

03-02-10 Road Rules Task Force Plead

Road Rules 2010

New Language

~~Proposed Deletions~~

**Amend 14 CCR 895.1. Definitions**

Abandoned Road means a logging road on which proactive measures have been applied to effectively remove it from the permanent road network.

~~Abandonment means leaving a logging road reasonably impassable to standard production four wheel drive highway vehicles, and leaving a logging road and landings, in a condition which provides for long term functioning of erosion controls with little or no continuing maintenance.~~

Abandonment means taking proactive measures to effectively remove an existing logging road, landing, or logging road watercourse crossing from the permanent road network.

Berm means a curb or dike constructed to control water and prevent roadway runoff waters from discharging onto roadside slopes and/or to provide material for subsequent road maintenance.

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1 Berm means a curb, dike, or linear mound of earth that is constructed  
2 to control water and direct roadway runoff waters or that has  
3 developed through road grading activities.

4  
5 Connected Headwall Swale means a geomorphic feature consisting of a  
6 bowl-shaped, concave depression with convergent slopes, typically of  
7 65 percent or greater steepness, that is connected to a watercourse or  
8 lake by way of a continuous linear depression and that has been  
9 sculpted over geologic time by shallow landslide events. The slope  
10 profile is typically smooth and unbroken by benches, but may be  
11 interrupted by recent landslide deposits or scars. Emergent  
12 groundwater and wet areas may exist at the base of the swale. Soil  
13 and colluvium depth is typically greatest at the axis of the swale,  
14 thinning to either side.

15  
16 Critical Dip means a constructed dip across a logging road surface  
17 immediately down grade from, or over, a culverted logging road  
18 watercourse crossing that functions to prevent crossing overflow from  
19 draining down the road.

20  
21 Crowning means creating a road surface with a convex cross sectional  
22 profile that drains runoff toward both sides of the road.

23  
24 Deactivated Road means a logging road that is part of the permanent  
25 road network where proactive measures have been applied to prevent  
active use.

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**Deactivation** means taking the proactive measures necessary to prevent the active use of an existing logging road, landing, or logging road watercourse crossing.

**End-Hauling** means the removal and transport of ~~excavated~~ excess material ~~to prevent sidecast.~~

**Excess Material** means excavated material that is not used ~~or needed~~ as a functional part of the road or ~~a~~ landing. Excess material is synonymous with spoils.

**Extended Wet Weather Period** means the period from October 15 to May 1.

**Fill** means material that is mechanically placed ~~in low areas~~ and built up in lifts to form a ~~the~~ roadbed or landing surface. Fill includes the material placed around culverts and related drainage structures at logging road watercourse crossings.

**Ford** means a logging road watercourse crossing where the road grade dips through the watercourse channel.

**Harvest Area** means the area where trees are felled and removed.

**Insloping** means shaping the road surface to drain toward a cutbank.

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Outsloping means shaping the road surface to drain toward the outside edge.

~~Permanent Road~~ means ~~a road which is planned and constructed to be part of a permanent all season transportation facility. These roads have a surface which is suitable for the hauling of forest products throughout the entire winter period and have drainage structures, if any, at watercourse crossings which will accommodate the fifty year flood flow. Normally they are maintained during the winter period. a logging road that is part of the permanent road network and is~~ planned, constructed, and maintained for year-round use.

Permanent Road Network means the permanent, seasonal, ~~and temporary,~~ and deactivated roads that provide the infrastructure necessary for timber operations and forest management.

Permanent Watercourse Crossing means a watercourse crossing that ~~will be constructed to accommodate the estimated fifty year flood flow and~~ will remain in place when timber operations have been completed.

Prescribed Maintenance Period means the time period, beginning with filing of the work completion report, provided that the report is subsequently approved, during which erosion controls ~~which~~ that are required and constructed as part of ~~a~~ timber operations must be maintained in a functional condition. ~~The period shall not exceed~~

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1 ~~three years from the filing of the work completion report provided~~  
2 ~~that the report is subsequently approved by the director.~~

3  
4 **Public Road** means a road open to the general public which is: (a) in  
5 ~~the a Federal, State, or County, or City~~ road system, or (b) a road on  
6 which a public agency has deeded, unlimited easement.

7  
8 **Road Maintenance** means activities involving manipulation of the  
9 logging road prism to maintain stable operating surfaces, functioning  
10 logging road drainage facilities and structures, and stable cutbanks  
11 and fill slopes.

12  
13 **Seasonal Road** means ~~a road which is planned and constructed as part of~~  
14 ~~a permanent transportation facility where: 1) commercial hauling may~~  
15 ~~be discontinued during the winter period, or 2) the landowner desires~~  
16 ~~continuation of access for fire control, forest management activities,~~  
17 ~~Christmas tree growing, or for occasional or incidental use for~~  
18 ~~harvesting of minor forest products, or similar activities. These~~  
19 ~~roads have a surface adequate for hauling of forest products in the~~  
20 ~~non winter periods, and in the extended dry periods or hard frozen~~  
21 ~~conditions occurring during the winter period; and have drainage~~  
22 ~~structures, if any, at watercourse crossing which will accommodate the~~  
23 ~~fifty year flood flow. Some maintenance usually is required logging~~  
24 ~~road that is part of the permanent road network where use is generally~~  
25 ~~discontinued during the winter period.~~

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1 **Sidecast** means excess earthen material pushed or dumped ~~to or~~ over the  
2 side of a roads or landings.

3  
4 **Temporary Road** means a logging road that is to be used only during the  
5 timber operations and that will be deactivated or abandoned upon  
6 completion of use. ~~These roads have a surface adequate for seasonal~~  
7 ~~logging use and have drainage structures, if any, adequate to carry~~  
8 ~~the anticipated flow of water during the period of use.~~

9  
10 **Through Cut** means a section of road that lies below the adjacent  
11 ground level on both sides of the road.

12  
13 **Through Fill** means a section of road upon constructed fill that lies  
14 above the adjacent ground level on both sides of the road.

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**Amend 914.8, 934.8, 954.8 Tractor Road Watercourse Crossing**

(d) Tractor road ~~W~~watercourse crossing facilities ~~not constructed to permanent crossing standards on tractor roads~~ shall be removed and stabilized before the beginning of the winter period. ~~If a watercourse crossing is to be removed, it shall be removed in accordance with~~ to the standards of 14 CCR § 923.3(d) [943.3(d), 963.3(d)] 923.17(a)-(c) [943.17(a)-(c), 963.17(a)-(c)]. The RPF may propose an exception if explained and justified in the plan and found by the Director to be in conformance with this article.

**Amend 916.3, 936.3, 956.3. General Limitations Near Watercourses, Lakes, Marshes, Meadows and Other Wet Areas**

(c) The timber operator shall not ~~construct or reconstruct roads,~~ construct or use tractor roads ~~or landings~~ in Class I, II, III or IV watercourses, in the WLPZ, marshes, wet meadows, and other wet areas unless when explained and justified in the ~~THP~~ plan by the RPF, and approved by the Director, except as follows:

(1) At prepared tractor road crossings as described in 14 CCR § 914.8(b) [934.8(b), 954.8(b)].

(2) Crossings of Class III watercourses ~~which~~ that are dry at the time of ~~timber operations~~ use.

~~(3) At existing road crossings.~~

~~(4)~~(3) At new tractor ~~and~~ road crossings approved as part of the Fish and Game Code process (F&GC 1600 et seq.).

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1 ~~Use of existing roads is addressed in 916.4(a) [936.4(a),~~  
2 ~~956.4(a)].~~

3  
4 **Amend 916.9, 936.9, 956.9. Protection and Restoration of the**  
5 **Beneficial functions of the Riparian Zone in Watersheds with Listed**  
6 **Anadromous Salmonids.**

7  
8 **(a)-(e) [No change]**

9 **(f) Class I watercourses -**

10 **(1)** For Class I watercourses, where fish are always or seasonally  
11 present or where fish habitat is restorable, any plan involving timber  
12 operations within the WLPZ shall contain the following information:

13 **(A)** Clear and enforceable specifications of timber  
14 operations within the Class I WLPZ, including a description of how any  
15 disturbance, or log or tree cutting and removal shall be carried out  
16 to conform with 14 CCR §§ 916.2(a) [936.2(a), 956.2(a)], ~~subsection~~  
17 ~~(a)~~ and 916.9(a) [936.9(a), 956.9(a)], ~~subsection (a)~~.

18 ~~**(B)** A description of all existing permanent logging road~~  
19 ~~watercourse crossings.~~

20 ~~**(C)** Clear and enforceable specifications describing how~~  
21 ~~these crossings are to be modified, used, and treated to minimize~~  
22 ~~risks, giving special attention to allowing fish to pass both upstream~~  
23 ~~and downstream during all life stages.~~

24 ~~**(D)** Clear and enforceable specifications for construction~~  
25 ~~and operation of any new crossing(s) of a Class I watercourse to~~  
~~prevent direct harm, habitat degradation, water velocity increase,~~

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1 ~~hindrance of fish passage, or other potential impairment of beneficial~~  
2 ~~uses of water~~

3           **(EB)** Documentation of how proposed harvesting in the WLPZ  
4 contributes to the objectives of each zone stated in 14 CCR § 916.9  
5 [936.9(c), 956.9(c)], ~~subsection (e)~~ and other goals in 14 CCR §  
6 916.9(a)(1)-(8) [936.9(a)(1)-(8), 956.9(a)(1)-(8)], ~~subsection (a)~~  
7 ~~(1)-(8)~~. Documentation shall include the examinations, analysis, and  
8 other requirements listed in 14 CCR § 916.4(a) [936.4(a), 956.4(a)] ~~7~~  
9 ~~subsection (a)~~.

10           **(2)** No Changes

11           **(3)** Class I watercourses with flood prone areas or channel  
12 migration zones: ....

13           **(A-D)** No Changes

14           **(E)** Preferred Management Practices in the Inner Zone A and  
15 B of Flood Prone Areas...

16                   **1., 2., and 3.,** No changes

17                   4. ~~Avoid Road and Landing Use: All new roads and~~  
18 ~~landings shall be located outside of zone. When feasible, minimize~~  
19 ~~use of existing roads and landings in the flood prone area. No~~  
20 ~~servicing of equipment within the flood prone area. Exceptions~~  
21 ~~include the use of roads and landings to accomplish actions to~~  
22 ~~improved salmonid habitat conditions stated 14 CCR § 916.9 [936.9,~~  
23 ~~956.9]. subsection (f)(3)(E(1.) above.~~

24                   ~~(5)(4)~~ ...

25                   ~~(6)(5)~~ ...

~~(7)(6)~~ ...

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1                   ~~(8)(7)~~ ...

2                   (F) Outer Zone   No Changes.

3 (g)-(i)       [No change]

4 (k) Year-round ~~logging road, landing and tractor road use limitations~~

5           (1) ~~Logging roads, landings or Ttractor roads shall not be used~~  
6 when visibly turbid water from the ~~road, landing or tractor road (skid~~  
7 ~~trail) or an inside ditch associated with the logging road, landing or~~  
8 ~~tractor road~~ may reach a watercourse or lake in ~~amounts~~ quantities  
9 sufficient to cause a turbidity increase in Class I, II, III or IV  
10 waters.

11           ~~(2) Log hauling on logging roads and landings shall be limited~~  
12 ~~to those which are hydrologically disconnected from watercourses to~~  
13 ~~the extent feasible, and exhibit a stable operating surface in~~  
14 ~~conformance with (1) above.~~

15           ~~(3) Concurrent with use for log hauling, approaches to logging~~  
16 ~~road watercourse crossings shall be treated for erosion control as~~  
17 ~~needed to minimize soil erosion and sediment transport and to prevent~~  
18 ~~the discharge of sediment into watercourses and lakes in quantities~~  
19 ~~deleterious to the beneficial uses of water.~~

20           ~~(4) Concurrent with use for log hauling, all traveled surfaces~~  
21 ~~of logging roads in a WLPZ or within any ELZ or EEZ designated for~~  
22 ~~watercourse or lake protection shall be treated for erosion control as~~  
23 ~~needed to minimize soil erosion and sediment transport and to prevent~~  
24 ~~the discharge of sediment into watercourses and lakes in quantities~~  
25 ~~deleterious to the beneficial uses of water.~~

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1       ~~5) Grading to obtain a drier running surface more than one time~~  
2 ~~before reincorporation of any resulting berms back into the road~~  
3 ~~surface is prohibited.~~

4       **(1) Extended Wet Weather Period** - ~~October 15 to May 1 shall be~~  
5 ~~considered the extended wet weather period and the~~The following shall  
6 apply during the extended wet weather period: **6**

7       **(1)** No timber operations shall take place unless the approved  
8 plan incorporates a complete winter period operating plan pursuant to  
9 14 CCR § 914.7(a) [934.7(a), 954.7(a)] ~~subsection (a)~~ that  
10 specifically addresses, where applicable, proposed ~~logging road,~~  
11 ~~landing or tractor road construction, reconstruction and use during~~  
12 ~~the extended wet weather period. Where logging road watercourse~~  
13 ~~crossing construction or reconstruction is proposed an implementation~~  
14 ~~schedule shall be specified.~~

15       **(2)** Unless the winter period operating plan proposes operations  
16 during an extended wet weather period with low antecedent soil wetness,  
17 no tractor roads shall be constructed, reconstructed, or used on slopes  
18 that are over 40 percent and within 200 feet of a Class I, II, or III  
19 watercourse, as measured from the watercourse or lake transition line  
20 ~~during the extended wet weather period.~~

21       ~~**(3)** Logging roads, landings and tractor roads shall not be used~~  
22 ~~when sediment from the logging road, landing or tractor road surface~~  
23 ~~is transported to a watercourse or a drainage facility that discharges~~  
24 ~~into a watercourse in amounts sufficient to cause a visible increase~~  
25 ~~in turbidity in Class I, II, III, or IV waters.~~

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1       ~~(4) Logging roads and landings shall not be used for log hauling~~  
2 ~~when saturated soil conditions result in the visible increase in~~  
3 ~~turbidity specified in (3) above.~~

4       **(m) Tractor Road Drainage Facility Installation [No change]**

5       **(n) Treatments to stabilize soils** - Within the WLPZ, and within any  
6 ELZ or EEZ designated for watercourse or lake protection, treatments  
7 to stabilize soils, minimize soil erosion, and prevent the discharge  
8 of sediment into watercourses or lakes in ~~amounts~~ quantities  
9 deleterious to aquatic species or the quality and beneficial uses of  
10 water, or that threaten to violate applicable water quality  
11 requirements, shall be described in the plan as follows.

12           **(1)(A), (B) and (D)** no change.

13           **(C)** Disturbed tractor road cut banks and fills, and

14           **(2)** Soil stabilization treatment measures may include, but need  
15 not be limited to, removal, armoring with rip-rap, replanting,  
16 mulching, rip-rapping, grass seeding, installing commercial erosion  
17 control devices to manufacturer's specifications, or chemical soil  
18 stabilizers.

19           **(3) - (7)** No change

20       **(o) Erosion Site identification and remedies [No change]**

21 ~~(p) The erosion control maintenance period on permanent and seasonal~~  
22 ~~roads and associated landings that are not abandoned in accordance~~  
23 ~~with 14 CCR § 923.8 [943.8, 963.8] shall be three years.~~

24 ~~(q)~~**(p) Site preparation** No change.

25 ~~(r)~~ **(q) Water drafting** - See 14 CCR §§ 923.7(1)-(3) [943.7(1)-(3),  
963.7(1)-(3)], 1034(x)(4)(B)(iii), 1034(x)(5)(K), 1034(ii)(5),

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1 1092.09(1)(5)(B)(iii) and 1092.09(1)(6)(K). Water drafting for timber  
2 operations shall:

3 ~~(1) Comply with Fish and Game Code Section 1600, et seq.~~

4 ~~(A) Timber operations conducted under a Fish and Game Code~~  
5 ~~Section 1600 master or long term agreement that includes water~~  
6 ~~drafting may provide proof of such coverage for compliance with this~~  
7 ~~paragraph.~~

8 ~~(2) Describe the water drafting site conditions and proposed~~  
9 ~~water drafting activity in the plan, including:~~

10 ~~(A) a general description of the conditions and proposed~~  
11 ~~water drafting;~~

12 ~~(B) a map showing proposed water drafting locations;~~

13 ~~(C) the watercourse classification;~~

14 ~~(D) the drafting parameters including the months the site~~  
15 ~~is proposed for use; estimated total volume needed per day; estimated~~  
16 ~~maximum instantaneous drafting rate and filling time; and disclosure~~  
17 ~~of other water drafting activities in the same watershed;~~

18 ~~(E) the estimated drainage area (acres) above the point of~~  
19 ~~diversion;~~

20 ~~(F) the estimated unimpeded streamflow, pumping rate, and~~  
21 ~~drafting duration,~~

22 ~~(G) a discussion of the effects on aquatic habitat~~  
23 ~~downstream from the drafting site(s) of single pumping operations, or~~  
24 ~~multiple pumping operations at the same location, and at other~~  
25 ~~locations in the same watershed;~~

~~(H) a discussion of proposed alternatives and measures to~~

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1 ~~prevent adverse effects to fish and wildlife resources, such as~~  
2 ~~reducing hose diameter; using gravity fed tanks~~  
3 ~~instead of truck pumping; reducing the instantaneous or daily intake~~  
4 ~~at one location; describing~~  
5 ~~allowances for recharge time; using other dust palliatives; and~~  
6 ~~drafting water at alternative sites; and~~

7 ~~(1) The methods that will be used to measure source~~  
8 ~~streamflow prior to the water drafting operation and the conditions~~  
9 ~~that will trigger streamflow to be measured during the operation.~~

10 ~~(3) All water drafting for timber operations are subject to each~~  
11 ~~requirement below unless the Department of Fish and Game modifies the~~  
12 ~~requirement in the Lake or Streambed Alteration agreement that~~  
13 ~~authorized the drafting operation, or unless otherwise specified~~  
14 ~~below:~~

15 ~~(A) All intakes shall be screened to prevent impingement of~~  
16 ~~juvenile fish against the screen. The following requirements apply to~~  
17 ~~screens and water drafting on Class I waters:~~

18 ~~1. Openings in perforated plate or woven wire mesh~~  
19 ~~screens shall not exceed 3/32 inches (2.38 millimeters). Slot~~  
20 ~~openings in wedge wire screens shall not exceed 1/16 inches (1.75~~  
21 ~~millimeters).~~

22 ~~2. The screen surface shall have at least 2.5 square~~  
23 ~~feet of openings submerged in water.~~

24 ~~3. The drafting operator shall regularly inspect,~~  
25 ~~clean, and maintain screens to ensure proper operation whenever water~~  
~~is drafted.~~

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1                   4. ~~The approach velocity (water moving through the~~  
2 ~~screen) shall not~~  
3 ~~exceed 0.33 feet/second.~~

4                   5. ~~The diversion rate shall not exceed 350 gallons per~~  
5 ~~minute.~~

6                   ~~(B) Approaches and associated drainage features to drafting~~  
7 ~~locations within a WLPZ or channel zone shall be surfaced with rock or~~  
8 ~~other suitable material to minimize generation of sediment.~~

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

14                   ~~(D) Water drafting trucks parked on streambeds and~~  
15 ~~floodplains shall use drip pans or other devices such as absorbent~~  
16 ~~blankets, sheet barriers or other materials as needed to prevent soil~~  
17 ~~and water contamination from motor oil or hydraulic fluid leaks.~~

18                   ~~(E) Bypass flows for Class I watercourses shall be provided~~  
19 ~~in volume sufficient to avoid dewatering the watercourse and maintain~~  
20 ~~aquatic life downstream, and shall conform to the following standard:~~

21                   1. ~~Bypass flows in the source stream during~~  
22 ~~drafting shall be at least 2 cubic feet per second.~~

23                   2. ~~Diversion rate shall not exceed 10 percent of the~~  
24 ~~surface flow.~~

25                   3. ~~Pool volume reduction shall not exceed 10 percent.~~

~~(F) The drafting operator shall keep a log that records for~~

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1 ~~each time water is drafted, the date, total pumping time, pump rate,~~  
2 ~~starting time, ending time, and volume diverted. Logs shall be filed~~  
3 ~~with the Department of Forestry and Fire Protection at the end of~~  
4 ~~seasonal operations and maintained with the plan record. This~~  
5 ~~requirement may be modified in the approved plan that covers the water~~  
6 ~~drafting, but only with concurrence from the Department of Fish and~~  
7 ~~Game.~~

8 ~~(G) Before commencing any water drafting operation, the RPF~~  
9 ~~and the drafting operator shall conduct a pre operations field review~~  
10 ~~to discuss the water drafting measures in the plan and/or Lake or~~  
11 ~~Streambed Alteration Agreement.~~

12 ~~(s)(r)~~ Exemption notices No Changes.

