SECTION II - PLAN OF TIMBER OPERATIONS

NOTE: If a provision of this THP is proposed that is different than the standard rule, the explanation and justification should normally be included in Section III unless it is clearer and better understood as part of Section II.

14. a. Check the Silvicultural methods or treatments allowed by the rules that are to be applied under Specify the option chosen to demonstrate Maximum Sustained Production (MSP) according to 913.11 (933.11, 953.11). If more than one method or treatment will be used show boundaries on map and list approximate acreage for each.

[X] Clearcutting	**24** ac.	[☐] Shelterwood Prep. Step	ac.	[☐] Seed Tree Seed Step	ac.
		[☐] Shelterwood Seed Step	ac.	[☐] Seed Tree Removal Step	ac.
		[☐] Shelterwood Removal Step	ac.		
[X] Selection	**117** ac.	[☐] Group Selection	ac.	[☐] Transition	ac.
[☐] Commercial Thinning	ac.	[☐] Sanitation Salvage	ac.	[ ] Special Treatment Area	ac.
[☐] Rehabilitation	ac.	[☐] Fuelbreak	ac.	[☐] Variable Retention	ac.
[☐] Aspen Restoration	ac.	[☐] Alternative Prescription	ac.	[☐] Road Right of Way	ac.
[☐] Conversion	ac.	[X] No Harvest Area	**16** ac.		

Total acreage: **157** ac. Explain if total is different from that in 8. **MSP option**: (a) [☐] (b) [☐] (c) [X]

There are 16 acres of no cut in the THP

b. If Selection, Group Selection, Commercial Thinning, Sanitation Salvage or Alternative methods are selected the post harvest stocking levels (differentiated by site if applicable) must be stated. Note mapping requirements of 1034 (x) (12).

Silvicultural summary Elk THP

Zone Designation	Zone width (ft.)	Overstory Canopy Cover	Large Tree Retention	Silviculture Requirements
Channel Zone	variable	No harvest		
Core Zone	30'	No harvest		
Inner Zone A	30 to min. 100' max. 150'	80% overstory conifer canopy *	Leave 13 largest trees per acre	Selection 125 SFBA
Inner Zone B	150' to edge of F.P.A.	50% overstory canopy *	Leave 13 largest trees per acre	Selection (Site Class I) 125 SFBA (Site Class II and III) 75 SFBA
Outer Zone	50'	50% overstory canopy *	Retain wind firm trees	Selection (Site Class II or III) 75 SFBA
Areas of this plan outside of the flood prone area	varies	Not applicable	none	Selection (Site Class I 125 SFBA) (Site Class II or III 75 SFBA)

*- (when conifers are present)

SFBA = square feet of basal area per acre of conifers.

F.P.A.= Flood prone area

The residual stand shall contain sufficient trees to meet at least the basal area, size and phenotypic quality of tree requirement specified under the seed tree method (per 913.1(c)(1)(A)- fifteen square feet of basal area per acre of seed trees which are 18 inches DBH or greater shall be retained).

c.

[X]Yes [ ] No Will evenage regeneration step units be larger than those specified in the rules (20 acres tractor, 30 acres cable)? If yes, substantial evidence that the THP contains measures to accomplish any of subsections (A) – (E) of 913.1 (933.1, 953.1)(a)(2) should be provided in Section III of the THP. Operational instructions to the LTO, necessary to meet (A) - (E), should be provided below if not found elsewhere in the THP. These units should be designated on a map and listed by size.

See section III item 14c for explanation and justification.

d. Trees to be harvested or retained must be marked by or marked under the supervision of the RPF. Specify how the trees will be marked and whether harvested or retained.

All clearcut harvest trees outside of the WLPZ areas will not be marked.

All selection area harvest trees will be marked with a blue slash at breast height and a dot or slash below stump height on two sides.

Wildlife trees- Trees have been marked with a 'W' to indicate a wildlife no-cut tree.

[☐]Yes [X] No Is a waiver of required marking by the RPF, requested? If yes, how will LTO determine which trees will be harvested or retained? If yes, and more than one silvicultural method (or Group Selection) is to be used, how will the LTO determine boundaries of different methods or groups?

e. Forest products to be harvested: **sawlogs, chiplogs, fuelwood, firewood, split products and burl.**

f. [☐]Yes [**X**] No Are group B species proposed for management?
[☐]Yes [**X**] No Are group B or non-indigenous A species to be used to meet stocking standards?
[☐]Yes [**X**] No Will group B species need to be reduced to maintain relative site occupancy of A species?

If any answer is yes, list the species, describe treatment, and provide the LTO with necessary felling and slash treatment guidance. Explain who is responsible and what additional follow-up measures of manual treatment or herbicide treatment are to be expected to maintain relative site occupancy of A species. Explain when a licensed Pest Control Advisor shall be involved in this process.

g. Other instructions to LTO concerning felling operations.

All snags will be left standing except where they pose a threat to safety or a fire hazard.

Consistent with safety, trees should be felled in whatever direction best preserves the canopy as long as no part of any tree falls into a watercourse, spring, seep or other wet area.

h. [**X**]Yes [ ] No Will artificial regeneration be required to meet stocking standards?

i. [**X**]Yes [ ] No Will site preparation be used within the logging area? If yes, provide the information required. 915.4[935.4, 955.4].

The following information is presented in the format outlined in 14CCR 915.4, Site Preparation Addendum.

1. **Site preparation may be used to meet stocking in the clearcut unit.**
2. **Site preparation methods to be used may include tractor piling, burning, hand removal or mechanical removal and mastication or chipping. The need for chemical site preparation will be evaluated post harvest by staff foresters. Possible issues related to the use of herbicides are evaluated in Section IV under chemical impacts.**

3. **Equipment to be used will be tractors, excavators and/or chainsaws.**
4. **Desirable residual trees will be protected by fire lines. No ignition is to occur within any WLPZ, or within any ELZ or EEZ designated for watercourse or lake protection.**
5. **No exceptions or alternatives are proposed.**
6. **The site prep area is the same as the clearcut portion of the THP area.**
7. **The name, address, and telephone number of the person responsible for conduct for site preparation activities shall be provided prior to conducting site preparation activities.**
8. **All burning requires proper permits subject to approval from Calfire and Mendocino County Air Pollution Control Districts.**
9. **Hand removal may occur at any time of the year. Ground based equipment will only operate outside of the winter period and is limited by soil moisture considerations outlined elsewhere in the plan. Ground based operations will not occur during saturated soil conditions.**

j. If the rehabilitation or variable retention method is chosen, provide a regeneration plan. 913.4[933.4, 953.4](b) or (d), respectively.

PESTS

15. a. [X]Yes [☐] No Is this THP within an area that the Board of Forestry and Fire Protection has declared a Zone of Infestation or Infection, pursuant to PRC §§ 4712 - 4718? If yes, identify feasible measures being taken to mitigate adverse infestation or infection impacts from the timber operation. 917.9 (937.9, 957.9)(a).

Pine Pitch Canker: This THP is within the broader zone of infestation of the Coastal Pine Pitch Canker. Pine Pitch Canker has been found in southern Mendocino County in bishop pine and Monterey pine. Other primary hosts include knob cone pine. To date there has been only one reported case in Douglas fir, a planted ornamental, and infections to sugar pine only in laboratory conditions. The harvest trees planned for removal are redwood and Douglas fir. If any species susceptible to Pine Pitch Canker are inadvertently cut the following measures will be taken: 1) Pitch Canker infected pines or beetle infested pines will not be shipped outside of the Zone of Infestation, 2) If pine logs are not infected with Pine Pitch Canker, they shall be shipped outside the Zone of Infestation within four days if during the period of February 1 through June 30, 3) If pine logs are not infected with Pine Pitch Canker during the period of July 1 through January 31, they shall be shipped outside the Zone of Infestation within seven days.

Zone of infestation for Pine Pitch Canker- All of the area within the counties of Alameda, Contra Costa, Los Angeles, Marin, Monterey, Mendocino,

Napa, Orange, San Benito, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano, Sonoma, and Ventura; and the portion of San Bernardino, Riverside and San Diego Counties which is westerly of the line beginning at the San Bernardino / Los Angeles County line and proceeding easterly along State Route (SR) 138 to Interstate Highway (I) 15; thence southerly along I-15 to I-215; thence southerly along I-215 to I-15; thence southerly along I-15 to SR-79; then southerly along SR-79 to I-8; thence easterly along I-8 to the San Diego / Imperial County line; thence southerly along the San Diego / Imperial County line to the U.S. / Mexico border.

Sudden Oak Death

This timber harvesting plan is located within the declared Zone of Infestation for Sudden Oak Death. Recently, on this property, occurrences of this disease are suspected. These occurrences have not been confirmed by lab tests. These occurrences are downstream and in another watershed from the THP.

Identification/Background:
Sudden Oak Death is a forest disease caused by the fungus-like pathogen Phytophthora ramorum. This pathogen has caused widespread dieback of tanoak and several oak species in the central and northern coastal counties of California, and has to date been associated with more than 26 different plant species. While some of these species - coast live oak, black oak, Shreve oak and tanoak - sustain lethal trunk infections, other plants get more benign foliar and twig infections. Many of these species with foliar infections play a key role in spread of P. ramorum by acting as a reservoir of innoculum, which may then be spread aerially via wind blown rain. Sporangia and chlamydospores, the most likely propagules of dispersion, are commonly generated on foliage, whereas they have not as yet been found on infested oak bark. The two plants determined to be the greatest sinks for innoculum are California bay laurel/Oregon myrtle and Rhododendron spp. Mortality is most common where oaks and these foliar hosts are found growing together.

Depending on the plant species, infection may occur on the trunk, branches, and/or leaves. Infections on woody portions of the tree are referred to as cankers. Cankers on the trunk of oak trees are the most damaging. Tree death appears to occur when cankers expand in the trunk (girdling) and disrupt physiological function. Diseased oaks are often attacked by other pest organisms -- fungi that decay sapwood (Hypoxylon thourasianum) and bark beetles. In the shrub species the symptoms can range from leaf spot to twig girdling, and do not necessarily result in death of the plant.

To date, P. ramorum has not been found to infect the main trunk of Douglas-fir or coast redwood. Coast redwood symptoms include discoloration of needles and development of cankers on small branches throughout the crown of small saplings. The fungus can also cause mortality of basal shoots on mature redwood trees. Only a few occurrences (i.e. less than 10 sites) on redwood have been confirmed.

Cankers on small branches of Douglas-fir saplings cause wilting of new shoots, needle loss, and branch die-back; while in smaller saplings, death of the leader and top branch whorls can occur. SOD in Douglas-fir has been confirmed at only one site in Sonoma County having high levels of innoculum from the infected bay leaves in the overstory above.

List of Regulated Counties-The declared zone of infestation includes: Alameda, Contra Costa, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, San Mateo, Santa Clara, San Francisco, Santa Cruz, Solano, Trinity and Sonoma counties.

Regulated *Phytophthora ramorum* Hosts of Concern when Filing Timber Harvest Documents

Plants on the federal *P. ramorum*-Regulated Host list should be addressed by Registered Professional Foresters (RFPs) in harvest documents. These plants are: naturally infected by *P. ramorum;* found in California's forests; and have had Koch's postulates completed, documented, reviewed, and accepted. Further details on regulated plants and plant parts can be found at http://www.aphis.usda.gov/plant_health/plant_pest_info/pram/downloads/pdf_files/nationalpestalert_.pdf Plants on the federal *P. ramorum* Associated Host list are regulated in nurseries only and not in wildland settings; therefore, they do not have to be addressed by RPFs.

Note: As new hosts are found, they will be added to the host or associated host list. As Koch's postulates are successfully completed on associated hosts, they will be reclassified as hosts. As neither list is static, it is important to check for updates frequently.

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

Associated Phytophthora ramorum Hosts Found in California Forests

Found naturally in California's forests, these species have been confirmed P. ramorum-positive via culture and/or Polymerase Chain Reaction (PCR), but Koch's postulates have not been completed or documented and reviewed. Currently they are not regulated in California's wildlands.

Note: Although not hosts at this point, these plants are under inspection and are undergoing the Koch's postulates process. Upon completion of the scientific process, it is expected that they will be reclassified to the regulated host list.

Scientific Name	Common Name
Abies concolor	White fir
Abies grandis	Grand fir
Abies magnifica	Red fir
Acer circinatum	Vine maple
Arctostaphylos columbiana	Manzanita
Calycanthus occidentalis	Spicebush
Ceonothus thyrsiflorus	Blue blossum
Clintonia andrewsiana	Andrew's clintonia bead lily
Corylus cornuta	California hazelnut
Dryopteris arguta	California wood fern
Fraxinus latifolia	Oregon ash
Gaultheria shallon	Salal
Osmorhiza berteroi	Sweet Cicely
Rubus spectabilis	Salmonberry
Taxus brevifolia	Pacific yew
Torreya californica	California nutmeg
Toxicodendron diversilobum	Poison oak
Vancouveria planipetala	Redwood ivy

Movement of Host Material outside the Regulated Area

Movement of host material outside of the Regulated Area is not anticipated. Host material shall not be moved outside of the existing zone of infestation. If host material is to be moved outside of the regulated area, appropriate State and Federal permits must be obtained and amended to the timber harvesting plan.

Movement of Host Material inside the Regulated Area

It is anticipated that coast redwood and Douglas-fir saw logs 5" in diameter and greater will be removed from the harvest area and delivered to sawmills. (Douglas-fir and redwood saw logs greater than 4 inches in diameter that are free of limbs, sprouts, and burls are not host material.)

A small amount of firewood and redwood burl may be removed. This material will not leave the regulated area.

Notification of LTO

The LTO, who is required to have a copy of this plan, is responsible for compliance with the restrictions on the removal of host materials from the timber harvesting plan area. The list of regulated counties, and host species may change.

It is the LTO's responsibility to inform himself and his employees about these procedures, and if necessary to seek assistance from the landowner's representative or the CALFIRE (formerly known as California Department of Forestry and Fire Protection).

Operational Mitigation

Leaves, needles, twigs, limbs, burls, basal sprouts, and portions of stems less than 4 inches in diameter from host material species shall not be removed from the timber harvesting plan area. The LTO shall inspect all vehicles and loads to make sure this material is not being removed from the area. (Removal of leaves, needles, twigs, limbs, burls, basal sprouts, and portions of stems less than 4 inches in diameter from host material species requires shipment in closed containers.) Redwood and Douglas-fir logs can be shipped to any destination as long as all portions of the stem are greater than 4 inches in diameter and the logs are free of basal trunk/burl sprouts, small branches (less than one inch in diameter), and leaves (needles).

The RPF responsible for the THP shall be responsible for amending or extending the restrictions and for informing the LTO of the operational requirements.

Hardwood logs maybe removed and shipped within the regulated area as long as the logs are greater than 4 inches in diameter, and all leaves and branches have been removed. Any evidence or suspicion of sudden oak death within the timber harvesting area should be reported to the landowner's forester.

Material Destinations

Redwood and Douglas-fir saw logs from this timber harvesting plan area are likely to be shipped to the following locations: Redwood Empire Sawmills in Cloverdale and Asti; Mendocino Forest Products in Ukiah and Fort Bragg; Willits Redwood in Willits; Agwood in Green Valley; Berry's Sawmill in Duncans Mills; HRC in Scotia and Fortuna; Schmidbauer Lumber in Eureka, MDI Forest Products, Port of Oakland.

Compliance Agreement

Use of this THP for a compliance agreement is valid for one year. After one year, an amendment will be necessary for operations that require a compliance agreement. This amendment will include current information and mitigation requirements.

b. [☐]Yes [X] No If outside a declared zone, are there any insect, disease or pest problems of significance in the THP area? If yes, describe the proposed measures to improve the health, vigor, and productivity of the stand(s).

HARVESTING PRACTICES AND EROSION CONTROL

16. Indicate type of yarding system and equipment to be used:

TRACTOR, SKIDDER, FORWARDER (Ground Based)*		CABLE		ANIMAL, BALOON, HELICOPTER, OTHER (Special)	
a. [X]	Tractor, including end/long lining	**d.** [☐]	Cable, ground lead	**g.** [☐]	Animal
b. [X]	Rubber tired skidder, Forwarder	**e.** [☐]	Cable, high lead	**h.** [☐]	Helicopter
c. [X]	Feller buncher	**f.** [☐]	Cable, skyline	**i.** [☐]	Other
j. [☐]	Shovel yarding				

* All tractor operations restrictions apply to ground based equipment.

17. Indicate Erosion Hazard Ratings present on THP.

[X] Low [X] Moderate [X] High [☐] Extreme

If the information above does not match the EHR worksheets, clarify why, below. If more than one rating is checked, areas must be delineated on map down to 20 acres in size (10 acres for high and Extreme EHRs in the Coast District).

18. **Soil Stabilization**: Describe, as required, soil stabilization measures or additional erosion control measures to be implemented (including the location of application).

ALL WATERSHEDS Logging roads and Landings	**DESCRIPTION OF TREATMENTS, PROTECTION MEASURES, and TIMING** **or not applicable**
923.5[943.5, 963.5](i)— treatments to prevent significant discharge where features cannot be hydrologically disconnected.	**See road database and road points map at end of section II**
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.	**Treatments for Logging Roads and Landings (as per 14 CCR 923.5 (l))** **Bare soil on logging road or landing cuts, fills, transported spoils, or sidecast that is created or exposed by timber operations shall be stabilized to the extent necessary to minimize soil erosion and sediment transport and to prevent significant sediment discharge. Sites to be stabilized include, but are not limited to:** **(1) Sidecast or fill exceeding 20 feet in slope distance from the outside edge of a logging road or a landing that has access to a watercourse or lake.** **(2) Cut and fills associated with approaches to logging road watercourse crossings of Class I or II waters or Class III waters where an ELZ, EEZ, or a WLPZ is required.** **Soil stabilization measures** **Treatment shall consist of seeding the exposed area with grass seed applied at a rate of 25 pounds per acre, and mulching with straw to a depth of 2 inches. Do not use annual rye grass. Straw mulching should utilize clean straw (such as rice, barley, wheat, or weed-free straw). Slash may be substituted for straw, if the material is lopped and arranged to make adequate contact and coverage of the soil, to prevent or control erosion. Slash may not be used on the traveled surfaces of roads and landings unless the road or landing is designated for abandonment. Furthermore, slash shall not be used anywhere that will impede drainage, such as the edge of outsloped roads, above culvert inlets, in ditches, and in the channel zone portion of temporary tractor crossings.** **(m) Soil stabilization measures shall be described in the plan pursuant to 14 CCR § 923.5(l) and may include, but are not limited to, removal, armoring with rip-rap, replanting, mulching, seeding, installing commercial erosion control devices to manufacturer's specifications, or chemical stabilizers.**

923.5[943.5,963.5](n)—where natural ability of ground cover in WLPZ is inadequate to protect.	**(n) Where the natural ability of ground cover within a WLPZ is inadequate to protect the beneficial uses of water by minimizing soil erosion or by filtering sediments, the plan shall specify protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion.** **No areas within this plan are known to exist where the natural ability of ground cover within a WLPZ are inadequate to protect the beneficial uses of water**
923.5[943.5,963.5](o) Exceptions to soil stabilization treatment timing.	**Not applicable.**

Watercourse crossings on logging roads	**DESCRIPTION OF TREATMENTS/PROTECTION MEASURES or not applicable**
923.9[943.9,963.9] (t)(1)-(3) bare soil on fills, sidecast, timing of treatment.	**See road database and road points map at end of section II**

Non ASP and exempt ASP watersheds WLPZ, & protected ELZ & EEZ	DESCRIPTION OF: TREATMENTS, PROTECTION MEASURES, and TIMING or not applicable
916.7[936.7,956.7]—Stabilization measures for WLPZ of CI & C II.	Not applicable

ASP Watersheds &/or Immediately upstream WLPZ, & protected ELZ & EEZ—	DESCRIPTION OF: TREATMENTS, PROTECTION MEASURES, and TIMING or not applicable
916.9[936.9,956.9](n)(1)-(7), WLPZ, & protected ELZ & EEZs. **923.5[943.5,963.5](q)(3)** as it pertains to roads, landings, etc. **923.9[943.9,963.9](t)(4)** as it pertains to watercourse crossings.	**(n) Treatments to stabilize soils –** **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.** **(1) Soil stabilization is required for the following areas:** **(A) Areas exceeding 100 contiguous square feet where timber operations have exposed bare soil.** **(B) Approaches to tractor road watercourse crossings between the drainage facilities closest to the crossing.** **(C) Any other area of disturbed soil that threatens to discharge sediment into waters in amounts that would result in a significant sediment discharge.** **(2) Soil stabilization treatment measures may include, but need not be limited to, removal, armoring with rip-rap, replanting,**

	mulching, seeding, installing commercial erosion control devices to manufacturer's specifications, or chemical soil stabilizers. **(3) Where straw is used, the minimum straw coverage shall be 90 percent, and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of timber operations.** **(4) Where slash mulch is packed into the ground surface through the use of a tractor or equivalent piece of heavy equipment the minimum slash coverage shall be 75 percent.** **(5) For areas disturbed from May 1 to October 15, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface that could deliver sediment into a watercourse or lake in quantities deleterious to the beneficial uses of water.** **(6) For areas disturbed from October 15 to May 1, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days, whichever is earlier.** **(7) Where the natural ability of ground cover is inadequate to protect beneficial uses of water by minimizing soil erosion or by filtering sediment, the plan shall specify protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion.** **<u>Treatments to stabilize soils within WLPZ Facilities-(as per 14 CCR 923.5(q)(3))</u>** **An In-lieu practice for skid trail soil stabilization measures located within the WLPZ (limitations on use of straw in WLPZ) is explained and justified under item 27J in section III. In those areas where they do not apply the following measures will be applied** **<u>Within the WLPZ</u>, <u>and within any ELZ or EEZ</u> 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:** **(A) In addition to the requirements of subsections 923.5 (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.**

	(B) Where straw mulch is used, the minimum straw coverage shall be 90 percent, and any treated area that has been reused or has less than 90 percent surface cover shall be treated again by the end of timber operations. **(C) Where slash mulch is applied, a minimum of 75% of the area shall be covered by slash in contact with the ground.** **(D) For areas disturbed outside of the extended wet weather period, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface that could result in significant sediment discharge.** **(E) For areas disturbed during the extended wet weather period, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days of disturbance, whichever is earlier.** **(F) Where the natural ability of ground cover is inadequate to protect beneficial uses of water by minimizing soil erosion or by filtering sediment, the plan shall specify protection measures to retain and improve the natural ability of the ground cover to filter sediment and minimize soil erosion.** **As per 923.5 (o)** **Soil stabilization treatments shall be in place upon completion of operations for the year of use or prior to the extended wet weather period, whichever comes first. An exception is that bare areas created during the extended wet weather period shall be treated prior to the start of rain that generates overland flow, or within 10 days of the creation of the bare area(s), whichever is sooner.** **Watercourse crossing removal (As per 923.9 (p))** **All logging road watercourse crossings that are proposed by the plan submitter to be removed, including temporary crossings and those along abandoned or deactivated roads, shall be removed as described in the plan and shall apply the following standards:** **(1) Fills shall be excavated to form a channel that is as close as feasible to the natural watercourse grade and orientation, and that is wider than the natural channel as observed upstream and downstream of the logging road watercourse crossing to be removed.**

	(2) The excavated material and any resulting cut bank shall be no greater than 65 percent (1.5:1, horizontal to vertical) from the outside edge of the constructed channel to prevent slumping, to minimize soil erosion and sediment transport, and to prevent significant sediment discharge. Exposed soil located between the watercourse crossing and the nearest adjacent drainage facility or hydrologic divide, whichever is closer, including cut banks and excavated material, shall be stabilized by seeding, mulching, rock armoring, replanting, or other suitable treatment to prevent soil erosion and significant sediment discharge. (3) Where it is not feasible to remove a logging road watercourse crossing or its associated fill to the above standards, the plan shall identify how soil erosion and significant sediment discharge will be prevented. (4) All logging road watercourse crossings proposed for removal shall be removed upon completion of use, prior to the winter period or as specified in the applicable CDFW 1600 agreement, whichever is earlier, or as otherwise specified in the plan. <u>Stabilization Standards for Watercourse Crossings as per 923.9 (t)(4)</u> (4) 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: (A) In addition to the requirements of 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. 2. Disturbed logging road watercourse crossing cut banks and fills. 3. Any other area of disturbed soil that threatens to cause significant sediment discharge. (B) Where straw mulch is used, the minimum straw coverage shall be 90 percent, and any treated area that has been reused or has

	less than 90 percent surface cover shall be treated again by the end of timber operations. **(C) Where slash mulch is applied, slash coverage in contact with the ground surface shall be a minimum of 75 percent.** **(D) For areas disturbed outside the extended wet weather period, treatment shall be completed prior to the start of any rain that causes overland flow across or along the disturbed surface that could result in significant sediment discharge.** **(E) For areas disturbed during the extended wet weather period, treatment shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days of disturbance, whichever is earlier.**

19. [☐]Yes [X] No Are tractor or skidder constructed layouts to be used? If yes, specify the location and extent of use.

20. [☐]Yes [X] No Will ground based equipment be used within the area(s) designated for cable yarding? If yes, specify the location and for what purpose the equipment will be used. 914.3 [934.3, 954.3] (e).

21. Within the THP area will ground based equipment be used on:

a. [☐]Yes [X] No Unstable areas? Only allowed if unavoidable.
b. [ ]Yes [X] No Slopes over 65%?
c. [X] Yes [ ] No Slopes over 50% with high or extreme EHR?
d. [☐]Yes [X] No Slopes between 50% and 65% with moderate EHR where heavy equipment use will not be restricted to the limits described in 914.2 [934.2, 954.2] (f) (2) (i) or (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?

Note: If any of the above are answered "yes": any required site specific measures should be provided in Section II; and the required explanation and justification should be provided in Section III. See 914.2[934.2,954.2](d) and (f) for specific information. In addition, all exceptions must be located on a map. 1034(x)(15). If "b", "c", "d" or "e" is answered "yes": tractor road locations must be flagged on the ground prior to the PHI or start of operations if a PHI is not required.

No operations will occur on unstable areas. See Geology map in Section II for unstable areas.

Note to LTO regarding skidding operations-All skid trails in flood prone area have been flagged with yellow flagging. In order to ensure minimal ground disturbance from ground based yarding, tractors may not drive in the flood prone areas with their blade lowered, except as needed to move debris. No excavation shall occur on flood prone areas except at watercourse crossings described in section II or as needed to improve drainage or resolve access problems resulting from previous logging operations.

22. [☐]Yes [**X**] No — Are any alternative practices to the standard harvesting or erosion control rules proposed? If yes, the information as required by 914.9 [934.9, 954.9] should be provided in Section III. Provide instructions to the LTO below.

