

K-C.1.1# - TIMBER SUBJECT TO AGREEMENT (09/2004)

In addition, there is within Contract Area an unestimated quantity of:

Species	Product
Combined Softwood	Non-Saw

that shall be Included Timber upon written agreement.

K-C.3.5# - DESIGNATION OF TIMBER, CUTTING UNIT BOUNDARIES, AND SUDIVISION/PAYMENT UNIT BOUNDARIES (06/2012)

Trees are designated for cutting under B.3.5# only if designated as shown in the Timber Designation table below. The boundaries of Subdivisions/Payment Units and Cutting Units are designated as shown in the Boundary Designation table below. Trees used for boundary designation are not to be cut.

SPECIFICATIONS PURSUANT TO K-C.3.5# - DESIGNATION OF TIMBER, CUTTING UNIT BOUNDARIES, AND SUBDIVISION/PAYMENT UNIT BOUNDARIES

Cutting Unit/ Subdivision/Area/P ayment Unit	Tree Paint Color	Designation or Specification
Contract Area	GREEN	<u>Hazard Tree.</u> Notwithstanding B.3.2 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 Contractor's landings or the roadbed of National Forest System roads within Contract Area, shall be felled by Contractor 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 Contractor 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 Contract Area Map or on the ground.
N/A		<u>Individual Tree Mark.</u>
N/A		<u>Leave Tree Mark.</u>
N/A		<u>Wildlife Trees.</u>
N/A		<u>Marked Out Trees.</u>
All Units		<u>Designation by Spacing K-C.3.5.1#</u>
N/A		<u>Designation by Species and Diameter, K-C.3.5.2#</u>
N/A		<u>Designation by Damage Class, K-C.3.5.3#</u>
N/A		<u>Designation by Row Spacing, K-C.3.5.4#</u>

DESIGNATION OF TIMBER, CUTTING UNIT BOUNDARIES, AND SUBDIVISION/PAYMENT UNIT BOUNDARIES

<u>Subdivision/Payment Unit</u>	<u>Boundary Paint Color</u>	<u>Boundary Designation</u>
Contract Area	Orange	<p>Boundary lines are designated with three diagonal stripes of Orange Tracer Paint at eye level facing into unit. In addition, two other vertical strips face either side of the boundary line. Butt marks are painted in conjunction with the ground, one facing into the unit and the other on the opposite side.</p> <p>Boundary tags are posted and labeled with the contract name and unit number. Blue and yellow flagging is hung intervisably along the boundary line.</p>
<u>Cutting Unit</u>	<u>Boundary Paint Color</u>	<u>Boundary Designation</u>
Contract Area	Orange	<p>Boundary lines are designated with three diagonal stripes of Orange Tracer Paint at eye level facing into unit. In addition, two other vertical strips face either side of the boundary line. Butt marks are painted in conjunction with the ground, one facing into the unit and the other on the opposite side.</p> <p>Boundary tags are posted and labeled with the contract name and unit number. Blue and yellow flagging is hung intervisably along the boundary line.</p>

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K-C.3.5.1# - DESIGNATION BY SPACING (09/2004)

Within Subdivisions or cutting unit(s) 46A, 121, as shown on Sale Area Map, all Douglas Fir, Ponderosa Pine, and White Fir trees, except trees Marked with orange paint or described to be left uncut, that meet Utilization Standards and one or more of the following criteria are designated for cutting.

(a) The required spacing is a maximum average of 24 feet. The tree is within 15 feet of a live tree that has a larger stump diameter than it; and the larger tree is not designated for cutting.

(b) The tree is within 50 feet of a double orange banded tree greater than or equal to 10 inches stump diameter; and this tree is not designated for cutting.

(c) The tree is Marked with blue or green paint.

Distances are measured horizontal distance, outside bark stump height to outside bark stump height. Stump diameter is measured outside bark at stump height in a horizontal plane and is the average of a measurement across the short axis through the true center of the stump and a second measurement at right angles to the short axis.

All hardwoods and Sugar Pine or Incense Cedar greater than 10 inches stump diameter shall be left as leave trees, unless Marked with blue or green paint. No tree greater than or equal to 30 inches stump diameter shall be cut, unless Marked with blue or green paint. Cutting unit boundaries and other trees that shall be left uncut are Marked with orange paint.

Contractor and Forest Service shall agree to skid trail location under G.4.2.2. Skid trails shall be no greater than 14 feet wide with a 120 foot spacing.

Within Subdivision(s) or cutting unit(s) 2, 5, 9, 10, 12, 13, 14, 15A, 16, 17, 18, 20, 21, 22, 22A, 23, 25, 26, 27, 32, 33, 33A, 34, 38, 44A, 45A, 120, 123, 124, 126, 129, 131, 134, 139, 140, 141, 144, as shown on Sale Area Map, all Douglas Fir, Ponderosa Pine, and White Fir trees, except trees Marked with orange paint or described to be left uncut, that meet Utilization Standards and one or more of the following criteria are designated for cutting.

(a) The required spacing is a maximum average of 30 feet. The tree is within 15 feet of a live tree that has a larger stump diameter than it; and the larger tree is not designated for cutting.

(b) The tree is within 50 feet of a double orange banded tree greater than or equal to 10 inches stump diameter; and this tree is not designated for cutting.

(c) The tree is Marked with blue or green paint.

Distances are measured horizontal distance, outside bark stump height to outside bark stump height. Stump diameter is measured outside bark at stump height in a horizontal plane and is the average of a measurement across the short axis through the true center of the stump and a second measurement at right angles to the short axis.

All hardwoods and Sugar Pine or Incense Cedar greater than 10 inches stump diameter shall be left as leave trees, unless Marked with blue or green paint. No tree greater than or equal to 30 inches stump diameter shall be cut, unless Marked with blue or green paint. Cutting unit boundaries and other trees that shall be left uncut are Marked with orange paint. Purchaser and Forest Service shall agree to skid trail location under B6.422. Skid trails shall be no greater than 14 feet wide with a 120 foot spacing.

Within Subdivision(s) or cutting unit(s) 1, 28A, 28B, 42, 133, 135, as shown on Sale Area Map, all Ponderosa Pine trees, except trees Marked with orange paint or described to be left uncut, that meet Utilization Standards and one or more of the following criteria are designated for cutting.

(a) The required spacing is a maximum average of 30 feet. The tree is within 15 feet of a live tree that has a larger stump diameter than it; and the larger tree is not designated for cutting.

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- (b) The tree is within 50 feet of a **double orange banded** tree greater than or equal to 10 inches stump diameter; and this tree is not designated for cutting.
- (c) The tree is Marked with blue or green paint.

Distances are measured horizontal distance, outside bark stump height to outside bark stump height. Stump diameter is measured outside bark at stump height in a horizontal plane and is the average of a measurement across the short axis through the true center of the stump and a second measurement at right angles to the short axis.

All **hardwoods and Sugar Pine, Incense Cedar, White Fir, Douglas Fir greater than 10 inches stump diameter** shall be left as leave trees, unless Marked with blue or green paint. No tree greater than or equal to 30 inches stump diameter shall be cut, unless Marked with blue or green paint. Cutting unit boundaries and other trees that shall be left uncut are Marked with orange paint.

Purchaser and Forest Service shall agree to skid trail location under B6.422. Skid trails shall be no greater than 14 feet wide with a 120 foot spacing.