13 ~~(t)(s)~~ Emergency Notices No Changes.

14 ~~(u)(t)~~ Salvage logging No Changes.

15 ~~(w)(u)~~ Site-specific measures or nonstandard operational provisions  
16 No Changes

17 Option 1: Section reserved for future use.

18 ~~(v)~~ Substitute Permitting No Changes. Option 1: Site-specific  
19 measures or nonstandard operational provisions No Changes

20 ~~(w)~~Option 1: Substitute Permitting No Changes

21  
22 **Amend 918.3, 938.3, 958.3. Roads to be Kept Passable**

23 ~~Timber operators shall keep all logging truck roads in a passable~~  
24 ~~condition during the dry season for fire truck travel until snag and~~  
25 ~~slash disposal has been completed.~~

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1 Amend Articles 11 and 12 ~~Logging Roads and Landings~~ Logging Roads,  
2 Landings, and Logging Road Watercourse Crossings

3  
4 ~~Article 11 Logging Roads and Landings~~

5 ~~Article 12 Logging Roads and Landings~~

6 ~~923, 943, 963 Logging Roads and Landings~~

7 All logging roads and landings in the logging area shall be planned,  
8 located, constructed, reconstructed, used, and maintained in a manner  
9 which: ~~is consistent with long term enhancement and maintenance of~~  
10 ~~the forest resource; best accommodates appropriate yarding systems,~~  
11 ~~and economic feasibility; minimizes damage to soil resources and fish~~  
12 ~~and wildlife habitat; and prevents degradation of the quality and~~  
13 ~~beneficial uses of water. The provisions of this article shall be~~  
14 ~~applied in a manner which complies with this standard.~~

15 Factors that shall be considered when selecting feasible alternatives  
16 (~~see 14 CCR 897 and 898~~) shall include, but are not limited to, the  
17 following:

18 ~~(a) Use of existing roads whenever feasible.~~

19 ~~(b) Use of systematic road layout patterns to minimize total mileage.~~

20 ~~(c) Planned to fit topography to minimize disturbance to the natural~~  
21 ~~features of the site.~~

22 ~~(d) Avoidance of routes near the bottoms of steep and narrow canyons,~~  
23 ~~through marshes and wet meadows, on unstable areas, and near~~  
24 ~~watercourses or near existing nesting sites of threatened or~~  
25 ~~endangered bird species.~~

~~(e) Minimization of the number of watercourse crossings.~~

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1 ~~(f) Location of roads on natural benches, flatter slopes and areas of~~  
2 ~~stable soils to minimize effects on watercourses.~~

3 ~~(g) Use of logging systems which will reduce excavation or placement~~  
4 ~~of fills on unstable areas.~~

#### 6 ~~923.1, 943.1, 963.1 Planning for Roads and Landings [All Districts]~~

7 ~~The following standards for logging roads and landings shall be~~  
8 ~~adhered to:~~

9 ~~(a) All logging roads shall be located and classified on the THP map~~  
10 ~~as permanent, seasonal, or temporary. Road failures on existing roads~~  
11 ~~which will be reconstructed shall also be located on the THP map. In~~  
12 ~~addition to the requirements of 14 CCR 1034(x), the probable location~~  
13 ~~of those landings which require substantial excavation or which exceed~~  
14 ~~one quarter acre in size, shall be shown on the THP map.~~

15 ~~(b) New logging roads shall be planned in accordance with their~~  
16 ~~classification and maintenance requirements.~~

17 ~~(c) Logging roads and landings shall be planned and located, when~~  
18 ~~feasible, to avoid unstable areas. The Director shall approve an~~  
19 ~~exception if those areas are unavoidable, and site-specific measures~~  
20 ~~to minimize slope instability due to construction are described and~~  
21 ~~justified in the THP.~~

22 ~~(d) Where roads and landings will be located across 100 feet or more~~  
23 ~~of lineal distance on any slopes over 65% or on slopes over 50% which~~  
24 ~~are within 100 ft. of the boundary of a WLPZ, measures to minimize~~  
25 ~~movement of soil and the discharge of concentrated surface runoff~~  
~~shall be incorporated in the THP. The Director may waive inclusion of~~

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1 ~~such measures where the RPF can show that slope depressions, drainage~~  
2 ~~ways, and other natural retention and detention features are~~  
3 ~~sufficient to control overland transport of eroded material. The~~  
4 ~~Director may require end-hauling of material from areas within 100 ft.~~  
5 ~~of the boundary of a WLPZ to a stable location if end hauling is~~  
6 ~~feasible and is necessary to protect water quality. The Director~~  
7 ~~shall require maintenance provisions in the THP for drainage~~  
8 ~~structures and facilities provided that such maintenance is feasible~~  
9 ~~and necessary to keep roadbeds and fills stable.~~

10 ~~(e) New logging roads shall not exceed a grade of 15% except that~~  
11 ~~itches of up to 20% shall be allowed not to exceed 500 continuous~~  
12 ~~feet (152.4 m). These percentages and distances may be exceeded only~~  
13 ~~where it can be explained and justified in the THP that there is no~~  
14 ~~other feasible access for harvesting of timber or where in the~~  
15 ~~Northern or Southern Districts use of a gradient in excess of 20% will~~  
16 ~~serve to reduce soil disturbance.~~

17 ~~(f) Roads and landings shall be planned so that an adequate number of~~  
18 ~~drainage facilities and structures are installed to minimize erosion~~  
19 ~~on roadbeds, landing surfaces, sidecast and fills.~~

20 ~~(g) Unless exceptions are explained and justified in the THP, general~~  
21 ~~planning requirements for roads shall include:~~

22 ~~(1) Logging roads shall be planned to a single lane width~~  
23 ~~compatible with the largest type of equipment used in the harvesting~~  
24 ~~operation with turnouts at reasonable intervals.~~

25 ~~(2) Roads shall be planned to achieve as close a balance~~  
~~between cut volume and fill volume as is feasible.~~

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1       ~~(3) When roads must be planned so that they are insloped and~~  
2 ~~ditched on the uphill side, drainage shall be provided by use of an~~  
3 ~~adequate number of ditch drains.~~

4 ~~(h) Road construction shall be planned to stay out of Watercourse and~~  
5 ~~Lake Protection Zones. When it is a better alternative for protection~~  
6 ~~of water quality or other forest resources, or when such roads are the~~  
7 ~~only feasible access to timber, exceptions may be explained and~~  
8 ~~justified in the THP and shall be agreed to by the Director if they~~  
9 ~~meet the requirements of this subsection.~~

10 ~~(i) [Coast] The location of all logging roads to be constructed~~  
11 ~~shall be flagged or otherwise identified on the ground before~~  
12 ~~submission of a THP or major amendment. Exceptions may be explained~~  
13 ~~and justified in the THP and agreed to by the Director if flagging is~~  
14 ~~unnecessary as a substantial aid to examining: (1) compatibility~~  
15 ~~between road location and yarding and silvicultural systems, or (2)~~  
16 ~~possible significant adverse effects of road location on water~~  
17 ~~quality, soil productivity, wildlife habitat, or other special~~  
18 ~~features of the area.~~

19 ~~(i) [Northern, Southern] All logging roads to be constructed shall~~  
20 ~~be flagged or otherwise identified on the ground before submission of~~  
21 ~~a THP or, substantial deviation, except for temporary roads less than~~  
22 ~~600 ft. in length that would meet the requirements for a minor~~  
23 ~~deviation (see 14 CCR 1036, 1039, 1040) if they were submitted as~~  
24 ~~such. Exceptions may be explained and justified in the THP and agreed~~  
25 ~~to by the Director if flagging or other identification is unnecessary~~  
~~as a substantial aid to examining: (1) compatibility between road~~

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1 ~~location and yarding and silvicultural systems or (2) possible~~  
2 ~~significant adverse effects of road location on water quality, soil~~  
3 ~~productivity, wildlife habitat, or other special features of the area.~~

4 ~~(j) If logging roads will be used from the period of October 15 to~~  
5 ~~May 1, hauling shall not occur when saturated soil conditions exist on~~  
6 ~~the road.~~

#### 8 ~~923.2, 943.2, 963.2 Road Construction [All Districts]~~

9 ~~Logging roads shall be constructed or reconstructed in accordance with~~  
10 ~~the following requirements or as proposed by the RPF, justified in the~~  
11 ~~THP, and found by the Director to be in conformance with the~~  
12 ~~requirements of this Article.~~

13 ~~(a) Logging roads shall be constructed in accordance with the~~  
14 ~~approved THP. If a change in designation of road classification is~~  
15 ~~subsequently made, the change shall be reported in accordance with 14~~  
16 ~~CCR 1039 or 1040, as appropriate.~~

17 ~~(b) Where a road section which is greater than 100 feet in length~~  
18 ~~crosses slopes greater than 65%, placement of fill is prohibited and~~  
19 ~~placement of sidecast shall be minimized to the degree feasible. The~~  
20 ~~Director may approve an exception where site specific measures to~~  
21 ~~minimize slope instability, soil erosion, and discharge of~~  
22 ~~concentrated surface runoff are described and justified in the THP.~~

23 ~~(c) On slopes greater than 50%, where the length of road section is~~  
24 ~~greater than 100 ft., and the road is more than 15 ft. wide (as~~  
25 ~~measured from the base of the cut slope to the outside of the berm or~~  
~~shoulder of the road) and the fill is more than 4 ft. in vertical~~

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1 ~~height at the road shoulder for the entire 100 feet the road shall be~~  
2 ~~constructed on a bench that is excavated at the proposed toe of the~~  
3 ~~compacted fill and the fill shall be compacted. The Director may~~  
4 ~~approve exception to this requirement where on a site-specific basis~~  
5 ~~if the RPF has described and justified an alternative practice that~~  
6 ~~will provide equal protection to water quality and prevention of soil~~  
7 ~~erosion.~~

8 ~~(d) [Coast] Fills, including through fills across watercourses shall~~  
9 ~~be constructed in a manner to minimize erosion of fill slopes using~~  
10 ~~techniques such as insloping through fill approaches, waterbars,~~  
11 ~~berms, rock armoring of fill slopes, or other suitable methods.~~

12 ~~(d) [Northern, Southern] Roads shall be constructed so no break in~~  
13 ~~grade, other than that needed to drain the fill, shall occur on~~  
14 ~~through fill; breaks in grade shall be above or below the through~~  
15 ~~fill, as appropriate. Where conditions do not allow the grade to~~  
16 ~~break as required, through fills must be adequately protected by~~  
17 ~~additional drainage structures or facilities.~~

18 ~~(e) Through fills shall be constructed in approximately one foot~~  
19 ~~lifts.~~

20 ~~(f) On slopes greater than 35 percent, the organic layer of the soil~~  
21 ~~shall be substantially disturbed or removed prior to fill placement.~~

22 ~~The RPF may propose an exception in the THP and the Director may~~  
23 ~~approve the exception where it is justified that the fill will be~~  
24 ~~stabilized.~~

25

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1 ~~(g) Excess material from road construction and reconstruction shall~~  
2 ~~be deposited and stabilized in a manner or in areas where downstream~~  
3 ~~beneficial uses of water will not be adversely affected.~~

4 ~~(h) Drainage structures and facilities shall be of sufficient size,~~  
5 ~~number and location to carry runoff water off of roadbeds, landings~~  
6 ~~and fill slopes. Drainage structures or facilities shall be installed~~  
7 ~~so as to minimize erosion, to ensure proper functioning, and to~~  
8 ~~maintain or restore the natural drainage pattern. Permanent~~  
9 ~~watercourse crossings and associated fills and approaches shall be~~  
10 ~~constructed where feasible to prevent diversion of stream overflow~~  
11 ~~down the road and to minimize fill erosion should the drainage~~  
12 ~~structure become plugged.~~

13 ~~(i) Where there is evidence that soil and other debris is likely to~~  
14 ~~significantly reduce culvert capacity below design flow, oversize~~  
15 ~~culverts, trash racks, or similar devices shall be installed in a~~  
16 ~~manner that minimizes culvert blockage.~~

17 ~~(j) Waste organic material, such as uprooted stumps, cull logs,~~  
18 ~~accumulations of limbs and branches, and unmerchantable trees, shall~~  
19 ~~not be buried in road fills. Wood debris or cull logs and chunks may~~  
20 ~~be placed and stabilized at the toe of fills to restrain excavated~~  
21 ~~soil from moving downslope.~~

22 ~~(k) Logging roads shall be constructed without overhanging banks.~~

23 ~~(l) Any tree over 12 inches (30.5 cm) d.b.h. with more than 25% of~~  
24 ~~the root surface exposed by road construction, shall be felled~~  
25 ~~concurrently with the timber operations.~~

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1 ~~(m) Sidecast or fill material extending more than 20 ft. (6.1 m) in~~  
2 ~~slope distance from the outside edge of the roadbed which has access~~  
3 ~~to a watercourse or lake which is protected by a WLPZ shall be seeded,~~  
4 ~~planted, mulched, removed, or treated as specified in the THP, to~~  
5 ~~adequately reduce soil erosion.~~

6 ~~(n) All culverts at watercourse crossings in which water is flowing~~  
7 ~~at the time of installation shall be installed with their necessary~~  
8 ~~protective structures concurrently with the fill, construction and~~  
9 ~~reconstruction of logging roads. Other permanent drainage structures~~  
10 ~~shall be installed no later than October 15. For construction and~~  
11 ~~reconstruction of roads after October 15, drainage structures shall be~~  
12 ~~installed concurrently with the activity.~~

13 ~~(o) Drainage structures and drainage facilities on logging roads~~  
14 ~~shall not discharge on erodible fill or other erodible material unless~~  
15 ~~suitable energy dissipators are used. Energy dissipators suitable for~~  
16 ~~use with waterbreaks are described in 14 CCR 914.6(f) [934.6(f),~~  
17 ~~954.6(f)].~~

18 ~~(p) Where roads do not have permanent and adequate drainage, the~~  
19 ~~specifications of Section 914.6 [934.6, 954.6] shall be followed.~~

20 ~~(q) Drainage facilities shall be in place and functional by October~~  
21 ~~15. An exception is that waterbreaks do not need to be constructed on~~  
22 ~~roads in use after October 15 provided that all such waterbreaks are~~  
23 ~~installed prior to the start of rain that generates overland flow.~~

24 ~~(r) No road construction shall occur under saturated soil conditions,~~  
25 ~~except that construction may occur on isolated wet spots arising from~~

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1 ~~localized ground water such as springs, provided measures are taken to~~  
2 ~~prevent material from significantly damaging water quality.~~

3 ~~(s) Completed road construction shall be drained by outsloping,~~  
4 ~~waterbreaks and/or cross-draining before October 15. If road~~  
5 ~~construction takes place from October 15 to May 1, roads shall be~~  
6 ~~adequately drained concurrent with construction operations.~~

7 ~~(t) Roads to be used for log hauling during the winter period shall~~  
8 ~~be, where necessary, surfaced with rock in depth and quantity~~  
9 ~~sufficient to maintain a stable road surface throughout the period of~~  
10 ~~use. Exceptions may be proposed by the RPF, justified in the THP, and~~  
11 ~~found by the Director to be in conformance with the requirements of~~  
12 ~~this subsection.~~

13 ~~(u) Slash and other debris from road construction shall not be~~  
14 ~~bunched against residual trees which are required for silvicultural or~~  
15 ~~wildlife purposes, nor shall it be placed in locations where it could~~  
16 ~~be discharged into Class I or II watercourses.~~

17 ~~(v) Road construction activities in the WLPZ, except for stream~~  
18 ~~crossings or as specified in the THP, shall be prohibited.~~

#### 20 ~~923.3, 943.3, 963.3 Watercourse Crossings [All Districts]~~

21 ~~Watercourse crossing drainage structures on logging roads shall be~~  
22 ~~planned, constructed, reconstructed, and maintained or removed,~~  
23 ~~according to the following standards. Exceptions may be provided~~  
24 ~~through application of Fish and Game Code Sections 1601 and 1603 and~~  
25 ~~shall be included in the THP.~~

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1 ~~(a) The location of all new permanent watercourse crossing drainage~~  
2 ~~structures and temporary crossings located within the WLPZ shall be~~  
3 ~~shown on the THP map. If the structure is a culvert intended for~~  
4 ~~permanent use, the minimum diameter of the culvert shall be specified~~  
5 ~~in the plan. Extra culverts beyond those shown in the THP map may be~~  
6 ~~installed as necessary.~~

7 ~~(b) The number of crossings shall be kept to a feasible minimum.~~

8 ~~(c) Drainage structures on watercourses that support fish shall allow~~  
9 ~~for unrestricted passage of all life stages of fish that may be~~  
10 ~~present, and shall be fully described in the plan in sufficient~~  
11 ~~clarity and detail to allow evaluation by the review team and the~~  
12 ~~public, provide direction to the LTO for implementation, and provide~~  
13 ~~enforceable standards for the inspector.~~

14 ~~(d) When watercourse crossings, other drainage structures, and~~  
15 ~~associated fills are removed the following standards shall apply:~~