WINTER OPERATIONS

23. **NOTE:** "Winter period" means the period between November 15 and April 1, except as noted under special County Rules at 925.1, 926.18, 927.1, and 965.5. "Extended wet weather period" means the period from October 15 to May 1.
(a) Tractor roads (except as otherwise provided in the rules): (1) All waterbreaks shall be installed no later than the beginning of the winter period of the current year of timber operations. (2) 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. 914.6[934.6, 954.6](a).
(b) 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. 923.5[943.5, 963.5](j).
(c) When the term **"WPOP"** (Winter Period Operating Plan) is used below, all the requirements pursuant to 914.7[934.7, 954.7] **(b)** must be addressed.

a. [☐]Yes [**X**] No — Will timber operations occur during the winter period? If yes, address "b" – "n", as applicable.

No operations are proposed in this THP during the period between November 15th and April 1st. The planning watershed in this plan meets the definition of a "watershed with listed anadromous salmonids"(14CCR 895.1). To comply with 14CCR 916.9(l) (1), a complete winter period operating plan is being prepared pursuant to 14CCR 914.7(b) for operations during the extended wet weather period from October 15 to November 15 and from April 1st to May 1st.

b. [☐]Yes [**X**] No — Will mechanical site preparation be conducted during the winter period? If yes, provide a WPOP.

c. [☐] — I choose the in-lieu option as allowed in 914.7[934.7,954.7](c). Specify below the procedures listed subsections (1) and (2), and list the site specific measures for operations in the WLPZ and unstable areas as required by subsection (3), if there will be no winter operations in these areas, so state.

d. [**X**] — I choose to prepare a WPOP. 914.7[934.7,954.7](b).

e. [☐]Yes [**X**] No — Will tractor watercourse crossings be used during the winter period? If yes, provide operational instructions and stabilization measures in the winter period operating plan. If an exception is proposed an explanation and justification should be provided in Section III. 914.8 [934.8,954.8](d).

f. [☐]Yes [**X**] No — Will roads or landings be constructed during the winter period? If yes, provide a complete winter period operating plan pursuant to 14 CCR 914.7 [934.7, 954.7] that specifically addresses such logging road or landing construction or reconstruction. 923.4[943.4, 963.4](l). Note: if located in an ASP watershed or immediately upstream from ASP, see "m" below.

g. [☐]Yes [**X**] No — Will roads or landings be used for log hauling and heavy equipment use during the winter period and not be restricted to roads with a stable operating surface, or surfaced with rock to a depth and quantity sufficient to maintain such a surface? If yes, the required explanation and justification should be provided in Section III. 923.6 [943.6, 963.6](g). See also 914.7[934.7,954.7].

h. [☐]Yes [**X**] No Will roads or landings 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, the required explanation and justification should be provided in Section III. 923.6 [943.6, 963.6](g). See also 914.7[934.7,954.7].

i. [☐]Yes [**X**] No Will temporary logging roads and landings be used during the winter period; or will logging roads to be abandoned or deactivated, be open (not be blocked) during the winter period? If yes, provide specific measures to be taken during operations in a WPOP. 923.6 [943.6, 963.6](f), 923.8 [943.8, 963.8] and (d).

j. [☐]Yes [**X**] No Will any logging road watercourse crossing proposed for removal not be removed and stabilized prior to the winter period? If yes, provide the specifics of the applicable CDFW 1600 agreement, or otherwise specify in the plan. 923.9 [943.9, 963.9] (p)(4).

k. [☐]Yes [**X**] No Will any temporary logging road watercourse crossing not be removed and stabilized prior to the winter period? If yes, provide specific measures to be taken during operations in a WPOP. 923.9 [943.9, 963.9](r).

ADDRESS THE FOLLOWING AS IT APPLIES TO ASP WATERSHEDS

l. [**X**]Yes [☐] No Are timber operations proposed during the Extended Wet Weather Period - October 15 to May 1? If yes, provide a WPOP. 916.9 [936.9, 956.9] (l) and(l)(1).

ADDRESS THE FOLLOWING AS IT APPLIES TO ASP WATERSHEDS OR IMMEDIATELY UPSTREAM:

m. [**X**]Yes [☐] No Will logging road or landing use occur, or will proposed logging road or landing construction or reconstruction occur during the extended wet weather period? If yes, provide specific measures to be taken during operations in a WPOP. 923.6 [943.6, 963.6](h)(6) and 923.4 [943.4, 963.4](s)(2).

n. [☐] Yes [**X**] No Will any watercourse crossing drainage structures be constructed or reconstructed during the extended wet weather period? If yes, provide specific measures to be taken during operations in a WPOP. 923.9 [943.9, 963.9](s).

1) EROSION HAZARD RATING: Low, Moderate and High

2) MECHANICAL SITE PREPARATION METHODS: No mechanical site preparation proposed.

3) YARDING SYSTEM: Tractor - See 5 below for timing on skid trail erosion control structures. Temporary tractor crossings will be pulled as soon as practical following yarding and prior to the start of any rain which causes surface flow within the watercourse unless a pipe has been used in which case the pipe will be pulled as soon as practical following yarding or prior to November 15th.

4) OPERATING PERIOD: "Winter period" means the period between November 15 and April 1, except as otherwise provided in the rules. During the periods from October 15 to November 15 and April 1 to May 1, there shall be no limitations on yarding during extended dry periods.
(Extended Dry Periods means those periods during the winter period when saturated soil conditions do not exist.)

For consistency with CDFW 1600 Agreements all temporary crossings on class I and II watercourses shall be removed prior to October 15 and all temporary Class I bridge installations shall not occur until on or after June 1 unless modified through the 1600 agreement.

5)EROSION CONTROL FACILITIES TIMING: Erosion control structures shall be installed on all constructed skid trails and tractor roads (not in a WLPZ , ELZ or EEZ designated for watercourse or lake protection)(1) as soon as practical following yarding and prior to the start of any rain which causes overland flow across or along the disturbed surface within a WLPZ or (2) 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, prior to any shutdown periods.

For areas in a WLPZ , ELZ or EEZ designated for watercourse or lake protection treatment to any disturbed areas shall be completed prior to any day for which a chance of rain of 30 percent or greater is forecast by the National Weather Service or within 10 days, whichever is earlier.

6) CONSIDERATION OF FORM OF PRECIPITATION: The most common form of precipitation in this area is rain and fog. Snow would be rare.

7) GROUND CONDITIONS: Loading, hauling, and maintenance activities will be restricted to "dry, rainless periods where soils are not saturated " from Oct. 15th to Nov. 15th and April 1st to May 1st , and shall further be guided by diligence and prudence in achieving the goals of 14CCR 914.

8) SILVICULTURAL SYSTEM - GROUND COVER: The silvicultural system is selection and clearcut. The anticipated ground cover remaining after operations is at least 80% for selection and 40% for clearcutting.

9) OPERATION WITHIN THE WLPZ: No operations will occur within the WLPZs of this plan from November 15 to April 1st.

10) EQUIPMENT USE LIMITATIONS: No equipment operations during the period from November 15 to April 1. From Oct. 15th to Nov. 15th and April 1st to May 1st operations of trucks and heavy equipment on roads and landings shall be limited to those with a stable operating surface during extended dry periods with low antecedent soil wetness. Logging roads, landings and tractor roads shall not be used when sediment from the logging road, landing or tractor road surface may be transported to a watercourse or a drainage facility in quantities sufficient to cause a visible increase in turbidity of downstream waters in receiving Class I, II, III or IV waters or that violate Water Quality Requirements.

11) KNOWN UNSTABLE AREAS: Tractor operations are excluded from unstable areas. If an unstable area is found during operations an Equipment Exclusion Zone will be implemented around the unstable area, or if operations within the unstable area are necessary, an amendment to the THP will be sent to CALFIRE. No falling will occur on known unstable areas unless provided under item 21.

12) LOGGING ROADS AND LANDINGS: No road or landing construction from Nov. 15th to April 1st. During the periods from October 15 to November 15 and April 1 to May 1, there shall be no limitations on road and landing construction during extended dry periods with low antecedent soil wetness.

13) No timber harvest activities will take place during measurable rain events (defined as greater than ¼" in a 24 hour period). This measure does not apply to maintenance of

existing roads and watercourse crossings or to fuels treatment such as hand piling and burning, hand fire line construction, or other activities which do not involve heavy equipment or timber hauling.

ROADS AND LANDINGS

24. Will any roads be constructed? [☐]Yes **[X]** No, or reconstructed?[☐]Yes**[X]** No If yes, check items "a."– "e"&"g."
Will any landings be constructed? [☐]Yes**[X]** No, or reconstructed? [☐]Yes **[X]** No If yes, check items "h." -- "j."

PROVIDE: The classification and approximate length of each of the following logging road segment categories: constructed, reconstructed, and abandoned. 1034(o).

a.	[☐]Yes [☐] No	Will new or reconstructed roads be wider than single lane with turnouts? If yes, address pursuant to 923 [943, 963](c). 923.2 [943.2, 963.2](d)(1).
b.	[☐]Yes [ ] No	Will any logging road cross an unstable area or connected headwall swale? If yes, address pursuant to 923.1 [943.1, 963.1](d). Also see 895.1 "Connected Headwall Swale"
c.	[☐]Yes [☐] No	Will new roads exceed a grade of 15% or have pitches of up to 20% for distances greater than 500 feet? If yes, address pursuant to 923.2 [943.2, 963.2] (d)(2). See 923 [943, 963](c). Map must identify any new or reconstructed road segments that exceed an average 15% grade for over 200 feet. 1034(x)(5)(A).
d1.	[☐]Yes [☐] No	Will any logging roads or landings be constructed within: 150' of a Class I WLTL; 100 feet of a Class II WLTL on slopes > 30%; Class I, II, III, or IV watercourses or lakes; a WLPZ; or in marshes, wet meadows, and other wet areas except as described under 923.1 [943.1, 963.1](b)(1) – (3)? If yes, address the exception. 923 (943, 963](c).
d2.	[☐]Yes [☐] No	Will any logging roads or landings be reconstructed within: a Class I, II, III, or IV watercourse or lake; a WLPZ; or in marshes, wet meadows and other wet areas except as described under 923.1 [943.1, 963.1] (c)(1) – (3)? If yes, address the exception. 923 (943, 963](c).
e.	[☐]Yes [☐] No	Will any constructed or reconstructed road be located across more than 100 feet of lineal distance on slopes over 65%, or on slopes over 50% which are within 100 feet of the boundary of a WLPZ that drain toward the zoned watercourse or lake? If yes, address pursuant to 923.2[943.2, 963.2] (a)(7) and 923.4 [943.4, 963.4](n).
f.	[☐]Yes [**X**] No	Will any roads or watercourse crossings be deactivated or abandoned? If yes, address pursuant to 923.8 [943.8, 963.8] et seq. Also see 923.9[943.9, 963.9](e) and (p).
g.	[☐]Yes [☐] No	Is there any exception to flagging or otherwise identifying the location of any road to be constructed or reconstructed? If yes, address pursuant to 923.3 [943.3, 963.3](c).
h.	[☐]Yes [ ] No	Will any landings exceed one half acre in size? If yes, address pursuant to 923 [943, 963](c). 923.2[943.2, 963.2](e)(2) If any landing exceeds one quarter acre in size or requires substantial excavation, the location must be shown on the map. 1034(x)(5)(D).
i.	[☐]Yes [ ] No	Will any landing be located on an unstable area or connected headwall swale? If yes, address pursuant to 923.1[943.1, 963.1](d). Also see 895.1 "Connected Headwall Swale"
j.	[☐]Yes [ ] No	Will any constructed or reconstructed landing be located on more than 100 feet of lineal distance on slopes over 65% or on slopes over 50% which are within 100 feet of the boundary of a WLPZ and drain toward the zoned watercourse or lake? If yes, address pursuant to 923.2[943.2, 963.2] (a)(7) and 923.4 [943.4, 963.4](n).

k. [☐]Yes [**X**] No Will any landing be deactivated or abandoned? If yes, address pursuant to 923.8[943.8, 963.8] et seq.

l. [**X**]Yes [ ] No **Significant Erosion Sites**: Are there any significant existing or potential erosion sites associated with logging roads, landings and watercourse crossings in the logging area? (923.1 [943.1, 963.1](e)(1) – (5). Also see 923.9 [943.9, 963.9](a)) If yes, for each significant existing or potential erosion site, provide the following (consider providing in a Map Point Table):

- Locate and map significant existing and potential erosion sites.
- In addition, for each site:
  - Describe current condition of the site.
  - Identify which sites can be feasibly treated, and which sites cannot.
  - Specify mitigations for those sites that can be feasibly treated.
  - Describe a logical order of treatment for those which have feasible treatments.

m. [**X**]Yes [☐] No **ASP WATERSHED**: 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 not, address the exception pursuant to 923.6 [943.6,963.6] (h)(3).

Landings on the appurtenant road system may be used as appurtenant landings. Logs may be loaded off of the road system as long as reconstruction is not necessary.

All roads including the appurtenant roads have been evaluated for connectivity and road points added to maps and the roads database.

25. **Note:** if any "item is answered "yes" (or "no" for "Item 24m"): specific LTO **operational information**, in accordance with the respective rule requirement(s), should be provided **in Section II**. Any required **explanation and justification** should normally be included **in Section III**. Additional notes relative to the Road Rules effective 1/1/15:

For ALL WATERSHEDS, as applicable:

- Where abandonment or deactivation is required or proposed, describe specific measures to prevent significant sediment discharge. 923.8 [943.8, 963.8].
- If the logging road is to be abandoned provide the blockage design. 923.8 [943.8, 963.8](d).

ADDRESS THE FOLLOWING AS IT APPLIES TO ASP WATERSHEDS OR IMMEDIATELY UPSTREAM:

- Where logging road or landing construction or reconstruction is proposed, identify: (1) How the proposed operations will fit into the systematic layout pattern; (2) What, if any, offsetting mitigation measures, including but not limited to, abandonment of logging roads and landings, are needed to minimize potential adverse impacts to watersheds from the road system. 923.1 [943.1,963.1](g).
- On slopes greater than 50 % with access to a watercourse or lake: (A) Provide specific provisions for the protection of salmonid habitat for all logging road construction. 923.4 [943.4, 963.4](s)(1).
- For all permanent and seasonal roads with a grade of 15 % or greater that extend 500 feet or more, provide specific erosion control measures. 923.5 [943.5, 963.5](q)(2).

WATERCOURSE AND LAKE PROTECTION ZONE (WLPZ) AND DOMESTIC WATER SUPPLY PROTECTION MEASURES

Note: if any "item is answered "yes" provide the required information pursuant to the associated rule. Specific LTO **operational information** should be provided **in Section II. Explanation and justification** should normally be included **in Section III.**

26. a. [X]Yes [☐] No Are there any watercourses or lakes which contain Class I through IV waters on or adjacent to the plan area? If yes, as applicable, provide: the class, associated WLPZ or ELZ width, and protective measures; determined from 916.5 [936.5, 956.5] Table I, 916.4 (936.4, 956.4)(c), and/or 916.9 [936.9, 956.9] et seq. Specify if Class III or IV watercourses have a WLPZ or ELZ.

b. [X]Yes [☐] No Are there any tractor road watercourse crossings that require mapping per 1034 (x)(7)?

c. [X]Yes [ ] No Will tractor road watercourse crossings involve the use of a culvert? If yes state minimum diameter and length for each culvert. 914.8[934.8, 954.8](e).

Map point #1 will require a 4" by 20' pipe if wet at time of operations. Although all tractor crossings are expected to be dry at time of operations, if any water is present a 4"X 20' minimum size pipe will be installed and then pulled at close of operations.

d. [X]Yes [☐] No Is this THP Review Process to be used to meet Department of Fish and Wildlife CEQA review requirements? If yes, you should attach the required 1611 Addendum below, or at the end of Section II; and you should provide the background information and analysis in Section III; list instructions for LTO below for the installation, protection measures, and mitigation measures, as per THP Form Instructions or CALFIRE Mass Mailing, 07/02/1999, "Fish and Game Code 1611 Agreements and THP Documentation".

e. [☐]Yes [X] No Are any exceptions provided under F & G code 1600 et seq., and made an enforceable part of plan? If yes, identify the exceptions. 923 [943,963](d).

f. [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 and natural movement of bedload. 914.8[934.8, 954.8](c) and 923.9 [943.9, 963.9](c).

The appurtenant road system does have permanent class I bridge crossings at nine points. No further modifications are necessary. These crossings allow for the passage of fish at all life stages in both directions. These crossings have always been disconnected from the road system to the extent feasible either through cross drains by road mounding or raised road beds.
There will be two temporary class I bridge crossings on the North Fork of the Gualala. These bridges will be installed under 1600 agreements.

Details of Bridge Installation – The bridges will all be installed in the same manner as shown on the diagrams in Section II maps. Logs or Monschke blocks (concrete blocks) will be placed outside of the wetted channel. Native gravel will be placed behind these logs or blocks and ramped away from the channel if the ends of the bridge are within the channel zone and dirt will be used for the ramps when a bridge ends are outside the channel zone. The railroad car bridge will be placed on the gravel or dirt and logs. If a half pipe is used instead of a bridge it will be covered in native gravel taken from the adjacent gravel bars. Since there are numerous conditions that are required during installation and removal of these bridges or half pipes the operator must refer to the 1600 permit for these conditions before starting operations.

g. [X]Yes [ ] No Are there any new permanent constructed, reconstructed, and temporary logging road watercourse crossings, including those to be abandoned or deactivated that require mapping per 1034 (x)(6)? If structure is a permanent culvert, specify the minimum diameter and the method(s) used to determine the culvert diameter. 923.9 [943.9, 963.9](e). **See map point maps and database at end of Section II.**

h. [☐]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 an explanation and justification pursuant to 923.9 [943.9, 963.9](e)(1).

i. [☐]Yes [X] No Will methods other than critical dips be utilized in the construction or reconstruction of logging road watercourse crossings which utilize culverts? If yes, provide the methods that will be used to address diversion of overflow. 923.9 [943.9, 963.9](j).

j. [X]Yes [☐] No Are there any watercourse crossings that are existing or proposed for construction that are 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. 923.9 [943.9, 963.9](k).

See map point maps and database at end of Section II.

k. [ ]Yes [X] No Will rock be used to stabilize crossing outlets? If yes, describe the range of required rock dimensions. 923.9 [943.9, 963.9](l).

l. [☐]Yes [X] No Is there a significant volume of sediment stored upstream from any crossing proposed to be reconstructed or removed? If yes, describe how the stored sediment shall be removed or stabilized, to the extent feasible, and in conformance with CDFW 1600 agreements, where applicable. 923.9 [943.9, 963.9](n).

m. [☐]Yes [X] No Are crossing fills over culverts large, or do logging road watercourse crossing drainage structures and erosion control features historically have a high failure rate? If yes, such 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 plan. 923.9 [943.9, 963.9](o).

n. [☐]Yes [X] No Will any logging road watercourse crossing be removed? If yes, describe the removal in the plan pursuant to the standards of 923.9 [943.9, 963.9](p)(1) – (4).

ANSWER THE FOLLOWING FOR PLANS LOCATED IN ASP WATERSHEDS

o. [X]Yes [☐] No Will timber operations occur within a Class I WLPZ or in a WLPZ adjacent to a restorable Class I watercourse? If yes, address 916.9[936.9, 956.9](f)(1)(A) – (E).

The watercourses on or adjacent to the plan area are shown on the THP maps attached.

Robinson Creek and Doty creek watersheds do meet the definition of "Watersheds with listed anadromous salmonids" and are subject to the Anadromous Salmonid Protection Rules 2009 section 916.9.

Some of this plan falls into a flood prone area adjacent to the North Fork of the Gualala River.

The protection measures that will be applied to any class I protection zones are outlined below in Table for Class I watercourses.

Class I Table: Procedure for Determining WLPZ Widths and Protective Measures Class I WLPZs – with flood prone areas or channel migration zones Pursuant to 14 CCR 916.9 [936.9, 956.9] (f)(3)						
Zone Designation	**Zone width (ft.)**	**Overstory Canopy Cover**		**Large Tree Retention**	**Silviculture Requirements**	**Operational Requirements**
Channel Zone or Channel Migration Zone per 916.9 [936.9 956.9] (f)(3)(A)	Variable	Retain all trees except per 916.9 [936.9, 956.9](e) (1)A-F or 916.9 [936.9 956.9] (v)		Retain all trees except per 916.9 [936.9, 956.9](e) (1)A-F or 916.9 [936.9 956.9] (v)	Retain all trees except per 916.9 [936.9, 956.9] (e) (1) A-F or 916.9 [936.9, 956.9](v)	No timber operations except per 916.9 [936.9, 956.9] (e)(1) A-F or 916.9 [936.9, 956.9](v);
Core Zone per 916.9 [936.9 956.9] (f)(3)(B)	30 ft.	Retain all trees except per 916.9 [936.9, 956.9](e) (1)A-F or 916.9 [936.9 956.9] (v)		Retain all trees except per 916.9 [936.9, 956.9](e) (1)A-F or 916.9 [936.9 956.9] (v)	Retain all trees except per 916.9 [936.9, 956.9] (e) (1) A-F or 916.9 [936.9, 956.9](v); no sanitation salvage except 916.9 (s)(t)and (u).	No timber operations except per 916.9 [936.9, 956.9] (e) (1)A-F or 916.9 [936.9, 956.9](v);
Inner Zone A per 916.9 [936.9 956.9] (f)(3)(C)	Minimum 70 ft. Maximum 120 ft.	80% Coast and Southern Forest District of Coastal Anadromy Zone per 916.9 [936.9 956.9] (f)(3)(C)3.	70% in all other watersheds per 916.9 [936.9 956.9] (f)(3)(C)3.	13 largest trees /ac. per 916.9 [936.9 956.9] (f)(3)(C)4.	Increase QMD; No sanitation salvage except 916.9 (s)(t)and (u); commercial thinning or single tree selection only.	Preferred Management Practices in 916.9 [936.9, 956.9] (f)(3)(E)
Inner Zone B per 916.9 [936.9 956.9] (f)(3)(D)	Variable: distance from Inner Zone A to end of FPA.	50%		13 largest trees /ac. per 916.9 [936.9 956.9] (f)(3)(D)1.	Increase QMD; No sanitation salvage except 916.9 (s)(t)and (u);commercial thinning or single tree selection only.	Preferred Management Practices in 916.9 [936.9, 956.9] (f)(3)(E)
Outer Zone per 916.9 [936.9 956.9] (f)(3)(F) Applicable only where even-aged regeneration used adjacent to the WLPZ	50 ft.	50%		NA	Commercial thinning or single tree selection only; Retain wind firm trees.	Preferred Management Practices in 916.9 [936.9, 956.9] (f)(3)(E)

The following applies to all watercourse designations-

As per 916.9 (e)- Channel zone requirements –

(1) There shall be no timber operations within the channel zone with the following exceptions:

(B) Actions necessary for the construction, reconstruction, removal, or abandonment of approved watercourse crossings.

(C) Actions necessary for the protection of public health, and safety and general welfare. This includes actions necessary to protect infrastructure facilities including, but not limited to, roads, bridges, powerlines, utilities, water drafting structures, homes, and other legally permitted structures.

(2) In all instances where trees are proposed to be felled within the channel zone, a base mark shall be placed below the cut line of the harvest trees within the zone. Such marking shall be completed by the RPF that prepared the plan, or a supervised designee, prior to the preharvest inspection.

The following are the minimum requirements for WLPZ delineation and timber operations near Class I watercourses with flood prone areas or channel migration zones.

Channel Migration Zone: When a CMZ is present, no timber operations are permitted in this zone except for those listed in § 916.9 , subsection (e)(1)(A)-(F), or pursuant to 14 CCR § 916.9 , subsection (v). **Note- No channel migration zones or avulsions have been noted during plan layout.**

Core Zone: The minimum width of the Core Zone shall be 30 feet measured from the watercourse transition line or lake transition line. No timber operations are permitted in this zone except for those listed in 14 CCR § 916.9, subsection (e)(1) (A)-(F), or those approved pursuant to 14 CCR § 916.9, subsection (v). Sanitation-Salvage is prohibited except as provided in 14 CCR § 916.9, subsections (s), (t), and (u).

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 A 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 conifer canopy cover when conifers are present.

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 Zones.

6. Large trees retained that are the most conducive to recruitment to provide for the beneficial functions of riparian zones (e.g. trees that lean towards the channel, have an unimpeded fall path toward the watercourse, are in an advanced state of decay, are located on unstable areas or downslope of such an unstable areas, or have undermined roots) are to be given priority to be retained as future recruitment trees.

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 Core and Inner Zones.

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.

Outer Zone: -

1. The Outer Zone is applicable where even-aged regeneration is used adjacent to the WLPZ.

2. Single tree selection will occur in this zone.

3. Postharvest stand shall retain wind firm trees.

4. Postharvest stand shall have a minimum 50% overstory canopy cover.

Preferred Management Practices in the Inner Zone A and B of flood prone areas.

1. Implement actions to improve salmonid habitat conditions: GRT has an ongoing program of

installing instream salmonid habitat structures and has already placed 560,000 board feet of LWD in the creeks on their ownership. They also have an upslope program of road stormproofing to control sediment inputs and have upgraded or stormproofed over 50% of their road network. See cumulative impacts analysis in section IV.

2. Minimize Yarding and Skidding: All skid trails in the flood prone area of this plan have been evaluated and preflagged. All trees will be reached from the existing roads or from these flagged skid trails. Skid trails have been limited to the greatest extent feasible.

3. Minimize Soil Erosion and Prevent Discharge: The running surface of skid trails on slopes less than 10% and the running surface of roads (except at crossings as outlined elsewhere) will not be treated with straw or slash. See section III item 27j for explanation. Operations shall be conducted only in dry soil conditions. Avoid disturbance of vegetation not intended for harvest that could increase the likelihood of erosion or damages the reinforcing root network on the channel banks, including any secondary overflow channel. Roads will be watered concurrent with operations in order to keep dust production to a minimum.

4. Avoid Slash concentration and Site Preparation: Logging slash shall not be disposed of or concentrated in side channels. When slash is treated within the flood prone areas, scatter slash and avoid piling or other concentrations that may obstruct flows in side channels. When feasible, concentrate/mulch slash in tractor roads. No mechanical site preparation, broadcast burning or pile burning.

5. Delineate Zone on the Ground: Inner Zone B has been delineated with WLPZ flagging where it meets the edge of the Flood Prone Areas (the standard selection areas). Inner Zone A has not been delineated because additional flagging would create confusion and because the LTO is required in this plan to use only flagged skid trails. The transition between Inner Zone A, Inner Zone B, or regular selection (no zone) has been mapped and these zones are depicted on the silviculture map.

