

Road Rules 2007

10-22-07

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.

Act means...

Active Erosion Site means an area where erosion and sediment production are ongoing during any period of the year.

1 **Active Nest** means...

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4 **Beneficial Use** means...

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

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

12

13 **Board** see PRC 4521.3.

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16 **Confidential Archaeological Letter** means...

17

18 **Connected Headwall Swale** means a geomorphic feature consisting of a
19 bowl-shaped, concave depression with convergent slopes, typically of
20 65 percent or greater steepness, that is connected to a watercourse or
21 lake by way of a continuous linear depression and that has been
22 sculpted over geologic time by shallow landslide events. The slope
23 profile is typically smooth and unbroken by benches, but **may** be
24 interrupted by recent landslide deposits or scars. Emergent
25 groundwater and wet areas **may** exist at the base of the swale. Soil

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1 and colluvium depth is typically greatest at the axis of the swale,
2 thinning to either side.

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4 **Countable Tree** see 4528(b).

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6 **Critical Dip** means a constructed dip across a logging road surface
7 immediately down grade from, or over, a culverted logging road
8 watercourse crossing that functions to prevent crossing overflow from
9 draining down the road.

10

11 **Critical Period** means...

12

13 **Crop of Trees**...

14

15 **Crowning** means creating a road surface with a convex cross sectional
16 profile that drains runoff toward both sides of the road.

17

18 **Cumulative Impacts** means...

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21 **Danger Tree** means...

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

Decadent and Deformed Trees of Value to Wildlife means...

Emergency means...

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

Energy Dissipator means...

Estimated Erosion Potential (For the Northern Forest District:) means...

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.

Executive Officer means...

1 **Feasible** means...

2

3 **Fifty-Year Flood Flow** means that magnitude of peak flow ~~which one~~
4 ~~would expect to be equaled or exceeded, on the average, once every 50~~
5 ~~years. This flow shall be estimated by empirical relationships~~
6 ~~between precipitation and watershed characteristics and runoff and~~
7 ~~then may be modified by direct channel cross section measurements and~~
8 ~~local experience~~ with a two (2) percent chance of annual occurrence or
9 that **would**, on the average, occur once every 50 years. This flow
10 shall be estimated by flood flow measurement records and relationships
11 or by empirical relationships between precipitation, watershed
12 characteristics, and runoff, and **may** be modified by direct channel
13 cross-section measurements and local experience.

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

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20 **Fire Protection Zone** (For the Coast and the Southern Forest District:)
21 means...

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23 **Fire Protection Zone** (For the Coast and the Southern Forest District:)
24 means...

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

3

4 **Fuelbreak** see PRC 4528(e).

5

6

7 **Hard Frozen Conditions** means...

8

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

10

11 **Harvesting Method** means...

12

13 **Inner Gorge** means...

14

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

16

17 **Intermediate Treatments** means...

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19

20 **Occupied Nest** means...

21

22 One Hundred Year Flood Flow means that magnitude of peak flow with a

23 one (1) percent chance of annual occurrence or that **would**, on the

24 average, occur once every 100 years. This flow shall be estimated by

25 flood flow measurement records and relationships or by empirical

relationships between precipitation, watershed characteristics, and

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1 runoff, and may be modified by direct channel cross-section
2 measurements and local experience.

3
4 **Outsloping** means shaping the road surface to drain toward the outside
5 edge.

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7 **Overhanging Bank** means...

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10 **Perch Tree** means...

11
12 **Permanent Road** means ~~a road which is planned and constructed to be~~
13 ~~part of a permanent all season transportation facility. These roads~~
14 ~~have a surface which is suitable for the hauling of forest products~~
15 ~~throughout the entire winter period and have drainage structures, if~~
16 ~~any, at watercourse crossings which will accommodate the fifty year~~
17 ~~flood flow. Normally they are maintained during the winter period. a~~
18 logging road that is part of the permanent road network and is
19 planned, constructed, and maintained for year-round use.

20
21 **Permanent Road Network** means the permanent, seasonal, ~~and temporary,~~
22 and deactivated roads that provide the infrastructure necessary for
23 timber operations and forest management.

24

25

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

4
5 **Person** see PRC 4525.

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7
8 **Predominant Trees** are...

9
10 **Prescribed Maintenance Period** means the time period, beginning with
11 filing of the work completion report, provided that the report is
12 subsequently approved, during which erosion controls ~~which~~ that are
13 required and constructed as part of ~~a~~ timber operations must be
14 maintained in a functional condition. ~~The period shall not exceed~~
15 ~~three years from the filing of the work completion report provided~~
16 ~~that the report is subsequently approved by the director.~~

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18 **Professional Archaeologist** means...

19
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21 **Public fire** agency...

22
23 **Public Road** means a road open to the general public which is: (a) in
24 ~~the~~ a Federal, State, or County, or City road system, or (b) a road on
25 which a public agency has deeded, unlimited easement.

1 **Quality of Water** means...

2

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4 **Road Failure** means...

5

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

10

11 **Rolling dip** means...

12

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14 **Screening Trees** means...

15

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

1 road that is part of the permanent road network where use is generally
2 discontinued during the winter period.

3

4 **Seed Tree** a...

5

6 **Sensitive Species** means...

7

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

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11 **Significant Adverse Impact on the Environment** means...

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14 **Spotted Owl Resource Plan** means...

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16 **Option 1: Stable operating surface** means a road or landing surface
17 that can support vehicular traffic and that routes water off of the
18 road surface during any period of intended use without: (1)
19 development of tire ruts that concentrate runoff on the road surface
20 for more than 50 feet and (2) pumping of fine-grained material onto
21 the road surface that **would** require mechanical removal to continue

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22 using the road. A stable operating surface shall include a
23 structurally sound road base appropriate for the intended use.

24 **Option 2: Stable operating surface** means a road or landing surface
25 that can support vehicular traffic and that routes water off of the
road surface or into drainage facilities without concentrating flow in

1 ruts (tire tracks), pumping of the road bed, or ponding flow in
2 depressions, which would lead to the transport of fine-grained
3 materials from the road or landing surface into watercourses or lakes
4 in quantities deleterious to the beneficial uses of water. A stable
5 operating surface shall include a structurally sound road base
6 appropriate for the intended use.

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8 **Stand vigor** means...

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11 **Stream** see PRC 4528(f).

12
13 **Stressing Storm** means a storm that yields at least a 10-year flood
14 flow.

15
16 **Substantial adverse change** means...

17
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19 **Take** means...

20
21 **Temporary Road** means a logging road that is to be used only during the
22 timber operations and that will be deactivated or abandoned upon
23 completion of use. ~~These roads have a surface adequate for seasonal~~
24 ~~logging use and have drainage structures, if any, adequate to carry~~
25 ~~the anticipated flow of water during the period of use.~~

1 Ten-Year Flood Flow means that magnitude of peak flow with a ten (10)
2 percent chance of annual occurrence that **would**, on the average, occur
3 once every 10 years. This flow shall be estimated by flood flow
4 measurement records and relationships or by empirical relationships
5 between precipitation, watershed characteristics, and runoff, and **may**
6 be modified by direct channel cross-section measurements and local
7 experience.

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9 **THP** means...

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

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

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17 **Tight-Lining** means...

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

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3 (d) ~~Tractor road~~ ~~watercourse crossing facilities not constructed to~~
4 ~~permanent crossing standards on tractor roads~~ shall be removed and
5 stabilized before the beginning of the winter period. ~~If a~~
6 ~~watercourse crossing is to be removed, it shall be removed in~~
7 ~~accordance with~~ to the standards of 14 CCR § 923.3(d) [943.3(d),
8 963.3(d)] 923.17(a)-(c) [943.17(a)-(c), 963.17(a)-(c)]. The RPF **may**
9 propose an exception if explained and justified in the plan and found
10 by the Director to be in conformance with this article.

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11
12 **Amend 916.3, 936.3, 956.3. General Limitations Near Watercourses,**
13 **Lakes, Marshes, Meadows and Other Wet Areas**

14
15 (c) The timber operator shall not ~~construct or reconstruct roads,~~
16 ~~construct or use tractor roads or landings~~ in Class I, II, III or IV
17 watercourses, in the WLPZ, marshes, wet meadows, and other wet areas
18 unless when explained and justified in the ~~TWP~~ plan by the RPF, and
19 approved by the Director, except as follows:

20 (1) At prepared tractor road crossings as described in 14 CCR §
21 914.8(b) [934.8(b), 954.8(b)].

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

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

25 ~~(4)~~(3) At new tractor ~~and~~ road crossings approved as part of
the Fish and Game Code process (F&GC 1600 et seq.).

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 in Watersheds**
5 **with Threatened or Impaired Values**

6
7 **(a)-(g) [No change]**

8 **(h)** For Class I waters, any plan involving timber operations within
9 the WLPZ shall contain ~~the following information:~~

10 ~~(1) A~~ a clear and enforceable specification of how any
11 disturbance or log or tree cutting and removal within the Class I WLPZ
12 shall be carried out to conform with 14 CCR §§ 916.2 [936.2, 956.2](a)
13 and 916.9 [936.9, 956.9](a).

