

Table C2.111# - Additional Payment for Additional Sawtimber Trees  
(\$0.00 / Tree)

DBH:	PP	SP	WF	DF	IC	LP
10 inch	0.00	0.00	0.00	0.00	0.00	0.00
12 inch	0.00	0.00	0.00	0.00	0.00	0.00
14 inch	0.00	0.00	0.00	0.00	0.00	0.00
16 inch	0.00	0.00	0.00	0.00	0.00	0.00
18 inch	0.00	0.00	0.00	0.00	0.00	0.00
20 inch	0.00	0.00	0.00	0.00	0.00	0.00
22 inch	0.00	0.00	0.00	0.00	0.00	0.00
24 inch	0.00	0.00	0.00	0.00	0.00	0.00
26 inch	0.00	0.00	0.00	0.00	0.00	0.00
28 inch	0.00	0.00	0.00	0.00	0.00	0.00
30 inch	0.00	0.00	0.00	0.00	0.00	0.00

32 inch and greater – for any hazard/danger trees marked of this size, volume will be determined from the R5 Cubic Foot Volume Tables (9/97) and the rate of \$ 0.00/ccf for PP, \$0.00/ccf for SP, \$ 0.00/ccf for WF, \$0.00/ccf for DF, \$0.00/ccf for IC, and \$ 0.00/ccf for LP will be applied to that volume for the additional payment for that tree.

SPECIFICATIONS PURSUANT TO C2.21# - UTILIZATION, REMOVAL, AND AMOUNT PAYABLE  
FOR NON-SAWTIMBER

<u>Subdivision/Unit</u>	<u>Products to be Removed</u>
Units: 19, 20,21, 22, 24, 25	1. All limbs and tops that are attached after skidding to whole trees and portions of trees meeting specifications for Non-Sawtimber Products. Limbwood from Sawtimber is considered Logging Slash and shall be treated under C6.7#.
Units: 19, 20,21, 22, 24, 25	2. All tops that are attached after skidding to whole trees and portions of trees meeting specifications for Sawtimber products.

**AGREEMENT EXAMPLE:**

SPECIFICATIONS PURSUANT TO C2.21# - ALTERNATIVE REMOVAL AGREEMENT. (5/2008)

Sale Name:	Meadow Creek Timber Sale		
Contract No.:	12345		
Purchaser:	Joe Jippo Logging		
Haul Cost (from Appraisal):	\$2.87 / CCF		
Loading Cost (from Appraisal):	\$15.68 / CCF		
Current Contract Rate Non-Sawtimber:	\$0.65 / CCF		
<u>Rationale for the Agreement:</u>			
Market conditions have changed significantly since the sale was sold resulting in the closing of two local chip outlets for non-saw material. The next closest outlet is over 250 miles away. See attached letters documenting non-buying of non-sawtimber material.			
<u>Subdivisions:</u>			
2, 5, 12, and 14			
<u>Product and Volume (from cruise report) - Non-sawtimber from selected subdivisions:</u>			
<u>Subdivisions</u>	<u>All Species - Non-Sawtimber (CCF)</u>		
2	55		
5	12		
12	176		
14	589		
Total	832		
<u>Activity</u>	<u>\$/Unit</u>	<u>No. of Units</u>	<u>Total Value</u>
Value Of Material Alternatively Removed	0.65/CCF	832 CCF	\$540.80
Haul Cost from Appraisal	\$2.87/CCF	832 CCF	\$2,387.84
Haul by Purchaser to the Alternate Disposal Site	\$1.28/ccf	832 CCF	\$1,064.96
Loading Cost from Appraisal	\$15.68/ccf		
Loading Cost of Alternative Material: No loading cost will be assessed due to Purchaser loading and hauling material to alternate location.	\$15.68/ccf		
Purchaser Work: Seed, scarify and close Road			\$1,200

Specifications of Material with Alternate Removal Requirements:

Species	Product	Estimated Quantity	Unit of Measure	Minimum Specifications				
				Merchantable Tree		Piece Required to be Removed		
				Diameter Breast High (d.b.h) (inches)	Number of Minimum Pieces per Tree	Length (feet)	Diameter Inside Bark at Small End (inches)	Net Measure in % of Gross Measure
All species in Units 2,5,12, and 14	Non-saw-timber	832	CCF	8.0	1	8.0	5.0	40

Description of Alternate Removal Requirements:

Purchaser shall cut and yard as originally planned for the units; and hauls the non-sawtimber to the large existing landing at the end of road 24N03. This is a 200 foot spur road that is currently closed. Purchaser is authorized to open the road and do maintenance for the haul, per FS requirements. This material shall be piled no closer than 20 feet from the dripline of any tree. Piles shall be tight and free of dirt, and covered with black plastic at least 4 mil thick to within 3 feet of the ground. Protruding pieces shall be severed to the edge of the pile. Purchaser shall, seed, scarify and close the road. Forest Service will burn the piles later.

Costs to be Paid by Purchaser for Additional Forest Service Disposal:

Stumpage	+	\$ 540.80
Burn Pile by Forest Service	+	\$ 750.00
Loading	+	0.00
Haul allowed in appraisal	+	\$2,387.84
Haul by Purchaser to Alternate Disposal Site	-	\$1,064.96
Purchaser seed, scarify, close Road	-	\$1,200.00
Total Owed by Purchaser (to be billed through TSA)		\$1,413.68

Name:	Name:
Title:	Title:
Date:	Date:

SPECIFICATIONS PURSUANT TO C2.35# - DESIGNATION OF TIMBER. CUTTING UNIT BOUNDARIES,  
AND SUBDIVISION/PAYMENT UNIT BOUNDARIES

Timber Designation Table

Cutting Unit/ Subdivision/Area /Payment Unit	Tree Paint Color	Designation or Specification
All units	Green	<u>Hazard Tree</u> . Notwithstanding B2.32 all dead and unstable live trees which are leaning towards a road or are otherwise hazardous to a road, and are sufficiently tall to reach Purchaser's landings or the roadbed of National Forest System roads within Sale Area, shall be felled by Purchaser when Marked in the specified paint color above and below stump height by Forest Service in advance of felling any other timber in the vicinity. Pieces meeting Utilization Standards from such dead and unstable live trees shall be removed unless Purchaser is notified in writing that removal would cause unacceptable damage to areas requiring special protection such as residual timber, roads, administrative sites, streamside management zones, and areas identified on Sale Area Map or on the ground.
22, 24	Blue	<u>Individual Tree Mark</u> . Individual trees are designated for cutting only if Marked above and below stump height with the specified paint color.
20	Orange	<u>Leave Tree Mark</u> . All live <u>conifers</u> are designated for cutting unless Marked as leave trees. Leave trees are Marked above and below stump height with the specified paint color. Sale Area Map indicates areas plainly identified on the ground where leave trees are Marked to be left uncut.
All Units	White	<u>Wildlife Trees</u> . Notwithstanding the designation for cutting under B2.31, B2.33, B2.34, or B2.35, trees which are identified by standard Forest Service metal wildlife tree sign or painted with the specified paint color on the uphill and downhill side, shall be left uncut. In event such trees are destroyed in Purchaser's Operations, Forest Service may designate alternate trees to be saved.
22, 24	Black	<u>Marked Out Trees</u> . When it is necessary to delete previously marked trees, a unique tree marking paint color will be Marked over or adjacent to the original mark, but will not obscure the original marking. Trees Marked with the original marking paint color and the unique tree marking paint color are not Included Timber.
N/A		Designation by Spacing C2.351#
Units: 19, 20, 21, 22, 24, 25		Designation by Species and Diameter, C2.352#
N/A		Designation by Damage Class, C2.353#
N/A		Designation by Row Spacing, C2.354#

Subdivision/Payment Unit and Cutting Unit Boundary Designation Table

<u>Subdivision/Payment Unit</u>	<u>Boundary Paint Color</u>	<u>Boundary Designation</u>
19, 20, 21, 22, 24, 25	ORANGE	Boundary line trees are Marked at eye level with three (3) diagonal slash marks facing into unit, two (2) vertical slashes at eye level facing down boundary, and two (2) stump marks.
<u>Cutting Unit</u>	<u>Boundary Paint Color</u>	<u>Boundary Designation</u>
19, 20, 21, 22, 24, 25	ORANGE	Yellow boundary posters with sale name and cutting unit are stapled to boundary trees and face outward at locations where the cutting unit boundary intersects or coincides with roads.

