

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

<u>Subdivision /Unit</u>	<u>Products to be Removed</u>																												
All Units	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#.																												
All Units	2. All tops that are attached after skidding to whole trees and portions of trees meeting specifications for Sawtimber products.																												
	<u>Amount Payable for Non-Sawtimber Products.</u>																												
	<p>Notwithstanding B4.0, Purchaser shall make payment for Non-Sawtimber Products prior to the start of felling any Included Timber. The amount payable has been computed by applying Bid Rates and Required Deposits to the estimated quantities listed in A2 for Non-Sawtimber Products and Payment Schedule A, attached hereto. Estimated quantities are final and are not subject to adjustment.</p> <p align="center"><u>Payment Schedule</u></p> <table border="1"> <thead> <tr> <th>Subdivision</th> <th>Product Item</th> <th>Unit of Measure</th> <th>Estimated Quantity</th> <th>Payment at Bid Rates</th> <th>Payment of Deposits</th> <th>Total Payments</th> </tr> </thead> <tbody> <tr> <td>N/A</td> <td>Nonsaw</td> <td>CCF</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Subdivision	Product Item	Unit of Measure	Estimated Quantity	Payment at Bid Rates	Payment of Deposits	Total Payments	N/A	Nonsaw	CCF																		
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N/A	Nonsaw	CCF																											

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														
<p><u>Rationale for the Agreement:</u></p> <p>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.</p>															
<p><u>Subdivisions:</u></p> <p>2, 5, 12, and 14</p>															
<p><u>Product and Volume (from cruise report) - Non-sawtimber from selected subdivisions:</u></p> <table border="1"> <thead> <tr> <th>Subdivisions</th> <th>All Species - Non-Sawtimber (CCF)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>55</td> </tr> <tr> <td>5</td> <td>12</td> </tr> <tr> <td>12</td> <td>176</td> </tr> <tr> <td>14</td> <td>589</td> </tr> <tr> <td>Total</td> <td>832</td> </tr> </tbody> </table>				Subdivisions	All Species - Non-Sawtimber (CCF)	2	55	5	12	12	176	14	589	Total	832
Subdivisions	All Species - Non-Sawtimber (CCF)														
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
Sale Area	Green	Hazard Tree. 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.
Sale Area	Blue	Individual Tree Mark. Individual trees are designated for cutting only if Marked above and below stump height with the specified paint color.
N/A		Leave Tree Mark. All live < > 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.
N/A		Wildlife Trees. 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.
Sale Area	Black	Marked Out Trees. When it is necessary to delete previously marked trees, an 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#
Cutting Units: All Units		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>
<u>Cutting Unit</u>	<u>Boundary Paint Color</u>	<u>Boundary Designation</u>
All Units	ORANGE	Unit Boundaries are designated with orange painted vertical stripes, yellow unit boundary tags, unit corner tags, and roads as shown on sale area map. Cutting unit boundary trees are designated with three vertical painted stripes and two butt marks. Middle stripe faces into unit.

Tree Designation Table

Subdivision(s) or Cutting Unit(s)	Designated Species <u>1/</u>	More than Stump Diameter (inches) <u>2/</u>	Less than Stump Diameter (inches) <u>2/</u>
All Cutting Units	All Species Live and Dead KP (KP, LP, WF, IC, DF, PP, and SP)	5	12

Restricted Road List

Road Number	Road Name	Termini		Map Legend	Description of Restrictions
		From	To		
FA 49	POWDERHILL	FA15	North	R	Hauling Restricted from November 1 – March 31 without written Forest Service Approval
FA 3	MAYFIELD	FA49	West	R	Hauling Restricted from November 1 – March 31 without written Forest Service Approval
FA 15	HARRIS SPRING	Hwy 89	North	R	Hauling Restricted from November 1 – March 31 without written Forest Service Approval
FA24	TOM YOUNG	Hwy 89	FA 3	R	Hauling Restricted from November 1 – March 31 without written Forest Service Approval
41N23	HAMBONE	FA49	FA03	P	Use Prohibited without written Forest Service approval
42N03	RED LAVA	Unit 72	North	R	Restricted without written Forest Service approval
42N03	RED LAVA	41N36	West	R	Restricted without written Forest Service approval
42N05Y	TIMBER HILL	Unit 68	East	R	Restricted without written Forest Service approval
42N23	BLACK LAVA	42N59	42N63	R	Restricted without written Forest Service approval
42N23	BLACK LAVA	42N58	SOUTH	R	Restricted without written Forest Service approval
42N45	ICE CAVES	FA 49	42N03	R	Restricted without written Forest Service approval
42N58C	ANTELOPE	Unit 59	Termini	R	Restricted without written Forest Service approval
42N03A	RED LAVA	Unit 67	Termini	R	Restricted without written Forest Service approval
42N35	OBSIDIAN	42N03	East	R	Restricted without written Forest Service approval
42N05YA	TIMBER HILL	42N05Y	Termini	R	Restricted without written Forest Service approval
42N04Y	UNDER TIMBER	42N05Y	Termini	R	Restricted without written Forest Service approval
42N58H	ANTELOPE	42N23	Termini	R	Restricted without written Forest Service approval
42N46	PORCUPINE	Unit 60	East	R	Restricted without written Forest Service approval
42N20	PORCUPINE BUTTE	42N20A	North	R	Restricted without written Forest Service approval
41N01C	PORCUPINE LAKE	Unit 60	Termini	R	Restricted without written Forest Service approval
42N08Y	AGNUS DEI ROAD	Unit 65	South	R	Restricted without written Forest Service approval
42N60	SCORIA ROAD	42N03	North	R	Restricted without written Forest Service approval