14 ~~(2) A description of all existing permanent crossings of Class~~
15 ~~I waters by logging roads and clear specification regarding how these~~
16 ~~crossings are to be modified, used, and treated to minimize risks,~~
17 ~~giving special attention to allowing fish to pass both upstream and~~
18 ~~downstream during all life stages.~~

19 ~~(3) Clear and enforceable specifications for construction and~~
20 ~~operation of any new crossing of Class I waters to prevent direct~~
21 ~~harm, habitat degradation, water velocity increase, hindrance of fish~~
22 ~~passage, or other potential impairment of beneficial uses of water.~~

23 **(i)-(j) [No change]**

24 **(k)** From October 15 to May 1, the following shall apply:
25

1 (1) ~~no~~ timber operations shall take place unless the approved
2 plan incorporates a complete winter period operating plan pursuant to
3 14 CCR § 914.7(a) [934.7(a), 954.7(a)]~~7~~.

4 (2) ~~u~~Unless the winter period operating plan proposes
5 operations during an extended period with low antecedent soil wetness,
6 no tractor roads shall be constructed, reconstructed, or used on
7 slopes that are over 40 percent and within 200 feet of a Class I, II,
8 or III watercourse, as measured from the watercourse or lake
9 transition line~~7~~. ~~and~~

10 (3) ~~e~~Operation of ~~trucks and~~ heavy equipment on roads and
11 landings shall be limited to those with a stable operating surface.

12 (1) Construction or reconstruction of ~~logging roads,~~ tractor roads,
13 ~~or landings~~ shall not take place during the winter period unless the
14 approved plan incorporates a complete winter period operating plan
15 pursuant to 14 § CCR 914.7(a) [934.7(a), 954.7(a)] that specifically
16 addresses such tractor road construction or reconstruction. Use of
17 ~~logging roads,~~ tractor roads, ~~or landings~~ shall not take place at any
18 location where saturated soil conditions exist, ~~where a stable logging~~
19 ~~road or landing operating surface does not exist,~~ or when visibly
20 turbid water from the ~~road, landing, or skid trail~~ tractor road
21 surface ~~or inside ditch~~ **may** reach a watercourse or lake. ~~Grading to~~
22 ~~obtain a drier running surface more than one time before~~
23 ~~reincorporation of any resulting berms back into the road surface is~~
24 ~~prohibited.~~

25 (m) [No change]

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1 (n) Within the WLPZ, and within any ELZ or EEZ designated for
2 watercourse or lake protection, treatments to stabilize soils,
3 minimize soil erosion, and prevent the discharge of sediment into
4 waters in amounts deleterious to aquatic species or the quality and
5 beneficial uses of water, or that threaten to violate applicable water
6 quality requirements, shall be applied in accordance with the
7 following standards:

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8 (1) The following requirements shall apply to all such
9 treatments.

10 (A) They shall be described in the plan.

11 (B) 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.

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

18 ~~(2) The traveled surface of logging roads shall be treated to~~
19 ~~prevent waterborne transport of sediment and concentration of runoff~~
20 ~~that results from timber operations.~~

21 ~~(3)~~(2) The treatment for other disturbed areas, including:

22 (A) ~~a~~Areas exceeding 100 contiguous square feet where timber
23 operations have exposed bare soil~~7~~.

24 (B) ~~a~~Approaches to tractor road watercourse crossings
25 between the drainage facilities closest to the crossing~~7~~.

1 ~~(C)~~ road cut banks and fills, and ~~(D)~~ (C) any other area
2 of disturbed soil that threatens to discharge sediment into waters in
3 amounts **deleterious** to the quality and beneficial uses of water, may
4 include, but need not be limited to, mulching, rip-rapping, grass
5 seeding, or chemical soil stabilizers. Where straw, mulch, or slash
6 is used, the minimum coverage shall be 90%, and any treated area that
7 has been subject to reuse or has less than 90% surface cover shall be
8 treated again prior to the end of timber operations. The RPF may
9 propose alternative treatments that will achieve the same level of
10 erosion control and sediment discharge prevention.

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11 ~~(4)~~(3) Where the undisturbed natural ground cover cannot
12 effectively protect beneficial uses of water from timber operations,
13 the ground shall be treated by measures including, but not limited to,
14 seeding, mulching, or replanting, in order to retain and improve its
15 natural ability to filter sediment, minimize soil erosion, and
16 stabilize banks of watercourses and lakes.

17 (o) [No change]

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

21 ~~(q)~~(p) Site preparation activities shall be designed to prevent
22 soil disturbance within, and minimize soil movement into, the channels
23 of watercourses. Prior to any broadcast burning, burning
24 prescriptions shall be designed to prevent loss of large woody debris
25 in watercourses, and vegetation and duff within a WLPZ, or within any
ELZ or EEZ designated for watercourse or lake protection. No ignition

1 is to occur within any WLPZ, or within any ELZ or EEZ designated for
2 watercourse or lake protection. When burning prescriptions are
3 proposed, the measures or burning restrictions which are intended to
4 accomplish this goal shall be stated in the plan and included in any
5 required burning permit. This information shall be provided in
6 addition to the information required under 14 CCR § 915.4 [935.4,
7 955.4].

8 ~~(r)~~(g) Water drafting for timber operations from within a channel
9 zone of a natural watercourse or from a lake shall conform with the
10 following standards:

11 (1) The RPF shall incorporate into the THP:

12 (A) ~~a~~A description and map of proposed water drafting
13 locations~~7~~.

14 (B) ~~t~~The watercourse or lake classification~~7~~, and

15 (C) ~~t~~The general drafting location use parameters (i.e.,
16 yearly timing, estimated total volume needed, estimated total uptake
17 rate and filling time, and associated water drafting activities from
18 other THPs).

19 (2) On Class I and Class II streams where the RPF has estimated
20 that:

21 (A) ~~b~~Bypass flows are less than 2 cubic feet per second,
22 or

23 (B) ~~p~~Pool volume at the water drafting site **would** be
24 reduced by 10%, or

25 (C) ~~d~~Diversion rate exceeds 350 gallons per minute, or

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1 (D) ~~d~~iversion rate exceeds 10% of the above surface
2 flow~~r~~,
3 no water drafting shall occur unless the RPF prepares a water drafting
4 plan to be reviewed and, if necessary a stream bed alteration
5 agreement issued, by DFG and approved by the Director. The Director
6 may accept the project description and conditions portion of an
7 approved "Streambed Alteration Agreement" issued under the Fish and
8 Game Code (F&GC 1600 et seq.) which is submitted instead of the water
9 drafting plan described in 14 CCR § 916.9 [936.9, 956.9] (~~q~~)(1)(C)
10 and (q)(2)(D)(1-5).

11 The water drafting plan shall include, but not be limited to:

- 12 1. ~~d~~isclosure of estimated percent streamflow
13 reduction and duration of reduction~~r~~.
- 14 2. ~~d~~iscussion of the effects of single pumping
15 operations, or multiple pumping operations at the same location~~r~~.
- 16 3. ~~p~~roposed alternatives and discussion to prevent
17 adverse effects (e.g. reduction in hose diameter, reduction in total
18 intake at one location, described allowances for recharge time, and
19 alternative water drafting locations)~~r~~.
- 20 4. ~~e~~conditions for operators to include an
21 operations log kept on the water truck containing the following
22 information: Date, Time, Pump Rate, Filling Time, Screen Cleaned,
23 Screen Conditions, and Bypass flow observations~~r~~.
- 24 5. ~~a~~ statement by the RPF for a pre-operations
25 field review with the operator to discuss the conditions in the water
drafting plan.

1 (3) Intakes shall be screened in Class I and Class II waters.
2 Screens shall be designed to prevent the entrainment or impingement of
3 all life stages of fish or amphibians. Screen specifications shall be
4 included in the plan.

5 ~~(4) Approaches to drafting locations within a WLPZ shall be~~
6 ~~surfaced with rock or other suitable material to avoid generation of~~
7 ~~sediment.~~

8 ~~(s)~~(r) No timber operations are allowed in a WLPZ, or within any
9 ELZ or EEZ designated for watercourse or lake protection, under
10 exemption notices except for:

11 (1) ~~h~~Hauling on existing roads~~τ.~~τ.

12 (2) ~~r~~Road maintenance~~τ.~~τ.

13 (3) ~~e~~Operations conducted for public safety~~τ.~~τ.

14 (4) ~~e~~Construction or reconstruction of approved watercourse
15 crossings~~τ.~~τ.

16 (5) ~~t~~Temporary crossings of dry Class III watercourses which do
17 not require a "Streambed Alteration Agreement" under the Fish and Game
18 Code~~τ.~~ ~~e~~r

19 (6) ~~h~~Harvesting recommended in writing by DFG to address
20 specifically identified forest conditions.

21 ~~(t)~~(s) No timber operations are allowed in a WLPZ, or within any
22 ELZ or EEZ designated for watercourse or lake protection, under
23 emergency notices except for:

24 (1) ~~h~~Hauling on existing roads~~τ.~~τ.

25 (2) ~~r~~Road maintenance~~τ.~~τ.

(3) ~~e~~Operations conducted for public safety~~τ.~~τ.

