

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE INTEGRATED RESOURCE CONTRACT (Applicable to Contracts with Measurement after Harvest)		Name of Contractor	
National Forest Gifford Pinchot	Ranger District Mt Adams	Region Pacific N-West	Contract Number
Contract Name King Stewardship ReOffer		Award Date	Termination Date 10/31/2025

The parties to this contract are The United States of America, acting through the Forest Service, United States Department of Agriculture, hereinafter called Forest Service, and _____ hereinafter called Contractor.

Unless provided otherwise herein, Forest Service agrees to sell and permit Contractor to cut and remove Included Timber and Contractor agrees to purchase, cut, and remove Included Timber and complete required stewardship projects.

IN WITNESS WHEREOF, the parties hereto have executed this contract as of the award date.

UNITED STATES OF AMERICA

Two Witnesses: 2/

By: _____
 Contracting Officer

 (Name)

 (Title)

 (Address)

 (Contractor) 3/

 (Name)

By: _____

 (Address)

 (Title)

 (Business Address)

I, 4/ _____, certify that I am the _____
 Secretary of the corporation named as Contractor herein; that _____
 who signed this contract on behalf of Contractor, was then _____
 of the corporation; that the contract was duly signed for and in behalf of the corporation by authority of its governing body, and is
 within the scope of its corporate powers.

**CORPORATE
 SEAL 5/**

INSTRUCTIONS:

1/ If Contractor is a corporation, state a "corporation organized and existing under the laws of the State of _____" and specify the State; if Contractor is a partnership, state a "partnership consisting of _____" and specify the names of each partner; and if Contractor is a sole proprietor doing business under an assumed name, state "(n) individual doing business under the name of _____ City of _____, State of _____."

2/ The signatures and addresses of two witnesses are required if Contractor is other than a corporation.

3/ If Contractor is a co-partnership, the signatures should be: XYZ Company, by John Doe, a member of the firm. If Contractor is a corporation, form of signature should be: XYZ Company, by John Doe, President (or other officer or agent) and the seal of the corporation must be impressed or indicated.

4/ The certificate must be completed if Contractor is a corporation.

5/ For companies incorporated in States that require a corporation seal, if the corporation has no corporate seal that fact shall be stated, in which case a scroll or adhesive seal shall follow the corporate name.

EXAMPLE 1/

Subcontractor Certification
Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion

Contract Name: _____
National Forest: _____

The prospective subcontractor (participants in lower tier covered transactions) certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this contract by any Federal department or agency.

Where the prospective subcontractor is unable to certify to any of the statements in this certification, such prospective subcontractor shall attach an explanation to this proposal.

Name of Subcontractor: _____
Business Address: _____

_____ Date _____ Signature

1/ It is the Contractor's responsibility to have subcontractors complete this certification and to maintain a file of completed certifications. This certification does not need to be returned to the Forest Service, except at the written request of the Contracting Officer.

A.0 - SPECIFIC CONDITIONS. The following conditions apply to the indicated portions.

A.1 - Location and Area, applicable to B.1

This Contract Area of 3838 acres more or less is located in: T. 7 N., R. 10 E., Sections 24, 25, 26, 35 and 36 W.M. Surveyed, Yakima County, Washington. T. 7 N., R. 11 E., Sections 20, 29, 30, 31, 32 W.M. Unsurveyed, Yakima County, Washington. T. 7 N., R. 11 E., Sections 16, 21, 28 and 33 W.M. Partially Surveyed, Yakima County, Washington.

A.2 - Volume Estimate and Utilization Standards, applicable to C.1, C.2, C.4, and G.4

Species	Product	Estimated Quantity	Unit of Measure	Minimum Specifications				
				Merchantable Tree		Piece Required to be Removed		
				Diameter Breast High (d.b.h.) (inches)	Number of Minimum Pieces per Tree	Length (feet)	Diameter Inside Bark at Small End (inches)	Net Scale in % of Gross Scale 1/
Douglas-fir	Sawtimber	15,561.00	Ton	7.0	1	8	5.0	40
Grand Fir and Other Coniferous Species	Sawtimber	31,532.00	Ton	7.0	1	8	5.0	40
Softwood Other	Grn Bio Cv	604.00	Ton	5.0	1	8	4.0	N/A
Total Quantity		47,697.00	Ton					

1/ Enter Merchantability Factor (Merch. Factor) or Net Scale in % of Gross Scale, whichever is appropriate.

A.3- Timber Designations, applicable to C.3; acres are approximate:

	<u>Number</u>	<u>Acres</u>
Clearcutting Units (C.3.1)	_____	_____
Specified Road Clearing (C.3.2)	_____	_____
Overstory Removal Units (C.3.3)	_____	_____
Understory Removal Units (C.3.4)	_____	_____
Individual Trees (C.3.5)	_____	688
Incompletely Marked Timber (C.3.6)	_____	_____

A.4 - Timber Payment Rates, applicable to D.1 and E.0

A.4.1 - Escalated Rates, applicable for Species and Products to be Paid for at Rates Escalated under D.2

Species	Product	Unit of Measure	Rates per Unit of Measure				Required Deposits Slash Disposal \$	Base Index
			Base \$	Advertised \$	Bid Premium \$	Bid (Tentative) \$		
Not Applicable								

A.4.2 - Flat Rates, applicable for Species and Products to be Paid for at Flat Rates

Species	Product	Unit of Measure	Rates per Unit of Measure				Required Deposits Slash Disposal \$
			Base \$	Advertised \$	Bid Premium \$	Bid (Flat) \$	
Douglas-fir	Sawtimber	Ton	N/A	14.42			.29
Grand Fir and Other Coniferous Species	Sawtimber	Ton	N/A	14.42			.29
Softwood Other	Grn Bio Cv	Ton	N/A	14.42			.29

For purposes of convenience in collection and bookkeeping, Bid Rates stated in A.4 include payment of deposits for contract area betterment required pursuant to 16 USC 576b. Such deposits are not included as Required Deposits defined hereunder.

A.4.3 - Stewardship Credits, applicable E.2.2 and K-G.9#

Mandatory Stewardship Projects					
Project Number	Project Description	Units of Measure	Quantity	Bid Rate \$	Total Credits
001	Snag Creation	Acres	677.00		
002	Fuels Treatment U18	Acres	127.00		

Optional Stewardship Projects						
Priority	Project Number	Project Description	Units of Measure	Quantity	Bid Rate \$	Total Credits
3	003	Fuels Treatment U17 U19	Acres	199.00		
4	004	Pre Commercial Thinning	Acres	206.00		

The following definitions are established for the terms used in A.4:

Base Rates are the lowest rates of payment for timber that are authorized by this contract. Base Rates remain constant throughout the life of this contract and are not subject to change by rate redetermination, except for reduction under D.3.1, D.3.2, or D.3.3.

Advertised Rates are the minimum acceptable Bid Rates for timber, exclusive of Required Deposits. These rates are those indicated by appraisal, with a cost allowance made for construction of Specified Roads listed in A.7, but are never less than Base Rates.

Bid Premium Rates are the amounts by which Contractor's bid is in excess of Advertised Rates. The Bid Premium Rates are constant during this contract, except as provided in D.3.1, D.3.2, and D.3.3.

Bid Rates are the rates bid by Contractor (exclusive of Required Deposits for slash disposal, road maintenance, and contract scaling) and are the sum of Advertised Rates and Bid Premium Rates. Until a rate redetermination becomes effective, the Bid Rate for species and products in A.4.1 is the Tentative Rate that is subject to quarterly adjustment under D.2; for species and products in A.4.2, the Bid Rate is the Flat Rate.

Required Deposits are deposits that Contractor may be required to pay for slash disposal (16 USC 490), road maintenance (16 USC 537), and contract scaling (1994 Appropriations Act). Required Deposits may be adjusted as part of a rate redetermination or a Contract Term Extension. The table shows only Required Deposits for slash disposal; road maintenance deposits, if any, are given in K-F.3.2#; and contract scaling deposits, if any, are given in K-G.8.1.6#.

Base Index is the specified average of the lumber or other product selling value index used as the basis for computing adjustment in rates for variance in product selling value, as provided in D.2.

A.5 - Indices Used in Quarterly Adjustment, applicable to D.2

Species	Index Name and Date
Not Applicable	

A.6 - High Stumps, applicable to G.4.1.2

Species	Product	Maximum Stump Height * (inches)
All	All	12

* 6" Maximum Stump Height on all cut trees within 100' of the 8200 road on Subdivision 15.

A.7 - Specified Roads, applicable to F.2

Name and Date of Governing Road Specifications: FP-14 Federal Highway Administration Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, as amended and supplemented (English)

Project		Design Class	Appro. Length (mi./km.)	Sheet Numbers and Approval Date	Performance Responsibility		
Road No.	Name				Survey	Design	Construction Staking 1/
8200000	BIRD CREEK MDWS. (R) (segment 0 to 4.5)	Single Lane - 25 mph	4.5 / 7.24	1-7 09/24/2019	FS	FS	FS BC

1/ Indicate timing, i.e., before clearing (BC) or after clearing (AC). Applicable to F.2.1.2.

A.8 - Forest Service Engineering Completion Schedule, applicable to F.2.1

Road No.	Road Name	Type of Work	Completion Date
	Not Applicable		

A.9 - Scaling Instructions and Specifications, applicable to G.8

Name and Date of Governing Instructions: FSH 2409.11a, National Forest Cubic Log Scaling Handbook, as amended and supplemented. Fiber scaling rules apply to nonsawtimber products. Check scaling will be performed on individual scaling locations.

Scaling Specifications					
Species	Product	Maximum Scaling Length (feet)	Trim Allowance		
			Diameter Range (inches)	Length Range (feet)	Trim Allowance (inches)
All	All	20	ALL	ALL	6

A.10 - Scaling Services, applicable to G.8.1

Species	Product	Unit of Measure	Site and Geographic Location	Method	Standard Estimated Cost per Unit \$
All	All	Ton	Contractor shall request alternate scaling site per B6.811 which meets the requirements contained in B6.814.	Total (100%) Weight Scale	.00

A.11 - Minimum Scaling Volumes, applicable to G.8.1

Minimum volume for Continuous Scaling Services in two-week period N/A Ton per scaler

Minimum volume for Intermittent Scaling Services N/A Ton on a N/A basis

A.12 - Fire Precautionary Period, applicable to H.2

April 01 to October 31, inclusive

A.13 - Contractor's Responsibility to Furnish Crews and Equipment for:

Initial Fire Suppression, applicable to H.3

Within 5 road miles

Fire Suppression Reinforcement, applicable to H.3.1.2 and H.3.1.3

Within 100 road miles

A.14 - Contractor's Obligation per Operations Fire, applicable to H.4.1

Maximum Amount: \$ \$300,000.00

A.15 - Termination Date, applicable to 1.2

October 31, 2025

A.16 - Normal Operating Season, applicable to G.3.1, G.6.6, 1.2.1 and J.3

First Period: July 16 to October 31, inclusive

Second Period: _____ to _____, inclusive

A.17 - Performance Bond Amount, applicable to J.1

Performance Bond Amount: _____

A.18 - Downpayment, applicable to E.2.1.1

Downpayment Amount: Not Applicable

A.19 - Periodic Payment Amount, applicable to E.2.1.3

	Periodic Payment Determination Date	Amount
Initial Payment:	<u>N/A</u>	<u>N/A</u>
Additional Payment:	<u>N/A</u>	<u>N/A</u>

A.20 - Market-Related Contract Term Addition Producer Price Index, applicable to 1.2.1.2

Index Name: Softwood Lumber Index Number: 0811

A.21 - Inapplicable Provisions

The following listed provisions - are hereby made inapplicable. (Instructions: List by reference number and title.)

E.4	PAYMENTS NOT RECEIVED
I.2.1	CONTRACT TERM ADJUSTMENT
I.2.1.2	MARKET-RELATED CONTRACT TERM ADDITION
I.6.4	DEBARMENT AND SUSPENSION CERTIFICATION

A.22 - List of Special Provisions in Part K

The following listed special provisions are attached to and made a part of this contract. Provisions with reference numbers followed by # contain blanks into which data have been entered for this contract. (Instructions: List by reference number, title, and date.)

K-C.3#	RESERVE TREES (09/2004)
K-C.3.5.5#	DESIGNATION BY PRESCRIPTION (05/2015)
K-D.3.5#	SCHEDULED RATE REDETERMINATION (09/2004)
K-D.4.7#	ABNORMAL DELAY (05/2005)
K-E.2.2	CHANGES IN STEWARDSHIP CREDITS (06/2008)
K-E.4	PAYMENTS NOT RECEIVED (08/2012)
K-F.1.0.1#	TEMPORARY ROAD AND LANDING CONSTRUCTION (OPTION 1) (06/2010)
K-F.1.2#	USE OF ROADS BY CONTRACTOR (09/2004)
K-F.1.3#	ROAD COMPLETION DATE (09/2004)
K-F.2.1.3#	DEPOSIT FOR RECONSTRUCTION ENGINEERING SERVICES (09/2004)
K-F.3.1#	ROAD MAINTENANCE REQUIREMENTS (09/2004)
K-F.3.2#	ROAD MAINTENANCE DEPOSIT SCHEDULE (08/2012)
K-G.2.4#	SITE SPECIFIC SPECIAL PROTECTION MEASURES (09/2004)
K-G.3.1.5#	PROJECT OPERATION SCHEDULE (05/2005)
K-G.3.2#	PROTECTION OF RESERVE TREES (09/2004)
K-G.4.0.5	ALTERNATE REMOVAL OF INCLUDED TIMBER (05/2005)
K-G.4.1#	SPECIFIC REQUIREMENTS (05/2005)
K-G.4.2#	YARDING/SKIDDING REQUIREMENTS (05/2005)
K-G.6.0#	EROSION CONTROL AND SOIL TREATMENT BY CONTRACTOR (03/2017)
K-G.7	SLASH DISPOSAL (03/2017)
K-G.7.4.2#	SLASH TREATMENT REQUIREMENTS (OPTION 2) (06/2008)
K-G.8.1.5	THIRD PARTY SCALING SERVICES (09/2004)
K-G.8.4	USE OF PAINT BY CONTRACTOR (OPTION 1) (06/2006)
K-G.8.4.0	ACCOUNTABILITY (04/2014)
K-G.8.5.1	WEIGHT OF LOST LOADS (04/2014)
K-G.9#	STEWARDSHIP PROJECTS (09/2004)
K-H.1	PLANS (05/2005)
K-H.2	SPECIFIC FIRE PRECAUTIONS (05/2005)
K-H.2.0.1	BURNING BY CONTRACTOR (06/2006)
K-H.2.2	EMERGENCY FIRE PRECAUTIONS (06/2018)
K-H.3.1	ADDITIONAL AREA OF FIRE RESPONSIBILITY (05/2005)
K-I.1.0	DISCLAIMER OF EXPRESSED OR IMPLIED WARRANTY (05/2005)
K-I.2.1	CONTRACT TERM ADJUSTMENT (07/2016)
K-I.2.1.2	MARKET-RELATED CONTRACT TERM ADDITION (11/2008)
K-I.3.1#	CONTRACT CHANGES (OPTION 1) (05/2005)
K-I.6.4	DEBARMENT AND SUSPENSION CERTIFICATION (03/2018)
K-I.6.8# (Option 1)	USE OF TIMBER (09/2004)

B.0—CONTRACT AREA

B.1 Contract Area Map. The boundaries of “Contract Area” and any subdivision thereof, are as shown on the attached “Contract Area Map” that is made a part hereof, and were, before contract advertisement, designated on the ground by Forest Service to meet the anticipated needs of the parties. The location of Contract Area and its approximate acreage are stated in A.1. Subdivisions may be revised and additional ones may be established only by written agreement. Subdivisions or cutting units and stewardship project areas may be eliminated from Contract Area under conditions described in G.3.6. Catastrophically Damaged areas may be removed from Contract Area under I.3.2.

Where applicable, the following are also identified on Contract Area Map:

- (a) Identified claims limiting Contractor’s rights under B.2;
- (b) Subdivisions defined in C.3 where timber is to be Marked after date of contract advertisement;
- (c) Boundaries of Clearcutting Units, Overstory Removal Units, and Understory Removal Units under C.3;
- (d) Diameter limits for Overstory Removal Units and Understory Removal Units under C.3.3 and C.3.4;
- (e) Areas where leave trees are Marked to be left uncut under C.3.5;
- (f) Specified Roads listed in A.7;
- (g) Sources of base course, surface rock, and rock riprap listed in the Schedule of Items;
- (h) Roads where log hauling or use is prohibited or restricted under F.1.2;
- (i) Roads and trails to be kept open under G.2.2;
- (j) Improvements to be protected under G.2.2;
- (k) Locations of known wildlife or plant habitat and cave resources to be protected under G.2.4;
- (l) Locations of areas known to be infested with specific invasive species of concern under G.3.5;
- (m) Maximum stump heights when more than one height is listed by areas in A.6 under G.4.1.2;
- (n) Skidding or yarding methods specified under G.4.2;
- (o) Streamcourses to be protected under G.5;
- (p) Locations of meadows requiring protection under G.6.1;
- (q) Locations of wetlands requiring protection under G.6.2;
- (r) Locations of temporary roads to be kept open under G.6.3.1; and
- (s) Other features required by Parts A through K.

B.2 Claims. Valid claims are excluded from Contract Area, except those on which timber cutting is authorized in writing by the claimant and except mining claims on which cutting is authorized by the Act of July 23, 1955 (30 USC 614). Claims that limit Contractor’s rights to operate under this contract and that Forest Service has been able to identify are shown on Contract Area Map. Contractor is not obligated to operate contrary to existing claim limitations. Forest Service shall designate boundaries of claims on the ground to the extent necessary to identify Included Timber.

C.0—TIMBER SPECIFICATIONS

C.1 Included Timber. “Included Timber” consists of:

C.1.1 Standard Timber. Live and dead trees and portions thereof that meet Utilization Standards under C.2 and are designated for cutting under C.3.

C.1.2 Substandard Timber. Live and dead trees that:

- (a) Do not meet Utilization Standards and
- (b) Are located in Clearcutting Units or construction clearings or are otherwise designated for cutting.

C.1.3 Damaged Timber.