6. Avoid Use of Water Drafting Sites (in the flood prone areas): This is not feasible. The only water drafting sites that are available are in the flood prone areas. See 26(r) in section II and section III under water drafting for specifics regarding this practice.

7. Avoid Disturbance to Critical Flood Prone Area Habitat: No abandoned meanders, oxbox lakes, or other features that provide off-channel habitat for fish during flood flows will be affected by this THP since they have been given protection zones and all skid trails have been flagged. No activities that could increase potential for diversion or avulsion of stream flow out of existing channel, including breaching or lowering the elevation of natural levees will occur. Experience in these zones that affect hydraulic roughness have shown that generally hydraulic roughness is increased by operations. No large woody debris in the flood prone area will be harvested but some may be taken from the flats and used to enhance LWD in the channels with agency agreement.

Class II watercourse Section-

Documentation of Class II delineations-

Most of the class II watercourses on this plan fall within the class I flood prone area protection zones therefore the higher standard of protection already will apply adjacent to them.

There are no class IIL watercourses that are adjacent to this plan.

Determination-

No watercourses drain an area larger than 100 acres or have an average width of five feet for the first two hundred feet after their confluence with a class I.

Table for class IIS watercourses in the coastal anadromy zone

Watercourse Class	percent slope	Core zone	Inner zone
Class II-S*	<30%	15	35
Class II-S*	30-50%	15	60
Class II-S*	>50%	15	85
*Includes class IIS wet areas			

Protective measures for Class II-S watercourses and class IIS wet areas in the coastal anadromy zone

Class II-S watercourses: Any Class II-S watercourses shall receive protection in conformance with 14 CCR §§ 916 through 916.7 in addition to the requirements listed under 14 CCR §§ 916.9 (g)(2)(A) and (B).

"B" - WLPZ shall be clearly identified on the ground by an RPF or supervised designee with blue and white striped "WATERCOURSE and LAKE PROTECTION ZONE" flagging prior to the start of timber operations. In watersheds with listed anadromous salmonids, on the ground identification of the WLPZ must be completed prior to the preharvest inspection. In this THP the flagging will be completed prior to the preharvest inspection.

"E" - To insure retention of shade canopy filter strip properties and the maintenance of wildlife

values described in 14 CCR 916.4(b), a base mark shall be placed below the cutline of the harvest trees within the zone and shall be done in advance of timber felling operations by an RPF or supervised designee. In watersheds with listed salmonids tree marking must be completed prior to the preharvest inspection.

"I" - To protect water temperature, filter strip properties, upslope stability, and fish and wildlife values, at least 50% total canopy covering the ground shall be left in a well distributed multi-storied stand configuration composed of a diversity of species similar to that found before the start of operations. The residual overstory canopy shall be composed of at least 25% of the existing conifers.

As per 916.3(g)- Recruitment of large woody debris for instream habitat shall be provided by retaining at least two living conifers per acre at least 16 inches diameter breast high and 50 ft. tall within 50 ft. of all Class II watercourses.

As per 916.9(u)-No salvage logging will occur within the WLPZs .

As per 916.4(b)(6)- Within the WLPZs, 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

Class III watercourse section-

Table for class III watercourses

Watercourse Class	percent slope	Zone width	type	Protective Measure
Class III	<30%	30′	ELZ	916.9 (h) (1,2,3,4,5,6,7 and 8) And 916.5(e)
Class III	30% and up	50′	ELZ	
Springs without aquatic animals-	all	25′	ELZ	
Wet areas or wet meadows without aquatic animals-	all	25 '	ELZ	

For Class III watercourses the protective measures are:

Class III watercourses will have ELZs as outlined in the table above.

As per 916.5(e) – "H"- At least 50% of the understory present before timber operations adjacent to Class III watercourses shall be left living and well distributed to maintain soil stability upon completion of operations.

As per 916.9(h) – For Class III protection measures all Class III centerlines are flagged with blue flagging within the tractor yarding areas. Class III watercourse crossings will be kept to a minimum.

(1) Establish a 30 foot wide ELZ on both sides of the watercourse for slopes less than 30% and an additional 20 foot ELZ where sideslopes are >30%. The ELZ is measured from the WTL. Within the ELZ:
   (A) no new construction of tractor roads permitted;
   (B) no ground based equipment on slopes >50%; and
   (C) ground-based operations are limited to existing stable tractor roads that show no visible evidence of sediment deposition being transported into the adjacent watercourse or to the use of feller- bunchers or shovel yarding.

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

(3) Retain all pre-existing down wood and debris in the channel zone.

(4) Retain hardwoods, where feasible, within the ELZ.

(5) Retain all snags (except as required for safety) within the ELZ.

(6)Retain all countable trees needed to achieve resource conservation standards in 14 CCR § 912.7 within the ELZ.

(7) Retain all trees in the 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 grade control.

(8) Exceptions pursuant to 14 CCR § 916.9 subsections (e)(1) (A)-(F) are permitted in any ELZ and channel zone.

As per 14 CCR 916.4(c)(3)-Soil deposited during timber operations in a Class III watercourse other than at a temporary crossing shall be removed and debris deposited during timber operations shall be removed or stabilized before the conclusion of timber operations, or

before October 15. Temporary crossings shall be removed before the winter period.

As per 916.3(b)-Accidental depositions of soil or other debris in lakes or below the watercourse or lake transition line in waters classed I, II, and IV shall be removed immediately after the deposition.

As per 14 CCR 916 (b)-At a minimum, the LTO shall not remove water, trees or large woody debris 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.

Springs- If springs are discovered during operations that are not specifically addressed as road points, a spring drain will be installed at the location if a crossing is needed. The spring drain can be installed anytime other ground operations are allowed and will use a 4" plastic pipe (larger pipes and metal pipes are acceptable). Pipe can be removed at close of operations and the road or skid trail will be dipped out to keep water from running down the road or skid trail. Optionally the pipe can be left in if it is functioning properly. Otherwise no equipment will operate within 25 feet of springs, seeps, or any wet areas except on flagged skid trails or at designated crossings. Timber fallers will be instructed to fall timber away from springs and seeps unless it is unsafe to do so.

p. [☐]Yes [X] No Except for those operations listed in 916.9 [936.9, 956.9](e)(1)(A) – (E), or as described in 923.1 [943.1, 963.1] (h), will there be any timber operations within the channel zone of any watercourse, or will there be any logging roads or landings constructed or reconstructed in the CMZ or Core Zone of a Class I? If yes, address as required relative to the respective rule.

q. [X]Yes [☐] No Are there existing permanent Class I crossings, where fish are always or seasonally present or where passage is restorable? If yes, describe each crossing; and where the current crossing conditions may be adversely affecting fish passage, disclose such conditions in the plan and propose measures, if feasible, to address conditions. 923.9 [943.9, 963.9] (d).

The appurtenant road system does have permanent class I bridge crossings at eight points. No further modifications are necessary. These crossings allow for the passage of fish at all life stages in both directions. These crossings have always been disconnected from the road system to the extent feasible either through cross drains by road mounding or raised road beds. See "road point map for bridges" and database for descriptions.

r. [X]Yes [☐] No Will water drafting occur in association with timber operations? If yes, address 923.7 [943.7, 963.7] (l).

Water Drafting -

Water may be purchased from a private source for road watering on this plan.

Water may be drafted from three existing holes that have been dug for this purpose which are not near a watercourse, and the standard water drafting forest practice rules do not apply to these holes.

Water may be drafted from the active channel of the North Fork of the Gualala River at one site (draft point A, see page 85) and from the South Fork of the Gualala at one site (draft point B). Operational instructions for the LTO regarding active channel water drafting are summarized below. A new 1600

agreement is being prepared for this THP. The water drafting instructions will be similar to the 1600 agreement that covered these sites and was approved as part of THP #1-16-094men. The background information and analysis required by the ASP rules are included in Section III (see item 26).

The likely drafting requirements in the 1600 being prepared for this THP will include;

(A) To avoid take of fish and other aquatic species, Permittee shall not draft water from the flowing stream (wetted channel); instead, all water shall be drafted from pits dug in gravel bars or upland locations. Gravel bar holes shall be no less than 10 feet from the wetted channel. Excavation of gravel bar holes shall be conducted in isolation from the flowing stream.
(B) 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.
(C) Each of the drafting sites shall have a downstream pool designated within the wetted channel that is easily observable from the drafting site but as far away as possible. This pool shall be used to determine any flow changes from drafting activities. A water level gauge with at least 0.05 foot increments shall be installed in this pool. An additional riffle crest monitoring station shall be placed downstream of each drafting monitoring site in August and September.
(D) A pump test shall be conducted by an RPF at each site prior to commencement of any drafting activities and monthly thereafter. The purpose of this test is to establish if enough flow is present to allow for water drafting without significantly altering flow as measured by the wetted width of the channel. The test shall provide an estimate of the maximum change in water surface elevation as measured at the pool water level gauge that would result in a change of less than 0.10 foot to the wetted width at each monitoring site (the first downstream riffle crest).
(E) The diversion rate shall not exceed 300 gallons per minute.
(F) In aggregate, for GRT operation (including Bed Rock's 1600 permit), GRT will use less than 25,000 gallons per day from active channel water hole in the South Fork site. Separately, GRT will use 9000 gals or less per day in the hole on the North Fork of the Gualala.
(G) Water truck operators shall be in possession of log books that shall contain the following information, kept current during operations: 1) drafting site location, 2) date, 3) time, 4) pump rate, 5) filling time 6) screen cleaning/inspection notes, 7) pre and post drafting pool water elevation as recorded from the water level gauge. Drafting logbook data shall be submitted to CDFW monthly for each year that drafting operations occur.
(H) If, during any drafting activity, the water level as read on the pool water gauge drops by more than 0.05, or the amount determined by the pump test (see item D above) to cause a change greater than 0.10 foot to the wetted width at the riffle downstream, pumping shall immediately cease.

All water drafting for timber operations are subject to each requirement below unless, as is likely, the Department of Fish and Wildlife modifies the requirement in a Lake or Streambed Alteration agreement that authorizes the drafting operation.

(A) All water drafting intakes shall be screened to prevent impingement of aquatic species. The following requirements apply to screens and water drafting:
    1. Openings in perforated plate or woven wire mesh screens shall not exceed 3/32 inches (2.38 millimeters). Slot openings in wedge wire screens shall not exceed 1/16 inches (1.75 millimeters).
    2. The screen surface shall have at least 2.5 square feet of openings submerged in water.
    3. The drafting operator shall regularly inspect, clean, and maintain screens to ensure proper operation whenever water is drafted.
    4. The approach velocity (water moving through the screen) shall not exceed 0.33 feet/second.
    5. The diversion rate shall not exceed 300 gallons per minute.
(B) Approaches and associated drainage features to drafting locations within a WLPZ or channel zone

shall be surfaced with rock or other suitable material to minimize generation of sediment.

(C) Barriers to sediment transport, such as straw waddles, logs, straw bales or sediment fences, shall be installed outside the normal high water mark to prevent sediment delivery to the watercourse and limit truck encroachment.

(D) 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.

(E) Bypass flows for Class I watercourses shall be provided in volume sufficient to avoid dewatering the watercourse and maintain aquatic life downstream.

27. Are site specific practices proposed in-lieu of, or as an alternative to, the following standard WLPZ practices?

a. [X]Yes [☐] No Prohibition of the construction or use of tractor roads in Class I, II, III, or IV watercourses, WLPZs, marshes, wet meadows, and other wet areas except as follows (916.3 [936.3, 956.3](c)):
(1) At prepared tractor road crossings.
(2) Crossings of Class III watercourses which are dry at time of timber operations.
(3) At new tractor and road crossings approved by Department of Fish and Wildlife.

b. [☐]Yes [X] No Retention of non-commercial vegetation bordering and covering meadows and wet areas?

c. [ ]Yes [X] No Directional felling of trees within the WLPZ away from the watercourse or lake?

d. [☐]Yes [X] No Decrease of width(s) of the WLPZ(s)?

e. [☐]Yes [X] No Protection of watercourses which conduct class IV waters?

f. [X]Yes [☐] No Exclusion of heavy equipment from the WLPZ except as follows (916.4 [936.4, 956.4](d) and (f)):
(1) At prepared tractor road crossings.
(2) Crossings of Class III watercourses which are dry at time of timber operations.
(3) At existing road crossings.
(4) At new tractor and road crossings approved by Department of Fish and Game.

g. [☐]Yes [X] No Establishment of ELZ for Class III watercourses unless sideslopes are <30% and EHR is low?

h. [☐]Yes [X] No Retention of at least 50% of the overstory canopy in the WLPZ?

i. [☐]Yes [X] No Retention of at least 50% of the understory in the WLPZ?

j. [X]Yes [☐] No Are any additional in-lieu or any alternative practices proposed for watercourse or lake protection?

NOTE: A yes answer to any of items "a." through "j." constitutes an in-lieu or alternative practice. Refer to 916.1 [936.1, 956.1] for addressing the in lieu practices. For each item marked "yes", the operational information proposed under #2 below should be provided in Section II, including mapping requirements [1034(x)(15) and (16)]; and the following should normally be provided in Section III:

1. State the standard rule;
2. Explain and describe each proposed practice
3. Explain how the proposed practice differs from the standard practice;
4. Provide an explanation and justification as to how the protection provided is equal to the standard rule and provides for the protection of the beneficial uses of water, as per 916.1 (936.1, 956.1) (a).

Refer to 916.6 [936.6, 956.6] and/or 916.9 [936.9, 956.9] (v) for addressing alternative practices .

Exception to 27a, 27f and 27j- See Section III for explanation and justification for in lieu practices.

All in lieu skid trails will be water barred at the extreme EHR hazard rating. (100 feet when grade is 10% or less, 75 feet when grade is 11-25% and 50 feet when grade is greater than 26%)
Note to LTO regarding WLPZ skid trails- All skid trails in the WLPZ have been flagged and the LTO will only be allowed to use flagged skid trails. Any WLPZ skid trail that traverses a slope greater than 30% or traverses a slope greater than 10% and is within 150 feet of a class I or II watercourse will be slash packed or straw mulched and seeded to the standards in item 18 and waterbarred. Any landing that is on slopes greater than 10% or is within 150 feet of a class I or II watercourse will be slash packed or straw mulched and seeded to the standards in item 18 and waterbarred.

28. a. [X]Yes [☐] No Are there any landowners within 1000 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? If yes, the requirements of 1032.10 apply. Proof of notice by letter and newspaper should be included in THP Section V. If No, "28 b." need not be answered.

b. [☐]Yes [X] No Is an exemption requested of the notification requirements of 1032.10? If yes, the required explanation and justification for the exemption should be provided in THP Section III. Specify if requesting an exemption from the letter, the newspaper notice or both.

c. [☐]Yes [X] No Was any information received on domestic water supplies that required additional mitigation beyond that required by standard Watercourse and Lake Protection rules? If yes, list site specific measures to be implemented by the LTO.

A letter was received from North Gualala Water noting the existence of their wells which we are aware of. See section V misc. addendums. In addition, after first submission of this plan a phone call was received from Leslie Rolleri indicating the presence of a spring near the property line, so on 8/5/19 I met with Ms. Rolleri, and we agreed that her spring, which she described as a future domestic water supply, would not be at risk from our operations. However, I offered to flag a small area adjacent to the property line with WLPZ flagging in order to protect a few trees along that line and this was subsequently done. No other instructions for the LTO are necessary.

29. [☐]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 any special rules, operating procedures or mitigation that will be used to protect the resources identified at risk?

HAZARD REDUCTION

30. a. [ ]Yes [X] No Are there roads or improvements which require slash treatment adjacent to them? If yes, specify the type of improvement, treatment distance, and treatment method.

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b. [☐]Yes [X] No Are any alternatives to the rules for slash treatment along roads and within 200 feet of structures requested? If yes, RPF must explain and justify how alternative provides equal fire protection. Include a description of the alternative and where it will be utilized below.

31. [☐]Yes [X] No Will piling and burning be used for hazard reduction? See 917, [937,957] et seq., for specific requirements. Note: LTO is responsible for slash disposal. This responsibility cannot be transferred.

BIOLOGICAL AND CULTURAL RESOURCES

32. **NOTE:** See THP Form Instructions or the CALFIRE Mass Mailing, 07/02/1999, section on "CDF Guidelines for Species Surveys and Mitigations" to complete these questions.

a. [X]Yes [☐]No **Are any plant or animal species, including their habitat, which are listed as rare, threatened or endangered under federal or state law, or a sensitive species by the Board, associated with the THP area? If yes, identify the species and the provisions to be taken for the protection of the species.**

It was determined that the following sensitive animal species had a possibility, based on known range or historic range, of being found in or near the plan area. If a species was observed during plan layout it will be noted below.

Note to LTO-
1- The LTO should be on the lookout for these species and report any observations to the supervising RPF who will report the presence to CDFW for consultation.

Non listed "species of concern" as listed by the California Department of Fish and Wildlife

These species include Vaux's swift, Coopers' hawk, Sonoma tree vole, sharp-shinned hawk, purple martin, tailed frog, western pond turtle, Townsend's big-eared bat and southern torrent salamander.

All of these species except for the southern torrent salamander, Townsend's big-eared bat and tailed frog have been observed in the past on landowners' property but unless specifically noted have not been observed on this THP area. For more information on non-listed species of concern see cumulative impacts analysis for more information.

Sonoma Tree Vole-

Sonoma tree vole is known to occur extensively on GRT property and many sites have been recorded and protected over the last decade. During plan layout for this plan however no signs of Sonoma tree voles were observed. Sonoma tree voles make domed nests of fir needles in trees. The LTO shall inform their fallers to be on the lookout for nests, to protect trees where nests are found and to inform the supervising RPF if nests are found so that additional screen trees can be marked for retention if necessary.

Western pond turtles-

Western pond turtles may be found within the plan area and will be protected by standard WLPZ protections if present.

Coopers hawks, sharp-shinned hawks and Vaux's swifts are also likely to be occasionally present although no nests are known.

Townsend's big-eared bat (Coto)-

This THP is within the historic range of COTO. No COTO have ever been known to occur on GRT property although no targeted COTO surveys have taken place. There are no caves, mines, or abandoned buildings within the THP, which are currently considered the preferred habitat. Any bats that are observed that have extremely large ears should be reported to the supervising forester.

Board of Forestry Sensitive animal species-

Golden eagle, Great blue heron, Great egret, Northern Goshawk, Osprey. Only the Osprey and Great blue heron are known to occur regularly on GRT property.

Osprey-

There are no known Osprey nest locations within the THP or close enough to units or appurtenant roads to have buffers that will be affected by operations.

Great blue heron –

There are no known Great blue heron nests on GRT lands.

Listed Species Endangered or Threatened, (either California or Federal)-

Northern spotted owl, California red legged frog, Foothill Yellow-Legged frog, bald eagle, peregrine falcon, marbled murrelet, coho salmon, chinook salmon, steelhead trout, gray wolf.

The LTO should be alert for these species during operations. The area was examined for these animals. The CNDDB was also searched and the results of that search are included in Section V. Northern spotted owl, red-legged frog, foothill yellow-legged frog and gray wolf are addressed below. Biological information on the other species can be found in the biological section of the CIA found in Section IV of the THP.

Gray Wolf (Canus lupus)-

No wolves have been sighted in this part of California since 1924 or earlier. Sightings of wolves and/or detection of den/rendevous sites shall cause work to immediately stop within 500 feet of the sighting and the sighting will be reported to CDFW. In the event of a sighting, protection measures will developed through a consultation with CDFW prior to the resumption of work in the affected unit. See section IV for more information on habitat and distribution.

Marbled Murrelet- (Brachyramphus marmoratus)-

Although there are a few scattered and exposed large trees in or near the THP it was not considered to be habitat because of the lack of canopy cover and/or adequate size branches. The nearest known occurrence of marbled murrelets is 12.5 miles south of the most southern boundary of the plan area where, in 1999, CDFW staff documented vocalizations and below-canopy flight over the Clipper Mill Bridge. In 2015 marbled murrelets were reportedly seen in the Clipper Mill area again. Consultation with CDFW will be sought if 1) trees or stands are identified within ¼ mile of the plan area that meet the

definition of suitable habitat; 2) the location and boundary lines of the proposed THP are expanded; or 3) CDFW, the RPF, the property owner or CALFIRE receive any new information regarding marbled murrelet occurrences near the proposed plan area. If suitable habitat is found then operations will not occur within ¼ mile until surveys are completed. Surveys will not be required for operations within the boundaries of this plan since the habitat is unsuitable for murrelets.
In 2017 and 2018 a Murrelet survey point was established and surveyed to protocol at the junction of the North fork and the South fork of the Gualala River. This is approximately two thousand feet south of the southern end of this THP and is the most likely route a marbled murrelet would take if it was flying in the direction of this plan. There were no detections.

<u>Foothill Yellow-Legged frog- (Rana boylii) - (California candidate species for listing)</u>

Adult foothill yellow-legged frogs are moderately sized — between 1.5 and 3 inches long — with a distinctive lemon-yellow color under their legs. They inhabit partially shaded, rocky perennial streams and their life cycle is synchronized with the seasonal timing of streamflow conditions. Adult frogs move throughout stream networks from winter refugia to mating habitat where eggs are laid in spring and tadpoles rear in summer. They breed along streams that have relatively open canopy within slow velocity edge waters, shallow end pools, back water areas, and riffles containing cobble-sized or larger rocks as substrate that provide a velocity barrier. These frogs need perennial water where they can forage through the summer and fall months. (Excerpt from Center for Biological Diversity). Additional information can be found in the cumulative impacts portion of Section IV. These frogs do occur in suitable habitat in the assessment area.

Any adult frogs that may exist near the THP will be protected by WLPZ requirements and red legged frog protections that are part of the plan. Desiccation and dislodgment of egg masses is a concern therefore this frog's egg masses will also be protected by limitations that are part of a CDFW 1600 agreement. This agreement ensures that water levels will not be significantly reduced during water drafting. Note to LTO-For the "off channel water holes" that are not part of the 1600 agreement (see drafting sites map) the water truck will be required to use a bucket in the water hole into which the hose is placed. The bucket must be covered by < 1 inch mesh, and the mouth of the hose must be covered by 1/4 inch mesh. These are the same requirements as for the red legged frog.

<u>Foothill yellow legged frog survey requirements-</u>

Prior to any activity within a Class I or Class II watercourse channel on the plan area, a qualified biologist, biological monitor, or Registered

Professional Forester (RPF) with knowledge of the species shall survey the project site to determine the presence and/or potential presence for FYLF to be present in any of its life forms (adult, juvenile, metamorph, tadpole, or egg mass) within the project site. Surveys shall encompass the project area footprint and area in the streambed at bank full 500 feet upstream and 500 feet downstream of the project area. If the surveys for FYLF are separated in time from the actual installation date, then immediately prior to a inchannel installation a qualified biologist, biological monitor, or Registered Professional Forester (RPF) shall conduct a localized site survey of the project footprint and area 100 feet above and below the activity to assure no FYLFs are present. Surveys within the project area shall include searching cavities under rocks, within vegetation such as sedges and other clumped vegetation, and under undercut banks. Surveys should be conducted at different times of day and under variable weather conditions.

If FYLF or evidence of their presence are found, the RPF shall immediately notify CDFW and the activity shall not commence until written approval is provided from CDFW allowing the work to move forward.

• Results of the survey shall be submitted to CDFW for review and comments at least two weeks prior to instream work in FYLF habitats.

• Protection. If adult FYLFs are encountered during operations, operations in the immediate vicinity of the sighting shall cease until FYLF have cleared the work area. Frogs shall be allowed to leave the area unharmed and on its own volition. If egg or tadpoles stages or evidence of their presence are found during operations, all instream work within 100 feet upstream and downstream of these life stages shall cease. The RPF shall notify and consult with CDFW, and measures shall be developed in agreement with CDFW prior to recommencing work. Note: the capture, handing, moving and/or relocating of a FYLF adult, juvenile, metamorph, tadpole, or egg mass is not permitted under the approved THP unless a CESA Incidental Take Permit (ITP) is acquired by the plan submitter.

Northern Spotted Owl (Strix occidentalis). Status: Federal - Threatened (1990).

1. This THP is within the range of the NSO.
2. This THP will comply with 14CCR 919.9(e) by conforming to the requirements of USFWS Take Avoidance Scenario 4: Avoidance of Disturbance and Direct Take Through Habitat Retention.
3. No timber operations shall occur until such time as all NSO surveys (which follow the most recent approved USFWS survey protocols) for the current, or immediately preceding, survey period are complete and the results have been provided to CAL FIRE. As of Plan submission; protocol surveys are not complete.
4. Yearly NSO survey results are amended to the plan as necessary. These survey result amendments may contain changes to the NSO protections not included in the THP as originally approved. All NSO amendments should be checked by the RPF and/or LTO to assure compliance with the most current NSO information.
5. Additional NSO information is located in THP Section V.

USFWS Scenario 4: Avoidance of Disturbance and Direct Take
Through Habitat Retention – Attachment A, Coast, 2011

A. Suitable habitat within some or all harvest units? Yes, all units
B. Protocol surveys detect NSO and/or historic activity centers within 0.7 miles of timber operations?
   Yes –Previous surveys and Landowner information show SON0082, MEN0152, MEN0153, MEN0179 and MEN0510 within 0.7 miles.
C. All habitat and operational conditions shall be followed for each activity center.
   1) Habitat conditions that avoid take
      Take Avoidance Analysis – Coast (included)
   2) Operational conditions that avoid take
      Harvest units containing suitable NSO habitat
      Post-harvest conditions will remain nest/roost habitat
      Historic monitoring detected MEN0153, MEN0179 and MEN0510 within ¼ mile of harvest area; therefore, seasonal restrictions may apply.

Take Avoidance Analysis – Coast

I. Accuracy of NSO Activity Center Location and Status

1) Location (Elk THP NSO Activity Centers – See NSO WITHIN 0.7 MILE Map, THP Sec. V).
   - Confirm plotted activity centers

- ✣ CDFW CNDDB Spotted Owl Database (June 29, 2016 – See THP Sec. V).
- ✣ Data from adjacent landowners: No data from adjacent landowners.
- ✣ Recent Surveys: Past survey efforts detected SON0082, MEN0152, MEN0153, MEN0179 and MEN0510.
  - Document deviations from CDFW locations: None.
    - Update habitat analysis maps: See NSO habitat maps, THP Sec. V.

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2) Status
- Valid Site including occupancy and reproductive status
  - ❖ MEN0152 – Male NSO (4/1/11).
  - ❖ MEN0153 – Male NSO (3/8/14).
  - ❖ MEN0179 – Unknown NSO, owl heard but never seen (4/16/15).
  - ❖ MEN0510 – Pair, nesting inconclusive (3/4/15).
  - ❖ SON0082 – No NSO detected since 4/7/06.