- 1 (4) ~~e~~Construction or reconstruction of approved watercourse
2 crossings~~τ.~~
- 3 (5) ~~t~~Temporary crossings of dry Class III watercourses which do
4 not require a "Streambed Alteration Agreement" under the Fish and Game
5 Code~~τ.~~
- 6 (6) ~~h~~Harvesting recommended in writing by DFG to address
7 specifically identified forest conditions~~τ.~~
- 8 (7) ~~t~~The harvest of dead or dying conifer trees subject to the
9 following conditions:
- 10 (A) Recruitment of large woody debris for aquatic habitat
11 in Class I anadromous fish-bearing or restorable waters shall be
12 ensured by retaining the ten largest dbh conifers (live or dead) per
13 330 feet of stream channel length that are the most conducive to
14 recruitment to provide for the beneficial functions of riparian zones.
15 The retained conifers shall be selected from within the area of
16 operations that lies within 50 feet of the watercourse transition
17 line. Where the area of operations is bounded by an ownership
18 boundary that corresponds with a class I watercourse, and where the
19 WLPZ on both sides of the watercourse currently meets the stocking
20 standards listed under 14 CCR § 912.7 [932.7,952.7](b)(2), the five
21 (5) largest dbh conifers (live or dead) per 330 feet of stream channel
22 length that are the most conducive to recruitment to provide for the
23 beneficial functions of riparian zones shall be retained within 50
24 feet of the watercourse transition line within the area of operations.
- 25 The RPF may provide alternatives to substitute smaller
diameter trees, trees that are more than 50 feet from the watercourse

1 transition line, or other alternatives on a site specific basis. The
2 RPF must provide with the notice an explanation and justification why
3 the alternative provided is more conducive to current and long-term
4 Large Woody Debris recruitment, shading, bank stability, and the
5 beneficial functions of riparian zones.

6 (B) Within any WLPZ, ELZ, or EEZ designated for Class II
7 or III watercourse protection, a minimum of two dead, dying, or
8 diseased conifer trees per acre at least 16 inches diameter breast
9 high and 50 feet tall shall be retained within 50 feet of the
10 watercourse transition line.

11 (C) Trees to be harvested or retained shall be marked by,
12 or under the supervision of, an RPF prior to timber operations within
13 the WLPZ or ELZ/EEZ.

14 (D) Within the WLPZ or ELZ/EEZ, if the stocking standards
15 of 14 CCR § 912 [932, 952].7 are not met upon completion of timber
16 operations, unless the area meets the definition of substantially
17 damaged timberlands, at least ten trees shall be planted for each tree
18 harvested but need not exceed an average point count of 300 trees per
19 acre.

20 ~~(u)~~(t) No salvage logging is allowed in a WLPZ without an approved
21 HCP, a PTEIR, an SYP, or an approved plan that contains a section that
22 sets forth objectives, goals, and measurable results for streamside
23 salvage operations.

24 (1) This section does not apply to emergency operations under
25 14 CCR § 1052.

1 ~~(v)~~(u) Nonstandard practices (i.e., waivers, exceptions, in-lieu
2 practices, and alternative practices) shall comply with the goal set
3 forth in subsection (a) above as well as with the other requirements
4 set forth in the rules.

5 ~~(w)~~(v) The Director may approve alternatives provided the
6 alternative practice will achieve the goal of this section. The
7 Director shall not accept for inclusion in a plan any alternative
8 practice as described in this section where two or more agencies
9 listed in 4582.6 of the PRC and 14 CCR § 1037.3 have submitted written
10 comments which lead to the Director's conclusion that the proposed
11 alternative will not meet the goal of this section and the agency(ies)
12 participated in the review of the plan, including an on-the-ground
13 inspection.

14 ~~(x)~~(w) Other measures that **would** effectively achieve the goal set
15 forth in 14 CCR § 916.9(a) [936.9(a), 956.9(a)] may be approved in
16 accordance with 14 CCR § 916.6 [936.6, 956.6].

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17 ~~(y)~~(x) The provisions of 14 CCR § 916.9 [936.9, 956.9] shall not
18 apply to a plan that is subject to an incidental take permit based
19 upon an approved Habitat Conservation Plan that addresses anadromous
20 salmonid protection.

21 ~~(z)~~(y) This section shall expire on December 31, 2008.
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~~Amend 918.3, 938.3, 958.3. Roads to be Kept Passable~~

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

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

~~Article 11 Logging Roads and Landings~~

~~Article 12 Logging Roads and Landings~~

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

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

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

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

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

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

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

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

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

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

13
14 ~~923.1, 943.1, 963.1 Planning for Roads and Landings [All Districts]~~

15 ~~The following standards for logging roads and landings shall be~~
16 ~~adhered to:~~

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

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

25 ~~(c) Logging roads and landings shall be planned and located, when~~
~~feasible, to avoid unstable areas. The Director shall approve an~~

1 ~~exception if those areas are unavoidable, and site specific measures~~
2 ~~to minimize slope instability due to construction are described and~~
3 ~~justified in the THP.~~

4 ~~(d) Where roads and landings will be located across 100 feet or more~~
5 ~~of lineal distance on any slopes over 65% or on slopes over 50% which~~
6 ~~are within 100 ft. of the boundary of a WLPZ, measures to minimize~~
7 ~~movement of soil and the discharge of concentrated surface runoff~~
8 ~~shall be incorporated in the THP. The Director may waive inclusion of~~
9 ~~such measures where the RPF can show that slope depressions, drainage~~
10 ~~ways, and other natural retention and detention features are~~
11 ~~sufficient to control overland transport of eroded material. The~~
12 ~~Director may require end hauling of material from areas within 100 ft.~~
13 ~~of the boundary of a WLPZ to a stable location if end hauling is~~
14 ~~feasible and is necessary to protect water quality. The Director~~
15 ~~shall require maintenance provisions in the THP for drainage~~
16 ~~structures and facilities provided that such maintenance is feasible~~
17 ~~and necessary to keep roadbeds and fills stable.~~

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

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

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

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

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

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

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

20 ~~(i) [Coast] The location of all logging roads to be constructed~~
21 ~~shall be flagged or otherwise identified on the ground before~~
22 ~~submission of a THP or major amendment. Exceptions may be explained~~
23 ~~and justified in the THP and agreed to by the Director if flagging is~~
24 ~~unnecessary as a substantial aid to examining: (1) compatibility~~
25 ~~between road location and yarding and silvicultural systems, or (2)~~
~~possible significant adverse effects of road location on water~~

1 ~~quality, soil productivity, wildlife habitat, or other special~~
2 ~~features of the area.~~

3 ~~(i) [Northern, Southern] All logging roads to be constructed shall~~
4 ~~be flagged or otherwise identified on the ground before submission of~~
5 ~~a THP or, substantial deviation, except for temporary roads less than~~
6 ~~600 ft. in length that would meet the requirements for a minor~~
7 ~~deviation (see 14 CCR 1036, 1039, 1040) if they were submitted as~~
8 ~~such. Exceptions may be explained and justified in the THP and agreed~~
9 ~~to by the Director if flagging or other identification is unnecessary~~
10 ~~as a substantial aid to examining: (1) compatibility between road~~
11 ~~location and yarding and silvicultural systems or (2) possible~~
12 ~~significant adverse effects of road location on water quality, soil~~
13 ~~productivity, wildlife habitat, or other special features of the area.~~

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

17
18 ~~**923.2, 943.2, 963.2 Road Construction [All Districts]**~~

19 ~~Logging roads shall be constructed or reconstructed in accordance with~~
20 ~~the following requirements or as proposed by the RPF, justified in the~~
21 ~~THP, and found by the Director to be in conformance with the~~
22 ~~requirements of this Article.~~

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

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

7 ~~(c) On slopes greater than 50%, where the length of road section is~~
8 ~~greater than 100 ft., and the road is more than 15 ft. wide (as~~
9 ~~measured from the base of the cut slope to the outside of the berm or~~
10 ~~shoulder of the road) and the fill is more than 4 ft. in vertical~~
11 ~~height at the road shoulder for the entire 100 feet the road shall be~~
12 ~~constructed on a bench that is excavated at the proposed toe of the~~
13 ~~compacted fill and the fill shall be compacted. The Director may~~
14 ~~approve exception to this requirement where on a site-specific basis~~
15 ~~if the RPF has described and justified an alternative practice that~~
16 ~~will provide equal protection to water quality and prevention of soil~~
17 ~~erosion.~~

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

22 ~~(d) [Northern, Southern] Roads shall be constructed so no break in~~
23 ~~grade, other than that needed to drain the fill, shall occur on~~
24 ~~through fill; breaks in grade shall be above or below the through~~
25 ~~fill, as appropriate. Where conditions do not allow the grade to~~

1 ~~break as required, through fills must be adequately protected by~~
2 ~~additional drainage structures or facilities.~~

3 ~~(e) Through fills shall be constructed in approximately one foot~~
4 ~~lifts.~~

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

7 ~~The RPF may propose an exception in the THP and the Director may~~
8 ~~approve the exception where it is justified that the fill will be~~
9 ~~stabilized.~~

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

13 ~~(h) Drainage structures and facilities shall be of sufficient size,~~
14 ~~number and location to carry runoff water off of roadbeds, landings~~
15 ~~and fill slopes. Drainage structures or facilities shall be installed~~
16 ~~so as to minimize erosion, to ensure proper functioning, and to~~
17 ~~maintain or restore the natural drainage pattern. Permanent~~
18 ~~watercourse crossings and associated fills and approaches shall be~~
19 ~~constructed where feasible to prevent diversion of stream overflow~~
20 ~~down the road and to minimize fill erosion should the drainage~~
21 ~~structure become plugged.~~

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

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

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

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

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

15 ~~(n) All culverts at watercourse crossings in which water is flowing~~
16 ~~at the time of installation shall be installed with their necessary~~
17 ~~protective structures concurrently with the fill, construction and~~
18 ~~reconstruction of logging roads. Other permanent drainage structures~~
19 ~~shall be installed no later than October 15. For construction and~~
20 ~~reconstruction of roads after October 15, drainage structures shall be~~
21 ~~installed concurrently with the activity.~~