16 ~~(1) Fills shall be excavated to form a channel that is as close~~  
17 ~~as feasible to the natural watercourse grade and orientation, and that~~  
18 ~~is wider than the natural channel.~~

19 ~~(2) The excavated material and any resulting cut bank shall be~~  
20 ~~sloped back from the channel and stabilized to prevent slumping and to~~  
21 ~~minimize soil erosion. Where needed, this material shall be~~  
22 ~~stabilized by seeding, mulching, rock armoring, or other suitable~~  
23 ~~treatment.~~

24 ~~(e) All permanent watercourse crossings that are constructed or~~  
25 ~~reconstructed shall accommodate the estimated 100 year flood flow,~~  
~~including debris and sediment loads.~~

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1 ~~(f) Permanent watercourse crossings and associated fills and~~  
2 ~~approaches shall be constructed or maintained to prevent diversion of~~  
3 ~~stream overflow down the road and to minimize fill erosion should the~~  
4 ~~drainage structure become obstructed. The RPF may propose an~~  
5 ~~exception where explained in the THP and shown on the THP map and~~  
6 ~~justified how the protection provided by the proposed practice is at~~  
7 ~~least equal to the protection provided by the standard rule.~~

8 ~~(g) Any new permanent culverts installed within class I watercourses~~  
9 ~~shall allow upstream and downstream passage of fish or listed aquatic~~  
10 ~~species during any life stage and for the natural movement of bedload~~  
11 ~~to form a continuous bed through the culvert and shall require an~~  
12 ~~analysis and specifications demonstrating conformance with the intent~~  
13 ~~of this section and subsection.~~

14 ~~(h) The amendments to 14 CCR § 923.3 [943.3, 963.3] that became~~  
15 ~~effective July 1, 2000 shall expire on December 31, 2007.~~

#### 17 ~~923.4, 943.4, 963.4 Road Maintenance [All Districts]~~

18 ~~Logging roads, landings, and associated drainage structures used in a~~  
19 ~~timber operation shall be maintained in a manner which minimizes~~  
20 ~~concentration of runoff, soil erosion, and slope instability and which~~  
21 ~~prevents degradation of the quality and beneficial uses of water~~  
22 ~~during timber operations and throughout the prescribed maintenance~~  
23 ~~period. In addition those roads which are used in connection with~~  
24 ~~stocking activities shall be maintained throughout their use even if~~  
25 ~~this is beyond the prescribed maintenance period.~~

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1 ~~(a) The prescribed maintenance period for erosion controls on~~  
2 ~~permanent and seasonal roads and associated landings and drainage~~  
3 ~~structures which are not abandoned in accordance with 14 CCR 923.8~~  
4 ~~[943.8, 963.8] shall be at least one year. The Director may prescribe~~  
5 ~~a maintenance period extending up to three years in accordance with 14~~  
6 ~~CCR 1050.~~

7 ~~(b) Upon completion of timber operations, temporary roads and~~  
8 ~~associated landings shall be abandoned in accordance with 14 CCR 923.8~~  
9 ~~[943.8, 963.8].~~

10 ~~(c) Waterbreaks shall be maintained as specified in 14 CCR 914.6~~  
11 ~~[934.6, 954.6].~~

12 ~~(d) Unless partially blocked to create a temporary water source,~~  
13 ~~watercourse crossing facilities and drainage structures, where~~  
14 ~~feasible, shall be kept open to the unrestricted passage of water.~~  
15 ~~Where needed, trash racks or similar devices shall be installed at~~  
16 ~~culvert inlets in a manner which minimizes culvert blockage.~~  
17 ~~Temporary blockages shall be removed by November 15.~~

18 ~~(e) Before the beginning of the winter period, all roadside berms~~  
19 ~~shall be removed from logging roads or breached, except where needed~~  
20 ~~to facilitate erosion control.~~

21 ~~(f) Drainage structures, if not adequate to carry water from the~~  
22 ~~fifty year flood level, shall be removed in accordance with 14 CCR~~  
23 ~~923.3(d) [943.3(d), 963.3(d)] by the first day of the winter period,~~  
24 ~~before the flow of water exceeds their capacity if operations are~~  
25 ~~conducted during the winter period, or by the end of timber operations~~  
~~whichever occurs first. Properly functioning drainage structures on~~

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1 ~~roads that existed before timber operations need not be removed. An~~  
2 ~~RPF may utilize an alternative practice, such as breaching of fill, if~~  
3 ~~the practice is approved by the Director as providing greater or equal~~  
4 ~~protection to water quality as removal of the drainage structure.~~

5 ~~(g) Temporary roads shall be blocked or otherwise closed to normal~~  
6 ~~vehicular traffic before the winter period.~~

7 ~~(h) During timber operations, road running surfaces in the logging~~  
8 ~~area shall be treated as necessary to prevent excessive loss of road~~  
9 ~~surface materials by, but not limited to, rocking, watering,~~  
10 ~~chemically treating, asphaltting or oiling.~~

11 ~~(i) Soil stabilization treatments on road or landing cuts, fills, or~~  
12 ~~sidecast shall be installed or renewed, when such treatment could~~  
13 ~~minimize surface erosion which threatens the beneficial uses of water.~~

14 ~~(j) Drainage ditches shall be maintained to allow free flow of water~~  
15 ~~and minimize soil erosion.~~

16 ~~(k) Action shall be taken to prevent failures of cut, fill, or~~  
17 ~~sidecast slopes from discharging materials into watercourses or lakes~~  
18 ~~in quantities deleterious to the quality or beneficial uses of water.~~

19 ~~(l) Each drainage structure and any appurtenant trash rack shall be~~  
20 ~~maintained and repaired as needed to prevent blockage and to provide~~  
21 ~~adequate carrying capacity. Where not present, new trash racks shall~~  
22 ~~be installed if there is evidence that woody debris is likely to~~  
23 ~~significantly reduce flow through a drainage structure.~~

24 ~~(m) Inlet and outlet structures, additional drainage structures~~  
25 ~~(including ditch drains), and other features to provide adequate~~  
~~capacity and to minimize erosion of road and landing fill and sidecast~~

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1 ~~to minimize soil erosion and to minimize slope instability shall be~~  
2 ~~repaired, replaced, or installed wherever such maintenance is needed~~  
3 ~~to protect the quality and beneficial uses of water.~~

4 ~~(n) Permanent watercourse crossings and associated approaches shall~~  
5 ~~be maintained to prevent diversion of stream overflow down the road~~  
6 ~~should the drainage structure become plugged. Corrective action shall~~  
7 ~~be taken before the completion of timber operations or the drainage~~  
8 ~~structure shall be removed in accordance with 14 CCR Section 923.3(d)~~  
9 ~~[943.3(d), 963.3(d)].~~

10 ~~(o) Except for emergencies and maintenance needed to protect water~~  
11 ~~quality, use of heavy equipment for maintenance is prohibited during~~  
12 ~~wet weather where roads or landings are within a WLPZ.~~

13 ~~(p) The Director may approve an exception to a requirement set forth~~  
14 ~~in subsections (b) through (o) above when such exceptions are~~  
15 ~~explained and justified in the THP and the exception would provide for~~  
16 ~~the protection of the beneficial uses of water or control erosion to a~~  
17 ~~standard at least equal to that which would result from the~~  
18 ~~application of the standard rule.~~

### 20 ~~923.5, 943.5, 963.5 Landing Construction [All Districts]~~

21 ~~Landings shall be constructed according to the following standards:~~

22 ~~(a) On slopes greater than 65%, no fill shall be placed and sidecast~~  
23 ~~shall be minimized to the degree feasible. The Director may approve~~  
24 ~~an exception if, site specific measures to minimize slope instability,~~  
25 ~~soil erosion, and discharge of concentrated surface runoff are~~  
~~described and justified in the THP.~~

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~~(b) On slopes greater than 50%, fills greater than 4 ft. in vertical height at the outside shoulder of the landing shall be: 1) constructed on a bench that is excavated at the proposed toe of the fill and is wide enough to compact the first lift, and 2) compacted in approximately 1 ft. lift from the toe to the finished grade. The RPF or supervised designee shall flag the location of this bench or the RPF shall provide a description of the bench location (narrative or drawing) in the THP for fills meeting the above criteria, where the length of landing section is greater than 100 feet. The RPF may propose an exception in the THP and the Director may approve the exception where it is justified that the landing will be stabilized.~~

~~(c) Waste organic material, such as uprooted stumps cull logs, accumulations of limbs and branches, or unmerchantable trees, shall not be buried in landing fills. Wood debris or cull logs and chunks may be placed and stabilized at the toe of landing fills to restrain excavated soil from moving downslope.~~

~~(d) Constructed landings shall be the minimum in width, size, and number consistent with the yarding and loading system to be used. Landings shall be no larger than one-half acre (.202 ha) unless explained and justified in the THP.~~

~~(e) No landing construction shall occur under saturated soil condition.~~

~~(f) The following specifications shall be met upon completion of timber operations for the year or prior to October 15, whichever occurs first:~~

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1       ~~(1) Overhanging or unstable concentrations of slash, woody~~  
2 ~~debris and soil along the downslope edge or face of the landings shall~~  
3 ~~be removed or stabilized when they are located on slopes over 65% or~~  
4 ~~on slopes over 50% within 100 ft. of a WLPZ.~~

5       ~~(2) Any obstructed ditches and culverts shall be cleaned.~~

6       ~~(3) Landings shall be sloped or ditched to prevent water from~~  
7 ~~accumulating on the landings. Discharge points shall be located and~~  
8 ~~designed to reduce erosion.~~

9       ~~(4) Sidecast or fill material extending more than 20 feet in~~  
10 ~~slope distance from the outside edge of the landing and which has~~  
11 ~~access to a watercourse or lake shall be seeded, planted, mulched,~~  
12 ~~removed or treated as specified in the THP to adequately reduce soil~~  
13 ~~erosion.~~

14       ~~(5) Sidecast or fill material extending across a watercourse~~  
15 ~~shall be removed in accordance with standards for watercourse crossing~~  
16 ~~removal set forth in 14 CCR 923.3 (d).~~

17 ~~(g) On slopes greater than 35%, the organic layer of the soil shall~~  
18 ~~substantially removed prior to fill placement.~~

19 ~~(h) When landings are constructed after October 15 they shall be~~  
20 ~~adequately drained concurrent with construction operations and shall~~  
21 ~~meet the requirements of (f)(1) through (f)(4) of this subsection upon~~  
22 ~~completion of operations at that landing.~~

23 ~~(i) The RPF may propose and the Director may approve waiver of~~  
24 ~~requirements in (f)(1) through (f)(4) of this subsection if the~~  
25 ~~Director finds they are not necessary to minimize erosion or prevent~~  
~~damage to downstream beneficial uses. The Director may also approve an~~

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1 ~~exception to the October 15th date for treatment of slash and debris,~~  
2 ~~including the practice of burning.~~

3  
4 ~~**923.6, 943.6, 963.6 Conduct of Operations on Roads and Landings [All**~~  
5 ~~**Districts]**~~

6 ~~Routine use and maintenance of roads and landings shall not take place~~  
7 ~~when, due to general wet conditions, equipment cannot operate under~~  
8 ~~its own power. Operations may take place when roads and landings are~~  
9 ~~generally firm and easily passable or during hard frozen conditions.~~

10 ~~Isolated wet spots on these roads or landings shall be rocked or~~  
11 ~~otherwise treated to permit passage. However, operations and~~  
12 ~~maintenance shall not occur when sediment discharged from landings or~~  
13 ~~roads will reach watercourses or lakes in amounts deleterious to the~~  
14 ~~quality and beneficial uses of water. This section shall not be~~  
15 ~~construed to prohibit activities undertaken to protect the road or to~~  
16 ~~reduce erosion.~~

17  
18 ~~**923.7, 943.7, 963.7 Licensed Timber Operator Responsibility for Roads**~~  
19 ~~**and Landings [All Districts]**~~

20 ~~The licensed timber operator who is responsible for the implementation~~  
21 ~~or execution of the plan shall not be responsible for the construction~~  
22 ~~and maintenance of roads and landings, unless the licensed timber~~  
23 ~~operator is employed for that purpose.~~

24  
25 ~~**923.8, 943.8, 963.8 Planned Abandonment of Roads, Watercourse**~~  
~~**Crossings, and Landings [All Districts]**~~

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1 ~~Abandonment of roads, watercourse crossings and landings shall be~~  
2 ~~planned and conducted in a manner which provides for permanent~~  
3 ~~maintenance free drainage, minimizes concentration of runoff, soil~~  
4 ~~erosion and slope instability, prevents unnecessary damage to soil~~  
5 ~~resources, promotes regeneration, and protects the quality and~~  
6 ~~beneficial uses of water. General abandonment procedures shall be~~  
7 ~~applied in a manner which satisfies this standard and include the~~  
8 ~~following:~~

9 ~~(a) Blockage of roads so that standard production four wheel drive~~  
10 ~~highway vehicles cannot pass the point of closure at the time of~~  
11 ~~abandonment.~~

12 ~~(b) Stabilization of exposed soil on cuts, fills, or sidecast where~~  
13 ~~deleterious quantities of eroded surface soils may be transported in a~~  
14 ~~watercourse.~~

15 ~~(c) Grading or shaping of road and landing surfaces to provide~~  
16 ~~dispersal of water flow.~~

17 ~~(d) Pulling or shaping of fills or sidecast where necessary to~~  
18 ~~prevent discharge of materials into watercourses due to failure of~~  
19 ~~cuts, fills, or sidecast.~~

20 ~~(e) Removal of watercourse crossings, other drainage structures, and~~  
21 ~~associated fills in accordance with 14 CCR 923.3(d). Where it is not~~  
22 ~~feasible to remove drainage structures and associated fills, the fill~~  
23 ~~shall be excavated to provide an overflow channel which will minimize~~  
24 ~~erosion of fill and prevent diversion of overflow along the road~~  
25 ~~should the drainage structure become plugged.~~

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1 ~~The Director may approve an exception to a requirement set forth in~~  
2 ~~(b) through (c) above when such exceptions are explained and justified~~  
3 ~~in the THP and the exception would provide for the protection of the~~  
4 ~~beneficial uses of water or control erosion to a standard at least~~  
5 ~~equal to that which would result from the application of the standard~~  
6 ~~rule.~~

#### 7 ~~923.9, 943.9, 963.9 Roads and Landings in Watersheds with Threatened~~ 8 ~~or Impaired Values [All Districts]~~

9 ~~— In addition to all other district Forest Practice Rules, the~~  
10 ~~following requirements shall apply in any planning watershed with~~  
11 ~~threatened or impaired values:~~

12 ~~(a) Where logging road or landing construction or reconstruction is~~  
13 ~~proposed, the plan shall state the locations of and specifications for~~  
14 ~~road or landing abandonment or other mitigation measures to minimize~~  
15 ~~the adverse effects of long term site occupancy of the transportation~~  
16 ~~system within the watershed.~~

17 ~~(b) Unless prohibited by existing contracts with the U.S.D.A. Forest~~  
18 ~~Service or other federal agency, new and reconstructed logging roads~~  
19 ~~shall be no wider than a single lane compatible with the largest type~~  
20 ~~of equipment specified for use on the road, with adequate turnouts~~  
21 ~~provided as required for safety. The maximum width of these roads~~  
22 ~~shall be specified in the plan. These roads shall be outsloped where~~  
23 ~~feasible and drained with water breaks or rolling dips (where the road~~  
24 ~~grade is inclined at 7 percent or less), in conformance with other~~  
25 ~~applicable Forest Practice Rules.~~

~~(c) The following shall apply on slopes greater than 50%:~~

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1       ~~(1) Specific provisions of construction shall be identified and~~  
2 ~~described for all new roads.~~

3       ~~(2) Where cutbank stability is not an issue, roads may be~~  
4 ~~constructed as a full-benched cut (no fill). Spoils not utilized in~~  
5 ~~road construction shall be disposed of in stable areas with less than~~  
6 ~~30 percent slope and outside of any WLPZ, EEZ, or ELZ.~~

7       ~~(3) Alternatively, roads may be constructed with balanced cuts~~  
8 ~~and fills if properly engineered, or fills may be removed with the~~  
9 ~~slopes recontoured prior to the winter period.~~

10 ~~(d) In addition to the provisions listed under 14 CCR 923.1(e)~~  
11 ~~[943.1(e), 963.1(e)], all permanent or seasonal logging roads with a~~  
12 ~~grade of 15% or greater that extends 500 continuous feet or more shall~~  
13 ~~have specific erosion control measures stated in the plan.~~

14 ~~(e) Where situations exist that elevate risks to the values set forth~~  
15 ~~in 14 CCR 916.2(a), [936.2(a), 956.2(a)] (e.g., road networks are~~  
16 ~~remote, the landscape is unstable, water conveyance features~~  
17 ~~historically have a high failure rate, culvert fills are large)~~  
18 ~~drainage structures and erosion control features shall be oversized,~~  
19 ~~low maintenance, or reinforced, or they shall be removed before the~~  
20 ~~completion of the timber operation. The method of analysis and the~~  
21 ~~design for crossing protection shall be included in the plan.~~

22 ~~(f) The provisions of 14 CCR 923.9 [943.9, 963.9] shall not apply to~~  
23 ~~a plan that is subject to an incidental take permit based upon an~~  
24 ~~approved Habitat Conservation Plan that addresses anadromous salmonid~~  
25 ~~protection.~~

~~(g) This section shall expire on December 31, 2007.~~

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**923, 943, 963 Intent for Logging Roads, Landings, and Logging Road  
Watercourse Crossings**

(a) All logging roads, landings, and logging road watercourse  
crossings in the logging area shall be planned, constructed,  
reconstructed, used, maintained, removed, abandoned, and deactivated  
in a manner that:

(1) Is consistent with long-term enhancement and maintenance of  
the forest resource.

(2) Accommodates appropriate yarding systems.

(3) Is economically feasible.

(b) Such planning, construction, reconstruction, use, maintenance,  
removal, abandonment, and deactivation shall occur in a manner that  
minimizes potential adverse impacts to, among other things:

(1) Public safety.

(2) Fish and wildlife habitat.

(3) Water quality and the beneficial uses of water.

(4) Soil resources.

(5) Significant archeological and historical sites.

(6) Air quality.

(7) Visual resources.

(8) Worker safety.

(9) Fire hazard.

(c) The RPF may propose exceptions to these rules if explained and  
justified in the plan and found by the Director to be in conformance  
with this article.

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1 (d) Exceptions may also be provided through application of Fish and  
2 Game Code Sections 1600 et seq. and shall be made an enforceable part  
3 of the plan in accordance with 14 CCR §§ 1039, 1040, 1090.14, 1092.26,  
4 or 1092.27, as appropriate.