Restricted Road List

42N26	STUD HILL	42N20	East	R	Restricted without written Forest Service approval
42N26	STUD HILL	41N70	South	R	Restricted without written Forest Service approval
41N36Y	LAIKIN	42N26	East	R	Restricted without written Forest Service approval
41N08X	TOWER SOUTH LAKIN R.O.W.	42N26	East	R	Restricted without written Forest Service approval
42N59	LAVA GAP	42N60C	North	R	Restricted without written Forest Service approval
42N58	ANTELOPE	Unit 59	North	R	Restricted without written Forest Service approval

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
41N01.1	N Unit 20	41N36	1.40			P							
41N01.2	41N36	41N01C	0.70			P							
41N01.3	41N01C	41N70	0.70			P							
41N01A	41N01	END	0.33			P				P			
41N01B	41N01	END	0.14			P				P			
41N01C	41N01	MP 1.0	1.00			P				P			
41N36.1	42N03	Unit 60	1.00			P							
41N36.2	N Unit 60	42N46	0.70			P							
41N36.3	42N46	41N01	1.30			P							
41N36.4	41N01	41N70	1.10			P							
41N36.5	41N70	FA03	4.00			P							
41N36B	41N36	END	0.37			P				P			
41N36G	41N36	END	0.22			P				P			
41N36H	41N36	END	0.10			P				P			
41N70.1	41N36	41N01	0.70			P							
41N70.2	41N01	42N26	0.50			P							
42N03.1	Unit 72	42N59	0.40			P							
42N03.2	42N59	42N63	0.70			P							
42N03.3	42N63	41N36	3.00			P							
42N03A	42N03	W Unit 67	0.20			P							
42N04Y	41N36	42N05Y	1.10			P				P			
42N05Y	Unit 68	42N04Y	0.80			P				P			
42N08Y.1	43N49	42N08YA	0.30			P				P			
42N08Y.2	42N08YA	Unit 65	1.20			P				P			
42N08YA	42N08Y	END	0.42			P				P			
42N20	42N20A	42N26	0.50			P							
42N20A	42N20	END	0.10			P				P			
42N23	42N63	42N58	0.30			P							
42N26	42N20	41N70	2.00			P							
42N26E	42N26	END	0.35			P				P			
42N26G	42N26	END	0.38			P				p			
42N46	41N36	E Unit 60	0.30			P							
42N58	42N23	Unit 59	0.30			P							
42N58C	42N58	MP 0.4	0.40			P				p			
42N59	42N03	Unit 71	0.40			P							
42N63	42N03	42N23	0.57			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
41N01.1	N Unit 20	41N36	1.40						P				
41N01.2	41N36	41N01C	0.70						P				
41N01.3	41N01C	41N70	0.70						P				
41N01A	41N01	END	0.33						P				
41N01B	41N01	END	0.14						P				
41N01C	41N01	MP 1.0	1.00						P				
41N36.1	42N03	Unit 60	1.00						P				
41N36.2	N Unit 60	42N46	0.70						P				
41N36.3	42N46	41N01	1.30						P				
41N36.4	41N01	41N70	1.10						P				
41N36.5	41N70	41N03	4.00						P				
41N36B	41N36	END	0.37						P				
41N36G	41N36	END	0.22						P				
41N36H	41N36	END	0.10						P				
41N70.1	41N36	41N01	0.70						P				
41N70.2	41N01	42N26	0.50						P				
42N03.1	Unit 72	42N59	0.40						P				
42N03.2	42N59	42N63	0.70						P				
42N03.3	42N63	41N36	3.00						P				
42N03A	42N03	W Unit 67	0.20						P				
42N04Y	41N36	42N05Y	1.10						P				
42N05Y	Unit 68	42N04Y	0.80						P				
42N08Y.1	43N49	42N08YA	0.30						P				
42N08Y.2	42N08YA	Unit 65	1.20						P				
42N08YA	42N08Y	END	0.42						P				
42N20	42N20A	42N26	0.50						P				
42N20A	42N20	END	0.10						P				
42N23	42N63	42N58	0.30						P				
42N26	42N20	41N70	2.00						P				
42N26E	42N26	END	0.35						P				
42N26G	42N26	END	0.38						P				
42N46	41N36	E Unit 60	0.30						P				
42N58	42N23	Unit 59	0.30						P				
42N58C	42N58	MP 0.40	0.40						P				
42N59	42N03	Unit 71	0.40						P				
42N63	42N03	42N23	0.57						P				

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Road	Termini		Miles	Applicable Post haul Road Maintenance Specifications									
	From	To		801	802	803	804	805	806	807	808	809	810
41N01.1	N Unit 20	41N36	1.40			P							
41N01.2	41N36	41N01C	0.70			P							
41N01.3	41N01C	41N70	0.70			P							
41N01A	41N01	END	0.33			P							
41N01B	41N01	END	0.14			P							
41N01C	41N01	MP 1.0	1.00			P							
41N36.1	42N03	Unit 60	1.00			P							
41N36.2	N Unit 60	42N46	0.70			P							
41N36.3	42N46	41N01	1.30			P							
41N36.4	41N01	41N70	1.10			P							
41N36.5	41N70	41N03	4.00			P							
41N36B	41N36	END	0.37			P							
41N36G	41N36	END	0.22			P							
41N36H	41N36	END	0.10			P							
41N70.1	41N36	41N01	0.70			P							
41N70.2	41N01	42N26	0.50			P							
42N03.1	Unit 72	42N59	0.40			P							
42N03.2	42N59	42N63	0.70			P							
42N03.3	42N63	41N36	3.00			P							
42N03A	42N03	W Unit 67	0.20			P							
42N04Y	41N36	42N05Y	1.10			P							
42N05Y	Unit 68	42N04Y	0.80			P							
42N08Y.1	43N49	42N08YA	0.30			P							
42N08Y.2	42N08YA	Unit 65	1.20			P							
42N08YA	42N08Y	END	0.42			P							
42N20	42N20A	42N26	0.50			P							
42N20A	42N20	END	0.10			P							
42N23	42N63	42N58	0.30			P							
42N26	42N20	41N70	2.00			P							
42N26E	42N26	END	0.35			P							
42N26G	42N26	END	0.38			P							
42N46	41N36	E Unit 60	0.30			P							
42N58	42N23	Unit 59	0.30			P							
42N58C	42N58	MP 0.40	0.40			P							
42N59	42N03	Unit 71	0.40			P							
42N63	42N03	42N23	0.57			P							

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

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, catterguards, 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.