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

10-22-07 Prepared by the Road Rules Task Force

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

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

7 ~~(r) No road construction shall occur under saturated soil conditions,~~
8 ~~except that construction may occur on isolated wet spots arising from~~
9 ~~localized ground water such as springs, provided measures are taken to~~
10 ~~prevent material from significantly damaging water quality.~~

11 ~~(s) Completed road construction shall be drained by outsloping,~~
12 ~~waterbreaks and/or cross draining before October 15. If road~~
13 ~~construction takes place from October 15 to May 1, roads shall be~~
14 ~~adequately drained concurrent with construction operations.~~

15 ~~(t) Roads to be used for log hauling during the winter period shall~~
16 ~~be, where necessary, surfaced with rock in depth and quantity~~
17 ~~sufficient to maintain a stable road surface throughout the period of~~
18 ~~use. Exceptions may be proposed by the RPF, justified in the TWP, and~~
19 ~~found by the Director to be in conformance with the requirements of~~
20 ~~this subsection.~~

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

~~(d) Unless partially blocked to create a temporary water source, watercourse crossing facilities and drainage structures, where feasible, shall be kept open to the unrestricted passage of water. Where needed, trash racks or similar devices shall be installed at~~

1 ~~culvert inlets in a manner which minimizes culvert blockage.~~

2 ~~Temporary blockages shall be removed by November 15.~~

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

6 ~~(f) Drainage structures, if not adequate to carry water from the~~
7 ~~fifty-year flood level, shall be removed in accordance with 14 CCR~~
8 ~~923.3(d) [943.3(d), 963.3(d)] by the first day of the winter period,~~
9 ~~before the flow of water exceeds their capacity if operations are~~
10 ~~conducted during the winter period, or by the end of timber operations~~
11 ~~whichever occurs first. Properly functioning drainage structures on~~
12 ~~roads that existed before timber operations need not be removed. An~~
13 ~~RPF may utilize an alternative practice, such as breaching of fill, if~~
14 ~~the practice is approved by the Director as providing greater or equal~~
15 ~~protection to water quality as removal of the drainage structure.~~

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

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

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

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

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

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

9 ~~(m) Inlet and outlet structures, additional drainage structures~~
10 ~~(including ditch drains), and other features to provide adequate~~
11 ~~capacity and to minimize erosion of road and landing fill and sidecast~~
12 ~~to minimize soil erosion and to minimize slope instability shall be~~
13 ~~repaired, replaced, or installed wherever such maintenance is needed~~
14 ~~to protect the quality and beneficial uses of water.~~

15 ~~(n) Permanent watercourse crossings and associated approaches shall~~
16 ~~be maintained to prevent diversion of stream overflow down the road~~
17 ~~should the drainage structure become plugged. Corrective action shall~~
18 ~~be taken before the completion of timber operations or the drainage~~
19 ~~structure shall be removed in accordance with 14 CCR Section 923.3(d)~~
20 ~~[943.3(d), 963.3(d)].~~

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

24 ~~(p) The Director may approve an exception to a requirement set forth~~
25 ~~in subsections (b) through (o) above when such exceptions are~~
~~explained and justified in the THP and the exception would provide for~~

1 ~~the protection of the beneficial uses of water or control erosion to a~~
2 ~~standard at least equal to that which would result from the~~
3 ~~application of the standard rule.~~

4
5 ~~923.5, 943.5, 963.5 Landing Construction [All Districts]~~

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

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

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

23 ~~(c) Waste organic material, such as uprooted stumps cull logs,~~
24 ~~accumulations of limbs and branches, or unmerchantable trees, shall~~
25 ~~not be buried in landing fills. Wood debris or cull logs and chunks~~

1 ~~may be placed and stabilized at the toe of landing fills to restrain~~
2 ~~excavated soil from moving downslope.~~

3 ~~(d) Constructed landings shall be the minimum in width, size, and~~
4 ~~number consistent with the yarding and loading system to be used.~~

5 ~~Landings shall be no larger than one half acre (.202 ha) unless~~
6 ~~explained and justified in the THP.~~

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

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

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

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

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

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

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

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

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

10 ~~(i) The RPF may propose and the Director may approve waiver of~~
11 ~~requirements in (f)(1) through (f)(4) of this subsection if the~~
12 ~~Director finds they are not necessary to minimize erosion or prevent~~
13 ~~damage to downstream beneficial uses. The Director may also approve an~~
14 ~~exception to the October 15th date for treatment of slash and debris,~~
15 ~~including the practice of burning.~~

16
17 ~~923.6, 943.6, 963.6 Conduct of Operations on Roads and Landings [All~~
18 ~~Districts]~~

19 ~~Routine use and maintenance of roads and landings shall not take place~~
20 ~~when, due to general wet conditions, equipment cannot operate under~~
21 ~~its own power. Operations may take place when roads and landings are~~
22 ~~generally firm and easily passable or during hard frozen conditions.~~
23 ~~Isolated wet spots on these roads or landings shall be rocked or~~
24 ~~otherwise treated to permit passage. However, operations and~~
25 ~~maintenance shall not occur when sediment discharged from landings or~~
~~roads will reach watercourses or lakes in amounts deleterious to the~~

1 ~~quality and beneficial uses of water. This section shall not be~~
2 ~~construed to prohibit activities undertaken to protect the road or to~~
3 ~~reduce erosion.~~

4
5 ~~923.7, 943.7, 963.7 Licensed Timber Operator Responsibility for Roads~~
6 ~~and Landings [All Districts]~~

7 ~~The licensed timber operator who is responsible for the implementation~~
8 ~~or execution of the plan shall not be responsible for the construction~~
9 ~~and maintenance of roads and landings, unless the licensed timber~~
10 ~~operator is employed for that purpose.~~

11
12 ~~923.8, 943.8, 963.8 Planned Abandonment of Roads, Watercourse~~
13 ~~Crossings, and Landings [All Districts]~~

14 ~~Abandonment of roads, watercourse crossings and landings shall be~~
15 ~~planned and conducted in a manner which provides for permanent~~
16 ~~maintenance free drainage, minimizes concentration of runoff, soil~~
17 ~~erosion and slope instability, prevents unnecessary damage to soil~~
18 ~~resources, promotes regeneration, and protects the quality and~~
19 ~~beneficial uses of water. General abandonment procedures shall be~~
20 ~~applied in a manner which satisfies this standard and include the~~
21 ~~following:~~

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

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

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

6 ~~(d) Pulling or shaping of fills or sidecast where necessary to~~
7 ~~prevent discharge of materials into watercourses due to failure of~~
8 ~~cuts, fills, or sidecast.~~

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

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

21
22 ~~**923.9, 943.9, 963.9 Roads and Landings in Watersheds with Threatened**~~
23 ~~**or Impaired Values [All Districts]**~~

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

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

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

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

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

18 ~~(2) Where cutbank stability is not an issue, roads may be~~
19 ~~constructed as a full-benched cut (no fill). Spoils not utilized in~~
20 ~~road construction shall be disposed of in stable areas with less than~~
21 ~~30 percent slope and outside of any WLPZ, EEZ, or ELZ.~~

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

25 ~~(d) In addition to the provisions listed under 14 CCR 923.1(e)~~
~~{943.1(e), 963.1(e)}, all permanent or seasonal logging roads with a~~

1 ~~grade of 15% or greater that extends 500 continuous feet or more shall~~
2 ~~have specific erosion control measures stated in the plan.~~

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

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

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

1 923, 943, 963 Intent for Logging Roads, Landings, and Logging Road
2 Watercourse Crossings

3
4 (a) All logging roads, landings, and logging road watercourse
5 crossings in the logging area shall be planned, constructed,
6 reconstructed, used, maintained, removed, abandoned, and deactivated
7 in a manner that:

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

10 (2) Accommodates appropriate yarding systems.

11 (3) Is economically feasible.

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

15 (1) Public safety.

16 (2) Fish and wildlife habitat.

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

18 (4) Soil resources.

19 (5) Significant archeological and historical sites.

20 (6) Air quality.

21 (7) Visual resources.

22 (8) Worker safety.

23 (9) Fire hazard.

24 (c) The RPF may propose exceptions to these rules if explained and
25 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.

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5 (e) The provisions that apply in watersheds with threatened or
6 impaired values shall not apply to a plan that is subject to an
7 approved Habitat Conservation Plan, Natural Communities Conservation
8 Plan, or Incidental Take Permit that addresses anadromous salmonid
9 protection.

10 (f) The provisions that apply in watersheds with threatened or
11 impaired values **will** expire on December 31, 2008.

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12
13 **923.1, 943.1, 963.1 Planning for Logging Roads and Landings**

14
15 The following standards shall apply to logging roads and landings:

16 (a) Logging roads and landings shall be planned and located within
17 the context of a systematic layout pattern that considers 14 CCR §
18 923(b), uses existing logging roads and landings where feasible and
19 appropriate, provides access for fire and resource protection
20 activities, and minimizes the following:

21 (1) Total road mileage.

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

23 (3) Activities near watercourses, lakes, marshes, wet meadows,
24 and other wet areas.

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

1 (5) Activities on unstable areas or in **connected headwall**
2 swales.

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

5 (7) Activities near significant populations of rare,
6 threatened, or endangered plants.

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

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

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

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

17 (1) At existing logging road watercourse crossings.