5 (e) The provisions of Articles 11 and 12 that apply in  
6 watersheds with listed anadromous salmonids and in planning  
7 watersheds immediately upstream of, and contiguous to, any  
8 watershed with listed anadromous salmonids shall not apply to a  
9 plan that is subject to:

10 (1) A valid incidental take permit issued by DFG pursuant to  
11 Section 2081(b) of the Fish and Game Code that addresses anadromous  
12 salmonid protection; or

13 (2) A federal incidental take statement or incidental take  
14 permit that addresses anadromous salmonid protection, for which a  
15 consistency determination has been made pursuant to Section 2080.1 of  
16 the Fish and Game Code; or

17 (3) A valid natural community conservation plan that  
18 addresses anadromous salmonid protection approved by DFG under  
19 section 2835 of the Fish and Game Code; or

20 (4) A valid Habitat Conservation Plan that addresses  
21 anadromous salmonid protection, approved under Section 10 of the  
22 federal Endangered Species Act of 1973; or

23 (5) Project revisions, guidelines, or take avoidance  
24 measures pursuant to a memorandum of understanding or a planning  
25 agreement entered into between the plan submitter and DFG in

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1 preparation of obtaining a natural community conservation plan  
2 that addresses anadromous salmonid protection.

3  
4 **923.1, 943.1, 963.1 Planning for Logging Roads and Landings**

5  
6 The following standards shall apply to logging roads and landings:

7 (a) Logging roads and landings shall be planned and located within  
8 the context of a systematic layout pattern that considers 14 CCR §  
9 923(b), uses existing logging roads and landings where feasible and  
10 appropriate, provides access for fire and resource protection  
11 activities, and minimizes the following:

12 (1) Total road mileage.

13 (2) The number of logging road watercourse crossings.

14 (3) Activities near watercourses, lakes, marshes, wet meadows,  
15 and other wet areas.

16 (4) Activities across steep areas that lead without flattening  
17 to Class I, II, III, or IV watercourses and lakes.

18 (5) Activities on unstable areas or in connected headwall  
19 swales.

20 (6) Activities near nesting sites of rare, threatened, or  
21 endangered bird species.

22 (7) Activities near significant populations of rare,  
23 threatened, or endangered plants.

24 (8) Ground disturbance, cuts, and fills.

25

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1        (9) The potential for affecting surface hydrology, including  
2 but not limited to, concentrating or diverting runoff or draining the  
3 logging road or landing surface directly into a watercourse or lake.

4        (10) Maintenance needs while being compatible with the logging  
5 road classification and long-term road usage.

6 (b) No logging roads or landings shall be planned for construction or  
7 reconstruction in Class I, II, III, or IV watercourses or lakes,  
8 within a WLPZ, or in marshes, wet meadows, and other wet areas, except  
9 as follows:

10        (1) At existing logging road watercourse crossings.

11        (2) At constructed or reconstructed logging road watercourse  
12 crossings approved as part of the Fish and Game Code process (F&GC  
13 1600 et seq.)

14        (3) At logging road watercourse crossings of Class III  
15 watercourses that are dry at the time of use.

16 (c) Logging roads and landings shall be planned and located to avoid  
17 unstable areas and connected headwall swales. The Director may  
18 approve an exception if those areas are unavoidable and site-specific  
19 measures to minimize slope instability due to logging road or landing  
20 construction or reconstruction are described and justified in the  
21 plan.

22 (d) As part of the field examination of classified watercourses and  
23 lakes, the RPF or supervised designee shall evaluate areas in and near  
24 existing, constructed, and reconstructed logging roads and landings  
25 for sensitive conditions, including, but not limited to, unstable and  
erodible watercourse banks, unstable upslope areas, channels with

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1 inadequate flow capacity, changeable channels, overflow channels,  
2 flood prone areas, debris jam potential, and riparian zones.

3 (1) The RPF shall consider these conditions and the measures  
4 needed to maintain and restore, to the extent feasible, the functions  
5 set forth in 14 CCR § 916.4(b) [936.4(b), 956.4(b)] when planning  
6 logging roads and landings.

7 (2) The plan shall identify such sensitive conditions,  
8 including where they may interact with proposed timber operations,  
9 that individually or cumulatively, significantly and adversely affect,  
10 the beneficial uses of water.

11 (3) The RPF shall describe in the plan feasible protection  
12 measures for identified sensitive conditions, which consider the  
13 watercourse classification and the location and planned use of all  
14 logging roads and landings.

15 (4) Where feasible protection measures are proposed, the RPF  
16 shall specify an implementation schedule in the plan.

17 (e) When selecting feasible alternatives (see 14 CCR §§ 897 and 898)  
18 during the planning phase of logging roads and landings, the RPF shall  
19 consider the location and planned use of logging roads and landings  
20 and whether such logging roads and landings will be abandoned or  
21 deactivated.

22 (f) In watersheds with listed anadromous salmonids and in planning  
23 watersheds immediately upstream of, and contiguous to, any watershed  
24 with listed anadromous salmonids, where logging road or landing  
25 construction or reconstruction is proposed, the plan shall state the  
location of, and specifications for, logging road and landing

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1 abandonment or other mitigation measures to minimize the adverse  
2 effects of long-term site occupancy of the road system within the  
3 watershed.

4 **Option 1** In watersheds with listed anadromous salmonids and in  
5 planning watersheds immediately upstream of, and contiguous to, any  
6 watershed with listed anadromous salmonids, where logging road or  
7 landing construction or reconstruction is proposed, the plan shall  
8 identify:

9 (1) How the proposed operations will fit into the systematic  
10 layout pattern.

11 (2) What, if any, offsetting mitigation measures, including but  
12 not limited to, abandonment of logging roads and landings, are needed  
13 to minimize potential adverse impacts to watersheds from the road  
14 system.

15 **(g)** In watersheds with listed anadromous salmonids no logging roads  
16 or landings shall be planned for construction or reconstruction in the  
17 CMZ or Core Zone of a Class I watercourse except those listed in 14  
18 CCR § 916.9(e)(1)(A)-(E) [936.9(e)(1)(A)-(E), 956.9(e)(1)(A)-(E)] or  
19 pursuant to 14 CCR § 916.9(v) [936.9(v), 956.9(v)].

20 **(h)** In watersheds with listed anadromous salmonids within the Inner  
21 Zone A and B of flood prone areas of Class I watercourses the  
22 following Preferred Management Practices should be considered for  
23 inclusion in the plan by the RPF and by the Director:

24 (1) Constructed and reconstructed logging roads and landings  
25 should not be planned for location within these zones.

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1        (2) When feasible, planned use of existing logging roads and  
2 landings should be minimized in the flood prone area.

3        (3) Exceptions include the use of roads and landings to  
4 accomplish actions to improve salmonid habitat conditions stated in 14  
5 CCR § 916.9(f)(3)(E)(1) [936.9(f)(3)(E)(1), 956.9(f)(3)(E)(1)].

6  
7 **923.2, 943.2, 963.2 Design and Implementation for Logging Roads and**  
8 **Landings**

9  
10 Constructed and reconstructed logging roads and landings shall be  
11 designed and implemented in accordance with their proposed use,  
12 maintenance requirements, and the approved plan:

13 (a) Constructed and reconstructed logging roads and landings shall:

14        (1) Avoid or mitigate potential impacts to public safety.

15        (2) Avoid unstable areas and connected headwall swales and  
16 minimize activities that adversely affect them.

17        (3) Minimize cuts and fills to the extent feasible.

18        (4) Be outsloped where feasible and drained with waterbreaks or  
19 rolling dips in conformance with other applicable Forest Practice  
20 Rules.

21        (5) Include adequate drainage structures and facilities  
22 necessary to avoid concentrating and diverting runoff, to minimize  
23 erosion of roadbeds, landing surfaces, drainage ditches, sidecast and  
24 fills, to minimize the potential for soil erosion and sediment  
25 transport, and to prevent the discharge of sediment into watercourses  
and lakes in quantities deleterious to the beneficial uses of water.

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1       (6) Avoid crossing, or locations on, 100 feet or more of lineal  
2 distance over any slopes greater than 65 percent or within 100 feet of  
3 the boundary of a WLPZ on slopes greater than 50 percent that drain  
4 toward the zoned watercourse or lake. Where logging road or landing  
5 construction or reconstruction is necessary in these areas, specific  
6 measures to minimize movement of soil and the discharge of  
7 concentrated surface runoff shall be incorporated in the plan. The  
8 Director may waive inclusion of such measures where the RPF can show  
9 that slope depressions, drainage ways, and other natural retention and  
10 detention features are sufficient to control overland transport of  
11 eroded material.

12 (b) The Director may require removal of deposits of excess material  
13 if the deposits are in a position to adversely affect the beneficial  
14 uses of water and if the removal of the material is feasible.

15 (c) Excess material excavated during logging road and landing  
16 construction shall not be transported to disposal sites where it will  
17 discharge into a watercourse or lake in quantities deleterious to the  
18 beneficial uses of water.

19 (d) In addition to the requirements of subsection (a) above, all  
20 constructed and reconstructed logging roads shall:

21       (1) Be no wider than a single-lane compatible with the largest  
22 type of equipment specified for use on the logging road, with adequate  
23 turnouts provided as required for safety unless prohibited by existing  
24 contracts with the U.S.D.A. Forest Service or other federal agency.

25       (2) Avoid grades greater than 20% or grades greater than 15%  
that extend greater than 500 continuous feet. Exceptions may be

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1 approved where there is no other feasible access for harvesting of  
2 timber or where use of a gradient greater than 20% will serve to  
3 reduce soil disturbance.

4 (e) In addition to the requirements of subsection (a) above, all  
5 constructed and reconstructed landings shall:

6 (1) Be consistent with the yarding and loading system to be  
7 used.

8 (2) Be no larger than one-half acre.

9 (3) Avoid construction on slopes greater than 40 percent where  
10 the landing will exceed one-quarter acre in size.

11 (f) In watersheds with listed anadromous salmonids and in planning  
12 watersheds immediately upstream of, and contiguous to, any watershed  
13 with listed anadromous salmonids, as part of the plan the RPF shall:

14 (1) Identify logging road and landing sites in the logging  
15 area, where erosion and sediment production are ongoing during any  
16 period of the year and which pose significant risks to the beneficial  
17 uses of water.

18 (2) Assess those sites identified in 14 CCR § 923.2(f)(1)  
19 [943.2(f)(1), 963.2(f)(1)] to determine whether feasible remedies  
20 exist.

21 (3) For sites that pose significant risks to the beneficial  
22 uses of water and where feasible remedies exist, the plan shall  
23 propose appropriate treatment.

24 923.3, 943.3, 963.3 Mapping and Identification for Logging Roads and  
25 Landings

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1  
2 The following mapping and identification standards shall apply to  
3 logging roads and landings:

4 (a) For logging road- and landing-related mapping requirements refer  
5 to 14 CCR §§ 1034(x)(4)(A)-(B) and (5)(A)-(L), 1090.5(w)(4)-(6),  
6 1090.5(hh), 1090.7(n)(4)-(6), and 1092.09(1)(5)(A)-(B) and (6)(A)-(L).

7 (b) For logging road- and landing-related disclosure and description  
8 requirements refer to 14 CCR §§ 1034(bb), **Option 1** 1034(hh) (**Option 2**  
9 If Option 1 under 1034(hh) is not adopted, do not adopt Option 1),  
10 1034(ii)(1)-(5), 1034(jj)(1)-(17), 1034(kk)(1)-(3) and (4)(A),  
11 1034(mm) and 1090.5(gg).

12 (c) **Option 1** For logging road- and landing-related identification  
13 requirements refer to 14 CCR § 1034(hh). (**Option 2** If Option 1 under  
14 1034(hh) is not adopted, do not adopt the contents of subsection  
15 923.3(c) [943.3(c), 963.3(c)] proposed under Option 1 and and begin  
16 re-numbering subsection (d) as (c) and (e) as (d).)

17 (d) The RPF shall identify in the field all constructed and  
18 reconstructed logging roads and landings:

19 (1) Across slopes greater than 65 percent for 100 lineal feet  
20 or more.

21 (2) Across slopes greater than 50 percent for 100 lineal feet  
22 or more within 100 feet of the boundary of a WLPZ that drains toward  
23 the zoned watercourse or lake.

24 (e) The location of all logging roads to be constructed or  
25 reconstructed shall be flagged or otherwise identified on the ground

**Option 1:** before submission of a plan or substantial deviation (**Option**

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1 2: prior to the pre-harvest inspection, if necessary, or prior to  
2 logging road construction or reconstruction). Exceptions may be  
3 explained and justified in the plan and agreed to by the Director if  
4 flagging is unnecessary as a substantial aid to examining: (1)  
5 compatibility between logging road location and yarding and  
6 silvicultural systems, or (2) possible significant adverse effects of  
7 logging road location on the factors listed under 14 CCR § 923(b)  
8 [943(b), 963(b)].

9  
10 **923.4, 943.4, 963.4 Construction and Reconstruction for Logging Roads**  
11 **and Landings**

12  
13 Logging roads and landings shall be constructed or reconstructed in  
14 accordance with the approved plan and the following requirements. If  
15 a change in designation of logging road classification is made after  
16 the plan is approved, the change shall be reported in accordance with  
17 14 CCR §§ 1039, 1040, 1090.14, 1092.26 or 1092.27, as appropriate.

18 (a) Logging roads and landings shall not be constructed or  
19 reconstructed where such operations pose a significant risk to public  
20 safety.

21 (b) Logging roads or landings shall not be constructed or  
22 reconstructed in Class I, II, III, or IV watercourses or lakes, the  
23 WLPZ, marshes, wet meadows, or other wet areas, except for logging  
24 road watercourse crossings or as specified in the plan.

25 (c) Logging roads and landings shall not be constructed or  
reconstructed across unstable areas or connected headwall swales.

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1 (d) Logging roads and landings shall not be constructed with  
2 overhanging banks.

3 (e) Any tree over 12 inches dbh with more than 25 percent of the root  
4 surface exposed by logging road or landing construction shall be  
5 felled concurrently with the timber operations.

6 (f) On slopes greater than 40 percent, the organic layer of the soil  
7 shall be removed prior to fill placement.

8 (g) Waste organic material, such as uprooted stumps, cull logs,  
9 accumulations of limbs and branches, and unmerchantable trees, shall  
10 not be buried in logging road or landing fills. Wood debris or cull  
11 logs and chunks may be placed and stabilized at the toe of fill to  
12 restrain excavated soil from moving downslope.

13 (h) Slash and other debris from road construction shall not be  
14 bunched against residual trees, which are required for silvicultural  
15 or wildlife purposes, nor shall it be placed in locations where it  
16 could be discharged into Class I or II watercourses or lakes.

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

19 (j) Logging roads or landings shall not be constructed or  
20 reconstructed under saturated soil conditions, except that  
21 construction may occur on isolated wet spots arising from localized  
22 ground water such as springs, provided measures are taken to minimize  
23 soil erosion and sediment transport and to prevent the discharge of  
24 sediment into watercourses and lakes in quantities deleterious to the  
25 beneficial uses of water.

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1 (k) Construction or reconstruction of logging roads or landings shall  
2 not take place during the winter period unless the approved plan  
3 incorporates a complete winter period operating plan pursuant to 14 §  
4 CCR 914.7(a) [934.7(a), 954.7(a)] that specifically addresses such  
5 logging road or landing construction or reconstruction.

6 (1) On slopes greater than 50 percent for greater than 100 lineal  
7 feet, fills greater than four feet in vertical height at the outside  
8 shoulder of the logging road or landing shall be:

9 (1) Constructed on a bench that is excavated at the proposed toe  
10 of the fill and is wide enough to compact the first lift.

11 (2) Compacted in approximately one-foot lifts from the toe to the  
12 finished grade or retained by an engineered structure.

13 (m) Logging roads and landings shall not be constructed or  
14 reconstructed across 100 feet or more of lineal distance on any slope  
15 greater than 65 percent or within 100 feet of the boundary of a WLPZ  
16 on slopes greater than 50 percent that drain toward the zoned  
17 watercourse or lake unless specific construction techniques or  
18 measures are described in the plan.

19 (n) Fills shall not be constructed on slopes greater than 65 percent.

20 (o) On slopes greater than 65 percent, sidecast from logging road and  
21 landing construction shall be minimized to the degree feasible.

22 (p) Excess material transported from logging road or landing  
23 construction or reconstruction shall be deposited and stabilized in a  
24 manner and in areas that avoid potential adverse impacts to:

25 (1) Public safety.

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1        (2) Areas that could deliver sediment into a watercourse or  
2 lake in quantities deleterious to the quality and beneficial uses of  
3 water.

4 (q) Where conditions are encountered during logging road or landing  
5 construction or reconstruction that differ from what was anticipated  
6 during the preparation and review of the plan and that will result in  
7 a significant adverse impact on the environment or to public safety,  
8 the LTO shall inform the RPF or plan submitter of these unanticipated  
9 conditions in accordance with 14 CCR § 1035.3. If necessary, the  
10 responsible RPF or plan submitter shall submit to the Director a  
11 deviation to the plan describing the unanticipated conditions and  
12 proposing appropriate actions.

13 (r) In watersheds with listed anadromous salmonids, no logging roads  
14 or landings shall be constructed or reconstructed within the CMZ or  
15 Core Zone of a Class I watercourse except for those listed in 14 CCR §  
16 916.9(e)(1)(A)-(F) [936.9(e)(1)(A)-(F), 956.9(e)(1)(A)-(F)] or  
17 pursuant to 14 CCR § 916.9(v) [936.9(v), 956.9(v)].

18 (s) In watersheds with listed anadromous salmonids and in planning  
19 watersheds immediately upstream of, and contiguous to, any watershed  
20 with listed anadromous salmonids, the following shall apply:

21        (1) On slopes greater than 50 percent that have access to a  
22 watercourse or lake:

23            (A) Specific provisions shall be identified and described  
24 for all logging road construction.

25            (B) Where cutbank stability is not an issue, logging roads  
may be constructed as a full-benched cut (no fill). Spoils not

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1 utilized in logging road construction shall be disposed of in stable  
2 areas with less than 30 percent slope outside of any WLPZ, EEZ, or ELZ  
3 designated for watercourse or lake protection. The Director, with  
4 concurrence from other responsible agencies, may waive inclusion of  
5 these measures where the RPF can show that slope depressions and other  
6 natural retention and detention features are sufficient to control  
7 overland transport of eroded material.

8 (C) Logging roads may be constructed with balanced cuts  
9 and fills:

10 (i) If properly engineered, or,

11 (ii) If fills are removed and the slopes recontoured  
12 prior to the winter period.

13 (2) During the extended wet weather period, no timber  
14 operations shall take place unless the approved plan incorporates  
15 a complete winter period operating plan pursuant to 14 CCR §  
16 914.7(a) [934.7(a), 954.7(a)] that specifically addresses, where  
17 applicable, proposed logging road or landing construction,  
18 reconstruction.

19  
20 **923.5, 943.5, 963.5 Erosion Control for Logging Roads and Landings**

21  
22 The following erosion control standards shall apply to logging roads  
23 and landings:

24 (a) All logging road and landing surfaces shall be adequately drained  
25 through the use of surface geometry configurations in combination with  
the installation of drainage facilities or ditch drains.