Tree Designation Table

<b>Subdivision(s) or Cutting Unit(s)</b>	<b>Designated Species <u>1/</u></b>	<b>More than Stump Diameter (inches) <u>2/</u></b>	<b>Less than Stump Diameter (inches) <u>2/</u></b>
19, 21, 24, and 25	WF, PP and LP	6.0	18.0
20 and 22	WF, PP and LP	6.0	14.0
All Units	Western Juniper	6.0	28.0

**Restricted Road List**

Road Number	Road Name	Termini		Map Legend	Description of Restrictions
		From	To		
FH 15	Davis	MP 11.5	MP 14.7	R	January 1 <sup>st</sup> through March 31 <sup>st</sup> during winter operations use alternative haul routes away from Forest Road 15 or maintain an unplowed lane at least 8 feet wide to allow snowmobile access to Medicine Lake unless otherwise agreed in writing.

**Contract Road Maintenance Requirements Summary**

Road	Termini		Miles	Applicable Prehaul Road Maintenance Specifications									
	From	To		801	802	803	804	805	806	807	808	809	810
FH77.6	CO. 6P01	FH77.1	10.07			P							
44N01	FH77	44N77.1	0.80			P							
44N75.1	44N77.1	44N75B	1.01			P				P			
44N75.2	44N75B	44N75D	0.55			P							
44N75B	44N75.1	MP 0.82	0.82			P				P			
44N75D	44N75.2	MP 0.18	0.18			P				P			
44N77.2	44N75.1	44N77A	0.42			P				P			
44N77A	44N77.2	MP 0.62	0.62			P				P			
44N77.3	44N77A	44N77B	0.60			P				P			
44N77.4	44N77B	FH15.2	0.61			P							
44N80.1	FH15.3	44N80A	0.83			P				P			
44N80A	44N80.1	MP 0.91	0.91			P				P		P	
44N80.2	44N80A	44N80B	1.69			P				P			
44N80B	44N80.2	MP 0.16	1.16			P				P			
44N80.3	44N80B	MP 0.5	0.50			P				P		P	
FH77.1	FH15.4	44N62	0.40			P							
44N62	FH77.1	44N61	2.27			P				P		P	
44N61	44N62	44N03	0.35			P				P			
44N03	44N61	MP 1.27	1.27			P				P			

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

Road	Termini		Miles	Applicable During Haul Road Maintenance Specifications									
	From	To		801	802	803	804	805	806	807	808	809	810
FH77.6	CO. 6P01	FH77.1	10.07			P				P			
44N01	FH77	44N77.1	0.80			P				P			
44N75.1	44N77.1	44N75B	1.01			P				P			
44N75.2	44N75B	44N75D	0.55			P				P			
44N75B	44N75.1	MP 0.82	0.82			P				P			
44N75D	44N75.2	MP 0.18	0.18			P				P			
44N77.2	44N75.1	44N77A	0.42			P				P			
44N77A	44N77.2	MP 0.62	0.62			P				P			
44N77.3	44N77A	44N77B	0.60			P				P			
44N77.4	44N77B	FH15.2	0.61			P				P			
44N80.1	FH15.3	44N80A	0.83			P				P			
44N80A	44N80.1	MP 0.91	0.91			P				P			
44N80.2	44N80A	44N80B	1.69			P				P			
44N80B	44N80.2	MP 0.16	1.16			P				P			
44N80.3	44N80B	MP 0.5	0.50			P				P			
FH77.1	FH15.4	44N62	0.40			P				P			
44N62	FH77.1	44N61	2.27			P				P			
44N61	44N62	44N03	0.35			P				P			
44N03	44N61	MP 1.27	1.27			P				P			

P = Purchaser Performance Item, D = Deposit to Forest Service, D3 = Deposit to Third Party

Road	Termini		Miles	Applicable Post Haul Road Maintenance Specifications									
	From	To		801	802	803	804	805	806	807	808	809	810
FH77.6	CO. 6P01	FH77.1	10.07			P							
44N01	FH77	44N77.1	0.80			P							
44N75.1	44N77.1	44N75B	1.01			P							
44N75.2	44N75B	44N75D	0.55			P							
44N75B	44N75.1	MP 0.82	0.82			P							
44N75D	44N75.2	MP 0.18	0.18			P							
44N77.2	44N75.1	44N77A	0.42			P							
44N77A	44N77.2	MP 0.62	0.62			P							
44N77.3	44N77A	44N77B	0.60			P							
44N77.4	44N77B	FH15.2	0.61			P							
44N80.1	FH15.3	44N80A	0.83			P							
44N80A	44N80.1	MP 0.91	0.91			P						P	
44N80.2	44N80A	44N80B	1.69			P							
44N80B	44N80.2	MP 0.16	1.16			P							
44N80.3	44N80B	MP 0.5	0.50			P						P	
FH77.1	FH15.4	44N62	0.40			P							
44N62	FH77.1	44N61	2.27			P						P	
44N61	44N62	44N03	0.35			P							
44N03	44N61	MP 1.27	1.27			P							

P = Purchaser Performance Item D = Deposit to Forest Service D3 = Deposit to Third Party

**Road Maintenance T-Specifications****for****Timber Sale Contracts**

To be used with Timber Sale Contract Form 2400-6, C5.31#

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<i>Applicable T-Spec.</i>	<i>No.</i>	<i>Specification Title</i>
X	T-800	Definitions
	T-801	Slide and Slump Repair
	T-802	Ditch Cleaning
X	T-803	Surface Blading
	T-804	Surfacing Repair
	T-805	Drainage Structures
X	T-806	Dust Abatement
X	T-807	Roadway Vegetation
	T-808	Miscellaneous Structures
X	T-809	Waterbars
	T-810	Barriers
	T-811	Surface Treatment

## SPECIFICATION T-800 DEFINITIONS

Wherever the following terms or pronouns are used in Specifications T-801 through T-811, the intent and meaning shall be interpreted as follows:

800-1.1 - Agreement. Maintenance projects require a mutually acceptable method to resolve the problems which arise when incompatible situations arise between drawings and specifications and actual conditions on the ground to allow orderly and satisfactory progress of the maintenance.

These specifications have been developed in anticipation of those problem areas and have provided that such changes will be by Agreement.

It is intended that drawings and specifications will govern unless "on-the-ground" conditions warrant otherwise, when specifications call for "Agreement", "agreed", or "approval" such Agreement or approval shall be promptly confirmed in writing.

800-1.2 - Annual Road Maintenance Plan. A plan prepared by various users of one or several roads. The plan is an Agreement on maintenance responsibilities to be performed for the coming year.

800-1.3 - Base Course. Material used to reinforce Subgrade or, as shown on drawings, placed on Subgrade to distribute wheel loads.

800-1.4 - Berm. Curb or dike constructed to prevent Roadway runoff water from discharging onto embankment slope.

800-1.5 - Borrow. Select Material taken from designated borrow sites.

800-1.6 - Crown, Inslope, and Outslope. The cross slope of the Traveled Way to aid in drainage and traffic maneuverability.

800-1.7 - Culverts. A conduit or passageway under a road, trail, or other obstruction. A culvert differs from a bridge in that it is usually entirely below the elevation of the Traveled Way.

800-1.8 - Drainage Dip. A dip in the Traveled Way which intercepts surface runoff and diverts the water off the Traveled Way. A Drainage Dip does not block the movement of traffic.

800-1.9 - Drainage Structures. Manufactured structures which control the runoff of water from the Roadway including Inslope, overside drains, aprons, flumes, downdrains, downpipes, and the like.

800-1.10 - Dust Abatement Plan. A table which lists the road, dust palliative, application rates, and estimated number of subsequent applications.

800-1.11 - Lead-off Ditches. A ditch used to transmit water from a Drainage Structure or Drainage Dip outlet to the natural drainage area.

800-1.12 - Material. Any substances specified for use in the performance of the work.

800-1.13 - Prehaul Maintenance. Road maintenance work which the Purchaser determines must be accomplished to maintain the roads to a satisfactory condition commensurate with the Purchaser's use, provided Purchaser's Operations do not damage improvements under B6.22 or National Forest resources and hauling can be done safely. This work will be shown in the Annual Road Maintenance Plan as provided in C/CT5.31.

Prehaul Maintenance work the Purchaser elects to perform will be in compliance with the Road Maintenance T-Specifications.

800-1.14 - Roadbed. The portion of a road between the intersection of Subgrade and sideslopes, excluding that portion of the ditch below Subgrade.