II.

Survey Effort

1) Coverage of Nesting/Roosting Out to 0.7 miles: A map of proposed survey stations is provided in THP Section V. Protocol surveys are not complete for this THP as of Plan submission. Protocol surveys will be completed prior to operations on this THP.

2) 2) Protocol Surveys: Protocol surveys are not complete for this THP as of Plan submission. Protocol surveys will be completed prior to operations on this THP.

3) Follow up Visits: Not applicable.

III. Habitat

1) Typing
- Verify Habitat Typing: The habitat typing is based upon timber typing, inventory plots, ground knowledge of property, and aerial photos. Habitat typing has been ground verified by biologists with Forest Ecosystem Management.
- Changes to Typing: See acres summary on NSO Habitat Maps, THP Sec. V.
- Post Harvest Typing: See acres summary on NSO Habitat Maps, THP Sec. V.

2) Definitions
- Nesting/Roosting Habitat: Forested habitat that supports successful nesting and associated roosting behavior by NSOs. Habitat with >60% canopy cover of trees that are >11" dbh, and have a basal area >100 square feet per acre of trees >11" dbh. Trees may be conifer or hardwood.
- Foraging Habitat: Forested habitat that contains >40% canopy cover of trees that are >11" dbh and have a basal area >75 square feet per acre of trees >11" dbh. Trees may be conifer or hardwood.

3) Quantities (Attachment #A date 15MAR11):
Core Area Habitat Protection (100 acres): Once an AC has been accurately mapped, a 100-acre Core Area polygon must be identified that contains the highest quality habitat (typically nesting/roosting) located contiguous with the activity center (See NSO Habitat and NSO Seasonal Restrictions maps, THP Sec. V). There is no harvesting within the core area, without amendment to the THP.

- Within 0.7-mile radius of an Activity Center retain at least 500 acres of suitable northern spotted owl habitat as follows:
  - ❖ Retain 200 acres of nesting/roosting habitat within a 0.7-mile radius of the activity center consisting of:
    - 100 acres of the 200 acres of nesting/roosting habitat retained should be contiguous, or contiguous as possible with the activity center.
    - An additional 100 acres of nesting/roosting habitat within the 0.7-mile

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radius:

- If the second 100 acres of nesting/roosting habitat is also contiguous with the activity center, or within the same drainage, operations should retain a minimum of 66% of the pre-harvest basal area per acre of trees at least 11" dbh.
- If the remaining 100 acres of nesting/roosting habitat is not contiguous with the activity center, retain at least nesting/roosting habitat.

- Retain at least 300 acres of suitable NSO habitat, post-harvest, of at least foraging quality.

❖ Remove no more than 1/3 of the remaining suitable habitat in excess of 500 acres within 0.7 miles of an activity center during the life of the timber operations.

- Road Use: USFWS Attachment A (2011) states "to avoid take of NSO from noise disturbances, road use within ¼ mile of an NSO activity center during the breeding season is prohibited until July 10th." The Plan Submitter requests an exception to this limitation in regard to use of the property's permanent road system (i.e., the mainline access/transportation arteries on the property). Said temporal limitation shall apply to all other harvest activities and seasonal road use. Continued occupancy of activity centers on the landowner's property for 25 years demonstrates a tolerance to the existing permanent arterial roads. Additionally, the USFWS has issued hundreds of no take determinations without limitations on road use within ¼ mile of activity centers in the past. For these reasons there shall be no limitation on use of existing permanent arterial roads within ¼ mile of activity centers.
- To further avoid impacts to NSOs the following shall apply to other road use, maintenance, and crossing installations on non-permanent roads :
- Before July 10, road use and maintenance within 0.25 miles of an NSO AC shall not occur until Cal Fire provides a non-nesting status determination following submittal of nesting status survey results consistent with current USFWS reproductive survey protocols (USFWS 2011 Item 17, page 25).
- Or,
- b. A USFWS technical assistance (TA) letter for road use and maintenance within 0.25 mile of NSO ACs shall be included in the plan prior to operations.
- Consultation with CDFW will occur prior to operations in the event a new activity center nest occurs with .25 miles of the existing permanent roads.

- Seasonal Restrictions within ¼ mile: A ¼ mile seasonal restrictions on timber operations (except for permanent property arterial road use) applies to known NSO activity centers during the breeding season, unless it is determined via a site monitoring visit (per the 2011 NSO protocol "Activity Center Search") that NSOs are not nesting, or nesting failure has occurred. If it cannot be determined whether NSOs are nesting, or nesting failure cannot be determined, the ¼ mile seasonal restriction stays in effect for timber operations until July 31st.

1) Within the 100-acre Core Area polygon of an NSO AC:
   - Outside the breeding season, limited timber operations may be

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conducted, provided no trees >11" dbh are cut or removed by the operations, and no logs are yarded through the Core Area. This may be changed through amendment to the THP.

- During the NSO breeding season, timber operations are not allowed within the 100-acre Core Acre polygon, except as allowed below.

2) Timber Operations outside the 100-acre Core Area polygon, but within ¼ mile of an NSO AC:
   - Outside the breeding season, timber operations may be conducted.
   - During the breeding season, no timber operations should proceed unless protocol surveys do not detect nesting NSOs.

3) For all NSO AC, prior to May 15th (until the required May 15 or later survey is completed):

- Timber operations (except helicopter yarding or staging) may be conducted only on those THP areas >.25 miles from the AC.
- Helicopter yarding and staging may occur only on those THP areas >.5 miles from the AC.

4) For NSO AC where reproductive status has been determined to be non-nesting or failed nesting:

- Limited timber operations (road use and maintenance, map point work, use of existing skid roads, tail-hold placements and loading) may be conducted within the 100-acre Core Area polygon of the AC provided no trees >11" dbh are cut or removed by the operations, and no logs are yarded through the Core Area.
- Full timber operations, including helicopter yarding and staging, may be conducted within ¼ mile but not within the 100-acre Core Area polygon of the AC. Helicopter flyovers shall not occur within 1,000 ft. of the Activity Center.

5) For NSO AC, where reproductive status has been determined to be nesting:
   a. For Activity Centers where fledging status has not been determined, timber operations may be conducted only on those THP areas that are >0.25 mile from the Activity Center until the end of the breeding season.
   b. Helicopter yarding and staging may occur only on those THP areas >0.25 mile from the Activity Center.

6) For NSO Activity Centers, where fledging status has been determined (either nest failure or fledglings have left the Core Area):
   A) Full timber operations, including helicopter yarding and staging, may be conducted within ¼ mile but not within the 100-acre core polygon of the AC. Helicopter flyovers shall not occur within 1,000 ft. of the Activity Center.
   B) Limited timber operations may be conducted within the 100-acre core polygon of the AC, provided no trees >11" dbh are removed by the operations, and no logs are yarded through the Core Area.

7) For any NSO AC, regardless of reproductive status:

a) If NSO moves to a new location (>1000' from the historic AC) and

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reproductive behavior is confirmed at the new site, request TA to evaluate the status of the historical AC.

b) Seasonal restrictions may apply to MEN0153, MEN0179 and MEN0510.

c) Priority Ranking of Habitat Retention Acres (Attachment #A dated 15MAR11):

- Tree Species Composition: Redwood or mixed conifer stands should be selected over hardwood dominated stands. Much of the area is mixed conifer stands (redwood/Douglas-fir with tanoak and madrone). Within the THP boundary is second growth redwood with very high basal area. It is in the best interest of Gualala Redwood Timber LLC to manage the stand for redwood/Douglas-fir (merchantable tree species). Madrone and tanoak are and will continue to be present.
- Abiotic Considerations:
  - Distance to nest: Nesting/Roosting and Foraging habitat closest to identified nest trees, or roosting trees if no nest trees identified.
- Contiguity: Nesting/Roosting habitat within the 0.7-mile radius should be as contiguous as possible; and minimize fragmentation of foraging habitat as much as possible.
- Slope Position: Habitat located on the lower 1/3 of slopes provides optimal microclimate conditions and an increased potential for intermittent or year-round water sources. Watercourses are protected under the WLPZ zones as listed within the THP.
- Aspect: Habitats located on northerly aspects provide optimal vegetation composition and cooler site conditions.
- Elevation: Habitat should be at elevations of less than 6,000'. The entire THP is below 6,000' above mean sea level.

C) Size and Shape of Habitat Patch

- Narrow strips of habitat (100m or less) including WLPZ strips, retention areas between clearcuts, or narrow corridors may contain the characteristics of nesting/roosting habitat; however, when surrounded by unsuitable or low-quality habitats, they function as foraging habitat at best.
- The habitat Maps, THP Sec. V, contain some corridors between clearcuts that would fall into this category (habitat conditions of nesting/roosting but would be considered foraging under this stipulation). There are still over 200 acres of nesting/roosting habitat and 500 acres of suitable NSO habitat within 0.7 miles of the Activity Center.

Summary of Protection Measures for NSOs for Elk THP

1. There may be Northern Spotted Owl Activity Centers within ¼ mile of the THP boundary; therefore, there may be harvest and seasonal restrictions (See NSO Proximity Map, THP Sec. II and V).

2. 100-Acre Core Area Habitat delineations have been identified for the NSO activity centers within 0.7 miles of the THP. No harvest will occur within this Core Area Habitat without amendment to the THP. The core area will be flagged with Special Treatment Area flagging prior to operations as necessary.

3. There will be no harvesting within 500' of a northern spotted owl activity center without amendment to the THP. Harvest can occur between the 500' and 1,000'

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circle surrounding an AC; however, post-harvest habitat must retain existing habitat conditions. 1) This applies only outside of the NSO breeding season, and 2) "no trees > 11 inches DBH are cut or removed by the operations, and no logs are yarded through the (NSO) Core Area. Operations outside of the breeding season through the core area are allowed when using existing facilities. Existing facilities in this area are a seasonal road, a landing and several existing skid trails.

4. Helicopter logging is not proposed for this THP.

5. Home range acres for all known northern spotted owl activity centers within 0.7 miles of the THP are met within the assessment areas this plan falls within.

6. If a new northern spotted owl is detected within or immediately adjacent to the THP, timber operations will stop and the appropriate regulatory agency will be notified.

7. Protocol NSO surveys will be conducted prior to harvest operations.

8. a.Before July 10, road use and maintenance within 0.25 miles of a NSO AC shall not occur until Cal Fire provides a non-nesting status determination for nesting status survey results consistent with current USFWS reproductive survey protocols (USFWS 2011 Item 17, page 25) prior to 2011 USFWS NSO take avoidance Attachment A deviations.

Or,

b. A USFWS technical assistance for road use and maintenance within 0.25 mile of NSO ACs shall be included in the plan prior to operations.

California Red Legged Frog-

No habitat has been identified within the THP for the CLRF other than the potential habitat of the Class I and Class II watercourses.

The California Red Legged frog will be protected by adhering to USFWS Scenario III and Scenario IV for the wet and dry weather periods respectively (see below for specifics). The wet weather period is defined as starting with the first frontal rain system depositing a minimum of 0.25 inches of rain after October 15 and ends on April 15. (Note to LTO - These wet and dry periods very slightly from the wet

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weather periods described elsewhere in the plan so make sure that you understand the differences and the restrictions involved.)

The dry weather period starts April 16 and ends with the first frontal rain system which deposits a minimum of 0.25 inches of rain.

Scenario III mitigations apply during the red legged frog wet weather period as defined above.

Scenario III: Suitable habitat within 2 miles of harvest units or in units and harvest activities planned within 300 feet of suitable habitat during the wet season (applies to winter period falling and to any other activities that are allowed elsewhere in the plan between April 1 and April 15th and between the first ¼ inch rain after October 15th and before Nov 15th).

No take is estimated only under the following conditions:
i. During the wet weather period for Class III watercourse, when dry, maintain a 30-foot no cut buffer, trees felled away from watercourse
ii. During the wet weather period for Class II watercourse and intermittent ponds/wetlands that meet the definition of suitable habitat, where water is present, 300 foot no cut buffer; where dry, 30-foot no cut buffer, no equipment within 75 feet of annual high-water mark, trees felled away from suitable habitat.
iii. During the wet weather period for Class I watercourse and permanent ponds/wetlands that meet the definition of suitable habitat - no cutting and no equipment within 300 feet of this suitable habitat.

Scenario IV mitigations that apply during the red legged frog dry weather period as defined above.
Scenario IV: Suitable habitat within 2 miles of harvest units or in units and harvest activities planned within 300 feet of suitable habitat during the dry season.
i. All suitable habitats must maintain a 30-foot no-cut buffer; no equipment within the no-cut buffer; trees felled away from suitable habitat.

Under both of the above scenarios, the following operational conditions must also be included:
1) Pile burning must be outside the 300-foot buffer of suitable habitat
2) No herbicide use allowed within 300 feet of suitable habitat except for direct application to stumps
3) Roads and landings, if constructed, must be at least 300 feet from suitable habitat, and construction must occur in the dry season.
3) Water drafting from suitable habitat (for dust abatement) must be done with a hose placed in a bucket in a deep pool. The bucket must be covered by < 1-inch mesh, and the mouth of the hose must be covered by 1/4-inch mesh

Rare plants-
A survey for rare plants was conducted and is included in section IV. A survey of skid trails by a wetlands specialist and avoidance of wet areas and concentrations of obligate plants will also be conducted prior to operations. During the rare plant survey the botanist listed Carex aquatilis, lenticularis and Veratrum fimbriatum as present. The Carex aquatilis does not have a California rare plant rank and the veratrum fimbriatum (corn lily) has a California rare plant rank of 4.3. The Carex is outside the THP area and will not be affected by operations. The corn lily is inside the area of operations but is an area where all skid trails have been preflagged. Any impact, if any, will be minor and will mostly be from timber falling. All skid trails in the flood prone area have been preflagged and any areas of concentrated corn lily have been avoided.

Additional beneficial actions for wildlife protection-
Nests- All fallers shall be informed to leave trees in which nests or nest holes are observed and to report any nests found to the LTO who shall report to the landowner's representative.

Dead and down Materials- Dead and down materials within the WLPZs shall be left on the ground to provide habitat for amphibians, reptiles, birds, and small mammals unless they are being used for a permitted instream enhancement project.

Hardwoods-All hardwoods within the WLPZs shall be left uncut. Leave hardwoods outside of the WLPZs that are 24" or greater DBH (up to 4 per acre) unless they pose a threat to safety.

Springs- If springs are discovered during operations that are not specifically addressed under item #25, a spring drain will be installed at the location if a crossing is needed. Otherwise no equipment will operate within 25 feet of springs, seeps, or any wet areas except on flagged skid trails or designated roads.

Wildlife trees- Trees have been marked with a "W" to indicate a wildlife no-cut tree. Fallers will be instructed to avoid falling trees into trees marked with a "W" or falling merchantable trees into snags (which are all meant to be left) unless there is a safety risk.

b. [☐]Yes [X] No Are there any non-listed species which will be significantly impacted by the operation? If yes, identify the species and the provisions to be taken for the protection of the species.

33. [X]Yes [☐] No Are there any snags which must be felled for fire protection or safety reasons? If yes, describe which snags are going to be felled and why.
Any snag that the LTO determines to be a hazard to worker or public safety may be felled. All snags that do not constitute a safety hazard

will be retained to the extent feasible during timber harvest.

34. [☐]Yes [X] No Are any Late Succession Forest Stands proposed for harvest? If yes, describe the measures to be implemented by the LTO that will avoid long-term significant adverse effects on fish, wildlife and listed species known to be primarily associated with the late succession forest.

35. [☐]Yes [X] No Are any other provisions for wildlife protection required by the rules? If yes, describe.

36. a. [X]Yes [ ] No Has an archaeological survey been made of the THP area?
b. [X]Yes [☐] No Has a current archaeological records check been conducted for the THP area?
c. [X]Yes [ ] No Are there any archaeological or historical sites located in the THP area? Specific site locations and protection measures shall be included in the Confidential Archaeological Addendum, which should be located in Section VI of the THP. Note, this is not available for general public review.

37. [☐]Yes [X] No Has any inventory or growth and yield information designated "trade secret" been submitted in a separate confidential envelope in Section VI of this THP?

38. Describe any special instructions or constraints that are not listed elsewhere in Section II.

Note to LTO regarding tractor operations;
LTO shall read the preferred management practices on page 31 and 32 as regards ground operations. In addition, in order to ensure minimal ground disturbance from ground-based yarding, tractors may not drive in the flood prone areas with their blade lowered, except as needed to move debris. No excavation shall occur on flood prone areas except at watercourse crossings described in section II or as needed to improve drainage or resolve access problems resulting from previous logging operations.

Note to LTO regarding falling operations;
LTO will meet with fallers and make them aware of powerline running through the plan area.

Consistent with safety, trees should be felled in whatever direction best preserves the canopy as long as no part of any tree falls into a class I or II watercourse.
At a minimum, the LTO shall not do either of the following during timber operations-

1-Place, discharge, or dispose of or deposit in such a manner as to permit to pass into the waters of the state, any substances or materials, including, but not limited to, soil, silt, bark, slash, sawdust, or petroleum, in quantities deleterious to fish, wildlife, beneficial functions of riparian zones, or the quality and beneficial uses of water;

2-Remove water, trees or large woody debris from a watercourse or lake, the adjacent riparian area, or the adjacent flood plain in quantities deleterious to fish, wildlife,

beneficial functions of riparian zones, or the quality and beneficial uses of water;

Note to LTO about servicing equipment-

1) No servicing of equipment within 100 feet of a class I watercourse.
2) All state and federal regulations pertaining to the handling and storage of fuel must be adhered to during logging operations.

The plan submitter is responsible for notifying the Department of the commencement of timber operations.

Telephone Mendocino Unit= (707) 459-7440
Mail: 17501 N.Hwy 101 Willits ,CA 95490
Email: current office technician using the formula firstname.lastname@fire.ca.gov

Flagging Key-

Pink flagging - THP boundaries.
Blue and white striped flags- Boundary between class I Inner B zone and non-WLPZ regular selection areas.
Solid blue flagging- Class III watercourses have their centerlines flagged in ground-based skidding areas- See table under item 26 for specifics.
Solid yellow - All usable skid trails within all WLPZ zones have been flagged.
Road Points- Road point numbers are painted on nearby trees or banks in blue paint.
Orange and White striped with Special Treatment Area printed on it combined with Pink flagging – Outer Zone.
Orange flagging- existing or proposed road

Two flags hung together usually mean an abrupt change in direction, three flags hung together mean the end of the flag line.

DIRECTOR OF FORESTRY AND FIRE PROTECTION

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

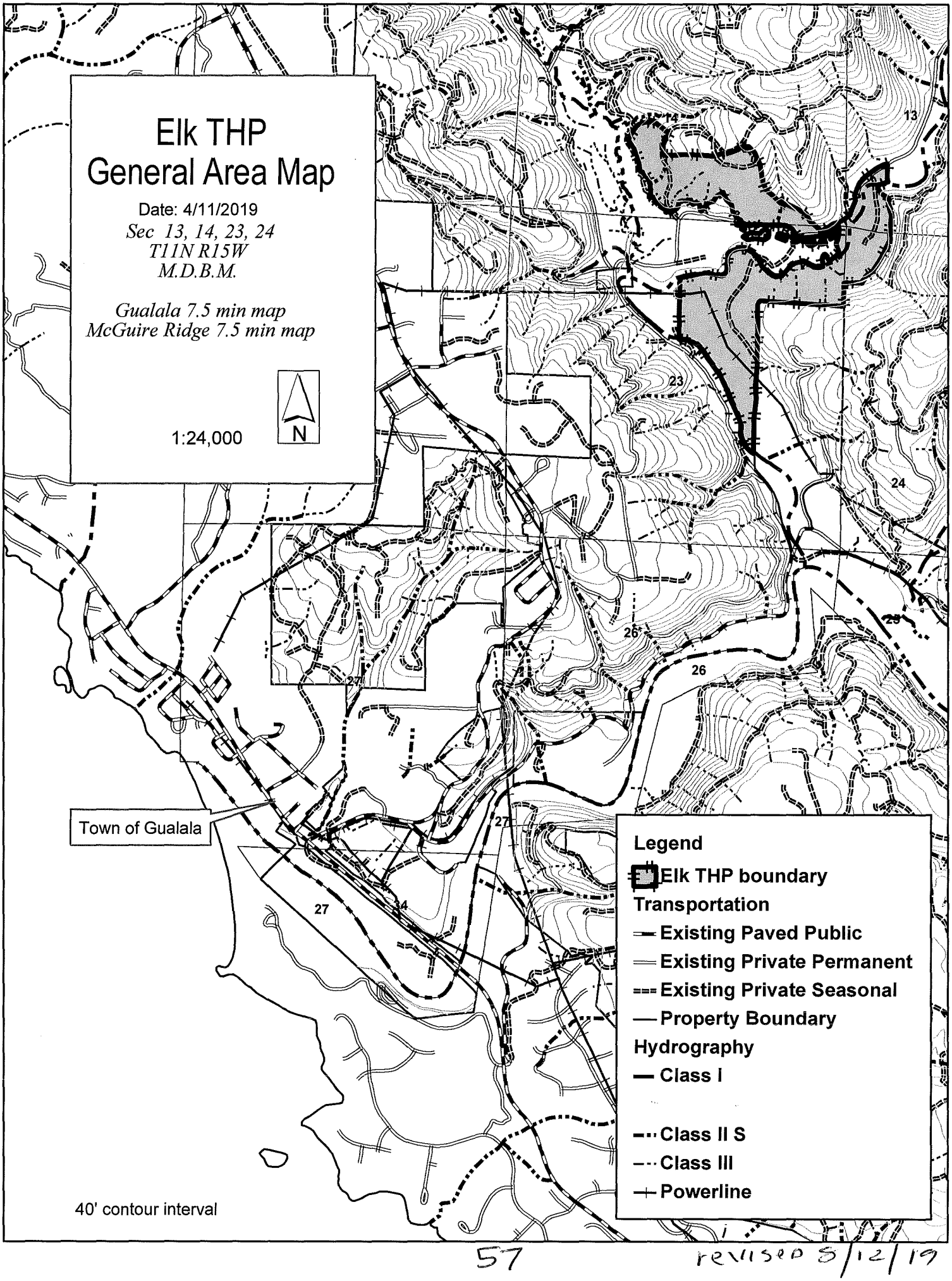
By: _____

(Signature) (Date)

_____

(Printed Name) (Title)

Section II
Maps



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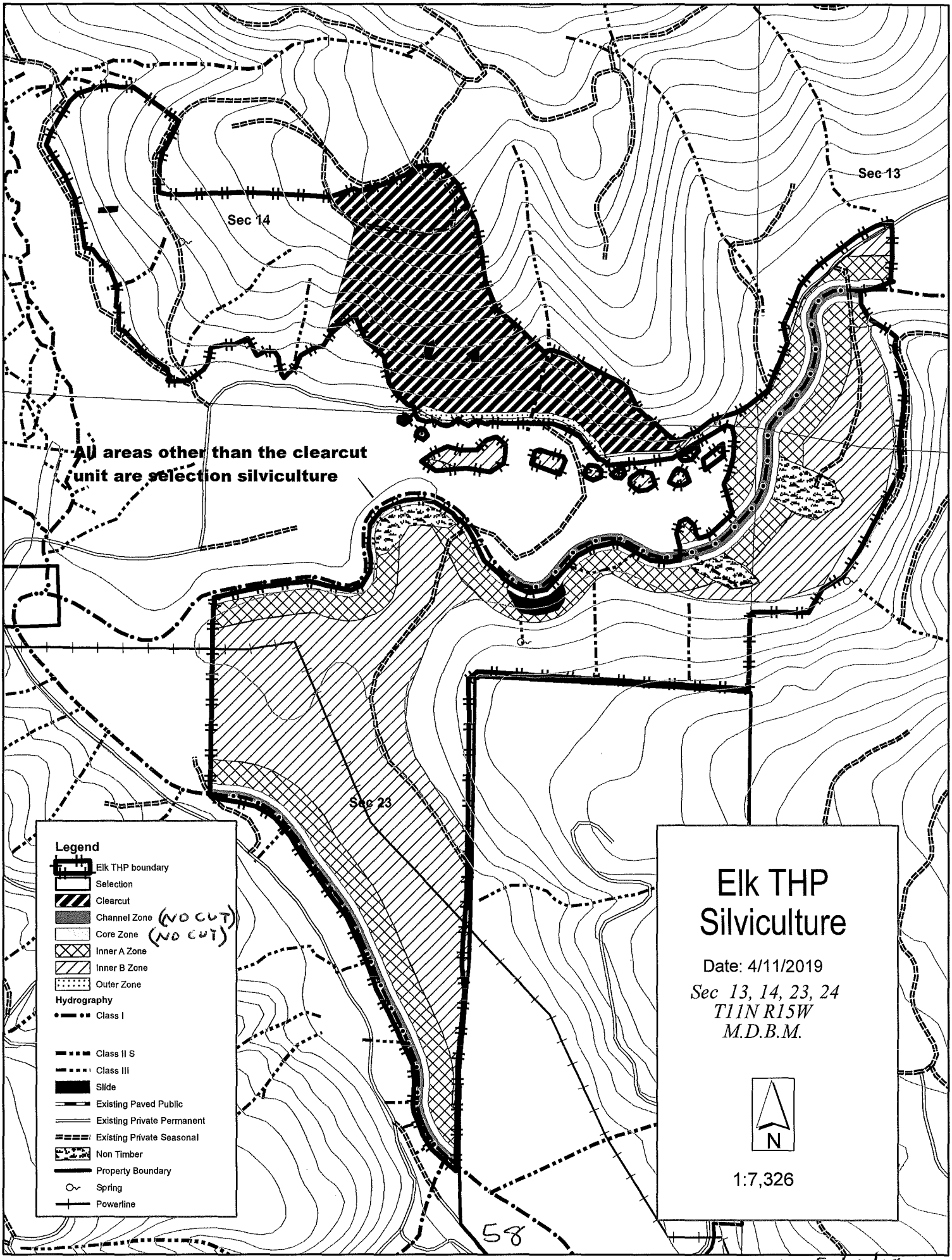
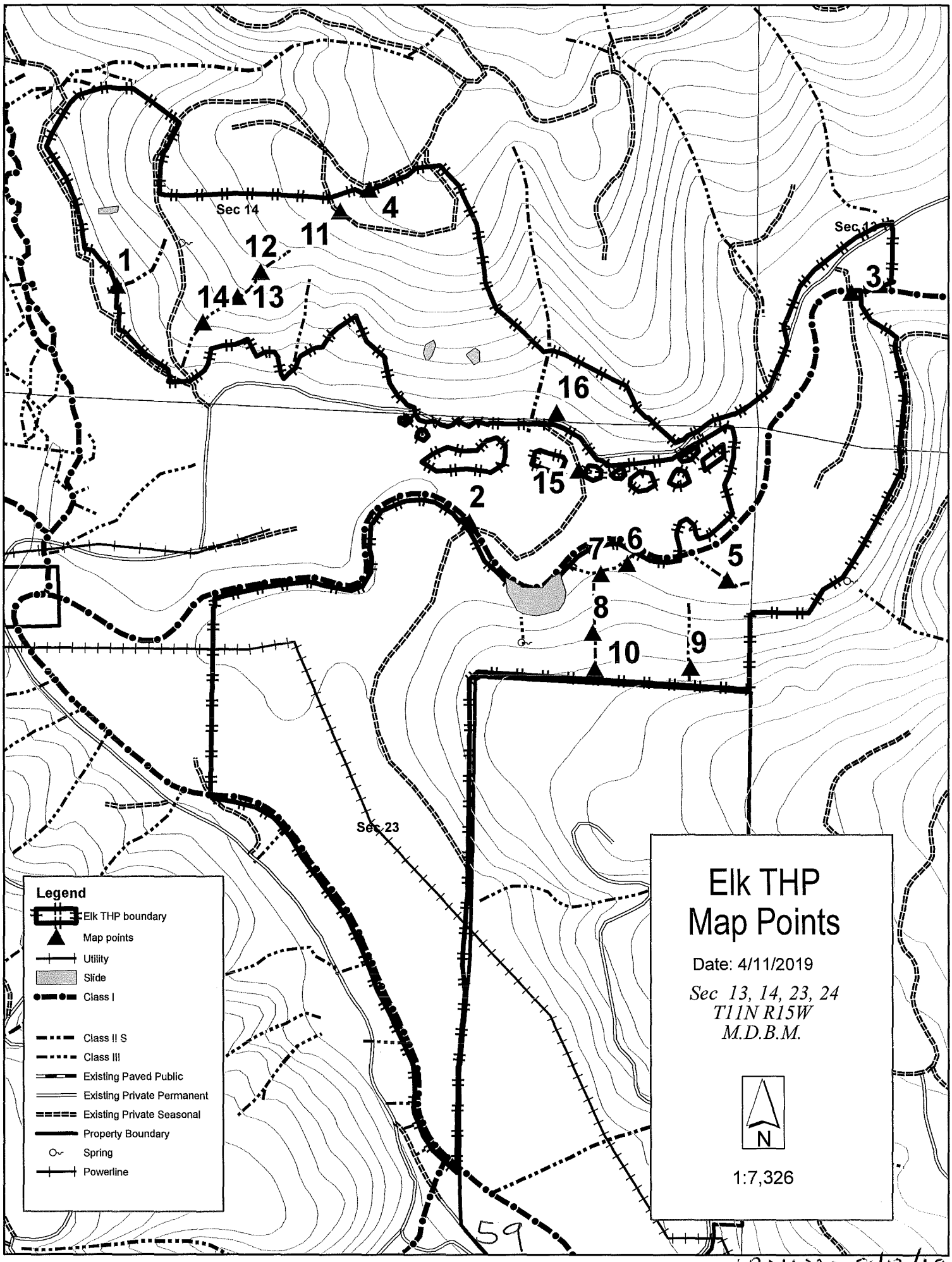

