade. If the pipe were to fail approximately 2 cubic yards of material could be lost.							
MP: 23	**SD**: CR	**WC** III & II	**EC**: 48"	**PC**:	**Geo Used**? *NO*	**1600**? *No*	**PSD**:	**IP**:
	Mitigations/Management Measures: The existing seasonal road crosses a Class III watercourse with a Class II below the road. There is a 48-inch culvert in place. No action is necessary.							

LH

CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

MP: 24	**SD**: CR	**WC** III	**EC**:	**PC**:	**Geo Used**? *NO*	**1600**? *No*	**PSD**:	**IP**:
	Mitigations/Management Measures: The existing seasonal road crosses a Class III watercourse. There is a dry ford in place. No action is necessary.							
MP: 670	**SD**: CR	**WC** I	**EC**:	**PC**: temp bridge	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**:	**IP**:
	Mitigations/Management Measures: The existing seasonal appurtenant road crosses a Class I watercourse (The NF Gualala River). Install the temporary flat car bridge that is on site. This bridge is installed during most summers.							
MP: 26	**SD**: CR	**WC** I	**EC**: Permanent bridge	**PC**:	**Geo Used**? *NO*	**1600**? *No*	**PSD**:	**IP**:
	Mitigations/Management Measures: The existing seasonal appurtenant road crosses a Class I watercourse (Groshong Creek) with a permanent flat car bridge. No action is required.							
MP: 27	**SD**: CR	**WC** I	**EC**:	**PC**:	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**:	**IP**:
	Mitigations/Management Measures: The existing seasonal appurtenant road crosses a Class I watercourse (Big Pepperwood Creek) with a permanent flat car bridge. No action is required.							
MP: 28	**SD**: CR	**WC** I	**EC**:	**PC**: temp bridge	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**:	**IP**:
	Mitigations/Management Measures: The existing seasonal appurtenant road crosses a Class I watercourse (Rockpile Creek). Install a temporary bridge. The bridge is on site and is 53 feet long. The bridge has been installed at this crossing numerous times in the past.							
MP: 29	**SD**: CR	**WC** I	**EC**:	**PC**: temp bridge	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**:	**IP**:
	Mitigations/Management Measures: The existing seasonal appurtenant road crosses a Class I watercourse (Buckeye Creek). Install a temporary bridge. The bridge is on site and is 53 feet long. The bridge has been installed at this crossing numerous times in the past.							

CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

MP: 30	**SD**: CR	**WC** I	**EC**:	**PC**: temp bridge	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**:	**IP**:
	Mitigations/Management Measures: The existing seasonal appurtenant road crosses a Class I watercourse (The South Fork Gualala River at the Power line). The road is the gravel bar on the west side of the river on the approach to the crossing. Install a temporary flat car bridge. See the diagram on page 43.1 of the THP.							
MP: 31	**SD**: CR	**WC** III	**EC**: 30"	**PC**:	**Geo Used**? *NO*	**1600**?	**PSD**:	**IP**:
	Mitigations/Management Measures: The existing seasonal appurtenant road crosses a Class III watercourse. There is a 30-inch culvert in place. The culvert is partially plugged with sediment. Clean out the culvert.							
MP: 32	**SD**: CR	**WC** III	**EC**: 24"	**PC**:	**Geo Used**? *NO*	**1600**? *Yes*	**PSD**:	**IP**:
	Mitigations/Management Measures: The existing permanent appurtenant road crosses a Class III watercourse. There is a 24-inch culvert in place. The channel is on a flat gradient making self-cleaning of the culvert difficult. It may help the culvert to self-clean if the channel from the culvert outlet to a point approximately 80 feet below the road (where there are 4 redwoods on the north side of the watercourse and 4 redwoods on the south side) were excavated to form a slight gradient.							
MP: 33	**SD**: CR	**WC II**	**EC**: 36"	**PC**: 36"	**Geo Used**? No	**1600**? *Yes*	**PSD**:	**IP**: High
	Mitigations/Management Measures: The existing seasonal appurtenant road crosses a Class II watercourse. There is a 36-inch culvert in place that has rusted through and failed. Approximately 5 cubic yards of material has eroded and another 40 cubic yards could erode if the culvert is not replaced. Replace the culvert with a new 36-inch culvert set to channel grade.							

Please see the temporary crossing removal diagram for removal of temporary watercourse crossings.

MP: *WD1*	SD: WD	WC: Class I off channel sump	EC: NA	PC: NA	Geo Used? NO	1600? Yes	PSD: NA	IP: NA

Mitigation/Management Measures: *Water drafting used for dust abatement from a hole dug in the gravel bar near the temporary bridge crossing of the South Fork Gualala River known as the Pepperwood Crossing. The gravel bar hole shall be no less than 10 feet from the wetted channel. The excavation of the gravel bar hole shall be conducted in isolation from the flowing stream. Before commencing any water drafting operation, the RPF and the drafting operator shall conduct a pre-operations field review to discuss the water drafting measures in the plan and in the 1600 Agreement. The diversion rate shall not exceed 300 gallons per minute. All water drafting intakes shall be screened to prevent impingement of aquatic species. Openings in perforated plate or woven wire mesh screens shall not exceed 3/32 inches. Slot openings in wedge wire screens shall not exceed 1/16 inches. The screen surface shall have at least 2.5 square feet of openings submerged in the water. The drafting operator, shall regularly inspect, clean and maintain screens to ensure proper operations whenever water is drafted. The approach velocity (water moving through the screen) shall not exceed 0.33 feet per second. Water drafting trucks parked on streambeds and floodplains shall use drip pans or other devices such as absorbent blankets, sheet barriers or other materials as needed to prevent soil and water contamination from motor oil or hydraulic fluid leaks. Bypass flows for Class I watercourses shall be provided in volume sufficient to avoid dewatering the watering the watercourse and maintain aquatic life downstream. Water may be used from April through November. Approximately 12,000 gallons of water per day may be needed. The drainage area above this point is approximately 165,000 acres. In aggregate, for GRT operations, GRT will use less than 25,000 gallons of water per day from active channel water holes on the Gualala River. The sump will have a barrier placed around it to warn people of the location. A log shall be placed in the sump at and angle that extends at least five feet out of the top of the sump. The log shall act as an escape route for any unfortunate critter that may find its way in to the sump.*

CalTREES THP ITEM #24 & 25– ROADS AND LANDINGS

MP: *WD2*	SD: WD	WC: Class I off channel sump	EC: NA	PC: NA	Geo Used? NO	1600? YES	PSD: NA	IP: NA
	***Mitigation/Management Measures**: Water drafting used for dust abatement from a hole dug in the gravel bar near the temporary bridge crossing of the South Fork Gualala River known as the Pepperwood Crossing. The gravel bar hole shall be no less than 10 feet from the wetted channel. The excavation of the gravel bar hole shall be conducted in isolation from the flowing stream. Before commencing any water drafting operation, the RPF and the drafting operator shall conduct a pre-operations field review to discuss the water drafting measures in the plan and in the 1600 Agreement. The diversion rate shall not exceed 300 gallons per minute. All water drafting intakes shall be screened to prevent impingement of aquatic species. Openings in perforated plate or woven wire mesh screens shall not exceed 3/32 inches. Slot openings in wedge wire screens shall not exceed 1/16 inches. The screen surface shall have at least 2.5 square feet of openings submerged in the water. The drafting operator, shall regularly inspect, clean and maintain screens to ensure proper operations whenever water is drafted. The approach velocity (water moving through the screen) shall not exceed 0.33 feet per second. Water drafting trucks parked on streambeds and floodplains shall use drip pans or other devices such as absorbent blankets, sheet barriers or other materials as needed to prevent soil and water contamination from motor oil or hydraulic fluid leaks. Bypass flows for Class I watercourses shall be provided in volume sufficient to avoid dewatering the watering the watercourse and maintain aquatic life downstream. Water may be used from April through November. Approximately 12,000 gallons of water per day may be needed. The drainage area above this point is approximately 165,000 acres. In aggregate, for GRT operations, GRT will use less than 25,000 gallons of water per day from active channel water holes on the Gualala River. The sump will have a barrier placed around it to warn people of the location. A log shall be placed in the sump at and angle that extends at least five feet out of the top of the sump. The log shall act as an escape route for any unfortunate critter that may find its way in to the sump.*							

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

Instructions for Filling Out Map Reference Table for Planned Work and Treatments

The Map Reference/Work Order Table is designed to be used in Timber Harvesting Plans (THPs), Nonindustrial Timber Management Plans (NTMPs), and Notices of Timber Operations (NTOs). It has been designed to eliminate the need to repeatedly provide the same information separately for THPs/NTMPs, Erosion Control Plans, and 1600 applications. Instead, the table can be referenced under appropriate THP/NTMP item numbers, RWQCB Erosion Control Plans (ECP)'s, and/or 1600 permit applications included in the THP/NTMP.

All map points (e.g. unstable areas, exception and in lieu points, watercourse crossings, treatments sites, etc.) can be identified in the table. Acronyms from the "Map Key" (see below) can be utilized for the "Site Description" and "Implementation Priority" found on the table. It is suggested that you include the Map Key, Map Reference Table, and associated map together in Section II of the Plan.

To add additional rows in the Map Reference Table: copy the full row which is established for each map point (composed of two lines); and add to the bottom of your table.

If you are submitting an NTO, please update your Map Reference Table to reflect current information. If a map point has been addressed under a previous NTO, indicate that (e.g. "Addressed under previous NTO") and include any additional maintenance information, if applicable, for that map point. If you add new map points to the NTO table, they must have been amended to the NTMP first, UNLESS they are maintenance points only.

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

Map Point / Work Order Table Key

Site Description			
OK	Functional Site	**Crossing Types**	
CSDS	Controllable Sediment Discharge Site	**B**	Bridge
UA	Unstable Area	**CR**	Crossing site
O	Other descriptions than below (describe under "Measures" on table)	**CRF**	Crossing failure
		CRP	Crossing- existing permanent
Road / Skid Trails		**CRT**	Crossing- existing temporary
CRN	Critical dip needed	**C**	Culvert (also see below)
CUTF	Cutbank failure	**F**	Ford
FF	Fill failure	**HCR**	Humboldt crossing
FP	Fill perched	**LSB**	Log stringer bridge
G	Gully	**RRD**	Rocked Rolling Dip
L	Landing	**SCR**	Spitler crossing
IDE	inside ditch eroding		
RA	Road abandonment	**Culvert Conditions**	
RC	Road construction	**CAM**	Culvert attachments missing (e.g. trash racks, downspouts, etc.)
RR	Road Reconstruction	**CD**	Damaged inlet or outlet
RD	Rolling dip	**CDR**	Ditch relief needed
SK	Skid trail	**CF**	Failed / failing
WB	Waterbar	**CFB**	Fish barrier
		CFD	French Drain
WLPZ and Watercourses		**CNA**	Culvert not aligned
AP	Alternative practice	**CNG**	Culvert not installed to grade
FB	Fish barrier	**CE**	Outlet erosion
HE	Habitat enhancement	**CS**	Outlet shotgunned
IL	In lieu practice	**CP**	Culvert plugged
WD	Water drafting	**CU**	Culver undersized
WCD	Watercourse diversion		
WDP	Woody debris project		

Implementation Priority (IP)	
HIGH	Treatments applied in: 1st year after Harvest Document approval.
MED	Treatments applied concurrent with operations affecting site.
LOW	Treatments applied prior to Harvest Document completion.

Potential Sediment Discharge (PSD)

If located in the Region of the North Coast Regional Water Quality Control Board, provide the following information in the associated table for each Controllable Sediment Discharge Source (CSDS) map point

- Potential Sediment Discharge (PSD) expressed in total cubic yards:

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)].**

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 / Ponds:	☐	☐
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)]

All Class III Watercourses within the THP area shall be protected on both sides with a 30-foot ELZ beginning at the Watercourse Transition Line (WTL) on slopes less than 30 percent and 50 feet from the WTL on slopes greater than 30 percent. No Class IV Watercourses are associated with the THP area.

Watercourse descriptions, protection measures, and LTO instructions:

Class I Watercourses:

One Class I Watercourse is the boundary of the east side of the plan area. This is the South Fork Gualala River. South Fork Gualala River, adjacent to the THP, has flood prone areas and channel migration zones. All watercourses are delineated on the operations maps provided at the end of Section II of this document. Protections for the Class I Watercourse are as follows:

1) Class I Watercourses:

a) As per 14 CCR 916.9(f), the WLPZ shall consist of a 30-foot Core Zone beginning at the Watercourse Transition Line (WTL) and an Inner Zone A of a minimum of 70 and a maximum of 120 feet beginning at the outermost edge of the Core Zone. If the flood prone area extends beyond the Inner Zone A it will become Inner Zone B.

b) The South Fork Gualala River has a no harvest Core Zone. Within the Inner Zone there is an Inner Zone A and Inner Zone B. There is no Outer Zone in this THP. Areas adjacent to Inner Zones will have selection silviculture.

i) **Inner Zone A:**

(1) The Inner Zone A generally encompasses the portion of the flood prone area from 30 feet beyond the WTL (Core Zone perimeter) up to 150 feet from the WTL.

(2) The minimum width of the Inner Zone shall be the greater of the distance from the landward edge of the Core Zone to the landward edge of the Inner Zone A or 70 feet. The maximum width is 120 feet.

(3) Single tree selection will occur in this zone.

(4) Postharvest stand shall have a minimum 80% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species and shall have at least 25% overstory conifer canopy.

(5) Postharvest stand shall retain the 13 largest conifer trees (live or dead) on each acre of the area that encompasses the Core and Inner Zone A.

(6) Large Trees retained that are the most conducive to recruitment to provide for the beneficial functions or 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 an unstable areas, or have undermined roots) are to be given priority to be retained as future recruitment trees.

ii) **Inner Zone B:**

(1) The Inner Zone B is applicable when there are very wide flood prone areas. The Inner Zone B encompasses the portion of the flood prone area from the landward edge of the Inner Zone A to the landward edge of the flood prone area.

(2) Single tree selection will occur in this zone.

(3) Postharvest stand shall retain the 13 largest conifer trees (live or dead) on each acre of the area that encompasses the Inner Zone B.

(4) Postharvest stand shall have a minimum 50% overstory canopy cover. The postharvest canopy may be composed of both conifers and hardwood species and shall have at least 25% overstory conifer canopy.

b) The WLPZ shall be clearly flagged and any trees to be harvested shall be marked with **Blue Paint** on at least two sides with a base mark below the cut line. Trees harvested shall be felled away from the WLPZ.

c) LWD currently within the WLPZ shall be retained.

Class II Watercourses:

There are three Class II-L Watercourses and several Class II-S Watercourses within the THP area. Many of the Class II Watercourses on this plan fall within the class I flood prone area protection zones and therefore the higher standard of protection already will apply adjacent to them. All watercourses are delineated on the operations maps provided at the end of Section II of this document. Protections for Class II Watercourses are as follows:

1) **Class II-L Watercourses:**

a) 14 CCR 916.9(c)(4) states: Class II large watercourses (Class II-L): The primary objective is to maintain, protect or restore the values and functions of Class II-L type watercourses described below.

i) Class II-L type watercourses can supply water and nutrients to a Class I watercourse during the month of July during an average hydrologic year.

ii) They can supply course and fine sediment to the Class I channel.

iii) They may be able to supply wood of a size that would function as large wood for the Class I watercourse. Recruitment, delivery and retention of large wood in Class II-L type watercourses is also critical, as large wood increases sediment storage and decreases the rate of sediment transport to fish-bearing Class I watercourses. Othe objectives state in 14 CCR 916.9(c)(1) and (2) above for the Core Zone and Inner Zone are also desired objectives for Class II-L type watercourses.