18 (2) At constructed or reconstructed logging road watercourse
19 crossings approved as part of the Fish and Game Code process (F&GC
20 1600 et seq.)

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

23 (c) Logging roads and landings shall be planned and located to avoid
24 unstable areas and **connected headwall swales**. The Director **may**
25 approve an exception if those areas are unavoidable and site-specific
measures to minimize slope instability due to logging road or landing

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1 construction or reconstruction are described and justified in the
2 plan.

3 (d) As part of the field examination of classified watercourses and
4 lakes, the RPF or supervised designee shall evaluate areas in and near
5 existing, constructed, and reconstructed logging roads and landings
6 for sensitive conditions, including, but not limited to, unstable and
7 erodible watercourse banks, unstable upslope areas, channels with
8 inadequate flow capacity, changeable channels, overflow channels,
9 flood prone areas, debris jam potential, and riparian zones.

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

14 (2) The plan shall identify such sensitive conditions,
15 including where they **may** interact with proposed timber operations,
16 that individually or cumulatively, significantly and adversely affect,
17 the beneficial uses of water.

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

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

24 (e) When selecting feasible alternatives (see 14 CCR §§ 897 and 898)
25 during the planning phase of logging roads and landings, the RPF shall
consider the location and planned use of logging roads and landings

1 and whether such logging roads and landings **will** be abandoned or
2 deactivated.

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3 **(f) Option 1:** In watersheds with threatened or impaired values,
4 where logging road or landing construction or reconstruction is
5 proposed, the plan shall state the location of, and specifications
6 for, logging road and landing abandonment or other mitigation measures
7 to minimize the adverse effects of long-term site occupancy of the
8 road system within the watershed.

9 **Option 2:** In watersheds with threatened or impaired values, where
10 logging road or landing construction or reconstruction is proposed,
11 the plan shall identify:

12 **(1)** How the proposed operations **will** fit into the systematic
13 layout pattern.

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

18
19 **923.2, 943.2, 963.2 Design and Implementation for Logging Roads and**
20 **Landings**

21
22 Constructed and reconstructed logging roads and landings shall be
23 designed and implemented in accordance with their proposed use,
24 maintenance requirements, and the approved plan:

25 **(a)** Constructed and reconstructed logging roads and landings shall:
(1) Avoid or mitigate potential impacts to public safety.

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

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

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

7 (5) Include adequate drainage structures and facilities
8 necessary to avoid concentrating and diverting runoff, to minimize
9 erosion of roadbeds, landing surfaces, drainage ditches, sidecast and
10 fills, to minimize the potential for soil erosion and sediment
11 transport, and to prevent the discharge of sediment into watercourses
12 and lakes in **quantities deleterious** to the beneficial uses of water.

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13 (6) Avoid crossing, or locations on, 100 feet or more of lineal
14 distance over any slopes greater than 65 percent or within 100 feet of
15 the boundary of a WLPZ on slopes greater than 50 percent that drain
16 toward the zoned watercourse or lake. Where logging road or landing
17 construction or reconstruction is necessary in these areas, specific
18 measures to minimize movement of soil and the discharge of
19 concentrated surface runoff shall be incorporated in the plan. The
20 Director **may** waive inclusion of such measures where the RPF can show
21 that slope depressions, drainage ways, and other natural retention and
22 detention features are sufficient to control overland transport of
23 eroded material.

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

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

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

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

11 (2) Avoid grades greater than 20% or grades greater than 15%
12 that extend greater than 500 continuous feet. Exceptions **may** be
13 approved where there is no other feasible access for harvesting of
14 timber or where use of a gradient greater than 20% **will** serve to
15 reduce soil disturbance.

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

18 (1) Be consistent with the yarding and loading system to be
19 used.

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

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

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23 (f) In watersheds with threatened or impaired values, the RPF shall:

24 (1) Identify active erosion sites associated with logging roads
25 and landings in the harvest area and along logging roads owned or

1 controlled by the timber owner, timberland owner, plan submitter, or
2 timber operator that are used for timber operations under the plan.

3 (2) Assess such sites to determine which ones pose significant
4 risks to the beneficial uses of water.

5 (3) Assess those sites, which pose significant risks to the
6 beneficial uses of water, to determine whether feasible remedies
7 exist.

8 (4) For sites that pose significant risks to the beneficial
9 uses of water and where feasible remedies exist, the plan shall
10 propose appropriate treatment.

11
12 **923.3, 943.3, 963.3 Mapping and Identification for Logging Roads and**
13 **Landings**

14
15 The following mapping and identification standards shall apply to
16 logging roads and landings:

17 (a) For logging road- and landing-related mapping requirements refer
18 to 14 CCR §§ 1034(x)(4)(A)-(B) and (5)(A)-(K), 1090.5(w)(4)-(6),
19 1090.5(hh), 1090.7(n)(4)-(6), and 1092.09(1)(5)(A)-(B) and (6)(A)-(K).

20 (b) For logging road- and landing-related disclosure and description
21 requirements refer to 14 CCR §§ 1034(ii)(1)-(18), 1034(jj)(1)-(2), and
22 1090.5(gg).

23 (c) For logging road- and landing-related identification requirements
24 refer to 14 CCR § 1034(hh).

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

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

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

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

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

9 2: prior to the pre-harvest inspection, if necessary, or prior to

10 logging road construction or reconstruction). Exceptions may be

11 explained and justified in the plan and agreed to by the Director if

12 flagging is unnecessary as a substantial aid to examining: (1)

13 compatibility between logging road location and yarding and

14 silvicultural systems, or (2) possible significant adverse effects of

15 logging road location on the factors listed under 14 CCR § 923(b)

16 [943(b), 963(b)].

17
18 **923.4, 943.4, 963.4 Construction and Reconstruction for Logging Roads**

19 **and Landings**

20
21 Logging roads and landings shall be constructed or reconstructed in

22 accordance with the approved plan and the following requirements. If

23 a change in designation of logging road classification is made after

24 the plan is approved, the change shall be reported in accordance with

25 14 CCR §§ 1039, 1040, 1090.14, 1092.26 or 1092.27, as appropriate.

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1 (a) Logging roads and landings shall not be constructed or
2 reconstructed where such operations pose a significant risk to public
3 safety.

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

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

10 (d) Logging roads and landings shall not be constructed with
11 overhanging banks.

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

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

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

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

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

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3 (j) Logging roads or landings shall not be constructed or
4 reconstructed under saturated soil conditions, except that
5 construction **may** occur on isolated wet spots arising from localized
6 ground water such as springs, provided measures are taken to minimize
7 soil erosion and sediment transport and to prevent the discharge of
8 sediment into watercourses and lakes in **quantities deleterious** to the
9 beneficial uses of water.

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

15 (l) On slopes greater than 50 percent for greater than 100 lineal
16 feet, fills greater than four feet in vertical height at the outside
17 shoulder of the logging road or landing shall be:

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

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

22 (m) Logging roads and landings shall not be constructed or
23 reconstructed across 100 feet or more of lineal distance on any slope
24 greater than 65 percent or within 100 feet of the boundary of a WLPZ
25 on slopes greater than 50 percent that drain toward the zoned

1 watercourse or lake unless specific construction techniques or
2 measures are described in the plan.

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

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

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

9 (1) Public safety.

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

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

22 (r) In watersheds with threatened or impaired values, the following
23 shall apply:

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

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

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6 (B) Logging roads may be constructed with balanced cuts
7 and fills:

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8 (i) If properly engineered.

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

11 (2) From October 15 to May 1, no construction or reconstruction
12 of logging roads or landings shall take place unless the approved plan
13 incorporates a complete winter period operating plan pursuant to 14
14 CCR § 914.7(a) [934.7(a), 954.7(a)] that addresses such logging road
15 or landing construction or reconstruction.

16
17 **923.5, 943.5, 963.5 Erosion Control for Logging Roads and Landings**

18
19 The following erosion control standards shall apply to logging roads
20 and landings:

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

24 (b) Drainage facilities or ditch drains shall be installed along all
25 logging roads and all landings that are used for timber operations in
sufficient number to minimize soil erosion and sediment transport and

1 to prevent the discharge of sediment into watercourses and lakes in
2 quantities deleterious to the beneficial uses of water.

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

5 (1) Be adequately sized to transmit runoff.

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

7 (3) Avoid discharge onto fill.

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

9 (d) Waterbreaks and rolling dips installed across logging roads and
10 landings shall be located to avoid collecting and discharging
11 concentrated runoff onto fills, erodible soils, unstable areas, and
12 connected headwall swales.

13 (e) Where logging roads or landings do not have permanent and
14 adequate drainage, and where waterbreaks are to be used to control
15 surface runoff, the waterbreaks shall be cut diagonally a minimum of
16 six inches into the firm roadbed and shall have a continuous firm
17 embankment of at least six inches in height immediately adjacent to
18 the lower edge of the waterbreak cut. On logging roads that have
19 firmly compacted surfaces, waterbreaks may be installed by hand
20 methods and need not provide the additional six-inch embankment
21 provided the waterbreak ditch is constructed so that it is at least
22 six inches deep and six inches wide on the bottom and provided there
23 is ample evidence based on slope, material, amount of rainfall, and
24 period of use that the waterbreaks so constructed will be effective in
25 diverting water flow from the logging road surface without the
embankment.

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

3 Option 2: Distances between waterbreaks shall not exceed the
4 following standards:

5
6 MAXIMUM DISTANCE BETWEEN WATERBREAKS

Estimated Hazard Rating	Logging Road Gradient in Percent		
	10 or less	11-25	>25
	Feet	Feet	Feet
Extreme	100	75	50
High	150	100	75
Moderate	200	150	100
Low	300	200	150

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

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

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.