Sec 13
Sec 14
All areas other than the clearcut unit are selection silviculture
Sec 23
Legend
Elk THP boundary
Selection
Clearcut
Channel Zone (NO CUT)
Core Zone (NO CUT)
Inner A Zone
Inner B Zone
Outer Zone
Hydrography
Class I
Class II S
Class III
Slide
Existing Paved Public
Existing Private Permanent
Existing Private Seasonal
Non Timber
Property Boundary
Spring
Powerline
Elk THP Silviculture
Date: 4/11/2019
Sec 13, 14, 23, 24
T11N R15W
M.D.B.M.
N
1:7,326
58
revised 8/12/19


Sec 14
Sec 13
Sec 23
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16
Legend
Elk THP boundary
Map points
Utility
Slide
Class I
Class II S
Class III
Existing Paved Public
Existing Private Permanent
Existing Private Seasonal
Property Boundary
Spring
Powerline
Elk THP
Map Points
Date: 4/11/2019
Sec 13, 14, 23, 24
T11N R15W
M.D.B.M.
N
1:7,326
59
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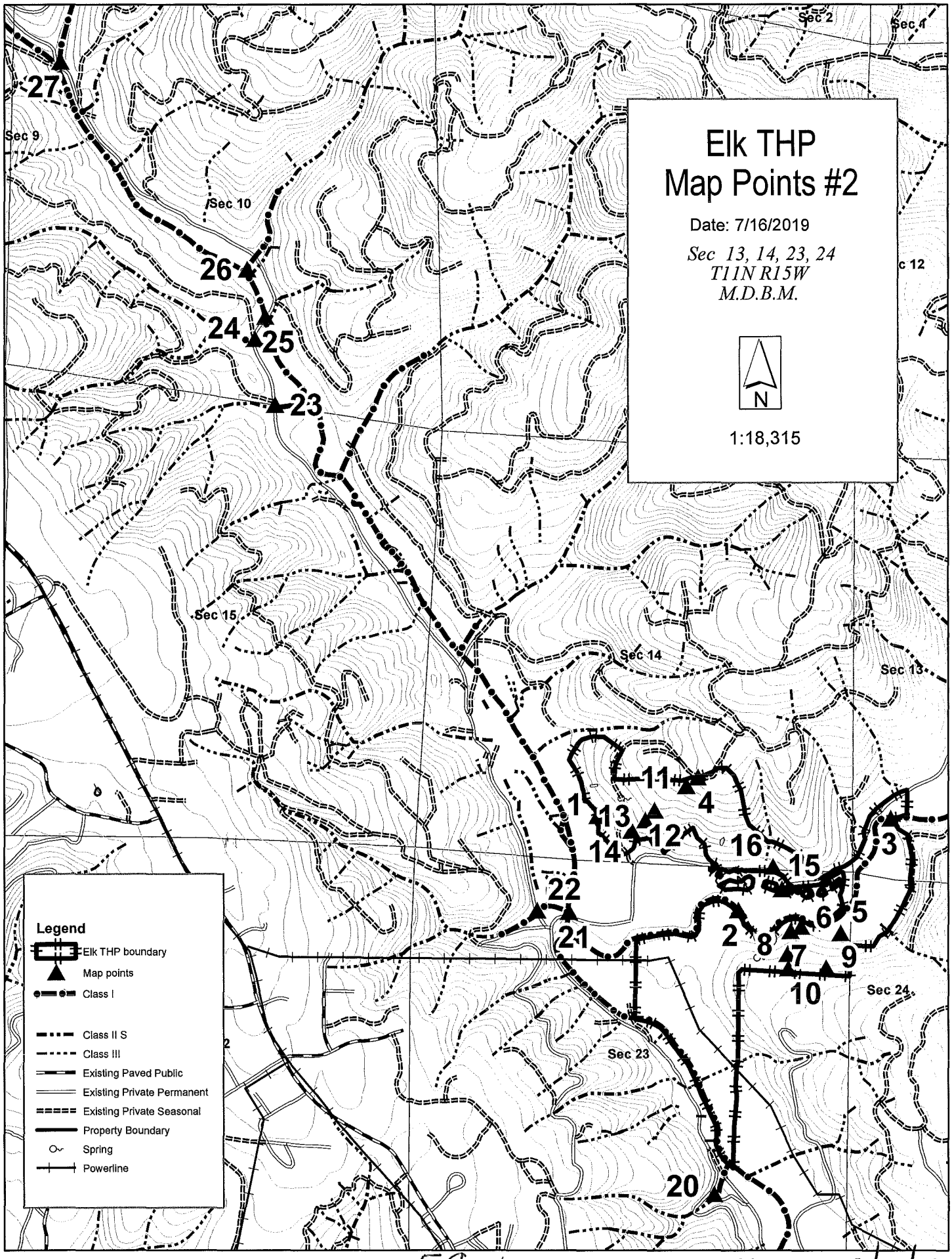

59.1

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THP Road Work

THP# 18-04 Elk

Road # 0

THP#	Milage St.	Milage End	ID# GIS#	ID# New	Problem	Solution	Repair Type	Culvert Dia.	Cr. Class	Priority	PSD FSD
13	0.000	0.000	6,691	6,691	Temp. Crossing	Temp. Crossing	THP Non-Road	-	III	Medium	0
Comments:	Skid trail crossing a class III. The following points are all going to have a similar description, 11. 12, 13 and 14. An old skid trail that ran down the ridge has channeled water and created erosion of the hillside. It is a swale at the top and I am calling it a class III lower down however it does not appear to comnnect to anything. In order try to fix the problem road point 4 at the the top of the ridge will stop water from entering at the top of the swale. Road point 11 is a road crossing this swale and 12, 13 and 14 are skid trails crossing the "class III" lower down. Instead of dipping out the crossings like normal it is proposed to place a very large waterbar at each crossing. This will disperse the water and should stop the erosion. Since it is running down a ridge it doesn't collect a lot of water so this should work and the "class III" will no longer be a class III.									
9	0.000	0.000	6,687	6,687	Temp. Crossing	Temp. Crossing	THP Non-Road	-	III	Medium	0
Comments:	Temporary skid trail crossing on class III. If water is present install temporary pipe adequate to handle flow. Pull at close of operations.										
10	0.000	0.000	6,688	6,688	Temp. Crossing	Temp. Crossing	THP Non-Road	-	III	Medium	0
Comments:	Temporary skid trail crossing on class III. If water is present install temporary pipe adequate to handle flow. Pull at close of operations.										
11	0.000	0.000	6,689	6,689	Temp. Crossing	Temp. Crossing	THP App. Rd.	-	Swale	Medium	0
Comments:	Road crossing a swale. The following points are all going to have a similar description, 11. 12, 13 and 14. An old skid trail that ran down the ridge has channeled water and created erosion of the hillside. It is a swale at the top and I am calling it a class III lower down however it does not appear to connect to another watercourse. In order try to fix the problem road point 4 at the the top of the ridge will stop water from entering at the top of the swale. Road point 11 is a road crossing this swale and 12, 13 and 14 are skid trails crossing the "class III" lower down. Instead of dipping out the crossings like normal it is proposed to place a large waterbar at each crossing. This will disperse the water and should stop the erosion. Since it is running down a ridge it doesn't collect a lot of water so this should work and the "class III" will no longer be a class III.									
12	0.000	0.000	6,690	6,690	Temp. Crossing	Temp. Crossing	THP Non-Road	-	III	Medium	0
Comments:	Skid trail crossing a class III. The following points are all going to have a similar description, 11. 12, 13 and 14. An old skid trail that ran down the ridge has channeled water and created erosion of the hillside. It is a swale at the top and I am calling it a class III lower down however it does not appear to comnnect to anything. In order try to fix the problem road point 4 at the the top of the ridge will stop water from entering at the top of the swale. Road point 11 is a road crossing this swale and 12, 13 and 14 are skid trails crossing the "class III" lower down. Instead of dipping out the crossings like normal it is proposed to place a very large waterbar at each crossing. This will disperse the water and should stop the erosion. Since it is running down a ridge it doesn't collect a lot of water so this should work and the "class III" will no longer be a class III.									
1	0.000	0.000	6,667	6,667	Temp. Crossing	Temp. Crossing	THP Non-Road	-	II	Medium	0
Comments:	Existing skid crossing on small class II. Install small pipe (4" by 20') if wet at time of operations. Pull at close.										
2	0.000	0.000	6,668	6,668	Temp. Crossing	Bridge - Temp	THP App. Rd.	-	I	Medium	0
Comments:	Temporary bridge crossing on North Fork Gualala. See 1600 agreement in section II for details of installation.										
3	0.000	0.000	6,669	6,669	Temp. Crossing	Bridge - Temp	THP App. Rd.	-	I	Medium	0
Comments:	Temporary bridge crossing on North Fork Gualala. See 1600 agreement in section II for details of installation.										
5	0.000	0.000	6,671	6,671	Temp. Crossing	Temp. Crossing	THP Non-Road	-	III	Medium	0
Comments:	Temporary skid trail crossing on class III. If water is present install temporary pipe adequate to handle flow. Pull at close of operations.										
8	0.000	0.000	6,686	6,686	Temp. Crossing	Temp. Crossing	THP Non-Road	-	III	Medium	0
Comments:	Temporary skid trail crossing on class III. If water is present install temporary pipe adequate to handle flow. Pull at close of operations.										
7	0.000	0.000	6,682	6,682	Temp. Crossing	Temp. Crossing	THP Non-Road	-	III	Medium	0
Comments:	Temporary skid trail crossing on class III. If water is present install temporary pipe adequate to handle flow. Pull at close of operations.										

14	0.000	0.000	6,692	6,692	Temp. Crossing	Temp. Crossing	THP Non-Road	-	III	Medium	0
Comments:	Skid trail crossing a class III. The following points are all going to have a similar description, 11. 12, 13 and 14. An old skid trail that ran down the ridge has channeled water and created erosion of the hillside. It is a swale at the top and I am calling it a class III lower down however it does not appear to comnnect to anything. In order try to fix the problem road point 4 at the the top of the ridge will stop water from entering at the top of the swale. Road point 11 is a road crossing this swale and 12, 13 and 14 are skid trails crossing the "class III" lower down. Instead of dipping out the crossings like normal it is proposed to place a very large waterbar at each crossing. This will disperse the water and should stop the erosion. Since it is running down a ridge it doesn't collect a lot of water so this should work and the "class III" will no longer be a class III.										
15	0.000	0.000	6,694	6,694	Surface Drainage	Dip Rolling	THP App. Rd.	-	Swale	Medium	0
Comments:	Dip out road to grade at this point.										
6	0.000	0.000	6,672	6,672	Temp. Crossing	Temp. Crossing	THP Non-Road	-	III	Medium	0
Comments:	Temporary skid trail crossing on class III. If water is present install temporary pipe adequate to handle flow. Pull at close of operations.										

Number of Sites = 14

Road # 60

THP#	Milage St.	Milage End	ID# GIS#	ID# New	Problem	Solution	Repair Type	Culvert Dia.	Cr. Class	Priority	PSD FSD
20	2.450	0.000	2,808	6,781	Bridge	No Action	THP App. Rd.	-	I	Medium	0
Comments:	12 ' by 30' bridge made of reinforced concrete on concrete abutments and rock armored. No work is necessary on this bridge. Inspected in 2019 by CGS on another THP pre-harvest.										
21	3.300	0.000	1,228	6,782	Bridge	No Action	THP App. Rd.	-	I	Medium	0
Comments:	11 ' by 60' Railcar bridge with wood decking on old growth redwood logs and rock armored. No work is necessary on this bridge. Inspected in 2019 by CGS on another THP pre-harvest.										
16	3.900	0.000	6,695	6,695	Other	Excavate Soil	THP App. Rd.	-	N/A	Medium	0
Comments:	A landing and skid trail at this point if used may end up blocking the inside ditch from soil or slash material during operations so dip out to grade at close of operations.										

Number of Sites = 3

Road # 60.4

THP#	Milage St.	Milage End	ID# GIS#	ID# New	Problem	Solution	Repair Type	Culvert Dia.	Cr. Class	Priority	PSD FSD
22	0.050	0.000	1,553	6,783	Bridge	No Action	THP App. Rd.	-	I	Medium	0
Comments:	12 ' by 30' Manufactured steel bridge on concrete abutments and rock armored. No work is necessary on this bridge. Inspected in 2019 by CGS on another THP pre-harvest.										
23	1.460	0.000	1,658	6,784	Bridge	No Action	THP App. Rd.	-	I	Medium	0
Comments:	12 ' by 30' Manufactured steel bridge on concrete abutments and rock armored. No work is necessary on this bridge. Inspected in 2019 by CGS on another THP pre-harvest.										
24	1.600	0.000	1,470	6,785	Bridge	No Action	THP App. Rd.	-	I	Medium	0
Comments:	12 ' by 30' Manufactured steel bridge on concrete abutments and rock armored. No work is necessary on this bridge. Inspected in 2019 by CGS on another THP pre-harvest.										

Number of Sites = 3

Road # 60.4072

THP#	Milage St.	Milage End	ID# GIS#	ID# New	Problem	Solution	Repair Type	Culvert Dia.	Cr. Class	Priority	PSD FSD
25	0.050	0.000	1,469	6,786	Bridge	No Action	THP App. Rd.	-	I	Medium	0
Comments:	10 ' by 50' Railcar with steel decking on concrete abutments and rock armored. No work is necessary on this bridge. Inspected in 2019 by CGS on another THP pre-harvest.										

Number of Sites = 1

Road # 60.45

THP#	Milage St.	Milage End	ID# GIS#	ID# New	Problem	Solution	Repair Type	Culvert Dia.	Cr. Class	Priority	PSD FSD

4	0.520	0.000	6,670	6,670	Surface Drainage	Dip Rolling	THP App. Rd.	-	N/A	Medium	0

Comments: Drainage has caused erosion to the south inside the unit. Remove drainage at this location and disperse drainage at other locations up and down road.

Number of Sites = 1

Road # 80.4

THP#	Milage St.	Milage End	ID# GIS#	ID# New	Problem	Solution	Repair Type	Culvert Dia.	Cr. Class	Priority	PSD FSD
26	0.000	0.000	1,467	6,787	Bridge	No Action	THP App. Rd.	-	I	Medium	0

Comments: 12 ' by 30' Manufactured steel bridge on concrete abutments and rock armored.
No work is necessary on this bridge. Inspected in 2019 by CGS on another THP pre-harvest.

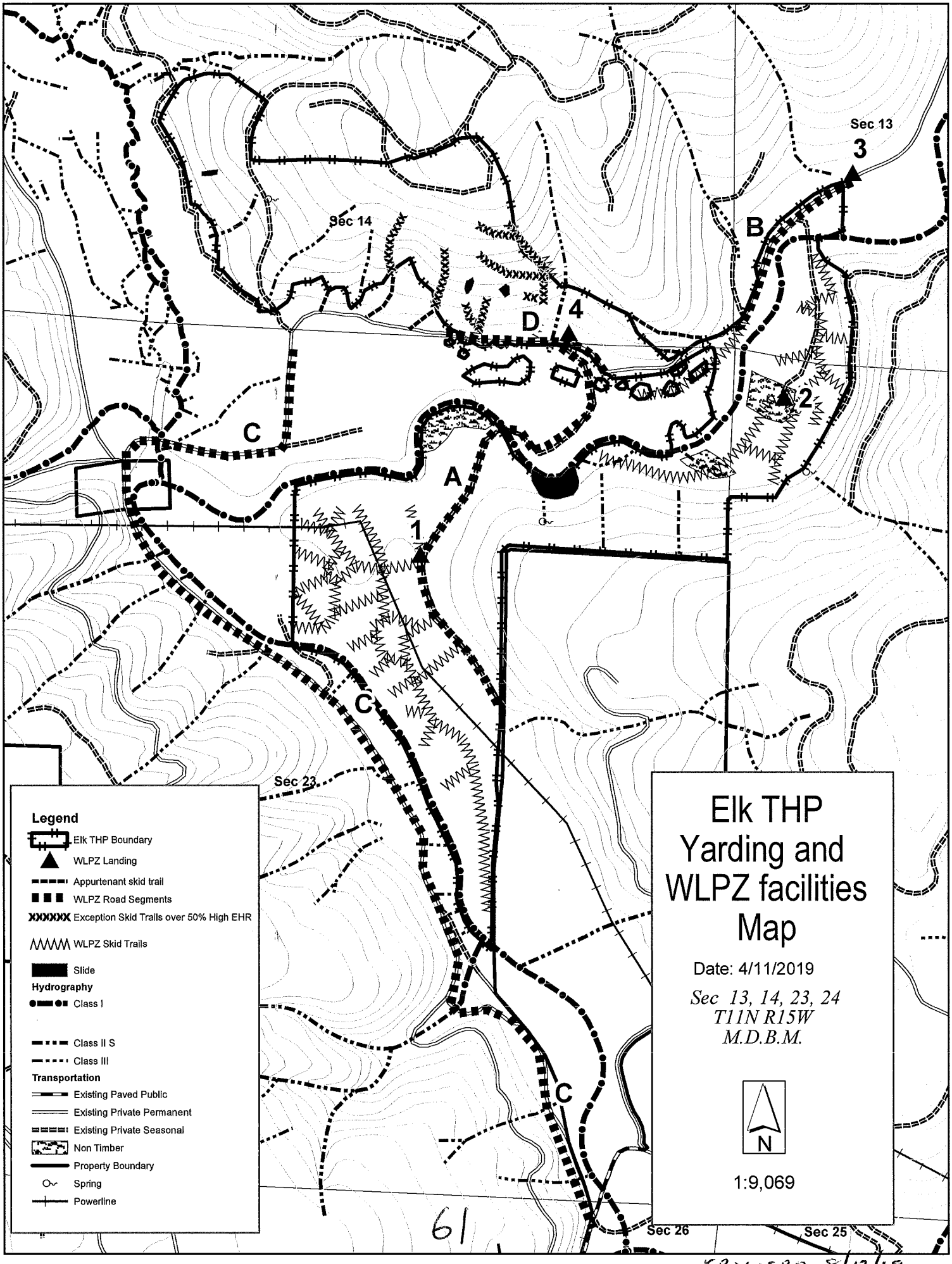
27	0.880	0.000	1,439	6,788	Bridge	No Action	THP App. Rd.	-	I	Medium	0

Comments: 10 ' by 50' Railcar with steel decking on concrete abutments and rock armored.
No work is necessary on this bridge. Inspected in 2019 by CGS on another THP pre-harvest.

Number of Sites = 2

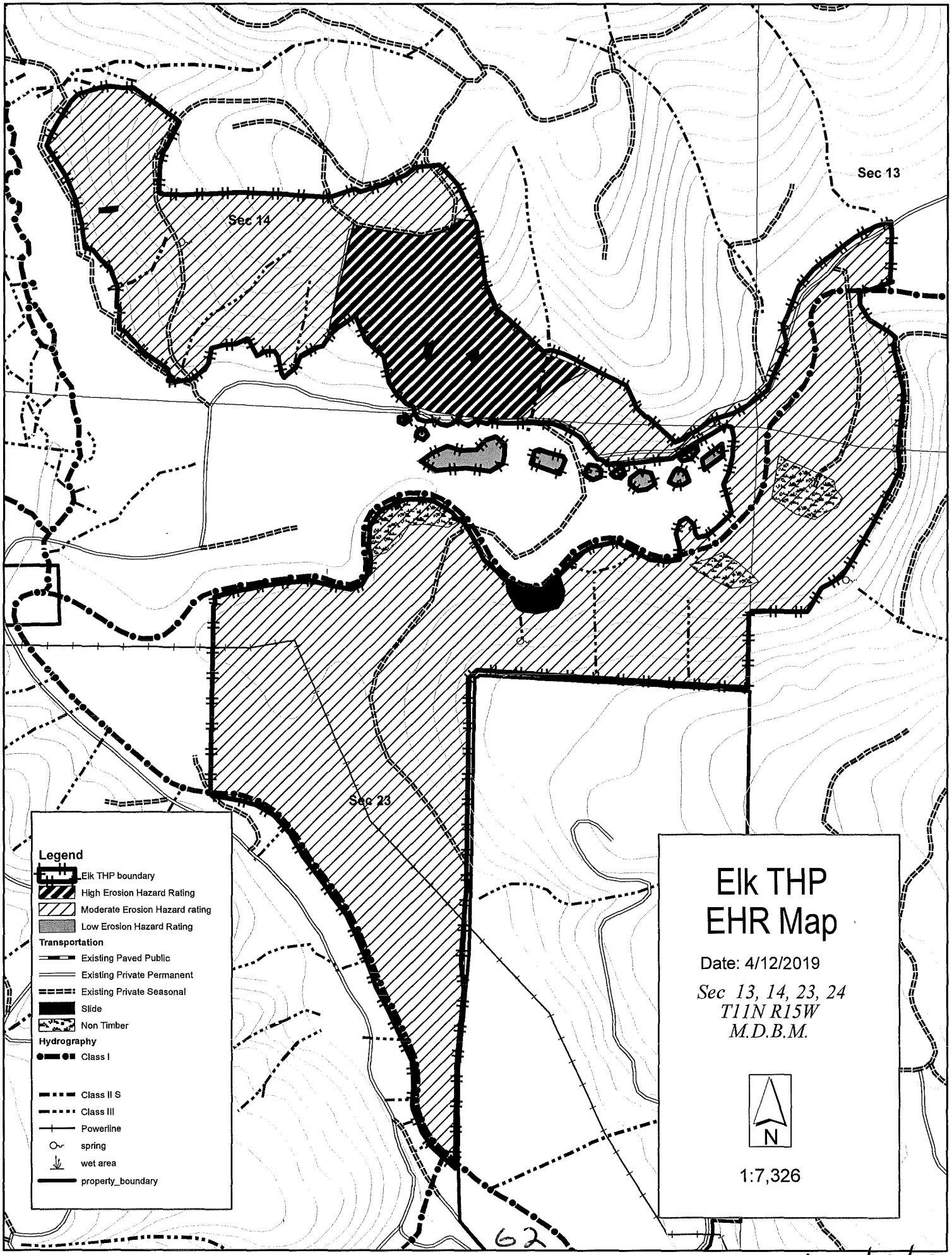
THP Road Work

- Road – This is a unique road ID number for each road segment on the property.
- Map# - This is the working number created by the inspector in the field. It is often found on field flagging.
- Mileage – Each numbered road has mileage ticks from 0 to the end of the road.
  a. St. – "Start" mileage is the distance of the site out the road.
  b. End – If the site is along a length of road, like upgrading, there is a "start" and "end" mileage.
- ID# - Each "new" road site visit has a unique ID number. It is generated when the record is entered into the database. Each existing site in the field (like a culvert) has a unique "old" number, usually the first visit ID#. It appears on the map. A new visit to an existing site will reference the "old" number. You can look up the history of visits to a particular site.
- Problem – The type of problem.
- Solution – The type of solution.
- Repair type – Why the work was done.
- Priority – Implementation Priority
  - THP Low – Mitigation applied prior to THP completion.
  - THP Med – Mitigation applied concurrent with operations affecting site.
  - THP High – Mitigations applied in the first year after THP approval or as described in the plan.
  - PSD FSD – Potential sediment delivery (Cal Fire) Future sediment delivery (WQ) - This is the yards of soil that will be prevented from being delivered into the watercourses if the project is completed.