T-803-1

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 Contract 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)

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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 sceen. 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 (C/CT5.31).

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 (CT5.31).

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.

Dust Abatement Plan (C5.31#) (T-806) (7/01)
Porcupine North Multiproduct

Road Segment	Material Type or Grade	Application Rate		Frequency of Subsequent Application	Prep. Method	Wt. Vol. Conversion Factor
		Initial	Subsequent			
40N24	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
41N01	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
41N01A	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
41N01B	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
41N01C	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
41N03	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
41N36	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
41N36B	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
41N36G	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
41N36H	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
41N70	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N03	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N03A	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N04Y	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N05Y	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N08Y	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N08YA	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N20	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N20A	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N23	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N26	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N26E	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N26G	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N46	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N58	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N58C	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N59	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
42N63	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
43N49	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A

* If water is used - Complete abatement once for each hauling day shall satisfy this requirement, except that when production exceeds 10 loads per operating day, water shall be applied to dusting roads through the day while hauling.

**PREPARATION METHOD FOR WATER - PREPARATION SHALL BE IN ACCORDANCE WITH SPECIFICATION T-806 DUST ABATEMENT.

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 C/CT6.7.

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

<p>Load Limitations</p>	<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>										
<p>Existing Non-National Forest System Roads</p>	<p>Roads not shown on Sale Area Map may be used as Temporary Roads if there is agreement before use is started.</p>										
<p>Snow Removal</p>	<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 <u>2</u> 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>										
<p>Water Supply Deposits</p>	<p>If Purchaser utilizes the water site located T.41N., R.2E., section 30 (Slagger Camp Overhead Fill) for any listed activity, Purchaser shall make deposit with Forest Service for that activity at the time and in the amount shown in the Water Supply Deposit Schedule table below.</p> <p style="text-align: center;">WATER SUPPLY DEPOSIT SCHEDULE</p> <table border="1" data-bbox="321 1591 1333 1877"> <thead> <tr> <th data-bbox="321 1591 526 1682">Activity</th> <th data-bbox="526 1591 727 1682">Unit of Payment</th> <th data-bbox="727 1591 930 1682">Unit Cost</th> <th data-bbox="930 1591 1133 1682">Total Cost</th> <th data-bbox="1133 1591 1333 1682">Time of Payment</th> </tr> </thead> <tbody> <tr> <td data-bbox="321 1682 526 1877">T-806 Dust Abatement</td> <td data-bbox="526 1682 727 1877">Load</td> <td data-bbox="727 1682 930 1877">\$5.00</td> <td data-bbox="930 1682 1133 1877">Calculated per load</td> <td data-bbox="1133 1682 1333 1877">Advance deposit due 15 days from billing issue date.</td> </tr> </tbody> </table>	Activity	Unit of Payment	Unit Cost	Total Cost	Time of Payment	T-806 Dust Abatement	Load	\$5.00	Calculated per load	Advance deposit due 15 days from billing issue date.
Activity	Unit of Payment	Unit Cost	Total Cost	Time of Payment							
T-806 Dust Abatement	Load	\$5.00	Calculated per load	Advance deposit due 15 days from billing issue date.							
<p>Sale Name: Porcupine North MP Page 155A</p>											

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
40N24	FA03	Hwy 89	11.00	\$1.466
41N01	Unit 20	41N70	2.80	\$0.040
41N01A	41N01	END	0.33	\$0.001
FA03	FA49	FA24	3.00	\$0.039
FA03	41N36	FA24	5.00	\$0.686
41N36	42N03	FA03	8.10	\$0.658
41N70	41N36	42N26	1.20	\$0.027
42N03	Unit 72	41N36	4.10	\$0.055
42N05Y	Unit 68	42N04Y	0.80	\$0.002
42N20	42N20A	42N26	0.50	\$0.001
42N23	42N63	42N58	0.30	\$0.001
42N26	42N20	41N70	2.00	\$0.016
42N26E	42N26	END	0.35	\$0.001
42N46	41N36	E. Unit 60	0.30	\$0.001
42N58	42N23	Unit 59	0.30	\$0.001
42N59	42N03	Unit 71	0.40	\$0.002
42N63	42N03	42N23	0.57	\$0.002
FA49	42N08Y	FA03	14.40	\$0.189

Sale Area Average Rate: \$ 3.19 / Ton

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

SPECIFICATIONS PURSUANT TO C6.22# – PROTECTION OF IMPROVEMENTS.

<u>Improvement</u>	<u>Owner's or Permittee's Name</u>	<u>Timing</u>	<u>Specifications</u>	<u>Work and Cost of Removal or Relocation Borne by</u>
Guzzler & Water Tank	Forest Service	10 days	Protect Guzzlers and Water Tank from damage and restore to original location if moved	Purchaser

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

<u>Subdivision/ Area/Unit</u>	<u>Conditions of Operation</u>	<u>Purpose</u>
Sale Area	Operations may not begin before April 1, 2014. Plan of operations must be submitted at least 14 days in advance for Forest Service approval.	Litigation
Sale Area	Purchaser shall deck separately Sawtimber and Non-Sawtimber products prior to the removal of products from the landing. Product decks shall be removed from the Sale Area in separate operations with all Sawtimber removed from each landing prior to the removal of Non-Sawtimber. Forest Service shall inspect and approve utilization and removal of Sawtimber products prior to the initiation of Non-Sawtimber product removal on a landing-by-landing basis.	Accountability for sales having two products with different pricing.
Sale Area	All Non-Sawtimber products shall be removed from each landing within 90 days of completion of the Sawtimber products removal. This requirement may be waived upon Forest Service written agreement.	Reduce the risks of infestation from slash breeding insects.
Sale Area	Timber harvest operations will be restricted to conditions set forth in the "Wet Weather Operations Guide" and "Field Guide to Soil Moisture Conditions Relative to Operability"	To prevent excessive soil damage.
Cutting units: Unit 59	During the planned year of operation, the Forest Service will conduct two day time searches until the unit is fully treated. In the event the two day time searches are not conducted, a limited operating period will be in effect where no operations would occur between February 1 and September 15.	To provide wildlife protection during a critical period.