C.1.3.1 Damaged by Contractor. Undesignated live trees meeting Utilization Standards:

- (a) Within 200 feet slope distance from centerline of roads constructed hereunder that are damaged by Contractor’s construction to the extent that considerable deterioration or mortality is imminent and are designated by Forest Service for felling before the nearest road segment is Substantially Completed or
- (b) That are damaged by Contractor in logging or stewardship project operations and are subsequently Marked before Contractor has completed work in the immediate area.

By agreement, such trees may be left without charge if their removal would cause undue damage or be grossly uneconomic.

C.1.3.2 Negligent or Willful Damage. Undesignated timber meeting Utilization Standards and unnecessarily damaged or negligently or willfully cut by Contractor, if included by Contracting Officer.

C.1.3.3 Damage by Catastrophe. As provided under I.3.2, undesignated live and dead timber within Contract Area, meeting Utilization Standards, and affected by Catastrophic Damage. “Catastrophic Damage” as used hereunder is major change or damage to Included Timber on Contract Area, to Contract Area, to access to Contract Area, or a combination thereof:

- (a) Caused by forces, or a combination of forces, beyond control of Contractor, occurring within a 12-month period, including, but not limited to, wind, flood, earthquake, landslide, fire, forest pest epidemic, or other major natural phenomenon and

(b) Affecting the value of any trees or products meeting Utilization Standards, within Contract Area and estimated to total either:

- (i) More than half of the estimated timber volume stated in A.2 or
- (ii) More than two hundred thousand cubic feet (2,000 CCF) or equivalent.

Catastrophic Damage does not include changes caused by forest pest epidemics or foreseeable deterioration if Included Timber was sold for salvage or pest control.

C.1.3.4 Minor Damage by Natural Causes. Undesignated trees within Contract Area and meeting Utilization Standards, in amounts less than specified in C.1.3.3, that become insect infested, windthrown, suffer serious damage, or die, as designated by agreement.

C.1.4 Unintentionally Cut Timber. Trees, within or immediately adjacent to Contract Area or to road construction or other authorized clearing outside Contract Area, not designated for cutting under C.3 but that are cut through mistake by Contractor, when included by Contracting Officer.

C.1.5 Construction Timber. Trees to be used for construction under F.1.

C.1.6 Other Material. Species or products not listed in A.2, upon written approval of Contracting Officer under D.4.1.

C.2 Utilization and Removal of Included Timber. "Utilization Standards" for trees and minimum pieces are stated in A.2. To meet minimum tree specifications, trees must equal or exceed tree diameters listed in A.2 and contain at least one minimum piece. Except for timber required or authorized to be left, Contractor shall fell and buck such trees and shall remove from Contract Area and present for Scaling all pieces that:

- (a) Meet minimum piece standards in A.2 or
- (b) Do not meet such standards, but would have qualified as part of minimum pieces if bucking lengths were varied to include such material.

C.3 Timber Designations. Timber designated for cutting shall be confined to Contract Area, except as provided in C.1.3.1, C.1.4, C.1.5, C.3.2, and F.1. Contract Area Map indicates subdivisions, if any, where Marking under C.3.5 is to be done after contract advertisement, except for construction clearing under C.3.2, minor changes under C.3.7, and damaged timber.

The boundaries of Clearcutting Units, Overstory Removal Units, and Understory Removal Units were plainly Marked on ground before contract advertisement and are shown on Contract Area Map. Boundary trees shall not be cut. The number of units and approximate acreage of timber designations are stated in A.3.

C.3.1 Clearcutting Units. All trees that meet Utilization Standards within "Clearcutting Units" are designated for cutting.

C.3.2 Construction Clearing. All timber is designated for cutting that is within the clearing limits of roads constructed hereunder or is in other authorized clearings. All dead or unstable live trees are designated for cutting that are sufficiently tall to reach Contractor's landings, work areas, or the roadbed of Specified and Temporary Roads when Marked in advance of work in the immediate area. Pieces meeting Utilization Standards from such dead or unstable live trees shall be removed, unless there is agreement that to do so could damage the road. Such designation may be revised as part of agreed changes in road location under F.2.

C.3.3 Overstory Removal Units. All trees within "Overstory Removal Units" are designated for cutting when they meet Utilization Standards and equal or exceed the diameter limits shown on Contract Area Map.

C.3.4 Understory Removal Units. All trees within "Understory Removal Units" are designated for cutting when they meet Utilization Standards and are smaller than the diameter limits shown on Contract Area Map.

C.3.5 Individual Trees. All trees to be cut, other than in the units described in C.3.1, C.3.2, C.3.3, and C.3.4, are Marked or designated by description. Trees are "Marked" when individually designated by Forest Service with paint marks above and below stump height.

Contract Area Map indicates areas plainly identified on the ground where leave trees are Marked to be left uncut.

C.3.6 Incompletely Marked Timber. Live trees within incompletely Marked subdivisions shown on Contract Area Map at time of contract advertisement shall be designated in accordance with K-C.3.6. A representative sample of the timber to be designated has been Marked prior to contract advertisement in accordance with such rules. The approximate locations of the representative sample areas are shown on Contract Area Map.

C.3.7 Minor Changes. Within Contract Area, minor adjustments may be made in boundaries of cutting units or in the timber individually Marked for cutting when acceptable to Contractor and Forest Service.

C.4 Volume Estimate. The estimated volumes of timber by species designated for cutting under C.3 and expected to be cut under Utilization Standards are listed in A.2. If Contract Area Map indicates that there are incompletely Marked subdivisions, the objective of Forest Service shall be to designate for cutting in such subdivisions sufficient timber so that Contract Area shall yield the approximate estimated volume by species or species groups stated in A.2. However, the estimated volumes stated in A.2 are not to be construed as guarantees or limitations of the timber volumes to be designated for cutting under the terms of this contract.

Volume adjustments shall not be made under this Section after there is modification for Catastrophic Damage under I.3.2.

C.4.1 Adjustment for Volume Deficit. If Contract Area Map indicates that there are incompletely Marked subdivisions and if Contracting Officer determines that a deficit in the estimated volume will cause the volume cut to be less than 90 percent of the total estimate shown in A.2, Forest Service, upon request by Contractor, shall designate additional timber within Contract Area. Such additional timber shall be limited to that estimated to be necessary to reach approximately the estimated volumes by species listed in A.2. Any such additional designation shall be consistent with land and resource management plans.

C.4.2 Adjustment for Excess Volume. If Contract Area Map indicates that there are incompletely Marked subdivisions and if Contracting Officer determines that the volume cut will be more than 120 percent of the total estimated volume listed in A.2, Forest Service, upon request by Contractor, shall make an adjustment in Marking or cutting unit boundaries with the objective of designating for cutting the approximate estimated volumes by species listed in A.2. Such adjustments in volumes shall be confined to (a) Marking adjustments on Contract Area and (b) reduction in area to be cut over. Such adjustments or reductions shall not conflict with the silvicultural treatment being applied on Contract Area and shall not materially change the average value by species of the timber designated for cutting. Such adjustments may be made notwithstanding the provisions of B.1 and C.3.

If the timber designated for cutting is not reduced by such adjustments to less than 120 percent of the total estimated quantity listed in A.2, Contractor, after cutting 120 percent of the total estimated volume listed in A.2, may elect to have Contract Area reduced to eliminate the remaining Included Timber. However, where felling operations have been started, units of minimum practical size shall be retained in Contract Area.

D.0—RATES OF PAYMENT

D.1 Current Contract Rates. Included Timber that is removed by Contractor and presented for Scaling in the product form stated in A.2 shall be paid for at Current Contract Rates determined under this Section. "Current Contract Rates" shall be (a) Flat Rates and (b) Tentative Rates adjusted by the escalation procedures in D.2. Flat Rates and Tentative Rates shall be those listed in A.4, unless superseded by rates redetermined under D.3 or established for Contract Term Extension. In addition, Required Deposits shall be made as listed in A.4, K-F.3.2, and K-G.8.1.6, or established under D.3 or I.2.3.

In the event Termination Date is adjusted under I.2.1 or I.2.1.2, Current Contract Rates shall be continued in the same manner as immediately prior to the adjustment period.

Notwithstanding I.2.3, Current Contract Rates for timber cut and removed from Contract Area that remains unscaled after Termination Date, as adjusted or extended, shall be Current Contract Rates in effect on Termination Date.

"Current Contract Value" is the sum of the products of Current Contract Rates and estimated remaining unscaled volumes by species of Included Timber meeting Utilization Standards, less the bid rate for mandatory stewardship projects that have not been completed.

D.2 Escalation Procedure. Tentative Rates for those species and products listed in A.4.1 are subject to quarterly escalation in accordance with the following procedures: The calendar quarter index average for each price index described in A.5 is the arithmetic average of the three such monthly price indices preceding January 1, April 1, July 1, and October 1. The difference between calendar quarter index average and Base Index listed in A.4.1 shall be the basis for quarterly escalation. To arrive at Current Contract Rates for timber Scaled during the preceding calendar quarter, Tentative Rates for each species shall be reduced or increased by such difference, except when the calendar quarter index average is:

- (a) Less than the Base Index, the reduction shall not result in a rate below Base Rate or
- (b) Greater than the Base Index, the increase shall not exceed the difference between Tentative Rate and Base Rate.

In the event of Contract Term Extension, the escalation procedure will be used during the extension period, except that adjusted payment rates for any calendar quarter cannot be less than Tentative Rates, for each species and product group, established under I.2.3 for the extension period.

D.2.1 Unavailable Index. If an index described in A.5 is no longer available, Contracting Officer may replace that index. If Contracting Officer determines that a replacement index does not exist, Current Contract Rates for the remainder of the contract shall be a Flat Rate. Flat Rates will be Tentative Rates adjusted by the arithmetic average of the index described in A.5 for a 12-month period prior to its becoming unavailable using the quarterly adjustment procedure outlined in D.2. Contracting Officer will determine availability and a beginning point to average the index for Flat Rates. Such Flat Rates are subject to rate redetermination as provided elsewhere under this contract.

D.3 Rate Redetermination. Rates may be redetermined as set forth in this Section. Bid Premium Rates shall be added to all redetermined rates, except as provided in D.3.1, D.3.2, and D.3.3.

Rate redeterminations shall be made in accordance with the standard Forest Service methods in effect 45 days prior to rate redetermination. Such methods shall take into consideration factors that may affect timber value at rate redetermination date.

Redetermined rates shall not be less than Base Rates listed in A.4, except for reduction under D.3.1, D.3.2, or D.3.3. Required Deposits shall be redetermined. Redetermined Specified Road construction cost is subject to the limitations of F.2.6.

D.3.1 Rate Redetermination for Environmental Modification. In the event of a contract modification under I.3.3 or partial termination under I.3.4, Contracting Officer shall make an appraisal to determine for each species the difference between the appraised unit value of Included Timber remaining immediately prior to the revision and the appraised unit value of Included Timber to be cut under the modification. The appraisal shall consider the estimated cost of any construction work listed in the Schedule of Items that was performed and abandoned.

Tentative Rates and Flat Rates in effect at the time of the revision will be adjusted by said differences to become Current Contract Rates. Accordingly, Base Rates shall be adjusted to correspond to the redetermined rates if redetermined rates are less than the original Base Rates, subject to a new Base Rate limitation of the cost of essential reforestation or 25 cents per hundred cubic feet or equivalent, whichever is larger. However, existing Base Indices shall not be changed under this Subsection.

Redetermined rates, or differences for rates subject to D.2, and Required Deposits shall be considered established under D.1 for timber Scaled subsequent to the contract revision.

D.3.2 Rate Redetermination after Catastrophic Damage. In event of Catastrophic Damage and adjustment, if any, of Included Timber, Contracting Officer shall make an appraisal to determine for each species the catastrophe-caused difference between the appraised unit value of Included Timber remaining immediately prior to the catastrophe and the appraised unit value of existing and potential Included Timber immediately after the catastrophe. Included Timber is any that would not be eliminated under I.3.2. Potential Included Timber is any that would be added under I.3.2.

Tentative Rates and Flat Rates in effect at the time of catastrophe shall be adjusted by said differences to become the redetermined rates for the purpose of a contract modification under I.3.2. Accordingly, Base Rates shall be adjusted to correspond to the redetermined rates if redetermined rates are less than the original Base Rates, subject to new Base Rate limitations of 25 cents per hundred cubic feet or equivalent. However, existing Base Indices shall not be changed under this Subsection.

Upon agreement under I.3.2, redetermined rates and Required Deposits shall be considered established under D.1 for timber Scaled subsequent to Catastrophic Damage.

At time of such appraisal, Specified Road construction cost shall include the estimated cost of any construction work listed in the Schedule of Items performed and abandoned.

D.3.3 Rate Redetermination for Market Change. In the event of delay or interruption, exceeding 90 days, under I.3.3, Contracting Officer shall make an appraisal to determine for each species the difference between the appraised unit value of Included Timber immediately prior to the delay or interruption and the appraised unit value of Included Timber immediately after the delay or interruption. The appraisal shall be done after any rate redetermination done pursuant to D.3.1, using remaining volumes.

Tentative Rates and Flat Rates in effect at the time of delay or interruption or established pursuant to D.3.1 will be reduced, if appraised rates declined during the delay or interruption, to become Current Contract Rates. Increases in rates will not be considered. Accordingly, Base Rates shall be adjusted to correspond to the redetermined rates if redetermined rates are less than the original Base Rates, subject to a new Base Rate limitation of the cost of essential reforestation or 25 cents per hundred cubic feet or equivalent, whichever is larger. However, existing Base Indices shall not be changed under this Subsection.

Redetermined rates shall be considered established under D.1 for timber Scaled subsequent to the delay or interruption.

D.3.4 Emergency Rate Redetermination. Forest Service shall redetermine rates if, upon Contractor's application, Forest Service determines that, because of changes in the timber market since the award date or the last rate redetermination under this provision, the Producer Price Index identified in A.20 has declined by 25 percent. Rates shall be redetermined under D.3 and shall be considered established under D.1 for timber Scaled subsequent to Contractor's application. This Subsection shall not apply during Contract Term Extension.

D.4 Other Payment Rates.

D.4.1 Material Not in A.2. Incidental amounts of products or portions of trees of species listed on A.2 that do not meet Utilization Standards may be removed without charge. Such material may be purposely removed in more than incidental amounts without charge upon written approval of Contracting Officer, and subject to agreement on deposits if needed for road maintenance and use.

Other species or products not listed in A.2 may be cut and removed upon written approval of Contracting Officer and subject to agreement on rates of payment and deposits if needed for road maintenance and use.

When any material suitable for use in a product form included in A.2 is removed in another product form, the rates of payment shall be not less than but approximately equivalent to Current Contract Rates and Required Deposits.

D.4.2 Timber Cut Through Mistake. Undesignated timber meeting Utilization Standards, cut by Contractor through mistake and included by Contracting Officer under C.1.4, shall be removed and paid for at Current Contract

Rates and Required Deposits, unless such material is not listed in A.2. In such event, Contracting Officer, in accord with standard Forest Service methods, shall establish rates to be paid.

D.4.3 Designated Timber Cut But Not Removed. Standard timber shall be removed, as provided in C.2, prior to acceptance of subdivision for completion of logging and stewardship project operations under G.3.6. There shall be no charge when:

- (a) The leaving of incidental material is justified under existing conditions, including those under G.4 or
- (b) Cut timber is left by option or requirement, as under C.3.1, C.3.2, and G.4.

D.4.4 Undesignated Timber Damaged Without Negligence. Undesignated timber meeting Utilization Standards, damaged without negligence by Contractor and designated by Forest Service under C.1.3.1, shall be cut, removed, and paid for at Current Contract Rates and Required Deposits.

D.4.5 Undesignated Timber Unnecessarily Damaged or Negligently or Willfully Cut. Undesignated timber meeting Utilization Standards and unnecessarily damaged or negligently or willfully cut by Contractor, if included by Contracting Officer under C.1.3.2, shall be cut, removed, and paid for at Current Contract Rates and Required Deposits that are in addition to liquidated damages under D.4.6.

If such timber is of a species or size not listed in A.2 or is of a quality different from designated timber, Contracting Officer shall establish payment rates in accord with standard Forest Service methods.

D.4.6 Liquidated Damages. Unnecessary damage to or negligent or willful cutting of undesignated timber, as described in D.4.5, on portions of Contract Area cut over under this contract is likely to cause substantial silvicultural or other damage to the National Forest. It will be difficult, if not impossible, to determine the amount of such damage. Therefore, Contractor shall pay as fixed, agreed, and liquidated damages an amount equivalent to the amount payable at Current Contract Rates. If designated by Contracting Officer, Contractor shall remove such damaged or cut timber and pay for it at Current Contract Rates.

D.4.7 Defect Caused by Abnormal Delay. Scaling deductions made for rot, check, or other defect resulting from abnormal delay in Scaling caused by Contractor shall be recorded separately and charged to Integrated Resource Account at Current Contract Rates and applicable deposits.

E.0—PAYMENTS

E.1 Amount Payable for Timber. Current Contract Rates and Required Deposits in effect when the timber is Scaled shall be applied to the Scaled volume to determine the amount Contractor shall pay.

E.2 Integrated Resource Account. "Integrated Resource Account" is an account maintained by Forest Service of all Contractor's deposits, credits, payment guarantees, and the charges for:

- (a) Timber at Current Contract Rates;
- (b) Slash disposal, road maintenance, and contract scaling at Required Deposit rates;
- (c) Cooperative work at rates established by specific agreement under E.2.1.8;
- (d) Stewardship Credits established; and
- (e) Other charges provided in this contract.

Cash deposits shall be recorded currently in such account.

Charges for timber cut shall be made when Forest Service prepares and furnishes to Contractor periodic statements of volume and value of such timber cut and Scaled. Charges subject to escalation under D.2 shall be made initially on the basis stated in E.2.1.4 and shall be adjusted at the end of each calendar quarter, as provided in D.2.

E.2.1 Cash Deposits. Within the limitations of this Subsection, Contractor shall make cash deposits to meet Contractor's obligations within 15 days of billing by Forest Service. Deposits shall be made to Forest Service, U.S.D.A., by mail or delivery to the address to be furnished by Forest Service. Forest Service shall explain the bill at the time it requests each deposit.

E.2.1.1 Downpayment. The downpayment amount shown in A.18 may not be applied toward any other payment required under the provisions of this contract, except damages determined pursuant to J.4, transferred to other contracts, or refunded until stumpage value representing 25 percent of the total bid value of the contract has been charged and paid for or the estimated value of the unscaled timber is equal to or less than the amount of the downpayment.