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1 (b) Drainage facilities or ditch drains shall be installed along all  
2 logging roads and all landings that are used for timber operations in  
3 sufficient number to minimize soil erosion and sediment transport and  
4 to prevent the discharge of sediment into watercourses and lakes in  
5 quantities deleterious to the beneficial uses of water.

6 (c) Ditch drains, associated necessary protective structures, and  
7 other features associated with the ditch drain shall:

8 (1) Be adequately sized to transmit runoff.

9 (2) Minimize erosion of logging road and landing surfaces.

10 (3) Avoid discharge onto fill.

11 (4) Minimize potential adverse impacts to slope stability.

12 (d) Waterbreaks and rolling dips installed across logging roads and  
13 landings shall be of sufficient size and number and be located to  
14 avoid collecting and discharging concentrated runoff onto fills,  
15 erodible soils, unstable areas, and connected headwall swales.

16 (e) Where logging roads or landings do not have permanent and  
17 adequate drainage, and where waterbreaks are to be used to control  
18 surface runoff, the waterbreaks shall be cut diagonally a minimum of  
19 six inches into the firm roadbed and shall have a continuous firm  
20 embankment of at least six inches in height immediately adjacent to  
21 the lower edge of the waterbreak cut. On logging roads that have  
22 firmly compacted surfaces, waterbreaks may be installed by hand  
23 methods and need not provide the additional six-inch embankment  
24 provided the waterbreak ditch is constructed so that it is at least  
25 six inches deep and six inches wide on the bottom and provided there  
is ample evidence based on slope, material, amount of rainfall, and

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1 period of use that the waterbreaks so constructed will be effective in  
2 diverting water flow from the logging road surface without the  
3 embankment.

4 (f) Option 1: Distances between waterbreaks shall not exceed the  
5 standards specified in 14 CCR § 914.6(c) [(934.6(c), 954.6(c)].

6 Option 2: Distances between waterbreaks shall not exceed the  
7 following standards:

8 MAXIMUM DISTANCE BETWEEN WATERBREAKS

<u>Estimated</u>	<u>Logging Road</u>	<u>Gradient in Percent</u>	
<u>Hazard</u>	<u>10 or less</u>	<u>11-25</u>	<u>&gt;25</u>
<u>Rating</u>	<u>Feet</u>	<u>Feet</u>	<u>Feet</u>
Extreme	100	75	50
High	150	100	75
Moderate	200	150	100
Low	300	200	150 )

13 (g) Where outsloping and rolling dips are used to control surface  
14 runoff, the dip in the logging road grade shall be sufficient to  
15 capture runoff from the logging road surface. The steepness of cross-  
16 slope gradient in conjunction with the logging road or landing  
17 gradient and the estimated soil erosion hazard rating shall be used to  
18 determine the rolling dip spacing in order to minimize soil erosion  
19 and sediment transport and to prevent the discharge of sediment into  
20 watercourses and lakes in quantities deleterious to the beneficial  
21 uses of water.

22 (h) Drainage facilities and ditch drains shall discharge into  
23 vegetation or rock wherever possible. Where erosion-resistant  
24 material is not present, slash, rock, or other energy dissipating  
25

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1 material shall be installed below the drainage facility or drainage  
2 structure outlet.

3 (i) All logging roads and landings used for timber operations shall  
4 have adequate drainage upon completion of use for the year or by  
5 October 15 whichever is earlier. An exception is that drainage  
6 facilities and drainage structures do not need to be constructed on  
7 logging roads in use after October 15 provided that all such drainage  
8 facilities and drainage structures are installed prior to the start of  
9 rain that generates overland flow.

10 (j) Where logging road or landing construction or reconstruction  
11 takes place from October 15 to May 1, drainage facilities and drainage  
12 structures shall be installed concurrent with construction or  
13 reconstruction operations.

14 (k) Bare soil on logging road or landing cuts, fills, transported  
15 spoils, or sidecast that is created or exposed by timber operations  
16 shall be stabilized to the extent necessary to minimize soil erosion  
17 and sediment transport and to prevent the discharge of sediment into  
18 watercourses and lakes in quantities deleterious to the beneficial  
19 uses of water. Sites to be stabilized include, but are not limited  
20 to:

21 (1) Sidecast or fill exceeding 20 feet in slope distance from  
22 the outside edge of a logging road or a landing that has access to a  
23 watercourse or lake.

24 (2) Approaches to logging road watercourse crossings of Class I  
25 or II waters or Class III waters where an ELZ, EEZ, or a WLPZ is  
required.

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1        (3) Bare areas exceeding 800 continuous square feet within a  
2 WLPZ.

3 (1) Soil stabilization measures shall be described in the plan and  
4 may include, but are not limited to, removal, armoring with rip-rap,  
5 replanting, mulching, seeding, installing commercial erosion control  
6 devices to manufacturer's specifications, or chemical stabilizers.

7 (m) Where the natural ability of ground cover within a WLPZ is  
8 inadequate to protect the beneficial uses of water by minimizing soil  
9 erosion or by filtering sediments, the plan shall specify protection  
10 measures to retain and improve the natural ability of the ground cover  
11 to filter sediment and minimize soil erosion.

12 (n) Soil stabilization treatments shall be in place upon completion  
13 of operations for the year of use or prior to October 15, whichever  
14 comes first. An exception is that bare areas created on or after  
15 October 15 shall be treated within 10 days or as agreed to by the  
16 Director.

17 (o) Overhanging or unstable concentrations of slash, woody debris or  
18 soil along the downslope edge or face of landings shall be removed or  
19 stabilized when it is located on slopes greater than 65 percent or  
20 within 100 feet of the boundary of a WLPZ on slopes greater than 50  
21 percent that drain toward the zoned watercourse or lake. Removed  
22 materials shall not be placed at disposal sites that could discharge  
23 into a watercourse or lake in quantities deleterious to the beneficial  
24 uses of water.

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1 (p) In watersheds with listed anadromous salmonids and in planning  
2 watersheds immediately upstream of, and contiguous to, any watershed  
3 with listed anadromous salmonids, the following shall apply:

4 (1) Constructed and reconstructed logging roads shall be  
5 outsloped where feasible and drained with waterbreaks or rolling dips  
6 (where the road grade is inclined at seven (7) percent or less) in  
7 conformance with other applicable Forest Practice Rules.

8 (2) In addition to the provisions listed under 14 CCR §  
9 923.2(d)(2) [943.2(d)(2), 963.2(d)(2)], all permanent and seasonal  
10 logging roads with a grade of 15 percent or greater that extend 500  
11 continuous feet or more shall have specific erosion control measures  
12 stated in the plan.

13 (3) Within the WLPZ, and within any ELZ or EEZ designated for  
14 watercourse or lake protection, treatments to stabilize soils,  
15 minimize soil erosion, and prevent the discharge of sediment into  
16 watercourses or lakes in quantities deleterious to aquatic species or  
17 the quality and beneficial uses of water, or that threaten to violate  
18 applicable water quality requirements shall be described in the plan  
19 as follows:

20 (A) In addition to the requirements of subsections (k)-  
21 (o), soil stabilization is required for the following areas:

22 (i) Areas exceeding 100 continuous square feet where  
23 timber operations have exposed bare soil, and

24 (ii) Disturbed logging road cut banks and fills, and

25

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1                   (iii) Any other area of disturbed soil that threatens  
2 to discharge sediment into water in quantities deleterious to the  
3 quality and beneficial uses of water.

4                   (B) Where straw mulch is used, the minimum straw coverage  
5 shall be 90 percent, and any treated area that has been reused or has  
6 less than 90 percent surface cover shall be treated again by the end  
7 of timber operations.

8                   (C) Where slash mulch is packed into the ground surface  
9 through the use of a tractor or equivalent piece of heavy equipment  
10 the minimum slash coverage shall be 75 percent .

11                   (D) For areas disturbed from May 1 to October 15,  
12 treatment shall be completed prior to the start of any rain that  
13 causes overland flow across or along the disturbed surface that could  
14 deliver sediment into a watercourse or lake in quantities deleterious  
15 to the beneficial uses of water.

16                   (E) For areas disturbed from October 15 to May 1,  
17 treatment shall be completed prior to any day for which a chance of  
18 rain of 30 percent or greater is forecast by the National Weather  
19 Service or within 10 days of disturbance, whichever is earlier.

20                   (F) Where the natural ability of ground cover is  
21 inadequate to protect the beneficial uses of water by minimizing soil  
22 erosion or by filtering sediments within any ELZ or EEZ designated for  
23 watercourse or lake protection, the plan shall specify protection  
24 measures to retain and improve the natural ability of the ground cover  
25 to filter sediment and minimize soil erosion.

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**923.6, 943.6, 963.6 Use for Logging Roads and Landings**

The following use standards shall apply to logging roads and landings:

**(a)** Logging roads and landings shall be used in a manner that is consistent with their design and construction specifications.

**(b)** Logging roads and landings shall not be used when conditions that could result in sediment discharge into watercourses or lakes in quantities deleterious to the beneficial uses of water, except in emergencies to protect the road, to reduce erosion, to protect water quality, or in response to public safety needs.

**(c)** Logging roads and landings shall not be used when, due to general wet conditions, equipment cannot operate under its own power. Use may occur when logging roads and landings are generally firm and easily passable or during hard frozen conditions. Isolated wet spots on these logging roads or landings shall be rocked or otherwise treated to permit passage.

**(d)** When burning permits are required pursuant to PRC § 4423, logging roads and landings that are in use shall be kept in passable condition for fire trucks.

**(e)** All roadside berms shall be removed or breached before the beginning of the winter period, with the exception of berms needed for erosion control.

**(f)** Temporary roads shall be blocked or otherwise closed **Option 1** to normal vehicular traffic (**Option 2**: standard production four-wheel drive highway vehicles) prior to the winter period.

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1 (g) Logging roads and landings shall not be used for log hauling  
2 between October 15 and May 1 when saturated soil conditions result in  
3 soil erosion and sediment transport that could discharge sediment into  
4 watercourses and lakes in quantities deleterious to the beneficial  
5 uses of water.

6 (h) Logging roads and landings used for log hauling during the winter  
7 period shall be, where necessary, surfaced with rock to a depth and  
8 quantity sufficient to maintain a stable road surface throughout the  
9 period of use.

10 (i) In watersheds with listed anadromous salmonids, the following  
11 shall apply:

12 (1) Existing logging roads or landings shall not be used within  
13 the CMZ of a Class I watercourse except as listed in 14 CCR § 916.9  
14 916.9(e)(1)(A)-(F) [936.9(e)(1)(A)-(F), 956.9(e)(1)(A)-(F)] or  
15 pursuant to 14 CCR § 916.9(v) [936.9(v), 956.9(v)].

16 (2) When feasible, minimize use of existing logging roads and  
17 landings located within Inner Zones A and B of flood prone areas.

18 Exceptions include the use of roads and landings to accomplish actions  
19 to improve salmonid habitat conditions stated in 14 CCR § 916.9  
20 916.9(f)(3)(E)(1.) [936.9(f)(3)(E)(1.), 956.9(f)(3)(E)(1.)]

21 (j) In watersheds with listed anadromous salmonids and in planning  
22 watersheds immediately upstream of, and contiguous to, any watershed  
23 with listed anadromous salmonids, the following shall apply:

24 (1) Logging roads and landings shall not be used when visibly  
25 turbid water from the road or landing surface or an inside ditch  
associated with the logging road or landing may reach a watercourse or

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1 lake in quantities sufficient to cause a turbidity increase in Class  
2 I, II, III or IV waters.

3 (2) Log hauling on logging roads and landings shall be limited  
4 to those which are hydrologically disconnected from watercourses to  
5 the extent feasible, and exhibit a stable operating surface in  
6 conformance with (3) above.

7 (3) Concurrent with use for log hauling, approaches to logging  
8 road watercourse crossings shall be treated for erosion control as  
9 needed to minimize soil erosion and sediment transport and to prevent  
10 the discharge of sediment into watercourses and lakes in quantities  
11 deleterious to the beneficial uses of water.

12 (4) Concurrent with use for log hauling, all traveled surfaces  
13 of logging roads in a WLPZ or within any ELZ or EEZ designated for  
14 watercourse or lake protection shall be treated for erosion control as  
15 needed to minimize soil erosion and sediment transport and to prevent  
16 the discharge of sediment into watercourses and lakes in quantities  
17 deleterious to the beneficial uses of water.

18 (5) No timber operations shall take place during the extended  
19 wet weather period unless the approved plan incorporates a complete  
20 winter period operating plan pursuant to 14 CCR § 914.7(a) [934.7(a),  
21 954.7(a)] that specifically addresses, where applicable, proposed  
22 logging road or landing use.

23  
24 **923.7, 943.7, 963.7 Maintenance and Monitoring for Logging Roads and**  
25 **Landings**

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1 The following maintenance and monitoring standards shall apply to  
2 logging roads and landings:

3 (a) Logging road and landing surfaces shall be maintained during  
4 timber operations and throughout the prescribed maintenance period to  
5 minimize soil erosion and sediment transport and to prevent the  
6 discharge of sediment into watercourses and lakes in quantities  
7 deleterious to the beneficial uses of water.

8 (b) Logging roads that are used in connection with stocking  
9 activities shall be maintained throughout such use, even if this  
10 extends beyond the prescribed maintenance period.

11 (c) Maintenance treatments to the running surfaces of logging roads  
12 and landing surfaces shall be described in the plan and may include,  
13 but not be limited to, rocking, watering, paving, chemically treating,  
14 or installing commercial erosion control devices to manufacturer's  
15 specifications.

16 (d) Drainage facilities and drainage structures, including associated  
17 necessary protective structures, shall be maintained to allow free  
18 flow of water and minimize soil erosion or they shall be repaired,  
19 replaced, or installed when maintenance is needed to protect the  
20 quality and beneficial uses of water.

21 (e) Waterbreaks shall be maintained as specified in 14 CCR § 914.6(h)  
22 [934.6(h), 954.6(h)].

23 (f) Soil stabilization treatments on logging road or landing cuts,  
24 fills, and sidecast shall be maintained as needed to minimize soil  
25 erosion and sediment transport and to prevent sediment discharge into

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1 watercourses and lakes in quantities deleterious to the beneficial  
2 uses of water.

3 (g) Actions shall be taken as needed to reduce the potential for  
4 failures of cuts, fills, or sidecast to discharge sediment into  
5 watercourses and lakes in quantities deleterious to the beneficial  
6 uses of water.

7 (h) Heavy equipment shall not be used in a WLPZ for maintenance  
8 during wet weather, except in emergencies to protect the road, to  
9 reduce erosion, to protect water quality, or in response to public  
10 safety needs.

11 (i) Where evidence of substantial soil erosion and discharge of  
12 sediment into watercourses or lakes in quantities deleterious to the  
13 beneficial uses of water is present along a logging road or landing  
14 used for timber operations, additional drainage facilities and  
15 structures shall be installed as needed to minimize soil erosion and  
16 sediment transport and to prevent the discharge of sediment into  
17 watercourses and lakes in quantities deleterious to the beneficial  
18 uses of water.

19 (j) The prescribed maintenance period for erosion controls on  
20 permanent and seasonal logging roads and associated landings and  
21 drainage structures, which are not abandoned or deactivated in  
22 accordance with 14 CCR §§ 923.8 [943.8, 963.8] and 923.17 [943.17,  
23 963.17], shall be at least one year. The Director may prescribe a  
24 maintenance period extending up to three years in accordance with 14  
25 CCR § 1050.

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1 (k) Logging roads, landings, and associated drainage structures used  
2 for timber operations shall be monitored as needed to comply with 14  
3 CCR § 1050.

4 (1) In watersheds with listed anadromous salmonids, water drafting  
5 for timber operations shall:

6 (1) Comply with Fish and Game Code Section 1600, et seq. Timber  
7 operations conducted under a Fish and Game Code Section 1600 master or  
8 long-term agreement that includes water drafting may provide proof of  
9 such coverage for compliance with this paragraph.

10 (2) Describe the water drafting site conditions and proposed  
11 water drafting activity in the plan, including:

12 (A) A general description of the conditions and proposed  
13 water drafting;

14 (B) The watercourse classification;

15 (C) The drafting parameters including the months the site  
16 is proposed for use; estimated total volume needed per day; estimated  
17 maximum instantaneous drafting rate and filling time; and disclosure  
18 of other water drafting activities in the same watershed;

19 (D) The estimated drainage area (acres) above the point of  
20 diversion;

21 (E) The estimated unimpeded streamflow, pumping rate, and  
22 drafting duration,

23 (F) a discussion of the effects on aquatic habitat  
24 downstream from the drafting site(s) of single pumping operations, or  
25 multiple pumping operations at the same location, and at other  
locations in the same watershed;

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1           (G) A discussion of proposed alternatives and measures to  
2 prevent adverse effects to fish and wildlife resources, such as  
3 reducing hose diameter; using gravity-fed tanks instead of truck  
4 pumping; reducing the instantaneous or daily intake at one location;  
5 describing allowances for recharge time; using other dust palliatives;  
6 and drafting water at alternative sites;

7           (H) The methods that will be used to measure source  
8 streamflow prior to the water drafting operation and the conditions  
9 that will trigger streamflow to be measured during the operation.

10          (3) All water drafting for timber operations are subject to each  
11 requirement below unless the Department of Fish and Game modifies the  
12 requirement in the Lake or Streambed Alteration agreement that  
13 authorized the drafting operation, or unless otherwise specified  
14 below:

15           (A) All intakes shall be screened to prevent impingement of  
16 juvenile fish against the screen. The following requirements apply to  
17 screens and water drafting on Class I waters:

18                   (i) Openings in perforated plate or woven wire mesh  
19 screens shall not exceed 3/32 inches (2.38 millimeters). Slot  
20 openings in wedge wire screens shall not exceed 1/16 inches (1.75  
21 millimeters).

22                   (ii) The screen surface shall have at least 2.5  
23 square feet of openings submerged in water.

24                   (iii) The drafting operator shall regularly inspect,  
25 clean, and maintain screens to ensure proper operation whenever water  
is drafted.

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1                    (iv) The approach velocity (water moving through the  
2 screen) shall not exceed 0.33 feet/second.

3                    (v) The diversion rate shall not exceed 350 gallons  
4 per minute.

5                    (B) Approaches and associated drainage features to drafting  
6 locations within a WLPZ or channel zone shall be surfaced with rock or  
7 other suitable material to minimize generation of sediment.

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

12                    (D) Water drafting trucks parked on streambeds or  
13 floodplains shall use drip pans or other devices such as adsorbent or  
14 absorbent blankets, sheet barriers or other materials as needed to  
15 prevent soil and water contamination from motor oil or hydraulic fluid  
16 leaks.