C6.41# - FELLING, BUCKING, AND LIMBING. (8/2007) Unless otherwise agreed in writing, Purchaser's felling, bucking, and limbing operations shall be conducted as specified in the table below.

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>21</u> inches DBH shall be skidded/yarded to agreed landing locations prior to limbing, bucking, and lopping. Trees larger than or equal to <u>21</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</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>controlled areas, protected wetland, protected improvements, undeveloped campground and all 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 <u>live or recently dead conifer trees</u> 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</p>

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 with the borate compound to insure complete coverage. Treatment should be done as soon as possible but shall be completed no later than 4 hours after felling, otherwise stumps shall be re-cut and treated.

Purchaser shall not apply borate compound during heavy rain fall or when such precipitation rate is predicted within 24 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 20 feet of live streamcourses and meadows/wetlands shown on Sale Area Map and/or 20 feet of sensitive plant location boundaries as flagged on the ground.

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 any amount pounds shall be reported to Forest Service within immediately hours.

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.

Maximum Log Length

N/A

Minimum Stump Height

Unit/Subdivision	Minimum Stump Height (inches)	Purpose or Reason
Sale Area	4"	Limit risk of fire due to cutting operations with Mechanical Equipment and product accountability.

Ground-Based Skidding Table - C6.42#

Map Symbol	Requirements
TRAC	<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>
SUSP	Products shall be skidded with leading end clear of ground.
SPACE	Skid roads will average 120 feet from center to center, except where converging.
ENDL	Endlining shall not be required for distances in excess of 60 feet uphill, and 75 feet downhill.
MAX	Tractors used for skidding outside Clearcutting Units, regeneration units or other authorized clearings, shall be of the type (rubber-tired or track-laying) shown on the Sale Area Map and shall not exceed the overall width designated on Sale Area Map.
MH	<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 25 feet for bunching trees, capable of severing, lowering and placing trees up to 24 inches diameter at stump height on the ground prior to skidding. Such equipment must be capable of operating on slopes up to 35%.</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>
CTL	<p>Included Timber shall be felled, limbed and bucked by a self-propelled mechanical harvester capable of producing finished sawlogs or chippable boles. Limbs of Included Timber shall be placed evenly in the machinery skid trail prior to product removal. The harvester shall be an all-wheel drive machine with at least 3 axles and a processing head mounted on a boom having a minimum-operating radius of 20 feet.</p> <p>Notwithstanding above, hand felling using chainsaws may be required in or adjacent to sensitive areas to protect resources or residual timber from unnecessary damage.</p> <p>All Products shall be removed by an all-wheel drive forwarder with at least 3</p>

	<p>axles capable of self-loading and unloading. The forwarder shall carry all products free of the ground during removal. The loading crane shall have a minimum-operating radius of 15 feet. Log landings and transfer points shall be agreed in advance of harvesting.</p> <p>Included Timber exceeding the harvester's capability may be felled by conventional chainsaw methods, forwarded to nearest skid trail and processed into a finished Product with harvester or chainsaw, consistent with the requirements B6.61 - Meadow Protection, B6.41 - Felling and Bucking, C6.41# - Felling, Bucking, and Limbing and the above "TRAC", "SUSP", "SPACE", "ENDL", and "MAX" requirements.</p>
PB	<p>Purchaser shall cut Included Timber and move trees to pre-approved skyline corridors to facilitate skyline yarding using equipment with a boom having an operating radius of at least <u>N/A</u> feet for bunching trees, capable of severing, lowering and placing trees up to <u>N/A</u> inches diameter at stump height on the ground prior to yarding. Such equipment must be capable of operating on slopes up to <u>N/A</u> %. Bundles shall not exceed yarder capability or cause unnecessary damage to residual stand.</p> <p>Notwithstanding above, hand felling using chainsaws may be required in or adjacent to sensitive areas to protect resources from unnecessary damage. Such trees shall be felled away from the corridor in a manner that minimizes residual stand damage during yarding.</p> <p>Included Timber exceeding the feller's capability may be felled by conventional chainsaw methods</p>
HCTL	<p>Included Timber shall be felled, limbed and bucked by a self-propelled mechanical harvester capable of producing finished sawlogs or chippable boles. Such equipment must be capable of operating on slopes up to <u>N/A</u> %. The harvester shall be an all-wheel drive machine with at least 3 axles, or track mounted, and a processing head mounted on a boom having a minimum-operating radius of 20 feet.</p> <p>Notwithstanding above, hand felling using chainsaws may be required in or adjacent to sensitive areas to protect resources or residual timber from unnecessary damage.</p> <p>Included Timber exceeding the harvester's capability may be felled by conventional chainsaw methods</p>

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

Vegetative Soil Stabilization Where soil has been disturbed by Purchaser's Operations and the establishment of vegetation is needed to minimize erosion, Purchaser shall take appropriate measures normally used to establish an adequate cover of grass or other vegetation acceptable to Forest Service or take other agreed stabilization measures. Forest Service shall designate on the ground such disturbed areas annually as logging and Temporary Road construction are completed.

Forest Service upon request shall provide advice as to soil preparation and the application of suitable seed mixtures, mulch and fertilizer and the timing of such work. In no event shall Purchaser be required to treat more acres than that shown in the legend of Sale Area Map.