Within Subdivision(s) or cutting unit(s)

1B, 5A, 10B, 10C, 12A, 14A, 13A, 17A, 22B, 23A, 23C, 23D, 26B, 27A, 27B, 27C, 28C, 28D, 28E, 33B, 44B, 45B, 123A, 123B, 123C, 126A, 131A, 131B, 139A, 139B, 140A, 141A, 144A, 144B, as shown on Sale Area Map, all **live White Fir, Douglas Fir, and Ponderosa Pine** trees, except trees Marked with orange paint or described to be left uncut, that meet Utilization Standards and one or more of the following criteria are designated for cutting.

- (a) The required spacing is a maximum average of 15 feet. The tree is within 12 feet of a **live** tree that has a larger stump diameter than it; and the larger tree is not designated for cutting.
- (b) The tree is within 15 feet of a **live** tree greater than or equal to 10 inches stump diameter; and this tree is not designated for cutting.
- (c) The tree is Marked with blue or green paint.

Distances are measured horizontal distance, outside bark stump height to outside bark stump height. Stump diameter is measured outside bark at stump height in a horizontal plane and is the average of a measurement across the short axis through the true center of the stump and a second measurement at right angles to the short axis.

All **hardwoods and Sugar Pine, Incense Cedar greater than 10 inches stump diameter** shall be left as leave trees, unless Marked with blue or green paint. No tree greater than or equal to 30 inches stump diameter shall be cut, unless Marked with blue or green paint. Cutting unit boundaries and other trees that shall be left uncut are Marked with orange paint. Purchaser and Forest Service shall agree to skid trail location under B6.422. Skid trails shall be no greater than 14 feet wide with a 120 foot spacing.

K-E.4 - PAYMENTS NOT RECEIVED (08/2012)

(a) Payments are due and payable on the date of issue indicated on the bill for collection. When a payment for timber cut and other charges is not received at the location designated by Forest Service by the date specified in the bill for collection, Contracting Officer will suspend all or any part of Contractor's Operations until payment or acceptable payment guarantee is received. Other charges include, but are not limited to:

- (i) Slash disposal, road maintenance, and contract scaling deposits;
- (ii) Cooperative work at rates established by specific agreement under E.2.1.8;
- (iii) Damages pursuant to J.4;
- (iv) Road use fees;
- (v) Restoration of downpayment pursuant to E.2.2;
- (vi) Periodic payments pursuant to E.2.1.3;
- (vii) Extension Deposits pursuant to E.2.1.7; and
- (viii) Other mandatory deposits.

(b) Failure to pay amounts due by the date specified in the bill for collection shall be considered a breach under J.3. The 30-day notice period prescribed therein shall begin to run as of the end of business on the date specified for receipt of payments. If the performance or payment is guaranteed by surety bond, the surety will receive a copy of the written notification of breach. Demand will be made on the surety or other institution providing the guarantee or bond instrument for immediate payment 10 days after issuance of written notification of the breach.

(c) Pursuant to the Debt Collection Improvement Act of 1996, as amended, if payment is not received by Forest Service within 15 days after the date of issue indicated on the bill for collection:

(i) Simple interest shall be assessed at the Current Value of Funds Rate as established by the Secretary of the Treasury. Interest will begin to accrue as of the date of issue indicated on the initial bill for collection.

(ii) Debtors will be assessed administrative charges, in addition to the delinquent amount due. Administrative charges are those additional costs incurred by the Government in processing, handling, and collecting delinquent debts.

(iii) A penalty charge of six (6) percent per annum will be assessed on any portion of a debt delinquent more than 90 days. This penalty charge is in addition to interest and administrative charges under paragraphs (c)(i) and (c)(ii). The penalty charge shall accrue from the date of issue indicated on the bill for collection and shall be assessed on all outstanding amounts, including interest and administrative costs assessed under paragraphs (c)(i) and (c)(ii).

(iv) Payments will be credited on the date received by the Federal Depository or Collection Officer designated on the bill for collection.

(d) Forest Service remedies for Contractor's failure to make payment for timber cut and other charges when due, except for accrual of interest, suspension of all or any part of Contractor's Operations, and administrative offset, shall be stayed for so long as:

- (i) A bona fide dispute exists as to Contractor's obligation to make such payment and
- (ii) Contractor files and prosecutes a timely Claim.

K-F.1.3# - ROAD COMPLETION DATE (09/2004)

Construction of Specified Roads shall be completed no later than 09/30/2016 ; except for earlier construction completion dates for roads listed below:

Road Number	Road Name	Statio		Completion Date
		From	To	
<u>N/A</u>				

Completion date is binding on the party that constructs road, whether Contractor or Forest Service. Contracting Officer may modify the completion date in writing to conform to the Technical Proposal under G.3.1.1 at the request of Contractor.

When Contractor elects Forest Service construction of Specified Roads shown in contract advertisement, Forest Service may adjust construction completion date when road construction is delayed or interrupted for causes that qualify for an adjustment of the completion date of Forest Service's road construction contract. When qualifying delays or interruptions of road construction occur, Forest Service shall evaluate such occurrences and document any findings. The current status of any adjustment shall be available to Contractor on request. Promptly after the end of Normal Operating Season in which qualifying days occur, Forest Service shall give Contractor written notice of (a) number of qualifying days claimed, and (b) new construction completion dates. After all road construction is complete, Forest Service shall grant Contract Term Adjustment. Such adjustment shall be limited to road completion date delays that occurred during Normal Operating Season.

If Forest Service is responsible for road construction and the actual date of road completion is 1 year or more after the completion date stated above, Contractor may request a rate redetermination under D.3 for remaining volume. Such request must be made within 30 days of notification that road construction has been completed. Upon receipt of such request, Forest Service shall redetermine rates using standard methods in effect on the completion date of road construction. Rates to be established shall apply to all timber removed from Contract Area after the effective date of the rate redetermination.

Forest Service shall in no way be responsible for any delay or damage caused by road contractor in performing the road construction, except such delay as may be the fault or negligence of Forest Service.

When Contractor constructs Specified Roads and requests Contract Term Adjustment, completion dates shall be adjusted by number of days that qualify for such adjustment, provided such qualifying days occur before specified construction completion date. When Contractor desires to construct an alternate facility under F.2.6, Forest Service and Contractor shall agree, in writing, on a construction completion date for alternate facility. Contract Term Adjustment as noted above will apply. Completion date shall be adjusted where a Design Change or physical changes necessitate a modification of Specified Road construction work that increases the scope or magnitude of the required work.

If Contractor fails to complete construction of any or all Specified Roads by applicable

completion date, as adjusted, Contract Term Extension shall not be granted.

As used in this provision, construction of a road is completed when:

(a) Contractor constructs Specified Roads and Forest Service furnishes Contractor with written notice of acceptance under G.3.6 or

(b) Forest Service constructs road and furnishes Contractor with written notice authorizing use of road.

Notwithstanding F.1, Contractor shall not use a road that Contractor has elected for Forest Service to construct, until construction is completed and Forest Service furnishes Contractor with written notice authorizing use of road.

K-F.2.1.3# - DEPOSIT FOR RECONSTRUCTION ENGINEERING SERVICES (09/2004)

Contractor shall make a cash deposit for engineering services (preconstruction and construction) provided by Forest Service for reconstruction of National Forest system roads necessary to accommodate Contractor's use under this contract, pursuant to 16 USC 537.