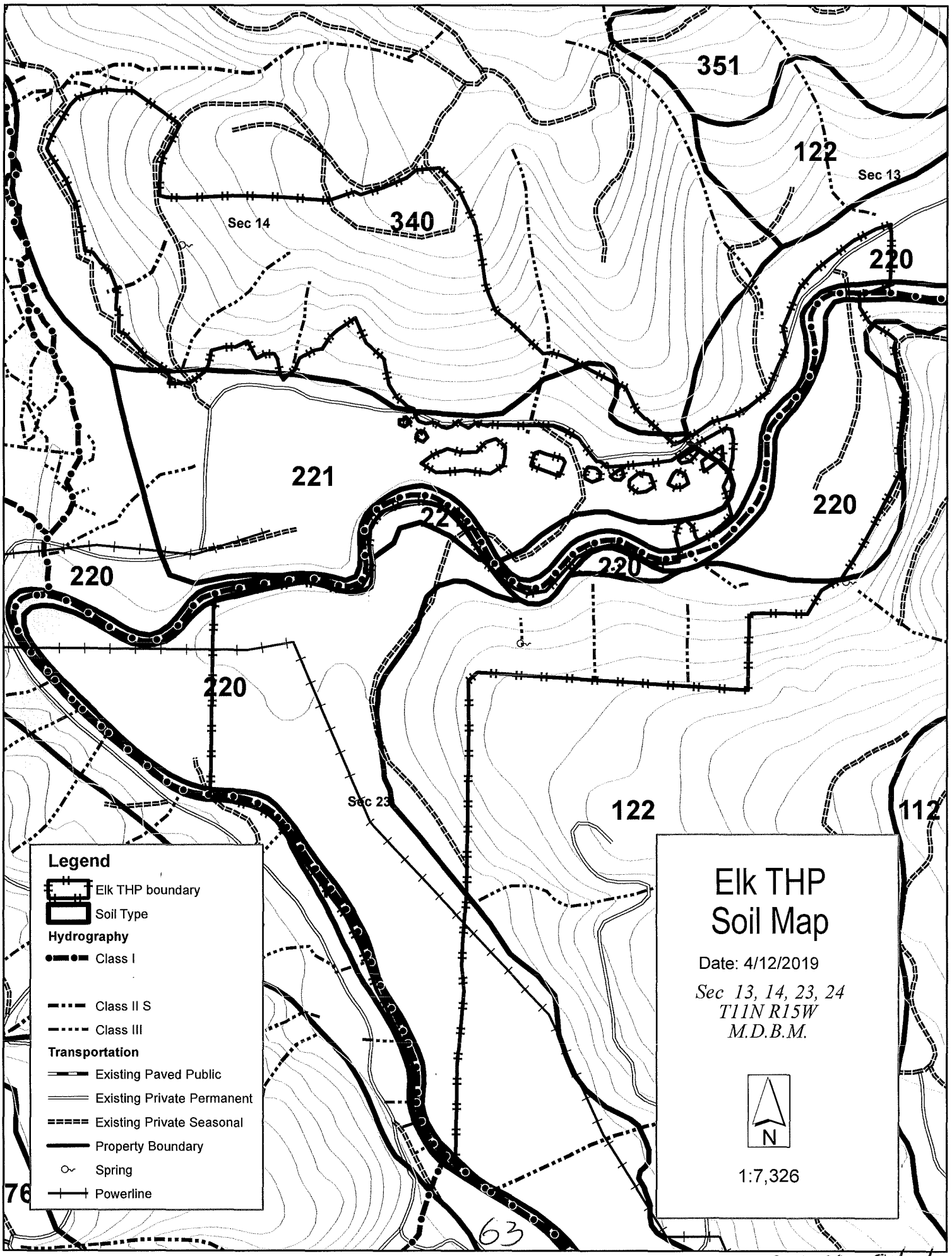


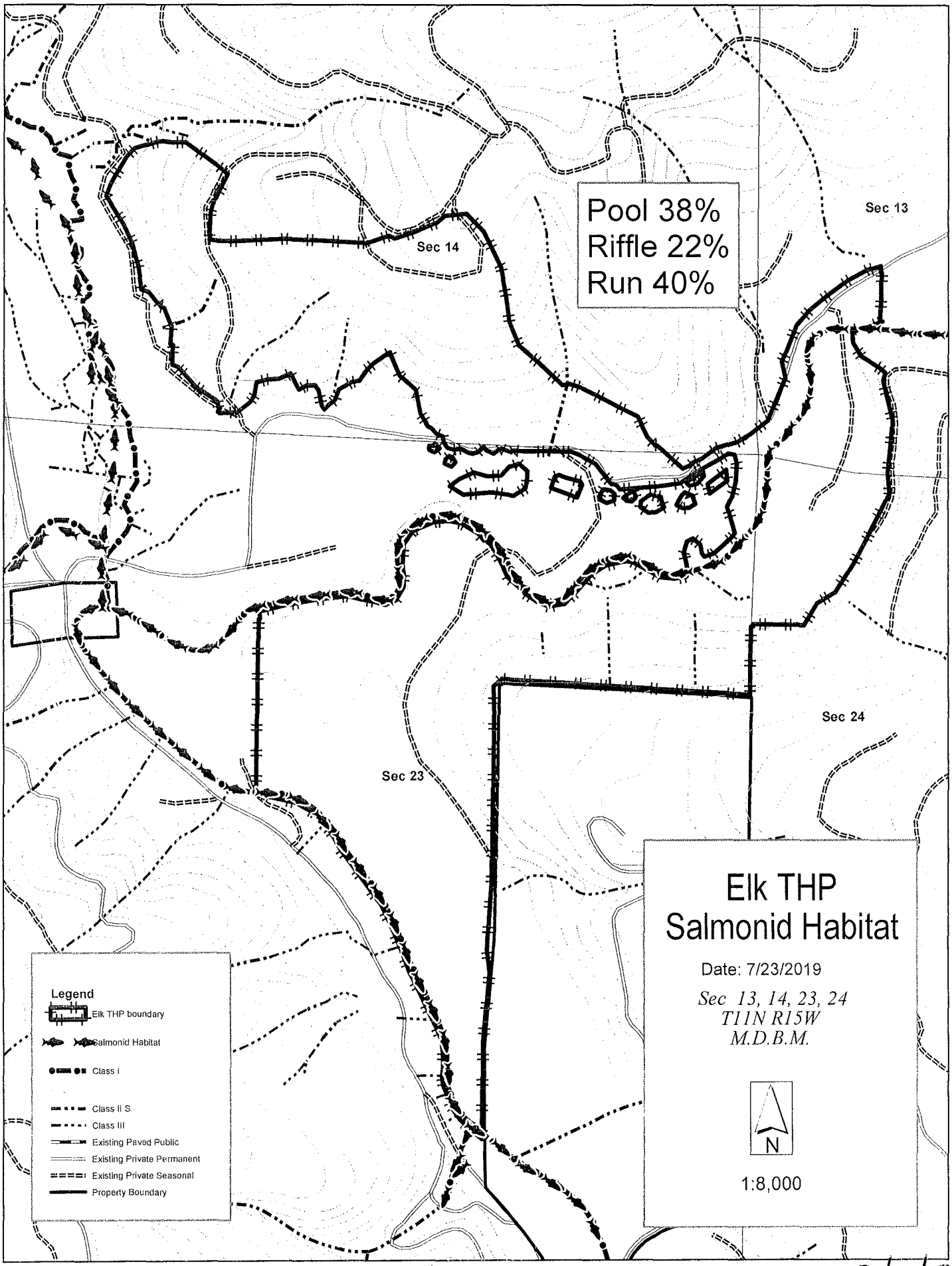
61

revised 8/12/19

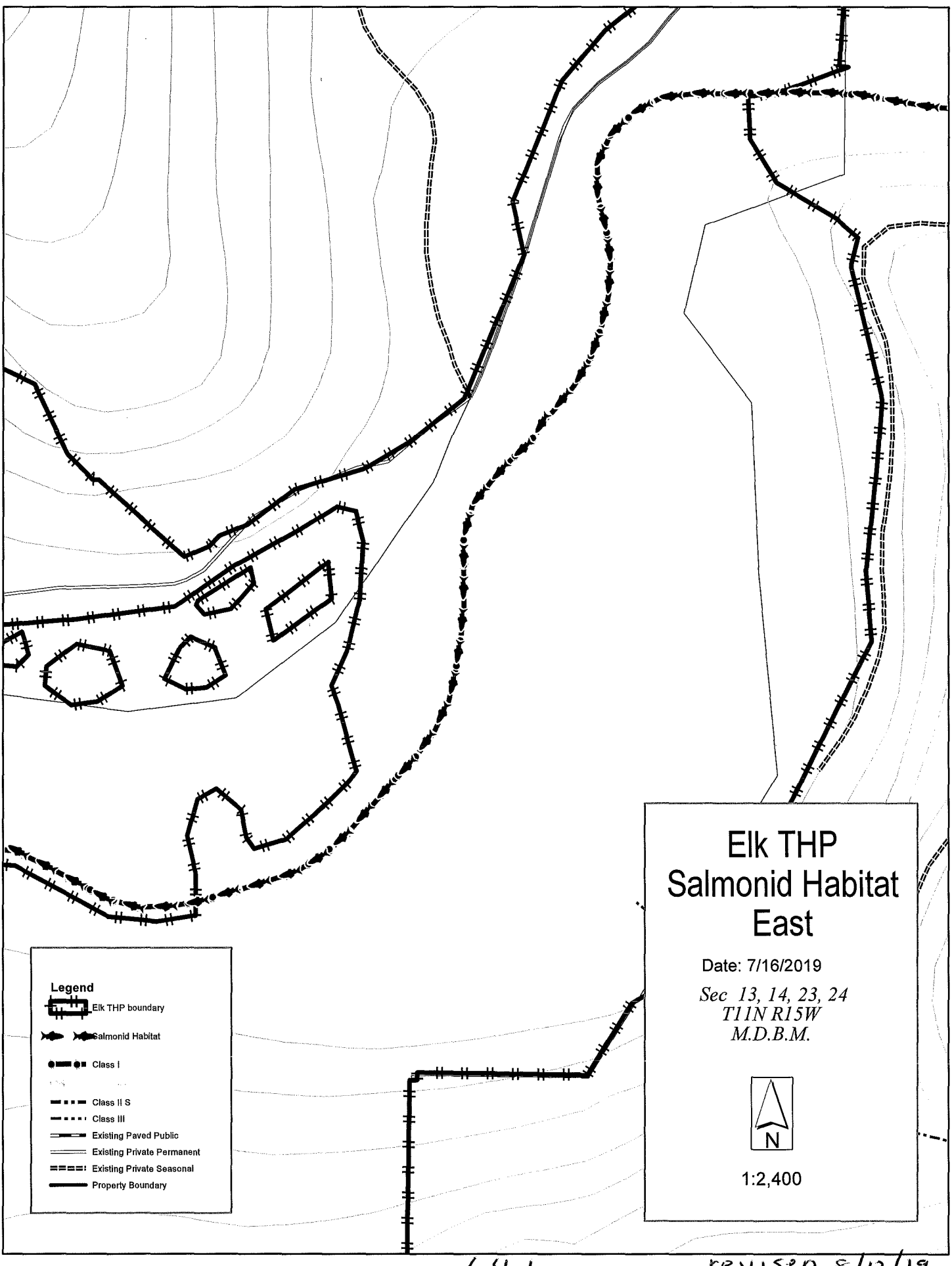


revised 5/12/19


351
122
Sec 13
Sec 14
340
220
221
220
220
220
220
Sec 23
122
112
Legend
Elk THP boundary
Soil Type
Hydrography
Class I
Class II S
Class III
Transportation
Existing Paved Public
Existing Private Permanent
Existing Private Seasonal
Property Boundary
Spring
Powerline
Elk THP
Soil Map
Date: 4/12/2019
Sec 13, 14, 23, 24
T11N R15W
M.D.B.M.
N
1:7,326
63
revised 8/12/19



revised 8/12/19



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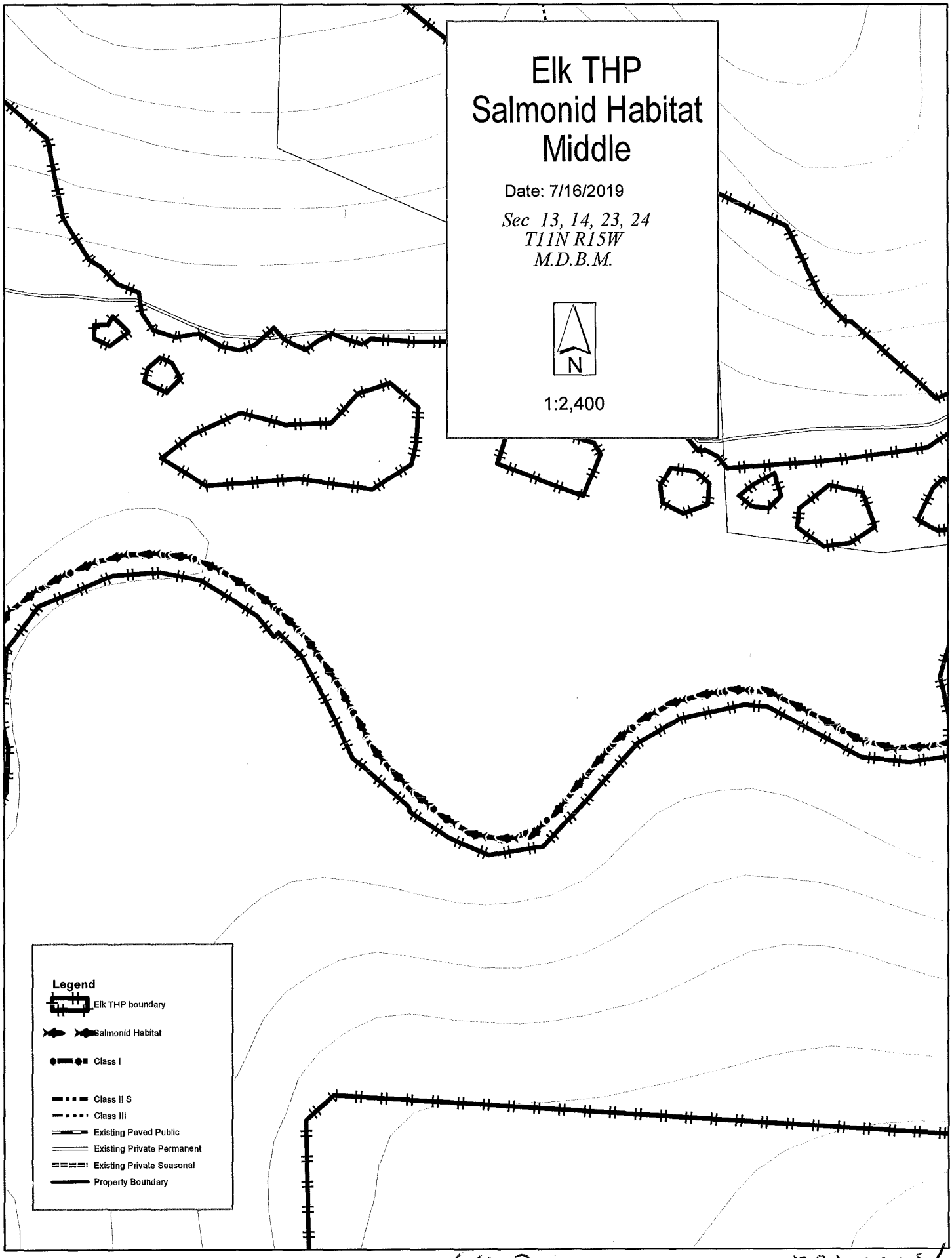
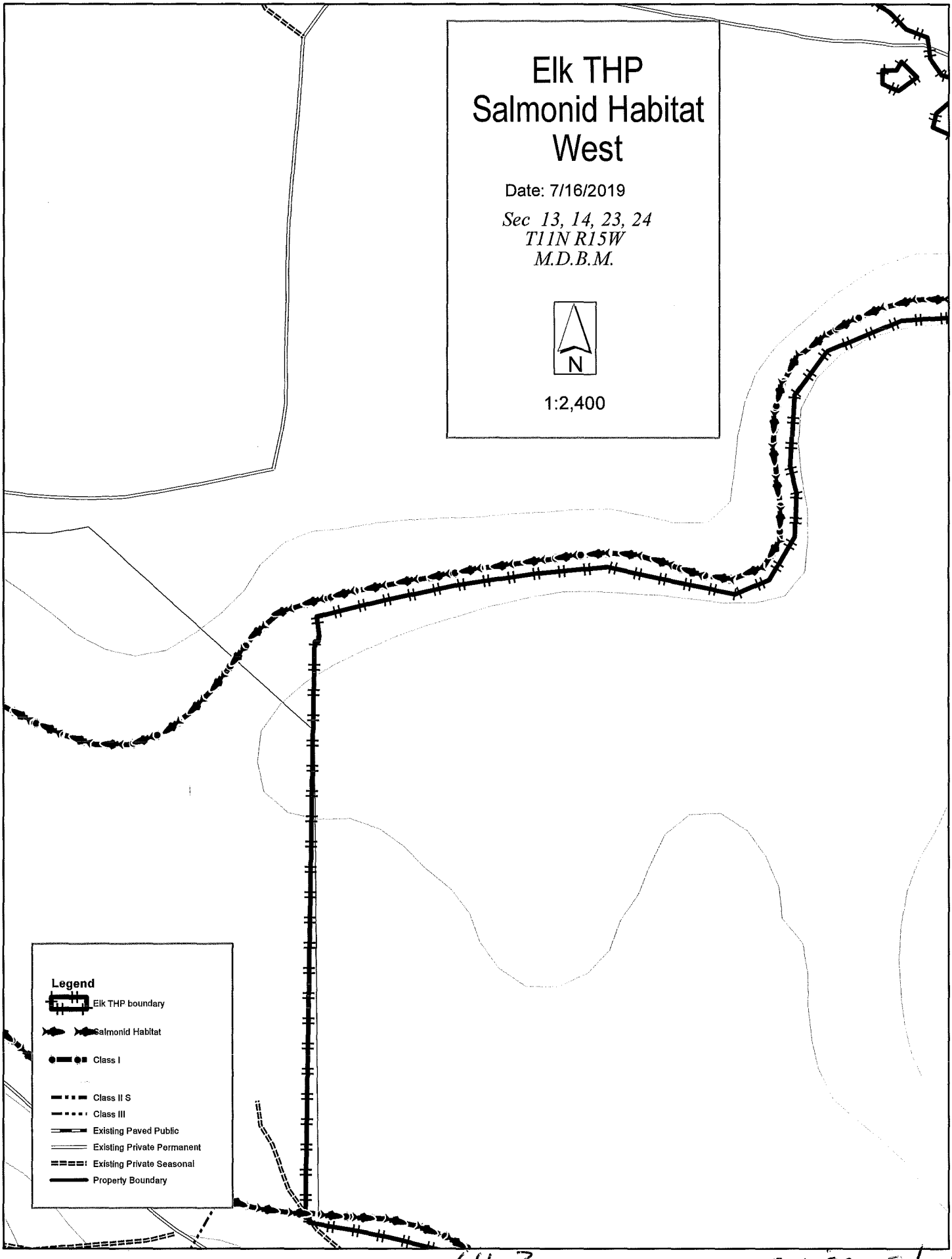
revised 8/12/19



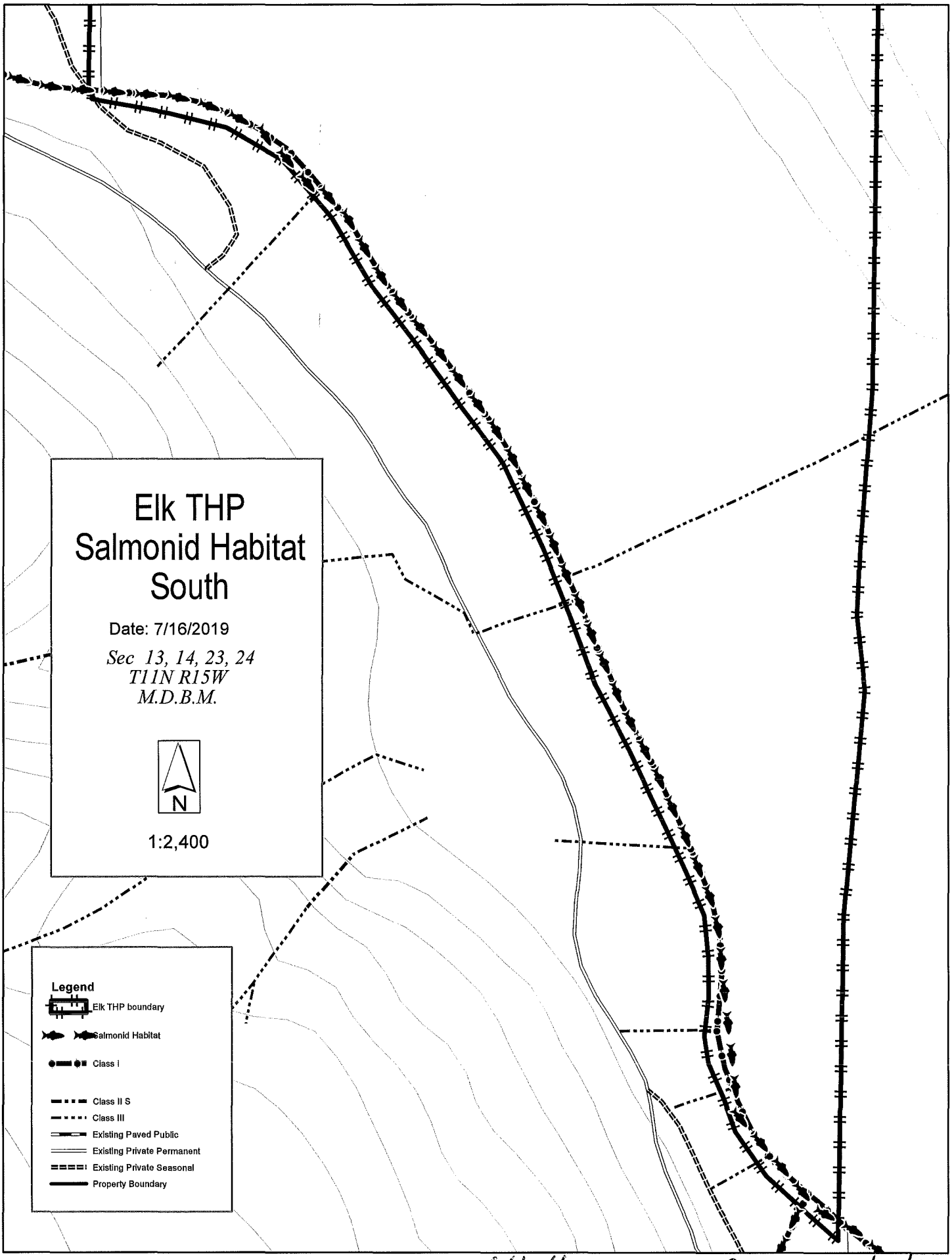
6 of 2

revised 8/12/19



64.3

revised 8/12/19



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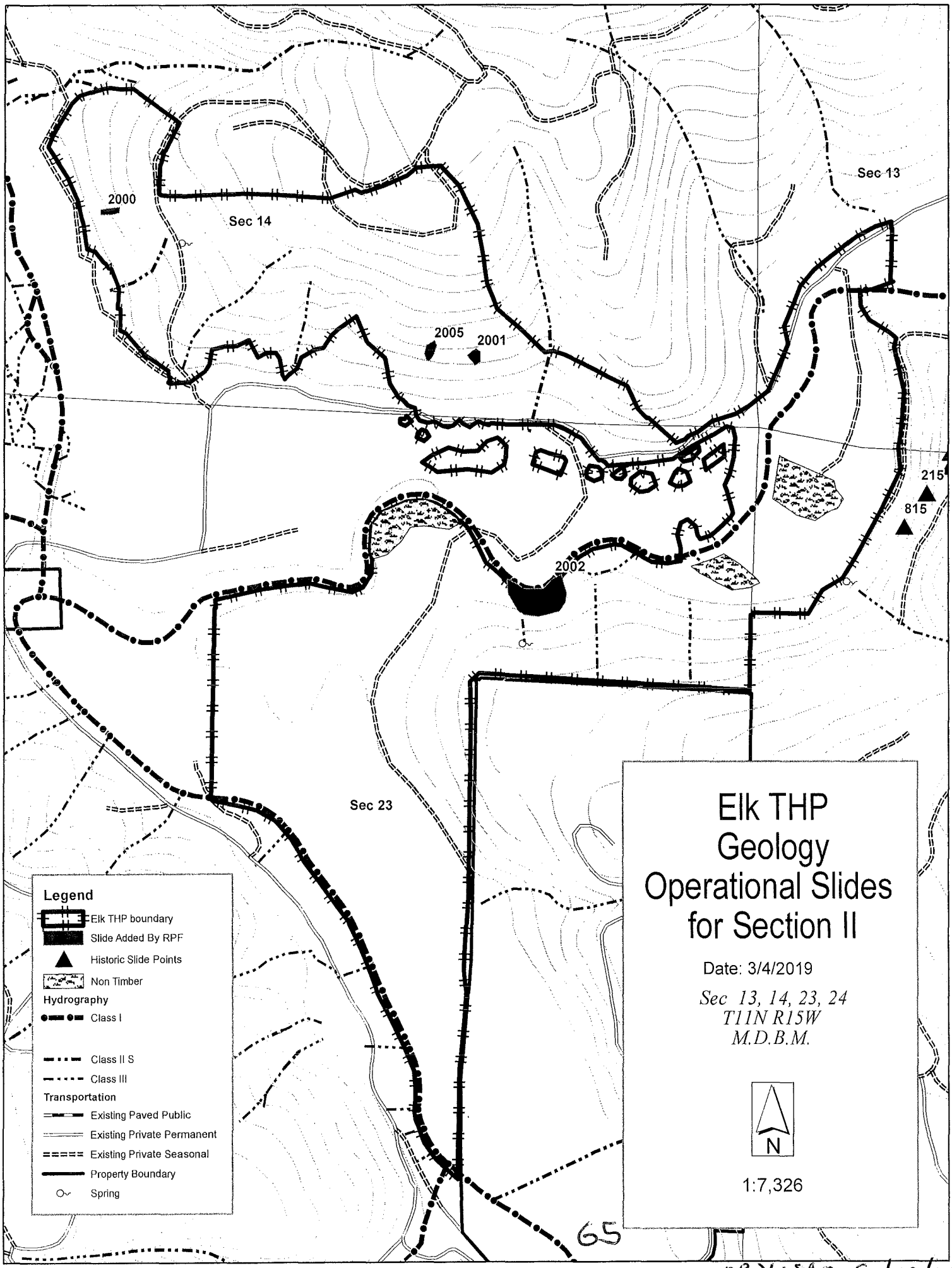
revised 8/12/19