Purchaser shall use the type of native seed mixtures, mulch, and fertilizer as listed below:

Seed Mix	Pounds/Acre	Type of Mulch	Fertilizer
70% Mountain Brome (Bromus carinatus)	10 lbs	N/A	N/A
27% Blue-Wildrye (Elymus glaucus)			
2% Spanish Clover (Lotus purshianus)			
1% Yarrow (Achillea millefolim)			

Special Erosion Prevention Measures N/A

Soil Scarification. In addition to meeting the requirements of B6.63 and B6.64, Purchaser shall scarify the following areas; unless otherwise agreed:

- (a) Traveled Way of National Forest System roads used by Purchaser and listed in the legend of Sale Area Map.
- (b) Roadbeds of any Temporary Roads used for log hauling by Purchaser.
- (c) Landings or portions thereof located outside Roadbed limits of National Forest System roads not designated for scarification.

Scarification shall be to a depth of 6 inches, with intervals between striations not to exceed 12 inches, unless otherwise agreed.

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"	Tops and limbs over 4 inches diameter outside bark (d.o.b.), not to be otherwise treated, shall be bucked into lengths not to exceed 6 feet, unless agreed otherwise.
Buck-P	"Bucking and Piling"	Logging Slash smaller than <u>N/A</u> inches and larger than 4 inches in large end d.o.b. shall be bucked into lengths not to exceed <u>N/A</u> feet and left in place. Logging Slash 4 inches and smaller in large end d.o.b. shall be hand Piled within Required Disposal Strip for Forest Service disposal.
Bury	"Burying"	Logging Slash shall be buried where agreed in borrow areas, pits, trenches, or other locations reasonably near the area of origin. Logging Slash shall be matted down in layers and shall be covered with at least 2 feet of rock and soil so that the final surface is sloped to drain and relatively smooth.
Chip	"Chipping"	Chippable Logging Slash up to 4 inches in d.o.b. shall be processed through a chipping machine. Chips shall be scattered to a loose depth not exceeding 6 inches.
Deck	"Decking" large material	Logging Slash <u>N/A</u> inches or larger in large end d.o.b. and <u>N/A</u> feet or more in length shall be Decked for disposal by Forest Service by piling pieces parallel to each other.
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	Logging Slash smaller than <u>N/A</u> inches in large end d.o.b. and <u>N/A</u> feet long shall be hand Piled for disposal by Forest Service.
Remove	"Removing"	Logging Slash shall be moved or hauled to locations shown on Sale Area Map and designated on the ground where it shall be piled for disposal by Forest Service.

Scat 18" "Scattering"
 Scat 30" Logging Slash shall be scattered to reduce slash concentrations with slash being generally left within 18 or 30 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.

Stack "Stacking" small material
 Logging Slash **N/A** inches or smaller in large end d.o.b. and **N/A** feet or more in length shall be stacked for disposal by Forest Service by piling pieces parallel to each other.

View "Visible Slash Treatment"
 Designated on Sale Area Map with boundaries posted on the ground are <> with distance limitations for visible slash treatment. Within such units and the area of visible Logging Slash adjacent thereto, Logging Slash shall be treated by Purchaser. Primary treatment shall be by Removing, Burying, Chipping, Piling, Machine Piling, or a combination of these means unless a method is specified or prohibited on Sale Area Map. Logging Slash not readily treated by the selected or specified method shall be removed to designated areas or treated as agreed.

YUMD "Yarding Unutilized Material-Decking"
 All unutilized material developed by Purchaser's Operations shall be treated by the d.o.b. and length specifications as shown in the unit specification table. All unutilized material shall be Yarded to landings and Decked. Where this is impractical, or other reasons, other locations shall be agreed upon.

Unit	Large End d.o.b. (in)	Length (feet)
N/A		

YUME "Yarding Unutilized Material-Exterior Boundary"
 All unutilized material developed by Purchaser's Operations shall be treated by the d.o.b. and length specifications as shown in the unit specification table. All unutilized material shall be yarded to locations a minimum of 50 feet slope distance within the exterior boundaries of such units and positioned so the yarded material will not roll.

Unit	Large End d.o.b. (in)	Length (feet)
N/a		

YUML	"Yarding Unutilized Material-Landing"	All unutilized material developed by Purchaser's Operations shall be treated by the d.o.b. and length specifications as shown in the unit specification table. All unutilized shall be yarded to locations within 100 feet slope distance of landing. Where this is impractical, or other reasons, other locations shall be agreed upon.						
		<table border="1"> <thead> <tr> <th data-bbox="656 396 889 489">Unit</th> <th data-bbox="889 396 1122 489">Large End d.o.b. (in)</th> <th data-bbox="1122 396 1336 489">Length (feet)</th> </tr> </thead> <tbody> <tr> <td colspan="3" data-bbox="656 489 1336 520">N/A</td> </tr> </tbody> </table>	Unit	Large End d.o.b. (in)	Length (feet)	N/A		
Unit	Large End d.o.b. (in)	Length (feet)						
N/A								
YUMR	"Yarding Unutilized Material-Removal"	All unutilized material developed by Purchaser's Operations shall be treated by the d.o.b. and length specifications as shown in the unit specification table. All unutilized shall be removed to locations shown on Sale Area Map and designated on the ground, or other agreed locations, and Decked.						
		<table border="1"> <thead> <tr> <th data-bbox="656 760 889 852">Unit</th> <th data-bbox="889 760 1122 852">Large End d.o.b. (in)</th> <th data-bbox="1122 760 1336 852">Length (feet)</th> </tr> </thead> <tbody> <tr> <td colspan="3" data-bbox="656 852 1336 884">N/A</td> </tr> </tbody> </table>	Unit	Large End d.o.b. (in)	Length (feet)	N/A		
Unit	Large End d.o.b. (in)	Length (feet)						
N/A								
Cover	"Covering Piles"	All piles shall be covered with a durable waterproof covering as approved by Forest Service. The material shall be at least six feet in width. Piles shall not be less than fifty percent covered, with the covering extending not less than half way down all sides. Pieces of burnable material shall be placed on top of the durable waterproof covering to keep the covering from blowing off the pile.						
Fell	"Damaged Small Tress"	Unless treated under other provisions, all trees smaller than the minimum d.b.h. in A2, over 5 feet in height, and damaged beyond recovery by Purchaser's Operations shall be felled. Such trees shall be limbed to a stem diameter outside bark of approximately 3 inches, at which point the top shall be cut from the remainder of the stem, and shall be bucked into lengths not exceeding 20 feet.						
Fire-L	"Firelines"	<p>Shown on Sale Area Map and to be flagged on ground after logging by Forest Service are firelines to be constructed by Purchaser unless otherwise agreed in writing. Purchaser shall construct not more than N/A chains of fireline by hand and not more than 407 chains of fireline by tractor.</p> <p>Firelines constructed by hand shall be cleared of all vegetative debris larger than one inch in d.o.b. and three feet long. The width of firelines shall be at least N/A feet, except across the top of cutting units where the width shall be at least N/A feet. At least N/A feet shall be scraped to mineral soil. In areas where</p>						