Class II-L (Large) Protection measures within 1000 feet to confluence with Class I watercourse

Water Class	**Class II-L (feet)**	
Geographic location	**Watersheds in the coastal anadromy zone**	
Slope Class	Core Zone (feet)	Inner Zone (feet)
<10%	30	70
10%-30%	30	70
30-50%	30	70
>50%	30	70

916.9(g)(2)(A) Core Zone: No timber operations are permitted in this zone except for those listed in 14 CCR 916.9(e)(1)(A)-(F). **No timber operations are proposed within the Core Zone.**

Note that the portion of the Class II-L watercourse in the flood prone area of the South Fork Gualala River is only flagged with "Do Not Cut" flagging for the 30 foot core zone.

916.9(g)(2)(B) Inner Zone: The widths of the Inner Zone for the Class II-L Watercourses is 70 feet and shall be measured from the landward edge of Core Zone or WLT, whichever is greater. Timber operations are permitted in this zone when conducted to meet the goals of this section, including those for the Inner Zone in 14 CCR 916.9(c)(2) and (4), pursuant to 14 CCR 916.9(e)(1)(A)-(F) or pursuant to 14 CCR 916.9(v). Harvesting prescriptions should focus on practices that use thinning from below.

916.9(g)(2)(B)(2) Within the Inner Zone silvicultural systems for harvesting are limited to the use of commercial thinning or single tree selection modified to meet the following requirements:

(i) 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 post harvest stand.
(ii) Sanitation-Salvage is not proposed.
(iii) Post harvest stand shall have a minimum 80% overstory canopy cover. The post harvest canopy may be composed of both conifers and hardwood species and shall have at least 25% overstory conifer canopy.
(iv) Post harvest stand shall retain the 13 largest conifer trees (live or dead) on each acre of the area that encompasses the Core and Inner Zones.
(v) Large trees retained to meet 14 CCR 916.9(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 down slope of such an unstable areas, or have undermined roots) are to be given priority to be retained as future recruitment trees.

2) **Class II-S Watercourses:**

14 CCR 916.9(g)(2)(B)(1) Class II Watercourses: Any Class II-S Watercourses shall receive protection in conformance with 14 CCR 916 through 916.7 in addition to requirements listed under 14 CCR 916.9(g)(2)(A) and (B). The WLPZ shall consist of a 15' Core Zone (no harvest) and an additional Inner Zone as outlined in the Class II-S Protection Measures table below.

Protection Measures: Class II-S (Standard) Watercourses

Water Class	**Class II-S Zone Widths (feet)**	
Geographic Location	**Watersheds in the Coastal Anadromy Zone**	
Slope Class	**Core Zone (feet)**	**Inner Zone (feet)**
<30%	15	35
30-50%	15	60
>50%	15	85

Class II-S Watercourses shall be given the following protections measures in accordance with 916.5(e)(B),(D), and (I). The WLPZ is clearly delineated on the ground by an RPF or supervised designee with flagging prior to the preharvest inspection. To ensure retention of shade canopy filter strip properties of the WLPZ and maintaining a multi-storied stand for protecting beneficial values described in 14 CCR 916.4(b), harvest trees shall be marked on at least two sides, including a base mark below the cut line, within the WLPZ by the RPF or supervised designee, prior to the preharvest inspection.

Per 14 CCR 916.4(b)(6) within the WLPZ, at least 75 percent surface cover and undisturbed area shall be retained to act as a filter strip for raindrop energy dissipation, and for wildlife habitat. Currently the shade canopy of the Class II Watercourses ranges from 80 to 95 percent.

14 CCR 916.9(a) states: Goal—Every timber operation shall be planned and conducted to protect, maintain, and contribute to restoration of properly functioning salmonid habitat and listed salmonid species. To achieve this goal, every timber operation shall be planned and conducted to:

1) Comply with the terms of a Total Maximum Daily Load (TMDL).
2) Prevent significant sediment load increase to a Watercourse system or lake.
3) Prevent significant instability of a Watercourse channel or of a Watercourse or lake bank.
4) Prevent significant blockage of any migratory routes for any life stages of anadromous salmonids or listed species.
5) Prevent significant adverse effects to streamflow.
6) Consistent with the requirements of 14 CCR 916.9 subsections (f), (g), (h), and (v), protect, maintain, and restore trees (especially conifers), snags, or downed large woody debris that currently, or may in the foreseeable future, provide large woody debris recruitment needed for instream habitat structure and fluvial geomorphic functions.
7) Consistent with the requirements of 14 CCR 916.9 subsections (f), (g), (h), and (v), protect, maintain, and restore the quality and quantity of vegetative canopy needed to:

    A. Provide shade to the Watercourse or lake to maintain daily and seasonal water temperatures within the preferred range for anadromous salmonids or listed species where they are present or could be restored: and
    B. Provide a deciduous vegetation component to the Riparian zone for aquatic nutrient inputs.

8) Prevent significant increases in peak flows or large flood frequency.

As per 14CCR 916(b), the LTO shall not remove water, trees or LWD from a Watercourse or Lake, the adjacent Riparian Area, or the adjacent flood prone areas in quantities deleterious to fish, wildlife, beneficial functions of Riparian zones, or the quality and beneficial uses of water.

Class III Watercourses

Numerous Class III Watercourses exist within the THP boundary and are delineated on operations maps provided at the end of Section II of this document. Protections for the Class III are as follows:

a) All skid trail crossings through Class III Watercourses are temporary and shall be rechanneled with the approaches sloped back to prevent back cutting. Temporary skid trail crossings shall be made when watercourses lack flowing water during operations at the crossing. Treatments shall be completed prior to completion of operations, or October 15th, whichever comes first, except as noted in the winter operating plan.

b) As per 14 CCR 914.1(a), trees shall be felled away from the centerline of the Class III Watercourses to the fullest extent possible.
c) Skid trail crossings and existing skid trails within the 30-foot Class III Watercourse ELZ shall be stabilized to standards established in **Items 18 Soil Stabilization Measures and Item 23 Winter Operations.**
d) As Stated in 14 CCR 916.4(c)(3), soil and debris deposited in a Class III Watercourse during operations shall be removed or stabilized before completion of operations, or October 15th, whichever comes first, except as noted in the winter operating plan. Soil and debris shall be removed or stabilized to prevent potential watercourse diversion or sediment buildup in areas not associated with Timber Operations.
e) **Protection Measures as stated under 14 CCR 916.9(h)(1-7):**
f) Establish a 30-foot-wide Equipment Limitation Zone (ELZ) on both sides of Class III watercourses on slopes less than 30 percent and an additional 20 feet ELZ where slopes exceed 30 percent. The ELZ is measured from the WTL. Limitations within the ELZ's include:
g) No new tractor road construction.
h) No ground-based equipment on slopes greater than 50 percent.
i) Ground based operations, including the use of feller-bunchers and shovel yarding, are limited to existing stable tractor roads that show no visible evidence of sediment deposition being transported into an adjacent Watercourse.
j) 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.
k) Retain all pre-existing down wood and debris in the Channel Zone.
l) Retain hardwoods, where feasible, within the ELZ.
m) Retain all snags within the ELZ (except as required for safety)
n) Retain all countable trees needed to achieve resource conservation standards stated in 14 CCR 912.7 within the ELZ.
o) Retain all trees in the ELZ and 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 stabilization.

Springs, Seeps, and Wet Areas:

Springs which are identified and mapped will have a 25-foot Equipment Limitation Zone (ELZ) with a 50 percent overstory canopy retention standard within the 25-foot ELZ. Within the ELZ, equipment is allowed only at designated crossings and existing truck roads unless otherwise noted. Any additional wet areas discovered during timber operations will be protected as described above.

Along with protection measures described above, the following applies:

1. Sanitation Salvage logging will not be conducted in WLPZ/ELZ/EEZ areas.
2. All Large Woody Debris (LWD) in watercourses and WLPZ/ELZ/EEZ areas will be retained.
3. An exception to #1 and #2 above is as follows: Only LWD that needs to be moved or skidded for operational reasons, such as opening roads, operational safety, and for riparian or stream restoration work, may be moved. This material shall not be removed from the THP area.

c2. [☐]Yes [**X**]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)]**

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? - <u>A 1611 Draft Agreement is attached at the end of Section II to provide crossing information and request a 1611 Agreement from CDFW. A finalized 1611 Agreement is pending approval and will be amended into the THP following plan approval.</u> **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:
<u>See the Map Points Table in Item 24 for information relating to proposed crossings. Also, see the CDFW 1600 Agreement and corresponding maps and diagrams at the end of Section II for additional information.</u>

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. [**X**]Yes [☐]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)]** See the watercourse crossing descriptions for the two temporary crossings of the South Fork Gualala River (crossings 4 and 30). See the temporary bridge installations for crossings 25, 29 and 29.

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)]	
h. [**X**]Yes [☐]No	Are there any new permanent constructed, reconstructed, or temporary logging road watercourse crossings, including those crossings to be abandoned or deactivated, that require mapping?
If "Yes" provide the method used for sizing crossing: *The Rational Method was used to size permanent culverts. See Section V for the calculations.* **NOTE: Permanent watercourse crossings that are constructed or Reconstructed shall accommodate the estimated 100-year flood flow, including debris and sediment loads. [ref. 14 CCR § 923.9(f)]**	
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)]**

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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. [☐]Yes [X]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)]**
l. [☐]Yes [X]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).** See Watercourse crossing descriptions in Item 24 and 25.

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).**

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Plans Located Within an ASP Watershed	
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 other than the listed exceptions? **If "Yes" explain and justify proposed timber operations using the procedures outlined in 916.6 [936.9, 956.9](v) 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 other than the listed exceptions? **If "Yes" explain and justify proposed timber operations using the procedures outlined in 916.6 [936.9, 956.9](v) 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. [**X**]Yes [☐]No	Are there existing permanent Class I crossings where fish are always present?
r2. [**X**]Yes [☐]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. See watercourse crossing descriptions in Items 24 and 25.	
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 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), The Timber Operator shall not construct or use tractor roads in a Class I, II, III, IV Watercourses, in the WLPZ, marshes, Wet Meadows, and Other Wet Areas unless explained and justified in the Plan by the RPF 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 • At new and existing tractor road crossings approved as part of a Fish and Game Code Process (F&GC 1600 et seq.) ***See Section III Item 27(a) for explanation and justification.***
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.)

SECTION II PLAN OF OPERATIONS - ITEM #27

	There are several WLPZ landings within Inner Zone B of the South Fork Gualala River. These are all over 100 feet from the WLTL. See Section III for the explanation and Justification.
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. [☐]Yes [**X**]No	Are there any additional in lieu or alternative prescriptions proposed for watercourse or lake protection?

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. [☐]Yes [**X**]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 [☐]No [**X**]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 [☐]No [**X**]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 [☐]No [**X**]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

ITEM #30 – HAZARD REDUCTION

[ref. 14 CCR §§ 917 [937, 957] & 917.2 [937.2, 957.2]]	
a. [☐]Yes [☒]No	Will slash treatment occur within 100 feet of the edge of the traveled surface of a public road?
b. [☐]Yes [☒]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?
c. [☐]Yes [☐]No [☒] 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 [☒]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 [☒]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 [☒]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.**
g. [☐]Yes [☒]No [☐] N/A	Are there any additional slash treatments proposed and/or required in a Coastal Commission Special Treatment Area, Southern Subdistrict or High Use Subdistrict by the Rules [ref. 14 CCR §§ 917.4, 957.4, 921.6 & 961.6]? **If "Yes" describe below.**
LTO Slash Treatment Instructions:	

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

ITEM #31 - PILING AND BURNING

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

Species	Federal Listed	State Listed or Candidate	BOF Sensitive	Protection measures
Northern Spotted Owl (Strix occidentalis	***Threatened***	***Threatened***	***Yes***	***For the purposes of review of this plan, the provision 14 CCR 919.9(e) following Attachment A: Take Avoidance Analysis – Coast Redwood Region published 11/1/2019).*** ***This THP is submitted with complete 2025 calling/survey data.*** ***This THP complies with the recommendations put forth in Attachment A. No exceptions to the Attachment A are proposed as part of this THP. Operations during the breeding season which can result in disturbance, or at any time of the year which may result in alteration of habitat under the following THP shall not commence until surveys have been completed according to the survey standards discussed above (or combination thereof), and the results have been provided to CAL FIRE and amended into the THP. Non-habitat altering activities occurring outside of the breeding season may occur. These activities are typically limited to map point work, hauling, or landing operations, and may only occur between July 10th and February 1st subject to other operational restrictions of the THP (such as limitations during winter period activities).*** ***The plan area contains habitat suitable for the Northern Spotted Owl. NSO is Federally Threatened, State Threatened, and a BOF Species of Special Concern. There are 3 NSO territories and 3 activity centers (ACs) within 0.7 miles of the plan area: MEN0153 (1999), MEN0510 (2002), and MEN0587 (2003).*** ***I. NSO Habitat Retention and Typing*** ***NSO Activity Center Habitat Protection - Core Area***

				• A 100-acre Core Area polygon must be identified that contains the highest quality habitat (typically Nesting/Roosting) located contiguous with the Activity Center (AC). ***• When an AC is closer than 500-feet to the outside edge of the Nesting/Roosting (N/R) polygon, the acres of non-N/R habitat within 500-ft. of the AC are included, but it should be augmented with additional N/R habitat elsewhere in the Core Area polygon to make a total of 100-acres of the highest quality habitat.*** ***• The 100-acre core area should not be redrawn in subsequent entries, and the 500-foot radius should remain unchanged.*** ***• When the AC is closer than 1,000-ft. to, but not within 500-ft. of, the outside edge of the N/R polygon, the protected Core Area should extend to that most distant edge of the N/R habitat but shall not be less than a 500-ft. radius.*** ***• Operations conducted outside the Core Area, but within 1,000-ft. of an AC should retain the functionality of any NSO habitat present pre-harvest within this area, i.e., operations do not downgrade habitat.*** ***• If the N/R polygon is 200-ac. or greater, and operations in the polygon outside the Core Area have retained N/R habitat, then the 100-ac. core area can be redrawn in subsequent entries. However, the 500-ft. radius should remain unchanged, and the redrawn core area should not include any acres harvested within the previous 5 years.*** ***NSO Activity Center Habitat Protection - 0.7 Mile Radius*** ***1) Retain habitat to maximize attributes desirable for NSO.*** ***2) Retain at least 500-ac. of suitable (Nesting/Roosting/Foraging) NSO habitat, post-harvest, as follows:*** ***a) Retain 200-ac. of N/R Habitat within a 0.7-mile radius of the AC consisting of:*** ***i) 100-ac. of the 200-ac. of N/R habitat retained should be contiguous, as possible with the AC.*** ***ii) An additional 100-ac. of N/R within the 0.7-mile radius:*** ***(1) For the second 100-acres, maintaining N/R habitat with a minimum of 66% of the harvest basal area per acre of trees at least 11" dbh.*** ***b) Retain at least 300-ac. 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-ac. within 0.7-mile of an AC during the life of the timber operations.***