17                    (E) Bypass flows for Class I watercourses shall be provided  
18 in volume sufficient to avoid dewatering the watercourse and maintain  
19 aquatic life downstream, and shall conform to the following standard:

20                    (i) Bypass flows in the source stream during  
21 drafting shall be at least 2 cubic feet per second.

22                    (ii) Diversion rate shall not exceed 10 percent of  
23 the surface flow.

24                    (iii) Pool volume reduction shall not exceed 10  
25 percent.

(F) The drafting operator shall keep a log that records for

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1 each time water is drafted, the date, total pumping time, pump rate,  
2 starting time, ending time, and volume diverted. Logs shall be filed  
3 with the Department of Forestry and Fire Protection at the end of  
4 seasonal operations and maintained with the plan record. This  
5 requirement may be modified in the approved plan that covers the water  
6 drafting, but only with concurrence from the Department of Fish and  
7 Game.

8 (G) Before commencing any water drafting operation, the RPF  
9 and the drafting operator shall conduct a pre-operations field review  
10 to discuss the water drafting measures in the plan and/or Lake or  
11 Streambed Alteration Agreement.

12 (m) In watersheds with listed anadromous salmonids and in planning  
13 watersheds immediately upstream of, and contiguous to, any watershed  
14 with listed anadromous salmonids, the following shall apply:

15 (1) Grading logging roads or landings to obtain a drier running  
16 surface more than one time before reincorporation of any resulting  
17 berms back into the road surface is prohibited.

18 (2) The erosion control maintenance period on permanent and  
19 seasonal logging roads and associated landings that are not abandoned  
20 or deactivated in accordance with 14 CCR § 923.8 [943.8, 963.8] shall  
21 be three years.

22  
23 **923.8, 943.8, 963.8 Abandonment and Deactivation of Logging Roads and**  
24 **Landings**

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1 All logging roads and landings that are proposed to be removed from  
2 the permanent road network, including historic roads and landings,  
3 shall be abandoned. All temporary logging roads and landings that are  
4 to remain a part of the permanent road network shall be deactivated  
5 prior to the winter period or upon completion of timber operations,  
6 whichever comes first. Other logging roads and landings proposed to  
7 be deactivated shall comply with the standards specified in this  
8 section. Where abandonment or deactivation is required or proposed,  
9 specific measures used to apply the following general requirements  
10 shall be described in the plan:

11 (a) All abandoned and deactivated logging roads shall be left in a  
12 condition that provides for long-term functioning of erosion controls.

13 (b) Soil exposed by abandonment or deactivation operations on cuts,  
14 fills, and sidecast shall be stabilized as needed during and upon  
15 completion of abandonment or deactivation operations to minimize soil  
16 erosion and sediment transport and to prevent the discharge of  
17 sediment into watercourses and lakes in quantities deleterious to the  
18 beneficial uses of water.

19 (c) Logging road and landing surfaces shall be graded or shaped where  
20 needed to disperse runoff.

21 (d) Fills or sidecast shall be pulled or shaped where site conditions  
22 indicate that there is a reasonable potential for perched materials to  
23 enter a watercourse or lake in quantities deleterious to the  
24 beneficial uses of water.

25 (e) Logging road watercourse crossings, other drainage structures,  
and associated fills shall be removed and stabilized in accordance

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1 with 14 CCR § 923.17(a)-(c) [943.17(a)-(c), 963.17(a)-(c)]. Where it  
2 is not feasible to remove drainage structures and associated fills,  
3 the plan shall identify how the potential for soil erosion and  
4 sediment transport will be minimized and how the discharge of sediment  
5 into watercourses and lakes in quantities deleterious to the  
6 beneficial uses of water will be prevented.

7 (f) Logging roads to be abandoned or deactivated shall be blocked  
8 prior to the winter period so that standard production four wheel-  
9 drive highway vehicles cannot pass the point of closure at the time of  
10 abandonment or deactivation. If the logging road is to be abandoned,  
11 then the blockage design shall be described in the plan.

12  
13 **923.9, 943.9, 963.9 Licensed Timber Operator Responsibility for**  
14 **Logging Roads and Landings**

15  
16 The licensed timber operator who is responsible for the implementation  
17 or execution of the plan shall be responsible for the construction and  
18 maintenance of logging roads and landings, unless another licensed  
19 timber operator is employed for that purpose and amended into the plan  
20 as the responsible party.

21  
22 **923.10, 943.10, 963.10 Planning for Logging Road Watercourse Crossings**

23  
24 The following planning standards shall apply to logging road  
25 watercourse crossings:

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1 (a) Logging road watercourse crossings shall be planned and located  
2 within the context of a systematic logging road layout pattern.

3 (b) Logging road watercourse crossings shall be planned in a manner  
4 that is consistent with their proposed use.

5 (c) The number of logging road watercourse crossings shall be kept to  
6 a feasible minimum.

7 (d) Existing logging road watercourse crossing locations shall be  
8 utilized where feasible and appropriate.

9 (e) Where logging road watercourse crossings are proposed to be  
10 constructed or reconstructed in areas where public safety may be  
11 affected, the potential public safety impacts shall be disclosed in  
12 the plan.

13 (f) As part of the field examination of classified watercourses and  
14 lakes, the RPF or supervised designee shall evaluate areas at and near  
15 existing and constructed or reconstructed logging road watercourse  
16 crossings for sensitive conditions, including, but not limited to,  
17 past diversion, overtopping, plugging, significant inlet or outlet  
18 erosion, soil piping, fill slope erosion and significant mechanical  
19 damage or wear.

20 (1) The RPF shall consider these conditions, and those measures  
21 needed to maintain, and restore to the extent feasible, the functions  
22 set forth in 14 CCR § 916.4(b) [936.4(b), 956.4(b)], when planning  
23 logging road watercourse crossings.

24 (2) The plan shall identify such conditions, including where  
25 they may interact with proposed timber operations, that individually

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1 or cumulatively, significantly and adversely affect the beneficial  
2 uses of water.

3 (3) The RPF shall describe in the plan feasible protection  
4 measures for identified sensitive conditions that consider the  
5 watercourse classification and the location and planned use of logging  
6 road watercourse crossings.

7 (4) Where feasible protection measures are proposed, the RPF  
8 shall specify an implementation schedule in the plan.

9 (g) The RPF shall disclose in the plan how diversion of stream  
10 overflow at logging road watercourse crossings will be prevented.

11 (h) All new permanent constructed or reconstructed logging road  
12 watercourse crossing culverts installed on Class I watercourses, where  
13 fish are always or seasonally present or where fish habitat is  
14 restorable, shall be planned to allow upstream and downstream passage  
15 of fish or listed aquatic species during any life stage and for the  
16 natural movement of bedload to form a continuous bed through the  
17 culvert.

18  
19 **923.11, 943.11, 953.11 Logging Road Watercourse Crossing Design and**  
20 **Implementation**

21  
22 The following design and implementation standards shall apply to  
23 logging road watercourse crossings:

24 (a) All constructed and reconstructed logging road watercourse  
25 crossings shall be designed in accordance with the planned use of the  
associated logging road.

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1 (b) All logging road watercourse crossings shall be designed to avoid  
2 or mitigate potential significant adverse impacts to public safety.

3 (c) All constructed and reconstructed permanent logging road  
4 watercourse crossing structures shall be designed to accommodate the  
5 estimated 100-year flood flow, including debris and sediment loads.

6 (d) All new and replacement culverts used for logging road  
7 watercourse crossings shall be designed to be installed at or slightly  
8 below the natural watercourse grade, in alignment with the watercourse  
9 channel and of the appropriate length.

10 (e) Where new culverts are proposed for permanent installation at a  
11 logging road watercourse crossing, the minimum diameter of the culvert  
12 and the method(s) used to determine the culvert diameter shall be  
13 specified in the plan.

14 (f) All necessary protective structures associated with logging road  
15 watercourse crossings shall be adequately sized to transmit runoff,  
16 minimize erosion of crossing fills, and prevent the discharge of  
17 sediment into watercourses and lakes in quantities deleterious to the  
18 beneficial uses of water.

19 (g) Methods to mitigate or prevent diversion of stream overflow at  
20 logging road watercourse crossings shall be stated in the plan.

21 (h) Rock used to stabilize the outlet of fords shall be adequately  
22 sized to resist mobilization, with the range of required rock  
23 dimensions described in the plan.

24 (i) Drainage structures on watercourses that support fish shall allow  
25 for unrestricted passage of all life stages of fish that may be  
present, and shall be fully described in the plan in sufficient

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1 clarity and detail to allow evaluation by the review team and the  
2 public, provide direction to the LTO for implementation, and provide  
3 enforceable standards for the inspector.

4 (j) All new permanent constructed and reconstructed logging road  
5 watercourse crossing culverts installed within Class I watercourses,  
6 which meet the criteria for Class I waters where fish are always or  
7 seasonally present or where fish habitat is restorable, shall include  
8 the analysis and specifications that document conformance with 14 CCR  
9 § 923.10(h) [943.10(h), 963.10(h)].

10 (k) Where logging road networks are remote or are located where the  
11 landscape is unstable, where crossing fills over culverts are large,  
12 or where logging road watercourse crossing drainage structures and  
13 erosion control features historically have a high failure rate,  
14 drainage structures and erosion control features shall be oversized,  
15 designed for low maintenance, reinforced, or removed before the  
16 completion of the timber operation. Option 1: The method of analysis  
17 and the design for crossing protection shall be included in the plan.

18 [And do not add 923.11(m) below]

19 (l) In watersheds with listed anadromous salmonids, for Class I  
20 watercourses, where fish are always or seasonally present or where  
21 fish habitat is restorable, any plan involving timber operations  
22 within the WLPZ shall contain the following information:

23 (1) A description of all existing permanent logging road  
24 watercourse crossings.

25 (2) Clear and enforceable specifications describing how these  
crossings are to be modified, used, and treated to minimize risks,

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1 giving special attention to allowing fish to pass both upstream and  
2 downstream during all life stages and in conformance with the  
3 standards of subsection (j) above and 14 CCR § 923.10(h) [943.10(h),  
4 963.10(h)].

5 (3) Clear and enforceable specifications for construction and  
6 operation of any new crossing(s) of a Class I watercourse to prevent  
7 direct harm, habitat degradation, water velocity increase, hindrance  
8 of fish passage, or other potential impairment of beneficial uses of  
9 water.

10 (m) (Option 2 In watersheds with listed anadromous salmonids, in  
11 addition to the requirements of 14 CCR § 923.11(k) [943.11(k),  
12 963.11(k)], the method of analysis and the design for crossing  
13 protection shall be included in the plan.)

14  
15 **923.12, 943.12, 963.12 Logging Road Watercourse Crossing Mapping and**  
16 **Identification**

17  
18 The following mapping and identification standards shall apply to  
19 logging road watercourse crossings:

20 (a) For logging road watercourse crossing-related mapping  
21 requirements refer to 14 CCR §§ 1034(x)(6)(A)-(C), 1090.5(w)(7),  
22 1090.7(n)(7), and 1092.09(1)(7)(A)-(C).

23 (b) For logging road watercourse crossing-related disclosure and  
24 description requirements refer to 14 CCR §§ 1034(ii)(1)-(2) and (4),  
25 1034(kk)(4)(A), 1034(ll) and 1034(mm).

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1 (c) The location of all logging road watercourse crossings to be  
2 constructed or reconstructed shall be flagged or otherwise identified  
3 on the ground **Option 1:** before submission of a plan or substantial  
4 deviation (**Option 2:** prior to the pre-harvest inspection, if  
5 necessary, or prior to logging road watercourse crossing construction  
6 or reconstruction). Exceptions may be explained and justified in the  
7 plan and agreed to by the Director if flagging is unnecessary as a  
8 substantial aid to examining possible significant adverse effects of  
9 the crossing location on the factors listed under 14 CCR § 923(b)  
10 [943(b), 963(b)].

11  
12 **923.13, 943.13, 963.13 Logging Road Watercourse Crossing Construction**  
13 **and Reconstruction**

14  
15 The following construction and reconstruction standards shall apply to  
16 logging road watercourse crossings:

17 (a) Where applicable, logging road watercourse crossing construction  
18 and reconstruction shall comply with the design of required DF&G 1600  
19 agreements.

20 (b) All constructed and reconstructed permanent logging road  
21 watercourse crossings shall accommodate the 100-year flood flow,  
22 including debris and sediment loads.

23 (c) All new and replacement culverts used for logging road  
24 watercourse crossings shall be installed at or slightly below the  
25 natural watercourse grade and in alignment with the watercourse  
channel. For Class I watercourses where fish are always or seasonally

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1 present or where fish habitat is restorable, new and replacement  
2 culverts shall be installed below grade and in alignment with the  
3 watercourse channel to allow upstream and downstream passage of fish  
4 or listed aquatic species during any life stage and natural movement  
5 of bedload to form a continuous bed through the culvert and shall be  
6 in conformance the design specified in 14 CCR § 923.11 (j)  
7 [943.11(j),963.11(j)] and with required DF&G 1600 agreements specified  
8 in subsection (a) above.

9 (d) Fills for constructed and reconstructed logging road watercourse  
10 crossings shall be thoroughly compacted in approximately one-foot  
11 lifts during installation. The face of crossing fills shall be no  
12 greater than 65 percent (1.5:1, horizontal to vertical).

13 (e) Logging road watercourse crossings shall not discharge water onto  
14 erodible fill or other erodible material without the installation of  
15 energy dissipators and other necessary protective structures.

16 (f) Where water is flowing at the time of logging road watercourse  
17 crossing construction or reconstruction, necessary protective  
18 structures shall be concurrently installed.

19 (g) Where a significant volume of sediment is stored upstream from a  
20 logging road watercourse crossing that is proposed to be  
21 reconstructed, the stored sediment shall be removed or stabilized, to  
22 the extent feasible, as described in the plan and in conformance with  
23 required DF&G 1600 agreements.

24 (h) Critical dips shall be incorporated into the construction or  
25 reconstruction of logging road watercourse crossings utilizing

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1 culverts, except where diversion of overflow is prevented by other  
2 methods stated in the plan.

3 (i) Logging road watercourse crossings with sensitive conditions  
4 identified under 14 CCR § 923.10(f) [943.10(f), 963.10(f)] shall be  
5 upgraded to address these conditions, replaced in accordance with 14  
6 CCR § 923.11 [943.11, 963.11] and this section, or removed in  
7 accordance with 14 CCR § 923.17 [943.17, 963.17].

8 (j) Logging road watercourse crossings shall not be constructed or  
9 reconstructed under saturated soil conditions or when such activities  
10 could result in the discharge of sediment into watercourses or lakes  
11 in quantities deleterious to the beneficial uses of water.

12 (k) Where conditions are encountered during logging road watercourse  
13 crossing construction or reconstruction that differ from what was  
14 anticipated during the preparation and review of the plan and that  
15 will result in a significant adverse impact on the environment or to  
16 public safety, the LTO shall notify the RPF or plan submitter of these  
17 unanticipated conditions in accordance with 14 CCR § 1035.3. If  
18 necessary, the responsible RPF or plan submitter shall submit to the  
19 Director a proposed deviation to the plan describing the unanticipated  
20 conditions and proposing appropriate actions.

21 (l) Logging road watercourse crossings shall be installed no later  
22 than October 15, except where logging road construction or  
23 reconstruction takes place from October 15 to November 15 or from  
24 April 1 to May 1 where logging road watercourse crossings shall be  
25 installed concurrent with the activity. Logging road watercourse  
crossings shall not be installed during the winter period, except as

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1 specified in an approved winter operating plan per 14 CCR § 914.7(a)  
2 [934.7(a), 954.7(a)].

3 (m) In watersheds with listed anadromous salmonids, excavated  
4 material and cut bank resulting from construction and reconstruction  
5 shall be sloped back from the channel to prevent slumping and to  
6 minimize soil erosion and where needed, stabilized per 14 CCR §  
7 923.14(b) [943.14(b), 963.14(b)].

8 (n) In watersheds with listed anadromous salmonids and in planning  
9 watersheds immediately upstream of, and contiguous to, any watershed  
10 with listed anadromous salmonids, during the extended wet weather  
11 period no timber operations shall take place unless the approved plan  
12 incorporates a complete winter period operating plan pursuant to 14 CCR  
13 § 914.7(a) [934.7(a), 954.7(a)] that specifically addresses, where  
14 applicable, proposed logging road watercourse construction or  
15 reconstruction. Where logging road watercourse crossing construction  
16 or reconstruction is proposed an implementation schedule shall be  
17 specified.

18  
19 **923.14, 943.14, 963.14 Logging Road Watercourse Crossing Erosion**

20 **Control**

21  
22 (a) The following drainage standards shall apply to logging road  
23 watercourse crossings:

24 (1) Adequate surface drainage at logging road watercourse  
25 crossings shall be provided through the use of surface geometry

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1 configurations in combination with the installation of drainage  
2 facilities, ditch drains, or other necessary protective structures.

3 (2) Drainage facilities and ditch drains shall be installed  
4 adjacent to logging road watercourse crossings, as needed, to minimize  
5 soil erosion and sediment transport and to prevent the discharge of  
6 sediment into watercourses and lakes in quantities deleterious to the  
7 beneficial uses of water during and upon completion of timber  
8 operations. See 14 CCR § 923.5(d)-(j) [943.5(d)-(j), 963.5(d)-(j)]

9 (3) Drainage facilities or ditch drains installed adjacent to  
10 logging road watercourse crossings shall be located to avoid  
11 discharging concentrated runoff onto fills, erodible soils, unstable  
12 areas, and connected headwall swales.

13 (b) The following stabilization standards shall apply to logging road  
14 watercourse crossings:

15 (1) Bare soil on fills or sidecast associated with logging road  
16 watercourse crossings that are created or exposed by timber operations  
17 shall be stabilized to the extent necessary to minimize soil erosion  
18 and sediment transport and to prevent the discharge of sediment into  
19 watercourses and lakes in quantities deleterious to the beneficial  
20 uses of water. Erosion control measures for the traveled surface of  
21 roads and landing surfaces are specified in 14 CCR §§ 923.5 [943.5,  
22 963.5] and 923.7 [943.7, 963.7]. Sites to be stabilized include, but  
23 are not limited to, sidecast or fill greater than 20 feet in slope  
24 distance from the outside edge of the road surface at the logging road  
25 watercourse crossing.

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1       (2) Soil stabilization measures shall be described in the plan  
2 and may include, but are not limited to, removal, armoring with rip-  
3 rap, replanting, mulching, seeding, installing commercial erosion  
4 control devices to manufacturer's specifications, or chemical  
5 stabilizers.

6       (3) Soil stabilization treatments shall be in place upon  
7 completion of operations for the year of use or prior to October 15,  
8 whichever comes first. An exception is that bare areas created after  
9 October 15 shall be treated within 10 days or as agreed to by the  
10 Director.