there is potential for burning material to roll, the fireline shall be constructed in a trenched manner on the downhill side.

Tractor lines shall be cleared of all vegetative debris, larger than one inch in diameter and three feet long, to a width of at least 4 feet, with at least 4 feet to mineral soil. No slash, brush, or other vegetative debris shall be buried in or under berms created in the construction of firelines. All limbs overhanging into the fireline, shall be removed to a minimum height of 8 feet.

Firelines shall be completed on each unit in accordance with B6.311 unless otherwise agreed in writing.

In subdivisions N/A and shown on Sale Area Map, Logging Slash shall be scattered within N/A feet slope distance of the inside edge of firelines.

Fuel-B "Fuelbreaks"

Shown on Sale Area Map, with boundaries designated on the ground, are "Fuelbreaks" of varying width. Within such Fuelbreaks all Logging slash and Construction slash shall be treated by Purchaser. Primary treatment shall be by Removing, Burying, Chipping, Piling, Machine Piling, or a combination of these methods unless a method is specified or prohibited on Sale Area Map. Slash larger than treatment size requirements of selected or specified methods shall be scattered outside Fuelbreak, or treated as agreed.

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 120 inches. Machine Piling is not required on areas where use of tractors would cause undue damage to residual timber or where slopes exceed 35 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 10 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.

SLASH TREATMENT		
Subdivision or Unit No	Specified Method	Prohibited Method
Units: 62, 66, 67, 71,72	MACH	
All Cutting Units	Fell	

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.

SLASH TREATMENT			
	Subdivision or Unit No.	Specified Method	Maximum Height of Decks
<u>Landings</u>	All Units	MACH	10
<u>Disposal Sites</u>	N/A		

TREATMENT ALONG PERMANENT ROADS Permanent roads that require roadside slash treatment are listed in the attached table and shown on Sale Area Map. All Logging and Construction Slash within Required Disposal Strips shall be treated by Purchaser. "Required Disposal Strips" are those areas adjacent to permanent roads where slash treatment is required for resource objectives. The width of Required Disposal Strips is shown in the attached table and is measured in slope distance from Roadbed edges of permanent roads. By agreement, in Clearcutting Units and regeneration units slash from Required Disposal Strips may be treated with other Logging Slash. By agreement the location of Required Disposal Strips may be adjusted from side to side without materially changing the total work required.

Slash treatment in Required Disposal Strips shall be accomplished without affecting the proper functioning of channels leading to and from drainage structures.

Logging Slash larger than treatment size requirements of the specified method shall either be Scattered outside Required Disposal Strip, within Required Disposal Strip or Decked at agreed locations as shown in the attached table.

// // // // //			SLASH TREATMENT	
Road No.	Subdivision and/ or Unit No. or Road Juncitons (From To)	Width of Required Disposal Strip	Specified Method	Slash Larger Than Treatment Size Requirements of Specified Method
N/A				

TREATMENT ALONG TEMPORARY ROADS. Outside of Clearcutting Units or regeneration units, all trees felled or pushed over and trees damaged beyond recovery by Temporary Road construction shall be felled, limbed to a stem d.o.b. of approximately 3 inches, at which point the top shall be cut from the remainder of the stem, and stem shall be bucked into lengths not exceeding N/A feet. Such slash shall be Scattered free of soil to reduce concentrations unless treatment is required by another specified method.

ADDITIONAL SLASH TREATMENT REQUIREMENTS. Within areas shown on Sale Area Map, Purchaser shall perform work according to the specifications in the attached Table, unless otherwise agreed in writing.

Subdivision, Payment Units, Roads and or Road Segments	Additional Slash Treatment Requirements
N/A	<p>Yard all stem material to a top d.o.b. of 1 inch, from timber designated for cutting, with the following exception: broken portions of logs and tops less than 4 feet in length need not be yarded.</p> <p>Broken ends of merchantable logs shall not be bucked off in the units.</p> <p>Slash and Substandard Material accumulated at the landings shall be Decked or Machined Piled, in accordance with specifications above.</p> <p>Material accumulated at landings shall be considered as Timber Subject to Agreement under C2.11#, described as Substandard Material and may be removed and paid for at Purchaser's option.</p>

ASSISTANCE IN SLASH BURNING. If Forest Service requests, Purchaser shall furnish equipment and equipment operators to assist in preparation for slash burning at agreed times prior to the normal slash burning season in the area.

Purchaser shall furnish equipment and equipment operators for burning and mop-up when requested. The amount and kind of equipment requested shall be that normally used in slash treatment work and reasonably available under the existing equipment organization of Purchaser. Forest Service shall reimburse Purchaser for such work at rates common in the area or at previously agreed rates.

A. Fire Tools and Equipment

Purchaser shall meet applicable parts of Section 4428 of the California Public Resources Code (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 weather proof fire tool box adjacent to the Active Landing and readily accessible in event of fire. The tool box shall be painted red and have "Fire Tools" written on the box in 3-4 inch letters.