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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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25 (p) In watersheds with threatened or impaired values, the following
shall apply:

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

5 (2) In addition to the provisions listed under 14 CCR §
6 923.2(e)(5) [943.2(e)(5), 963.2(e)(5)], all permanent and seasonal
7 logging roads with a grade of 15 percent or greater that extend 500
8 continuous feet or more shall have specific erosion control measures
9 stated in the plan.

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

17 (A) In addition to the requirements of subsections (l)-
18 (p), soil stabilization is required for:

19 (i) Areas where timber operations have exposed more
20 than 100 continuous square feet of bare soil.

21 (ii) Road cut banks and fills.

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

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1 (C) Where slash mulch is used, the minimum slash coverage
2 shall be 90 percent, or 75 percent where the slash is packed into the
3 ground surface through the use of a tractor or equivalent piece of
4 heavy equipment.

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

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

14
15 **923.6, 943.6, 963.6 Use for Logging Roads and Landings**

16
17 The following use standards shall apply to logging roads and landings:

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

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

25 (c) Logging roads and landings shall not be used when, due to general
wet conditions, equipment cannot operate under its own power. Use may

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1 occur when logging roads and landings are generally firm and easily
2 passable or during hard frozen conditions. Isolated wet spots on
3 these logging roads or landings shall be rocked or otherwise treated
4 to permit passage.

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

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

11 (f) Abandoned and deactivated logging roads shall be blocked or
12 otherwise closed before the winter period to prevent use by normal
13 vehicular traffic.

14 (g) Logging roads and landings shall not be used for log hauling
15 between October 15 and May 1 when saturated soil conditions exist on
16 the logging road or landing.

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

21 (i) In watersheds with threatened or impaired values, the following
22 shall apply:

23 (1) Logging roads and landings shall not be used when visibly
24 turbid water from the road or landing surface or inside ditch **may**
25 reach a watercourse or lake.

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1 (2) The operation of trucks and heavy equipment on logging
2 roads and landings shall be limited to those with a stable operating
3 surface where saturated soil conditions are not present.

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

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

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15 (5) Prior to use, approaches to water drafting locations within
16 a WLPZ shall be surfaced with rock or other suitable material to avoid
17 generation of sediment.

18 (6) From October 15 to May 1 logging roads and landings shall
19 not be used unless the approved plan incorporates a complete winter
20 period operating plan pursuant to 14 CCR § 914.7(a) [934.7(a),
21 954.7(a)] that addresses such logging road and landing use.

22
23 **923.7, 943.7, 963.7 Maintenance and Monitoring for Logging Roads and**
24 **Landings**

25
The following maintenance and monitoring standards shall apply to

1 logging roads and landings:

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

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

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

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

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

22 (f) Soil stabilization treatments on logging road or landing cuts,
23 fills, and sidecast shall be maintained as needed to minimize soil
24 erosion and sediment transport and to prevent sediment discharge into
25 watercourses and lakes in quantities deleterious to the beneficial
uses of water.

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

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

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

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

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

1 (1) In watersheds with threatened or impaired values, the following
2 shall apply:

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

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

10
11 **923.8, 943.8, 963.8 Abandonment and Deactivation of Logging Roads and**
12 **Landings**

13
14 All logging roads and landings that are proposed to be removed from
15 the permanent road network, including historic roads and landings,
16 shall be abandoned. All temporary logging roads and landings that are
17 to remain a part of the permanent road network shall be deactivated
18 upon completion of timber operations. Other logging roads and
19 landings proposed to be deactivated shall comply with the standards
20 specified in this section. Where abandonment or deactivation is
21 required or proposed, specific measures used to apply the following
22 general requirements shall be described in the plan:

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

25 (b) Soil exposed by abandonment or deactivation operations on cuts,
fills, and sidecast shall be stabilized as needed during and upon

1 completion of abandonment or deactivation operations to minimize soil
2 erosion and sediment transport and to prevent the discharge of
3 sediment into watercourses and lakes in quantities deleterious to the
4 beneficial uses of water.

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

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

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11 (e) Logging road watercourse crossings, other drainage structures,
12 and associated fills shall be removed and stabilized in accordance
13 with 14 CCR § 923.17(a)-(c) [943.17(a)-(c), 963.17(a)-(c)]. Where it
14 is not feasible to remove drainage structures and associated fills,
15 the plan shall identify how the potential for soil erosion and
16 sediment transport will be minimized and how the discharge of sediment
17 into watercourses and lakes in quantities deleterious to the
18 beneficial uses of water will be prevented.

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19 (f) Logging roads to be abandoned or deactivated shall be blocked so
20 that standard production four wheel-drive highway vehicles cannot pass
21 the point of closure at the time of abandonment or deactivation. If
22 the logging road is to be abandoned, then the blockage design shall be
23 described in the plan.

24
25 923.9, 943.9, 963.9 Licensed Timber Operator Responsibility for
Logging Roads and Landings

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

923.10, 943.10, 963.10 Planning for Logging Road Watercourse Crossings

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

- (a) Logging road watercourse crossings shall be planned and located within the context of a systematic logging road layout pattern.
- (b) Logging road watercourse crossings shall be planned in a manner that is consistent with their proposed use.
- (c) The number of logging road watercourse crossings shall be kept to a feasible minimum.
- (d) Existing logging road watercourse crossing locations shall be utilized where feasible and appropriate.
- (e) Where logging road watercourse crossings are proposed to be constructed or reconstructed in areas where public safety may be affected, the potential public safety impacts shall be disclosed in the plan.
- (f) As part of the field examination of classified watercourses and lakes, the RPF or supervised designee shall evaluate areas at and near existing and constructed or reconstructed logging road watercourse

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1 crossings for sensitive conditions, including, but not limited to,
2 past diversion, overtopping, plugging, significant inlet or outlet
3 erosion, and significant mechanical damage or wear.

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

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

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

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

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

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20 (h) **Option 1:** Where logging road networks are remote or are located
21 where the landscape is unstable, where crossing fills over culverts
22 are large, or where logging road watercourse crossing drainage
23 structures and erosion control features historically have a high
24 failure rate, drainage structures and erosion control features shall
25 be oversized, designed for low maintenance, reinforced, or removed

1 before the completion of the timber operation. Option 2: [Do not
2 adopt Option 1 and begin renumbering (h) as (g), (i) as (h), etc.]

3 (i) All permanent constructed or reconstructed logging road
4 watercourse crossing structures installed on Class I watercourses,
5 which meet the criteria of Class I waters based on biological
6 characteristics, shall be planned to allow upstream and downstream
7 passage of fish or listed aquatic species during any life stage and
8 for the natural movement of bedload.

9 (j) In watersheds with threatened or impaired values, the following
10 shall apply:

11 (1) For Class I waters, any plan involving timber operations
12 within the WLPZ shall contain the following information:

13 (A) A description of all existing permanent logging road
14 watercourse crossings.

15 (B) Clear specifications regarding how these crossings are
16 to be modified, used, and treated to achieve the standards of
17 subsection (i).

18 (C) Clear and enforceable specifications for construction
19 and operation of any new crossing to prevent direct harm, habitat
20 degradation, water velocity increase, hindrance of fish passage, or
21 other potential impairment of the beneficial uses of water.

22 (2) Option 1: Where logging road networks are remote or are
23 located where the landscape is unstable, where crossing fills over
24 culverts are large, or where logging road watercourse crossing
25 drainage structures and erosion control features historically have a
high failure rate, drainage structures and erosion control features

1 shall be oversized, designed for low maintenance, reinforced, or
2 removed before the completion of the timber operation. The method of
3 analysis and the design for crossing protection shall be included in
4 the plan.

5 **Option 2 [This only applies if subsection (h), Option 1 is adopted]:**

6 In addition to the requirements of 923.10(h), the method of analysis
7 and the design for crossing protection shall be included in the plan.

8 **Option 3: [This only applies if subsection (h), Option 1 is adopted:**

9 **Do not adopt Option 1 or Option 2.]**

10
11 **923.11, 943.11, 953.11 Logging Road Watercourse Crossing Design and**
12 **Implementation**

13
14 The following design and implementation standards shall apply to
15 logging road watercourse crossings:

16 **(a) All constructed and reconstructed logging road watercourse**
17 **crossings shall be designed in accordance with the planned use of the**
18 **associated logging road.**

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

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

24 Exceptions **may** be explained and justified in the plan and approved by
25 the Director where existing crossings located in the same

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1 physiographic environment have remained intact and undamaged following
2 stressing storms.

3 (d) All new and replacement culverts used for logging road
4 watercourse crossings shall be designed to be installed at or slightly
5 below the natural watercourse grade.

6 (e) Where new culverts are proposed for permanent installation at a
7 logging road watercourse crossing, the minimum diameter of the culvert
8 and the method used to determine the culvert diameter shall be
9 specified in the plan.

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

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

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

20 (i) All permanent constructed and reconstructed logging road
21 watercourse crossing structures installed within Class I watercourses,
22 which meet the criteria for Class I waters based upon biological
23 characteristics, shall include the analysis and specifications that
24 document conformance with 14 CCR § 923.10(i) [943.10(i), 963.10(i)].