E.2.1.2 Advance Deposits. Contractor agrees to make cash deposits in advance of cutting to meet charges under E.2.

Forest Service billings for advance cash deposits shall be in such amounts that Integrated Resource Account will maintain an unobligated balance equal to the applicable charges for timber that Forest Service estimates will be cut in not less than 30 days and not more than 60 days. This advance cash deposit may be reduced to a smaller amount by the terms of E.2.1.1, E.2.1.3, E.2.1.5, and/or E.2.1.7. Except for amounts required pursuant to E.2.1.1, E.2.1.3, and E.2.1.7, Contractor shall not be required to make advance deposits above those required under this Item.

When the credit balance in Integrated Resource Account is less than the amount due for timber estimated to be cut in 10 days, Contracting Officer will suspend all or any part of Contractor's Operations until payment or acceptable payment guarantee is received.

E.2.1.3 Periodic Payment Schedule. Contractor shall make periodic payments for stumpage value, as shown in A.19.

In the event Contractor has not paid the amount(s) stated in A.19 as stumpage for volume removed by the periodic payment determination date(s), Forest Service shall issue a bill for collection for the difference between the required amount and payments made by Contractor. If payment(s) fall due on a date other than a normal billing date, the payment date shall be extended to coincide with the next Integrated Resource Account billing date.

The amount of the periodic payment(s) will be reduced if the payment(s) would result in Contractor's credit balance for timber charges exceeding the Current Contract Value.

Only cash may be used for this purpose. No other form of payment is acceptable. Forest Service will apply the payments to subsequent charges on this contract under the terms of E.2.1.2.

Except for Contract Term Extensions under I.2.3, periodic payment determination date(s) that have not been reached shall be adjusted one day for each additional day of contract time granted.

E.2.1.4 Deposits for Charges Subject to Escalation. Deposits requested to cover estimated charges for timber subject to escalation under D.2 shall be based upon Current Contract Rates and related deposits in effect during previous calendar quarter.

E.2.1.5 Deposits When Payment Guaranteed. To the extent payment guarantee is provided under E.3, requirements for advance cash deposits under E.2.1.2 shall be waived for the value of timber on Contract Area that is cut, but not removed, and for the value of products removed from Contract Area for not more than a monthly billing period, subject to the provisions of E.4.

E.2.1.6 Blanket Cash Deposits. Contractor may make cash deposits under a written agreement to cover charges made under this and other contracts within the same National Forest. Forest Service shall allocate such deposits to such contracts. When there is to be no timber cutting hereunder for 30 days or more and payment of current charges has been made, the allocation to this contract shall be reallocated to other contracts within the same National Forest at Contractor's request. Contractor shall not start cutting until allocation has again been made to this contract.

E.2.1.7 Extension Deposits. In the event of Contract Term Extension, Forest Service shall divide the difference between Current Contract Value as of the start of any Contract Term Extension and the credit balance of any deposit made pursuant to E.2.1.3 by the number of whole months remaining in Normal Operating Season(s) within the extension period to determine the amount of each "Extension Deposit."

Contractor shall make the initial Extension Deposit prior to Forest Service executing the contract modification. In response to Forest Service billing under E.2.1, Contractor shall make advance cash deposits. Such deposits shall at least equal each Extension Deposit required for each whole month remaining in Normal Operating Season(s) during the extension period. Extension Deposits shall be due by the last day of each month during Normal Operating Season whether or not the volume that is covered by such deposits has been Scaled.

Due dates for Extension Deposits during the extension period may be delayed when Contractor earns Contract Term Adjustment if Termination Date, as adjusted, results in one or more additional complete months within Normal Operating Season(s).

E.2.1.8 Cooperative Deposits. On a basis of cooperation or assistance (16 USC 572) and by a written agreement, Forest Service shall perform all or portions of the work that Contractor is obligated to perform under this contract, as well as furnish other Services in connection with activities under this contract. When Forest Service is to perform such work, Contractor shall make one or more deposits to cover the estimated cost of the work. On request of Contractor, Forest Service shall render monthly accounts, as may be specified in such agreement.

E.2.2 Stewardship Credits. "Stewardship Credits" are credits that are earned and established when work described in K-G.9 has been performed and accepted. Stewardship Credits shall be earned at the rate as shown in A.4.3. Earned Stewardship Credits may be used to pay for Included Timber value in excess of Base Rates and Required Deposits. Base Rates and Required Deposits must be paid in cash.

E.2.2.1 Progress Estimates. Forest Service shall make timely estimates of Contractor's progress on stewardship projects. On the basis of such progress estimates, Forest Service shall credit Integrated Resource Account each month as such work proceeds.

E.2.2.2 Excess Stewardship Credits. In the event there are unused established Stewardship Credits when all of the Included Timber has been cut and removed, Forest Service, at its option, shall either add more timber or make cash payment for the unused Stewardship Credits.

E.2.2.3 Excess Timber Value. In the event the value of Included Timber exceeds the total value of all of the mandatory projects shown in A.4.3, plus the optional projects shown in A.4.3 that Contractor has been authorized to perform:

(a) Contracting Officer shall authorize additional optional projects shown in A.4.3 if the excess timber value exceeds 10 percent of the total timber value, or

(b) Contracting Officer shall authorize additional optional projects shown in A.4.3 or require cash payment if the excess timber value is less than 10 percent of the total timber value, or

(c) Contractor shall make cash payment for the excess timber value if there are no remaining optional projects shown in A.4.3.

E.2.2.4 Cash Payment for Stewardship Projects. In lieu of providing timber for established Stewardship Credits, Forest Service may elect to provide a cash payment to Contractor.

E.2.3 Temporary Reduction of Downpayment. When, under I.3.3, Contracting Officer requests Contractor to delay or interrupt Contractor's Operations for more than 90 days, the downpayment amount being held on deposit may be temporarily reduced upon the written request of Contractor or at the discretion of Contracting Officer. For the period of the delay or interruption, the downpayment on deposit may be reduced to \$1,000 or two (2) percent of the downpayment amount listed in A.18, whichever is larger.

Any downpayment amount temporarily reduced pursuant to this Subsection may be refunded or transferred at the request of Contractor. However, if Contractor has outstanding debt owing the United States, Contracting Officer must apply the amount of downpayment that could be refunded to the debt owed in accordance with the Debt Collection Improvement Act, as amended (31 USC 3701, *et seq.*).

Upon Contractor's receipt of bill for collection and written notice from Contracting Officer that the basis for the delay or interruption no longer exists, Contractor shall restore the downpayment to the full amount shown in A.18 within 15 days after the date the bill for collection is issued, subject to the provisions of E.4. Contractor shall not resume contract operations until the downpayment amount is fully restored.

E.2.4 Refund of Excess Cash. If at any time the credit balance of Integrated Resource Account exceeds the charges for timber that Forest Service estimates will be cut within the next 60 days, any portion of such excess that is due to cash in the account shall be refunded, if requested by Contractor, unless deposited under E.2.1.1, E.2.1.3, or E.2.1.7. If Contractor plans no cutting within the next 60 days, Forest Service may refund the entire unencumbered cash balance, except as provided in this Subsection. After a refund for a shutdown, deposits shall be made to meet the requirements of E.2.1.2 before additional timber may be cut.

E.2.5 Refund after Scaling Completed. Any cash deposit, in excess of that required to meet charges under E.2, shall be refunded or transferred within 15 days of Contractor's request after Scaling is completed, except for amounts estimated to be required under J.5.

E.3 Payment Guaranteed by Bond or Deposited Securities. To guarantee payment, Contractor may furnish and maintain an acceptable surety bond or deposit in a Federal Depository negotiable securities of the United States. The securities shall be deposited through the Regional Fiscal Agent accompanied by a power of attorney and agreement authorizing the bond-approving officer to sell or collect such securities if payment is not made within 15 days of billing by Forest Service. The penal sum of such surety bond or the market value at time of deposit of such negotiable securities shall be the maximum amount of the payment guaranteed.

For payment purposes, penal sum of the surety bond or market value at time of deposit of negotiable securities shall be in lieu of the performance bond furnished under J.1.

E.3.1 Blanket Bond. If Contractor furnishes an acceptable bond, or deposits securities, in accordance with E.3, to guarantee payment for timber from this and other contracts within the same National Forest, the amount of such bond or deposited securities shall be allocated to such contracts by Forest Service. When there is to be no timber cutting hereunder for 30 days or more and payment of current charges has been made, the allocation to this contract shall be reallocated to other contracts at Contractor's request. Contractor shall not start cutting hereunder until this contract receives an allocation that will meet the obligation for payment guarantee.

E.3.2 Letters of Credit for Payment Bond. Notwithstanding the provisions of E.3, Contractor may use letters of credit in lieu of a surety bond for payment bond purposes when approved by Contracting Officer.

E.4 Payments Not Received. (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 allowed in the bill for collection for receipt of payment, 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 allowed in the bill for collection for receipt of payment 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 allowed 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 higher of the Current Value of Funds Rate or the Prompt Payment 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.

F.0—TRANSPORTATION FACILITIES

F.1 Authorization. Contractor is authorized to construct and maintain roads, bridges, and other transportation facilities, as needed for harvesting Included Timber and completing stewardship projects on National Forest and other lands where Forest Service has such authority. As used in this contract "construct" includes "reconstruct."

Location and construction of Specified Roads shall be in accordance with F.2. Unless otherwise provided herein, construction may be progressive during this contract. Maintenance shall be governed by F.3. The location and clearing widths of all Temporary Roads or facilities shall be agreed to in writing before construction is started. "Temporary Roads" are roads other than Specified Roads that are constructed by Contractor for the purpose of harvesting Included Timber or completing stewardship projects.

Contractor is authorized to cut and use for construction without charge construction timber designated by agreement.

F.1.1 Requirements of Rights-of-Way. Contractor's road construction and use of rights-of-way identified in attached list or K-F.1.1 shall be confined to rights-of-way and limited by the related easements and stipulations, if any, unless Contractor makes other arrangements that will not infringe upon or adversely affect the grantee's rights. Easements or right-of-way documents are available in the offices of the Forest Supervisor and District Ranger.

F.1.2 Use of Roads by Contractor. Except as provided herein, Contractor is authorized to use existing National Forest system roads and Specified Roads listed in A.7, when Forest Service determines that such use will not cause damage to the roads or National Forest resources.

If Contractor's use of an existing temporary or National Forest system road, not listed in A.7, cannot be satisfactorily accommodated without reconstruction, Contractor shall be authorized to use such road upon agreement as to the minimum reconstruction work that Contractor shall perform before hauling. When appropriate, such road shall be included in A.7 as an alternate facility under F.2.6.

K-F.1.2 lists existing roads shown on Contract Area Map that for such reasons as limitations in structural capacity, safety, and protection of soil, water, and roads:

(a) Cannot be used for log hauling or

(b) May be used only under the restrictive limitations stated therein.

F.2 Specified Roads. "Specified Roads" are roads, including related transportation facilities and appurtenances, shown on Contract Area Map and listed in A.7. Contractor shall construct Specified Roads used under this contract. Construction initiated by Contractor on any such Specified Road shall be completed to an agreed terminus that meets Contractor's needs and prevents unnecessary impact on National Forest resources. Construction to such terminus shall be in full accordance with Plans and specifications identified in A.7 or specifications and the Schedule of Items attached hereto, except for agreed adjustments needed to accommodate such terminus. For each pay unit, the "Schedule of Items" itemizes quantity of work and materials and cost, with method of measurement and basis for payment. Forest Service shall revise the Schedule of Items to show the estimated cost for the portion constructed to the revised terminus as a separate segment.

A Temporary Road shall not be constructed substantially on the location for a Specified Road, except by agreement.

In event of agreed substitution or revision of construction design, specifications, or performance responsibility under F.2.1.2, F.2.5, F.2.6, or K-F.2.1.5, A.7 shall be modified. If Contractor does not need a Specified Road or a portion of a Specified Road for harvesting Included Timber or completing stewardship projects and the Specified Road is not constructed, the deletion of the road or road segment will be a mutually agreed Design Change and Integrated Resource Account will be adjusted for the reduction in cost, as provided in F.2.5.

References in the contract to specifications, standards, or test methods adopted by the American Association of State Highway and Transportation Officials (AASHTO), American Society for Testing and Materials (ASTM), General Services Administration (GSA), or other recognized national technical associations shall mean specifications, standards, or test methods, including interim or tentative issues, that are in effect on the date of contract advertisement.

F.2.1 Engineering. Forest Service completed survey and design for Specified Roads prior to contract advertisement, unless otherwise shown in A.8 or Contractor survey and design are specified in A.7. On those roads for which Forest Service completes the design during the contract, the design quantities shall be used as the basis for revising estimated costs stated in the Schedule of Items and adjusting Integrated Resource Account.

Forest Service engineering shall be completed according to the schedule in A.8. Should Forest Service be unable to perform the designated survey and design by the completion date or other agreed to time, upon written agreement, Contractor shall assume responsibility for such work. In such event, Contracting Officer shall revise:

(a) A.7 to show Contractor's performance responsibility.

(b) The Schedule of Items to include costs of survey and design, as provided under F.2.4, and adjust Integrated Resource Account, as provided in F.2.5. Forest Service shall calculate such costs, using unit rates comparable with those used in the Schedule of Items.

Contractor shall furnish a schedule to Forest Service of specific dates for the start of construction. The schedule of construction shall be submitted to Forest Service for approval within 60 days after contract award and prior to beginning work. Contractor's construction schedule shall reflect Forest Service survey and design completion dates. Forest Service may agree to Contractor's request for an alternate date for starting construction.

Contractor shall perform survey, design, and construction staking of Specified Roads to be engineered by Contractor in accordance with specifications attached hereto. Based upon the quantities developed by such design, as approved by Forest Service, Contracting Officer shall revise the estimated costs stated in the Schedule of Items and adjust Integrated Resource Account. The methods of computing such revised costs shall be consistent with the methods that would have been used had the engineering been performed prior to contract advertisement.

F.2.1.1 Contract Plans. "Plans" are documents that show location, details, and dimensions of the work to be performed. On any of the contract Plans where a portion of the work is drawn out and the remainder is shown in outline, the parts drawn out shall apply to all other like portions of the work.

"Shop Drawings" include drawings, diagrams, layouts, schematics, descriptive literature, illustrations, lists or tables, performance and test data, and similar materials furnished by Contractor to explain in detail specific portions of the work required by the contract. Contractor shall submit a minimum of five (5) sets of required Shop Drawings to Forest Service, three (3) sets of which will be retained by Forest Service. Shop Drawings shall not exceed 24 inches by 36 inches in size. Approval or rejection and date will be noted or stamped on each set. Unless agreed otherwise, Forest Service shall approve or reject the Shop Drawings within 10 days of submission. Such approval of the Shop Drawings shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. If the Shop Drawings are rejected, Contractor must make the noted revisions and resubmit the Shop Drawings.

A change in the amount of construction work that exceeds construction tolerances specified in the specifications identified in A.7 caused by a Forest Service error in construction staking shall be treated as a Design Change. When incompatible situations arise between Plans, specifications, and actual conditions on the ground, Contractor shall make corrections pursuant to F.2.5.3.

F.2.1.2 Construction Staking. Contractor shall avoid careless or negligent damage to construction stakes, flags, or marks. If such damage occurs, Contractor shall be required to replace stakes necessary to construction. Contractor's replacement staking shall be approved by Forest Service. Alternatively, upon Contractor's request, Contracting Officer may agree to perform such work under E.2.1.8.

When A.7 shows that construction stakes are to be set by Forest Service after clearing, Contractor shall submit to Forest Service a written schedule for clearing, construction staking, and construction that will provide Forest Service a reasonable period for setting construction stakes. Time for setting construction stakes may be modified by written agreement.

If Forest Service performs construction staking for Specified Roads, timing of such staking shall permit Contractor's clearing and other construction activity to proceed without hindrance or delay, provided Contractor's construction activity is reasonably consistent with needs identified in Contractor's Operating Schedule or amendments thereto.

Should Forest Service be unable to perform construction staking in such reasonable period, upon written agreement, Contractor shall assume the responsibility for construction staking for agreed upon portions of Specified Roads. In such event, Contracting Officer shall revise:

(a) A.7 to show Contractor's performance responsibility.

(b) The Schedule of Items to include costs of construction staking, as provided under F.2.4, and adjust Integrated Resource Account, as provided in F.2.5. Forest Service shall calculate such costs, using unit rates comparable with those used in the Schedule of Items.

F.2.2 Material Delivery. Within 60 days after award date, Contractor shall provide Forest Service a written schedule showing the desired delivery dates of any material to be supplied by Forest Service. With reasonable notice, schedule may be amended by agreement. Forest Service agrees to make delivery within 15 days after the scheduled delivery dates that are at least 60 days after the schedule is submitted, unless prevented by causes beyond control of Forest Service.

If Contractor does not provide Forest Service the written schedule within the period provided in this Subsection, Forest Service agrees to make delivery within 90 days after a late schedule is submitted, unless prevented by causes beyond control of Forest Service. After delivery to and written receipt by Contractor, Contractor is responsible for installation of needed material and for any loss of or damage to such material due to Contractor's negligence prior to installation or return of unused material to Forest Service.

At Contractor's option, Forest Service deliveries shall be to Contractor's storage area, as agreed, or to the nearest practicable point to the job site along existing roads. Unused material shall be returned to Forest Service at location of delivery, unless agreed otherwise.

F.2.3 Use of Partially Constructed Roads. Unless Contracting Officer determines that there is justification under existing conditions and ground conditions permit hauling without undue damage, portions of Specified Roads shall be Substantially Completed prior to their use for hauling timber. When necessary to facilitate construction and protect bridges and roads from damage, timber felled in construction and timber logged directly to the road from areas immediately adjacent thereto may be hauled before road construction is Substantially Completed. Such hauling shall be confined to periods when abnormal soil erosion and damage to National Forest lands will not result.

"Substantially Completed" means:

(a) Completion of grading and installation of drainage structures so they will function effectively and

(b) Laying the specified depth of base course, if any, unless Contracting Officer determines that physical conditions make it impractical or ground conditions permit hauling without undue damage.

No more than half of Included Timber to be hauled over such portions of road shall be hauled until the base course has been applied.

Unless agreed otherwise, specified reconstruction shall be completed on any portion of road prior to hauling on that portion.