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 packpack 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.

The fire patrol vehicle shall be equipped to fight fire with the following: 1) a serviceable 5 gallon packpack pump filled with water, 2) a shovel or McLeod fire tool, 3) either a double bit ax or serviceable chainsaw with a minimum 20-inch bar, and 4) serviceable communications equipment (C7.2 Item O).

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.

Log trucks, pickups and other similar mobile equipment, including 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 equivalent. **(C7.2 Item M)**

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 Arrester Guide in 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, unless provided otherwise in CPRC Section 4431.

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 B7.1 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 B 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, to document the areas covered during the patrol with approximate times of the coverage in each area, and to notify the Forest Service as required under Items K. Reporting Fires and N. Communications.

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.

On operations utilizing mechanized harvesters with High Speed Rotary Saws (Hot saws) or Masticators, the patrol will conduct inspections using an approach capable of detecting small smoldering fires. The patrol must cover, on foot, the area worked that day. The patrol's vehicle shall be parked within or as closely as possible to the area being patrolled. The patrol shall carry a round point shovel with an overall length of at least 46 inches during the patrol.

F. Seasonal
Permits

Purchaser shall obtain written permits from Forest Service before allowing attended warming fires, burning, or blasting, subject to C7.22# - Emergency Precautions. In addition, Purchaser shall obtain necessary Explosives Permits as required by California Health and Safety Code, Section 12101.

G. Blasting Purchaser shall use electric caps only unless otherwise agreed in writing. When blasting is necessary in slash areas, a watchperson equipped with a size 0 or larger shovel with an overall length of not less than 46 inches and a filled backpack can (4 or 5 gallon) with hand pump shall remain in the immediate area for an hour after blasting has been completed.

H. 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:	During the period when burning permits are required, all tail and side blocks on a cable setting shall be located in the the center of an area that is either cleared to mineral soil or covered with a fireproof blanket that is 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.
Skidders, Harvesters, Chippers, Masticators and other similar equipment:	Remove concentrations of wood dust and debris from such equipment daily.
Mechanized harvesters with High Speed Rotary Saws (Hot Saws)	Equipment operators are required to assure that if wood debris or chips are accumulating in the cutting head, they clean out the blade guard no less frequently than every two hours during operations.

I. Oil Filters and Glass Jugs Purchaser shall remove from National Forest lands oily rags and used oil filters and shall prohibit use of glass bottles and jugs in Purchaser's Operations.

J. 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.

K. 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.

L. Tank Truck

Purchaser shall meet minimum requirements of Section 4430 of the CPRC.

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.

When Project Activity Level B or higher is in effect, a tank truck or trailer shall be on or within ten (10) roundtrip minutes to each Active Landing unless otherwise excepted when Hot Saw or masticator is being used. See C7.22# for specific contract requirements.

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 using a 5/16 inch orifice in the Forester One Inch In-Line Gauge test kit or an equivalent water flow test kit. Pump shall meet or exceed the pressure value 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
	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G	P	G
	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P	S	P
	I	M	I	M	I	M	I	M	I	M	I	M	I	M	I	M	I	M	I	M	I	M

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) Ample power and hitch shall be readily accessible for promptly and safely moving tank truck or trailer over roads serving Sale Area or terrain traveled by Hotsaws or masticators.

(6) When Purchaser is using Mechanized harvesters with High Speed Rotary Saws (Hot Saws) or Masticators, an additional 250 feet of comparable hose shall be immediately available for use and be capable of connecting to the 300 feet of hose and appurturances in (2) and (3) above. Additional hose lengths shall not exceed 100 feet in length.

M. Compressed Air Foam System (CAFS)

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 yarder 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 B. above may be substituted with a CAFS that provides a minimum of 3 gallons of water and has a minimum discharge range of 20 feet. The system must have enough water, air and foam concentrate to recharge the system once.

Tank truck, trailer, All Terrain Tank Truck or Equivalent may be substituted with a CAFS. Systems shall provide a minimum of 60 gallons stored energy with 500 feet of one inch hose, an adjustable one inch nozzle providing a minimum discharge range of 70 feet and must have enough water; air and foam concentrate for a minimum of two recharges or a system that provides a minimum of 30 gallons stored energy with enough water; air and foam concentrate for a minimum of five recharges. Systems shall be mobile, readily accessible and equipped so that it can be moved safely over Sale Area roads or terrain traveled by Hot Saws or masticators.

If, in the opinion of the Contracting Officer, it becomes apparent that this equipment cannot provide fire protection

equal to the tank truck or trailer listed above, the Contracting Officer will rescind this substitution of requirements.

N. Portable Fire Tank

By agreement, Purchaser may substitute a Portable Fire Tank in lieu of the tank truck or trailer. A portable water tank, pump and accessories that meets all C7.2# Tank Truck minimum specifications, with the exception of the live reel, plus a charged hose lay within 200 feet of operations and enough additional hose on site to complete the hose lay to where the Hotsaw or masticator is working.

O. 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.

The communication system shall provide prompt and reliable communications during all hours of operations, including fire patrol person, between Purchasers headquarters or the agreed to alternative notification method and Forest Service during the Fire Precautionary Period.

A Citizen's Band (CB)radio is not acceptable communication for timber sale operations as FCC Regulations prohibit commercial use.

P. Skyline Tank Unit

When all or part of Included Timber will be yarded by a long span (over 1,500 feet) skyline, Purchaser shall provide at each active skyline landing a suitable tank trailer, or tank unit or CAFS which can be lifted and transported by the skyline carriage.

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

The CAFS shall be located and outfitted for immediate use at the landing, and equipped for undamaged delivery to any portion of the operation by use of the rigging system.

The tank unit or CAFS shall be deliverable to a fire, in the area of skyline operations, within 15 minutes of detection.