				II. Road Use ***To avoid take of NSO from noise disturbance (see U.S. Fish & Wildlife Service 2006) road use within 0.25-mile (1,320-ft.) of an NSO Activity Center during the breeding season is prohibited until July 10th, unless:*** ***1) Protocol surveys determine non-nesting, or nesting failure (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 AC is within 165-ft. of major highway that typically has continuous traffic year around (Hwy 1, 36, 20, 101, 128, 299, etc.) and the appurtenant road is not within 165-ft. of the AC. The mainline road up the northwest side of the North Fork Gualala River is a mainline road that normally has year-round use and therefore does not have use restrictions.*** ***3) After July 9th until the end of the breeding season, road use within the 100-acre core is restricted to existing road use, 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 AC), and existing pre-project use.*** ***III. Timber Harvest Operations*** ***A 0.25-mile seasonal restriction on timber operations (except for road use after July 9th) applies to every known NSO AC 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 stays in effect for timber operations until after July 31st.*** ***For all known or future Activity Centers within 0.7-mile of the project area, timber operations should adhere to the following recommendations:*** ***1) Within the 100-acre Core Area polygon of an NSO Activity Center:*** ***a) Outside the breeding season, limited timber operations (i.e., road use and maintenance, map point work, tail-hold placements, use of existing skid roads, and loading) may be conducted, provided no trees >11 inches DBH are cut or removed by the operations, and no logs are yarded through the Core Area.***

				b) During the NSO breeding season, timber operations (including use of roads before July 9th), are not allowed within the 100-acre Core Area polygon, except as allowed in subsections 4 and 5, below. ***2) Timber Operations outside the 100-acre Core Area polygon, 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, no timber operations should proceed unless protocol surveys determine that nesting NSOs are not present or that nesting has failed.*** ***3) For all NSO Activity Centers, prior to May 15th (until the required May 15th or later survey is completed):*** ***a) Timber operations (except helicopter yarding or staging) may be conducted only on those THP areas >0.25-mile from the AC.*** ***b) Helicopter yarding & staging may occur only on those THP areas >0.5-mile from the AC.*** ***4) For NSO Activity Centers where reproductive status has been determined to be non-nesting or failed nesting:*** ***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 the 100-acre Core Area of the AC. Helicopter flyovers shall not occur within 1000 ft. of the AC.*** ***5) For NSO Activity Centers, where reproductive status has been determined to be nesting:*** ***a) For AC where fledging status has not been determined, timber operations may be conducted only on those THP areas that are >0.25-mile from the AC until the end of the breeding season.*** ***b) Helicopter yarding and staging may occur only on those THP areas >0.5-mile from the AC.*** ***6) For any NSO Activity Center, regardless of reproductive status:*** ***a) If NSO move to a new location (>1000-feet from the historical AC) 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: None.**

Marbled Murrelet (Brachyramphus marmoatus	***Threatened***	***Endangered***	***Yes***	***Marbled murrelets prefer dense mature forests of redwood and Douglas-fir for breeding but, have also been found in single or small groups of mature trees. According to the Pacific Seabird Group, a professional organization of seabird biologists, data gathered over the past 15 years shows that murrelets nest in old growth and mature conifer forests throughout most of their range. This organization also defines potential habitat as 1) mature (with or without an old growth component) and old growth coniferous forests, and 2) younger coniferous forests that have deformations or structures suitable for nesting. Habitat structures containing these characteristics are not present within or adjacent to the plan area. No potentially significant impacts to this species are not anticipated. There is habitat in the SE ¼ of the SE ¼, Section 23, T11N, R14W, MDBM. There are approximately 3.5 acres of selection harvest proposed on the south side of the South Fork Gualala River that is between 1,000 feet and 1,320 feet of the MAMU habitat know as the Green Bridge MAMU Habitat Area. This area of the THP is on the flood plain where the 13 largest trees per acre are retained along with a dense overstory canopy. It is proposed to harvest this 3.5 acres following the recommendations of the attached MAMU Consultation 16-R1-CTP-041-MAMU for the Green Bridge Habitat Area. The only road related operations associated with this THP that are within 1,320 feet of this location is the use and maintenance of the existing permanent road for the purpose of accessing water drafting locations and potentially hauling logs. See the CDFW recommendations below.*** ***Also see the MAMU Consultation 16-R1-CTP-041 MAMU following this page.***

Protection Measures for MAMU "Green Bridge" habitat area

Along the public road and all appurtenant roads within 825 feet of the Green Bridge Habitat Area (See Appurtenant Road Map page 96), THP related vehicles shall adhere to the following during the MAMU nesting season (March 24 to September 15):

a) Do not exceed 15 miles per hour within 2 hours prior to dawn and 2 hours after dusk;

b) Restrict stopping to the minimum required in order to safely use public and connecting appurtenant roads;

c) Prohibit log load band tightening.

Year-round protection measures:

d) Workers shall not leave food waste or personal trash within 1,350 feet of the Green Bridge Habitat Area.

Attachment:

Marbled Murrelet (MAMU) Consultation **16-R1-CTP-041-MAMU** for
"Green Bridge" Habitat Area in Association with
Timber Harvesting Plan (THP) 1-16-094 MEN "Plum" in Mendocino County

The marbled murrelet is a small seabird that nests within multistoried canopies on platforms with surface areas at least 4 inches by 4 inches. MAMU are found in trees with large lateral limbs, epicormic branching, epiphytic growth and/or intertwined branching and are often associated with late seral (post-mature) forests and/or trees with late seral-like structural characteristics.

The marbled murrelet is listed as State endangered pursuant to Fish and Game Code Section (§)2050 *et seq.*, Federally threatened pursuant to Section 1531, Title 16, United States Code (16 U.S.C) *et seq.*, and is a sensitive species as defined by Title 14, California Code of Regulations (14 CCR), §895.1. This consultation is being conducted pursuant to 14 CCR §919.11, which requires consultation with CDFW.

This consultation is in response to potential MAMU nesting habitat observed during the October 17, 2016, pre-harvest inspection of the THP adjacent to the "Green Bridge Habitat Area". The Green Bridge Habitat Area is comprised of several late seral trees and/or tress with late seral characteristics displaying a multistory canopy with large re-iterating limbs and epicormic branching providing suitable platforms for MAMU nesting. This small stand of trees is on the Stillman property north of the Green Bridge and along the left (eastern) bank of the North Fork Gualala River (sees Figure A-1). United States Fish and Wildlife Service (USFWS) identified the Green Bridge Habitat Area as potential habitat requiring technical assistance for an earlier THP in the area (USFWS letter 1-14-2000-837 dated October 3, 2000).

While the nearest MAMU inland detection occurred along Skaggs Creek Road less than 12 air miles south, southeast of the Green Bridge Habitat Area, numerous observations groups of murrelets numbering as many as 12 have been observed toward the end of the breeding season at the mouth of the Gualala River, approximately 2 air miles west of the Green Bridge Habitat Area. Offshore surveys in 2001 detected up to 26 individual murrelets including at least 1 potential juvenile off the southern Gualala coastline (between the mouth of the Gualala and Sea Ranch less than 4 miles to the south, southeast of Gualala).

Proposed activities

The THP proposes timber operations (specifically associated with Unit 1) within 300 feet of the Green Bridge Habitat Area. Operations within Unit 1 include use and maintenance of existing permanent and seasonal appurtenant roads, timber harvesting, and tractor yarding on the existing skid trails. Proposed timber operations within 825 feet of the Green Bridge Habitat Area include use and maintenance of existing permanent and seasonal appurtenant roads, as well as a paved, public road; temporary Class I

watercourse crossing installation and removal; timber falling; and tractor yarding on the existing skid trail network, as well as other THP related activities.

The RPF indicated the Green Bridge is not to be used because its structure is insufficient to pass large vehicles, such as logging trucks. Instead, the THP proposes to use a temporary crossing below the Green Bridge for heavy equipment ingress/egress for Unit 1.

For the purposes of consultation 16-R1-CTP-041-MAMU, the existing ambient sound level associated with the Green Bridge Habitat Area shall be *Moderate*[7] (71-80dB) based on the presence of residential traffic crossing the Green Bridge.

Until completed MAMU surveys[8] result in "no detection" CDFW concurrence is amended to the THP, CDFW recommends the THP include the following MAMU protection measures in Section II, Item 32 of the THP:

1. No vegetation modification shall occur within 300 feet of the Green Bridge Habitat Area (see Figure A-1).

2. Based on the ambient noise level *Moderate*[7], during the MAMU breeding season (March 23 through September 15) take avoidance shall include the following measures:

    a. Anticipated project generated sounds exceeding 90 dBs or a "Very High"[9] sound level shall not occur within 330 feet of the Green Bridge Habitat Area during the MAMU breeding season (March 24 through September 15);

    b. Anticipated project generated sounds exceeding 90 dBs or a "Very High"[9] sound level shall not occur within 825 feet of the Green Bridge Habitat Area during the Dawn Period (between 2 hours before sun rise and 2 hours after sunrise) and Dusk Period (between 2 hours before sunset and 2 hours after sunset) within the MAMU breeding season (March 24 through September 15);

    c. Anticipated project generated sounds exceeding 100 dBs or a "Extreme" [9] sound level shall not occur within 825 feet of the Green Bridge Habitat Area during the MAMU breeding season (March 24 through September 15);

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[7]USFWS Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northern California – 8-14-2006-2887 dated July 31, 2006.

[8] Protocol survey consistent with Mack, D. E., W. P. Ritchie, S. K. Nelson, E. Kuo-Harrison, P. Harrison and T. E. Hamer. 2003. Method for surveying marbled murrelets in forests: a revised protocol for land management and research, Pacific Seabird Group Technical Publication Number 2.

[9] Anticipated sound levels may be assessed using USFWS Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northern California – 8-14-2006-2887 dated July 31, 2006, Table 2. Some Common Sound Levels for Equipment Activity.

d. Anticipated project generated sounds exceeding 100 dBs or a "Extreme" [9] sound level shall not occur within1,320 feet of the Green Bridge Habitat Area during the Dawn Period (between 2 hours before sun rise and 2 hours after sunrise) and Dusk Period (between 2 hours before sunset and 2 hours after sunset) within the MAMU breeding season (March 24 through September 15).

3. Along the public road and all appurtenant roads within 825 feet of the Green Bridge Habitat Area (see Figure A-2), THP related vehicles shall adhere to the following during the MAMU nesting season (March 24 to September 15):

   a. Do not exceed 15 miles per hour within 2 hours prior to dawn and 2 hours after dusk;

   b. Restrict stopping to the minimum required in order to safely use public and connecting appurtenant roads;

      and

   c. Prohibit log load band tightening.

Year-round protection measures:

4. Workers shall not leave food waste or personal trash within 1,320 feet of the Green Bridge Habitat Area.

5. In the event that a marbled murrelet is found grounded during any activity associated with the THP, CDFW shall be contacted immediately.

Please direct questions or correspondence regarding consultation 16-R1-CTP-041-MAMU to Environmental Scientist Adam Hutchins at (707) 964-1980, or E-mail adam.hutchins@wildlife.ca.gov.

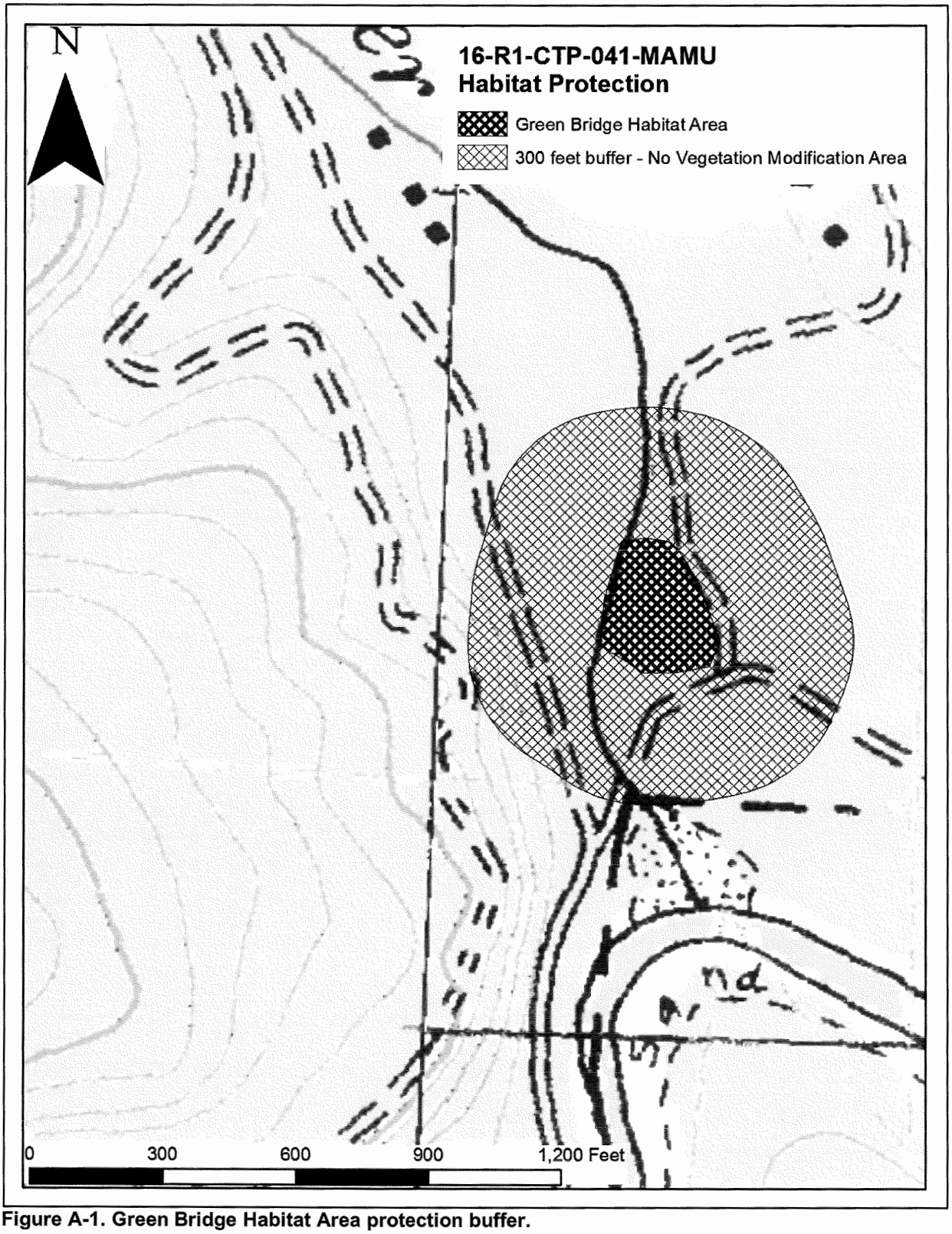

Figure A-1. Green Bridge Habitat Area protection buffer.