F.2.4 Estimated Cost. Estimated costs by construction phases for Specified Roads listed in A.7 are stated by segments in the Schedule of Items. Such estimated costs are subject to adjustment under D.3, F.2, F.2.1, F.2.1.2, F.2.5, and F.2.6. Appropriately adjusted costs shall be made a part of a revised Schedule of Items and shown as adjustments to Integrated Resource Account. The revised Schedule of Items shall supersede any prior Schedule of Items when it is dated and signed by Contracting Officer and a copy is furnished to Contractor.

F.2.5 Construction Cost Adjustment. Contracting Officer, as provided in F.2.1, F.2.1.2, F.2.5.1, F.2.5.2, and F.2.5.3, shall adjust Specified Road construction cost estimates in the Schedule of Items and show the adjustments as credits or debits to Integrated Resource Account in the month when the road segment is accepted.

F.2.5.1 Variation in Quantities. (a) This Item applies only to differences between quantities shown in the Schedule of Items and measured quantities actually constructed and accepted that are not covered under F.2.5.2 or F.2.5.3. Only changes in quantities where other than contract quantities or lump sum is specified in the Schedule of Items are subject to this Item.

(b) Adjustments to the Specified Road construction cost for variation in quantities shall be computed at unit rates established in the Schedule of Items for units of work actually constructed and measured in accordance with specified method of measurement shown in the Schedule of Items and described in the specifications identified in A.7, except that:

(i) When quantity of authorized work performed or material furnished by Contractor, under any item shown in the Schedule of Items and covered by this Item, is more than 115 percent of original quantity, use Current Unit Rates to calculate the adjustment for that portion of work above 115 percent of original quantity.

(ii) When quantity of authorized work performed or material furnished by Contractor, under any item shown in the Schedule of Items and covered by this Item, is less than 85 percent of original quantity, Forest Service shall make a revised estimate of cost for such work. Any revised estimate shall use the same procedures as those used in original estimates using rates comparable to those used in computing the most recent cost estimate for the contract. The revised cost estimate shall take into account any increase or decrease in unit rates that results from a reduction in quantity of work.

(c) "Current Unit Rates" are Forest Service estimates of the unit rates for doing the work at the time the adjustment is approved.

F.2.5.2 Physical Change. (a) Forest Service shall adjust the Specified Road construction cost if, prior to acceptance under G.3.6, a physical change, caused by a single event and not due to negligence of Contractor, results in an increase or decrease in work and/or materials furnished by Contractor involving additional estimated cost of:

- (i) More than \$10,000 or
- (ii) More than 10 percent of total Specified Road construction cost, whichever is less.

(b) Increases to the Specified Road construction cost shall include cumulative estimated costs of repairing damage from things such as slides, washouts, landslips, and fire. Plans and specifications shall be revised when necessary to meet new conditions. Quantities of work and/or materials determined from such revised Plans and specifications, together with estimated quantities of work and/or materials abandoned, shall be the basis for the revised Specified Road construction cost.

(c) Forest Service shall determine difference in quantities for portions of Specified Road affected by physical change by comparing most recent previous quantities with total of:

- (i) Estimated quantities actually constructed prior to physical change, including work abandoned, and
- (ii) Estimated quantities to be constructed following physical change.

(d) Forest Service shall calculate the amount of increase to the Specified Road construction cost by applying:

- (i) Current Unit Rates to differences when quantities increase and
- (ii) Unit rates comparable to those used in computing most recent cost estimate for the contract when quantities decrease.

(e) When quantity of authorized work to be performed or material furnished by Contractor, under any item shown in the Schedule of Items, is reduced to less than 85 percent of original quantity, Forest Service shall make a revised estimate of cost for such work and adjust the Specified Road construction cost. Any revised estimate shall use the same procedures as those used in the original estimates using rates comparable to those used in the most recent cost estimate for the contract. The revised estimate shall take into account any increase or decrease in unit rates that results from a reduction in quantity of work.

F.2.5.3 Design Change. (a) "Design Change" is a change in work and/or materials shown in the Schedule of Items and described in Plans or specifications that has been mutually agreed to in writing or ordered by Contracting Officer. Changes of a minor nature (such as adjustment in horizontal and vertical alignment, that do not exceed specified tolerance, necessary to maintain or balance earthwork quantities substantially as designed) and variation in quantities, as described in F.2.5.1, shall not be considered Design Changes.

(b) Additions, deletions, or changes in types or diameter of culverts shown in Plans and changes in designated water sources shown on Plans shall be considered Design Changes.

(c) Forest Service may, by written notice from Contracting Officer, order changes in work to be performed and/or materials to be furnished by Contractor within general scope of the contract. Such work shall:

- (i) Be due to differences between anticipated and actual field conditions,
- (ii) Be necessary to construct Specified Roads to design standards, or
- (iii) Be necessary to assure stability of Specified Roads.

(d) In addition, Contracting Officer may include work to protect resource values in ordered Design Changes. Such work must be related to construction of Specified Roads and be necessary to prevent damage to soil and water values immediately tributary to Specified Roads. Other Design Changes may be made by mutual written agreement.

(e) Forest Service shall revise Plans and specifications as necessary to meet new conditions. Quantities of work and/or materials determined from such revised Plans and specifications, together with quantities of work and/or materials abandoned, shall be the basis for adjusting the Specified Road construction cost.

(f) Forest Service shall determine the difference in quantities for the portion of Specified Road affected by Design Change by comparing the most recent previous quantities with the total of:

- (i) Estimated quantities actually constructed prior to Design Change and
- (ii) Estimated quantities to be constructed following Design Change.

(g) Calculate the amount of adjustment to the Specified Road construction cost by applying:

- (i) Current Unit Rates to difference when quantities increase and
- (ii) Unit rates comparable to those used in computing most recent cost estimates of the contract when quantities decrease.

(h) When quantity of authorized work to be performed or material furnished by Contractor, under any item shown in the Schedule of Items, is reduced to less than 85 percent of original quantity, Forest Service shall make a revised estimate of cost of such work and adjust the Specified Road construction cost. Any revised estimate shall use the same procedures as those used in original estimates using rates comparable to those used in the most recent cost estimate for the contract. The revised estimate shall take into account any increase or decrease in unit rates that results from a reduction in quantity of work.

F.2.6 Alternate Facilities. If under Contractor's Operating Schedule, roads needed for the removal of Included Timber differ substantially from Specified Roads, other roads may be added to A.7. Contracting Officer shall assure that road routing, location, design, and needed easements will make such other roads acceptable as parts of the National Forest transportation facilities. Contractor shall provide survey, design, and construction staking for such other roads.

Based on design quantities from such engineering, Forest Service shall estimate Specified Road construction costs of alternate facilities, using methods consistent with those used in the original computation of the Schedule of Items. If Specified Road construction costs for acceptable alternate facilities are less than the estimated costs of facilities listed in the original Schedule of Items that Contractor does not construct, Integrated Resource Account shall be adjusted by Forest Service to reflect the reduction in costs. In event of rate redetermination under D.3, such allowed costs shall be the redetermined estimated costs of facilities listed in the original Schedule of Items that Contractor does not construct.

F.2.7 Temporary Credit for Unamortized Specified Road Construction Cost. When, under I.3.3, Contracting Officer requests Contractor to delay or interrupt Contractor's Operations for more than 90 days, the unamortized cost of Specified Roads shall be credited to Contractor's Integrated Resource Account upon the written request of Contractor or at the discretion of Contracting Officer. The amount credited to Contractor shall be limited to stumpage paid above Base Rates.

Any Specified Road construction cost credited to Contractor pursuant to this Subsection may be refunded or transferred at the request of Contractor. However, if Contractor has outstanding debt owing the United States, Contracting Officer must apply the amount of credit that could be refunded to the debt owed in accordance with the Debt Collection Improvement Act, as amended.

Upon written notice from Contracting Officer that the basis for the delay or interruption no longer exists, Contractor shall pay for timber a per unit amount, in addition to Current Contract Rates, that is equal to the amount credited to Contractor's Integrated Resource Account divided by 80 percent of the estimated remaining volume of the contract, until the full amount credited to Contractor has been returned.

F.3 Road Maintenance. Contractor shall maintain roads, commensurate with Contractor's use, in accordance with Road Maintenance Requirements in K-F.3.1 and the Road Maintenance Specifications. Performance of road maintenance work by Contractor may be required prior to, during, or after each period of use. The timing of work accomplishment shall be based on Contractor's Operating Schedule under G.3.1.

When two or more commercial users are simultaneously using the same road where Forest Service is not requiring maintenance deposits, the commercial users will develop maintenance responsibilities and arrangements for accomplishing the work. Forest Service must agree to this plan. If the commercial users cannot agree on maintenance responsibilities, Forest Service shall resolve the differences.

If Contractor elects to use different roads than those listed in K-F.3.1, Forest Service shall determine Contractor's commensurate share of road maintenance and revise road maintenance deposits in K-F.3.2.

If Forest Service cannot perform its full commensurate share of road maintenance, Forest Service shall make a cash payment to Contractor for performance of such work.

Unless agreed in writing, prehaul maintenance shall be completed on any portion of road prior to hauling on that portion. Maintenance, as used in this contract, does not include road reconstruction or repairs of an extraordinary nature.

F.4 Use by Others. Forest Service shall have the right to use any road constructed by Contractor under this contract for any and all purposes in connection with the protection and administration of the National Forest. Other parties, in connection with the logging of tributary National Forest timber, may use roads constructed by Contractor hereunder when Contracting Officer determines that such use will not materially interfere with Contractor's Operations. Third party use shall be contingent upon Contracting Officer determining, and third party agreeing to pay, a fair share of maintenance cost commensurate with such commercial use.

Unless otherwise provided in K-F.4, Forest Service shall authorize other uses of roads constructed by Contractor hereunder only if:

(a) Contracting Officer makes appropriate arrangements to relieve Contractor of related maintenance costs commensurate with such other uses and

(b) Such other uses will not materially interfere with Contractor's Operations.

Where Contractor reconstructs a road having established use, Contractor's use during reconstruction and thereafter shall be such as to reasonably accommodate such established use. Contracting Officer shall ensure that other users do not materially interfere with Contractor's right to use such reconstructed road.

G.0—OPERATIONS

G.1 Representatives. Unless otherwise agreed, Contractor shall designate, in writing, a representative who is authorized to receive notices in regard to performance under this contract and take related action. In no case shall Contractor designate any representative to this contract who is currently debarred, proposed for debarment, or sus-

pending by the Federal Government. Contractor's representative shall provide a copy of the contract to Contractor's field supervisor and persons authorized to assume responsibilities in the field supervisor's absence. Prior to initial operations and after shutdowns of 10 days or more, Contractor's representative shall notify Forest Service 2 days, excluding weekends and Federal holidays, before any operations begin on Contract Area.

Contractor's representative shall designate, in writing, a field supervisor, one of whose responsibilities shall be on-the-ground direction and supervision of Contractor's Operations. The field supervisor shall be readily available to the area of operations when operations are in progress and shall be authorized to receive notices in regard to performance under this contract and take related action. The responsibilities of the field supervisor shall include the safeguarding of National Forest resources and performance within the terms of the contract. Contractor representative will furnish Forest Service with names of persons authorized to assume responsibilities in field supervisor's absence. Such delegations may be made a part of Contractor's annual Operating Schedule under G.3.1.

Unless Contracting Officer designates another Forest Service representative and notifies Contractor in writing, the District Ranger is the representative of Forest Service. Forest Service representative shall:

- (a) Receive notice in regard to performance under this contract,
- (b) Take action in relation to this contract, and
- (c) Be readily available to the area of construction, stewardship project work, and logging operations.

Contracting Officer or Forest Service representative shall designate other on-the-ground representatives in writing along with their specific contractual responsibilities and authority. Representatives with authority delegated in writing are the only Forest Service personnel authorized to provide notice or take related actions under the contract. Such delegation shall be made within 60 days of contract award.

G.1.1 Notices. Notices by either party as to action taken or to be taken by the other respecting this contract shall be made in writing to the other party's designated representative.

G.2 Improvements. Contractor is authorized to construct on National Forest land, buildings, facilities, and other improvements needed to log Included Timber and complete stewardship projects. Such construction shall be located where approved in writing by Forest Service and shall be constructed and used in a manner that will protect National Forest values.

Contractor shall comply with the rules and regulations governing the operation of premises that are occupied and shall perform the contract in a manner that will not interrupt or interfere with the conduct of Forest Service business.

Forest Service shall grant written permission before any camp, quarry, borrow pit, storage, or service area, other than as shown on Plans, is opened or operated on National Forest land or administered lands. A camp is interpreted to include the campsite or trailer parking area of any employee, agent, Subcontractor, or their employees or agents working on the project for Contractor. Such permission, if granted, shall be without charge to Contractor.

G.2.1 Removal. Unless Forest Service authorizes continued use, Contractor shall remove or dispose of all improvements when no longer needed. Should Contractor fail to remove or dispose of improvements within 6 months after Termination Date, Forest Service may dispose of improvements at Contractor's expense under J.5 or may, upon written notice to Contractor, assume title to improvements in the name of the United States. In the latter event, Contractor shall not be required to remove such improvements.

G.2.2 Protection of Improvements. So far as practicable, Contractor shall protect Specified Roads and other improvements (such as roads, trails, telephone lines, ditches, and fences):

- (a) Existing in the operating area,
- (b) Determined to have a continuing need or use, and
- (c) Designated on Contract Area Map.

Contractor shall keep roads and trails needed for fire protection or other purposes and designated on Contract Area Map reasonably free of equipment and products, slash, and debris resulting from Contractor's Operations. Contractor shall make timely restoration of any such improvements damaged by Contractor's Operations and, when necessary because of such operations, shall move such improvements, as specified in K-G.2.2.

G.2.2.1 Protection of Improvements Not Owned by Forest Service. Forest Service will notify all utility companies, or other parties affected, and make arrangements for all necessary adjustments of the public utility fixtures, pipelines, and other appurtenances likely to be affected by Contractor's Operations.

When Contractor's Operations are adjacent to properties of railway, telephone, or power companies, or other property, work shall not begin until Contractor has identified actions necessary to prevent damage.

Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal and/or rearrangement operations in order that these operations may progress in a reasonable manner, utility duplication or rearrangement work may be reduced to a minimum, and services shall not be unnecessarily interrupted.

In the event of interruption to utility services because of accidental breakage or as a result of lines being exposed or unsupported, Contractor shall promptly notify the proper authority and shall cooperate with that authority in the restoration of service until the service is restored.

When materials are to be hauled across the tracks of any railway, Forest Service will make arrangements with the railroad for the use of any existing crossing or for any new crossing required. Contractor shall make arrangements for

use of alternate crossings. All construction work to be performed by Contractor on the railroad right-of-way shall not damage railroad company's property.

G.2.2.2 Protection of Property. In construction and reconstruction of Specified Roads, Contractor shall not unnecessarily remove, deface, injure, or destroy trees, shrubs, or other natural features, unless specifically authorized. To the extent practicable, Contractor shall confine operations to within the clearing limit or other areas designated in the contract and prevent the depositing of rocks, excavated materials, stumps, or other debris outside these limits.

Material that falls outside these limits shall be retrieved, disposed of, or incorporated in the work to the extent practicable and necessary to protect adjacent resource values, unless otherwise agreed.

G.2.3 Protection of Land Survey Monuments. Forest Service shall appropriately designate on the ground all known survey monuments, section corners, and other corner accessories. Forest Service shall post identifying signs on two sides of each known bearing tree.

Forest Service shall arrange protective or perpetuative action that does not cause unnecessary delay to Contractor in authorized clearings, such as Clearcutting Units and road construction, and in other instances where damage to monuments, section corners, and other corner accessories is unavoidable.

Contractor shall protect all known survey monuments, witness corners, reference monuments, and bearing trees against avoidable destruction, obliteration, or damage during Contractor's Operations. If any known monuments, corners, or accessories are destroyed, obliterated, or damaged by Contractor's Operations, Contractor shall hire the appropriate county surveyor or a registered land surveyor to reestablish or restore at the same location the monuments, corners, or accessories. Such surveyors shall use procedures in accordance with the Bureau of Land Management "Manual of Instructions for the Survey of the Public Lands of the United States" for General Land Office surveys and in accordance with State law for others. Contractor shall record such survey in appropriate county records.

G.2.4 Protection Measures Needed for Plants, Animals, Cultural Resources, and Cave Resources. Locations of known areas needing special measures for the protection of plants, animals, cultural resources, and/or cave resources are shown on Contract Area Map and/or identified on the ground. Special protection measures needed to protect such known areas are identified in K-G.2.4.

In addition to any special protection measures noted, Contractor has a general duty to protect all known and identified resources referenced in this Subsection from damage or removal during Contractor's Operations. Discovery of additional areas, resources, or members of species needing special protection shall be promptly reported to the other party, and operations shall be delayed or interrupted at that location, under I.3.3, if Contracting Officer determines there is risk of damage to such areas, resources, or species from continued operations.

Wheeled or track-laying equipment shall not be operated in areas identified as needing special measures for the protection of cultural resources, except on roads, landings, tractor roads, or skid trails approved under F.1 or G.4.2.2. Unless agreed otherwise, trees will not be felled into such areas. Contractor may be required to backblade skid trails and other ground disturbed by Contractor's Operations within such areas in lieu of cross ditching required under G.6.

Contractor shall immediately notify Forest Service if disturbance occurs to any area identified as needing special protection measures and shall immediately halt operations in the vicinity of the disturbance until Forest Service authorizes Contractor to proceed. Contractor shall bear costs of resource evaluation and restoration to identified sites. Such payment shall not relieve Contractor from civil or criminal liability otherwise provided by law.

Nothing in this Subsection shall be interpreted as creating any warranty that all locations and special measures for the protection of plants, animals, cultural resources, and cave resources have been described herein, elsewhere in the contract, or designated on the ground.

G.3 Control of Operations. Under this contract, "Contractor's Operations" shall include activities of or use of equipment of Contractor, Contractor's employees, agents, Subcontractors, or their employees or agents, acting in the course of their employment in operations hereunder on National Forest lands or within Forest Service protection boundary (unless acting under the immediate supervision of Forest Service).

Contractor's Operations shall be conducted in a workmanlike and orderly manner. The timing of required Forest Service designation of work on the ground and the performance of other Forest Service work shall not be such as to cause unnecessary delay to Contractor.