Q. 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**

Level	Project Activity Minimum Requirements and Restrictions. Restrictions at each level are cumulative.
A	Minimum required by C7.2#.
B	<ol style="list-style-type: none"> 1. Fire Patrolperson is required for at least one hour after operations cease, the Fire Patrolperson(s) must walk and visually inspect all areas operated that day.(C7.2#) 2. Tank truck, trailer, or comparable CAFS, shall be on or within 10 roundtrip minutes road travel to each Active Landing. (C7.2#) 3. Mechanized harvesters with High Speed Rotary Saws (Hot Saws) and Masticators: <ol style="list-style-type: none"> A. Fire patrol is required throughout the first two hours after cessation of felling, the Fire Patrolperson(s) must walk and visually inspect all areas operated that day(C7.2#). B. Equipment operating within one quarter mile of the Active Landing. <ol style="list-style-type: none"> 1) All Terrain Tank Truck, trailer or comparable CAFS shall be on or within ten (10) roundtrip minutes to each Active Landing. 2) Serviceable Communications shall exist between the equipment operators, landing personnel, and designated Fire Supervisor. C. Equipment operating beyond one quarter mile of the Active Landing. <ol style="list-style-type: none"> 1) In addition to the above requirements, an approved CAFS with minimum requirements of 20 gallons stored energy, 100 feet of 1 inch hose and adjustable 1 inch nozzle, minimum discharge range of 60 feet(C7.2#,Item M) or equivalent within the Immediate Vicinity of the equipment is required. D. Equipment operating independently without an Active Landing. <ol style="list-style-type: none"> 1) All Terrain Tank Truck or Equivalent shall be within the Immediate Vicinity of the equipment. 2) Serviceable Communications shall exist between the equipment operators, Purchaser's main office and designated Fire Supervisor (C7.2#, Item O).
C	<p>The following operations are prohibited from 1:00 PM until 8:00 PM except as noted:</p> <ol style="list-style-type: none"> a. Mechanized harvesters with High Speed Rotary Saws (Hot Saws) and Masticators - except that Hot Saws and masticators may operate between 1:00 PM and 8:00 PM provided that an All Terrain Tank Truck or Equivalent or comparable CAFS shall be within the Immediate Vicinity of the equipment. b. Blasting c. Dead tree felling, except recently dead.
D	<p>The following restrictions apply:</p> <ol style="list-style-type: none"> 1. The following activities may operate when a Fire Patrolperson(s) walks all areas operated that day, starting at 1:00 PM, at least once per hour until sunset: <ol style="list-style-type: none"> a) Track-laying equipment in skidding, erosion control, felling, and piling operations. b) Chipping outside of approved landings and roadbeds. c) Cable Yarding with Approved Motorized Carriages. Carriage shall remain a minimum of ten feet above the ground at all times, except while at the landing. d) Mechanical limbing and log manufacturing outside of approved landings and roadbeds.

- e) Ripping roads and landings, sub soiling and water barring.
 - f) Chainsaw operations outside of approved landings and roadbeds.
2. Mechanized harvesters with High Speed Rotary Saws (Hot Saws) and Masticators may operate; provided that:
 - a) An All Terrain Tank Truck or Equivalent shall be within the Immediate Vicinity of the equipment.
 - b) Within the first hour of mechanized harvester operation and at least once per hour until sunset, the Fire Patrolperson(s) must walk and visually inspect all areas operated that day.
 3. No blasting after 10:00 AM.
 4. Welding or cutting of metal only by special permit.
 5. No burning.

Ev

1. The following operations are prohibited:
 - a) Blasting.
 - b) Welding or cutting metal.
 - c) Burning.
 - d) Smoking outside a vehicle.
2. The following activities may operate all day:
 - a) Loading and hauling logs decked at approved landings.
 - b) Loading and hauling chips stockpiled at approved landings.
 - c) Servicing equipment at approved sites.
 - 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).
 - e) Chainsaw and log processing operations associated with loading logs or other forest products at approved landings.
3. Mechanized harvesters with High Speed Rotary Saws (Hot Saws) or Masticators may operate until 1:00 PM; provided that:
 - a) An All Terrain Tank Truck or Equivalent shall be within the Immediate Vicinity of the equipment
 - b) Within the first hour of mechanized harvester operation and at least once per hour until sunset, the Fire Patrolperson(s) must walk and visually inspect all areas operated that day.
4. All other Mechanical Operations are permitted until 1:00 PM when a Fire Patrolperson(s) walks all areas operated that day, starting at 9:00 AM, at least once per hour and continues until at least two hours after Mechanical Operations cease.
5. Some operations, on a case-by-case basis, may be permitted after 1:00 PM under the terms of a PAL Ev Variance Agreement. Activities for which a Variance may be issued are limited to the following operations:
 - Rubber tire skidding
 - Chipping on Landings
 - Helicopter Yarding.

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 the Forest Service. Variance approval is contingent on the 10-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).

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| E | <p>The following activities may operate all day. All other activities are prohibited.</p> <ol style="list-style-type: none">1. Loading and hauling logs decked at approved landings.2. Loading and hauling chips stockpiled at approved landings.3. Servicing Equipment at approved sites.4. Dust abatement, road maintenance (chainsaw use prohibited) or loading stock piles and rock aggregate installation (does not include pit or quarry development).5. Chainsaw operation associated with loading at approved landings. |
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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: _____

Location of operation:

Slope	
Aspect	
Elevation	
Fuels on site	
Fuels in surrounding area	
10 day Forecast	
Short range predictions (Red Flags)	
<i>Fuel Moistures</i>	
Response time of suppression resources	
Potential for ignition	
RAWS location	

Current Fire Situation:

Draw down information	
National Readiness Level	

Contractual considerations:

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)	

Social & Community Considerations:

Proximity of high value resources	
Sensitivity of location	

Remarks:

Ev Proposed Actions

Rubber Tired Skidding

Chipping on Landings

Helicopter Yarding

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