800-1.15 - Road Maintenance Plan. A table which shows applicable road maintenance specifications to be performed by Purchaser on specific roads.

800-1.16 - Roadside. A general term denoting the area adjoining the outer edge of the Roadway.

800-1.17 - Roadway. The portion of a road within the limits of excavation and embankment.

800-1.18 - Shoulder. That portion of Roadway contiguous with Traveled Way for accommodation of stopped vehicles, for emergency use, and lateral support of base and Surface Course, if any.

800-1.19 - Slide. A concentrated deposit of Materials from above or on backslope extending onto the Traveled Way or Shoulders, whether caused by mass land movements or accumulated ravelling.

800-1.20 - Slough. Material eroded from the backslope which partially or completely blocks the ditch, but does not encroach on the Traveled Way so as to block passage of traffic.

800-1.21 - Slump. A localized portion of the Roadbed which has slipped or otherwise become lower than that of the adjacent Roadbed and constitutes a hazard to traffic.

800-1.22 - Special Project Specifications. Specifications which detail conditions and requirements peculiar to the individual project.

800-1.23 - Subgrade. Top surface of Roadbed upon which Base Course or Surface Course is constructed. For roads without Base Course or Surface Course, that portion of Roadbed prepared as the finished wearing surface.

800-1.24 - Surface Course. The Material placed on Base Course or Subgrade primarily to resist abrasion and the effects of climate. Surface Course may be referred to as surfacing.

800-1.25 - Surface Treatment Plan. A table which lists the roads and surface treatments to be applied.

800-1.26 - Traveled Way. That portion of Roadway, excluding Shoulders, used for the movement of vehicles.

800-1.27 - Turnouts. That portion of the Traveled Way constructed as additional width on single lane roads to allow for safe passing of vehicles.

800-1.28 - Water Source. A place designated on the Road Maintenance Map for acquiring water for road maintenance purposes.

800-1.29 - Waterbar. A dip in the Roadbed which intercepts surface runoff and diverts the water off the Roadway. A Waterbar is not designed to be traversable by logging trucks.

## SPECIFICATION T-803 SURFACE BLADING

DESCRIPTION

1.1 Surface blading is keeping a native or aggregate Roadbed in a condition to facilitate traffic and provide proper drainage. It includes maintaining the Crown, Inslope or Outslope of the Traveled Way, Turnouts, and Shoulder; repairing Berms; blending approach road intersections; and cleaning bridge decks, Drainage Dips, and Lead-off Ditches.

REQUIREMENTS

3.1 Surface blading shall be performed before, during, and after Purchaser's use as often as necessary to facilitate traffic and proper drainage.

3.2 The surface blading shall preserve the existing cross-section. Surface irregularities shall be eliminated and the surface left in a free-draining state and to a smoothness needed to facilitate traffic. Surface Material which has been displaced to the Shoulders or Turnouts shall be returned to the Traveled Way. The blading operation shall be conducted to prevent the loss of surface Material and to provide for a thorough mixing of the Material being worked.

3.3 Water, taken from Water Sources designated on Sale Area Map, shall be applied during blading if sufficient moisture is not present to cut, mix, or compact the surface Material.

3.4 On native surfaced roads, Material generated from backslope Sloughing, and ditch cleaning may be blended with the surface Material being worked. On aggregate surfaced roads this Material shall not be blended with Surface or Base Course Material unless agreed otherwise.

3.5 Roadway backslopes or Berms shall not be undercut, nor shall new Berms be established unless agreed otherwise.

Berms shall be repaired by placing Material, as needed to restore the Berm, to reasonably blend with existing line, grade, and cross-section.

3.6 Drainage Dips and Lead-off Ditches shall be cleaned and maintained to reasonably blend with existing line, grade, and cross-section.

3.7 Intersecting roads shall be bladed for a distance of 50 feet to assure proper blending of the two riding surfaces.

3.8 Rocks or other Material remaining on the Traveled Way after the final pass that are larger than 4 inches in diameter or are larger than the maximum size of imported surfacing shall be removed from the Traveled Way. The oversized Material shall be disposed of by sidecasting, unless shown otherwise on Sale Area Map. Sidecasting into streams, lakes, or water courses will not be permitted.

3.9 Material resulting from work under this specification shall not remain on or in structures, such as Culverts, overside drains, cattleguards, ditches, Drainage Dips, and the like.

3.10 Material resulting from work under this specification, plus any accumulated debris, shall be removed from bridge decks and the deck drains opened.

## SPECIFICATION T-806 DUST ABATEMENT

DESCRIPTION

1.1 This work shall consist of preparing Traveled Way and furnishing and applying Materials to abate dust.

MATERIALS

2.1 The roads requiring dust abatement, type of dust abatement Material to be used, the rates of application, and frequency of applications will be shown on Dust Abatement Plan. The Dust Abatement Plan may be changed by written Agreement.

2.2 Water. The locations of Water Sources are shown on Sale Area Map.

## Operating Guidelines:

1. Operations are restricted to one hour after sunrise to one hour before sunset.
2. Pumping rate shall not exceed 350 gallons per minute.
3. The pumping rate shall not exceed ten percent of the stream flow.
4. Seek streams and pools where water is deep and flowing, as opposed to streams with low flow and small isolated pools.
5. Pumping shall be terminated when the tank is full. The effect of single pumping operations, or multiple pumping operations at the same location, shall not result in obvious draw-down of either upstream or downstream pools.
6. Each pumping operations shall use a fish screen. The screen face should be oriented parallel to flow for best screening performance. The screen shall be designed and used such that it can be submerged with at least one-screen-height clearance above and below the screen.
7. Operators shall keep a log on the truck containing the following information:
  - a. Operator's Name
  - b. Date
  - c. Time
  - d. Pump Rate
  - e. Filling Time
  - f. Screen Cleaned (Y or N)
  - g. Screen condition
  - h. Comments

## Screen Construction Criteria:

1. Surface Area:
  - a. The total (unobstructed) surface area of the screen shall be at least 2.5 square feet, based on the upper limit of pumping of 350 gpm. Larger surface areas are recommended where debris buildup is anticipated, and where stream depth is adequate to keep the screen submerged at approximately middepth.
2. Screen Mesh:
  - a. Screen Mesh must be in good repair and present a sealed, positive barrier effectively preventing entry of the "design fish" into the intake. The design fish in this case is an immature (20-30mm) salmon or steelhead fry.
  - b. The screen mesh size shall be: round openings – maximum 3/32 inch diameter (.09 inch)
  - c. Square openings – maximum 3/32 inch diagonal (.09 inch)
  - d. Slotted openings – maximum 1/16 inch width (.07 inch)

### 3. Screen Design:

- a. Water drafting screens maybe off-the-shelf products, but they are often custom-made devices appropriate to the scale and duration of pumping operation. To keep the screen supported and correctly positioned in the water column, adjustable support legs are advised. Screen geometry can be configured either as rectangular or cylindrical, e.e. as a shallow “box-shape” or tubular.
- b. The intake structure shall be designed to promote uniform velocity distribution at all external mesh surfaces. This can be accomplished with a simple internal baffle devise that distributes the flow evenly across the entire surface of the screen. In order to accomplish this, the designer needs to understand the hydraulic characteristics of these devices. There is a tendency for most of the intake water to enter the screen near the hose end, so a typical internal baffle would consist of a pipe (or manifolded set of pipes) which have variable porosity holes at predetermine spacing. We recommend starting near the hose end with approximately 5 – 10% average open area, and gradually increasing the porosity toward the length of the scen. At a point where screen length exceeds three times the diameter of the suction hose, the baffling effect tends to diminish rapidly. At this point the baffle porosity may approach 100%. A successful baffle system will functionally distribute flow to all areas of the screen. A poorly designed screen may result in high-velocity “hot spots”, which could lead to fish impingement on the screen face.
- c. Hydraulic testing of prototype screen designs is recommended where the application is on-going and extensive.

### 4. Screen Structure:

- a. The screen frame must be strong enough to withstand the hydraulic forces it will experience. However, the structural frames, braces, and other elements that block the flow, change flow direction, or otherwise decrease the screen surface area should be minimized.