11       (4) In watersheds with listed anadromous salmonids and in  
12 planning watersheds immediately upstream of, and contiguous to, any  
13 watershed with listed anadromous salmonids, within the WLPZ and within  
14 any ELZ or EEZ designated for watercourse or lake protection,  
15 treatments to stabilize soils, minimize soil erosion, and prevent the  
16 discharge of sediment into watercourses and lakes in quantities  
17 deleterious to aquatic species or the quality and beneficial uses of  
18 water, or that threaten to violate applicable water quality  
19 requirements, shall be described in the plan as follows:

20       (A) In addition to the requirements of subsections (b)(1)-  
21 (3), soil stabilization is required for the following:

22               (i) Areas exceeding 100 continuous square feet where  
23 timber operations have exposed bare soil.

24               (ii) Disturbed logging road watercourse crossing cut  
25 banks and fills, and

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1                   (iii) Any other area of disturbed soil that threatens  
2 to discharge sediment into water in quantities deleterious to the  
3 quality and beneficial uses of water.

4                   (B) Where straw mulch is used, the minimum straw coverage  
5 shall be 90 percent, and any treated area that has been reused or has  
6 less than 90 percent surface cover shall be treated again by the end  
7 of timber operations.

8                   (C) Where slash mulch is packed into the ground surface  
9 through the use of a tractor or equivalent piece of heavy equipment  
10 the minimum slash coverage shall be 75 percent.

11                   (D) For areas disturbed from May 1 to October 15,  
12 treatment shall be completed prior to the start of any rain that  
13 causes overland flow across or along the disturbed surface that could  
14 deliver sediment into a watercourse or lake in quantities deleterious  
15 to the beneficial uses of water.

16                   (E) For areas disturbed from October 15 to May 1,  
17 treatment shall be completed prior to any day for which a chance of  
18 rain of 30 percent or greater is forecast by the National Weather  
19 Service or within 10 days of disturbance, whichever is earlier.

20  
21 **923.15, 943.15, 963.15 Logging Road Watercourse Crossing Use**

22  
23 Logging road watercourse crossings shall be used in a manner that is  
24 consistent with the design, construction, and maintenance of the  
25 logging road along which they have been constructed (Refer to 14 CCR

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1 §§ 923.2 [943.2, 963.2], 923.4 [943.4, 963.4], 923.6 [943.6, 963.6],  
2 and 923.7 [943.7, 963.7]).

3  
4 **923.16, 943.16, 963.16 Logging Road Watercourse Crossing Maintenance**  
5 **and Monitoring**

6  
7 The following maintenance and monitoring standards shall apply to  
8 logging road watercourse crossings:

9 (a) Logging road watercourse crossings shall be maintained as  
10 designed, constructed, and reconstructed during timber operations and  
11 throughout the prescribed maintenance period.

12 (b) Logging road watercourse crossings that are used in connection  
13 with stocking activities shall be maintained throughout such use, even  
14 if this extends beyond the prescribed maintenance period.

15 (c) Soil stabilization treatments on logging road watercourse  
16 crossing fills shall be maintained to minimize soil erosion and  
17 sediment transport and to prevent the discharge of sediment into  
18 watercourses and lakes in quantities deleterious to the beneficial  
19 uses of water.

20 (d) The plan shall identify measures to be used to reduce sediment  
21 delivery from logging road watercourse crossings where evidence of  
22 substantial soil erosion and discharge of sediment into watercourses  
23 and lakes in quantities deleterious to the beneficial uses of water is  
24 present at a logging road watercourse crossing used for timber  
25 operations. Where evidence of substantial soil erosion and discharge  
of sediment into watercourses and lakes in quantities deleterious to

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1 the beneficial uses of water is present at a logging road watercourse  
2 crossing used for timber operations, additional measures shall be  
3 stated in the plan and installed, as needed, to minimize soil erosion  
4 and sediment transport and to prevent the discharge of sediment into  
5 watercourses and lakes in quantities deleterious to the beneficial  
6 uses of water.

7 (e) Logging road watercourse crossings used for timber operations  
8 shall be monitored, as needed, to comply with 14 CCR § 1050.

9 (f) Drainage structures and associated necessary protective  
10 structures shall be maintained, repaired, and replaced as needed to  
11 minimize crossing blockage and to provide for adequate capacity.

12 (g) In watersheds with listed anadromous salmonids and in planning  
13 watersheds immediately upstream of, and contiguous to, any watershed  
14 with listed anadromous salmonids, the erosion control maintenance  
15 period on logging road watercourse crossings that are not abandoned or  
16 deactivated in accordance with 14 CCR § 923.8 [943.8, 963.8] shall be  
17 three years.

18  
19 **923.17, 943.17, 963.17 Logging Road Watercourse Crossing Removal**

20  
21 All logging road watercourse crossings that are proposed by the plan  
22 submitter to be removed, including temporary crossings and those along  
23 abandoned or deactivated logging roads, shall be removed as described  
24 in the plan and shall apply the following standards:

25 (a) Fills shall be excavated to form a channel that is as close as  
feasible to the natural watercourse grade and orientation and that is

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1 wider than the average natural channel, as observed upstream and  
2 downstream of the logging road watercourse crossing to be removed.

3 (b) The excavated material and any resulting cut bank shall be no  
4 greater than 65 percent (1.5:1, horizontal to vertical) from the  
5 outside edge of the constructed channel to prevent slumping, to  
6 minimize soil erosion and sediment transport, and to prevent the  
7 discharge of sediment into watercourses and lakes in quantities  
8 deleterious to the beneficial uses of water.

9 (c) Exposed soil associated with logging road watercourse crossing  
10 fill removal, including cut banks and excavated material, shall be  
11 stabilized during and upon completion of removal operations, as  
12 needed, or as otherwise specified in the rules. Soil stabilization  
13 measures may include, but are not limited to, armoring with rip-rap,  
14 replanting, mulching, seeding, installing commercial erosion control  
15 devices to manufacture's specifications, or other suitable treatment  
16 to minimize soil erosion and sediment transport and to prevent the  
17 discharge of sediment into watercourses and lakes in quantities  
18 deleterious to the beneficial uses of water.

19 (d) Appropriate drainage facilities shall be installed along removed  
20 logging road watercourse crossing approaches at locations that  
21 minimize the concentration of surface runoff and soil erosion and to  
22 prevent the discharge of sediment into watercourses and lakes in  
23 quantities deleterious to the beneficial uses of water.

24 (e) Where it is not feasible to remove a logging road watercourse  
25 crossing or its associated fill to the above standards, the plan shall  
identify how soil erosion and sediment transport will be minimized and

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1 how the discharge of deleterious quantities of sediment into  
2 watercourses and lakes will be prevented.

3 (f) Where a significant volume of sediment is stored upstream from a  
4 logging road watercourse crossing that is proposed to be removed, the  
5 stored sediment shall be removed or stabilized, to the extent  
6 feasible, as described in the plan and in conformance with required  
7 DF&G 1600 agreements.

8 (g) All logging road watercourse crossings proposed for removal shall  
9 be removed upon completion of use, prior to the winter period or as  
10 specified in the applicable DFG 1600 agreement, whichever is earlier,  
11 or as otherwise specified in the plan.

12 (h) Where the removal of an individual logging road watercourse  
13 crossing eliminates access to other temporary crossings, all such  
14 crossings shall be removed concurrently.

15 (i) If operations are conducted during the winter period, temporary  
16 logging road watercourse crossings shall be removed before the flow of  
17 water exceeds the capacity of the individual crossing.

#### 19 **Amend 1034. Contents of Plan**

20 (x) The information in subsections (1)-(4)(A), (5)(A)-(5)(K), if  
21 applicable, (6)(A)-(B), and (7)-(16) shall be clearly shown on a map  
22 that is based upon a U. S. Geological Survey topographic quadrangle  
23 map, or equivalent, published at a scale of 1:24,000 or larger—~~On~~  
24 titled USGS (if available) or equivalent topographic maps of a scale  
25 not less than 2" to the mile, the information in subsections (1-4),  
(8), (9), and (11-13) shall be clearly shown. The information in

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1 subsections (4)(B), (5)(A)-(5)(L), if applicable, and (6)(C) shall be  
2 clearly shown on a topographic map at a scale of 1/2 inch equals 1  
3 mile (1:126,720) or larger. Additional maps, which may be topographic  
4 or planimetric, may be used to provide the information required in the  
5 other subsections, to ~~or~~ show specific details, and to improve map  
6 clarity. ~~The appurtenant roads referenced in subsection (4) may be~~  
7 ~~shown on a map which may be planimetric with a scale as small as one-~~  
8 ~~half inch equals one mile.~~ Color coding shall not be used. A legend  
9 shall be included indicating the meaning of the symbols used to depict  
10 operational features on maps. See the district rules for the  
11 appropriate minimum mapping acreages.

12 (1)-(3) [No change]

13 (4) ~~Location of public roads and those private roads to be used~~  
14 ~~for timber operations within the plan area, and private roads~~  
15 ~~appurtenant to the timber operations where such roads are under the~~  
16 ~~ownership or control of the timber owner, timberland owner, timber~~  
17 ~~operator, or submitter of the plan, and classification of all proposed~~  
18 ~~and existing logging roads as permanent, seasonal, or temporary roads.~~

19 The following logging road- and landing-related features shall be  
20 shown on a map of the appropriate type and scale as described in  
21 subsection (x) above:

22 (A) Location of logging roads within the harvest area,  
23 including those located in watercourses, lakes, WLPZs, marshes, wet  
24 meadows, or other wet areas and those proposed for abandonment or  
25 deactivation.

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1           (B) Location of logging roads under the ownership or  
2 control of the timber owner, timberland owner, timber operator, or  
3 plan submitter that will be used for log hauling and that are between  
4 the harvest area and the first public road to be used for log hauling.

5 This shall include:

6           (i) Logging roads and landings located in  
7 watercourses, lakes, WLPZs, marshes, wet meadows, or other wet areas,  
8 other than at logging road watercourse crossings.

9           (ii) Logging roads and landings proposed for  
10 abandonment or deactivation.

11           (iii) Logging roads that provide access to rock pits  
12 and water drafting sites.

13           ~~(5) Probable location of proposed and existing landings in the~~  
14 ~~watercourse and lake protection zone, and landings outside the zone~~  
15 ~~that are greater than 1/4 acre in size or whose construction involves~~  
16 ~~substantial excavation. The following shall be mapped at the~~  
17 ~~appropriate scale required under subsection (x), whichever is~~  
18 ~~applicable, for all constructed and reconstructed logging roads and~~  
19 ~~landings, unless otherwise described:~~

20           (A) Location of logging road grades greater than 15  
21 percent for over 200 continuous feet or logging road grades exceeding  
22 20 percent.

23           (B) Location of road failures on existing logging roads to  
24 be reconstructed.

25           (C) Location of logging roads across and landings on  
unstable areas or connected headwall swales.

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1           (D) Location of logging roads or landings within Class I,  
2 II, III, or IV watercourses or lakes, WLPZs, marshes, wet meadows, or  
3 other wet areas other than at logging road watercourse crossings.

4           (E) Location of logging roads and landings with  
5 insloping, inside ditch drainage, or crowning in excess of 300 lineal  
6 feet that drains into a classified watercourse or lake.

7           (F) Location of landings that require substantial  
8 excavation and landings in excess of one-quarter acre in size.

9           (G) Location of disposal sites for spoils generated during  
10 logging road or landing construction or reconstruction on slopes  
11 greater than 40 percent or on active unstable areas.

12           (H) Location of logging roads and landings across slopes  
13 greater than 65 percent for 100 lineal feet or more.

14           (I) Location of logging roads and landings across slopes  
15 greater than 50 percent for 100 lineal feet or more within 100 feet of  
16 the boundary of a WLPZ that drains toward the zoned watercourse or  
17 lake.

18           (J) In watersheds with listed anadromous salmonids and in  
19 planning watersheds immediately upstream of, and contiguous to, any  
20 watershed with listed anadromous salmonids, location of active erosion  
21 sites on logging roads and landings that will be treated.

22           (K) In watersheds with listed anadromous salmonids,  
23 location of proposed water drafting locations.

24           (L) Location of any other area(s) where non-standard  
25 practices on logging roads are proposed.

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1        (6) The following logging road watercourse crossing-related  
2 features shall be shown on a map of the appropriate type and scale as  
3 described in subsection (x) above:

4            (A) Location of existing logging road watercourse  
5 crossings within the harvest area, including those crossings to be  
6 abandoned or deactivated. This requirement may be met by depicting  
7 the intersection of a logging road and a watercourse.

8            (B) Location of constructed and reconstructed logging road  
9 watercourse crossings within the harvest area, including those  
10 crossings to be abandoned or deactivated.

11           (C) Logging road watercourse crossings that are not within  
12 the harvest area but are under the ownership or control of the owner  
13 of the timberland where timber is proposed for harvest and are between  
14 the harvest area and the first public road to be used for log hauling  
15 that are:

16                (i) Existing logging road watercourse crossings of  
17 Class I and Class II waters that will be used for log hauling.

18                (ii) Constructed and reconstructed logging road  
19 watercourse crossings that will be used for log hauling.

20                (iii) Existing logging road watercourse crossings to be  
21 abandoned or deactivated.

22                Existing logging road watercourse crossings may be shown by  
23 depicting the intersection of a logging road and a watercourse.

24        ~~(6) Road failures on existing roads to be reconstructed.~~

25        (7) Location of all tractor road watercourse crossings of  
classified watercourses except temporary crossings of Class III

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1 watercourses that are dry at the time of use ~~without flowing water~~  
2 ~~during timber operations at that crossing.~~

3 (8) Location of erosion hazard rating areas, if more than one  
4 rating exists.

5 (9) Location of watercourses and lakes with Class I, II, III,  
6 or IV waters.

7 (10) Location of known unstable areas or slides.

8 (11) Location of understocked areas prior to timber operations,  
9 and other areas not normally bearing timber to at least a 20-acre  
10 minimum, or as specified in the district rules.

11 (12) Location of boundaries of timber-site classes needed for  
12 determination of stocking standards to be applied, down to at least a  
13 20-acre minimum or as specified in the district rules.

14 (13) Location of main ridge tops on the logging area suitable  
15 for fire suppression efforts that will require the felling of snags.

16 (14) Location of Coastal Commission Special Treatment Areas or  
17 any special treatment area.

18 (15) Location for which heavy equipment use is proposed on  
19 unstable areas, or on areas for which tractor use is proposed beyond  
20 the limitations of the standard forest practice rules.

21 (16) Location of any in lieu use of heavy equipment and location  
22 of tractor roads ~~other than crossings~~ in the watercourses, lakes  
23 WLPZs, marshes, wet meadows, and other wet areas.

24 ~~(17) Location of any new or reconstructed road segment(s) that~~  
25 ~~exceed an average 15% grade for over 200 feet.~~

**(aa)- [No change]**

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1 **(bb)** Winter period operating plan where appropriate that addresses  
2 proposed logging road or landing construction, reconstruction. (Refer  
3 to 14 CCR § 923.4(k) [943.4(k), 963.4(k)]).

4 **(cc)** Explanation and justification for use of watercourses, marshes,  
5 wet meadows, and other wet areas as ~~landings, roads, or skid trails~~  
6 tractor roads.

7 **(dd)-(ee)** [No change]

8 **(ff)** ~~Explanation and justification for landings that exceed the~~  
9 ~~maximum size specified in the rules.~~

10 ~~(gg)~~ Any other information required by the rules or the Act to be  
11 included in the plan. The district rules provide for exceptions and  
12 alternatives to standard requirements that require inclusion of  
13 information in the THP.

14 ~~(hh)~~ ~~Where roads, watercourse crossings, and associated landings in~~  
15 ~~the logging area will be abandoned, the methods for abandonment shall~~  
16 ~~be described.~~

17 ~~(ii)~~ ~~On a map complying with subsection 1034(x), the locations and~~  
18 ~~classifications of roads, watercourse crossings, and landings to be~~  
19 ~~abandoned shall be shown.~~

20 ~~(jj)~~**(gg)** A general description of physical conditions at the plan  
21 site, including general soils and topography information, vegetation  
22 and stand conditions, and watershed and stream conditions.

23 **(hh) Option 1:** All logging roads and all landings requiring  
24 construction or reconstruction along non-public roads that are not  
25 within the harvest area nor under the ownership or control of the  
timberland owner whose land is being harvested shall be identified.

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1 (Option 2: Do not adopt the contents of subsection (hh) proposed  
2 under Option 1 and begin re-numbering subsection (ii) as (hh), (jj) as  
3 (ii), etc.)

4 (ii) The following shall be disclosed and described in the plan for  
5 all existing, constructed, and reconstructed logging roads, landings  
6 and logging road watercourse crossings, where applicable:

7 (1) For those with identified sensitive conditions per 14 CCR §  
8 923.1(d) [943.1(d), 963.1(d)] and 923.10(f) [943.10(f), 963.10(f)]:

9 (A) Such sensitive conditions, including where they may  
10 interact with proposed timber operations, that individually or  
11 cumulatively, significantly and adversely affect, the beneficial uses  
12 of water.

13 (B) Feasible protection measures for identified sensitive  
14 conditions, which consider the watercourse classification and the  
15 location and planned use of all logging roads and landings.

16 (C) An implementation schedule where feasible protection  
17 measures are proposed.

18 (2) Soil stabilization measures, including timing of  
19 installation. (Refer to 14 CCR § 923.5(1) [943.5(1), 963.5(1)])

20 (3) Maintenance treatments to running surfaces of logging roads  
21 and landing surfaces. (Refer to 14 CCR § 923.7(c) [943.7(c),  
22 963.7(c)]).

23 (4) Describe how logging road watercourse crossings, including  
24 temporary crossings and those along abandoned or deactivated logging  
25 roads, are to be removed. (Refer to 14 CCR § 923.17 [943.17,  
963.17]).

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1        (5) In watersheds with listed anadromous salmonids and in  
2 planning watersheds immediately upstream of, and contiguous to, any  
3 watershed with listed anadromous salmonids:

4            (A) Specific erosion control measures for all permanent  
5 and seasonal logging roads with a grade of 15 percent or greater that  
6 extend 500 continuous feet or more. (Refer to 14 CCR § 923.5(p)(2)  
7 [943.5(p)(2), 963.5(p)(2)]).

8            (B) Soil stabilization measures, including timing of  
9 installation. (Refer to 14 CCR § 923.5(p)(3) [943.5(p)(3),  
10 963.5(p)(3)]).

11        (6) In watersheds with listed anadromous salmonids, water  
12 drafting site conditions and proposed water drafting activity. (Refer  
13 to 14 CCR § 923.7(1)(2) [923.7(1)(2), 923.7(1)(2)].)

14 (jj) The following shall be disclosed and described in the plan for  
15 all constructed and reconstructed logging roads and landings:

16            (1) Option 1: Lineal distance of individual segments of logging  
17 road construction.

18            (Option 2: Total lineal distance of all logging road  
19 construction.)

20            (2) Potential public safety concerns. (Refer to 14 CCR §  
21 923.10(e) [943.10(e), 963.10(e)].)