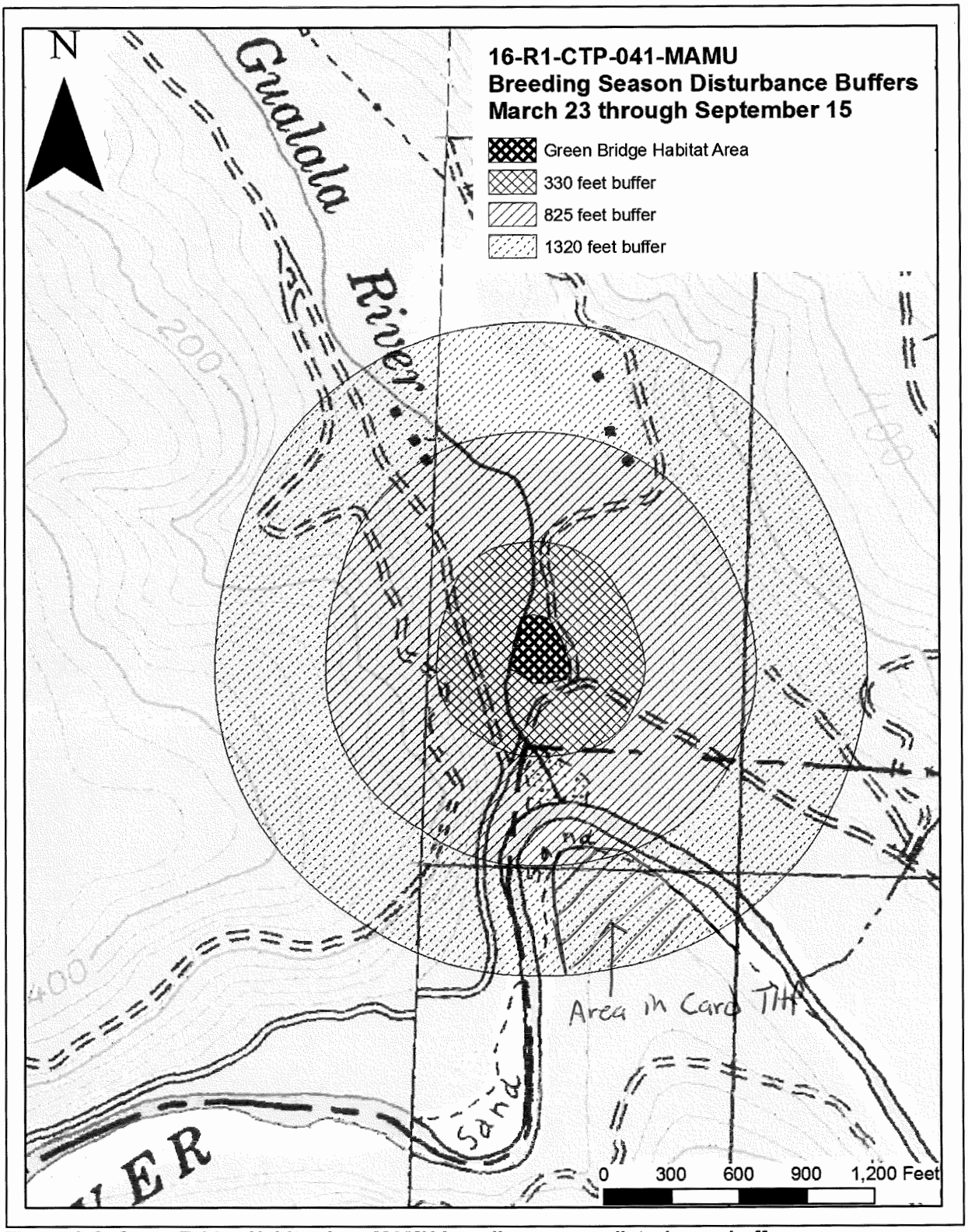

Figure A-2. Green Bridge Habitat Area MAMU breeding season disturbance buffers.

Coho salmon (Oncorhynchus kisutch)	*N/A*	*Threatened*	*No*	*There will be no impacts to the coho salmon habitat from timber operations, therefore no mitigations are proposed. The potential habitat within the plan will be adequately protected with the implementation of WLPZ rules outlined in the Forest Practice Act.*
Steelhead trout (Oncorhynchus mykiss)	*Threatened*	*N/A*	*No*	*There will be no impacts to the coho salmon habitat from timber operations, therefore no mitigations are proposed. The potential habitat within the plan will be adequately protected with the implementation of WLPZ rules outlined in the Forest Practice Act.*
Chinook salmon (Oncorhynchus tshawytscha	*Threatened*	*N/A*	*No*	*There will be no impacts to the chinook salmon habitat from timber operations, therefore no mitigations are proposed. The potential habitat within the plan will be adequately protected with the implementation of WLPZ rules outlined in the Forest Practice Act.*
Red Tree Vole (Arborimus pomo)	*N/A*	*Species of Special Concern*	*No*	*Douglas-fir trees in a range of densities and size classes will be retained as a result of the uneven-aged silviculture and the well separated clear cut and Rehabilitation blocks proposed in this plan and will continue to provide habitat for this species. Numerous species detections have occurred throughout the assessment area including a general area covering 760 acres that overlaps a majority of the plan area. Surveys for this species occurred during most days of THP field layout and resulted in no RTV detections. Should a California red tree vole nest be encountered during the course of timber harvest operations, the nest tree shall be flagged and marked as a "no-cut" wildlife tree. Those trees located within 33 feet of the nest tree will also be left as a buffer. By retaining overstory and understory conifers, RTV habitat will not be significantly affected by the proposed uneven-aged management.*
Gray Wolf (Canis lupus)	*N/A*	*Endangered*	*No*	*The gray wolf is a state endangered species. In 2013, the California Fish and Game Commission determined the species may be warranted for listing under CESA. In 2014, the Commission voted to list the species under CESA. The Notice of Findings to list the gray wolf as an endangered species in California was published by the California Fish and Game Commission on October 18, 2014. The species has also been federally proposed for delisting. This species is a habitat generalist that needs an adequate supply of ungulate prey and water. The plan submitter maintains that the plan area is likely outside the historic distribution of the gray wolf, and in addition, habitat modeling exercises during the past decade indicate that the redwood region contains habitat with low suitability for supporting gray wolves.*

				Historically, the species inhabited the Sierra Nevada, southern Cascades, Modoc Plateau, and Klamath Mountains of California. The last confirmed sighting in California was in 1924. In 2011, a male gray wolf, designated OR-7 and born in 2009, entered California from Oregon. The OR-7 wolf was a breeding male associated with the Rogue Pack in southern Oregon. In August 2015, however, a wolf pack with two adults and five pups was confirmed in Siskiyou County, California. This group, now dubbed as the Shasta Pack, is the first wolf pack confirmed in California in almost a century. OR-7 was seen in Oregon in fall of 2019 but was not found at the state count of wolves the following winter, and as of April 2020 is presumed to have died at about 11 years old, an advanced age for a wild wolf. There were no verified detections of the pack between late November 2015 and early May 2016, until a yearling male (CA07M) was detected by trail cameras, tracks, and scat near two pup-rearing sites used by the pack in 2015. In November 2016, CA07M (verified through genetic analysis of scat) was observed in northwestern Nevada. CDFW believes the pack no longer exists. Some evidence suggests at least one wolf was roaming within and near the Shasta Pack territory in the summer and fall of 2017. ***The Lassen Pack is California's second contemporary pack, and the only currently known wolf pack in the state. The wolves generally utilize a broad area of western Lassen and northernmost Plumas counties. The pack has produced litters in 2017 (four pups), 2018 (5 pups), and 2019 (four pups). One of the 2019 pups (LAS02F) was fitted with a satellite tracking collar in September 2019. As of October 2019, CDFW estimates the pack consists of two adults, one yearling, and four pups.*** ***Several other wolves have been detected through trail cameras, tracks, and scat.*** ***All contemporary wolf sightings in California have been east of Interstate 5. No wolves have yet to be sighted on the north coast or in Mendocino County, and are thus, unlikely to occur in biological assessment area of this THP at this time.*** ***Gray wolves are covered under both the Federal Endangered Species Act as well as the California Endangered Species Act.*** ***Based on the above-mentioned information, the plan submitter maintains that the plan area is unlikely to harbor a gray wolf (See Section IV for species account).***

				Gray Wolf take-avoidance measures: • ***If a suspected gray wolf den/rendezvous site is discovered during the course of operations, the LTO will immediately cease all vegetative disturbance operations within 200 feet of the potential den/rendezvous site.*** • ***If a gray wolf is detected, the LTO shall contact the RPF, who will then notify the California Department of Fish and Wildlife (CDFW).*** • ***A consultation with CDFW and CAL FIRE will be requested by the RPF to evaluate the need to implement additional protection measures, and if necessary, amend those into the plan.***
California Red-legged Frog (Rana draytonii)	***Threatened***	***Species of Special Concern***	***No***	***Several potential CRFL habitat locations have been identified throughout the biological assessment area including one approximately a mile south of the THP area at a water drafting hole labeled Map Point WD4. California red-legged frogs prefer wet areas including wet meadows and springs. Extensive red-legged frog surveys were conducted during THP field layout with no detections. The closest recorded sighting to the plan area occurred roughly 4.4 miles southwest of the plan. Standard WLPZ protection measures for all watercourses and wet areas in this THP will adequately protect beneficial habitat for this species. In the event that a red-legged frog is detected within the THP area during timber operations, Cal Fire and CDFW shall be immediately notified, and all timber operations cease within 50 feet of the occurrence. Appropriate protection measures will be determined upon consultation with Cal Fire and CDFW and these measures will be amended into the plan.*** ***The only currently known potential CRLF habitat areas associated with this THP are in the Class I and Class II watercourses and one off channel pond at Map Point WD4 where operations will be limited to water drafting and use of existing roads that access WD4.*** **Mitigation measures for CRLF are as follows:** ***Seasonal definitions:*** - ***WET SEASON starts with the first frontal rain system depositing a minimum of 0.25 inches of rain after Oct. 15 and end on April 15.*** - ***DRY SEASON starts April 16 and ends with the first frontal rain system as described under the "Wet Season" definition.*** ***Suitable CRFL Habitat:*** - ***Permanent water (Class I or II watercourses or ponds/wetlands) that is more than 12 inches deep;*** - ***Permanent water (Class I or II watercourses or ponds/wetlands that is less than 12 inches deep if suitable shelter/cover habitat is available, e.g.,***

				over-hanging vegetation, emergent vegetation, over-hung banks, root wads, rock piles, log debris, etc. - *Permanent wet ground (e.g., seep) with vegetation or other cover.* - *Intermittent water that persists through late July.* ***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:*** - *For Class III watercourses, when dry, maintain a 30-foot no cut buffer, trees felled away from watercourse.* - *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.* - *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.* ***Suitable habitat within 2 miles of harvest units or in units and harvest activities planned within 300 feet of suitable habitat occurring during the Dry Season:*** - *All suitable habitat must maintain a 30-foot no cut buffer; no equipment within the no cut buffer except on existing road; tress felled away from suitable habitat.* ***The following operational conditions must also be included:*** - *Pile burning must be outside the 300-foot buffer of suitable habitat.* - *No herbicides use allowed within 300 feet of suitable habitat except for direct application to stumps (cut surfaces)* - *Roads and landings, if constructed, must be at least 300 feet from suitable habitat, and construction must occur in the dry season.* *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 ¼ inch mesh.*
Foothill yellow-legged frog (Rana boylii)	*N/A*	*Species of Special Concern*	*No*	*Suitable habitat for the FYLF exists within the plan area and throughout the biological assessment area. One recorded sighting occurred roughly two miles south of the THP area and several other recorded sightings have occurred throughout the Gualala River watershed. The potential habitat within and adjacent to the plan area will be adequately protected with the implementation of standard WLPZ rules outlined in the California Forest Practice Act. Two Class I Watercourses and several Class II-S Watercourses are located adjacent to the plan area. Only one small section of Class II-S Watercourse flows through the THP area. By implementing WLPZ rules and the best*

				harvesting practices, potentially significant impacts to this species or its habitats are not anticipated from this plan.

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.** ***Attached in Section V is the Botanical Survey and Report.*** 1. ***The botanical survey was conducted in conjunction with the guidelines set forth in the 2018 CDFW Botanical Survey Protocols.*** 2. ***Any species found which is listed as rare, threatened, or endangered under Federal or State law, or a sensitive species by the Board of Forestry, will be protected with a 50-foot no-operations buffer unless a consultation is requested with CDFW to determine more appropriate protection measures***

Species	Protection measures

Post Approval Plant Discovery:

In the event that a rare or sensitive plant is found following plan approval, default mitigation measures of avoidance will be implemented by placing a 50-foot buffer around the sensitive plant beginning at the outermost occurrence of the subject plant until species-specific mitigation measures can be developed. No timber operations or road construction shall occur within 50 feet of any location supporting a listed/sensitive plant unless alternative mitigation measures, developed through consultation with CDFW, are applied. The CDFW and RPF will work to develop species-specific mitigation measures to reduce impacts to sensitive plants to less than significant. If agreed upon protection measures alter the operations of the THP, those measures will be made part of the plan through a minor amendment submitted to CAL FIRE. This does not apply to the use and maintenance of existing roads.

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?
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
d.[**X**]Yes [☐]No	Will snags be felled where federal and state safety laws and regulations require the felling of snags?
e.[**X**]Yes [☐]No	Will snags be felled within 100 feet of structures maintained for human habitation?

f. [☐]Yes [**X**]No	Will merchantable snags be felled in any location as provided for in the Plan?
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.

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SECTION II PLAN OF OPERATIONS - ITEM #36 to #38

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 § 929.1 [949.1, 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 INFORMATION

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
Flagging Code: ribbon color and application	▪ **Solid Pink Flagging with "TIMBER HARVEST BOUNDARY" in black and pink indicates the exterior of the THP area where harvesting operations are to be contained. Natural features on the ground including roads and watercourses may also be used to delineate silvicultural prescriptions.** ▪ **Blue and white striped flagging with "WATERCOURSE AND LAKE PROTECTION ZONE" in black print indicates the exterior boundary of a Class I and Class II WLPZ, or a Wet Area.** ▪ **Solid orange with "TRUCK ROAD" in black print indicates existing and proposed appurtenant truck road.** ▪ **Solid yellow flagging with "SKID TRAIL" in black print indicates a skid trail (tractor road). All skid trail locations will be flagged prior to the preharvest inspection.**

SECTION II PLAN OF OPERATIONS - ITEM #36 to #38

Condition (Flagging codes, water drafting, paint colors, etc.)	Instruction
	▪ **Solid pink flagging with "DO NOT CUT" in black print indicates the boundary of an area within the plan boundary that is a No Operations area.** ▪ **White and orange striped flagging with "SPECIAL TREATMENT ZONE" in black print indicates the exterior boundary of a Special Treatment Area. STZ flagging will be paired with a single bright orange flag to make the STZ boundary more visible.** ▪ **Solid blue flagging with solid orange flagging marks the boundary between the inner zone A and inner zone B in the flood prone areas.** ▪ **Solid blue flagging marks individual acres throughout the plan area.**
Paint Coloring:	**Harvest trees will be marked with BLUE PAINT on at least three sides and a base mark.**

Notification Information List Pursuant to Fish 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 Plan Submitter.***

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	***Classification***	***Watercourse Name***	***Nearest Downstream Watercourse (if applicable)***	***Tributary of:***
4	*Class I*	*South Fork Gualala*		*Gualala River*
5	*Class III*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
6	*Class III*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
7	*Class II*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
10	*Class II*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
11	*Class II*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
12	*Class II*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
13	*Class II*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
15	*Class II*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
16	*Class II*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
20	*Class II*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
22	*Spring*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
607	*Class I*	*North Fork Gualala*		*Gualala River*
28	*Class I*	*Rockpile Creek*	*South Fork Gualala River*	*Gualala River*
29	*Class I*	*Buckeye Creek*	*South Fork Gualala River*	*Gualala River*
30	*Class I*	*South Fork Gualala*		*Gualala River*
32	*Class III*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
33	*Class II*	*Unnamed*	*South Fork Gualala River*	*Gualala River*
Water Drafting Sites				
WD1	*Class I; off channel sump*	*South Fork Gualala*		*Gualala River*
WD2	*Class I; off channel sump*	*South Fork Gualala*		*Gualala River*

b) The township, range, and section numbers along with the latitude and longitude of each lake and stream encroachment.