### 5. Screen Cleaning:

- a. The screen shall be cleaned as often as necessary to prevent approach velocity from exceeding 0.33 feet per second. Operators should withdraw the screen and clean it after each use, or as necessary to keep screen face free of debris. Pumping should stop of screen cleaning when approximately fifteen percent or more of the screen area is occluded by debris. A suitable brush shall be on board the truck for this cleaning operation.
- b. If the operator notes (1) impingement of any juvenile fissh on the screen face or (2) entrainment of any fish through the screen mesh, he/she should stop operations and notify the Department of Fish & Game and/or NMFS hydraulic engineering staff:

National Marine Fisheries Service  
Engineering Section  
777 Sonoma Avenue, Suite 325  
Santa Rosa, CA 95404  
(707) 575-6050

2.3 Dust abatement Materials shall meet the requirements of the following subsections of Forest Service Specifications for Construction of Roads and Bridges or attached Special Project Specifications.

Emulsified Asphalt	702
Blotter Material	703.12
Magnesium or Calcium Chloride Brine	723.01
Calcium Chloride Flake	723.02
Lignin Sulfonate	723.03

2.4 Testing of Materials. Certification and sampling of bituminous Materials lignin sulfonate, and magnesium chloride shall be in accordance with subsections 105.04 or 723.04 of Forest Service Specifications for Construction of Roads and Bridges.

### REQUIREMENTS

3.1 General. Dust abatement Materials shall be applied to the road surface as necessary to control road surface loss, provide for road user safety, and minimize damage to adjacent resources.

3.2 Compaction. When the methods listed below specify compaction, Traveled Way shall be compacted by an 8 to 10 ton pneumatic, steel-wheeled or equivalent vibrating roller making 2 passes over the full Traveled Way and Shoulder width, unless compaction is not required on the Dust Abatement Plan (C5.31).

3.3 Preparation to Dust Abatement Materials Other Than Water. The following applies to all methods of preparation:

Bituminous residue shall be scarified and pulverized to produce loosened Material not exceeding 4 inches in greatest dimension.

Traveled Way shall be bladed in accordance with T-803.

Prior to applying DO-6BA, DO-6PA, or DO-8, the top 2 inches of Traveled Way shall contain not less than 80 percent nor more than 120 percent of optimum moisture as determined by AASHTO T-99, Method C. Prior to applying other bituminous Material, Traveled Way shall have a moisture content between 1 and 3 percent. If surface dusting prevents the bituminous Material from penetrating, a light application of water shall be applied just prior to applying the bituminous Material.

Lignin Sulfonate and magnesium chloride shall be applied when the top 1 inch of Traveled Way contains not less than 3 percent moisture, nor more than 120 percent of optimum moisture as determined by AASHTO T-99, Method C.

Moisture content will be determined in accordance with AASHTO T-217 OR T-239.

One or more of the following methods shall be used, as specified in the Dust Abatement Plan (C5.31).

Method 1. Compact Traveled Way and apply the dust abatement Material.

Method 2. Develop a layer of loose Material approximately 1 inch in depth for the full width of Traveled Way. Apply the dust abatement Material to this loose Material and compact after penetration. If traffic makes maintenance of the loose Material difficult, 1 inch of the Material may be bladed into a windrow along the Shoulder. The specified moisture content shall be maintained in the windrow and the top 1 inch of Traveled Way. The windrow shall be bladed to a uniform Material. When the dust abatement Material has penetrated, Traveled Way shall be compacted.

Method 3. Blade 1 inch of Material from Traveled Way into a windrow along the Shoulder. Maintain the specified moisture content in the windrow and the top inch of Traveled Way. Apply half the dust abatement Material. When the dust abatement Material has penetrated, the windrow shall be bladed to a uniform depth across dust abatement Traveled Way, and the remaining dust abatement Material shall be applied. Traveled Way shall be compacted.

Method 4. Develop a layer of loose Material approximately 2 inches in depth for the full width of Traveled Way. Apply half the dust abatement Material to the loose Material. Blade the top 2 inches into a windrow along the Shoulder. Apply the remaining dust abatement Material to Traveled Way and the Berm. Spread the Berm evenly across Traveled Way and compact.

3.4 Preparation for Dust Abatement with Water. Traveled Way shall be prepared in accordance with Specification T-803 Surface Blading when required.

3.5 Application Tolerance. Dust abatement Materials other than water shall be applied within 0.05 gallons per square yard of the rate specified.

3.6 Mixing Requirements. DO-6BA, DO-6PA, and DO-8 shall be thoroughly circulated in the distributor within 1 hour of application.

3.7 Weather Limitations. Dust abatement Materials shall not be applied when it is raining. Bituminous Material shall be applied when the surface temperature of Traveled Way is 50 degrees Fahrenheit or higher.

Lignin sulfonate and magnesium chloride shall be applied when the atmospheric temperature is 40 degrees Fahrenheit or higher.

3.8 Blotter Material. Blotter Material shall be spread in a sufficient quantity to prevent tire pickup.

Ruffed Grouse Thin Multiproduct						
<i>Dust Abatement Plan (T-806) (7/01)</i>						
1	Dust abatement Materials shall be applied to the road surface as necessary to control road surface loss, provide for road user safety, and minimize damage to adjacent resources.					
2	Preparation method 2 will be used in T-806 Dust Abatement Specification. Water may be used in lieu of MgCl <sub>2</sub> if acceptable dust abatement measures will be met and written agreement in place.					
Road Segment	Material Type or Grade	Application Rate		Frequency of Subsequent Application	Preparation Method	Weight Volume Conversion Factor
		Initial	Subsequent			
FH77.6	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N01	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N75.1	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N77.1	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N75.2	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N75B	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N75D	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N77.2	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N77A	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N77.3	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N80.1	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N80A	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N80.2	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N80B	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N80.3	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
FH77.1	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N62	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N61	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A
44N03	MgCl <sub>2</sub>	N/A	N/A	See #1 Above	Method 2	N/A

SPECIFICATION T-807 ROADWAY VEGETATION

DESCRIPTION

1.1 This work includes removal of brush and trees from within the Roadway limits.

REQUIREMENTS

3.1 Vegetative matter within the Roadway which impedes vehicular travel or interferes with road maintenance operations, such as surface blading and ditch and culvert cleaning shall be removed. Downed timber meeting utilization standards shall be cut in appropriate lengths and decked along the Roadside in locations where the Traveled Way or sight distances will not be impaired.

3.2 Vegetative matter removed from the Roadway shall be treated by the specified method shown on Sale Area Map and as required by C6.7.

SPECIFICATION T-809 WATERBARS

DESCRIPTION

1.1 This work consists of installing or removing Waterbars in the Roadbed.

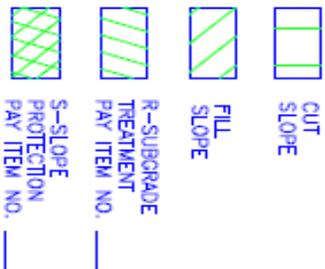
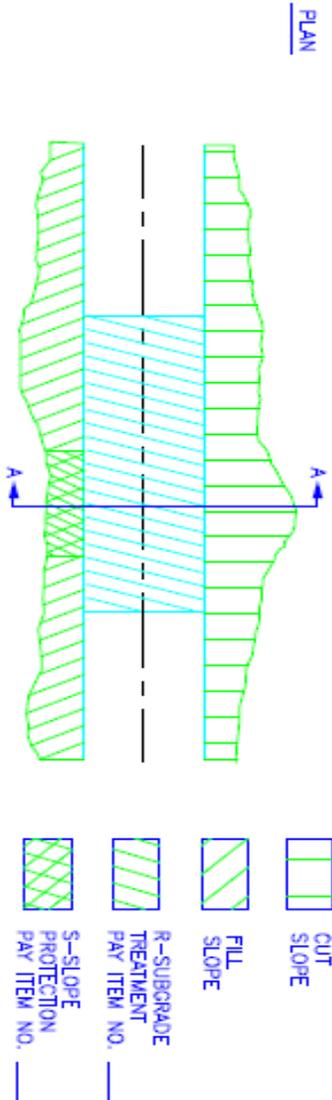
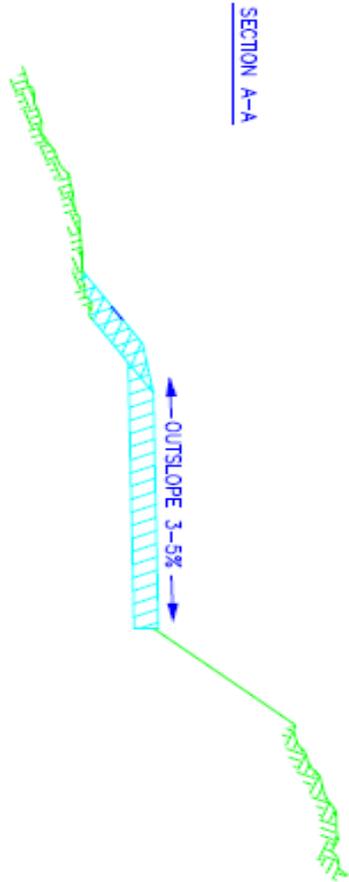
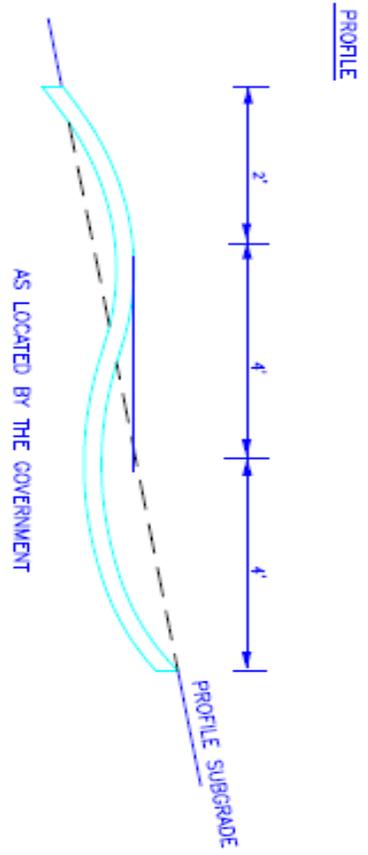
REQUIREMENTS