The total amount to be deposited by Contractor for reconstruction related engineering services to be completed by Forest Service personnel or by public works contract is \$ \$10,000.00. Contractor shall make this deposit at the end of the first full Normal Operating Season or 12 months from contract award, whichever occurs first. In the event a different deposit schedule is agreed to, such deposit shall be due within 15 days after the date of issue indicated on the initial bill for collection, pursuant to E.4.

The amount of the required deposit will be shown as an associated charge on Contractor's Integrated Resource Account. Forest Service shall retain any unexpended deposit for reconstruction related engineering services.

The deposit for reconstruction related engineering services shall be commensurate with project need and Contractor's road use. Forest Service shall complete reconstruction related engineering services on the following schedule unless a different completion schedule is agreed in writing:

Road or Facility No.	Termini		Engineering Services Completion Date
	From	To	
Road-1N24	0	4.1	06/30/2016
Road-1S01	0	4.5	06/30/2016
Road-1S01C	0	.6	06/30/2016
Road-1S02	0	.5	06/30/2015
Road-1S11	0	2.5	06/30/2016
Road-1S13	0	2.6	06/30/2016
Road-1S23	0	3.2	06/30/2016
Road-4N12	0	5	06/30/2016

Reconstruction related engineering services may consist of some or all of the engineering work and expense of: preparing, setting out, controlling, inspecting, and measuring the reconstruction of a National Forest system road.

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K-F.3.1# - ROAD MAINTENANCE REQUIREMENTS (09/2004)

Contractor shall maintain roads in accordance with the following Contract Road Maintenance Requirements Summary:

Contract Road Maintenance Requirements Summary Table.

Road	Termini		Miles	Applicable Prehaul Road Maintenance Specifications									
	From	To		801	802	803	804	805	806	807	808	809	810
1S06	UNIT 46A	HWY 36	1.20										
1S01	UNIT 23	4N12	4.90										
1S01C	UNIT 2	1S01	0.60										
1N11	UNIT 134	4N12	3.60										
1N32	UNIT 135	1N11	1.60		P	P				P			P
1N24	UNIT 144	4N12	4.40										
4N12	UNIT 139	1S01	5.30										
1S23	UNIT 32	HWY 36	3.50										
1S13	UNIT 38	1S11	2.80										
1S11	UNIT 34	HWY 36	2.80										
1S02	UNIT 18	HWY 36	0.60										

P = Contractor 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
1S06	UNIT 46A	HWY 36	1.20		P				P				
1S01	UNIT 23	4N12	4.90		P				P				
1S01C	UNIT 2	1S01	0.60		P				P				
1N11	UNIT 134	4N12	3.60										
1N32	UNIT 135	1N11	1.60		P				P				
1N24	UNIT 144	4N12	4.40										
4N12	UNIT 139	1S01	5.30										
1S23	UNIT 32	HWY 36	3.50										
1S13	UNIT 38	1S11	2.80		P				P				
1S11	UNIT 34	HWY 36	2.80		P				P				
1S02	UNIT 18	HWY 36	0.60		P				P				

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

Road	Termini		Miles	Applicable Post Haul Road Maintenance Specifications									
	From	To		801	802	803	804	805	806	807	808	809	810
1S06	UNIT 46A	HWY 36	1.20			P							
1S01	UNIT 23	4N12	4.90			P							
1S01C	UNIT 2	1S01	0.60			P							
1N11	UNIT 134	4N12	3.60										
1N32	UNIT 135	1N11	1.60			P							P
1N24	UNIT 144	4N12	4.40										
4N12	UNIT 139	1S01	5.30										
1S23	UNIT 32	HWY 36	3.50										
1S13	UNIT 38	1S11	2.80			P							
1S11	UNIT 34	HWY 36	2.80			P							
1S02	UNIT 18	HWY 36	0.60			P							

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

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

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

SPECIFICATION T-800 DEFINITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SPECIFICATION T-802 DITCH CLEANING

DESCRIPTION

1.1 Ditch cleaning is removing and disposing of all Slough Material from Roadway ditches to provide a free-draining waterway.

REQUIREMENTS

3.1 Ditch cleaning shall be repeated during the year as often as necessary to facilitate proper drainage.

3.2 All Slough Material or other debris which might obstruct water flow in the Roadway ditch shall be removed. Material removed from the ditch, if suitable, may be blended into existing native road surface or Shoulder or placed in designated Berms in conjunction with Surface Blading T-803 operations.

Material removed from ditches that is not by Agreement blended into existing roads or placed in Berms shall be loaded and hauled to the disposal site shown on Contract Area Map.

3.3 Roadway backslope or Berm shall not be undercut.

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 Contract 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 Contract Area Map. Sidecasting into streams, lakes, or water courses will not be permitted.

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

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

SPECIFICATION T-806 DUST ABATEMENT

DESCRIPTION

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

MATERIALS

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

2.2 Water. The locations of Water Sources are shown on 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)
3. Screen Design:
 - a. Water drafting screens maybe off-the-shelf products, but they are often custom-made devices appropriate to the scale and duration of pumping operation. To keep the screen supported and correctly positioned in the water column, adjustable support legs are advised. Screen geometry can be configured either as rectangular or cylindrical, e.e. as a shallow “box-shape” or tubular.
 - b. The intake structure shall be designed to promote uniform velocity distribution at all external mesh surfaces. This can be accomplished with a simple internal baffle devise that distributes the flow evenly across the entire surface of the screen. In order to accomplish this, the designer needs to understand the hydraulic characteristics of these devices. There is a tendency for most of the intake water to enter the screen near the hose end, so a typical internal baffle would consist of a pipe (or manifolded set of pipes) which have variable porosity holes at predetermine spacing. We recommend starting near the hose end with approximately 5 – 10% average open area, and gradually increasing the porosity toward the length of the scen. At a point where screen length exceeds three times the diameter of the suction hose, the baffling effect tends to diminish rapidly. At this point the baffle porosity may approach 100%. A successful baffle system will functionally distribute flow to all areas of the screen. A poorly designed screen may result in high-velocity “hot spots”, which could lead to fish impingement on the screen face.
 - c. Hydraulic testing of prototype screen designs is recommended where the application is on-going and extensive.
4. Screen Structure:
 - a. The screen frame must be strong enough to withstand the hydraulic forces it will experience. However, the structural frames, braces, and other elements that block the flow, change flow direction, or otherwise decrease the screen surface area should be minimized.
5. Screen Cleaning:
 - a. The screen shall be cleaned as often as necessary to prevent approach velocity from exceeding 0.33 feet per second. Operators should withdraw the screen and clean it after each use, or as necessary to keep screen face free of debris. Pumping should stop of screen cleaning when approximately fifteen percent or more of the screen area is occluded by debris. A suitable brush shall be on board the truck for this cleaning operation.
 - b. If the operator notes (1) impingement of any juvenile fissh on the screen face or (2) entrainment of any fish through the screen mesh, he/she should stop operations and notify the Department of Fish & Game and/or NMFS hydraulic engineering staff:

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

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

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

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

REQUIREMENTS

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

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

T-806-3

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 (T-806) (7/01)

Westside Plantation Stew

Road Segment	Material Type or Grade	Application Rate		Frequency of Subsequent Application	Prep. Method	Wt. Vol. Conversion Factor
		Initial	Subsequent			
1S06	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S06	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S06	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S06	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S01	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S01	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S01	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S01	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S01	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S01C	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S01	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N11	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N11	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N11	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N32	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N32	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N32	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N32	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N11	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N11	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N24	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N24	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N24	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N24	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N24	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N24	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1N24	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
4N12	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
4N12	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
4N12	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
4N12	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
4N12	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
4N12	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
4N12	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
4N12	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
4N12	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S23	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S23	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S23	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S23	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S13	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S13	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S13	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S13	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S13	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S13	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A

Contract Name: Westside Plantation Stew

1S13	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S13	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S13	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S11	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S11	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S11	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S11	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S11	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S02	WATER	N/A	N/A	*SEE BELOW	**SEE BELOW	N/A
1S02	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 the specification T-806 Dust Abatement.