Map Point	***Township***	***Range***	***Section***
4	*11N*	*15W*	*25*
5	*11N*	*15W*	*25*
6	*11N*	*15W*	*25*
7	*11N*	*15W*	*25*
10	*11N*	*14W*	*31*
11	*11N*	*14W*	*31*
12	*11N*	*14W*	*31*
13	*11N*	*14W*	*31*
15	*11N*	*14W*	*31*
16	*10N*	*14W*	*6*
20	*10N*	*14W*	*6*
22	*10N*	*14W*	*6*
607	*11N*	*15W*	*26*
28	*11N*	*14W*	*31*
29	*10N*	*14W*	*6*
30	*10N*	*14W*	*6*
32	*10N*	*14W*	*21*
33	*11N*	*15W*	*25*

Water Drafting Sites			
WD2	*10N*	*14W*	*6*
WD1	*11N*	*15W*	*25*

c) 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 Map.

d) 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.

e) 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 was completed and can be found in Section V. Please refer to the THP Sections 2 and 3, Item 32 for additional information concerning wildlife and botanical resource issues.

f) 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

2. 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 only anticipated at the South Fork and north Fork Gualala River and Rockpile Creek and Buckeye Creek during crossing installations. Most crossings are on Class III and Class II watercourses that are anticipated to be dry during crossing installation. Watercourses that remain dry during summer months or Class II watercourses that are 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. Bridges shall be pulled or pushed across the watercourses with one pass with equipment over the watercourse.

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.

Water Tanks
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.

e)

Site	Road Point Number	Material Removed (Volume)	Material Installed (Volume)	Comments
1	4	10 yards	10 yards	Temporary Crossing Class I
2	5	1 yard	1 yard	Temporary Crossing Class III
3	6	5 yards	5 yards	Permanent culvert replacement Class III
4	7	2 yards	2 yards	Temporary Crossing Class II
5	10	2 yards	2 yards	Temporary Crossing Class II
6	11	2 yards	2 yards	Temporary Crossing Class II
7	12	2 yards	2 yards	Temporary Crossing Class II
8	13	2 yards	2 yards	Temporary Crossing Class II
9	15	2 yards	2 yards	Temporary Crossing Class II
10	16	2 yards	2 yards	Temporary Crossing Class II
11	20	15 yards	15 yards	Permanent culvert replacement Class II
12	22	10 yards	10 yards	Permanent culvert replacement Class III
13	25	5 yards	5 yards	Temporary Crossing Class I
14	28	0 yards	0 yards	Temporary Crossing Class I
15	29	0 yards	0 yards	Temporary Crossing Class I

16	*30*	**10 yards**	**10 yards**	**Temporary Crossing Class I**
17	*32*	**5 yards**	**0 yards**	**Class III channel below culvert outlet modification**
18	**WD1**	**75 yards**	**75 yards**	**Class I; off channel sump**
19	**WD2**	**75 yards**	**75 yards**	**Class I; off channel sump**

f) Specify the type of equipment to be used.

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

g) 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.

h) 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. No rare species are seen at sites.

i) 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.

j) 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.).

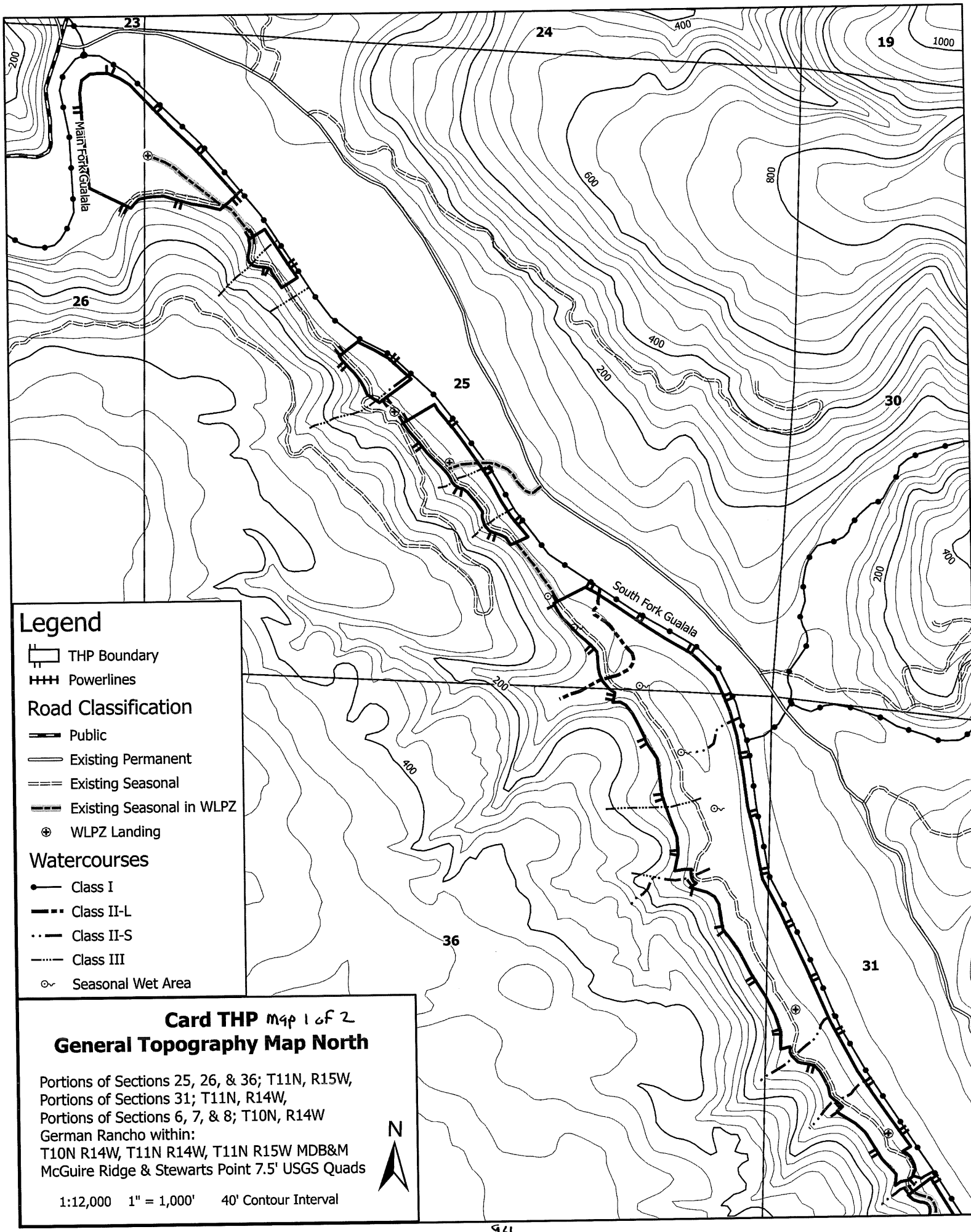
Soil disturbance during crossing installation or removal shall be kept to a minimum necessary for maneuvering and properly installing and removing drainage structures. Water diversion around crossings will involve a pump, coffer dam, and hose to redirect water back into the watercourse channel. Bare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

k) Calculations or other data used to size culverts.
The Rational Method was used to size culverts.

l) 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 installations are all temporary bridges that are often installed during the non-winter period.

m) 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.

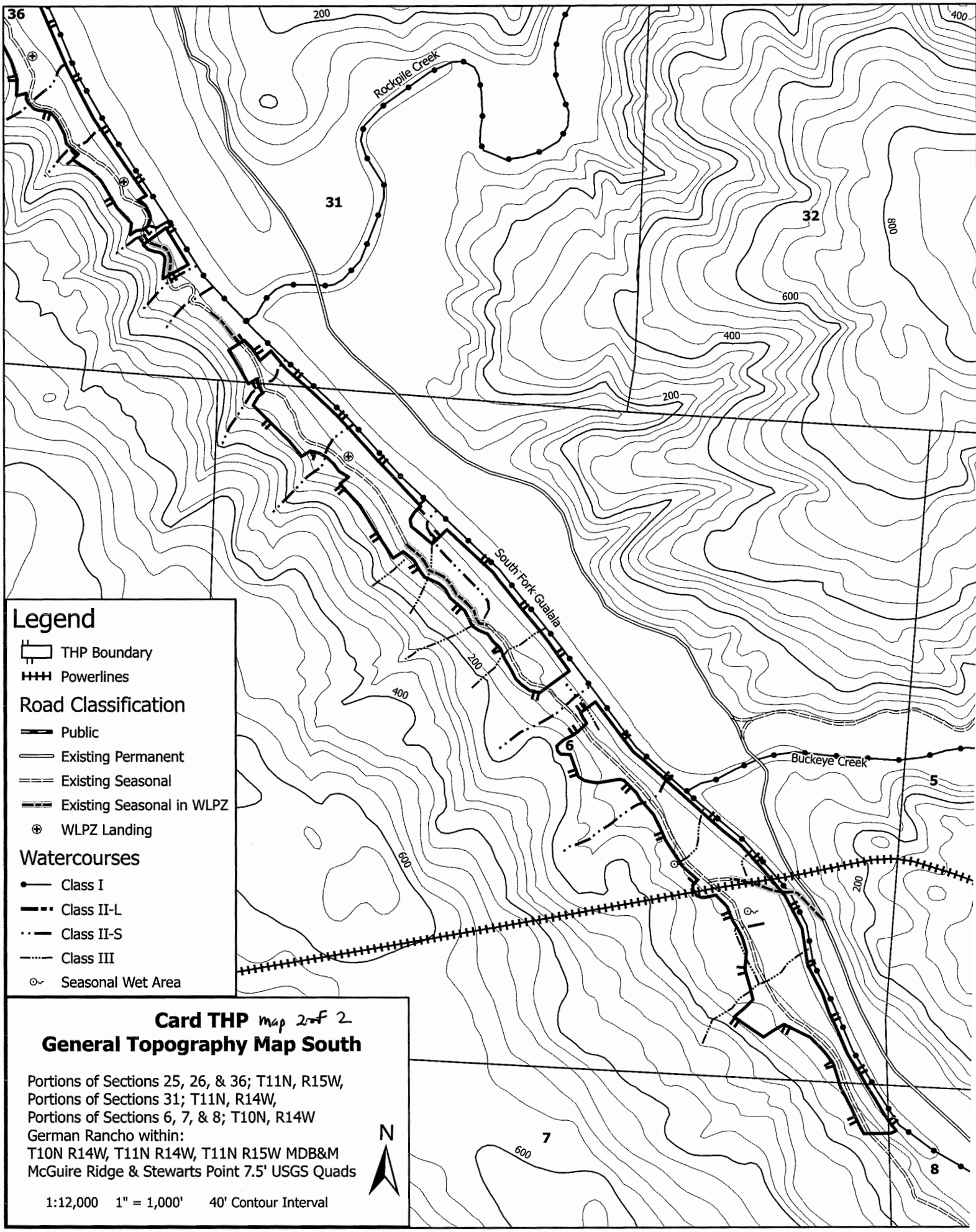


Card THP map 1 of 2

General Topography Map North

Portions of Sections 25, 26, & 36; T11N, R15W,
Portions of Sections 31; T11N, R14W,
Portions of Sections 6, 7, & 8; T10N, R14W
German Rancho within:
T10N R14W, T11N R14W, T11N R15W MDB&M
McGuire Ridge & Stewarts Point 7.5' USGS Quads

1:12,000 1" = 1,000' 40' Contour Interval

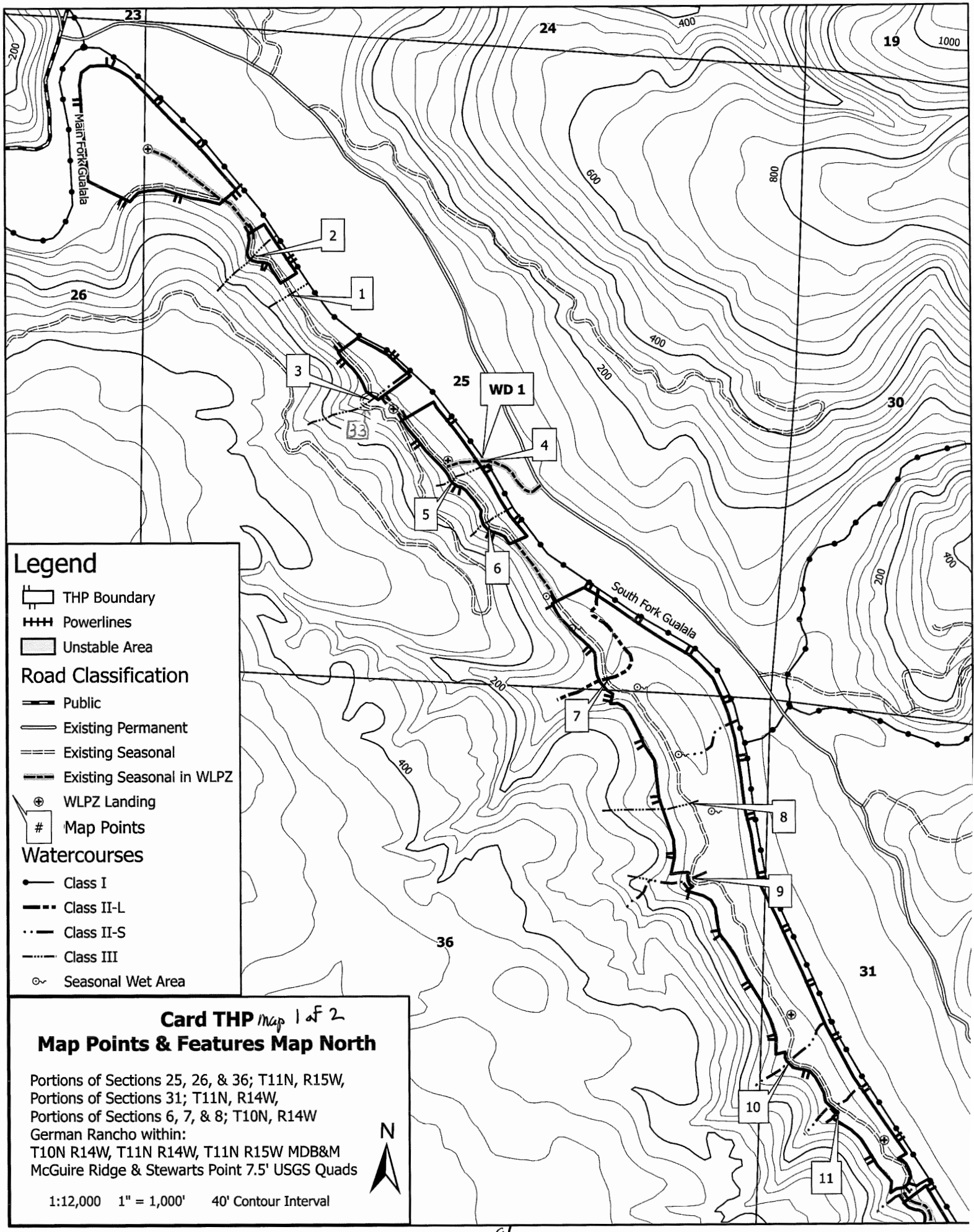


Card THP map 2 of 2

General Topography Map South

Portions of Sections 25, 26, & 36; T11N, R15W,
Portions of Sections 31; T11N, R14W,
Portions of Sections 6, 7, & 8; T10N, R14W
German Rancho within:
T10N R14W, T11N R14W, T11N R15W MDB&M
McGuire Ridge & Stewarts Point 7.5' USGS Quads