3.1 Waterbars shall be installed on roads shown on Road Maintenance Plan in accordance with the attached drawings and at locations designated or staked on the ground.

All Material excavated shall be used in the installation of the Waterbar. Bermed Material shall be compacted by operating heavy equipment over the length and width of the Berm.

3.2 Waterbars shall be removed on roads shown on Road Maintenance Plan by blading the Berm into the adjacent depression to form a smooth transition along the Traveled Way. The length and width of the fill Material shall be compacted by the equipment performing the work.

3.3 Waterbars may be required to be installed between seasons of use and then removed when haul is resumed. Waterbar installation may also be required when use of a road has been completed.



↑ DRAWINGS NOT TO SCALE .

NOTES

- 1) THE DRAIN DIP INVERT SHALL BE SMOOTH AND FREE DRAINING.
- 2) THE DIFFERENCE IN ELEVATION BETWEEN THE SAC AND THE CREST OF THE DRAIN DIP (DIMENSION B) SHALL BE 8 TO 12 INCHES.

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
STANDARD DETAIL FOR  
WATERBAR  
T-809

SPECIFICATIONS PURSUANT TO C5.35# - REQUIREMENTS OF ROAD AND WATER SUPPLY USE

Load Limitations	<p>Purchaser shall notify Forest Service in writing of the planned size and load distribution for equipment which exceeds the State of California Vehicle Code legal size and weight, and the National Forest System roads to be used. Such notice may be part of plan of operation under B6.311. Within 15 days after receipt of the written notice Forest Service shall notify Purchaser in writing of any regulations or restrictions that may be needed to protect National Forest Transportation Facilities.</p> <p>A written permit shall be required for moving any vehicle which is in excess of the established legal size and weight which is not listed in the above plan, except as may be authorized in prior written agreements.</p>
Existing Non-National Forest System Roads	<p>Roads not shown on Sale Area Map may be used as Temporary Roads if there is agreement before use is started.</p>
Snow Removal	<p>If Purchaser removes snow from roads, such work shall be done with Forest Service approval and in a manner that will protect roads and adjacent resources.</p> <p>Snow berms shall be removed or placed to avoid accumulation of melt water on the road and prevent water concentration on erosive slopes or soils.</p> <p>Snow must not be removed to the road surface. A minimum <b>2-4</b> inch snow depth must be left to protect the roadway. If the road surface is damaged, Purchaser shall replace lost surface material and repair structures damaged in blading operations prior to hauling, unless climatic conditions prevent necessary work from being accomplished or as otherwise agreed in writing.</p> <p>Single lane roads shall be plowed full width including turnouts. In event double lane roads are not plowed to full width, warning signs shall be required and plowing shall be no less than single lane (12 feet) with intervisible turnouts.</p>
Water Supply Deposits	N/A

Surface Replacement Deposits

Purchaser shall make Required Deposits for deferred surface replacement (16 U.S.C. 537) for use of existing surfaced roads. If applicable, such deposits shall be based upon the volume and distance hauled on the roads and at the applicable rates listed in the table below titled Surface Replacement Deposit Schedule. If Purchaser uses surfaced roads under jurisdiction of Forest Service other than those listed, Forest Service may establish applicable rates for such surfaced roads.

SURFACE REPLACEMENT DEPOSIT SCHEDULE

Road No.	From	To	Miles	Rate
FH77.6	CO 6P01	FH77.5	10.7	1.339
44N01	FH77	4477.1	0.80	0.064
44N75.1	44N77.1	44N75B	1.01	0.043
44N75.2	44N77B	44N75D	0.55	0.010
44N77.2	44N75.1	44N77A	0.42	0.010
44N77A	44N77.2	MP 0.62	0.62	0.010
44N03	44N61	MP 1.27	1.27	0.010

Sale Area Average Rate: \$ 1.49 / Ton

Haul outside of the normal operating season is by written Forest Service agreement and rates are subject to triple.

SCHEDULE PURSUANT TO C6.315# - SALE OPERATIONS SCHEDULE (8/2006)

<u>Subdivision/ Area/Unit</u>	<u>Conditions of Operation</u>	<u>Purpose</u>
Units: 19, 24, 25	No operations may occur from March 1 through August 31. This restriction may be waived upon Forest Service written agreement.	Protection of northern goshawk.
Sale Area	Purchaser shall complete falling and substantially complete removal of included products in one subdivision prior to entering another subdivision, unless otherwise agreed to in writing.	To ensure harvest and removal of all included products in each subdivision, and to improve control of operations.

## SPECIFICATIONS AND TREATMENTS PURSUANT TO C6.41# - FELLING, BUCKING AND LIMBING

Treatment Method and Applicable Map Symbol	Felling, Bucking and Limbing Specifications
Limbing	Outside of construction clearings, Clearcutting Units and regeneration units, unless otherwise provided by B6.414, Purchaser shall, prior to skidding/yarding operations, cut exposed limbs from products which are to be skidded/yarded. Such limbing of stems shall be done to a top diameter of approximately <u>N/A</u> inches, at which point the top shall be cut from the remainder of the stem.
No Lop "No Lop"	Within units or subdivisions designated NO LOP on Sale Area Map, trees shall be skidded/yarded to agreed landing locations prior to lopping.
Whole Tree Yarding "Whole"	Notwithstanding the requirements above, within units or subdivisions designated "Whole" on Sale Area Map, trees smaller than <u>24</u> inches DBH shall be skidded/yarded to agreed landing locations prior to limbing, bucking, and lopping. Trees larger than or equal to <u>24</u> inches DBH shall be bucked into two or more pieces with the butt portion being no longer than <u>41</u> feet prior to skidding/yarding. The butt log <u>shall not</u> be limbed prior to skidding/yarding.
Directional Felling "DF"	Within areas designated DF on Sale Area Map, Included Timber shall be directionally felled away from <u>Site Specific Protection Areas, Improvements, dispersed campsites, geothermal pipe, survey monuments, and Roads</u> with the use of specialized equipment. Such directional felling shall not be required when in the faller's judgment it is unsafe to do so, and shall be left standing.
Treatment of Stumps "TS"	<p>Within areas shown on Sale Area Map, Purchaser shall treat stumps of all live <u>conifer</u> trees equal to or greater than <u>14</u> inches stump diameter, (measured inside bark) unless otherwise agreed in writing. Treatment shall be with a borate compound registered by EPA in the State of California for prevention of annosus root disease.</p> <p>Treatment shall consist of removal of sawdust and other loose debris from the cut surface of the stump and application of a thin layer of the borate compound uniformly over the entire cut surface, including exposed wood surfaces on the stump sides, at the rate specified on the product label. Any surface irregularities on the stump preventing application of a uniform layer of borate compound shall be cut level prior to treatment. Unless waived in writing, Purchaser shall also apply an approved colorant mixed</p>