SPECIFICATION T-810 BARRIERS

DESCRIPTION

1.1 This work shall consist of furnishing, installing, or removing barriers. Gates are not included.

MATERIALS

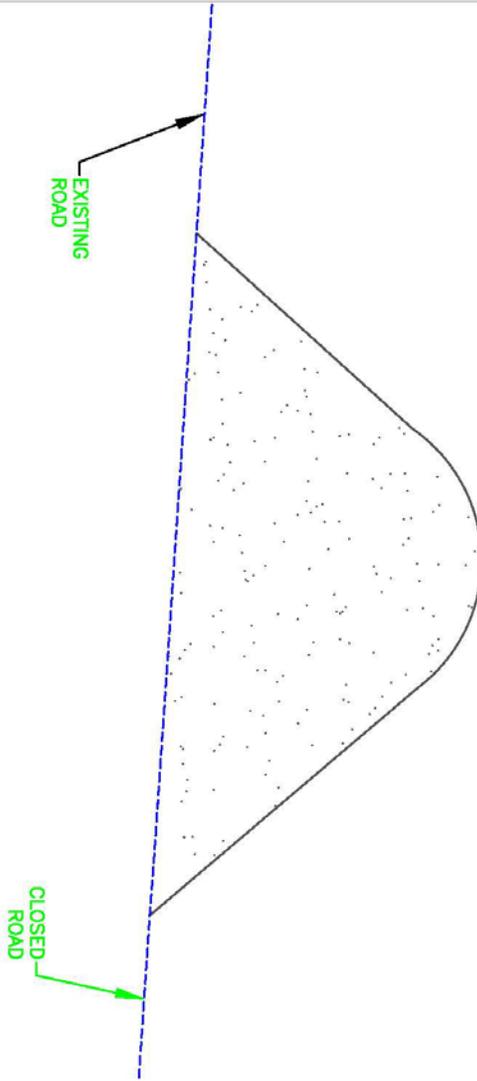
2.1 Materials for barriers shall meet the requirements as shown on attached drawings.

REQUIREMENTS

3.1 Barriers shall be installed in accordance with the attached drawings.

The location of barriers to be removed or installed is shown on Contract Area Map. Installation or removal may occur as often as road use is terminated and resumed.

EARTHEN BERM ROAD CLOSURE DETAILS



DRAWING
NOT TO SCALE

CONSTRUCTION NOTES:

1. The average berm length is 20 feet
2. Height of berm shall be a minimum of 4 feet.
3. Push up local materials to construct berm. Get materials from far enough away to not create a ditch.
4. Refer to Specification 810, Barriers.

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE
STANDARD DETAIL FOR BARRIERS T-810

Contract Name: Westside Plantation Stew

K-F.3.2# - ROAD MAINTENANCE DEPOSIT SCHEDULE (09/2004)

Other provisions herein notwithstanding, when Forest Service requests payment in lieu of Contractor's performance of road maintenance, Contractor shall make Required Deposits (16 USC 537) for current and/or deferred road maintenance. Such deposits are based on the estimated volume and distance hauled and Contractor's commensurate use of each road listed in the Road Maintenance Plan in K-F.3.1#.

Contractor and Forest Service may agree in writing on adjustment of such rates. If Contractor uses roads under jurisdiction of Forest Service other than those listed in the Road Maintenance Plan, Forest Service shall establish rates commensurate with Contractor's use of such roads.

The Required Deposits for Forest Service work in lieu of Contractor performance and for deferred maintenance is: \$.04 per Ton .

The following table lists who Contractor will make deposits for road maintenance to, and the rate per unit of measure of the deposit. The Road Maintenance Agreement is available for inspection at the Forest Supervisor's Office.

Deposit Made To	Rate	Unit of Measure
N/A		

K-F.3.5# - ROAD AND WATER SUPPLY USE (05/2008)

National Forest water supply locations, access, method of filling trucks, period of water availability and procedures designed to maintain water quality at each location shall be agreed in advance of use. Such use shall at no time reduce water supplies to the level that further use may be detrimental to aquatic resources or other established use. Waterholes and other improvements relating to said water supplies shall be put into condition, prior to expected seasonal periods of precipitation or runoff, to avoid resource damage.

Damage to resources at such locations caused by Contractor's Operations, other than fire suppression activities, shall be repaired by Contractor in a timely and agreed manner to the extent practicable to restore and prevent further resource damage.

Unless otherwise agreed, Contractor's use of roads and other water supply requirements shall conform to the following table.

See Table A.

Table A: Requirements of Road and Water Supply

<p>Load Limitations</p>	<p>Contractor 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 G.3.1.1. Within 15 days after receipt of the written notice Forest Service shall notify Contractor 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 Contract Area Map may be used as Temporary Roads if there is agreement before use is started.</p>
<p>Snow Removal</p>	<p>If Contractor 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 2 inch snow depth must be left to protect the roadway. If the road surface is damaged, Contractor 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>N/A</p>

<p>Surface Replacement Deposits</p>	<p>Contractor 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 Contractor uses surfaced roads under jurisdiction of Forest Service other than those listed, Forest Service may establish applicable rates for such surfaced roads.</p> <p style="text-align: center;">SURFACE REPLACEMENT DEPOSIT SCHEDULE</p> <table border="1" data-bbox="337 510 1349 779"> <thead> <tr> <th>Road No.</th> <th>From</th> <th>To</th> <th>Miles</th> <th>Rate</th> </tr> </thead> <tbody> <tr> <td>1S06</td> <td>UNIT 46A</td> <td>HWY 36</td> <td>2.20</td> <td>\$0.002</td> </tr> <tr> <td>1N11</td> <td>UNIT 134</td> <td>4N12</td> <td>3.60</td> <td>\$0.048</td> </tr> <tr> <td>1N24</td> <td>UNIT 144</td> <td>4N12</td> <td>5.10</td> <td>\$0.186</td> </tr> <tr> <td>4N12</td> <td>UNIT 139</td> <td>HWY 36</td> <td>5.20</td> <td>\$0.391</td> </tr> <tr> <td>1S23</td> <td>1S23B</td> <td>HWY 36</td> <td>3.50</td> <td>\$0.047</td> </tr> </tbody> </table> <p style="text-align: center;">Contract Area Average Rate: \$_0.67_/Ton</p> <p>Use of roads outside the normal operating season shall be by written agreement only. Rates outside the normal operating season are subject to triple (\$2.01 / Ton)</p>	Road No.	From	To	Miles	Rate	1S06	UNIT 46A	HWY 36	2.20	\$0.002	1N11	UNIT 134	4N12	3.60	\$0.048	1N24	UNIT 144	4N12	5.10	\$0.186	4N12	UNIT 139	HWY 36	5.20	\$0.391	1S23	1S23B	HWY 36	3.50	\$0.047
Road No.	From	To	Miles	Rate																											
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4N12	UNIT 139	HWY 36	5.20	\$0.391																											
1S23	1S23B	HWY 36	3.50	\$0.047																											

K-G.2.2# - PROTECTION OF IMPROVEMENTS (05/2008)

Contractor shall notify Forest Service at least 10 days prior to any operations in the vicinity of improvements identified on Contract Area Map. Contractor shall protect such improvements from damage and shall be responsible for their timely restoration if damaged by Contractor's Operations. If relocation or removal of said improvements is necessary to avoid foreseeable damage by Contractor's Operations, work and cost shall be borne by the party listed in the table below. If Contractor is required to move or relocate the improvements, they shall move or relocate the improvements listed in the following table to locations and in a manner as specified in drawings or in specifications attached hereto. Improvements shall be returned to their original locations following Contractor's Operations.