1:12,000 1" = 1,000' 40' Contour Interval

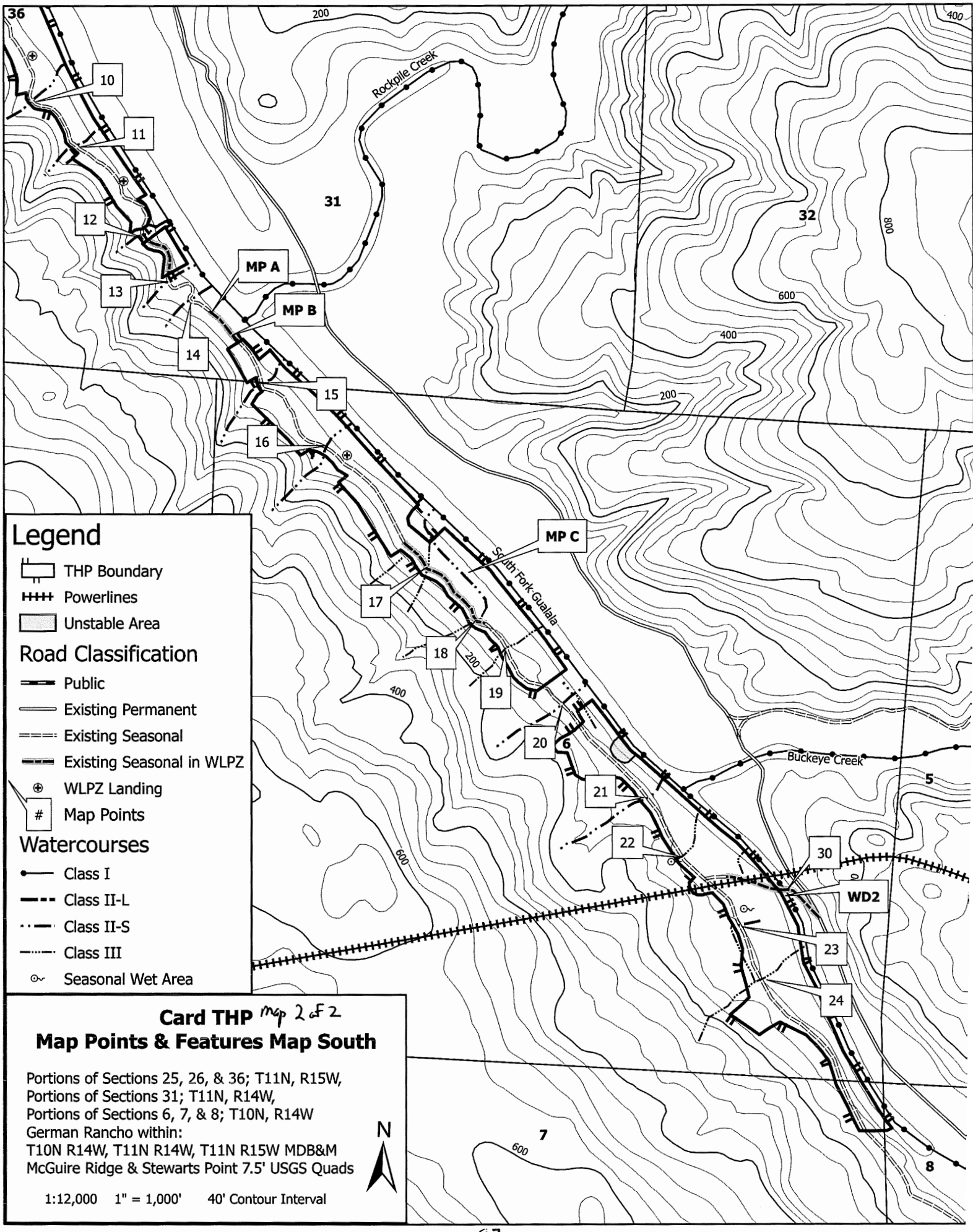


Card THP map 1 of 2

Map Points & Features Map North

Portions of Sections 25, 26, & 36; T11N, R15W,
Portions of Sections 31; T11N, R14W,
Portions of Sections 6, 7, & 8; T10N, R14W
German Rancho within:
T10N R14W, T11N R14W, T11N R15W MDB&M
McGuire Ridge & Stewarts Point 7.5' USGS Quads

1:12,000 1" = 1,000' 40' Contour Interval

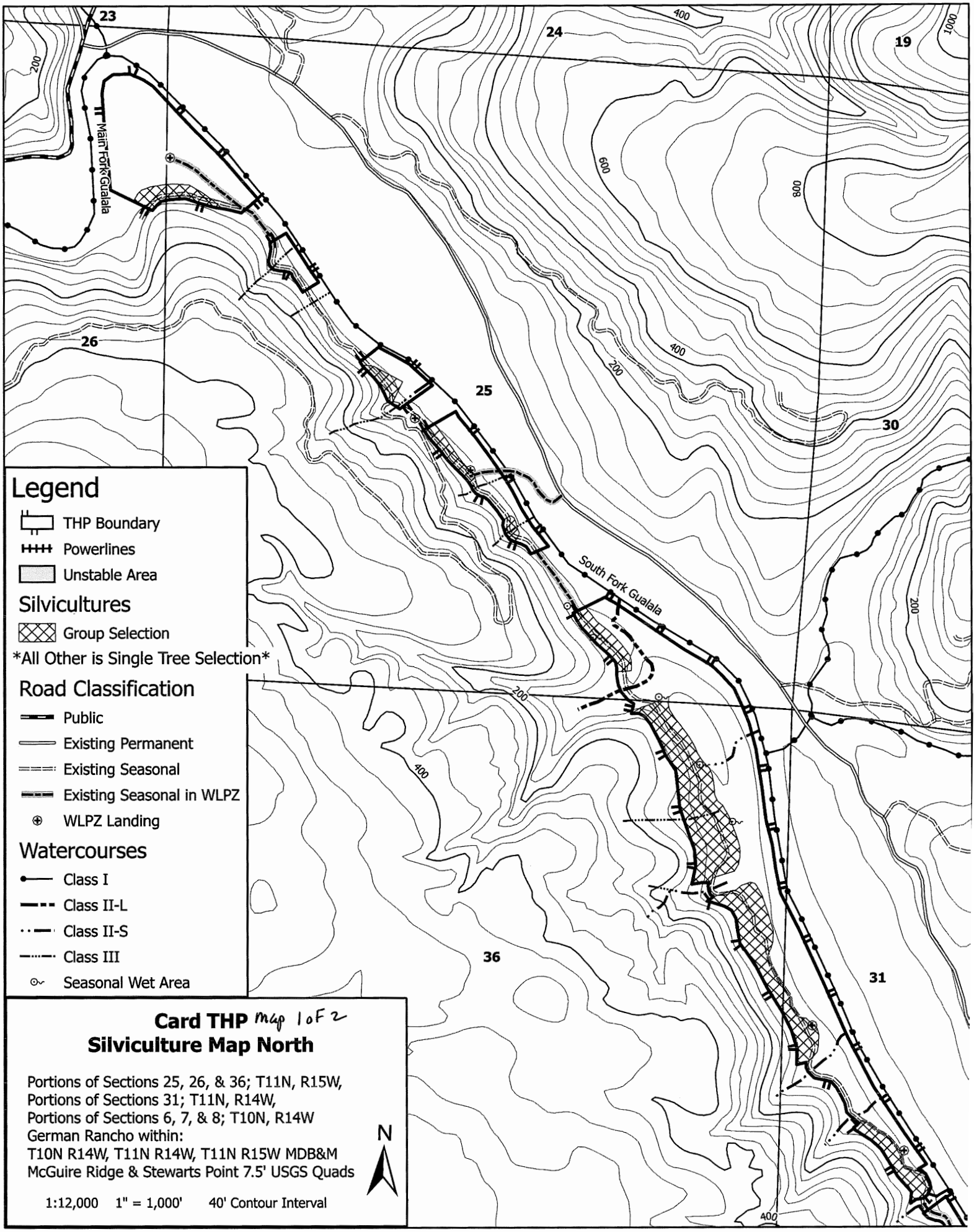


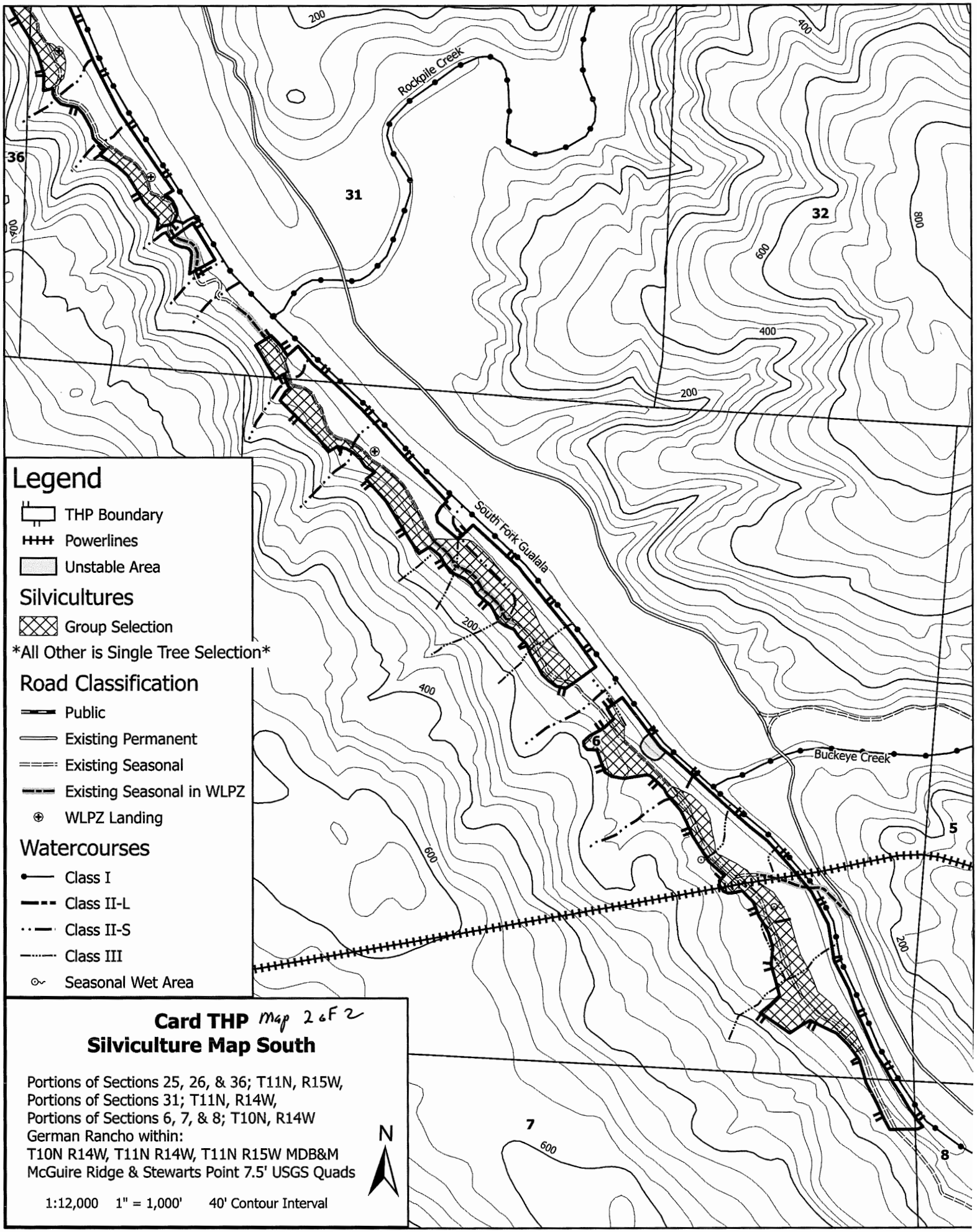
Card THP map 2 of 2

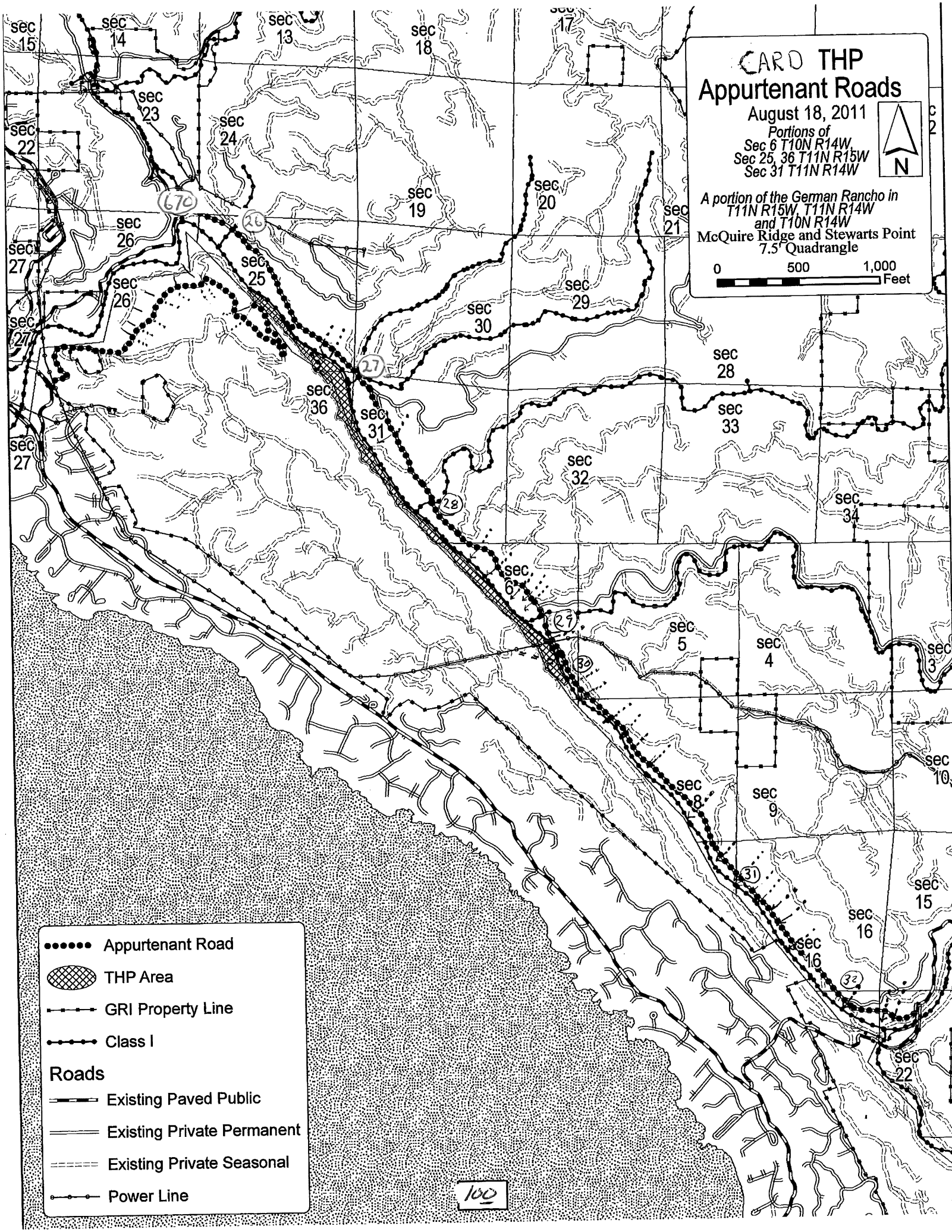
Map Points & Features Map South

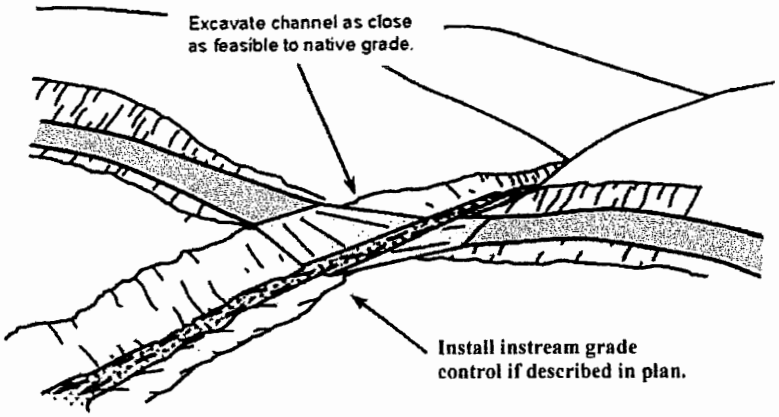
Portions of Sections 25, 26, & 36; T11N, R15W,
Portions of Sections 31; T11N, R14W,
Portions of Sections 6, 7, & 8; T10N, R14W
German Rancho within:
T10N R14W, T11N R14W, T11N R15W MDB&M
McGuire Ridge & Stewarts Point 7.5' USGS Quads