	<p>with the borate compound to insure complete coverage. Treatment should be done as soon as possible but shall be completed no later than <u>4</u> hours after felling, otherwise stumps shall be re-cut and treated.</p> <p>Purchaser shall not apply borate compound during heavy rain fall or when such precipitation rate is predicted within <u>24</u> hours of application to cause borate compound to be flushed off the stump and become ineffective, in that case treatment shall be reapplied. Application shall be completed within 24 hours of the precipitation having ceased. Borate compound also shall not be applied to stumps located within <u>N/A</u> feet of live streamcourses and meadows/wetlands shown on Sale Area Map and/or <u>N/A</u> feet of sensitive plant location boundaries as flagged on the ground.</p> <p>Purchaser shall provide the borate compound and colorant and apply it in compliance with the State of California laws and regulations pertaining to pesticides and pest control operations. Borate compound storage shall be located such that any spillage will not contaminate water. All spills shall be promptly cleaned up and spilled material disposed of according to the product label. All spills occurring in water or over <u>any amount</u> pounds shall be reported to Forest Service within <u>1</u> hours.</p> <p>Purchaser shall submit at the end of each month a "Monthly Summary of Pesticide Use Reports" to the appropriate County Agricultural Commissioner with a copy to the District Ranger.</p>								
Maximum Log Length	N/A								
Minimum Stump Height	<table border="1"> <thead> <tr> <th data-bbox="488 1352 776 1430">Unit/Subdivision</th> <th data-bbox="776 1352 1053 1430">Minimum Stump Height (inches)</th> <th data-bbox="1053 1352 1333 1430">Purpose or Reason</th> </tr> </thead> <tbody> <tr> <td data-bbox="488 1430 776 1623">All units</td> <td data-bbox="776 1430 1053 1623">4</td> <td data-bbox="1053 1430 1333 1623">Product accountability and reduce the risk of fire from cutting saw operations.</td> </tr> </tbody> </table>			Unit/Subdivision	Minimum Stump Height (inches)	Purpose or Reason	All units	4	Product accountability and reduce the risk of fire from cutting saw operations.
Unit/Subdivision	Minimum Stump Height (inches)	Purpose or Reason							
All units	4	Product accountability and reduce the risk of fire from cutting saw operations.							

## Ground-Based Skidding Table - C6.42#

Map Symbol	Requirements
<b>TRAC</b>	<p>Skid road pattern shall be agreed in advance of felling and main skid roads shall be flagged on the ground in advance of felling. Purchaser shall stage-log by felling and skidding Included Timber in two or more separate operations when necessary to prevent undue damage to the resources or residual stand. Needed tractor trails shall be constructed in advance of skidding.</p> <p>Products shall be end-lined as needed to protect resources or residual timber from unnecessary damage. The number of chokers shall be limited as necessary to avoid unnecessary damage to resources or residual timber. By agreement, tractors may be used to separate products to prevent stain.</p>
<b>SUSP</b>	Products shall be skidded with leading end clear of ground.
<b>SPACE</b>	Skid roads will average <u>120</u> feet from center to center, except where converging.
<b>ENDL</b>	N/A
<b>MAX</b>	N/A
<b>MH</b>	<p>Purchaser shall cut Included Timber and move it to designated skid trails using equipment with a boom having an operating radius of at least <u>20</u> feet for bunching trees, capable of severing, lowering and placing trees up to <u>22</u> inches diameter at stump height on the ground prior to skidding. Such equipment must be capable of operating on slopes up to <u>20</u> %.</p> <p>Notwithstanding above, hand felling using chainsaws may be required in or adjacent to sensitive areas to protect resources from unnecessary damage.</p> <p>Trees which exceed capability of specified equipment may be felled, bucked and skidded in a manner consistent with the requirements of B6.41 - Felling and Bucking, C6.41# - Felling, Bucking, and Limbing Requirements and the above "TRAC", "SUSP", "SPACE", "ENDL", and "MAX" requirements.</p>
<b>CTL</b>	N/A
<b>PB</b>	N/A
<b>HCTL</b>	N/A

SPECIFICATIONS PURSUANT TO C6.6# - EROSION PREVENTION AND CONTROL.

Vegetative Soil Stabilization N/A

Special Erosion Prevention Measures Purchaser shall give adequate treatment by spreading slash or wood chips or by agreement giving other treatment to portion of tractor roads, skid trails, landings, cable yarding corridors, tractor-end lined corridors and Temporary Road fills where necessary to supplement other erosion prevention measures required elsewhere in this contract. In no event shall Purchaser be required to treat more acres than that shown in the legend of Sale Area Map. The specific locations to be treated shall be designated on the ground by Forest Service. These special erosion prevention measures are to be done within the same date and time periods as stated above.

Soil Scarification. N/A

Backblading N/A

Tillage N/A

SPECIFICATIONS PURSUANT TO C6.7# - SLASH TREATMENT (8/2006)

Specified slash treatment methods shall be shown on Sale Area Map or listed in the following tables by the following symbols:

Slash Treatment Methods

<u>Symbol</u>	<u>Method</u>	<u>Definition</u>
Buck-L	"Bucking Large Logging Slash"	N/A
Buck-P	"Bucking and Piling"	
Bury	"Burying"	N/A
Chip	"Chipping"	N/A
Deck	"Decking" large material	N/A
Mach	"Machine Piling"	Concentrations of Logging Slash, excluding scattered individual pieces, shall be Machine Piled by tractor equipped with brush rake for disposal by Forest Service.
Pile	"Piling" small material	N/A
Remove	"Removing"	N/A
Scat 18"	"Scattering"	Logging Slash shall be scattered to reduce slash concentrations with slash being generally left within 18 inches of the ground as shown on Sale Area Map. Logging Slash shall be scattered into openings away from and without unnecessary damage to residual trees. All scattered logs shall be limbed, placed away from trees and positioned so they will not roll. When Scattering is specified, another method may be used by agreement.
Scat 30"		
Stack	"Stacking" small material	N/A
View	"Visible Slash Treatment"	N/A
YUMD	"Yarding Unutilized Material-Decking"	N/A
YUMR	"Yarding Unutilized Material-Removal"	N/A
Cover	"Covering Piles"	N/A
Fell	"Damaged Small Tress"	N/A
Fire-L	"Firelines"	N/A
Fuel-B	"Fuelbreaks"	N/A

PILING SPECIFICATIONS. All piles shall be reasonably compact and free of soil to facilitate burning and shall be constructed of such size and at such distance from trees so that burning shall not result in unnecessary damage to residual timber. Such Logging Slash shall be bucked into lengths not exceeding ten feet prior to piling. Maximum width of tractor, with brush rake attached, shall not exceed N/A inches. Machine Piling is not required on areas where use of tractors would cause undue damage to residual timber or where slopes exceed N/A percent. Piles shall be located a distance of at least twice their height in feet from the outer edge of tree crowns or snags. Piles shall be no less than four feet in height or greater than N/A feet in height. Material extending three feet or more outside the edge of a pile shall be trimmed. An eight foot fuelbreak shall be cleared of all but fine material around each Machine Pile and an 18 inch wide fireline shall be cleared to mineral soil around the outer ring of the fuelbreak. For hand piles, Purchaser shall construct a fireline cleared to mineral soil and at least 3 feet wide around each pile. In areas where there is a potential for burning material to roll, firelines, including those for Machine Piles, shall be trenched on the downhill side of each pile to adequately prevent material from crossing firelines. Trenches shall be constructed by hand unless otherwise agreed.

UNIT AND SUBDIVISION.SLASH TREATMENT SPECIFICATIONS.

<b>SLASH TREATMENT</b>		
<b>Subdivision or Unit No</b>	<b>Specified Method</b>	<b>Prohibited Method</b>
<b>All Units</b>	<b>SCAT 18</b>	

LANDINGS AND DISPOSAL SITES. Unutilized logs accumulated at landings and disposal sites shall be Decked by Purchaser for disposal by Forest Service. The maximum height of decks is shown in the following table. Other slash accumulated at landings and disposal sites shall be kept separate from unutilized logs and treated by the method shown in the following table.