22            (3) Logging roads wider than single lane compatible with the  
23 largest type of equipment specified for use.

24            (4) Areas with identified isolated outcrops of asbestos-bearing  
25 soil or parent material.

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1        (5) Areas with potential mercury in soil, fills, or mine  
2 tailings.

3        (6) Areas where rules require a constructed bench to support  
4 fill on slopes greater than 50 percent for 100 lineal feet or more.

5        (7) Landings in excess of one-quarter acre on slopes exceeding  
6 40 percent.

7        (8) Logging roads across or landings on unstable areas or  
8 connected headwall swales.

9        (9) Logging roads or landings within Class I, II, III, or IV  
10 watercourses or lakes, WLPZs, marshes, wet meadows, or other wet areas  
11 other than at logging road watercourse crossings.

12        (10) Logging road and landing insloping, inside ditch drainage,  
13 or crowning in excess of 300 lineal feet that drains to a classified  
14 watercourse or lake.

15        (11) Road failures on existing logging roads to be  
16 reconstructed.

17        (12) Disposal sites for spoils generated during logging road or  
18 landing construction or reconstruction on slopes greater than 40  
19 percent or on active unstable areas.

20        (13) Logging roads and landings across slopes greater than 50  
21 percent for 100 lineal feet or more within 100 feet of the boundary of  
22 a WLPZ that drains toward the zoned watercourse or lake, including  
23 specific construction techniques or measures. (Refer to 14 CCR §  
24 923.4(m) [943.4(m), 963.4(m)]).

25        (14) Logging roads and landings across or landings on slopes  
greater than 65 percent for 100 lineal feet or more, including

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1 specific construction techniques or measures to minimize movement of  
2 soil and the discharge of concentrated surface runoff. (Refer to 14  
3 CCR § 923.2(a)(6) [943.2(a)(6), 963.2(a)(6)]).

4 (15) Logging roads or landings to be abandoned or deactivated,  
5 including specific measures used to apply the general abandonment or  
6 deactivation requirements of 14 CCR § 923.8 [943.8, 963.8].

7 (16) Landings that require substantial excavation and landings  
8 in excess of one-quarter acre in size.

9 (17) Any other areas where non-standard practices on logging  
10 roads or landings are proposed.

11 (kk) In watersheds with listed anadromous salmonids and in planning  
12 watersheds immediately upstream of, and contiguous to, any watershed  
13 with listed anadromous salmonids, the following shall be disclosed in  
14 the plan:

15 (1) Erosion sites on logging roads and landings that will be  
16 treated, including proposed treatment(s). (Refer to 14 CCR § 923.2(f)  
17 [943.2(f), 963.2(f)]).

18 (2) Identification and description of specific provisions for  
19 all proposed logging road construction on slopes greater than 50  
20 percent. (Refer to 14 CCR § 923.4(s)(1)(A) [943.4(s)(1)(A),  
21 963.4(s)(1)(A)]).

22 (3) Where logging road or landing construction or  
23 reconstruction is proposed, the location of, and specifications for,  
24 logging road and landing abandonment or other mitigation measures to  
25 minimize the adverse effects of long-term site occupancy of the road

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1 system within the watershed. (Refer to 14 CCR § 923.1(f) [943.1(f),  
2 963.1(f)]).

3 Option 1 Where logging road or landing construction or  
4 reconstruction is proposed, the plan shall identify:

5 (A) How the proposed operations will fit into the  
6 systematic layout pattern.

7 (B) What, if any, offsetting mitigation measures,  
8 including but not limited to, abandonment of logging roads and  
9 landings, are needed to minimize potential adverse impacts to  
10 watersheds from the road system. (Refer to 14 CCR § 923.1(f)  
11 [943.1(f), 963.1(f)]).

12 (4) During the extended wet weather period, the winter period  
13 operating plan shall:

14 (A) Address, where applicable, proposed logging road or  
15 landing construction, reconstruction and use. (Refer to 14 CCR §§  
16 923.4(s)(2) [943.4(s)(2), 963.4(s)(2)] and 923.6(j)(5) [943.4(j)(5),  
17 963.4(j)(5)]).

18 (B) Specify an implementation schedule where logging road  
19 watercourse crossing construction or reconstruction is proposed.  
20 (Refer to 14 CCR § 923.13(n) [943.13(n), 963.13(n)].)

21 (11) In watersheds with listed anadromous salmonids, the following  
22 shall apply:

23 (1) Disclose and describe all existing permanent logging road  
24 watercourse crossings. (Refer to 14 CCR § 14 CCR § 923.11(1)(1)  
25 [943.11(1)(1), 963.11(1)(1)].)

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1        (2) In addition to the description of all existing permanent  
2 logging road watercourse crossings required by subsection (kk)(3), for  
3 Class I watercourses, where fish are always or seasonally present or  
4 where fish habitat is restorable, any plan involving timber operations  
5 within the WLPZ shall contain the following information:

6            (A) Clear and enforceable specifications describing how  
7 these crossings are to be modified, used, and treated to minimize  
8 risks, giving special attention to allowing fish to pass both upstream  
9 and downstream during all life stages and in conformance with the  
10 standards of subsection 923.11(j) [943.11(j), 963.11(j)] and 14 CCR §  
11 923.10(h) [943.10(h), 963.10(h)].

12            (B) Clear and enforceable specifications for construction  
13 and operation of any new crossing(s) of a Class I watercourse to  
14 prevent direct harm, habitat degradation, water velocity increase,  
15 hindrance of fish passage, or other potential impairment of beneficial  
16 uses of water. (Refer to 14 CCR § 923.11(1)(2)-(3) [943.11(1)(2)-(3),  
17 963.11(1)(2)-(3)].)

18 (mm) The following shall be provided in the plan for all constructed  
19 and reconstructed logging road watercourse crossings:

20            (1) Describe all constructed or reconstructed logging road  
21 watercourse crossings within the harvest area, as needed.

22            (2) Option 1: Disclose and describe all permanent and  
23 temporary logging road watercourse crossings requiring construction or  
24 reconstruction along non-public roads, except temporary logging road  
25 watercourse crossings of Class III watercourses that are dry at the  
time of use, that are not within the harvest area nor under the

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1 ownership or control of the timberland owner where timber is proposed  
2 for harvest. (Option 2: Do not adopt the contents of subsection  
3 (mm)(2) proposed under Option 1 and begin re-numbering subsection  
4 (mm)(3) as (mm)(2), (mm)(4) as (mm)(3), etc.)

5 (3) Disclose the potential public safety impacts where crossing  
6 construction or reconstruction may affect public safety. (Refer to 14  
7 CCR § 923.10(e) [943.10(e), 963.10(e)].

8 (4) Disclose how diversions at logging road watercourse  
9 crossings will be avoided, including proposed method(s). (Refer to 14  
10 CCR §§ 923.10(g) [943.10(g), 963.10(g)] and 923.11(g) [943.11(g),  
11 963.11(g)].

12 (5) Include the analyses and specifications that demonstrate  
13 all permanent constructed and reconstructed logging road watercourse  
14 crossing structures installed within Class I watercourses, where fish  
15 are always or seasonally present or where fish habitat is restorable,  
16 will be designed to allow for upstream and downstream passage of fish  
17 or listed aquatic species during any life stage and for the natural  
18 movement of bedload. (Refer to 14 CCR § 923.11(i)-(j) [943.11(i)-(j),  
19 963.11(i)-(j)].)

20 (6) Specify the minimum diameter of the culvert and the  
21 method(s) used to determine the culvert diameter where new culverts  
22 are proposed for permanent installation at a logging road watercourse  
23 crossing. (Refer to 14 CCR § 923.11(e) [943.11(e), 963.11(e)].)

24 (7) State the range of required rock dimensions for rock used  
25 in logging road watercourse crossings utilizing fords. (Refer to 14  
CCR § 923.11(h) [943.11(h), 963.11(h)].)

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1       (8) Identify protection measures needed to reduce sediment  
2 delivery where evidence of substantial soil erosion and discharge of  
3 sediment into watercourses or lakes in quantities deleterious to the  
4 beneficial uses of water is present at a logging road watercourse  
5 crossing used for timber operations. (Refer to 14 CCR § 923.16(d)  
6 [943.16(d), 963.16(d)].)

7       (9) Identify how soil erosion and sediment transport will be  
8 minimized and how the discharge of deleterious quantities of soil into  
9 watercourses or lakes will be prevented where it is not feasible to  
10 remove a logging road watercourse crossing or its associated fill to  
11 the standards contained in 14 CCR § 923.17 [943.17, 963.17]. (Refer  
12 to 14 CCR §§ 923.8(e) [943.8(e), 963.8(e)] and 923.17(e) [943.17(e),  
13 963.17(e)].)

14       (10) Disclose and describe site conditions, and, to the extent  
15 feasible, specify measures to be taken to address potential sediment  
16 mobilization where a significant volume of sediment is stored upstream  
17 from a logging road watercourse crossing that is proposed to be  
18 removed. (Refer to 14 CCR §§ 923.13(g) [943.13(g), 963.13(g)] and  
19 923.17(f) [943.17(f), 963.17(f)].)

20       (11) In watersheds with listed anadromous salmonids, **Option 1**  
21 state how existing permanent culverts used for logging road  
22 watercourse crossings on Class I watercourses, where fish are always  
23 or seasonally present or where fish habitat is restorable, shall be  
24 brought up to the standards of 14 CCR § 923.11(c) [943.11(c),  
25 963.11(c)].

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1           [Option 2, (A) state how existing permanent culverts used  
2 for logging road watercourse crossings on Class I watercourses, where  
3 fish are always or seasonally present or where fish habitat is  
4 restorable, shall be brought up to the standards of 14 CCR § 923.11(c)  
5 [943.11(c), 963.11(c)].

6           (B) (This only applies if 14 CCR § 923.11(k) [943.11(k),  
7 963.11(k)], Option 1 is adopted.) In addition to the requirements of  
8 14 CCR § 923.11(k) [943.11(k), 963.11(k)], include the method of  
9 analysis and the design for logging road watercourse crossing  
10 protection. (Refer to 14 CCR § 14 CCR § 923.11(k) [943.11(k),  
11 963.11(k)].)]

12  
13 **Amend 1051.1. Contents of Modified THP**

14  
15 A plan submitted under ~~section~~ 14 CCR § 1051 above shall contain all  
16 the provisions of 14 CCR § 1034 except the following: (o), (x)(6),  
17 (x)(7), (z), (cc), (dd), (ee), (ff), and (mm), and the RPF shall:

18  
19 **Amend 1090.5 Contents of NTMP**

20  
21 **(w)** On a USGS quadrangle or equivalent topographical map of a scale  
22 not less than 2" to the mile, the following information shall be  
23 clearly provided. Additional maps may be required to show specific  
24 details, and may be planimetric. Color coding shall not be used. A  
25 legend shall be included indicating the meaning of the symbols used to

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1 depict operational features on maps. See the district rules for the  
2 appropriate minimum mapping acreages.

3 (1)-(3) [No change]

4 (4) Location of public roads within the ~~plan~~ harvest area, and  
5 private roads appurtenant to the timber operations where such roads  
6 are under the ownership or control of the timberland owner and are  
7 contiguous with the ~~plan~~ harvest area, and classification of all  
8 proposed and existing logging roads as permanent, seasonal, or  
9 temporary roads.

10 (5)-14) [No change]

11 (x)-(ff) [No change]

12 (gg) Where logging roads, logging road watercourse crossings, and  
13 associated landings in the logging area will be abandoned or  
14 deactivated, the methods for abandonment or deactivation shall be  
15 described.

16 (hh) On a map complying with ~~subsection 14 CCR § 1090.6(x)~~ 1090.5(w),  
17 the locations and classifications of logging roads, logging road  
18 watercourse crossings, and landings to be abandoned or deactivated  
19 shall be shown.

20 (ii) [No change]

21  
22 **Amend 1090.7 Notice of Timber Operations Content**

23  
24 (n) On a USGS quadrangle or equivalent map of a scale not less than  
25 2" to the mile, the following information pertinent to the Notice of  
Operations shall be clearly provided. Additional maps may be required

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1 to show specific details, and may be planimetric. Color coding shall  
2 not be used. A legend shall be included indicating the meaning of the  
3 symbols used to depict operational features on maps. See the district  
4 rules for the appropriate minimum mapping acreages.

5 (1)-(3) [No change]

6 (4) Location of public roads within the Notice area, and  
7 private roads appurtenant to the timber operations where such roads  
8 are under the ownership or control of the timberland owner, and are  
9 contiguous with the Notice area, and classification of all proposed  
10 and existing logging roads as permanent, seasonal, or temporary roads.

11 (5)-(11) [No change]

12  
13 **Amend 1092.09 PTHP Contents**

14  
15 (a) - (k) No change

16 (1) On a ~~titled USGS quadrangle or equivalent topographic map of a~~  
17 ~~scale not less than 2" to the mile~~ map that is based upon a U. S.  
18 Geological Survey topographic quadrangle map, or equivalent, published  
19 at a scale of 1:24,000 or larger, the information in subsections ~~(1-5)~~  
20 (1)-(5)(A), (6)(A)-(6)(K), if applicable, (7)(A)-(B), and (7-11) shall  
21 be clearly shown. On a topographic map at a scale of 1/2 inch equals  
22 1 mile (1:126,720) or larger, the information in subsections (5)(B),  
23 (6)(A)-(6)(K), if applicable, and (7)(C) shall be clearly shown.

24 Additional maps, which may be topographic or planimetric, may be used  
25 to provide the information required in other subsections or show  
specific details, and to improve map clarity. ~~The appurtenant roads~~

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1 ~~referenced in subsection (5) may be shown on a map which may be~~  
2 ~~planimetric with a scale as small as one half inch equals one mile.~~  
3 Color coding shall not be used. A legend shall be included indicating  
4 the meaning of the symbols used to depict operational features on  
5 maps. See the district rules for the appropriate minimum mapping  
6 acreage.

7 (1)-(4) [No change]

8 (5) ~~Location of public roads within the PTHP, and private roads~~  
9 ~~appurtenant to the timber operations where such roads are under the~~  
10 ~~ownership or control of the timber owner, timberland owner or timber~~  
11 ~~operator, and classification of all proposed and existing logging~~  
12 ~~roads as permanent, seasonal, or temporary roads. The following~~  
13 logging road- and landing-related features shall be shown on a map of  
14 the appropriate type and scale as described in subsection (1) above:

15 (A) Location of all logging roads within the harvest area,  
16 including those located in watercourses, lakes, WLPZs, marshes, wet  
17 meadows, or other wet areas and those proposed for abandonment or  
18 deactivation.

19 (B) Location of all logging roads that will be used for  
20 log hauling under the ownership or control of the timber owner,  
21 timberland owner, timber operator, or plan submitter that are between  
22 the harvest area and the first public road to be used for log hauling.

23 This shall include:

24 (i) Logging roads and landings located in  
25 watercourses, lakes, WLPZs, marshes, wet meadows, or other wet areas,  
other than at logging road watercourse crossings.

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1                    (ii) Logging roads and landings proposed for  
2 abandonment or deactivation.

3                    (iii) Logging roads that provide access to rock pits  
4 and water drafting sites.

5                    (6) The following shall be mapped at the appropriate scale  
6 required under subsection (1), whichever is applicable, for all  
7 constructed and reconstructed logging roads and landings, unless  
8 otherwise noted:

9                    (A) Location of logging road grades greater than 15  
10 percent for over 200 continuous feet or logging road grades greater  
11 than 20 percent.

12                    (B) Location of road failures on existing roads to be  
13 reconstructed.

14                    (C) Location of logging roads across or landings on  
15 unstable areas or connected headwall swales.

16                    (D) Location of logging roads or landings within Class I,  
17 II, III, or IV watercourses or lakes, WLPZs, marshes, wet meadows, or  
18 other wet areas other than at logging road watercourse crossings.

19                    (E) Location of logging road and landing insloping, inside  
20 ditch drainage, or crowning in excess of 300 lineal feet that drains  
21 to a classified watercourse or lake.

22                    (F) Location of landings that require substantial  
23 excavation and landings in excess of one-quarter acre in size.

24                    (G) Location of disposal sites for spoils generated during  
25 logging road or landing construction or reconstruction on slopes  
greater than 40 percent or on active unstable areas.

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1           (H) Location of logging roads and landings across slopes  
2 greater than than 65 percent for 100 lineal feet or more.

3           (I) Location of logging roads and landings across slopes  
4 greater than 50 percent for 100 lineal feet or more within 100 feet of  
5 the boundary of a WLPZ that drains toward the zoned watercourse or  
6 lake.

7           (J) In watersheds with listed anadromous salmonids and in  
8 planning watersheds immediately upstream of, and contiguous to, any  
9 watershed with listed anadromous salmonids, the location of active  
10 erosion sites on logging roads and landings that will be treated.

11           (K) In watersheds with listed anadromous salmonids,  
12 location of proposed water drafting locations.

13           (L) Location of any other area(s) where non-standard  
14 practices on logging roads are proposed.

15           ~~(7)(6) — Location of proposed and existing landings in the~~  
16 ~~watercourse and lake protection zone, and landings outside the zone~~  
17 ~~that are greater than 1/4 acre in size or whose construction involves~~  
18 ~~substantial excavation.~~ The following logging road watercourse  
19 crossing-related items shall be shown on a map of the appropriate type  
20 and scale as described in subsection (l) above:

21           (A) Location of all existing logging road watercourse  
22 crossings within the harvest area, including those proposed for  
23 abandonment or deactivation. This requirement may be met by depicting  
24 the intersection of a logging road and a watercourse.

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1            (B) Location of all constructed or reconstructed logging  
2 road watercourse crossings within the harvest area, including those  
3 proposed for abandonment or deactivation.

4            (C) For logging road watercourse crossings that are not  
5 within the harvest area but are under the ownership or control of the  
6 owner of the timberland where timber is proposed for harvest and that  
7 are between the harvest area and the first public road to be used for  
8 log hauling:

9                    (i) Existing logging road watercourse crossings of  
10 Class I and Class II waters that will be used for log hauling.

11                   (ii) Constructed and reconstructed logging road  
12 watercourse crossings that will be used for log hauling.

13                   (iii) Existing logging road watercourse crossings to be  
14 abandoned or deactivated.

15                   Existing logging road watercourse crossings may be shown by  
16 depicting the intersection of a logging road and a watercourse.

17            ~~(8) (7) Road failures on existing roads to be reconstructed.~~

18            ~~(8) Location of all tractor road watercourse crossings of~~  
19 ~~classified watercourses except temporary crossings of class III~~  
20 ~~watercourses that are dry at the time of use without flowing water~~  
21 ~~during timber operations at that crossing.~~

22            (9) Location of erosion hazard rating areas, if more than one  
23 rating exists.

24            (10) Location of watercourses and lakes with Class I, II, III or  
25 IV waters.

              (11) Location of known unstable areas or slides.

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1           (12) Location of unique areas.

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