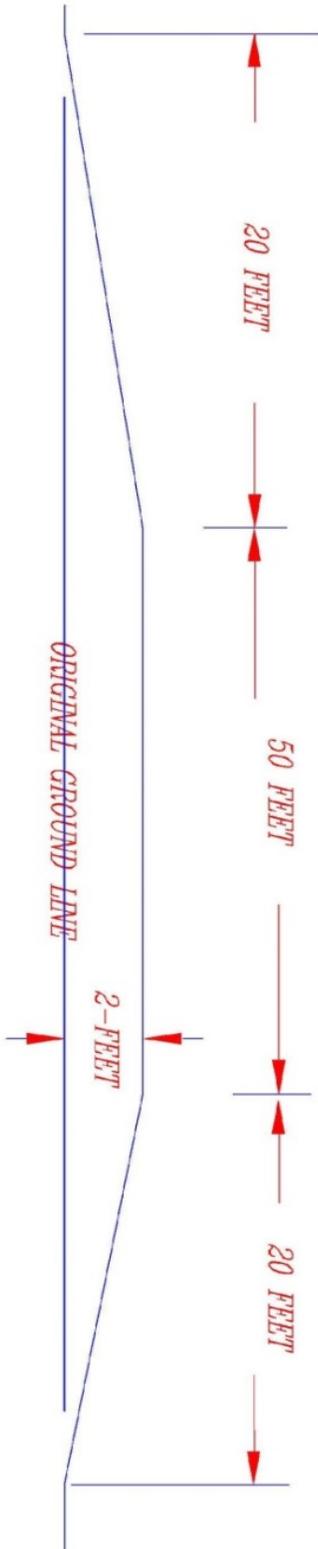
See table below for improvements to be protected.

See Table A.

Table A: 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>
Natural Gas Pipeline	PG&E Bill Basham, Gas Distribution Supervisor, (707) 499-0251	At Least 10 days prior to any work or access through the gas pipeline ROW	See Drawing below. Material will be provided from PIT on the 4N12 road	Work borne by Contractor.

TYPICAL PIPELINE CROSSING NOT TO SCALE



ROAD PROFILE ALONG PIPELINE CROSSING

There are two crossings: One is located at the NW corner of Unit 1 and the second is at the intersection of the 1S23B road.

GENERAL NOTES

1. Locations will be staked by the government.
2. Pipeline crossing will be 12 feet wide. The top length will be 50 feet. The ramps will be 20 feet long.
3. Pipeline crossings will be constructed from material acquired from the PTT along road 4N12, South Fork Mountain road.

K-G.2.4# - SITE SPECIFIC SPECIAL PROTECTION MEASURES (09/2004)

Special protection measures needed to protect known areas identified on Sale Area Map or on the ground include:

Cultural Resource Protection Measures: _____

A separate map will be provided to the contractor with the locations of these sites. There shall not be any equipment or product removal from these sites. Common boundary lines with timber contract units are designated with three diagonal stripes of Orange Tracer Paint at eye level facing into timber sale unit. In addition, two other vertical strips face either side of the boundary line. Butt marks are painted in conjunction with the ground, one facing into the unit and the other on the opposite side. Boundary tags are posted and labeled as ARCH SITE. Red and Black flagging is hung intervisably along the boundary line. Any sites that do not border the timber sale units are designated with Red and Black flagging hung intervisably along the boundary line.

Wildlife and Botanical Protection Measures: _____

CA-1 For protection of botanical area there is no equipment allowed within or skidding product through these areas. Boundary lines are designated with three diagonal stripes of Orange Tracer Paint at eye level facing into timber contract unit. In addition, two other vertical strips face either side of the boundary line. Butt marks are painted in conjunction with the ground, one facing into the unit and the other on the opposite side. Boundary tags are posted and labeled with the contract name and Botany Exclusion Zone. Blue and yellow flagging is hung intervisably along the boundary line.

Cave Resource Protection Measures: _____

No known sites at this time.

K-G.3.1.5# - PROJECT OPERATIONS SCHEDULE (12/2006)

Unless otherwise agreed in writing, Contractor's Operations shall be performed in accordance with the following schedule:

See Table A.

<u>Subdivision/ Area/Unit</u>	<u>Conditions of Operation</u>	<u>Purpose</u>
All Units	No operations from Feb 1 to July 10. This restriction may be lifted upon Forest Service written agreement.	Protection of nesting/roosting or foraging habitat for NSO
ALL UNITS, except 17, 17A, 22, 22A, 22B, 25, 42, 44A, 44B, 46A	Ground based equipment will only operate on fine-textured soils (non-rocky) when soils are dry down to 8 inches.	Minimize soils compaction

K-G.3.3.1 - LOG TRUCKING (02/2005)

To promote safe operations on National Forest roads and on Specified Roads, loads shall be safely secured before trucks move from the landing or loading location.

K-G.3.7 - SUBSTITUTE METHODS (02/2005)

Notwithstanding other provisions herein, for minor changes such as changes in logging systems for areas smaller than 5 acres, Contractor and Forest Service may agree in writing that use of substitute methods or equipment will achieve Forest Service objectives under this contract and may be used in lieu of those specified for Contractor's Operations.

K-G.4.1# - FELLING, BUCKING, AND LIMBING (08/2007)

Unless otherwise agreed in writing, Contractor's felling, bucking, and limbing operations shall be conducted as specified in the table below.

See Table A.

Treatment Method	Felling, Bucking and Limbing Specifications		
Limbing	Outside of construction clearings, Clearcutting Units and regeneration units, unless otherwise provided by G.4.1.4, 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 N/A inches, at which point the top shall be cut from the remainder of the stem.		
No Lop "No Lop"	N/A		
Whole Tree Yarding "Whole"	Notwithstanding the requirements above, within units or subdivisions designated "Whole" on Contract 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 shall Not be limbed prior to skidding/yarding.		
Directional Felling	Within areas designated DF on Contract Area Map, Included Timber shall be directionally felled away from <u>controlled areas, protected improvements, private lands, Forest Service System Roads, and protected streamcourses</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	N/A		
Maximum Log Length	N/A		
Minimum Stump Height	Unit/Subdivision	Minimum Stump Height (inches)	Purpose or Reason
	All Units	4	Product Accountability

K-G.4.2# - GROUND BASED SKIDDING (12/2006)

Unless otherwise agreed in writing, the method of skidding Included Timber shall be as shown on the Contract Area Map, by areas, with symbols defined in the following table:

See Table A.