G.3.1 Operating Schedule. Contractor shall, before commencing operations, provide in writing an annual Operating Schedule of anticipated major activities and needs for logging Included Timber and completing stewardship projects, such as logging, road maintenance, Scaling, and road construction, including construction staking under F.2.1.2 and material delivery under F.2.2. Upon reasonable notice to Forest Service, such schedule shall be subject to modifications necessitated by weather, markets, or other unpredictable circumstances.

Subject to G.6 and when the requirements of G.6.6 are met, Contractor's Operations may be conducted outside Normal Operating Season. "Normal Operating Season" is the period(s) beginning and ending on the dates stated in A.16 of any year.

G.3.1.1 Inclusion of Technical Proposal. Upon execution of the contract, all elements of the Technical Proposal accepted by Forest Service become binding parts of the contract, including, but not limited to, planned peri-

ods for and methods of road construction, timber harvesting, performance of stewardship projects, slash disposal, erosion control measures, and other contractual requirements. In addition, Contractor may not substitute a Subcontractor that has been accepted in the Technical Proposal with an alternate Subcontractor, unless Contracting Officer agrees to substitution.

Contractor may revise this Technical Proposal when necessitated by weather, markets, or other unforeseen circumstances beyond the Contractor's control, subject to approval of Contracting Officer. In the event of delays beyond the control of Contractor that qualify for Contract Term Adjustment, the Technical Proposal shall be adjusted by mutual agreement to accommodate the adjusted contract period.

G.3.1.2 Plan of Operations for Road Construction. Annually, prior to start of construction, Contractor shall submit a supplement to the Technical Proposal that shall include a schedule of proposed progress and a description of planned measures to be taken to provide erosion control for work in progress, including special measures to be taken on any segments of construction not Substantially Completed prior to periods of seasonal precipitation or runoff. Contractor shall submit a revised schedule when Contractor proposes a significant deviation from the progress schedule.

Prior to beginning construction on any portion of Specified Roads identified as sensitive on Plans, Contractor and Forest Service shall agree on proposed method of construction.

G.3.2 Protection of Residual Trees. Contractor's Operations shall not unnecessarily damage young growth or other trees to be reserved.

G.3.3 Safety. Contractor's Operations shall facilitate Forest Service's safe and practical inspection of Contractor's Operations and conduct of other official duties on Contract Area. Contractor has all responsibility for compliance with safety requirements for Contractor's employees.

In the event that Contracting Officer identifies a conflict between the requirements of this contract or agreed upon methods of proceeding hereunder and State or Federal safety requirements, the contract shall be modified and Contractor may request an adjustment in Current Contract Rates to compensate for the changed conditions.

Unless otherwise agreed in writing, when Contractor's Operations are in progress adjacent to or on Forest Service controlled roads and trails open to public travel, Contractor shall furnish, install, and maintain all temporary traffic controls that provide the user with adequate warning of hazardous or potentially hazardous conditions associated with Contractor's Operations. Contractor and Forest Service shall agree to a specific Traffic Control Plan for each individual project prior to commencing operations. Devices shall be appropriate to current conditions and shall be covered or removed when not needed. Except as otherwise agreed, flagmen and devices shall be as specified in the "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD) and as shown on Plans, Contract Area Map, Traffic Control Plan, or in specifications attached hereto.

G.3.4 Sanitation and Servicing. Contractor shall take all reasonable precautions to prevent pollution of air, soil, and water by Contractor's Operations. If facilities for employees are established on Contract Area, they shall be operated in a sanitary manner. In the event that Contractor's Operations or servicing of equipment result in pollution to soil or water, Contractor shall conduct cleanup and restoration of the polluted site to the satisfaction of Forest Service.

Contractor shall maintain all equipment operating on Contract Area in good repair and free of abnormal leakage of lubricants, fuel, coolants, and hydraulic fluid. Contractor shall not service tractors, trucks, or other equipment on National Forest lands where servicing is likely to result in pollution to soil or water. Contractor shall furnish oil-absorbing mats for use under all stationary equipment or equipment being serviced to prevent leaking or spilled petroleum-based products from contaminating soil and water resources. Contractor shall remove from National Forest lands all contaminated soil, vegetation, debris, vehicle oil filters (drained of free-flowing oil), batteries, oily rags, and waste oil resulting from use, servicing, repair, or abandonment of equipment.

G.3.4.1 Prevention of Oil Spills. If Contractor maintains storage facilities for oil or oil products on Contract Area, Contractor shall take appropriate preventive measures to ensure that any spill of such oil or oil products does not enter any stream or other waters of the United States or any of the individual States.

If the total oil or oil products storage exceeds 1,320 gallons in containers of 55 gallons or greater, Contractor shall prepare a Spill Prevention Control and Countermeasures Plan. Such plan shall meet applicable EPA requirements (40 CFR 112), including certification by a registered professional engineer.

Contractor shall notify Contracting Officer and appropriate agencies of all reportable (40 CFR 110) spills of oil or oil products on or in the vicinity of Contract Area that are caused by Contractor's employees, agents, Subcontractors or their employees or agents, directly or indirectly, as a result of Contractor's Operations. Contractor will take whatever initial action may be safely accomplished to contain all spills.

G.3.4.2 Hazardous Substances. Contractor shall notify the National Response Center and Contracting Officer of all releases of reportable quantities of hazardous substances on or in the vicinity of Contract Area that are caused by Contractor's employees, agents, Subcontractors or their employees or agents, directly or indirectly, as a result of Contractor's Operations, in accordance with 40 CFR 302.

G.3.5 Equipment Cleaning. (a) Areas, known by Forest Service prior to contract advertisement, that are infested with invasive species of concern are shown on Contract Area Map. A current list of invasive species of concern and a map showing the extent of known infestations is available at the Forest Supervisor's Office.

(b) Contractor shall not move any Off-Road Equipment, which last operated in an area that is infested with one or more invasive species of concern onto Contract Area without having first taken reasonable measures to make each such piece of equipment free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds. Contractor shall identify the location of the equipment's most recent operations. If the prior location of the Off-Road Equipment cannot be identified, Forest Service will assume that it is infested with seeds of invasive species of concern. In addition, prior to moving Off-Road Equipment from an area on this contract that is shown on Contract Area Map to be infested with invasive species of concern to any other area that is indicated on Contract Area Map as being free of invasive species of concern, Contractor shall again take reasonable measures to make each such piece of equipment free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds.

(c) Contractor must advise Forest Service of measures taken to clean Off-Road Equipment and arrange for Forest Service inspection prior to such equipment being placed in service or moved from areas infested with invasive species of concern to areas that are free of such invasive species. Forest Service shall have 2 days, excluding weekends and Federal holidays, to inspect equipment after it has been made available for inspection. After inspection or after 2 days, Contractor may proceed with operations. Reasonable measures shall not require the disassembly of equipment components or use of any specialized inspection tools. Equipment shall be considered free of soil, seeds, and other such debris when a visual inspection does not disclose such material.

(d) "Off-Road Equipment" includes all logging and construction machinery, except for log trucks, chip vans, service vehicles, water trucks, pickup trucks, cars, and similar vehicles.

(e) If Contractor desires to clean Off-Road Equipment on National Forest land, such as at the end of a project or prior to moving to a new area that is free of invasive species of concern, Contractor and Forest Service shall agree on locations for the cleaning and control of off-site impacts, if any.

(f) New infestations of invasive species of concern to Forest Service, identified by either Contractor or Forest Service on Contract Area, shall be promptly reported to the other party and operations shall be delayed or interrupted at that location, under I.3.3, until Contractor and Forest Service agree on treatment methods.

(g) Nothing in this Subsection shall be interpreted as creating any warranty that all locations of invasive species of concern have been described herein, elsewhere in the contract, or designated on the ground.

G.3.6 Acceptance of Work. Upon Contractor's written request and assurance that work has been completed, Forest Service shall perform an inspection within 5 days, excluding weekends and Federal holidays, so as not to delay unnecessarily the progress of Contractor's Operations. Such a request may be for acceptance of:

(a) Any reasonable portion of Specified Road listed in the Schedule of Items;

(b) Specific requirements on a subdivision of Contract Area (such as logging, stewardship project operations, slash disposal, erosion control, or snag felling); or

(c) All contract requirements on a subdivision of Contract Area.

Forest Service may perform such inspections without request from Contractor.

Within 2 days of inspection, excluding weekends and Federal holidays, Forest Service shall furnish Contractor with written notice either of acceptance or of work remaining to be done.

In the event that Forest Service is unable to make such inspection within 5 days of Contractor's request, Contractor shall be notified in writing of necessity for postponement and time when inspection can be made. The same final approval procedure shall be used at the end of Contractor's construction period on any completed portion of road.

When all contractual work of Contractor has been accepted for any subdivision of Contract Area or cutting unit or stewardship project area identified on Contract Area Map, such area shall be eliminated from Contract Area on written notice of either party to this contract, unless such area is a portion of a larger work area. In the latter circumstance, such area may be eliminated only by agreement.

G.3.6.1 Acceptance of Specified Roads. Specified Road work may be accepted subject to completion of clearing work that does not affect the road structure when completion is delayed for reasons beyond control of Contractor, such as adverse weather.

Specified Road work may be accepted subject to completion of planting and seeding for soil stabilization when completion is delayed for reasons beyond control of Contractor, such as seasonal limitations. Contractor shall complete planting or seeding on such road during the next suitable planting season.

Specified Road work may be conditionally accepted prior to the application of dust palliatives when application is not necessary to prevent dusting of the road surface due to climatic conditions. Contractor shall apply dust palliative on such roads prior to use during periods when dusting may occur.

Prior to request for final inspection, Specified Road work, roadways, borrow pits, and quarries, occupied and no longer needed by Contractor in connection with Contractor's Operations, shall be cleared of all rubbish, excess materials, and temporary structures.

G.4 Conduct of Logging. Unless otherwise specifically provided herein, Contractor shall fell trees designated for cutting and shall remove the portions that meet Utilization Standards, as provided in C.2, prior to acceptance of subdivision for completion of logging and stewardship projects under G.3.6. Forest Service may make exceptions for occasional trees inadvertently not cut or trees or pieces not removed for good reason, including possible damage to forest resources or gross economic impracticability at the time of removal of other timber. Logging shall be conducted in accordance with the following, unless K-G.4 provisions set forth requirements to meet special or unusual logging conditions:

G.4.1 Felling and Bucking. Felling shall be done to minimize breakage of Included Timber and damage to residual timber. Unless agreed otherwise, felling shall be done by saws or shears. Bucking shall be done to permit removal of all minimum pieces set forth in A.2. Contractor may buck out cull material when necessary to produce pieces meeting Utilization Standards. Such bucked out material shall contain a minimum amount of sound wood, not in excess of the net scale in percentage of gross scale, or based on the merchantability factor, whichever is stated in A.2. If necessary to assess extent of defect, Contractor shall make sample saw cuts or wedges.

G.4.1.1 Felling in Clearings. Insofar as ground conditions, tree lean, and shape of clearings permit, trees shall be felled so that their tops do not extend outside Clearcutting Units, construction clearings, and areas of regeneration cutting.

G.4.1.2 Stump Heights. Stumps shall not exceed, on the side adjacent to the highest ground, the maximum heights set forth in A.6, except that occasional stumps of greater heights are acceptable when Contractor determines that they are necessary for safe and efficient conduct of logging. Unless otherwise agreed, Contractor shall re-cut high stumps so they will not exceed heights specified in A.6 and shall dispose of severed portions in the same manner as other logging debris. The stump heights shown in A.6 were selected with the objective of maximum reasonable utilization of the timber, unless Contract Area Map shows special areas where stump heights are lower for aesthetic, land treatment, or silvicultural reasons.

G.4.1.3 Bucking Lengths. Trees shall be bucked in various lengths to obtain the greatest utilization of material meeting Utilization Standards.

G.4.1.4 Limbing. When Forest Service determines it is necessary to minimize damage to the residual stand during skidding, Contractor shall cut exposed limbs from products prior to skidding. Contractor may leave uncut those limbs that cannot be cut with reasonable safety.

G.4.2 Skidding and Yarding. Methods of skidding or yarding specified for particular areas, if any, are indicated on Contract Area Map. Outside Clearcutting Units and construction clearings, insofar as ground conditions permit, products shall not be skidded against reserve trees or groups of reproduction and tractors shall be equipped with a winch to facilitate skidding.

G.4.2.1 Rigging. Insofar as practicable, needed rigging shall be slung on stumps or trees designated for cutting.

G.4.2.2 Landings and Skid Trails. Location of all landings, tractor roads, and skid trails shall be agreed upon prior to their construction. The cleared or excavated size of landings shall not exceed that needed for efficient skidding and loading operations.

G.4.2.3 Skidding on Roads. Products may be skidded on permanent roads authorized for hauling under F.1.2 only by prior written agreement.

G.4.2.4 Arches and Dozer Blades. Unless otherwise specified in K-G.4.2.4, skidding tractors equipped with pull-type arches or dozer blades wider than tractor width or C-frame width, whichever is greater, shall not be used in residual timber outside Clearcutting Units and other authorized clearings, except on constructed tractor roads or landings, unless there is written agreement that residual timber will not be damaged materially by such use.

G.5 Streamcourse Protection. "Streamcourses" that are subject to provisions of this Section are shown on Contract Area Map. Unless otherwise agreed, the following measures shall be observed to protect Streamcourses:

(a) Contractor's Operations shall be conducted to prevent debris from entering Streamcourses, except as may be authorized under paragraph (d). In event Contractor causes debris to enter Streamcourses in amounts that may adversely affect the natural flow of the stream, water quality, or fishery resource, Contractor shall remove such debris as soon as practicable, but not to exceed 2 days, and in an agreed manner that will cause the least disturbance to Streamcourses.

(b) Culverts or bridges shall be required on Temporary Roads at all points where it is necessary to cross Streamcourses. Such facilities shall be of sufficient size and design and installed in a manner to provide unobstructed flow of water and to minimize damage to Streamcourses. Trees or products shall not be otherwise hauled or yarded across Streamcourses unless fully suspended.

(c) Wheeled or track-laying equipment shall not be operated in Streamcourses, except at crossings designated by Forest Service or as essential to construction or removal of culverts and bridges.

(d) Flow in Streamcourses may be temporarily diverted only if such diversion is necessary for Contractor's planned construction and Forest Service gives written authorization. Such flow shall be restored to the natural course as soon as practicable and, in any event, prior to a major storm runoff period or runoff season.

G.6 Erosion Prevention and Control. Contractor's Operations shall be conducted reasonably to minimize soil erosion. Equipment shall not be operated when ground conditions are such that excessive damage will result. Contractor shall adjust the kinds and intensity of erosion control work done to ground and weather conditions and the need for controlling runoff. Erosion control work shall be kept current immediately preceding expected seasonal periods of precipitation or runoff.

If Contractor fails to do seasonal erosion control work prior to any seasonal period of precipitation or runoff, Forest Service may temporarily assume responsibility for the work and any unencumbered deposits hereunder may be used by Forest Service to do the work. If needed for such work, Contractor shall make additional deposits on request by Forest Service. Any money deposited or used for this purpose shall be treated as cooperative deposits under E.2.1.8.

G.6.1 Meadow Protection. Reasonable care shall be taken to avoid damage to the cover, soil, and water in meadows shown on Contract Area Map. Vehicular or skidding equipment shall not be used on meadows, except where roads, landings, and tractor roads are approved under F.1 or G.4.2.2. Unless otherwise agreed, trees felled into meadows shall be removed by endlining. Resulting logging slash shall be removed where necessary to protect cover, soil, and water.

G.6.2 Wetlands Protection. Wetlands requiring protection under Executive Order 11990 are shown on Contract Area Map. Vehicular or skidding equipment shall not be used in such wetlands, except where roads, landings, and tractor roads are approved under F.1 or G.4.2.2. Additional measures needed to protect such areas are provided in K-G.6.2.

G.6.3 Temporary Roads. As necessary to attain stabilization of roadbed and fill slopes of Temporary Roads, Contractor shall employ such measures as outsloping, drainage dips, and water-spreading ditches.

After a Temporary Road has served Contractor's purpose, Contractor shall give notice to Forest Service and shall remove bridges and culverts, eliminate ditches, outslope roadbed, remove ruts and berms, effectively block the road to normal vehicular traffic where feasible under existing terrain conditions, and build cross ditches and water bars, as staked or otherwise marked on the ground by Forest Service. When bridges and culverts are removed, associated fills shall also be removed to the extent necessary to permit normal maximum flow of water.

G.6.3.1 Temporary Roads to Remain Open. To maintain short term access to portions of Contract Area for post-contract treatments and other purposes after a Temporary Road has served Contractor's purpose, pursuant to G.6.3, Contractor agrees, that on Temporary Roads designated on Contract Area Map as "Remain Open," to construct cross ditches and water bars, as designated, staked, or otherwise directed by Forest Service, that can be traversed by a normal two-wheel drive pickup truck. On "Remain Open" Temporary Roads, all bridges and culverts shall remain in place and ditches shall not be eliminated. All drainage structures shall be left in functional condition.

G.6.4 Landings. After landings have served Contractor's purpose, Contractor shall ditch and slope them to permit water to drain or spread. Unless agreed otherwise, cut and fill banks around landings shall be sloped to remove overhangs and otherwise minimize erosion.

G.6.5 Skid Trails and Fire Lines. Contractor shall construct cross ditches and water-spreading ditches on tractor roads and skid trails, where staked or otherwise marked on the ground by Forest Service. Forest Service shall designate cross ditching on Contractor-built fire lines prior to or during construction. By agreement, Contractor may use other comparable erosion control measures, such as backblading skid trails, in lieu of cross ditching.

G.6.6 Current Operating Areas. Where logging, road construction, or other stewardship project work is in progress but not completed, unless agreed otherwise, Contractor shall, before operations cease annually, remove all temporary log culverts and construct temporary cross drains, drainage ditches, dips, berms, culverts, or other facilities needed to control erosion.

Such protection shall be provided, prior to end of a Normal Operating Season, for all disturbed, unprotected ground that is not to be disturbed further prior to end of operations each year, including roads and associated fills, tractor roads, skid trails, and fire lines. When weather permits operations after Normal Operating Season, Contractor shall keep such work on any additional disturbed areas as up to date as practicable.