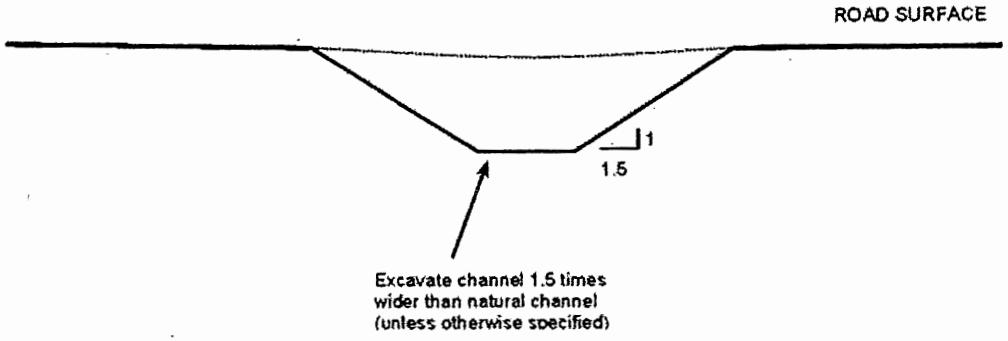
1:12,000 1" = 1,000' 40' Contour Interval


23
24
19
26
25
30
36
31
Main Fork Gualala
South Fork Gualala
200
400
600
800
1000
Legend
THP Boundary
Powerlines
Unstable Area
Silvicultures
Group Selection
All Other is Single Tree Selection
Road Classification
Public
Existing Permanent
Existing Seasonal
Existing Seasonal in WLPZ
WLPZ Landing
Watercourses
Class I
Class II-L
Class II-S
Class III
Seasonal Wet Area
Card THP map 1 of 2
Silviculture Map North
Portions of Sections 25, 26, & 36; T11N, R15W,
Portions of Sections 31; T11N, R14W,
Portions of Sections 6, 7, & 8; T10N, R14W
German Rancho within:
T10N R14W, T11N R14W, T11N R15W MDB&M
McGuire Ridge & Stewarts Point 7.5' USGS Quads
1:12,000 1" = 1,000' 40' Contour Interval
N


Rockpile Creek
South Fork Gualala
Buckeye Creek
36
31
32
6
5
7
8
200
400
600
800
Legend
THP Boundary
Powerlines
Unstable Area
Silvicultures
Group Selection
All Other is Single Tree Selection
Road Classification
Public
Existing Permanent
Existing Seasonal
Existing Seasonal in WLPZ
WLPZ Landing
Watercourses
Class I
Class II-L
Class II-S
Class III
Seasonal Wet Area
Card THP map 2 of 2
Silviculture Map South
Portions of Sections 25, 26, & 36; T11N, R15W,
Portions of Sections 31; T11N, R14W,
Portions of Sections 6, 7, & 8; T10N, R14W
German Rancho within:
T10N R14W, T11N R14W, T11N R15W MDB&M
McGuire Ridge & Stewarts Point 7.5' USGS Quads
1:12,000 1" = 1,000' 40' Contour Interval
N


CARD THP
Appurtenant Roads
August 18, 2011
Portions of
Sec 6 T10N R14W
Sec 25, 36 T11N R15W
Sec 31 T11N R14W
A portion of the German Rancho in
T11N R15W, T11N R14W
and T10N R14W
McQuire Ridge and Stewarts Point
7.5' Quadrangle
N
0
500
1,000
Feet
sec 15
sec 14
sec 13
sec 18
sec 17
sec 23
sec 24
sec 22
sec 19
sec 20
sec 21
sec 26
sec 27
sec 25
sec 29
sec 30
sec 28
sec 33
sec 36
sec 31
sec 32
sec 34
sec 6
sec 5
sec 4
sec 3
sec 8
sec 9
sec 10
sec 15
sec 16
sec 22
Appurtenant Road
THP Area
GRI Property Line
Class I
Roads
Existing Paved Public
Existing Private Permanent
Existing Private Seasonal
Power Line
100



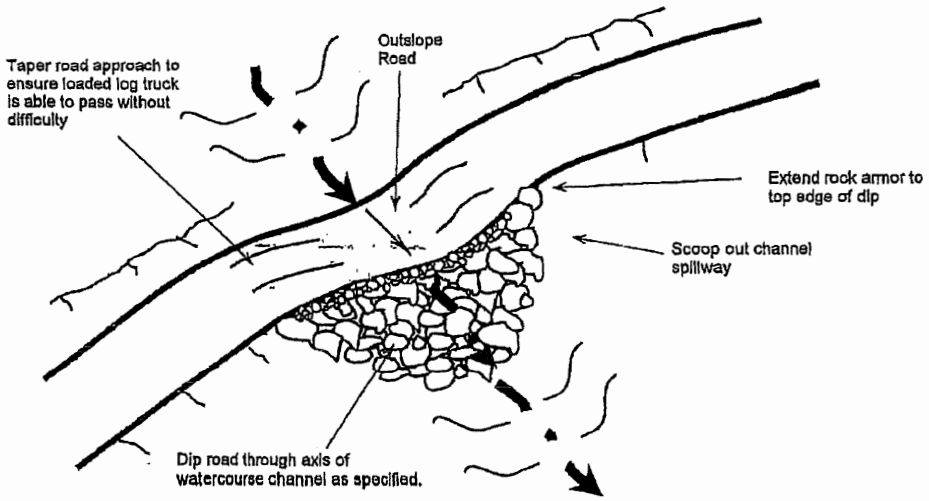


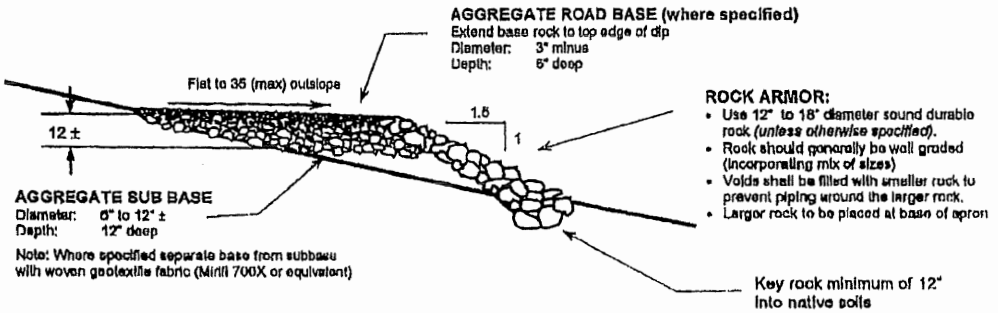
Note:

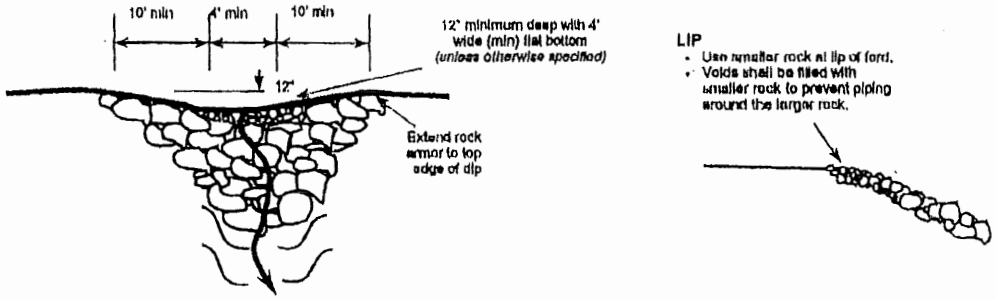
- Excavate a channel that is 1.5 times wider than the natural channel (unless otherwise specified).
- Excavated channel shall be as close as feasible to the grade and orientation of the natural channel.
- Channel banks shall be excavated to a 1.5:1 slope unless otherwise specified in the plan.
- Spoils 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.
- Install instream grade control if described in the plan or deems necessary. Grade control shall consist of large wood or rock and is intended to prevent stream cutting. Grade control shall be keyed into the channel unless otherwise specified in the plan.
- Exposed soils shall be stabilized with native seed, mulch, and/or slash packing or other suitable methods.
- Conform to requirements Department of Fish and Wildlife 1600 permits where applicable.
- Attempt to leave a 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

ROCK FORD



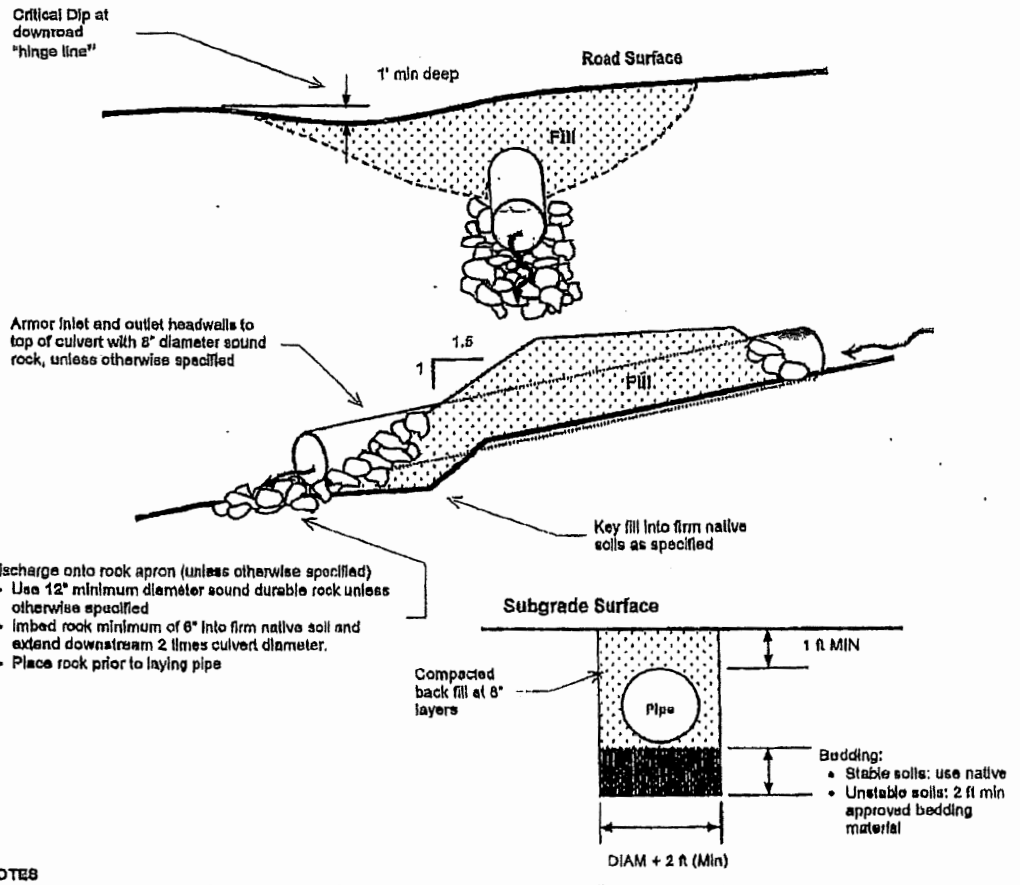




NOTE
- Details are typical and intended for use as a guideline. Adjustments to the actual design may need to occur in field during time of construction due to local site conditions
- Refer to site details for specific design criteria where applicable.

ROCK FORD STANDARD PLAN	Standard Detail R3
	Date: April 2009

PERMANENT CULVERT

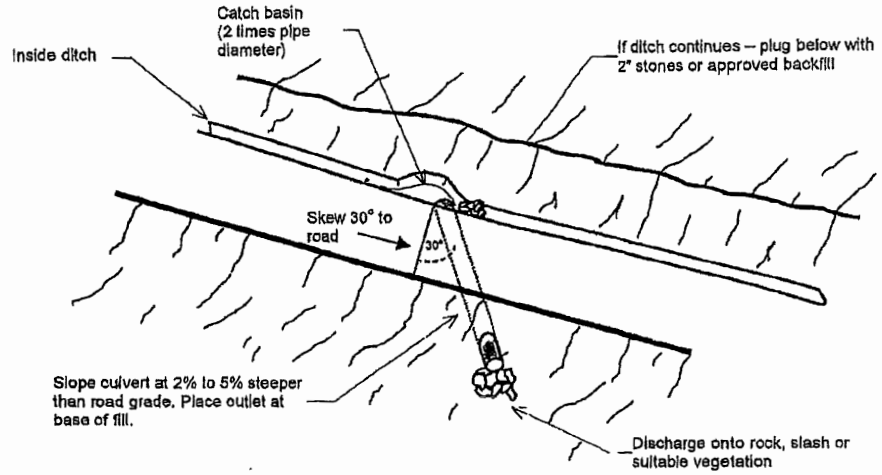


NOTES

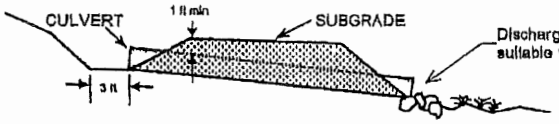
- Culverts should be installed at the natural stream level, grade and orientation.
- The culvert bed shall be clean and free of large woody debris and large rocks.
- The width of trenches shall permit satisfactory joining and thorough tamping of the backfill material.
- The inlet to the culvert should be slightly below the streambed so that the water falls into the culvert inlet.
- Culverts distorted more than 10% of normal dimension; ruptured or broken shall be replaced.
- Unsuitable foundation material (highly plastic material – "blue goo") shall be excavated below the inlet elevation of the culvert to an approximate depth of 2 feet and a width of at least the culvert diameter plus 4 feet.
- Fill shall be keyed and benched into firm native soils. Areas to receive fill shall be stripped to remove all vegetation, roots, brush, highly organic soils and other unsuitable fill material. Depth of stripping is assumed to be a minimum of 6 to 12 inches.
- Onsite soils may be reused as fill. Backfill should consist of select structural back fill, no rock or cobbles greater than 3 inches in size, and free of organic material. Any imported fill should consist of non-expansive soil.
- Fill shall be placed in maximum 8 inch thick horizontal lifts and compacted to a degree greater than the surrounding soils. Soil moisture shall be adequate to achieve suitable compaction.
- Critical dip shall be installed at the hinge line.
- On running streams, water will be pumped or diverted past the crossing and into the downstream channel during the construction process.
- Inlet and outlet shall be appropriately armored to protect the fill from the hydrologic energy of the stream.
- Conform to Department of Fish and Game 1600 permit where applicable.