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. Contractor 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	<p>Products shall be skidded with leading end clear of ground.</p>
SPACE	<p>Skid roads will average <u>120</u> feet from center to center, except where converging.</p>
ENDL	<p>Endlining shall not be required for distances in excess of <u>60</u> feet uphill, and <u>75</u> feet downhill.</p>
MH	<p>Contractor shall cut Included Timber and move it to designated skid trails using equipment with a boom having an operating radius of at least <u>25</u> feet for bunching trees, capable of severing, lowering and placing trees up to <u>22</u> inches diameter at stump height on the ground prior to skidding. Such equipment must be capable of operating on slopes up to <u>35</u> %.</p> <p>Notwithstanding above, hand felling using chainsaws may be required in or adjacent to sensitive areas to protect resources from unnecessary damage.</p> <p>Trees which exceed capability of specified equipment may be felled, bucked and skidded in a manner consistent with the requirements of G.4.1 - Felling and Bucking, K-G.4.1# - Felling, Bucking, and Limbing Requirements and the above "TRAC", "SUSP", "SPACE", "ENDL", and "MAX" requirements.</p>

K-G.5 - STREAMCOURSE PROTECTION (02/2005)

Unless otherwise agreed in writing, wheel or track laying equipment shall not operate within "Buffer Strips" except as necessary for fire suppression activities. "Buffer Strips" are areas marked on the ground or are within the distances identified on the Contract Area Map measured from the apparent high water mark of streamcourses. Boundaries of Buffer Strips may be modified by agreement in writing to meet unforeseen operating conditions.

Culverts, bridges, or other suitable structures shall be required on skid roads and trails only at points where it is necessary to protect Stream courses. The type of crossing structures, method of installation and removal shall be determined by agreement. Contractor in accordance with K-G.6# - Erosion Prevention and Control, shall remove such structures and associated fills.

Damage to Stream course or Buffer Strips caused by unauthorized Contractor's Operations shall be repaired by Contractor in a timely and agreed manner to the extent practical as determined by Forest Service to restore and prevent further damage to Stream courses.

K-G.6# - EROSION PREVENTION AND CONTROL (05/2008)

Erosion prevention and control work, including Streamcourse protection, required by K-G.5 and G.6 shall be completed within 15 calendar days after skidding operations related to each landing are substantially completed or after Forest Service designation on the ground of work where such designation is required hereunder. Said time limit shall be exclusive of full days lost in Contractor's Operations due to causes beyond Contractor's control. Such on the ground designation shall be done as promptly as feasible unless it is agreed that the location of such work can be established without marking on the ground. After September 15 and as long thereafter as operations continue the work shall be done as promptly as practicable. Damage resulting from Contractor's Operations due to failure to perform required work shall be repaired by Contractor.

Notwithstanding other provisions in this contract and unless otherwise agreed in writing, any hay, straw, or mulch used in this contract shall be State of California certified weed free.

Additional erosion control requirements of this contract are listed in the following table.

See Table A.

Table A: Erosion Prevention and Control.

Vegetative Soil Stabilization Where soil has been disturbed by Contractor's Operations and the establishment of vegetation is needed to minimize erosion, Contractor 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 Contractor be required to treat more acres than that shown in the legend of Contract Area Map.

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

Seed Mix	Pounds/Acre	Type of Mulch	Fertilizer
Tufted Hair Grass Deschampsia cespitosa	6-10 lbs/Acre (mixture of all three or singely)	Certified weed free straw (wheat or rice)	N/A
California Brome Bromus californica			
Californai Fescue Festuca californica			

Special Erosion Prevention Measures N/A

Soil Scarification. In addition to meeting the requirements of G.6.3 and G.6.4, Contractor shall scarify the following areas; unless otherwise agreed:

- (a) Traveled Way of National Forest System roads used by Contractor and listed in the legend of Contract Area Map.
- (b) Roadbeds of any Temporary Roads used for log hauling by Contractor.
- (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 In addition to meeting the requirements of G.6.4, unless otherwise agreed in writing, tillage shall be required on the areas listed in the following table.

Tillage shall be accomplished by equipment that will lift and fracture the soil by vertical and lateral shattering, leaving soil loosened through the full width and depth of the compacted layer with the topsoil remaining substantially in place rather than being inverted.

Tillage depth is shown in the following table. Agreement in writing may be made to a lesser depth if rocks or other limiting site conditions are encountered.

Tillage shall be limited to periods when soil dryness will result in crumbled soil, avoiding the formation of large clods. Contractor and Forest Service shall agree in writing on the timing of completion of such work to coordinate with desirable soil moisture conditions.

Areas to Till	Tillage Depth (Inches)	Maximum Acres to Treat
Landings	18	54
Main Skid Roads and Tractor Roads designated by Forest Service	18	7
Temporary Roads	18	12

K-G.7# - SLASH TREATMENT (12/2006)

Contractor shall pile, scatter, yard, construct firelines or otherwise treat slash defined in specifications below, within designated areas. Work required of Contractor shall be in accordance with the following slash plan and specifications, and the Contract Area Map.

All vegetative debris associated with construction of Specified Roads such as unutilized timber, brush and grubbed stumps is Construction Slash. Measures to be taken by Contractor for treatment of Construction Slash are set forth in the attached road construction specifications and in the attached slash treatment specifications.

Vegetative debris larger than 1 inch in diameter outside bark and 3 feet long resulting from Contractor's Operations, other than Construction Slash, is Logging Slash. Measures to be taken by Contractor for treatment of Logging Slash are set forth below unless otherwise agreed in writing.

Forest Service and Contractor shall jointly develop a schedule for completion of slash treatment on the various portions of Project Area prior to Contractor's Operations.

Removing may be substituted for treatment of any other specified method.

By agreement in writing, certain slash may be left for fuelwood. When the specified treatment is by a combination of methods, Logging Slash not treated by one of the methods shall be treated by the other(s).

See the slash treatment specification table below.

See Table A.

<u>Symbol</u>	<u>Method</u>	<u>Definition</u>
Buck-L	"Bucking Large Logging Slash"	N/A
Buck-P	"Bucking and Piling"	
Bury	"Burying"	N/A
Chip	"Chipping"	N/A
Deck	"Decking" large material	N/A
Mach	"Machine Piling"	Concentrations of Logging Slash, excluding scattered individual pieces, shall be Machine Piled by tractor equipped with brush rake for disposal by Forest Service.
Pile	"Piling" small material	N/A
Remove	"Removing"	N/A
Scat 18"	"Scattering"	N/A
Scat 30"		
Stack	"Stacking" small material	N/A
View	"Visible Slash Treatment"	N/A
YUMD	"Yarding Unutilized Material-Decking"	N/A
YUME	"Yarding Unutilized Material-Exterior Boundary"	N/A
YUML	"Yarding Unutilized Material-Landing"	N/A
YUMR	"Yarding Unutilized Material-Removal"	N/A
Cover	"Covering Piles"	N/A
Fell	"Damaged Small Trees"	N/A
Fire-L	"Firelines"	N/A
Fuel-B	"Fuelbreaks"	N/A