G.6.7 Erosion Control Structure Maintenance. During the period of this contract, Contractor shall provide maintenance of soil erosion control structures constructed by Contractor until they become stabilized, but not for more than 1 year after their construction. Contracting Officer may agree to perform such structure maintenance under E.2.1.8, if requested by Contractor, subject to agreement on rates. Contractor shall not be responsible for repair of such structures damaged by other National Forest users whose activities are not a part of Contractor's Operations.

G.7 Slash Disposal. Contractor's timing of product removal and preparatory work shall not unnecessarily delay slash disposal. Specific slash disposal measures to be employed by Contractor are stated in K-G.7 and are in addition to Required Deposits for slash disposal.

G.8 Scaling. "Scaling," as used herein, involves:

- (a) Various volume determination methods, such as log rule, sampling, measuring, linear measuring, counting, weighing, or another method or combination of methods;
- (b) Various sites, such as truck Scaling stations, rollways, weighing stations, woods landings, water Scaling stations, or other sites; and

(c) Various geographic locations.

G.8.1 Scaling Services. Scaling services shall be performed by Forest Service personnel or parties under contract to Forest Service, except that weighing services may be performed by personnel or parties approved by Forest Service. Scaling shall be provided in accordance with the instructions and specifications in A.9. Scalers shall be currently certified to perform accurate Scaling services. The Scaling services provided shall be selected exclusively by Forest Service.

Scaling services may be Continuous, Intermittent, or Extended. "Continuous Scaling Services" is Scaling at one site five (5) 8-hour shifts a week, exclusive of Sundays and Federal holidays. "Intermittent Scaling Services" are non-continuous Scaling services. "Extended Scaling Services" are Scaling services exceeding Continuous Scaling Services and may include Sundays and designated Federal holidays.

Upon written request of Contractor and approval of Contracting Officer, Forest Service may provide other services, such as but not limited to grading, tagging, or marking of Scaled logs.

G.8.1.1 Scaling Location. Forest Service shall provide Scaling services at the Scaling site(s) shown in A.10. The Scaling site(s) shown in A.10 normally will be a non-exclusive site where more than one National Forest contractor may be served.

Contractor may request, in writing, an alternate Scaling site, such as at a private mill yard, private truck ramp, or a privately operated log transfer facility. Contracting Officer may approve an alternate Scaling site, when Contracting Officer determines that Scaling conditions at an alternate site are acceptable. Such conditions shall include at a minimum:

- (a) Scaler safety and comfort,
- (b) Product accountability and security,
- (c) Facilities and practices conducive to accurate and independent Scaling, and
- (d) The ability to provide for remote check Scaling.

Upon approval of an alternate Scaling site, Forest Service and Contractor shall enter into a written memorandum of agreement governing Scaling at that alternate location. Contractor agrees that Forest Service personnel or persons under contract with Forest Service shall perform Scaling services at an alternative Scaling site. In no instance shall Contractor or employees of Contractor perform Scaling services.

G.8.1.2 Scaling Adjustments. Forest Service shall check the accuracy of the Scaling performed on National Forest logs. Scaling will be satisfactory if performed within the accuracy standards stated in governing instructions identified in A.9. In the event Forest Service check Scale(s) shows a variance in net Scale in excess of the allowable variance, an adjustment to volume reported Scaled may be made by Forest Service.

Such adjustment will be based on the difference between Forest Service check Scale(s) and original Scale for contract volume Scaled within the adjustment period. The volume to which this difference will be applied will be:

- (a) One-half of the volume Scaled between the last satisfactory check Scale and the first unsatisfactory check Scale or, if a period of 120 days or more occurs without Scaling National Forest timber for stumpage, the adjustment will be applied to 100 percent of the volume Scaled after this period and
- (b) 100 percent of the volume Scaled between unsatisfactory check Scales and
- (c) One-half of the volume Scaled between the last unsatisfactory check Scale and the next satisfactory check Scale, or if no satisfactory check Scale is completed and a period of 120 days or more occurs without Scaling of National Forest timber for stumpage, the adjustment will be applied to 100 percent of the volume Scaled since the last unsatisfactory check Scale.

Adjustments may increase or decrease the original Scaled volume. Adjustments will be applied to Integrated Resource Account to correct charges for Included Timber, plus deposits, Scaled during the adjustment period.

G.8.1.3 Delayed or Interrupted Scaling Services. In the event Scaling services are delayed or interrupted, Contractor shall discontinue hauling. Contractor agrees that in the event such a delay or interruption occurs for reasons not caused by Contractor, its sole and exclusive remedy shall be:

- (a) Contract Term Adjustment and
- (b) Out-of-Pocket Expenses incurred as a direct result of the delay or interruption of Scaling services under this Item.

Contractor further agrees that no logs will be presented for Scaling outside agreed upon Scaling services schedule.

G.8.1.4 Weighing Services. Weighing services for stumpage payment purposes may be provided by either public or privately owned and operated weighing facilities. A "Weighing Services Agreement," approved by the Forest Supervisor, must be executed at each weighing facility providing weighing services.

Scales used to weigh National Forest products for payment purposes must be a currently certified scale in accordance with State law and be capable of weighing the entire load of logs in a single operation. The weighing of less than the entire load or weighing two loads at once is prohibited. Unless otherwise agreed, the minimum sized weighing facility shall be a 60-ton capacity scale with a 10 foot by 70 foot platform or larger. The weighmaster must work in a position where it is possible to verify that the truck wheels are on or off the scales.

Weighing facilities shall meet the following minimum requirements:

- (a) Be an electronic design,
- (b) Use electronic load cells or have a fully enclosed and sealed weigh-beam,
- (c) Have digital weight meters sealed with a seal approved by the State,
- (d) Have a zero interlocking device on the printer,
- (e) Have an automatic zero-setting mechanism,
- (f) Have an automatic motion-detecting device,
- (g) Be shielded against radio or electromagnetic interference, and
- (h) Have a date and time stamp and gross and tare weights that print electronically with each weighing. Contracting Officer may waive electronic printing for public or third party weighing facilities.

Contractor shall bear all charges or fees for weighing services.

G.8.2 Presentation for Scaling. Contractor shall present products so that they may be Scaled in an economical and safe manner. If prior to Scaling, Included Timber is to be mixed with other timber, Contractor shall, prior to mixing, provide for distinguishing, by means approved by Forest Service, each product included in this contract.

Trees or pieces presented for Scaling that have not been bucked to separate material meeting minimum piece standards from material not meeting minimum piece standards due to diameter, shall be Scaled as though such bucking had been done.

Deductions made for rot, check, or other defects resulting from abnormal delay in Scaling caused by Contractor shall be recorded separately and charged to Integrated Resource Account under D.4.7.

Any timber that has been removed from Contract Area during the period of this contract, but remains unscaled after Termination Date, shall be Scaled at the earliest reasonable date.

G.8.3 Scaling Other Products. The Scaled volume of material presented for Scaling in forms other than those stated in A.2, when appropriate, shall be converted to the A.2 unit of measure by the application of standard converting factors and procedures in effect at the time the contract was sold. Other converting factors may be used by written agreement.

G.8.4 Accountability. When Scaling is performed away from Contract Area, products shall be accounted for in accordance with Forest Service written instructions or an Accountability Agreement between Forest Service and Contractor and as follows:

- (a) Contractor shall plainly mark or otherwise identify products prior to hauling in accordance with G.8.4.2;
- (b) Forest Service shall issue removal receipts to Contractor;
- (c) Contractor shall assign a competent individual at the landing to complete removal receipts and attach them to each load of products removed from Contract Area;
- (d) Removal receipts shall be returned to Forest Service at periodic intervals;
- (e) When products are in transit, the truck driver shall possess or display removal receipt and show it upon request as evidence of authority to move products;
- (f) The scaler's portion of removal receipt shall be surrendered at point of Scaling, the unloading point, or as requested by Forest Service; and
- (g) Contractor shall notify Forest Service of lost or off-loaded logs and their location within 12 hours of such loss.

Contractor shall not place products in storage for deferred Scaling until an accountability system has been agreed to in writing for a stated period.

G.8.4.1 Route of Haul. As part of the annual Operating Schedule, Contractor shall furnish a map showing the route of haul over which unscaled products will be transported from Contract Area to the approved Scaling location. Such route of haul shall be the shortest, most economical haul route available between the points.

Upon advance written agreement, other routes may be approved. All unscaled products removed from Contract Area shall be transported over the designated routes of haul. Contractor shall notify Forest Service when a load of products, after leaving Contract Area, will be delayed for more than 12 hours in reaching Scaling location.

Contractor shall require truck drivers to stop, if requested by Forest Service, for the following reasons:

- (a) For accountability checks when products are in transit from Contract Area to the designated Scaling location or
- (b) For a remote check Scale when products are in transit after being truck Scaled at the designated Scaling location.

Contractor and Forest Service shall agree to locations for accountability checks and remote check Scales in advance of haul. Such locations shall be established only in areas where it is safe to stop trucks.

Forest Service shall notify Contractor of the methods to be used to alert truck drivers of an impending stop.

G.8.4.2 Product Identification. Before removal from Contract Area, unless Contracting Officer determines that circumstances warrant a written waiver or adjustment, Contractor shall:

- (a) Hammer brand all products that are eight (8) feet or more in length and one-third (1/3) or more sound, on each end that is seven (7) inches or more in diameter.

(b) West of the 100th meridian, paint with a spot of highway-yellow paint all domestic processing products that are eight (8) feet or more in length and one-third (1/3) or more sound, on each end that is seven (7) inches or more in diameter. Each paint spot must be not less than three (3) square inches in size.

Contracting Officer shall assign brands and, if Contract Area is within a State that maintains a log brand register, brands shall be registered with the State. Contractor shall use assigned brand exclusively on logs from this contract until Contracting Officer releases brand. Contractor will furnish and apply highway-yellow paint of a lasting quality (oil-base or equivalent).

All hammer brands and/or highway-yellow paint must remain on logs until they are domestically processed. Contractor shall replace identifying marks if they are lost, removed, or become unreadable. Contractor may remanufacture products into different log lengths. Except for logs remanufactured as part of the mill in-feed process immediately before processing, remanufactured products must be rebranded with the assigned contract brand and repainted with highway-yellow paint, unless otherwise agreed to in writing by Contracting Officer. For such remanufactured products, Contracting Officer may approve use of a brand to be used exclusively as a catch brand, in lieu of the assigned contract brand.

G.8.5 Scaling Lost Products. The volume of lost products shall be determined by the best methods currently available, using data from the records for the period in which the loss occurred or the most applicable period if loss should occur substantially after cutting. In the absence of specific information indicating size or species of lost products, species distribution and volume for entire truckloads shall be assumed to be the same as the average volume Scaled per truck during the report period, and for individual products it shall be assumed that the volume and species were the average volume of the highest priced species Scaled during the report period.

G.8.5.1 Scaling Lost Sample Loads. If Scaling is being done by sampling loads of logs, Contractor shall present such sample loads for Scaling by Forest Service. If loads of logs selected to be sample Scaled are placed in the decks before they are Scaled, they will be considered as lost sample loads. It will be difficult, if not impossible, to determine the volume and species contained in such loads for payment purposes. Therefore, lost sample loads will be deemed to have a Scale volume and species composition equal to that of the highest value load Scaled during the sampling period, as established by Forest Service. If no sample loads were Scaled during the period, the Scale data for the high valued load will be taken from the most current preceding sampling period with Scale. Sample loads lost as a result of Forest Service actions shall be treated as non-Scaled loads.

G.8.6 Scale Reports. Forest Service shall provide Contractor a copy of Forest Service scaler's record, if requested in writing.

G.9 Stewardship Projects. Performance of stewardship projects shall be in accordance with the specifications in K-G.9.

All of the mandatory stewardship projects, as shown in A.4.3, shall be performed. Optional stewardship projects, as shown in A.4.3, shall be performed when authorized in writing by Contracting Officer. Such authorization may be for all or a portion of the quantity shown. Optional stewardship projects may be selected and authorized in any order by the Contracting Officer. Upon written request of Contractor, additional optional stewardship projects shall be authorized; however, Contracting Officer shall not be obligated to authorize additional stewardship projects if three or more authorized optional stewardship projects or any of the mandatory stewardship projects remain uncompleted. Contracting Officer shall not be obligated to authorize additional optional stewardship projects at any time if Contracting Officer determines that there is insufficient value of remaining designated timber to cover the value of additional stewardship projects.

G.9.1 Refund of Unused Stewardship Credits. When, under I.3.3, Contracting Officer requests Contractor to delay or interrupt Contractor's Operations for more than 60 days, unused Stewardship Credits may be refunded upon the written request of Contractor or at the discretion of Contracting Officer.

Contractor agrees that when unused Stewardship Credits are refunded that Contractor shall remit, release, and forever discharge the United States from any and all Claims arising from any delay in using Stewardship Credits under this contract, including, but not limited to, any Claims of interest or other costs.

If Contractor has outstanding debt owing the United States, Contracting Officer must apply the amount of Stewardship Credit that could be refunded to the debt owed in accordance with the Debt Collection Improvement Act, as amended.

H.0—FIRE PRECAUTIONS AND CONTROL

H.1 Plans. Prior to initiating Contractor's Operations during Fire Precautionary Period, Contractor shall file with Forest Service a Fire Prevention and Control Plan providing for the prevention and control of fires on Contract Area and other areas of Contractor's Operations. Such plan shall include a detailed list of personnel and equipment at Contractor's disposal for implementing the plan. This requirement may be met by preparing a single plan for more than one contract.

H.2 Fire Precautions. Specific fire precautionary measures listed in K-H.2 shall be applicable during Contractor's Operations in "Fire Precautionary Period" described in A.12. Contracting Officer may change the dates of Fire Precautionary Period by advance written notice, if justified by unusual weather or other conditions. Required tools and

equipment shall be kept in serviceable condition and immediately available for fire fighting at all times during Contractor's Operations in Fire Precautionary Period.

H.2.1 Substitute Precautions. Forest Service may authorize substitute measures or equipment, or waive specific requirements by written notice, if substitute measures or equipment will afford equal protection or some of the required measures and equipment are unnecessary.

H.2.2 Emergency Precautions. Forest Service may require the necessary shutting down of equipment on portions of Contractor's Operations, as specified by the emergency fire precautions schedule of K-H.2.2. Under such conditions, after Contractor ceases active operations, Contractor shall release for hire by Forest Service, if needed, Contractor's shutdown equipment for fire standby on Contract Area or other areas of Contractor's Operations and personnel for fire standby or fire patrol, when such personnel and equipment are not needed by Contractor for other fire fighting or protection from fire. Equipment shall be paid for at fire fighting equipment rates common in the area or at prior agreed rates and, if Contractor requests, shall be operated only by personnel approved by Contractor. Personnel so hired shall be subject to direction and control by Forest Service and shall be paid by Forest Service at fire fighting rates common in the area or at prior agreed rates.

H.3 Fire Control. Contractor shall, both independently and in cooperation with Forest Service, take all reasonable and practicable action to prevent and suppress fires resulting from Contractor's Operations and to suppress any forest fire on Contract Area. Contractor's independent initial fire suppression action on such fires shall be immediate and shall include the use of all necessary personnel and equipment at Contractor's disposal on Contract Area or within the distance of Contract Area stated in A.13.

H.3.1 Contractor's Reinforcement Obligations. Whenever an Operations Fire or Negligent Fire, whether on or off Contract Area, or any other forest fire on Contract Area, has not been suppressed by initial action and appreciable reinforcement strength is required, Forest Service may require further actions by Contractor until such fire is controlled and mopped up to a point of safety. Such actions may include any or all of the following as necessary to fight such fire:

H.3.1.1 Suspend Operations. To suspend any or all of Contractor's Operations.

H.3.1.2 Personnel. To release for employment by Forest Service any or all of Contractor's personnel engaged in Contractor's Operations or timber processing within the distance of Contract Area stated in A.13. Any organized crew so hired shall include Contractor's supervisor, if any. Personnel so employed shall be paid at Forest Service standard emergency fire fighting rates.

H.3.1.3 Equipment. To make available for Forest Service rental at fire fighting equipment rates common in the area or at prior agreed rates any or all of Contractor's equipment suitable for fire fighting and currently engaged in Contractor's Operations within the distance of Contract Area stated in A.13. Equipment shall be operated only by personnel approved by Contractor, if so requested by Contractor.

H.4 Fire Suppression Costs. Contractor's obligations for cost of fire suppression vary according to three classifications of fires as follows:

H.4.1 Operations Fire. An "Operations Fire" is a fire caused by Contractor's Operations other than a Negligent Fire.

Forest Service, except as provided in H.3, shall use cooperative deposits under E.2.1.8 to perform fire suppression activities on Operations Fires. Contractor agrees to reimburse Forest Service for such cost for each Operations Fire, subject to a maximum of the dollar amount stated in A.14. The cost of Contractor's actions, supplies, and equipment on any such fire provided pursuant to H.3, or otherwise at the request of Forest Service, shall be credited toward such maximum. If Contractor's actual cost exceeds Contractor's obligation stated in A.14, Forest Service shall reimburse Contractor for the excess.

H.4.2 Negligent Fire. A "Negligent Fire" is a fire caused by negligence or fault of Contractor's Operations, including, but not limited to, one caused by smoking by persons engaged in Contractor's Operations during the course of their employment, or during rest or lunch periods; or if Contractor's failure to comply with the requirements of H.2 and H.3 results in a fire starting or permits a fire to spread. Damages and the cost of suppressing Negligent Fires shall be borne by Contractor.

H.4.3 Other Fires on Contract Area. Forest Service shall pay Contractor, at fire fighting rates common in the area or at prior agreed rates, for equipment or personnel furnished by Contractor pursuant to H.3, or otherwise at the request of Forest Service, on any fire on Contract Area other than an Operations Fire or a Negligent Fire.

H.5 State Law. Contractor shall not be relieved by the terms of this contract of any liability to the United States for fire suppression costs recoverable in an action based on State law, except for such costs resulting from Operations Fires. Amounts due Contractor for fire fighting expenditures in accordance with H.4.1 shall not be withheld pending settlement of any such claim or action based on State law.

H.6 Performance by Contractor. Where Contractor's employees, agents, contractors, Subcontractors, or their employees or agents perform Contractor's Operations in connection with fire responsibilities, Contractor's obligations shall be the same as if performance was by Contractor.

I.0—OTHER CONDITIONS

I.1 Title and Liability.