25 (j) In watersheds with threatened or impaired values, the RPF shall
state in the plan how existing permanent culverts used for logging

1 road watercourse crossings on Class I watercourses, which meet the
2 criteria for Class I waters based upon biological characteristics,
3 shall be brought up to the standards of subsection (i) above and 14
4 CCR § 923.10(i) [943.10(i), 963.10(i)].

5
6 **923.12, 943.12, 963.12 Logging Road Watercourse Crossing Mapping and**
7 **Identification**

8
9 The following mapping and identification standards shall apply to
10 logging road watercourse crossings:

11 (a) For logging road watercourse crossing-related mapping
12 requirements refer to 14 CCR §§ 1034(x)(6)(A)-(C), 1090.5(w)(7),
13 1090.7(n)(7), and 1092.09(1)(7)(A)-(C).

14 (b) For logging road watercourse crossing-related disclosure and
15 description requirements refer to 14 CCR §§ 1034(ii)(18) and 1034(11).

16 (c) The location of all logging road watercourse crossings to be
17 constructed or reconstructed shall be flagged or otherwise identified
18 on the ground before **Option 1:** before submission of a plan or
19 substantial deviation (**Option 2:** prior to the pre-harvest inspection,
20 if necessary, or prior to logging road watercourse crossing
21 construction or reconstruction). Exceptions **may** be explained and
22 justified in the plan and agreed to by the Director if flagging is
23 unnecessary as a substantial aid to examining possible significant
24 adverse effects of the crossing location on the factors listed under
25 14 CCR § 923(b) [943(b), 963(b)].

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1
2 923.13, 943.13, 963.13 Logging Road Watercourse Crossing Construction
3 and Reconstruction

4
5 The following construction and reconstruction standards shall apply to
6 logging road watercourse crossings:

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

10 (b) All constructed and reconstructed permanent logging road
11 watercourse crossings shall accommodate the 100-year flood flow,
12 including debris and sediment loads. Exceptions may be explained and
13 justified in the plan and approved by the Director where existing
14 crossings, located in the same physiographic environment, have
15 remained intact and undamaged following stressing storms.

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16 (c) All new and replacement culverts used for logging road
17 watercourse crossings shall be installed at or slightly below the
18 natural watercourse grade. For Class I watercourses, which meet the
19 criteria for Class I waters based on biological characteristics, new
20 and replacement culverts shall be installed below grade to allow
21 upstream and downstream passage of fish or listed aquatic species
22 during any life stage and natural movement of bedload and shall be in
23 conformance with required DF&G 1600 agreements specified in subsection
24 (a) above.

25 (d) Fills for constructed and reconstructed logging road watercourse
crossings shall be thoroughly compacted in approximately one-foot

1 lifts during installation. The face of crossing fills shall be no
2 greater than 65 percent (1.5:1, horizontal to vertical).

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

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

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

14 (h) Critical dips shall be incorporated into the construction or
15 reconstruction of logging road watercourse crossings utilizing
16 culverts, except where diversion of overflow is prevented by other
17 methods stated in the plan.

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

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

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

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10 (l) Logging road watercourse crossings shall be installed no later
11 than October 15, except where logging road construction or
12 reconstruction takes place from October 15 to November 15 or from
13 April 1 to May 1 where logging road watercourse crossings shall be
14 installed concurrent with the activity. Logging road watercourse
15 crossings shall not be installed during the winter period, except as
16 specified in an approved winter operating plan per 14 CCR § 914.7(a)
17 [934.7(a), 954.7(a)].

18 (m) In watersheds with threatened or impaired values, from October 15
19 to May 1, logging road watercourse crossings shall not be constructed
20 or reconstructed, except as specified in an approved winter operating
21 plan per 14 CCR § 914.7(a) [934.7(a), 954.7(a)] and in conformance
22 with the implementation schedule required per 14 CCR § 923.10(f)
23 [943.10(f), 963.10(f)].

1
2 923.14, 943.14, 963.14 Logging Road Watercourse Crossing Erosion

3 Control

4
5 (a) The following drainage standards shall apply to logging road
6 watercourse crossings:

7 (1) Adequate surface drainage at logging road watercourse
8 crossings shall be provided through the use of surface geometry
9 configurations in combination with the installation of drainage
10 facilities, ditch drains, or other necessary protective structures.

11 (2) Drainage facilities and ditch drains shall be installed
12 adjacent to logging road watercourse crossings, as needed, to minimize
13 soil erosion and sediment transport and to prevent the discharge of
14 sediment into watercourses and lakes in quantities deleterious to the
15 beneficial uses of water during and upon completion of timber
16 operations. See 14 CCR §§ 923.5(d)-(j) for standards related to
17 waterbreak and rolling dip installation.

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

22 (b) The following stabilization standards shall apply to logging road
23 watercourse crossings:

24 (1) Bare soil on fills or sidecast associated with logging road
25 watercourse crossings that are created or exposed by timber operations
shall be stabilized to the extent necessary to minimize soil erosion

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1 and sediment transport and to prevent the discharge of sediment into
2 watercourses and lakes in quantities deleterious to the beneficial
3 uses of water. Erosion control measures for the traveled surface of
4 roads and landing surfaces are specified in 14 CCR §§ 923.5 [943.5,
5 963.5] and 923.7 [943.7, 963.7]. Sites to be stabilized include, but
6 are not limited to, sidecast or fill greater than 20 feet in slope
7 distance from the outside edge of the road surface at the logging road
8 watercourse crossing.

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

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

19 (4) In watersheds with threatened or impaired values, within
20 the WLPZ and within any ELZ or EEZ designated for watercourse or lake
21 protection, treatments to stabilize soils, minimize soil erosion, and
22 prevent the discharge of sediment into watercourses and lakes in
23 quantities deleterious to aquatic species or the quality and
24 beneficial uses of water, or that threaten to violate applicable water
25 quality requirements, shall be described in the plan as follows:

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1 (A) In addition to the requirements of subsections (b)(1)-
2 (3), soil stabilization is required for areas greater than 100
3 continuous square feet where timber operations have exposed bare soil.

4 (B) Where straw mulch is used, the minimum straw coverage
5 shall be 90 percent, and any treated area that has not been subject to
6 reuse or has less than 90 percent surface cover shall be treated again
7 by the end of timber operations.

8 (C) Where slash mulch is used, the minimum slash coverage
9 shall be 90 percent, or 75 percent where the slash is packed into the
10 ground surface through the use of a tractor or equivalent piece of
11 heavy equipment.

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

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

21
22 **923.15, 943.15, 963.15 Logging Road Watercourse Crossing Use**

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

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1 (a) Logging road watercourse crossings shall be used in a manner that
2 is consistent with the design, construction, and maintenance of the
3 logging road along which they have been constructed (Refer to 14 CCR
4 §§ 923.2 [943.2, 963.2], 923.4 [943.4, 963.4], 923.6 [943.6, 963.6],
5 and 923.7 [943.7, 963.7]).

6
7 **923.16, 943.16, 963.16 Logging Road Watercourse Crossing Maintenance**
8 **and Monitoring**

9
10 The following maintenance and monitoring standards shall apply to
11 logging road watercourse crossings:

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

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

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

23 (d) The plan shall identify measures to be used to reduce sediment
24 delivery from logging road watercourse crossings where evidence of
25 substantial soil erosion and discharge of sediment into watercourses
and lakes in quantities deleterious to the beneficial uses of water is

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

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

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

15 (g) In watersheds with threatened or impaired values, the erosion
16 control maintenance period on logging road watercourse crossings that
17 are not abandoned or deactivated in accordance with 14 CCR § 923.8
18 [943.8, 963.8] shall be three years.

19
20 **923.17, 943.17, 963.17 Logging Road Watercourse Crossing Removal**

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

1 (a) Fills shall be excavated to form a channel that is as close as
2 feasible to the natural watercourse grade and orientation and that is
3 wider than the average natural channel, as observed upstream and
4 downstream of the logging road watercourse crossing to be removed.

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

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11 (c) Exposed soil associated with logging road watercourse crossing
12 fill removal, including cut banks and excavated material, shall be
13 stabilized during and upon completion of removal operations, as
14 needed, or as otherwise specified in the rules by seeding, mulching,
15 rock armoring, or other suitable treatment to minimize soil erosion
16 and sediment transport and to prevent the discharge of sediment into
17 watercourses and lakes in quantities deleterious to the beneficial
18 uses of water.

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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.

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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.

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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 by the first day of the winter
10 period or as specified in the applicable DFG 1600 agreement, whichever
11 is earlier, 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.

18
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

1 subsections (4)(B), (5)(A)-(5)(K), 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.

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.

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 threatened or impaired values, the
19 location of active erosion sites on logging roads and landings that
20 will be treated.

21 (K) Location of any other area(s) where non-standard
22 practices on logging roads are proposed.

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

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

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

8 (C) The following logging road watercourse crossings,
9 which are: (i) not within the harvest area but are under the
10 ownership or control of the owner of the timberland where timber is
11 proposed for harvest and (ii) between the harvest area and the first
12 public road to be used for log hauling:

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

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

17 (iii) Existing logging road watercourse crossings to be
18 abandoned or deactivated.

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

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

22 (7) Location of all tractor road watercourse crossings of
23 classified watercourses except temporary crossings of Class III
24 watercourses that are dry at the time of use ~~without flowing water~~
25 ~~during timber operations at that crossing.~~

10-22-07 Prepared by the Road Rules Task Force

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

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

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

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

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

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

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

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

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

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

24 (aa)-(bb) [No change]

25

1 (cc) Explanation and justification for use of watercourses, marshes,
2 wet meadows, and other wet areas as ~~landings, roads, or skid trails~~
3 tractor roads.