PILING SPECIFICATIONS. All piles shall be reasonably compact and free of soil to facilitate burning and shall be constructed of such size and at such distance from trees so that burning shall not result in unnecessary damage to residual timber. Such Logging Slash shall be bucked into lengths not exceeding ten feet prior to piling. Maximum width of tractor, with brush rake attached, shall not exceed N/A inches. Machine Piling is not required on areas where use of tractors would cause undue damage to residual timber or where slopes exceed N/A percent. Piles shall be located a distance of at least twice their height in feet from the outer edge of tree crowns or snags. Piles shall be no less than four feet in height or greater than 16 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, Contractor 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
N/A		

LANDINGS AND DISPOSAL SITES. Unutilized logs accumulated at landings and disposal sites shall be Decked by Contractor 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	Machine	16 Feet
<u>Disposal Sites</u>	N/A		

TREATMENT ALONG PERMANENT ROADS N/A

TREATMENT ALONG TEMPORARY ROADS. N/A

ADDITIONAL SLASH TREATMENT REQUIREMENTS. N/A

K-G.8.1.5 - THIRD PARTY SCALING SERVICES (09/2004)

Notwithstanding the requirement for Forest Service or parties under contract to Forest Service to provide Scaling services under G.8.1, Scaling designated in A.10 shall be conducted by a third party Scaling organization approved by Forest Service. Scaling shall be done in accordance with A.9 and Contractor shall bear costs for Scaling service.

In the event third party Scaling service is suspended for causes such as strikes, termination of third party's approval to Scale National Forest logs by Forest Service, or Contractor's failure to pay third party Scaling costs, hauling operations shall be suspended until agreed alternate Scaling services are provided or service by third party is resumed.

When an approved alternate Scaling location pursuant to G.8.1.1 does not have an approved third party scaling organization as a commonly used Scaling services provider, Forest Service or parties under contract to Forest Service shall provide Scaling services at the approved alternate location. In such an event, the cost of waived third party Scaling listed in A.10 shall be charged to Integrated Resource Account.

If Forest Service and Contractor agree in writing that another party under contract to Forest Service will perform Scaling, the contract will be modified to include K-G.8.1.6 and Integrated Resource Account will be charged for such Scaling.

K-G.9# - STEWARDSHIP PROJECTS (09/2004)

Performance of stewardship projects shall be in accordance with the following specifications.

Stewardship Projects:

Project Number 001 - Limb tops of all trees, sort limbs from tops, pile limb slash, and deck tops.

Work consists of limbing all tops of all trees at designated landings. Limbs will be placed in one pile, the top will be decked separate from limb pile. Work item will be accomplished at the designated landing(s) within the harvest units.

1. Technical Specifications

- Limb tops of trees at all specified locations (landings) and pile all limbs for disposal by forest service. Limbing of tops will occur down to a top diameter of 2 inches.
- Cut the top and deck the tops. Tops will be decked separate from limbs. Place tops parallel to each other with decks not exceeding 10 feet in height.

2. Treatment Specifications

- Limbing, topping, sorting, and decking will occur at specified landing locations concurrent with whole tree yarding operations.

3. Measurable Performance Standards

- Tops decked separate from log decks.
- Slash separate from top decks.

4. Monitoring/Acceptable Quality Level and Disincentives

The Contractor shall document and note areas completed and ready for inspection.

The Government will conduct 100% visual inspections, on each area to determine compliance with work specifications. Initial inspection will consist of a review of the limbing, topping, sorting, and decking. When work appears satisfactory, it will be accepted. When work appears unsatisfactory, the contractor will be required to rework the area at no cost to the Government.

If the Contractor disagrees with the results of the inspection, the Contractor may request a formal review. The formal review will inspect the areas and note whether the piles or decks are satisfactory, unsatisfactory and the reason if unsatisfactory.

K-H.2# - SPECIFIED FIRE PRECAUTIONS (06/2012)

Contractor or a designated Contractor's Representative shall certify compliance with specific Contract and California Public Resources Code (CPRC) fire precautionary measures in H.1 Plans, K-H.2# and K-H.2.2#.

Certification shall be provided prior to starting operations during Fire Precautionary Period and shall be updated as needed.

Listing of specific fire precautionary measures in the following subsections is not intended to relieve Contractor in any way from compliance with State fire laws covering fire prevention and suppression equipment applicable to Contractor's Operations.

Upon request of Forest Service, Purchaser shall permit and assist in periodic testing and inspection of required fire equipment.

The following definitions shall apply to H.2# and K-H.2.2#:

Active Landing: A location Contractor is skidding logs into, or performing other operations such as delimiting, log manufacturing, and chipping logs. Except for EV and E days, loading logs or stockpiled chips only on a cleared landing does not constitute an Active Landing.

Hot Saw: A harvesting system that employs a high-speed (>1100 rpm) rotating felling head (i.e., full rotation lateral tilt head).

Mechanical Operations: The process of felling, skidding, chipping, shredding, piling, log processing and/or yarding which requires the use of motorized power which includes, chainsaws, chippers, motorized carriages, masticators, stroke delimiters, skidders etc.

Specific equipment requirements and fire precautionary measures are shown in the following table and in K- H.2.2#:

Table AA. Fire Tools and Equipment

Contractor shall meet applicable parts of Section 4428 of the CPRC.

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

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

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

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

B. Fire Extinguishers

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

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

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

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

C. Spark Arresters and Mufflers

Except for tractors and other equipment with exhaust-operated turbochargers, Contractor 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 Section C. above and according to applicable parts of CPRC Section 4442 or 4443. An Underwriters Laboratories (UL) approved fire extinguisher containing a minimum 14 ounces of fire retardant shall be kept with each operating saw.

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

E. Fire Supervisor & Fire Patrolperson

Contractor shall designate in the fire plan required by H.1 and furnish on Contract Area during operating hours a fire supervisor, named in writing and authorized to act on behalf of Contractor in fire prevention and suppression matters.

Unless agreed otherwise, Contractor shall furnish and designate in writing, a Fire Patrolperson each operating day when Project Activity

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Level C or higher is in effect. When on duty, the Fire Patrolperson is required to patrol the operation for the prevention and detection of fires, to take suppression action where necessary and to notify Forest Service as required under Sections I. Reporting Fires and L. Communications. This Fire Patrol is required on foot, unless otherwise agreed.

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

F. Seasonal Permits

Contractor shall obtain written permits from Forest Service before allowing welding, warming fires or burning, subject to K-H.2.2# - Emergency Precautions.

G. Clearing of Fuels

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

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

H. Smoking

All smoking shall be confined within a car, truck, crew rig or other enclosed cab after 1:00 PM on Ev days and all hours on E days (K-H.2.2#). At other times, any smoking shall be done while sitting in an area at least 3 feet in diameter, cleared of flammable materials. Burning tobacco and matches shall be extinguished before they are properly disposed.