I.1.1 Title Passage. All right, title, and interest in and to any Included Timber shall remain in Forest Service until it has been cut, Scaled, removed from Contract Area or other authorized cutting area, and paid for, at which time title shall vest in Contractor. For purposes of this Subsection, timber cut under cash deposit or payment guarantee under E.3 shall be considered to have been paid for. Title to any Included Timber that has been cut, Scaled, and paid for, but not removed from Contract Area or other authorized cutting area by Contractor on or prior to Termination Date, shall remain in Forest Service.

I.1.2 Liability for Loss. If Included Timber is destroyed or damaged by an unexpected event that significantly changes the nature of Included Timber, such as fire, wind, flood, insects, disease, or similar cause, the party holding title shall bear the timber value loss resulting from such destruction or damage; except that such losses after removal of timber from Contract Area, but before Scaling, shall be borne by Contractor at Current Contract Rates and Required Deposits. Deterioration or loss of value of salvage timber is not an unexpected event, except for deterioration due to delay or interruption that qualifies for Contract Term Adjustment or under I.3.3.

In the event Included Timber to which Forest Service holds title is destroyed, Contractor will not be obligated to remove and pay for such timber. In the event Included Timber to which Forest Service holds title is damaged, Contracting Officer shall make an appraisal to determine for each species the difference between the appraised unit value of Included Timber immediately prior to the value loss and the appraised unit value of timber after the loss. Current Contract Rates in effect at the time of the value loss shall be adjusted by differences to become the redetermined rates.

There shall be no obligation for Forest Service to supply, or for Contractor to accept and pay for, other timber in lieu of that destroyed or damaged. This Subsection shall not be construed to relieve either party of liability for negligence.

I.2 Period of Contract. All obligations of Contractor shall be discharged not later than “Termination Date” stated in A.15, unless it is adjusted pursuant to I.2.1 or I.2.1.2 or extended pursuant to I.2.3 or I.3.2, excepting only those obligations for which Forest Service has given written permission to delay performance. Such written permission shall be considered a Contract Term Adjustment for the purpose of Contractor completing performance of obligations covered by such permission.

I.2.1 Contract Term Adjustment. “Contract Term Adjustment” means adjustment only as provided for in the three circumstances described in this Subsection. Under these circumstances, the contract term shall be adjusted in writing to include additional calendar days in one or more Normal Operating Seasons equal to the actual time lost, except as limited by paragraph (b) in this Subsection.

To qualify for such adjustment, Contractor shall give written notice of the lost time not later than 30 days after end of Normal Operating Season in which time was lost and at least 10 days before Termination Date. Contracting Officer shall make prompt written acknowledgment of such notice, indicating concurrence with the number of days in the notice or the number of days Forest Service considers as qualifying for the adjustment. Lost portions of days shall be disregarded in computing time lost. The three circumstances qualifying for a Contract Term Adjustment are:

(a) Contractor experiences delay in starting scheduled operations or interruptions in active operations, either of which stops removal of Included Timber from Contract Area through curtailment in felling and bucking, yarding, skidding and loading, hauling, or road construction, as scheduled under G.3.1, for 10 or more consecutive days during a Normal Operating Season due to causes beyond Contractor’s control, including, but not limited to, acts of God, acts of the public enemy, acts of the Government, labor disputes, fires, insurrections, or floods.

(b) Causes described in paragraph (a) substantially affect the disposition or processing of Included Timber during Normal Operating Season through their effects on primary timber processing facilities, with a resulting delay of 60 days or more in use of such facilities. In such event, Contract Term Adjustment shall not extend for more than 12 consecutive months.

(c) (i) Contracting Officer requests Contractor, in writing, to delay or interrupt operations during the normal operating season for any purpose other than suspension under E.4 or J.3 or

(ii) Contractor suffers a delay or interruption of Contractor’s Operations affecting skidding, yarding, and loading because of fire emergency closure ordered by Forest Service (or another agency in its behalf), and the total of such lost time is 10 or more days during any Normal Operating Season.

If Termination Date is adjusted, as described in this Subsection, and later extended under I.2.3, the appraisal for the extension shall be made as of the unadjusted Termination Date, but the date on which the new rates become effective, if higher than Current Contract Rates immediately prior to Termination Date, shall be the adjusted Termination Date.

I.2.1.1 Delay in Reconstruction of Processing Facilities. Notwithstanding the 12-month limitation in I.2.1, if Contractor demonstrates a diligent effort has been made to replace primary timber processing facilities and that delays in doing so have been beyond Contractor’s control, Contracting Officer may authorize Contract Term Adjustment up to a total of 24 months.

I.2.1.2 Market-Related Contract Term Addition. The term of this contract may be adjusted when a drastic reduction in wood product prices has occurred in accordance with 36 CFR 223.52. The Producer Price Index used to determine when a drastic reduction in price has occurred is stated in A.20. Contractor will be notified whenever the Chief determines that a drastic reduction in wood product prices has occurred. If the drastic reduction criteria specified in 36 CFR 223.52 are met for 2 consecutive calendar quarters, after contract award date, Contracting Officer will add 1 year to the contract term, upon Contractor's written request. For each additional consecutive quarter such a drastic reduction occurs, Contracting Officer will, upon written request, add an additional 3 months to the term during Normal Operating Season. Contracting Officer must receive Contractor's written request for a market-related contract term addition before the expiration of this contract.

The total amount of contract term addition is limited to the lesser of twice the length of the original contract or 3 years. The revised contract term may not exceed 10 years as a result of market-related contract term addition. Additional contract time may not be granted for those portions of the contract that have a required completion date or for those portions of the contract where Contracting Officer determines that the timber is in need of urgent removal or that timber deterioration or resource damage will result from delay.

I.2.2 Termination for Catastrophe. In event of Catastrophic Damage, this contract may be modified under I.3.2, following rate redetermination under D.3.2, or terminated under this Subsection. Such termination shall not be considered a termination under I.3.4.

I.2.2.1 Termination by Contractor. This contract shall be terminated, upon election and written notice by Contractor, if Catastrophic Damage rate redetermination under D.3.2 shows that the appraised weighted average Indicated Advertised Rate of all Included Timber remaining immediately prior to the catastrophe has been reduced through Catastrophic Damage by an amount equal to or more than the weighted average Current Contract Rate.

"Indicated Advertised Rates" are Forest Service estimates of fair market value of the timber.

I.2.2.2 Termination by Forest Service. This contract may be terminated by written notice from Contracting Officer, if there is Catastrophic Damage and Contractor does not agree, under I.3.2, within 30 days of receipt from Contracting Officer of contract modifications proposed to permit the harvest of the catastrophe-affected timber.

I.2.3 Contract Term Extension. "Contract Term Extension" means an extension of the term of this contract, at the request of Contractor, under this Subsection. This Subsection does not obligate Contracting Officer to grant Contract Term Extension. An extension can only be granted when Contracting Officer has determined that Contractor has diligently performed under the terms of this contract and when such extension is determined to be in the best interest of Forest Service.

Contracting Officer may not grant Contractor's written request for Contract Term Extension, unless Contractor's Operations to date have been in reasonable compliance with contract terms and the approved Technical Proposal under G.3.1.1 and all contractual requirements have been met by Contractor and accepted by Forest Service in active stewardship project areas and on areas cut over at time of Contractor's request, except for areas where work is in progress at time of Contractor's request. Contractor's burning of current slash or seeding or planting for erosion control may be temporarily waived, if weather or other considerations make such work impractical.

Contract Term Extension shall not become effective unless the initial Extension Deposit required by E.2.1.7 has been made by the effective date of any extension.

When such extension is made, Forest Service shall make an appraisal using standard Forest Service methods and appraisal data in effect 45 days prior to the original Termination Date. Bid Premium Rates shall be added to such appraised rates to establish Flat Rates or Tentative Rates for the extension period. In event rates so established would develop Current Contract Value immediately prior to such an extension that is less than Current Contract Value at that time, Flat Rates and Tentative Rates in effect immediately prior to extension shall be retained for the extension period.

I.3 Contract Modification. The conditions of this contract are completely set forth in this contract. Except as provided in I.3.2 and I.3.3, this contract can be modified only by written agreement between the parties. Only Contracting Officer may make contract modifications, with compensating adjustments to Current Contract Rates where appropriate, on behalf of Forest Service.

I.3.1 Changed Conditions. When it is agreed that the completion of certain work or other requirements hereunder would no longer serve the purpose intended because of substantial change in the physical conditions of Contract Area or Included Timber since the date of this contract, the requirements shall be waived in writing. The estimated cost of such waived work or other requirement shall be charged to Integrated Resource Account.

I.3.2 Modification for Catastrophe. In event of Catastrophic Damage, Forest Service, in consultation with Contractor, shall outline on Contract Area Map:

- (a) Any areas of catastrophe-affected live and dead timber meeting Utilization Standards and having undesignated timber so situated that it should be logged with the designated timber;
- (b) If needed, any such areas where the damaged undesignated timber can reasonably be logged separately; and
- (c) Areas of affected or unaffected timber that are to be eliminated from Contract Area.

Forest Service shall locate and post the boundaries of all such areas, as needed.

After Contract Area Map has been outlined under this Subsection, Forest Service may propose contract modification to permit the harvest of catastrophe-affected timber. If Contractor accepts Forest Service proposed modifications, this contract shall be modified to include rates redetermined under D.3.2 and other related revisions as necessary, such as revision of Operating Schedule to ensure prompt removal of affected timber when necessary to avoid further loss and provision for additional contract time, if needed.

I.3.3 Contract Suspension and Modification. (a) Contracting Officer may, by written order, delay or interrupt authorized operations under this contract or modify this contract, in whole or in part:

- (i) To prevent environmental degradation or resource damage, including, but not limited to, harm to habitat, plants, animals, cultural resources, or cave resources;
- (ii) To ensure consistency with land and resource management plans or other documents prepared pursuant to the National Environmental Policy Act of 1969, 42 USC 4321-4347;
- (iii) To conduct environmental analysis, including, but not limited to, engaging in consultation pursuant to the Endangered Species Act of 1973, 16 USC 1531, *et seq.*; or
- (iv) Upon agreement of the Regional Forester, due to administrative appeal or litigation, regardless of whether Contracting Officer's request is required by a court order or this contract is named in such a proceeding.
- (v) Upon a change in law if performance of the contract, as determined by the Forest Service, would not be in compliance, in whole or in part, with such law.

(b) In the event of a request delaying or interrupting Contractor's Operations under this Subsection, Contractor's remedy shall be: (i) Contract Term Adjustment, (ii) reimbursement for Out-of-Pocket Expenses, (iii) rate redetermination to measure any decline in the market pursuant to D.3.3, (iv) temporary reduction of downpayment pursuant to E.2.3, (v) temporary credit for unamortized Specified Road construction cost pursuant to F.2.7, and (vi) temporary bond reduction pursuant to J.1.3.

(c) In addition to the compensation scheme set forth in subparagraph (b), Contractor may seek termination pursuant to I.3.6 or, at any time prior to authorization to resume work suspended under this Subsection, demand termination under I.3.4. If Contractor elects termination under I.3.4 or I.3.6, Contractor is nonetheless required, prior to contract termination, to fulfill all contract obligations for areas not affected by the delay or interruption under this Subsection and all compliance obligations for areas affected by the delay or interruption, including, but not limited to, erosion control, brush disposal, and road maintenance. To the extent Contractor is unable to fulfill such obligations, any compensation due to Contractor will be reduced by the cost of completing the unfulfilled obligations, as determined by Contracting Officer. If Contractor seeks damages pursuant to subparagraph (b) and termination pursuant to this subparagraph, Contractor is not entitled to duplicative recovery of any damages.

(d) In cases of modification under this Subsection, Contractor shall receive a rate redetermination pursuant to D.3.1.

(e) Contractor will only be eligible for the remedies listed in this Subsection if the delay or interruption occurs when operations were in progress or would have been proceeding, had there been no delay or interruption under this Subsection

(f) The applicability of this Subsection shall be unaffected by a finding during administrative appeal or litigation that this sale or a similarly situated sale was awarded or operated without properly complying with any statute, regulation, or policy.

I.3.4 Contract Termination. (a) The Chief or the Chief's designee may unilaterally terminate this contract, in whole or in part, for any of the reasons set forth in paragraph (a) of I.3.3.

(b) Contractor agrees that compensation for termination of this contract, in whole or in part, under this Subsection shall be: (i) refund or release of advanced deposits under E.2.1.2 for timber cut but not removed, (ii) reimbursement for Out-of-Pocket Expenses, and (iii) one of the following, except when termination, pursuant to I.3.3(v), is based upon a change of law which is public and general in nature: replacement volume under subparagraph (c) or liquidated damages under subparagraph (d).

(c) Forest Service and Contractor shall make good faith efforts to identify within Contract Area replacement timber of similar volume, quality, access, and topography. Stumpage price shall be adjusted under D.3.1 to account for differences between replacement timber and timber deleted. If Forest Service and Contractor cannot reach agreement on satisfactory replacement volume or the proper stumpage of such timber, either party may opt to end the search and Contractor shall be compensated under paragraph (d) of this Subsection.

(d) Forest Service shall pay as fixed, agreed, and liquidated damages an amount equivalent to 15 percent of the estimated delivered log value of the volume of timber not harvested due to the termination or partial termination. Estimated delivered log value and volume of timber not harvested shall be determined by Contracting Officer as of Termination Date, using Forest Service methods in use as of Termination Date.

(e) When Contractor elects termination under this Subsection as a remedy for a delay or interruption pursuant to I.3.3, Contractor shall only be entitled to damages pursuant to subparagraph (d) if the I.3.3 delay or interruption is

greater than one year, and the delay or interruption was not initially caused by wind, flood, earthquake, landslide, fire, forest pest epidemic, or other major natural phenomenon.

(f) In cases of partial termination under this Subsection, Contractor's sole and exclusive remedy for the remaining volume shall be a rate redetermination pursuant to D.3.1.

(g) The applicability of this Subsection shall be unaffected by a finding during administrative appeal or litigation that this sale, or a similarly situated sale, was awarded or operated without properly complying with any statute, regulation, or policy.

(h) Contractor is required to fulfill all contract obligations not affected by a termination or partial termination under this Subsection. To the extent Contractor is unable to fulfill such obligations, any compensation due to Contractor will be reduced by the cost of completing the unfulfilled obligations, as determined by Contracting Officer.

1.3.5 Out-of-Pocket Expenses. "Out-of-Pocket Expenses" are unrecovered expenditures arising directly from performing the contract that were rendered unrecovered due to delay, interruption, or termination pursuant to 1.3.3 or 1.3.4. An expenditure is unrecovered within the meaning of this Subsection where Contractor was precluded from gaining the benefit of the expenditure during a given period because operations were not permitted. Forest Service will reimburse Contractor only for the following Out-of-Pocket Expenses:

(a) Out-of-Pocket Expenses for maintenance of the contract performance and payment bonds during the period when operations were delayed or interrupted or, if terminated, from the date operations were halted until the expiration of the bonds;

(b) Out-of-Pocket Expenses for maintenance of the downpayment or other cash deposits during the period when operations were delayed or interrupted or, if terminated, from the date operations were halted until the cash is returned to Contractor;

(c) Out-of-Pocket Expenses for move-in and move-out;

(d) Out-of-Pocket Expenses for felling, bucking, lopping, skidding, yarding, and decking any products so processed, but not removed from Contract Area because: (i) the contract was terminated or (ii) the products no longer meet Utilization Standards because of delay or interruption;

(e) If terminated in whole or in part, Out-of-Pocket Expenses for unused Temporary Roads;

(f) Out-of-Pocket Expenses for the investment in Specified Roads during the period when operations were delayed or interrupted or, if terminated, in whole or in part, Out-of-Pocket Expenses for unamortized Specified Road construction and reconstruction; and

(g) If the contract is terminated, in whole or in part, Out-of-Pocket Expenses for bid preparation, including review of contract offering.

Contractor shall submit documentation of claimed expenditures and supporting analysis to Contracting Officer to assist in Contracting Officer's calculation of reimbursement. Expenses related to paragraphs (a), (b), and (g) may be based on interest at the Prompt Payment Rate established by the Secretary of the Treasury. Contracting Officer shall determine the amount of reimbursement under this Subsection using information from Contractor and/or Forest Service methods in use on the date that operations were delayed, interrupted, or terminated at Contracting Officer's sole discretion.

Contractor shall make all reasonable efforts to minimize Out-of-Pocket Expenses.

1.3.6 Termination for Market Change. In the event of delay or interruption under 1.3.3, exceeding 90 days, this contract may be:

(a) Modified to include rates redetermined under D.3.3 or

(b) Terminated upon election and written notice by Contractor, if a rate redetermination for market change under D.3.3 shows that the appraised weighted average Indicated Advertised Rate of all Included Timber remaining immediately prior to the delay or interruption has been reduced through a market change by an amount equal to or more than the weighted average Current Contract Rate.

Contractor agrees that damages caused by termination of contract by either party will be limited to Out-of-Pocket Expenses.

1.4 Performance by Other than Contractor. The acquisition or assumption by another party, under an agreement with Contractor, of any right or obligation of Contractor under this contract shall be ineffective as to Forest Service, until Forest Service has been notified of such agreement and Contracting Officer has given written approval. In no case shall such recognition or approval:

(a) Operate to relieve Contractor of the responsibilities or liabilities Contractor has assumed hereunder or

(b) Be given unless such other party:

(i) Is acceptable to Forest Service as a contractor of timber and assumes in writing all of the obligations to Forest Service under the terms of this contract as to the uncompleted portion thereof or

(ii) Acquires the rights in trust as security and subject to such conditions as may be necessary for the protection of the public interests.

1.5 Sale of Other Materials. Forest Service reserves the right to sell from Contract Area during the period of this contract any materials or products not subject to its terms, but shall not permit removal, possession, or use thereof

that will materially interfere with Contractor's Operations. Contractor shall not be obligated to do any work made necessary by the action of others.

I.6 Provisions Required by Statute.

I.6.1 Covenant against Contingent Fees. Contractor warrants that no person or agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial agencies maintained by Contractor for the purpose of securing business. For breach or violation of this warranty, Forest Service shall have the right to annul this contract without liability or to require Contractor to pay, in addition to the contract price or consideration, the full amount of such commission, percentage, brokerage, or contingent fee.

I.6.2 Officials Not to Benefit. No member of Congress or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom, unless it is made with a corporation for its general benefit (18 USC 431, 433).