<b>SLASH TREATMENT</b>			
	<b>Subdivision or Unit No.</b>	<b>Specified Method</b>	<b>Maximum Height of Decks</b>
<b><u>Landings</u></b>	<b>ALL Units</b>	<b>MACH</b>	<b>16</b>
<b><u>Disposal Sites</u></b>	<b>N/A</b>		

TREATMENT ALONG PERMANENT ROADS N/A

TREATMENT ALONG TEMPORARY ROADS. N/A

ADDITIONAL SLASH TREATMENT REQUIREMENTS. N/A

ASSISTANCE IN SLASH BURNING. N/A

## C7.2# Specified Fire Precautions Table

A. Fire Tools and Equipment Purchaser shall meet applicable parts of Section 4428 of the CPRC.

Unless agreed otherwise, Fire tools kept at each Active Landing shall be sufficient to equip all employees in the felling, yarding, loading, chipping, and material processing operations associated with each landing. Fire equipment shall include two tractor headlights for each tractor dozer used in Purchaser's Operations. Tractor headlights shall be attachable to each tractor and served by an adequate power source. Fire tools shall be kept in a sealed fire tool box adjacent to the Active Landing and readily accessible in event of fire.

Where cable yarding is used, Purchaser shall provide a size 0 or larger shovel with an overall length of not less than 46 inches and a serviceable 5 gallon backpack pump filled with water or a fire extinguisher bearing a label showing at least a 4-A rating must be within 25 feet of each tail and corner block.

Trucks, tractors/skidlers, pickups and other similar mobile equipment shall be equipped with and carry at all times a size 0 or larger shovel with an overall length of not less than 46 inches and a 2-1/2 pound axe or larger with an overall length of not less than 28 inches.

All required fire tools shall be maintained in suitable and serviceable condition for fire fighting purposes.

B. Fire Extinguishers Purchaser shall equip each internal combustion yarder, fuel truck, and loader with a (4-A:60-B:C) fire extinguisher for oil and grease fires.

Skidders and tractors shall be equipped with a minimum 5-BC fire extinguisher.

Fire extinguishers shall be mounted, readily accessible, properly maintained and fully charged.

Purchaser shall equip all mechanized harvesting machines and log processors with hydraulic systems, powered by an internal combustion engine (e.g. masticator, chipper, feller/buncher, harvester, forwarder, Hot Saw, stroke delimeter, etc), with at least two 4-A:60-B:C fire extinguishers or an acceptable CAFS substitute identified in Section K.

C. Spark Arresters and Mufflers Except for tractors and other equipment with exhaust-operated turbochargers, Purchaser shall equip each operating tractor and any other internal combustion engine with an approved spark arrester. There shall be no exhaust bypass on any system.

Spark Arresters shall be a model tested and approved under Forest Service Standard 5100-1a as shown in the National Wildfire Coordinating Group Spark Arrester Guide, Volumes 1 and 2, and shall be properly mounted and maintained according to manufacturer's specifications.

Every motor vehicle subject to registration shall at all times be equipped with an adequate exhaust system meeting the requirements of the California Vehicle Code.

D. Power Saws

Each power saw shall be equipped with a spark arrester approved and maintained in effective working order as identified in the Spark Arrestor Guide in Section C. above and according to applicable parts of CPRC Section 4442 or 4443. An Underwriters Laboratories (UL) approved fire extinguisher containing a minimum 14 ounces of fire retardant shall be kept with each operating saw.

A size 0 or larger shovel with an overall length of not less than 38 inches shall be kept with each gas can, but not more than 300 feet from each power saw when used off cleared landing areas.

E. Fire Supervisor & Fire Patrolperson

Purchaser shall designate in the fire plan required by B(T)7.1 and furnish on Sale Area during operating hours a fire supervisor, named in writing and authorized to act on behalf of Purchaser in fire prevention and suppression matters.

Unless agreed otherwise, Purchaser shall furnish and designate in writing, a Fire Patrolperson each operating day when Project Activity Level C or higher is in effect. When on duty, the Fire Patrolperson is required to patrol the operation for the prevention and detection of fires, to take suppression action where necessary and to notify Forest Service as required under Sections I. Reporting Fires and L. Communications. This Fire Patrol is required on foot, unless otherwise agreed.

By written agreement, one Fire Patrolperson may provide patrol on this and adjacent projects or sales. No Fire Patrolperson shall be required on Specified Road construction jobs except during clearing operations unless otherwise specified.

F. Seasonal Permits

Purchaser shall obtain written permits from Forest Service before allowing welding, warming fires or burning, subject to C(T)7.22# - Emergency Precautions.

G. Clearing of Fuels

Purchaser shall clear away, and keep clear, fuels and logging debris as follows:

Welding equipment and stationary log loaders, yarders and other equipment listed in California State Law:	10 feet slope radius
Tail or corner haulback blocks:	All running blocks on a cable yarding operation shall be located in the center of an area that is cleared to mineral soil at least 15 feet in diameter.
Lines near, between or above blocks:	Sufficient clearing to prevent line from rubbing on snags, down logs and other dead woody material.

H. Smoking

All smoking shall be confined within a car, truck, crew rig or other enclosed cab after 1:00 PM on Ev days and all hours on E days (C(T)7.22#). At other times, any smoking shall be done while sitting in an area at least 3 feet in diameter, cleared of flammable materials. Burning tobacco and matches shall be extinguished before they are properly disposed.

I. Reporting Fires

As soon as feasible, but no later than **15 minutes** after discovery, Purchaser shall notify Forest Service of any fires on Sale Area or along roads used by Purchaser.

J. Tank Truck

Purchaser shall provide a water tank truck or trailer on or in proximity to Sale Area during Purchaser's Operations hereunder during Fire Precautionary Period unless otherwise agreed.

Tank truck or trailer shall contain at least 300 gallons of water and comply with the following requirements:

(1) Pump, which at sea level, can deliver 23 gallons per minute at 175 pounds per square inch measured at the pump outlet. Pumps shall be tested on Sale Area by Forest Service using a 5/16 inch orifice with a one inch in line test kit and shall meet or exceed the pressure values identified in the following table for nearest temperature and elevation:

T e m p	Sea Level		1000 Feet		2000 Feet		3000 Feet		4000 Feet		5000 Feet		6000 Feet		7000 Feet		8000 Feet		9000 Feet		10000 Feet	
	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G
55	179	23	174	23	169	23	165	22	161	22	157	22	153	22	150	21	146	21	142	21	139	21
70	175	23	171	23	166	22	162	22	158	22	154	22	150	21	147	21	143	21	139	21	136	20
85	171	23	168	23	163	22	159	22	155	22	151	21	147	21	144	21	140	21	136	20	133	20
100	168	23	164	23	159	22	155	22	152	22	148	21	144	21	141	21	137	20	133	20	131	20
	S	I	M	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I	S	I

The pump outlet shall be equipped with 1-1/2 inch National Standard Fire Hose thread. A bypass or pressure relief valve shall be provided for other than centrifugal pumps.

(2) 300 feet of 3/4-inch inside diameter rubber-covered high-pressure hose mounted on live reel attached to pump with no segments longer than 50 feet, when measured to the extreme ends of the couplings. Hose shall have reusable compression wedge type 1-inch brass or lightweight couplings (aluminum or plastic). One end of hose shall be equipped with a coupling female section and the other end with a coupling male section. The hose shall, with the nozzle closed, be capable of withstanding 200 PSI pump pressure without leaking, distortions, slipping of couplings, or other failures.

(3) A shut-off combination nozzle that meets the following minimum performance standards when measured at 100 P.S.I. at the nozzle:

	G.P.M.	Horizontal Range
Straight Stream	10	38 feet
Fog Spray	6 - 20	N/A

(4) Sufficient fuel to run pump at least 2 hours and necessary service accessories to facilitate efficient operation of the pump.

(5) When Purchaser is using Hot Saws or Masticators an additional 250 feet of light weight hose, approved by Forest Service, shall be immediately available for use and be capable of connecting to the 300 feet of hose and appurturances in (2) and (3) above.

(6) This equipment and accessories shall be deliverable to a fire in the area of operations and is subject to the requirements for each specific activity level identified in C(T)7.22#.

K. Compressed Air  
Foam System  
(CAFS)

A fire suppression system where compressed air is added to water and a foaming agent. By agreement, Purchaser may substitute a CAFS or functional equivalent in lieu of the tank truck, trailer or fire extinguishers, provided it meets or exceeds the following specifications and requirements:

1. Variable foam expansion ratio - 10:1 to 20:1.
2. Units shall be kept fully charged with air; water and foam concentrate as recommended by the manufacturer and have the appropriate tools to service the system.
3. The unit shall contain enough energy to empty tank and clear hose prior to exhausting propellent.
4. The unit shall be capable of being completely recharged within 10 minutes.
5. When used on cable yarding landings, the unit shall be outfitted for immediate attachment to carriage and transported without damage to the unit.