I. Reporting Fires

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

J. Tank Truck

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

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

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

T e m p	Sea Leve l	1000 Feet		2000 Feet		3000 Feet		4000 Feet		5000 Feet		6000 Feet		7000 Feet		8000 Feet		9000 Feet		1000 0 Feet		
55	17 9	23	17 4	23	16 9	23	16 5	22	16 1	22	15 7	22	15 3	22	15 0	21	14 6	21	14 2	21	13 9	21
70	17 5	23	17 1	23	16 6	22	16 2	22	15 8	22	15 4	22	15 0	21	14 7	21	14 3	21	13 9	21	13 6	20
85	17 1	23	16 8	23	16 3	22	15 9	22	15 5	22	15 1	21	14 7	21	14 4	21	14 0	21	13 6	20	13 3	20
100	16 8	23	16 4	23	15 9	22	15 5	22	15 2	22	14 8	21	14 4	21	14 1	21	13 7	20	13 3	20	13 1	20
	P S I	G P M	P S I	G P M	P S I	G P M	P S I	G P M	P S I	G P M	P S I	G P M	P S I	G P M	P S I	G P M	P S I	G P M	P S I	G P M	P S I	G P 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) When Contractor is using Hot Saws or Masticators an additional 250 feet of light weight hose, approved by Forest Service, shall be immediately available for use and be capable of connecting to the 300 feet of hose and appurturances in (2) and (3) above.

(6) This equipment and accessories shall be deliverable to a fire in the area of operations and is subject to the requirements for each specific activity level identified in K-H.2.2#.

K. Compressed Air Foam System (CAFS)

A fire suppression system where compressed air is added to water and a foaming agent. By agreement, Contractor 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 propellant.

4. The unit shall be capable of being completely recharged within 10 minutes.
5. When used on cable yarding landings, the unit shall be outfitted for immediate attachment to carriage and transported without damage to the unit.

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

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

This equipment and accessories shall also be deliverable to a fire in the area of operations and subject to the requirements for each specific activity level identified in K-H.2.2#.

L. Communications

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

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

M. Cable Yarding Tank Unit

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

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

N. Helicopter Yarding Fire Precautions

Contractor 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 Contractor'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,

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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.

K-H.2.2# - EMERGENCY PRECAUTIONS (06/2012)

Contractor's Operations shall conform to the limitations or requirements in the Project Activity Level (PAL) table below. Unless otherwise agreed in writing, Project Activity Levels applicable to this project shall be the predicted levels for the Fire Danger Rating Area(s), or fire weather station(s) stated in the Contract Area Map legend. Forest Service, in its sole discretion, may change the predicted activity level if the current fire suppression situation, weather and vegetation conditions warrant an adjustment. If practicable, Forest Service will determine the following day's activity level by 6:00 PM. Contractor shall obtain the predicted Project Activity Level from the appropriate Ranger District Office before starting work each day. Forest Service may change the Project Activity Level Table to other values upon revision of the National Fire Danger Rating System. When Contractor is notified, the revised Project Activity Levels will supersede the levels in the Project Activity Level Table below.

PROJECT ACTIVITY LEVEL (PAL) - K-H.2.2# - EMERGENCY PRECAUTIONS

Level	Project Activity Minimum Requirements and Restrictions. Restrictions at each level are cumulative.
A	Minimum required by K-H.2#.
B	1. Tank truck, trailer, or approved CAFS substitute shall be on or adjacent to the Active Landing.
C	1. When Hot Saws or Masticators are operating, a tank truck, trailer or approved CAFS substitute shall be within ¼ mile of these operations. Effective communications shall exist between the operator and the Active Landing. 2. Immediately after Mechanical Operations cease, Fire Patrol is required for two hours.
D	1. Immediately after Hot Saw or Masticator operations cease, Fire patrol is required for three hours. 2. No Dead Tree felling after 1:00 PM, except recently dead. 3. No Welding or cutting of metal after 1:00 PM, except by special permit.
Ev	1. 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.

	<p>2. Hot Saws or Masticators may operate until 1:00 PM; provided that:</p> <p>a) A tractor or other equipment with a blade capable of constructing fireline is on or adjacent to the active landing or within ¼ mile of the operating equipment. This piece of equipment shall have effective communication with the Hot Saw or Masticator.</p> <p>b) Any additional restrictions specified by the Forest.</p> <p>3. All other conventional Mechanical Operations are permitted until 1:00 PM.</p> <p>4. Some operations may be permitted after 1:00 PM, on a case-by-case basis, under the terms of a PAL Ev Variance Agreement. Activities for which a Variance may be issued are:</p> <ul style="list-style-type: none"> • Rubber Tire Skidding • Chipping on Landings • Helicopter Yarding • Fire Salvage
	<p>When approved by a Line Officer, a Variance Agreement can be implemented when the criteria specified in the agreement are met and mitigation measures are in place. This approval is good for ten (10) days unless cancelled sooner or extended by the Contracting Officer for an additional ten (10) days. Variance approval can be withdrawn at the sole discretion of Forest Service. Variance approval is contingent on the 7-day fire weather forecast, fuel conditions, site characteristics, current fire situation, state of Contractor's equipment for prevention and suppression readiness, type of operation and social and community considerations etc. (See attached Project Activity Level Variance Agreement).</p>
<p>E</p>	<p>The following activities may operate all day:</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. <p>All other activities are prohibited.</p>

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	
7 Day PAL Outlook	
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

Fire Salvage

Description of Mitigation Measures

Fire Management Officer Concurrence

Date

Line Officer Approval

Date

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

Contracting Officer

Date

Purchaser/Contractor Rep.

Date

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K-I.6.8# (Option 1) - USE OF TIMBER (09/2004)

(a) This contract is subject to the Forest Resources Conservation and Shortage Relief Act of 1990, as amended (16 USC 620, et seq.).

(b) Except for none determined pursuant to public hearing to be surplus, unprocessed Included Timber shall not be exported from the United States nor used in direct or indirect substitution for unprocessed timber exported from private lands by Contractor or any person as defined in the Act (16 USC 620e).

(c) Timber in the following form will be considered unprocessed:

(i) Trees or portions of trees or other roundwood not processed to standards and specifications suitable for end product use;

(ii) Lumber, construction timbers, or cants intended for remanufacturing not meeting standards defined in the Act (16 USC 620e); and

(iii) Aspen or other pulpwood bolts exceeding 100 inches in length.

(d) Unless otherwise agreed in writing, unprocessed Included Timber shall be delivered to a domestic processing facility and shall not be mixed with logs intended for export.

(e) Prior to award, during the life of this contract, and for a period of 3 years from Termination Date, Contractor shall furnish to Forest Service, upon request, records showing the volume and geographic origin of unprocessed timber from private lands exported or sold for export by Contractor or affiliates.

(f) Prior to delivering unprocessed Included Timber to another party, Contractor shall require each buyer, exchange, or recipient to execute an acceptable agreement that will:

(i) Identify the Federal origin of the timber;

(ii) Specify domestic processing for the timber involved;

(iii) Require the execution of such agreements between the parties to any subsequent transactions involving the timber;

(iv) Require that all hammer brands and/or yellow paint must remain on logs until they are either legally exported or domestically processed, whichever is applicable; and

(v) Otherwise comply with the requirements of the Act (16 USC 620d).

(g) No later than 10 days following the execution of any such agreement between Contractor and another party, Contractor shall furnish to Forest Service a copy of each such agreement. Contractor shall retain, for 3 years from Termination Date, the records of all sales, exchanges, or dispositions of all Included Timber.

(h) Upon request, all records dealing with origin and disposition of Included Timber shall be made available to Contracting Officer.

(i) For breach of this Section, Forest Service may terminate this contract and take such other action as may be provided by statute or regulation, including the imposition of penalties. When terminated by Forest Service under this Section, Forest Service will not be liable for any Claim submitted by Contractor relating to the termination.