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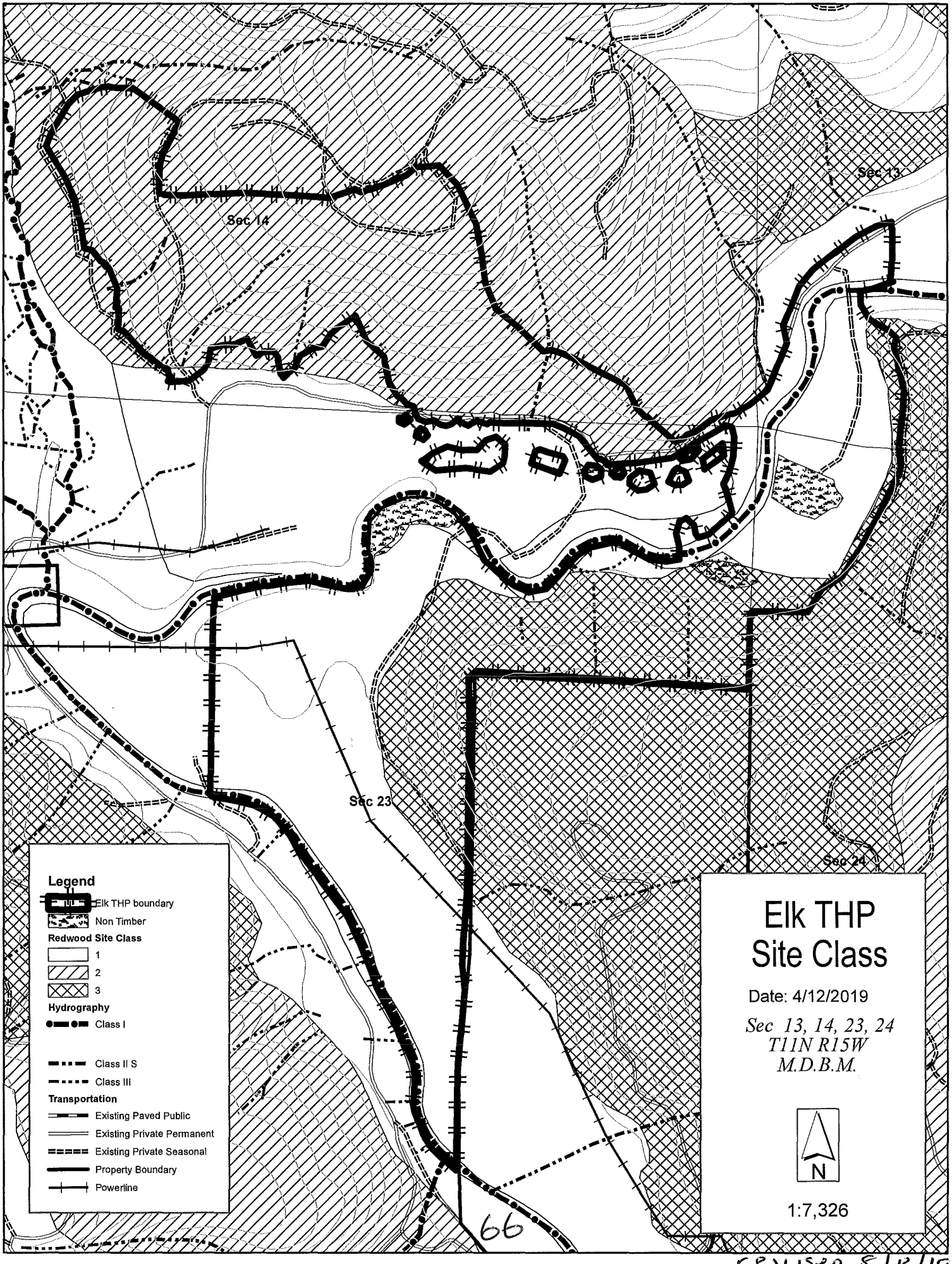


REVISED 8/12/19

MEN0179
SEASONAL AND PERMANENT NSO RESTRICTIONS

APRIL 23, 2019

PERMANENT RESTRICTIONS:
No harvesting within 500 feet of NSO without amendment.
Maintain nest/roost habitat between 500-1,000 ft.

SEASONAL RESTRICTIONS:
Seasonal restrictions apply within 0.25 miles of active NSO. No timber operations (except use of permanent roads) until after July 31.
(See USFWS Attachment A, 2011)

Legend

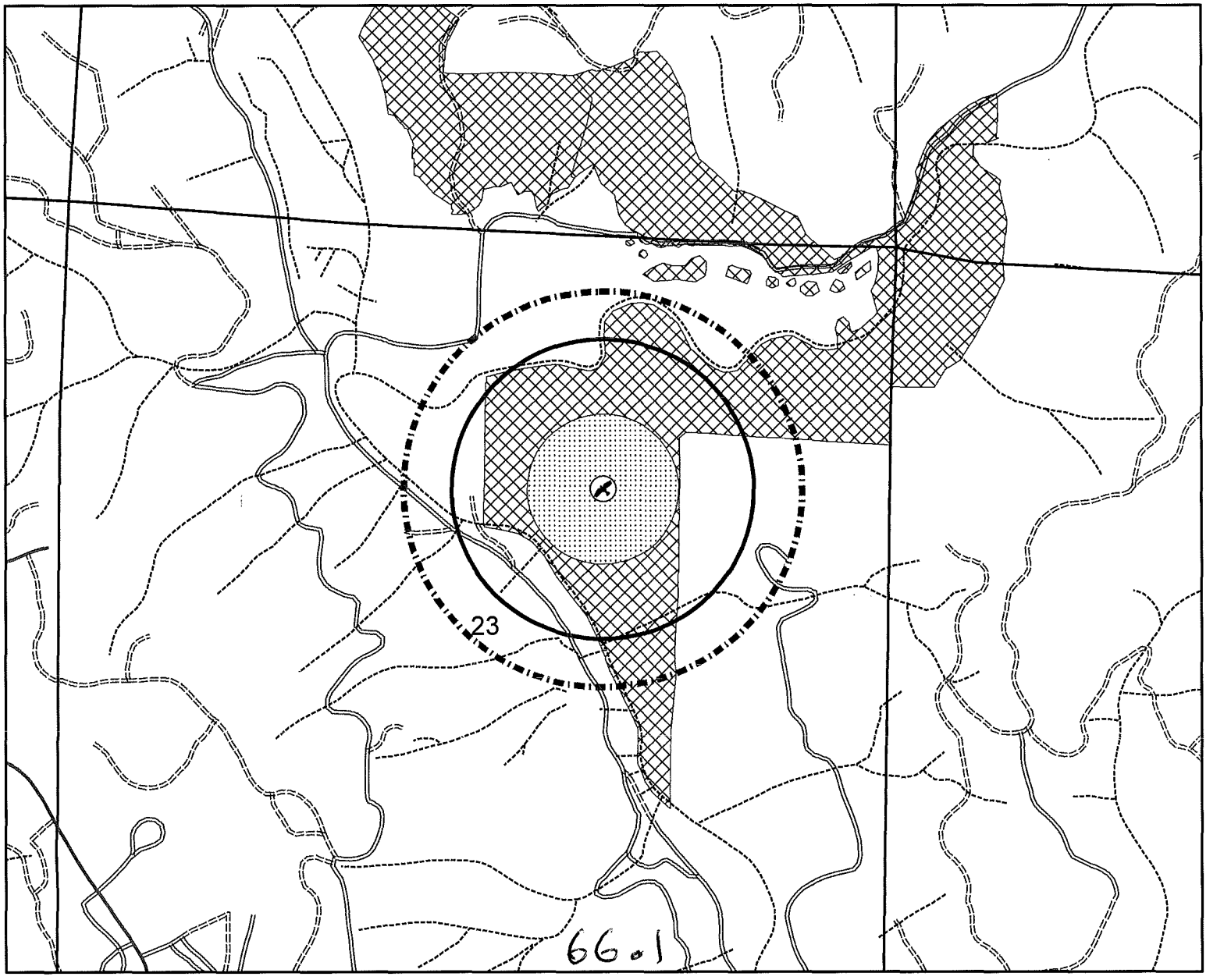
- MEN0179 LOCATION

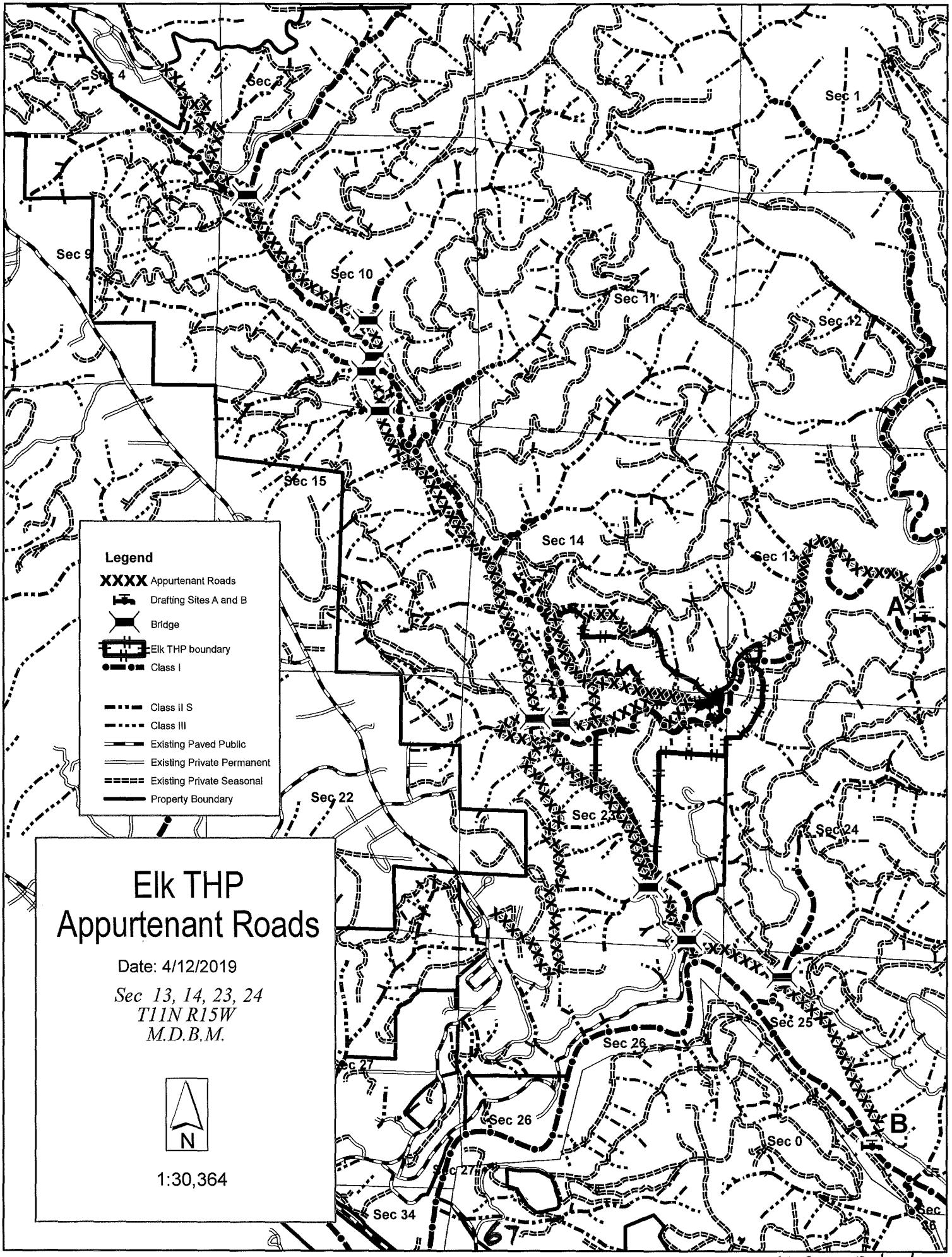
ROADS

Road Class

- Paved Public
- Unpaved Public
- Private Permanent
- Private Seasonal
- WATERCOURSES
- 500 FOOT BUFFER
- 1,000 FOOT BUFFER
- 0.25 MILE BUFFER
- Elk THP Boundary

1 in = 1,000 ft

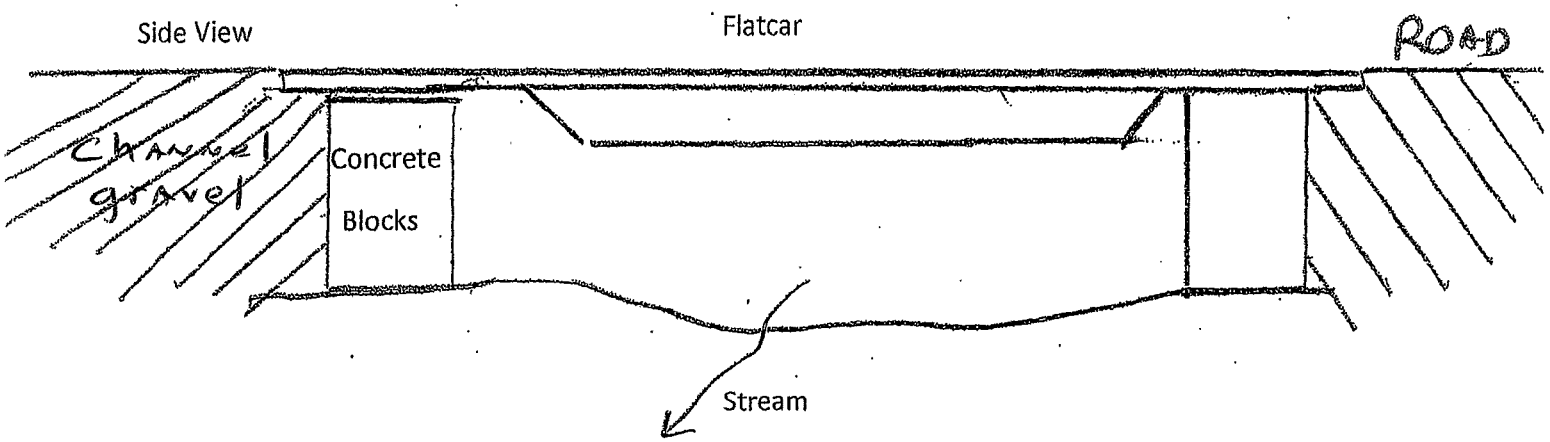


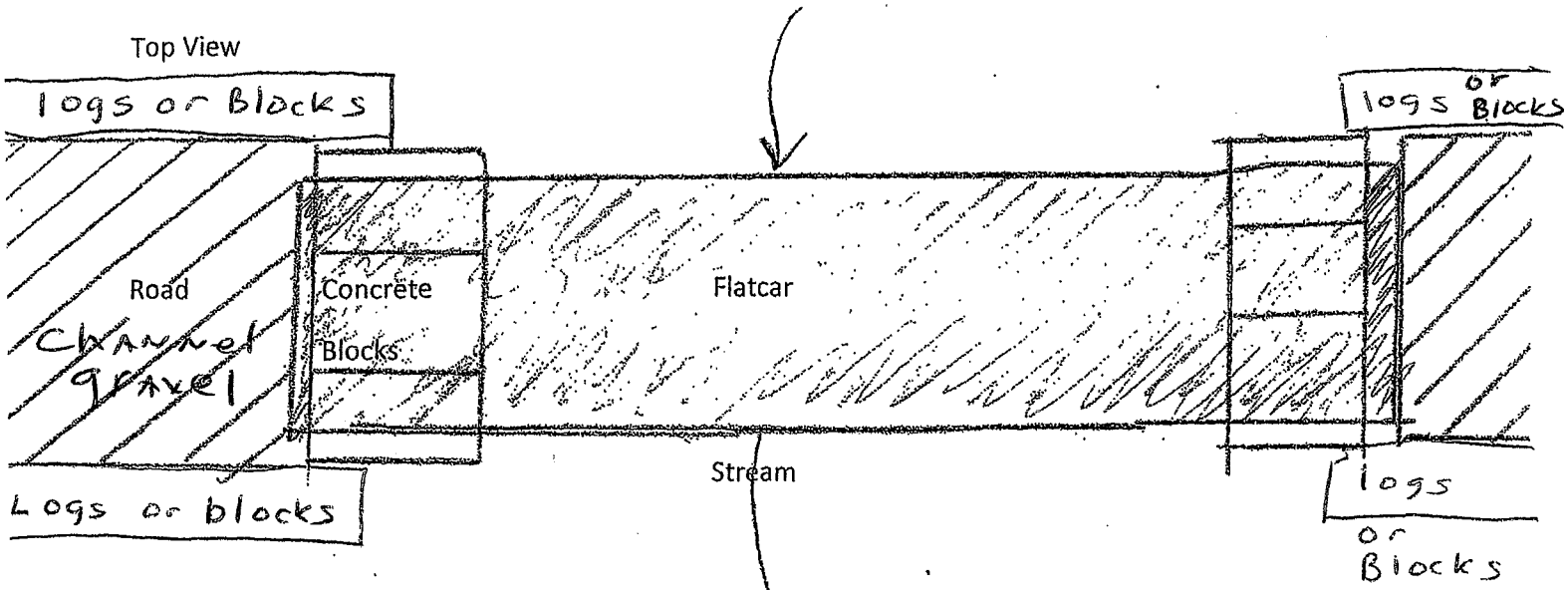


revised 5/12/15

Temporary Bridge Installation

Flat Car for points #2 and #3 (May use half pipe if wetted portion of channel is narrow enough)





Section II
CDFW 1600 Agreement

FOR DEPARTMENT USE ONLY				
Date Received	*Amount Received*	*Amount Due*	*Date Complete*	*Notification No.*
	$	$		

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Complete EACH field, unless otherwise indicated, following the enclosed instructions and submit ALL required enclosures. Attach additional pages, if necessary.

1. APPLICANT PROPOSING PROJECT

Name	Art Haschak		
Business/Agency	Gualala Redwood Timber LLC.		
Street Address	387 Pacific Blvd.		
City, State, Zip	Arcata, CA 95521		
Telephone	(707) 354-4057	Fax	(707) 884-1942
Email	arthaschak@gmail..com		

2. CONTACT PERSON (*Complete only if different from applicant*)

Name	John Bennett		
Street Address	P.O. Box 197		
City, State, Zip	Gualala, CA 95445		
Telephone	(707) 884-9464	Fax	(707) 884-1942
Email	jbennett@pacificstates.com		

3. PROPERTY OWNER (*Complete only if different from applicant*)

Name	Gualala Redwood Timber LLC		
Street Address	P.O. Box 197		
City, State, Zip	Gualala, CA 95445		
Telephone	(707) 884-4226	Fax	(707) 884-1942
Email			

4. PROJECT NAME AND AGREEMENT TERM

A. Project Name	Elk THP			
B. Agreement Term Requested	☑ Regular (*5 years or less*) ☐ Long-term (*greater than 5 years*)			
C. Project Term		D. Seasonal Work Period		E. Number of Work Days
Beginning (*year*)	Ending (*year*)	Start Date (*month/day*)	End Date (*month/day*)	
2019	2024	04/01	11/15	4.00

5. AGREEMENT TYPE

Check the applicable box. If box B, C, D, or E is checked, complete the specified attachment.		
A.	☐ Standard *(Most construction projects, excluding the categories listed below)*	
B.	☐ Gravel/Sand/Rock Extraction (*Attachment A*)	*Mine I.D. Number:* _____
C.	☑ Timber Harvesting (*Attachment B*)	THP *Number:* no number at this time
D.	☐ Water Diversion/Extraction/Impoundment (*Attachment C*)	*SWRCB Number:* _____
E.	☐ Routine Maintenance (*Attachment D*)	
F.	☐ DFG Fisheries Restoration Grant Program (FRGP)	*FRGP Contract Number:* _____
G.	☐ Master	
H.	☐ Master Timber Harvesting	

6. FEES

Please see the current fee schedule to determine the appropriate notification fee. Itemize each project's estimated cost and corresponding fee. ***Note: The Department may not process this notification until the correct fee has been received.***

	A. Project	B. Project Cost	C. Project Fee
1	THP no fee		
2			
3			
4			
5			
		D. Base Fee *(if applicable)*	
		E. TOTAL FEE ENCLOSED	

7. PRIOR NOTIFICATION OR ORDER

A. Has a notification previously been submitted to, or a Lake or Streambed Alteration Agreement previously been issued by, the Department for the project described in this notification?

☑ Yes (*Provide the information below*) ☐ No

Applicant: Gualala Redwood Timber LLC Notification Number: 1600-2016-0424-R1 Date: 01/20/17

B. Is this notification being submitted in response to an order, notice, or other directive ("order") by a court or administrative agency (including the Department)?

☑ No ☐ Yes (*Enclose a copy of the order, notice, or other directive. If the directive is not in writing, identify the person who directed the applicant to submit this notification and the agency he or she represents, and describe the circumstances relating to the order.*)

☐ *Continued on additional page(s)*

8. PROJECT LOCATION

A. Address or description of project location.

(Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway)

See attachment B

☐ *Continued on additional page(s)*

B. River, stream, or lake affected by the project.	North Fork of the Gualala River, unnamed class II
C. What water body is the river, stream, or lake tributary to?	The Gualala River
D. Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?	☐ Yes ☑ No ☐ Unknown
E. County	Mendocino

F. USGS 7.5 Minute Quad Map Name	G. Township	H. Range	I. Section	J. ¼ Section
McGuire Ridge and Gualala	see attachment B			

☑ *Continued on additional page(s)*

K. Meridian (*check one*) ☐ Humboldt ☑ Mt. Diablo ☐ San Bernardino

L. Assessor's Parcel Number(s)

see attachment B

☑ *Continued on additional page(s)*

M. Coordinates (*If available, provide at least latitude/longitude or UTM coordinates and check appropriate boxes*)

Latitude/Longitude	*Latitude:* see attachment B	*Longitude:* see attachment B
	☑ Degrees/Minutes/Seconds ☐ Decimal Degrees ☐ Decimal Minutes	
UTM	*Easting:*	*Northing:* ☐ Zone 10 ☐ Zone 11
Datum used for Latitude/Longitude or UTM	☐ NAD 27	☑ NAD 83 or WGS 84

9. PROJECT CATEGORY AND WORK TYPE *(Check each box that applies)*

PROJECT CATEGORY	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR/MAINTAIN EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	☐	☐	☐
Bank stabilization – rip-rap/retaining wall/gabion	☐	☐	☐
Boat dock/pier	☐	☐	☐
Boat ramp	☐	☐	☐
Bridge	☑	☐	☐
Channel clearing/vegetation management	☐	☐	☐
Culvert	☑	☐	☐
Debris basin	☐	☐	☐
Dam	☐	☐	☐
Diversion structure – weir or pump intake	☐	☐	☐
Filling of wetland, river, stream, or lake	☐	☐	☐
Geotechnical survey	☐	☐	☐
Habitat enhancement – revegetation/mitigation	☐	☐	☐
Levee	☐	☐	☐
Low water crossing	☐	☐	☐
Road/trail	☐	☐	☐
Sediment removal – pond, stream, or marina	☐	☐	☐
Storm drain outfall structure	☐	☐	☐
Temporary stream crossing	☑	☐	☐
Utility crossing : Horizontal Directional Drilling	☐	☐	☐
Jack/bore	☐	☐	☐
Open trench	☐	☐	☐
Other *(specify)*:	☐	☐	☐

10. PROJECT DESCRIPTION

A. Describe the project in detail. Photographs of the project location and immediate surrounding area should be included.

- Include any structures (e.g., rip-rap, culverts, or channel clearing) that will be placed, built, or completed in or near the stream, river, or lake.
- Specify the type and volume of materials that will be used.
- If water will be diverted or drafted, specify the purpose or use.

Enclose diagrams, drawings, plans, and/or maps that provide all of the following: site specific construction details; the dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; an overview of the entire project area (i.e., "bird's-eye view") showing the location of each structure and/or activity, significant area features, and where the equipment/machinery will enter and exit the project area.

See attached pages for project description and impacts.

☑ *Continued on additional page(s)*

B. Specify the equipment and machinery that will be used to complete the project.

Cat, backhoe and/or excavator and dump truck

☐ *Continued on additional page(s)*

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).	☑ Yes ☐ No (*Skip to box 11*)
D. Will the proposed project require work in the wetted portion of the channel?	☑ Yes (*Enclose a plan to divert water around work site*) ☐ No

11. PROJECT IMPACTS

A. Describe impacts to the bed, channel, and bank of the river, stream, or lake, and the associated riparian habitat. Specify the dimensions of the modifications in length (linear feet) and area (square feet or acres) and the type and volume of material (cubic yards) that will be moved, displaced, or otherwise disturbed, if applicable.

See attached pages for project description and impacts.

☑ *Continued on additional page(s)*

B. Will the project affect any vegetation? ☑ Yes (*Complete the tables below*) ☐ No

Vegetation Type	Temporary Impact	Permanent Impact
small willows	Linear feet: 200 Total area: 4000 square feet	Linear feet: _____ Total area: _____
	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)
willows	75	one to three inches

☑ *Continued on additional page(s)*

C. Are any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site?

☑ Yes *(List each species and/or describe the habitat below)* ☐ No ☐ Unknown

Steelhead trout , Western Pond turtle (possible), Red Legged Frog (possible), Yellow Legged Frog (possible)

☐ *Continued on additional page(s)*

D. Identify the source(s) of information that supports a "yes" or "no" answer above in Box 11.C.

Elk THP biological evaluation for cumulative impacts.

☐ *Continued on additional page(s)*

E. Has a biological study been completed for the project site?

☑ Yes (*Enclose the biological study*) ☐ No

Note: A biological assessment or study may be required to evaluate potential project impacts on biological resources.

F. Has a hydrological study been completed for the project or project site?

☑ Yes (*Enclose the hydrological study*) ☐ No

Note: A hydrological study or other information on site hydraulics (e.g., flows, channel characteristics, and/or flood recurrence intervals) may be required to evaluate potential project impacts on hydrology.

12. MEASURES TO PROTECT FISH, WILDIFE, AND PLANT RESOURCES

A. Describe the techniques that will be used to prevent sediment from entering watercourses during and after construction.

Except for the temporary bridge installations the work will be done when no water is flowing or water will be piped around the work site during the work. Approaches (outside of the active channel zone) will be seeded and mulched at close of operations for 100 feet. The bridge or half pipe abutments will be using gravel from the channel itself.

If the wetted portion of the channel is narrow enough then a half pipe may be used instead of a bridge to span the channel. Concrete or log abutments may be used to contain the gravel approaches to the half pipe similar to the bridge diagram attached.