Fire extinguishers required for Hot Saws, Masticators and similar equipment identified in Section B. above may be substituted with a 3 gallon CAFS.

Tank truck, trailer or equivalent may be substituted with a 30 Gallon CAFS with at least 550 feet of one inch hose and an adjustable nozzle with enough water, air and foam concentrate for at least one recharge.

This equipment and accessories shall also be deliverable to a fire in the area of operations and subject to the requirements for each specific activity level identified in C(T)7.22#.

L. Communications Purchaser shall furnish a serviceable communications system such as a telephone, radio-telephone, radio system or satellite phone connecting each operating side within the Sale Area with Purchaser's headquarters, and capable of notifying Forest Service within **15 minutes** of discovery of any fires on the Sale Area or along Purchaser's haul route. When such headquarters is at a location which makes communication to it clearly impractical, Forest Service may agree to a reasonable alternative notification method.

A Citizen's Band (CB)radio is not acceptable communications.

M. Cable Yarding Tank Unit When all or part of Included Timber will be harvested by a long span (over 1,500 feet)cable yarding operation, Purchaser shall provide at each active cable yarding landing a tank truck, trailer or acceptable CAFS substitute which can be lifted and transported by the carriage.

The unit shall meet the same requirements as specified for the tank truck, trailer or approved CAFS substitute.

N. Helicopter Yarding Fire Precautions

Purchaser shall provide and maintain fire equipment as follows:

1. The fire tool box required under this provision shall be equipped for attachment to the helicopter long line so that it may be hauled to needed locations. Such attachment device shall not interfere with access to fire tools. Unless agreed otherwise, the fire tool box shall be located at the Active Landing ready for immediate dispatch.
2. An external helibucket readily attachable to the helicopter, with a capacity of at least 500 gallons, and having a remote control door mechanism adequate for rapid dropping of water. The helibucket shall be located at the helicopter service landing and shall be filled with water ready for immediate dispatch unless otherwise agreed.
3. All aircraft used in conjunction with Purchaser's Operations shall be equipped with an operable radio system capable of meeting Region Five avionics requirements.
4. For protection of fuel servicing operations, fire extinguishers which have the following ratings based on the open hose discharge capacity, i.e., "broken hose," of the aircraft fueling system shall be readily available:
  - a. Where said capacity does not exceed 200 gallons per minute, at least one approved extinguisher having a minimum rating of 20-B;
  - b. Where said capacity is in excess of 200 gallons per minute, but not over 350 gallons per minute, one approved extinguisher having a minimum rating of 80-B;
  - c. Where said capacity is in excess of 350 gallons per minute, two approved extinguishers, each having a minimum rating of 80-B.
5. By agreement, a suitable CAFS may also be used in lieu of the above extinguishers.
6. Extinguishers of over 50 pounds gross weight shall be of wheeled type or be mounted on carts to provide mobility and ease of handling.

PROJECT ACTIVITY LEVEL (PAL) - C7.22# - EMERGENCY PRECAUTIONS**PROJECT ACTIVITY LEVEL TABLE**

<b>Level</b>	<b><i>Project Activity Minimum Requirements and Restrictions. Restrictions at each level are cumulative.</i></b>
<b>A</b>	Minimum required by C(T)7.2#.
<b>B</b>	1. Tank truck, trailer, or approved CAFS substitute shall be on or adjacent to the Active Landing.
<b>C</b>	1. When Hot Saws or Masticators are operating, a tank truck, trailer or approved CAFS substitute shall be within ¼ mile of these operations. Effective communications shall exist between the operator and the Active Landing. 2. Immediately after Mechanical Operations cease, Fire Patrol is required for two hours.
<b>D</b>	1. Immediately after Hot Saw or Masticator operations cease, Fire patrol is required for three hours. 2. No Dead Tree felling after 1:00 PM, except recently dead. 3. No Welding or cutting of metal after 1:00 PM, except by special permit.
<b>Ev</b>	<p>1. The following activities may operate all day:</p> <ul style="list-style-type: none"> <li>a) Loading and hauling logs decked at approved landings.</li> <li>b) Loading and hauling chips stockpiled at approved landings.</li> <li>c) Servicing equipment at approved sites.</li> <li>d) Dust abatement, road maintenance (Chainsaw use prohibited), culvert installation within cleared area, chip sealing, paving, earth moving or rock aggregate stock pile loading and installation (does not include pit or quarry development).</li> <li>e) Chainsaw and log processing operations associated with loading logs or other forest products at approved landings.</li> </ul> <p>2. Hot Saws or Masticators may operate until 1:00 PM; provided that:</p> <ul style="list-style-type: none"> <li>a) A tractor or other equipment with a blade capable of constructing fireline is on or adjacent to the active landing or within ¼ mile of the operating equipment. This piece of equipment shall have effective communication with the Hot Saw or Masticator.</li> <li>b) Any additional restrictions specified by the Forest.</li> </ul> <p>3. All other conventional Mechanical Operations are permitted until 1:00 PM.</p> <p>4. <b>Some operations may be permitted after 1:00 PM, on a case-by-case basis, under the terms of a PAL Ev Variance Agreement. Activities for which a Variance may be issued are:</b></p> <ul style="list-style-type: none"> <li>• Rubber Tire Skidding</li> <li>• Chipping on Landings</li> <li>• Helicopter Yarding</li> <li>• Fire Salvage</li> </ul>

	<p>When approved by a Line Officer, a Variance Agreement can be implemented when the criteria specified in the agreement are met and mitigation measures are in place. This approval is good for ten (10) days unless cancelled sooner or extended by the Contracting Officer for an additional ten (10) days. Variance approval can be withdrawn at the sole discretion of Forest Service. Variance approval is contingent on the 7-day fire weather forecast, fuel conditions, site characteristics, current fire situation, state of Purchaser's equipment for prevention and suppression readiness, type of operation and social and community considerations etc. (See attached Project Activity Level Variance Agreement).</p>
<b>E</b>	<p>The following activities may operate all day:</p> <ol style="list-style-type: none"><li>1. Loading and hauling logs decked at approved landings.</li><li>2. Loading and hauling chips stockpiled at approved landings.</li><li>3. Servicing Equipment at approved sites.</li><li>4. Dust abatement, road maintenance (chainsaw use prohibited) or loading stock piles and rock aggregate installation (does not include pit or quarry development).</li><li>5. Chainsaw operation associated with loading at approved landings.</li></ol> <p>All other activities are prohibited.</p>

SPECIFICATIONS PURSUANT TO C7.22# - EMERGENCY PRECAUTIONS. (10/2010)

**Region 5 Project Activity Level (PAL) Ev Variance Application/Agreement**

Project Name: \_\_\_\_\_  
 Contract Number: \_\_\_\_\_  
 Purchaser/Contractor Name: \_\_\_\_\_  
 Request #\_\_, for period: \_\_\_\_\_  
 Units/Subdivisions Affected: \_\_\_\_\_

<b>Location of operation:</b>	
Slope	
Aspect	
Elevation	
Fuels on site	
Fuels in surrounding area	
7 Day PAL Outlook	
Short range predictions (Red Flags)	
Fuel Moistures	
Response time of suppression resources	
Potential for ignition	
RAWS location	
<b>Current Fire Situation:</b>	
Draw down information	
National Readiness Level	
<b>Contractual considerations:</b>	
Normal Operating Season	
Frequency of recent contract fires in area	
Type of operation	
Purchaser/Contractors past/current performance & equipment readiness	
Other site specific mitigation or precaution (i.e. Purchaser/Contractors proposals)	
<b>Social &amp; Community Considerations:</b>	
Proximity of high value resources	
Sensitivity of location	
<b>Remarks:</b>	

**Ev Proposed Actions**

Rubber Tired Skidding

Chipping on Landings

Helicopter Yarding

Fire Salvage

**Description of Mitigation Measures**

\_\_\_\_\_  
Fire Management Officer Concurrence

\_\_\_\_\_  
Date

\_\_\_\_\_  
Line Officer Approval

\_\_\_\_\_  
Date

I have considered the above request and determined the specified mitigation measures or actions must be implemented to continue operations in Project Activity Level Ev. Unless extended, the approval remains in effect for ten (10) calendar days unless cancelled sooner or extended by the Forest Service for an additional ten (10) days. At the sole discretion of the Forest Service, this variance can be modified and/or cancelled at no cost to the government.

\_\_\_\_\_  
Contracting Officer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Purchaser/Contractor Rep.

\_\_\_\_\_  
Date