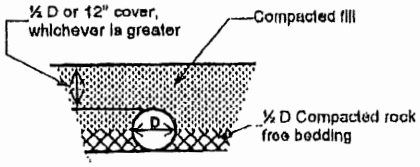
PERMANENT WATERCOURSE CROSSING STANDARD PLAN	Standard Detail C1
	Date: April 2009

DITCH RELIEF CULVERT

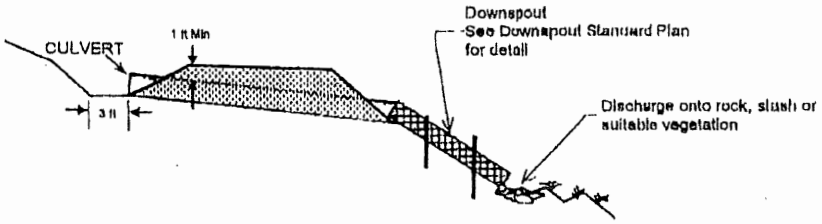


TYPE "A" DITCH RELIEF CULVERT (no downspout)

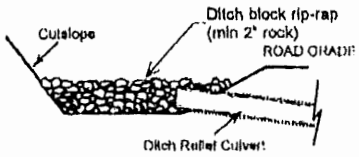




TYPE "B" DITCH RELIEF CULVERT (with downspout)



TYPICAL DITCH BLOCK SECTION

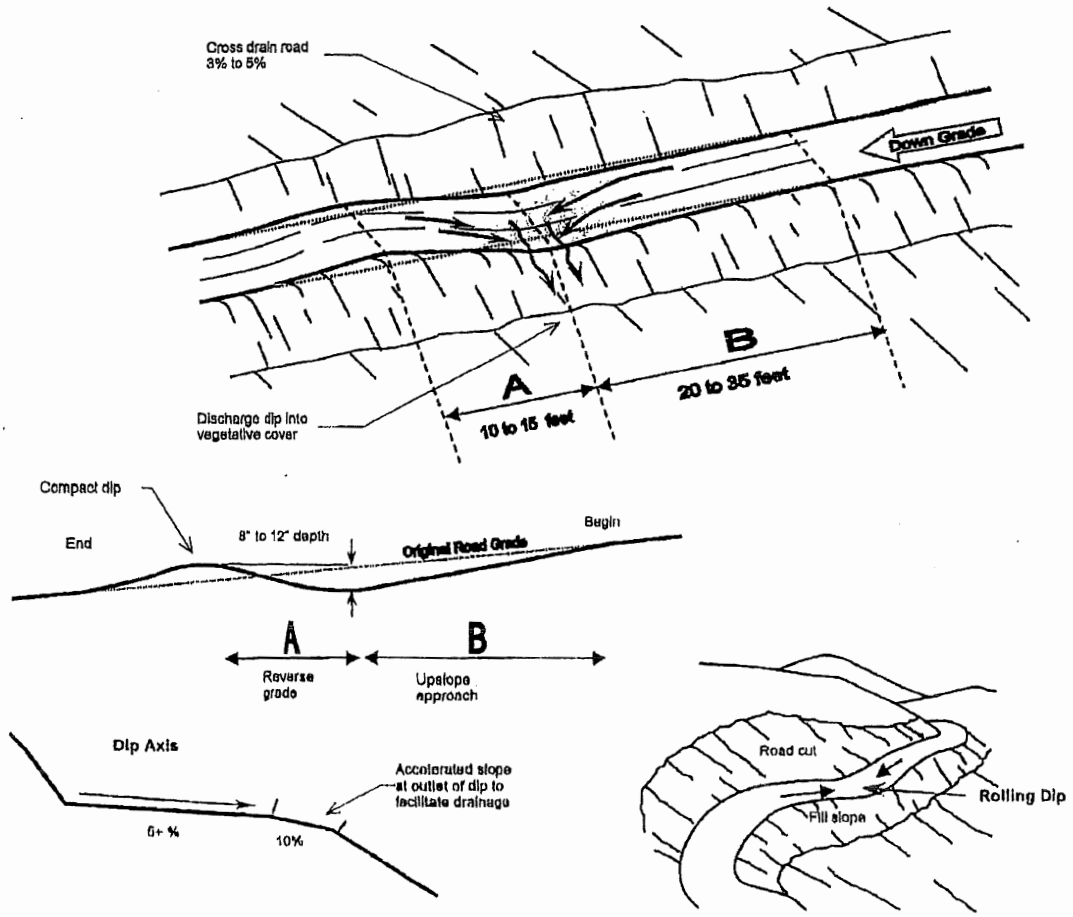


NOTES

- Back fill 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 as directed or specified.

DITCH RELIEF CULVERT STANDARD PLAN	Standard Detail WB2
	Date: March 24, 2008

ROLLING DIP

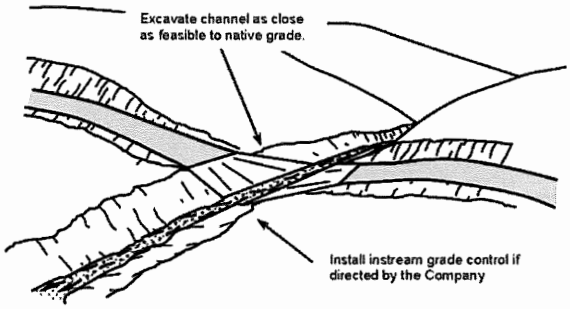


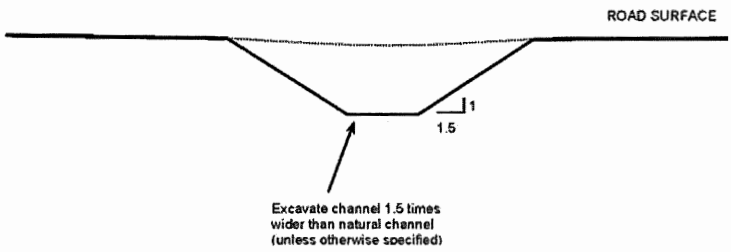
ROLLING DIP DIMENSIONS			
Road Grade (%)	Depth of trough Depth below downslope crest	A. Reverse grade (Distance from trough to downroad crest (ft)	B: Upslope Approach Distance from up-road start of rolling dip to trough (ft)
<6	8" to 12"	10 ±	30+
6 - 8	8" to 12"	15 ±	50±

NOTES:

- A rolling dip is a broad long permanent dip constructed into native soils. It is intended to drain the road while not significantly impeding traffic.
- The cross drain road (outslope) at 3% to 5% road grade (maximum 15%)
- Dip outlets should be located to drain into areas with adequate sediment filter quality and non-erodible material such as rock, slash, brush, etc. Where specified, the bottom of the outfall of the dip will be surface rocked.
- Where natural slopes exceed 50%, fill shall not be pushed over the dip outlet. A backhoe or excavator may be required to pull back fill at outlet of existing dips.

ROLLING DIP STANDARD PLAN	Standard Detail WB1
	Date: April 2009

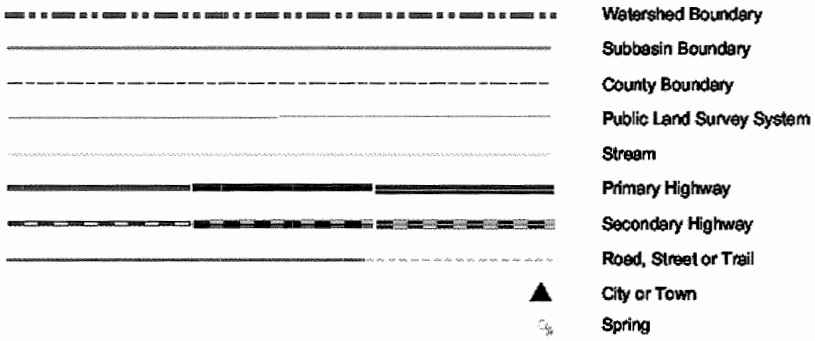


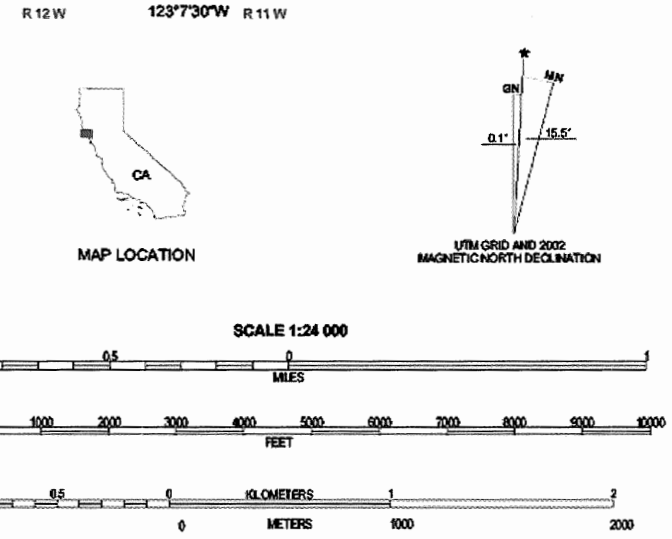


NOTES

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.

Lyme Redwood Forest Company	**TEMPORARY WATERCOURSE CROSSING REMOVAL PLAN**	**Standard Detail** Date: April 1, 2014





GEOLOGIC AND GEOMORPHIC FEATURES RELATED TO LANDSLIDING GUALALA RIVER WATERSHED, SONOMA AND MENDOCINO COUNTIES, CALIFORNIA

PLATE 1, SHEET 2 OF 3 (CENTRAL PORTION)

Michael S. Fuller, CEG, Wayne D. Haydon, CEG, Michael G. Purcell, RG and Kit Custis, CEG, CHG

Digital Representation by Sandra M. Summers and Peter D. Roffers

2002

ROCK SLIDE: Slope movement with bedrock as its primary source material. This class of failure includes rotational and translational landslides; relatively cohesive slide masses with failure planes that are deep-seated in comparison to those debris slides of similar areal extent. The slide plane is curved in a rotational slide. Movement along a planar joint or bedding surface may be referred to as translational. Complex versions with combinations of rotational heads and translational movement or earthflows downslope are common. Y indicates a scarp; arrows show direction of movement; queried where the presence of the slide is uncertain; boundary is solid where historically active, dashed where dormant, queried where uncertain.

EARTHFLOW: Slow to rapid movement of mostly fine-grained soil with some rocky debris in a semi-viscous, highly plastic state. After initial failure, the mass may flow or creep seasonally in response to changes in groundwater level. These types of slope failures often include complexes of nested rotational slides and deeply incised gullies; boundaries are usually indistinct. indicates a scarp; arrow indicates direction of movement; queried where the presence of the slide is uncertain. Boundary is solid where historically active, dashed where dormant, queried where uncertain.

DEBRIS SLIDE: Mass of unconsolidated rock, colluvium, and coarse-grained soil that has moved slowly to rapidly downslope along a relatively steep, shallow, translational failure plane. Debris slides form steep, unvegetated scars in the head region and possibly irregular, hummocky deposits in the toe region. Scars commonly ravel and remain unvegetated for several seasons depending on slope aspect. Queried where the presence of the slide is uncertain. Boundary is solid where historically active, queried where uncertain.

DEBRIS FLOW / TORRENT TRACK: Long stretches of bare ground that have been scoured and eroded to bedrock by extremely rapid movement of water-laden debris. Debris flows are commonly triggered by debris sliding in the source area during high intensity rains. Debris is often deposited downslope as a tangled mass of organic material in a matrix of rock and soil; debris may be reworked and incorporated into subsequent events; lack of vegetation indicates recent activity. Queried where the presence of the slide is uncertain. Boundary is solid where historically active, dashed where dormant, queried where uncertain.

SMALL LANDSLIDE: Landslide too small to delineate at 1:24,000 scale (typically less than 1/5 acre in area or less than 150 feet in length).

DISRUPTED GROUND: Irregular ground surface caused by complex landsliding processes resulting in features that are indistinguishable or too small to delineate individually at 1:24,000 scale; also may include areas affected by downslope creep, expansive soils, and/or gully erosion. Boundaries are usually indistinct.

DEBRIS SLIDE SLOPE / SOURCE AREA: A geomorphic feature characterized by steep, usually well vegetated slopes that appear to have been sculpted by numerous debris slides and debris flows. Upper reaches (source areas) of these slopes are often tightly concave and very steep. Soil and colluvium atop bedrock may be disrupted by active debris slides and debris flows. Slopes near the angle of repose may be relatively stable except where weak bedding planes, bedrock joints and fractures parallel the slope.

INNER GORGE: A geomorphic feature consisting of steep slopes adjacent to channels. The gorge typically is created by accelerated downcutting in response to regional uplift. It is defined as an area of streambank between the channel and the first break in slope. Line is queried where uncertain, or broken into segments to represent a stretch of discontinuous inner gorge too small to accurately represent at 1:24,000 scale. One-sided hachures indicate inner gorge on one side of channel only; hachures point downslope.

GULLY: Distinct, narrow channels formed by erosion of soil or soft rock material by running water. Channels are larger and deeper than rills and usually carry water only during and immediately after heavy rain or following the melting of ice or snow. Arrows point downhill; line is queried where uncertain.

Lithologic Contact: Solid where location is certain, dashed where approximately located or inferred, dotted where concealed, and queried where continuation or existence is uncertain.

Fault: Solid where location is certain, dashed where approximately located or inferred, dotted where concealed, and queried where continuation or existence is uncertain.

Lineament: Linear feature of unknown origin noted on aerial photographs.

123°22'30"W R 14 W R 13 W

Surficial Deposits (Holocene-Pleistocene)

- Qbs **Beach sand-** marine-laid deposits of fine-to coarse-grained sand and gravel; may migrate seasonally.
- Qf **Alluvial fan-** characteristic fan-cone shapes at the mouths of eroding stream canyons; includes debris fans.
- Qmt **Marine terrace deposits**
- Qscu **Undifferentiated stream channel deposits-** unconsolidated sediments in active channels and flood plains.
- Qsc1 **Stream channel deposits-** stage/return period 5 years or less
- Qrt **River terrace deposits**
- Qoal **Older alluvium**

Overlap (Quaternary-Tertiary)

- QTors **Ohlson Ranch Formation-** siltstone.
- QTorc **Ohlson Ranch Formation-** conglomerate.
- QTor **Ohlson Ranch Formation-** undifferentiated Marine sandstone and conglomerate.

Gualala Block (Tertiary-Cretaceous)

- TKu **Undifferentiated strata of German Rancho, Anchor Bay and Stewarts Point-** sandstone, siltstone, claystone and conglomerate.
- Tg **German Rancho Formation-** marine sandstone and mudstone.
- Tsm **Monterey Group-** marine sandstone and shale.
- Ka **Gualala Formation, Anchor Bay Member-** sandstone, mudstone and conglomerate.
- Ks **Gualala Formation, Stewarts Point Member-** sandstone, conglomerate and mudstone.
- Ksb **Black Point Spilite**

Undifferentiated Franciscan Complex (Cretaceous)

- Klgs **Greenstone**
- Klss **Sandstone**
- sp **Serpentinite**
- m **Metamorphic**

Coastal Belt Franciscan, includes Coastal Terrane (Eocene-Early Cretaceous)

- TKfss **Coastal Belt Franciscan-** marine sandstone.
- TKfs **Coastal Belt Franciscan-** marine siltstone.

Central Belt Franciscan, includes Central Terrane (Cretaceous)

- KJfs **Undifferentiated Central Belt Franciscan-** siltstone.

Eastern Belt Franciscan, includes Yolla Bolly and Pickett Peak Terranes (Early Cretaceous-Late Jurassic)

- Jfmg **Melange**
- KJfm **Central Belt Franciscan-** melange: includes chert- ch, greenstone- gs, greywacke- gwy and sandstone- ss.

Great Valley Complex (Cretaceous)

- KJgvs **Sandstone and claystone**

GEOLOGIC AND GEOMORPHIC FEATURES RELATED TO LANDSLIDING GUALALA RIVER WATERSHED, SONOMA AND MENDOCINO COUNTIES, CALIFORNIA PLATE 1, SHEET 2 OF 3 (CENTRAL PORTION)

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