☐ *Continued on additional page(s)*

B. Describe project avoidance and/or minimization measures to protect fish, wildlife, and plant resources.

see attachment B for specifics

☐ *Continued on additional page(s)*

C. Describe any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

-see attachment B for specifics

☐ *Continued on additional page(s)*

13. PERMITS

List any local, state, and federal permits required for the project and check the corresponding box(es). Enclose a copy of each permit that has been issued.

A. Timber Harvest Plan - CALFIRE ☑ Applied ☐ Issued

B. _____ ☐ Applied ☐ Issued

C. _____ ☐ Applied ☐ Issued

D. Unknown whether ☐ local, ☐ state, or ☐ federal permit is needed for the project. (*Check each box that applies*)

☐ *Continued on additional page(s)*

14. ENVIRONMENTAL REVIEW

A. Has a draft or final document been prepared for the project pursuant to the California Environmental Quality Act (CEQA), National Environmental Protection Act (NEPA), California Endangered Species Act (CESA) and/or federal Endangered Species Act (ESA)?

☑ Yes (*Check the box for each CEQA, NEPA, CESA, and ESA document that has been prepared and enclose a copy of each*)

☐ No (*Check the box for each CEQA, NEPA, CESA, and ESA document listed below that will be or is being prepared*)

☐ Notice of Exemption	☐ Mitigated Negative Declaration	☐ NEPA document (*type*): _____
☐ Initial Study	☐ Environmental Impact Report	☐ CESA document (*type*): _____
☐ Negative Declaration	☐ Notice of Determination *(Enclose)*	☐ ESA document (*type*): _____
☑ THP/ NTMP	☐ Mitigation, Monitoring, Reporting Plan	

B. State Clearinghouse Number (*if applicable*)			
C. Has a CEQA lead agency been determined?	☑ Yes (*Complete boxes D, E, and F*)	☐ No (*Skip to box 14.G*)	
D. CEQA Lead Agency	CALFIRE		
E. Contact Person	Region One headquarters	F. Telephone Number	(707) 576-2959

G. If the project described in this notification is part of a larger project or plan, briefly describe that larger project or plan.

Elk Harvest Plan (no number at this time)

☐ *Continued on additional page(s)*

H. Has an environmental filing fee (Fish and Game Code section 711.4) been paid?

☐ Yes (*Enclose proof of payment*) ☑ No (*Briefly explain below the reason a filing fee has not been paid)*

No fee required for THP

Note: If a filing fee is required, the Department may not finalize a Lake or Streambed Alteration Agreement until the filing fee is paid.

15. SITE INSPECTION

Check one box only.

☐ In the event the Department determines that a site inspection is necessary, I hereby authorize a Department representative to enter the property where the project described in this notification will take place at any reasonable time, and hereby certify that I am authorized to grant the Department such entry.

☑ I request the Department to first contact (*insert name*) John Bennett at (*insert telephone number*) (707) 884-9464 to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay the Department's determination as to whether a Lake or Streambed Alteration Agreement is required and/or the Department's issuance of a draft agreement pursuant to this notification.

16. DIGITAL FORMAT

Is any of the information included as part of the notification available in digital format (i.e., CD, DVD, etc.)?

☐ Yes (Please enclose the information via digital media with the completed notification form)

☑ No

17. SIGNATURE

I hereby certify that to the best of my knowledge the information in this notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the applicant. I understand that if any information in this notification is found to be untrue or incorrect, the Department may suspend processing this notification or suspend or revoke any draft or final Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand also that if any information in this notification is found to be untrue or incorrect and the project described in this notification has already begun, I and/or the applicant may be subject to civil or criminal prosecution. I understand that this notification applies only to the project(s) described herein and that I and/or the applicant may be subject to civil or criminal prosecution for undertaking any project not described herein unless the Department has been separately notified of that project in accordance with Fish and Game Code section 1602 or 1611.

Signature of Applicant or Applicant's Authorized Representative

12/13/18

Date

Art Haschak

Print Name

ATTACHMENT B

Additional Information for Projects Included in Timber Harvesting Plans

Project name -Elk THP -no number at this time
Project Location- See attached Map
Project Description-see below

A. Table for Encroachments

Table 1

Road Point	type	watercourse	Structure size
#1	Temporary pipe	Class II	4" or greater
#2	Bridge or half pipe	Class I	Flat car bridge or half pipe large enough to span watercourse without touching wetted portion of the channel
#3	Bridge or half pipe	Class I	Same as #2 above
A	Drafting hole	Class I	Off channel drafting site in gravel bar
B	Drafting hole	Class I	Off channel drafting site in gravel bar

B. *Conditions at Encroachment(s).* Describe any torrent, debris, or landslide conditions at each encroachment.

No torrent, debris or landslides noted at any of the encroachments.

C. *Work Period(s).* If temporary crossings are proposed, specify dates and conditions requiring temporary crossing removal.

All temporary crossings must be removed prior to winter period of each year (November 15 to April 1). Applies to crossings 1 thru 3.

D. *Culverts.* **#1 will have a 4" or larger temporary culvert if wet at time of operations.**

E. *Bridges.* If a bridge is proposed, include the following:

1. Indicate if the abutments or road approaches will encroach into the floodplain or stream channel

The abutments will encroach on the channel zone for crossings #2, #3.

2. Provide the calculations or data used to determine bridge height and flow capacity.

These are temporary installments that are only being used during low flows.

3.Describe the type of abutments and scour protections with dimensions.

Approaches will use logs or Monschke blocks to keep material from entering watercourses wetted channel. The following crossings (#2, #3) will probably have at least one side of the pipe or bridge in the

channel zone (not in the wetted channel) and will only use native gravels taken from the channel zone in order to back fill those approaches. See diagram attached for more details. Crossings where the wetted channel cannot be spanned by a half pipe will use a bridge.

4.Provide any engineering reports, plans, or other related documentation.

See attached diagrams.

F. *Water Diversion or Drafting.* If water will be present, and will be drafted or diverted around the work site, specify the following.

See measures to protect fish (part 12) below for details.

Water Drafting –Holes will be dug off wetted channel in gravel bar of class I watercourses. See map points A and B.

Continuation sheet Elk 1600 permit-

8. Project Location

A-Address or description of project location				
#1- Part 1-From the intersection of Hwy 1 and Old State Hwy (at the south end of Gualala) go east on Old State Hwy. After a tenth of a mile take a slight right to stay on Old State Hwy and follow it for 1.8 miles to the intersection that is right before a large green suspension bridge. Then take a left and go for approximately 1.1 miles to an intersection. Go right (east) and drive for 1300 feet to Elk Prairie. From there you will need a guide to find the road points or refer to the map points map.				
#2- Same as #1.above				
#3- Same as #1 above.				
"A"- From the intersection of Hwy 1 and Old State Hwy (at the south end of Gualala) go east on Old State Hwy. After a tenth of a mile take a slight right to stay on Old State Hwy and follow it for 1.8 miles to the intersection that is right before a large green suspension bridge.. Take a left and go for approximately 1.1 miles to an intersection. Go right (east) and drive for 2.1 miles. Take spur road to the right for 600 feet.				
"B"- From the intersection of Hwy 1 and Old State Hwy (at the south end of Gualala) go east on Old State Hwy. After a tenth of a mile take a slight right to stay on Old State Hwy and follow it for 1.8 miles to the large green suspension bridge. Cross green suspension bridge and then stay to the right for 1.25 miles. Go right down spur road for 200 feet.				
B-River, stream or lake affected by the project				
#1	Class II watercourse			
#2	The North Fork of the Gualala River			
#3	The North Fork of the Gualala River			
A	The North Fork of the Gualala River			
B	The South Fork of the Gualala River			
C-What water body is the river, stream of lake tributary to?				
#1	The Little North Fork of the Gualala River			
#2	The Main Stem of the Gualala River			
#3	The Main Stem of the Gualala River			

A and B	The Main Stem of the Gualala River				
D-Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?					
#1	No				
#2	No				
#3	No				
A and B	No				
E-County					
#1	Mendocino				
#2	Mendocino				
#3	Mendocino				
A	Mendocino				
B	Sonoma				
F-	**USGS 7.5 Minute Quad Map Name**	**G. Township**	**H. Range**	**I. Section**	**J. ¼ Section**
#1	Gualala	11 N	15W	14	SW1/4
#2	Gualala	11 N	15W	23	NE1/4
#3	McGuire Ridge	11 N	15W	13	SW1/4
A	McGuire Ridge	11N	15W	13	SE1/4
B	McGuire Ridge	11N	15W	25	SE1/4
K. Meridian					
All	Mt Diablo				
L. Assessors Parcel Numbers					
#1	141-220-10				
#2	141-270-08				
#3	141-220-11				
A	141-220-07				
B	121-010-03				
M. Coordinates	**Latitude**	**Longitude**	**Datum**		
#1	38°47'43"N	123 30'30"W	Nad 83		
#2	38°47'32"N	123 30'7"W	Nad 83		
#3	38°47'43"N	123 29'43"W	Nad 83		
A	38°47'51"N	123°28'57"W	Nad 83		
B	38°46'8"N	123°29'9"W	Nad 83		

10. Project Description-

Temporary Crossings on roads (road point numbers 2 and 3)

These crossings will use a temporary bridge or half pipe. Approaches will use logs or Monschke blocks to keep material from entering watercourses wetted channel. The following crossings (#2, #3, will probably have at least one side of the pipe or bridge in the channel zone (not in the wetted channel) and will only use native gravels taken from the channel zone in order to back fill those approaches. See diagram attached for more details. Crossings where the wetted channel cannot be spanned by a half pipe will use a bridge.

Temporary culvert on small Class II (road point #1)
Install culvert with the minimum of excavation possible. Pull culvert prior to winter period. Remove all loose material, slope back banks to stable repose.

Drafting Holes, A and B-Holes will be dug at least ten feet from wetted channel in adjacent gravel bars. In aggregate, GRT will use no more than 8,000 gallons per day from active channel water holes on the North Fork of the Gualala (hole A) or 25,000 gallons per day on the South Fork of the Gualala (hole B). Water drafting would be at a rate of less than 300 gallons per minute, a 4,000-gallon truck will take about 15 minutes to fill. See item 26 in section III of the Elk THP document.

11. Project Impacts-

Temporary Crossings on roads (road point numbers 2 and 3)

No significant mature vegetation will be impacted at any of these crossings however most of these crossings have had young willow become established since the last time they were used and this will be removed. The total area disturbed per crossing will be approximately 40 by 20 (800 square feet) or less. The banks will be returned to the pre-crossing condition or better and any loose soil be removed and placed in a stable location away from the watercourse.

Temporary Culvert (#1)- No significant vegetation will be impacted at this crossing.

Drafting Holes-A and B- No anticipated impact for these off-channel holes. Speed of drafting limits will protect wetted channel from impacts.

12. Measures to Protect Fish, Wildlife and Plant Resources

Temporary Crossings on roads (road point numbers 2 and 3)

1.At each site, prior to bridge or half pipe installation and removal, an experienced fisheries technician (and trained field support technicians if needed) shall perform fish hazing. This shall include a minimum of three sweeps with hand-held nets or other suitable tools to be used when walking in a downstream direction beating the water until in-stream habitat is reached that contains suitable cover into which fish can move and hide.

2. The experienced fisheries technician, in consultation with the qualified fisheries biologist, shall determine the need, and if necessary, install a block-net upstream of the watercourse crossing site to keep new fish from moving into the path of the heavy equipment,

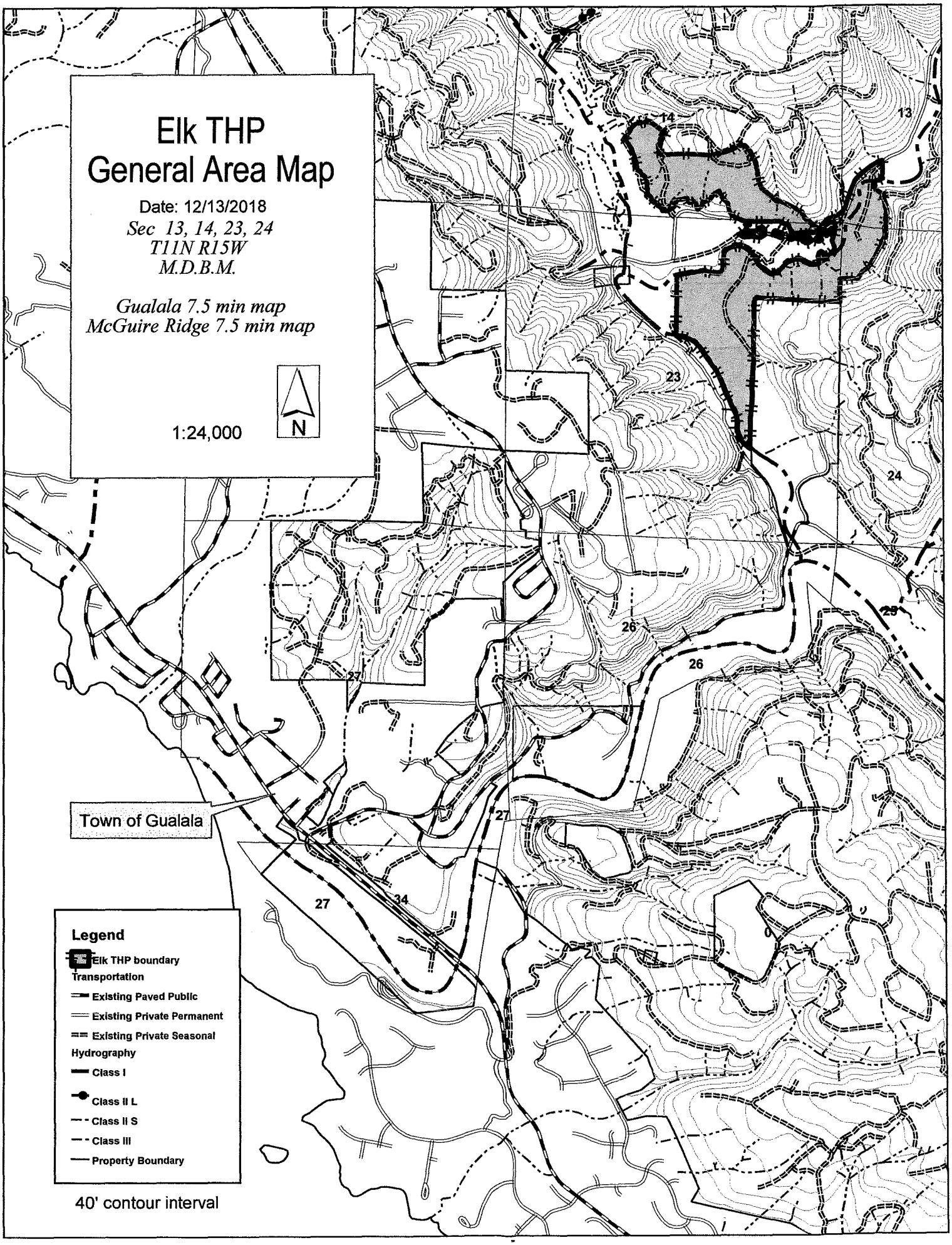
3. Following the initial hazing described above, the experienced fisheries technician shall walk in front of the heavy equipment as it crosses the watercourse and agitate the water and substrate to move any remaining fish out of the path of the heavy equipment.

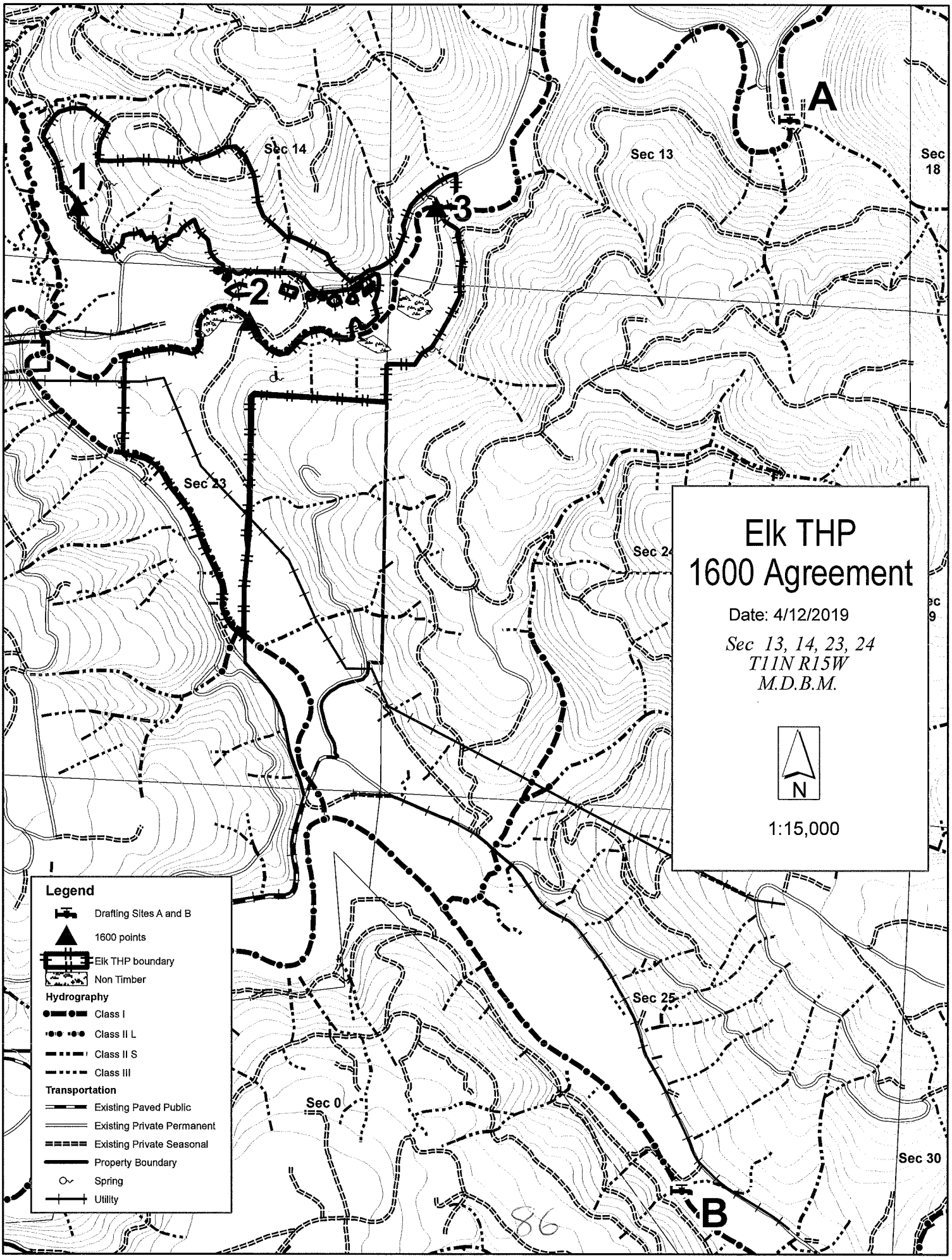
Temporary culvert-(#1) No significant vegetation will be impacted at this crossing.

No fish are present at this crossing and flow should be low or non-existent so impacts to downstream class I watercourses will be non-existent. A few aquatic insects or amphibians could possibly be directly impacted.

Water Drafting Holes A and B-

To avoid take of fish and other aquatic species, Permittee shall not draft water from the flowing stream (wetted channel); instead, all water shall be drafted from pits dug in gravel bars or upland locations. Gravel bar holes shall be no less than 10 feet from the wetted channel. Excavation of gravel bar holes shall be conducted in isolation from the flowing stream.


Elk THP
General Area Map
Date: 12/13/2018
Sec 13, 14, 23, 24
T11N R15W
M.D.B.M.
Gualala 7.5 min map
McGuire Ridge 7.5 min map
1:24,000
N
Town of Gualala
Legend
Elk THP boundary
Transportation
Existing Paved Public
Existing Private Permanent
Existing Private Seasonal
Hydrography
Class I
Class II L
Class II S
Class III
Property Boundary
40' contour interval


A
B
1
2
3
Sec 14
Sec 13
Sec 18
Sec 23
Sec 24
Sec 25
Sec 0
Sec 30
Elk THP
1600 Agreement
Date: 4/12/2019
Sec 13, 14, 23, 24
T11N R15W
M.D.B.M.
N
1:15,000
Legend
Drafting Sites A and B
1600 points
Elk THP boundary
Non Timber
Hydrography
Class I
Class II L
Class II S
Class III
Transportation
Existing Paved Public
Existing Private Permanent
Existing Private Seasonal
Property Boundary
Spring
Utility

1600 points

Hydrologic Unit All — **Repair type** All
Planning Watershed All — **Priority** All
Road # All — **From Mi** All — **To Mi** All — **Road Class** All
THP All — **From Date** 1/1/1980 — **To Date** 2/10/2019

Road # / Road Class	GIS# / ID#	Mile End	Plan Crew	Final Done	THP# / Rd Pt	THP Name / ECP Number	Problem / Solution	Repair Type / Priority/Shedule	Cr. Class Old Dia	Cr. Class New Dia	DRCs Ln	Left D / Right D	Exca. Cat	Truck Labor	Gra. Com.	Rock Yds	Cost $/FSD	Total Yds FSD Yds
0	6667	0.000	Haschak		18-04	Elk	Temp. Crossing	THP Non-Road	II		0	0	0	0	0	0	$0	0
Existing Skid	6667	0.000	Unk		1	ECP Not	Temp. Crossing	Medium	-	-	0	0	0	0	0	0	$0	0
Existing skid on small class II. Install small pipe if wet at time of operations. Pull at close																		
0	6669	0.000	Haschak		18-04	Elk	Temp. Crossing	THP App. Rd.	I		0	0	0	0	0	0	$0	0
Private Seasonal	6669	0.000	Unk		3	ECP Not	Bridge - Temp	Medium	-	-	0	0	0	0	0	0	$0	0
0	6668	0.000	Haschak		18-04	Elk	Temp. Crossing	THP App. Rd.	I		0	0	0	0	0	0	$0	0
Private Seasonal	6668	0.000	Unk		2	ECP Not	Bridge - Temp	Medium	-	-	0	0	0	0	0	0	$0	0
Road Number					0	**Grand Total All Sites**	3	**Culvert Costs**		$0		0	0	0	0	0	$0	0
												0	0	0	0	0	#Num!	0
						Grand Total All Sites	3	**Culvert Costs**		$0		0	0	0	0	0	$0	0
												0	0	0	0	0	#Num!	0

1-98

Road #	GIS#	Mile	Plan	Final	THP#	THP Name	Problem	Repair Type	Cr. Class	DRCs	Left D	Exca.	Truck	Gra.	Rock	Cost	Total Yds
Road Class	ID#	End	Crew	Done	Rd Pt	ECP Number	Solution	Priority/Shedule	Old Dia	New Dia Ln	Right D	Cat	Labor	Com.	Yds	$/FSD	FSD Yds

Road Work

- Road # – This is unique road ID number for each road segment on the property.
- Road Class – This is the type of road.
  - Upgraded – Outsloped and dipped
  - Storm proofed – Outsloped, dipped and culverts repaired.
  - Deactivation – Outsloped, dipped, culverts pulled, and the road will be reused.
  - Abandoned Fixed – Outsloped, dipped, culverts removed and the road will not be reused.
  - Abandoned Legacy – It will do more damage than good to work on the road. The road will not be reused.
- GIS# - Each existing site in the field (like a culvert) has a unique GIS number, usually the first visit ID#. It appears on the road maps. A new visit to an existing site will reference the GIS#. You can look up the history of visits to a particular site by calling up all the records with the same GIS#.
- ID# - Each "new" road site visit has a unique ID number. It is generated when the record is entered into the database.
- Mile – Each numbered road has mileage ticks from 0 to the end of the road. "Mile" is the distance out the road to the site.
- End – If the site is along a length of road, like tipping and dipping, there is a start point (Mile) and "end" mileage.
- Insp. – The name of the inspector that identified the site and made the prescription is listed here. The inspectors are trained to identify potential sediment sources and make prescriptions in accordance with the Handbook for Forest and Ranch Roads, Weaver and Hagans, 1992. Estimates of sediment production and delivery are made by the inspector.
- Crew – These are the initials of contractor that did the work.
- Planned – Date of site identification.
- Done – Date site work was completed.
- THP# - THP Number
- Rd Pt - This is the working number (THP road point) created by the inspector in the field. It is often found on field flagging.
- THP Name – The THP or program the work is associated with.
- ECP Name – The Erosion Control Plan the site is associated with.
- Problem – The type of problem.
- Solution – The type of solution.
- Repair type – Why was the work done.
- Priority – This reflects the urgency of the problem. A high priority site is one that is likely to deliver a significant amount of sediment during the next 5 year storm event. Medium and low priority sites need upgrading, but are unlikely to deliver significant amounts of sediment in the next several years. High priority sites will be scheduled for completion prior to a low or medium priority site. In a THP, the implementation priorities below apply.
  - THP Low – Mitigation applied prior to THP completion.
  - THP Med – Mitigation applied concurrent with operations affecting site.
  - THP High – Mitigations applied in the first year after THP approval or as described in the plan.
- Stream Class – As per the Forest Practice Rules
- Old Dia – The diameter of the old culvert.
- New Dia Ln – The diameter and length of the new culvert if any.
- DRCs – Number of ditch relief culverts needed for the site.
- Rock – Yards of rock needed at the site – rip rap, rock surface, etc.
- Right and Left Ditch – Feet of road to the right and left of the site that is connected and needs treatment.
- Equipment Hours
  - Exca. – Excavator
  - Cat – Caterpillar tractor
  - Labor – Hand labor
  - Truck – Dump truck or water truck
  - Gra. – Grader
  - Com. - Compactor and pilot car if needed.
- Yds - This is the total yardage of soil that must be moved at the site.
- Cost – All the equipment costs plus the culvert costs. This does not include administration or logistic costs.
- $/FSD – This is the total cost divided by the yards of soil prevented form delivery (FSD) to the watercourses.
- Total Yds – This is the estimate of yardage that will be mobilized in a failure if the work is not done.
- FSD (Future Sediment Delivery) PSD (Potential sediment delivery) – This is the amount of soil that will be prevented from being delivered into the watercourses if the project is completed. It is the relative potential for sediment delivery (RPSD). This yardage only appears if the inspector has been trained to estimate this. This also includes road surface erosion that disconnecting the roads from the watercourses will prevent from being delivered. On upgraded roads it is typically 0.2 cubic feet per square foot of road per decade for the portion (typically 50%) that has been disconnected. The road and cut bank width is assumed to be 25 feet.

86.2

Temporary Bridge Installation

Flat Car for points #2 and #3

(May use half pipe if wetted portion of channel is narrow enough)