4 (dd)-(ee) [No change]

5 (ff) ~~Explanation and justification for landings that exceed the~~
6 ~~maximum size specified in the rules.~~

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

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

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

17 ~~(jj)~~(gg) A general description of physical conditions at the plan
18 site, including general soils and topography information, vegetation
19 and stand conditions, and watershed and stream conditions.

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

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

1 (ii) The following shall be disclosed and described in the plan for
2 all constructed and reconstructed logging roads and landings:

3 (1) Option 1: Lineal distance of individual segments of
4 logging road construction.

5 Option 2: Total lineal distance of all logging road
6 construction.

7 (2) Potential public safety concerns.

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

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

12 (5) Areas with potential mercury in soil, fills, or mine
13 tailings.

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

16 (7) Landings in excess of one-quarter acre on slopes exceeding
17 40 percent.

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

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

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

1 (11) Road failures on existing logging roads to be
2 reconstructed.

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

6 (13) Logging roads and landings across slopes greater than 50
7 percent for 100 lineal feet or more within 100 feet of the boundary of
8 a WLPZ that drains toward the zoned watercourse or lake.

9 (14) Logging roads and landings across or landings on slopes
10 greater than 65 percent for 100 lineal feet or more.

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

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

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

18 (jj) In watersheds with threatened or impaired values, the following
19 shall be disclosed in the plan:

20 (1) Active erosion sites on logging roads and landings that
21 will be treated.

22 (2) All proposed logging road construction on slopes greater
23 than 50 percent.

24 (11) The following shall be provided in the plan for all constructed
25 and reconstructed logging road watercourse crossings:

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

3 (2) Option 1: Disclose and describe all logging road
4 watercourse crossings requiring construction or reconstruction along
5 non-public roads, except temporary logging road watercourse crossings
6 of Class III watercourses that are dry at the time of use, that are
7 not within the harvest area nor under the ownership or control of the
8 timberland owner where timber is proposed for harvest. Option 2: [Do
9 not adopt the contents of subsection (11)(3) proposed under Option 1
10 and begin re-numbering subsection (11)(3) as (11)(2), (11)(4) as
11 (11)(3), etc.]

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

15 (4) Disclose how diversions at logging road watercourse
16 crossings will be avoided. (Refer to 14 CCR § 923.10(g) [943.10(g),
17 963.10(g)].

18 (5) Include the analyses and specifications that demonstrate
19 all permanent constructed and reconstructed logging road watercourse
20 crossing structures installed within Class I watercourses, classified
21 based upon biological characteristics, will be designed to allow for
22 upstream and downstream passage of fish or listed aquatic species
23 during any life stage and for the natural movement of bedload. (Refer
24 to 14 CCR § 923.11(i) [943.11(i), 963.11(i)].

25 (6) Specify the minimum diameter of the culvert and the method
used to determine the culvert diameter where new culverts are proposed

1 for permanent installation at a logging road watercourse crossing.

2 (Refer to 14 CCR § 923.11(e) [943.11(e), 963.11(e)].)

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

6 (8) Identify protection measures needed to reduce sediment
7 delivery where evidence of substantial soil erosion and discharge of
8 sediment into watercourses or lakes in quantities deleterious to the
9 beneficial uses of water is present at a logging road watercourse
10 crossing used for timber operations. (Refer to 14 CCR § 923.16(d)
11 [943.16(d), 963.16(d)].)

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

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

23 (11) In watersheds with threatened or impaired values, the
24 following shall apply:

25 (A) State how existing permanent culverts used for logging
road watercourse crossings on Class I watercourses, classified based

1 upon biological characteristics, shall be brought up to the standards
2 of 14 CCR § 923.11(c) [943.11(c), 963.11(c)]. (Refer to 14 CCR §
3 923.11(i) [943.11(i), 963.11(i)].)

4 (B) Option 1: Where logging road networks are remote or
5 are located where the landscape is unstable, where crossing fills over
6 culverts are large, or where logging road watercourse crossing
7 drainage structures and erosion control features historically have a
8 high failure rate and where drainage structures and erosion control
9 features will be oversized, designed for low maintenance, or
10 reinforced, the method of analysis and the design for crossing
11 protection shall be included in the plan. (Refer to 14 CCR §
12 923.10(j)(2) [943.10(j)(2), 963.10(j)(2)].)

13 Option 2 [This only applies if 14 CCR § 923.10(h)
14 [943.10(h), 963.10(h)], Option 1 is adopted]: In addition to the
15 requirements of 923.11(h), include the method of analysis and the
16 design for logging road watercourse crossing protection. (Refer to 14
17 CCR § 923.10(j)(2) [943.10(j)(2), 963.10(j)(2)].)

18 Option 3: [This only applies if 14 CCR § 923.10(h)
19 [943.10(h), 963.10(h)], Option 1 is adopted: Do not adopt Option 1 or
20 Option 2.]

21
22 **Amend 1051.1. Contents of Modified THP**

23
24 A plan submitted under ~~section~~ 14 CCR § 1051 above shall contain all
25 the provisions of 14 CCR § 1034 except the following: (o), (x)(6),
(x)(7), (z), (cc), (dd), (ee), (ff), and (ll), and the RPF shall:

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Amend 1090.5 Contents of NTMP

(w) On a USGS quadrangle or equivalent topographical map of a scale not less than 2" to the mile, the following information shall be clearly provided. Additional maps may be required to show specific details, and may be planimetric. Color coding shall not be used. A legend shall be included indicating the meaning of the symbols used to depict operational features on maps. See the district rules for the appropriate minimum mapping acreages.

(1)-(3) [No change]

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

(5)-14) [No change]

(x)-(ff) [No change]

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

(hh) On a map complying with ~~subsection 14 CCR § 1090.6(*)~~ 1090.5(w), the locations and classifications of logging roads, logging road

1 watercourse crossings, and landings to be abandoned or deactivated
2 shall be shown.

3 (ii) [No change]

4
5 **Amend 1090.7 Notice of Timber Operations Content**

6
7 (n) On a USGS quadrangle or equivalent map of a scale not less than
8 2" to the mile, the following information pertinent to the Notice of
9 Operations shall be clearly provided. Additional maps may be required
10 to show specific details, and may be planimetric. Color coding shall
11 not be used. A legend shall be included indicating the meaning of the
12 symbols used to depict operational features on maps. See the district
13 rules for the appropriate minimum mapping acreages.

14 (1)-(3) [No change]

15 (4) Location of public roads within the Notice area, and
16 private roads appurtenant to the timber operations where such roads
17 are under the ownership or control of the timberland owner, and are
18 contiguous with the Notice area, and classification of all proposed
19 and existing logging roads as permanent, seasonal, or temporary roads.

20 (5)-(11) [No change]

21
22 **Amend 1092.09 PTHP Contents**

23
24 (1) On a ~~titled USGS quadrangle or equivalent topographic map of a~~
25 ~~scale not less than 2" to the mile~~ map that is based upon a U. S.
Geological Survey topographic quadrangle map, or equivalent, published

1 at a scale of 1:24,000 or larger, the information in subsections (1-5)
2 (1)-(5)(A), (6)(A)-(6)(K), if applicable, (7)(A)-(B), and (7-11) shall
3 be clearly shown. On a topographic map at a scale of 1/2 inch equals
4 1 mile (1:126,720) or larger, the information in subsections (5)(B),
5 (6)(A)-(6)(K), if applicable, and (7)(C) shall be clearly shown.

6 Additional maps, which may be topographic or planimetric, may be used
7 to provide the information required in other subsections or show
8 specific details, and to improve map clarity. ~~The appurtenant roads~~
9 referenced in subsection (5) may be shown on a map which may be
10 planimetric with a scale as small as one half inch equals one mile.
11 Color coding shall not be used. A legend shall be included indicating
12 the meaning of the symbols used to depict operational features on
13 maps. See the district rules for the appropriate minimum mapping
14 acreage.

15 (1)-(4) [No change]

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

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

1 (B) Location of all logging roads that will be used for
2 log hauling under the ownership or control of the timber owner,
3 timberland owner, timber operator, or plan submitter 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 (6) The following shall be mapped at the appropriate scale
14 required under subsection (1), whichever is applicable, for all
15 constructed and reconstructed logging roads and landings, unless
16 otherwise noted:

17 (A) Location of logging road grades greater than 15
18 percent for over 200 continuous feet or logging road grades greater
19 than 20 percent.

20 (B) Location of road failures on existing roads to be
21 reconstructed.

22 (C) Location of logging roads across or landings on
23 unstable areas or **connected headwall swales.**

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

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

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

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

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

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

15 (J) In watersheds with threatened or impaired values, the
16 location of active erosion sites on logging roads and landings that
17 will be treated.

18 (K) Location of any other area(s) where non-standard
19 practices on logging roads are proposed.

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

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

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

8 (C) The following logging road watercourse crossings,
9 which are: (i) not within the harvest area but are under the
10 ownership or control of the owner of the timberland where timber is
11 proposed for harvest and (ii) between the harvest area and the first
12 public road to be used for log hauling:

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

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

17 (iii) Existing logging road watercourse crossings to be
18 abandoned or deactivated.

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

21 ~~(8) (7) Road failures on existing roads to be reconstructed.~~

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

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

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

5 (11) Location of known unstable areas or slides.

6 (12) Location of unique areas.

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