I.6.3 Nondiscrimination in Employment. If the total value of this contract is in excess of \$10,000, Contractor agrees during its performance as follows:

(a) Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by Forest Service setting forth the provisions of this Subsection.

(b) Contractor will, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(c) Contractor will send to each labor union or representative of workers with which Contractor has a collective bargaining agreement or other contract or understanding, a notice to be provided by Forest Service, advising the labor union or worker's representative of Contractor's commitments under this Subsection, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) Contractor shall comply with all provisions of Executive Order No. 11246, as amended by Executive Order No. 11375 and Executive Order No. 12086, and the rules, regulations, and relevant orders of the Secretary of Labor.

(e) Contractor will furnish all information and reports required by Executive Order No. 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to books, records, and accounts by Forest Service and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In event of Contractor's noncompliance with this Subsection or with any of such rules, regulations, or orders, this contract may be terminated or suspended, in whole or in part, and Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246, as amended, and such other sanctions may be imposed and remedies invoked, as provided in Executive Order or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) Contractor will include the provisions of paragraphs (a) through (f) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246, as amended, so that such provisions will be binding upon each Subcontractor or vendor. Contractor will take such action with respect to any subcontract or purchase order as Forest Service may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event Contractor becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by Forest Service, Contractor may request the United States to enter into such litigation to protect the interests of the United States.

I.6.4 Debarment and Suspension Certification. Pursuant to 7 CFR Part 3017, Contractor shall obtain certifications from its Subcontractors regarding debarment, suspension, ineligibility, and voluntary exclusion, including additional Subcontractors obtained after award of this contract. "Subcontractors" are participants in lower tier covered transactions.

Contractor may rely upon a certification of a prospective Subcontractor that it is not proposed for debarment under 48 CFR 9.4, debarred, suspended, ineligible, or voluntarily excluded from participating in covered transactions or contracts, unless Contractor knows that the certification is erroneous.

Contractor shall keep the certifications of its Subcontractors on file until contract Termination Date and any extensions thereof, and will provide a copy at the written request of Contracting Officer. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this Subsection. The knowledge and information of Contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

If Contractor knowingly enters into a contract transaction with a person who is proposed for debarment under 48 CFR 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in covered transactions or contracts, in addition to other remedies available to the Government, Forest Service may pursue available remedies, including suspension and/or debarment.

The Subcontractor for a contract shall complete a "Subcontractor Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion." An example of this certification is shown following the instructions for page 2 of this contract.

I.6.5 Contract Consistency With Other Laws. The contract shall govern if State and local environmental quality laws conflict with or preclude performance of contractual requirements.

J.0—PERFORMANCE AND SETTLEMENT

J.1 Performance Bond. As a further guarantee of the faithful performance of the provisions of this contract, Contractor delivers herewith and agrees to maintain a surety bond in the dollar amount stated in A.17, unless the amount is adjusted as provided in J.1.1 or J.1.3. In lieu of surety bond, Contractor may deposit into a Federal Depository, as directed by Forest Service under E.2.1, and maintain therein, cash in the dollar amount stated in A.17 or negotiable securities of the United States having market value at time of deposit of not less than the dollar amount stated in A.17.

Any adjustment or extension of time for completion of this contract beyond 1 year may be granted only with the consent of surety on bond or delivery of a new bond. Should the sureties on the bond delivered herewith, or any bond delivered hereafter in connection with this contract, become unsatisfactory to Forest Service, Contractor shall, within 30 days of receipt of demand, furnish a new bond with surety satisfactory to Forest Service.

J.1.1 Bond Reduction. Upon Contractor's written request, Contracting Officer shall redetermine the amount of Contractor's performance bond to an amount not less than Contractor's remaining obligations, including the value of Included Timber remaining on Contract Area, plus the estimated cost of uncompleted work required of Contractor and any unpaid billings due on the contract. Contracting Officer shall provide written notice of the redetermined amount to Contractor and to Contractor's surety. Similarly, Contracting Officer shall report to Contractor in writing the amount of deposited cash or deposited securities required thereafter, if such deposits exist in lieu of a surety bond.

As soon as security for the performance of this contract or the settlement of Claims incident thereto is no longer necessary, appropriate notice shall be given to surety or deposits that may have been made in lieu of surety bond shall be returned to Contractor, subject to the conditions in J.5.

J.1.2 Letters of Credit. Notwithstanding the provisions of J.1, approved letters of credit may be used in lieu of a surety bond for performance bond purposes. Such letters of credit shall be subject to approval by Contracting Officer.

J.1.3 Temporary Bond Reduction. When, under I.3.3, Contracting Officer requests Contractor to delay or interrupt Contractor's Operations for more than 90 days, the performance bond amount required may be temporarily reduced upon the written request of Contractor or at the discretion of Contracting Officer. For the period of the delay or interruption, the performance bond may be reduced to an amount not less than the estimated cost of uncompleted work required of Contractor and any unpaid billings due on the contract.

Upon Contractor's receipt of written notice from Contracting Officer that the basis for the delay or interruption no longer exists, Contractor shall restore the performance bond to the full amount shown in A.17 within 15 days. Contractor shall not resume contract operations until the performance bond amount is fully restored.

J.2 Disputes. This contract is subject to the Contract Disputes Act of 1978 (41 USC 601, *et seq.*). Except as provided in the Contract Disputes Act of 1978, all disputes arising under or relating to this contract shall be resolved in accordance with this Section.

As used herein, "Claim" means a written demand or assertion by one of the parties seeking, as a legal right, the payment of money, adjustment or interpretation of contract terms, or other relief, arising under or relating to this contract. A voucher, invoice, or request for payment that is not in dispute when submitted is not a Claim. However, where such submission is subsequently not acted upon in a reasonable time, or disputed either as to liability or amount, it may be converted to a Claim. A Claim by Contractor shall be made in writing and submitted to Contracting Officer for decision. A Claim by the Government against Contractor shall be subject to a decision by Contracting Officer.

For Contractor Claims of more than \$100,000, Contractor shall submit with the Claim a certification that the Claim is made in good faith; the supporting data are accurate and complete to the best of Contractor's knowledge and belief; and the amount requested accurately reflects the contract adjustment for which Contractor believes the Government is liable. Contractor, if an individual, shall execute the certification. When Contractor is not an individual, the certification shall be executed by a senior company official in charge at Contractor's plant or location involved or by an officer or general partner of Contractor having overall responsibility for the conduct of Contractor's affairs.

For Contractor Claims of \$100,000 or less, Contracting Officer must render a decision within 60 days. For Contractor Claims in excess of \$100,000, Contracting Officer must decide the Claim within 60 days or notify Contractor of the date when the decision will be made.

Contracting Officer's decision shall be final unless Contractor appeals or files a suit.

The authority of Contracting Officer does not extend to Claims or disputes that by statute or regulation other agencies are expressly authorized to decide.

Interest, at the Prompt Payment Rate established by the Secretary of the Treasury, on the amount found due on Contractor's Claim shall be paid from the date the Claim is received by Contracting Officer until the date of the payment.

Except as the parties may otherwise agree, pending final resolution of a Claim of Contractor arising under the contract, Contractor shall proceed diligently with the performance of the contract in accordance with Contracting Officer's decision.

J.2.1 Time Limits for Submission of Claim. Failure by Contractor to submit a Claim within established time limits shall relinquish the United States from any and all obligations whatsoever arising under the contract or portions thereof. Contractor shall file such Claim within the following time limits:

(a) When Contractor constructs Specified Road, Contractor must file any Claim not later than 60 days after receipt of Forest Service written notification of acceptance;

(b) When Forest Service constructs Specified Road, Contractor must file any Claim not later than 60 days after receipt of Forest Service written notification authorizing use of road;

(c) For subdivisions or cutting units and stewardship project areas, Contractor must file any Claim not later than 60 days after receipt of Forest Service written notification that such area has been accepted; and

(d) In all other cases, Contractor must file any Claim not later than 60 days after receipt of Contracting Officer written notification that contract is closed.

J.2.2 Contract Documents. All contract documents are intended to be consistent with each other. In case of discrepancy, the following is the order of precedence:

(a) Special Provisions in Part K

(b) Contract Area Map

(c) Specific Conditions in Part A and Schedule of Items

(d) Standard Provisions in Parts B through J

(e) Special project specifications

(f) Plans, such as slash, erosion control, and dust abatement

(g) Agreements between Contractor and Forest Service, as authorized under the contract

(h) Plans:

(i) Figured dimensions over scaled dimensions

(ii) Large scale Plans over small scale Plans

(i) Standard specifications

(j) Lists and/or tables in Plans over any conflicting notations on Plans

(k) Shop Drawings

J.3 Breach. In event Contractor breaches any of the material provisions of this contract, Forest Service shall give Contractor notice of such breach and, allowing reasonable time for remedy of such breach and of Forest Service's election to suspend, may give notice to suspend all or any part of Contractor's Operations. Such notice of breach and notice to suspend Contractor's Operations shall be written, except oral notices may be given if such breach constitutes an immediate threat to human life or a threat of immediate and irreparable damage to National Forest resources. Notwithstanding Section G.1, such oral suspension notice may be given to Contractor's work supervisor or, in work supervisor's absence, to those performing the operation. An oral suspension notice shall be promptly followed by telephone notice and a written explanation from Forest Service to Contractor.

Suspension under this Section shall not entitle Contractor to any remedies arising under I.3.3.

Immediately upon oral or written suspension, Forest Service representative shall notify Contracting Officer of the suspension and related circumstances. Contracting Officer shall promptly review the suspension to determine if the suspension should be continued or lifted. Such suspension shall be lifted as early as conditions permit.

Upon receipt of oral or written notice of such breach, Contractor shall remedy the breach as follows:

(a) If remedying such breach requires on-the-ground action by Contractor, Contractor shall have 30 practicable operating days during Normal Operating Season to remedy the breach, except under emergency conditions when action should not be delayed to prevent major damage or

(b) If such breach does not require on-the-ground action by Contractor, such breach shall be remedied within 30 days.

J.3.1 Termination for Breach. Contracting Officer, with the concurrence of the Regional Forester, may terminate this contract for breach in the event Contractor:

(a) Is convicted for violation of criminal statutes, civil standards, or any other offense indicating a lack of business integrity or honesty that seriously and directly affects the responsibility of Contractor; including, but not limited to:

(i) Theft, forgery, bribery, embezzlement, falsification or destruction of records, making false statements, or receiving stolen property, any of which occurred in connection with obtaining, attempting to obtain, selling, trading, or processing public timber;

(ii) Fraud, criminal offenses, or violation of Federal or State antitrust laws, any of which occurred in connection with obtaining, attempting to obtain, or performing a public contract or subcontract; or

(iii) Threatening, resisting, intimidating, or interfering with Forest Officers engaged in, or on account of, the performance of their official duties involving the protection, improvement, or administration of National Forest lands;

(b) Is convicted for violation of criminal statutes or civil standards, orders, permits, or other regulations for environmental protection issued by a Federal agency, State agency, or political subdivision thereof in the conduct of operations hereunder on National Forest lands, pursuant to G.0.1;

(c) Has engaged in a pattern of activity that demonstrates flagrant disregard for the terms of this contract, such as, but not limited to, repeated suspensions for breach pursuant to J.3, causing undesignated timber meeting Utilization Standards to be unnecessarily damaged or negligently or willfully cut, or causing other serious environmental degradation or resource damage;

(d) Fails to comply with contract provisions related to nondiscrimination in employment; or

(e) Fails to remedy a breach of contract within time limits stated in J.3.

Damages due the United States for termination under this Subsection shall be determined pursuant to J.4.

J.4 – Damages for Failure to Complete Contract or Termination for Breach. (a) In event of Contractor's failure to cut designated timber on portions of Contract Area by Termination Date; Contractor's failure to complete required stewardship projects by Termination Date; or termination for breach under J.3.1; Forest Service shall appraise remaining Included Timber and stewardship projects, unless termination is under I.2.2 or I.3.4. Such appraisal shall be made with the standard Forest Service method in use at time of termination.

(b) If the contract is reoffered and awarded, damages due shall be the amount by which Current Contract Value decreases at new Bid Rates, plus costs described in paragraph (d) of this Section, less any unused established Stewardship Credits.

(c) If the contract is not reoffered or there are no responsive bids on the reoffered contract, damages due shall be the amount by which Current Contract Value decreases, based on the value determined by appraisal, plus costs described in paragraph (d) of this Section, less any unused established Stewardship Credits.

(d) If applicable, the following costs shall be included in damages:

(i) The cost of reoffering, including, but not limited to, salary costs, document preparation and duplication costs, mailing costs, and contract advertisement costs.

(ii) If Contractor has failed to cut individual trees in the portions of Contract Area cut over and there is no resale of such individual trees, Contractor shall pay Forest Service for cost of felling and removal or otherwise eliminating such uncut trees, except for occasional trees not cut for reasons stated in G.4.

(iii) The Government's loss caused by the delay in receipt of stumpage payments. Such loss will be measured by interest at the Current Value of Funds Rate established by the Secretary of the Treasury, on the unpaid contract value at Termination Date. Interest will be charged for the total number of months, or portions thereof, from Termination Date until midpoint of the contract resale period, less any time in excess of 1 year needed to make the resale.

(iv) Any increase in reforestation costs, including site preparation, seeding, and planting caused by Contractor's failure to harvest Included Timber by Termination Date.

J.5 Settlement. If obligations of Contractor have not been fully discharged by Termination Date, any money advanced or deposited hereunder shall be retained and applied toward unfulfilled obligations of Contractor without prejudice to any other rights or remedies of Forest Service. Such funds may be treated as cooperative deposits under E.2.1.8 for uncompleted work 30 days after receipt of written notice from Contracting Officer to Contractor of work to be done and Contractor's failure to deny the obligation or to do the work.

J.6 Contract Closure. Contracting Officer shall give appropriate written notice to Contractor when Contractor has complied with the terms of this contract. Contractor shall be paid refunds due from Integrated Resource Account under E.2.4 and excess cooperative deposits under E.2.1.8.

K.0—SPECIAL PROVISIONS

In accordance with A.21, the Sections, Subsections, and Items therein listed are attached and made a part hereof. The identifier after the K indicates the Part, Section, Subsection, or Item that is being supplemented or modified by each particular provision included in this Part.

TRAFFIC CONTROL PLAN AND SPECIFICATIONS PURSUANT TO G.3.3 SAFETY

Unless otherwise agreed in writing in accordance with G.3.3 Safety, the following measures are required to provide adequate warning of hazards for users of roads and trails adjacent to Contractor's Operations.

Part I. Signing and Other Warning Methods:

(a) Signs. The following signs are required when Contractor's Operations are in progress adjacent to or on Forest Service controlled roads and trails:

<u>MINIMUM LETTER SIZE AND LEGEND</u>	<u>MINIMUM SIZE AND SHAPE</u>	<u>WHEN AND WHERE REQUIRED</u>
1. LOGGING OPERATIONS NEXT <> MILES (4" letters)	24" x 36" (rectangle)	Min. 100 ft. outside of any continuous work areas, on roads listed in K-F.3.1# and trails listed in Part II.
2. LOGGING OPERATIONS (4" letters)	30" x 30" (diamond)	To be used in conjunction with "Logging Operations Next <> Miles" and where work area is not continuous.
3. FOR LOGGING USE ONLY (4" letters)	30" x 30" (diamond)	Required where roads listed in K-F.3.1# and temporary roads intersect with K-F.3.1# roads. Install a cross ditch to discourage use when sign is covered or removed for extended periods.
4. TRUCKS (4" letters)	30" x 30" (diamond)	At critical intersections on roads listed in K-F.3.1# when traffic is heavy or otherwise exceeds volumes stated in Part II below. Remove or cover when the sign is not applicable.
5. END LOGGING OPERATIONS (4" letters)	24" x 36" (rectangle)	Use in conjunction with "Logging Operations Next <> Miles" and "Logging Operations."
6. TREE FELLING AHEAD (4" letters)	30" x 30" (diamond)	Required 200 feet in advance of danger area where timber is being felled adjacent to all roads, including temporary roads, and trails.
7. ROAD MACHINERY AHEAD (4" letters)	30" x 30" (diamond)	Required at least 200 feet in advance of Contractor road maintenance operations on roads listed in Schedule K-F.3.1#.

TRAFFIC CONTROL PLAN AND SPECIFICATIONS PURSUANT TO G.3.3 SAFETY

Unless otherwise agreed in writing in accordance with G.3.3 Safety, the following measures are required to provide adequate warning of hazards for users of roads and trails adjacent to Contractor's Operations.

Part I. Signing and Other Warning Methods:

(a) Signs. The following signs are required when Contractor's Operations are in progress adjacent to or on Forest Service controlled roads and trails:

<u>MINIMUM LETTER SIZE AND LEGEND</u>	<u>MINIMUM SIZE AND SHAPE</u>	<u>WHEN AND WHERE REQUIRED</u>
1. LOGGING OPERATIONS NEXT <> MILES (4" letters)	24" x 36" (rectangle)	Min. 100 ft. outside of any continuous work areas, on roads listed in K-F.3.1# and trails listed in Part II.
2. LOGGING OPERATIONS (4" letters)	30" x 30" (diamond)	To be used in conjunction with "Logging Operations Next <> Miles" and where work area is not continuous.
3. FOR LOGGING USE ONLY (4" letters)	30" x 30" (diamond)	Required where roads listed in K-F.3.1# and temporary roads intersect with K-F.3.1# roads. Install a cross ditch to discourage use when sign is covered or removed for extended periods.
4. TRUCKS (4" letters)	30" x 30" (diamond)	At critical intersections on roads listed in K-F.3.1# when traffic is heavy or otherwise exceeds volumes stated in Part II below. Remove or cover when the sign is not applicable.
5. END LOGGING OPERATIONS (4" letters)	24" x 36" (rectangle)	Use in conjunction with "Logging Operations Next <> Miles" and "Logging Operations."
6. TREE FELLING AHEAD (4" letters)	30" x 30" (diamond)	Required 200 feet in advance of danger area where timber is being felled adjacent to all roads, including temporary roads, and trails.
7. ROAD MACHINERY AHEAD (4" letters)	30" x 30" (diamond)	Required at least 200 feet in advance of Contractor road maintenance operations on roads listed in Schedule K-F.3.1#.

TRAFFIC CONTROL PLAN AND SPECIFICATIONS PURSUANT TO G.3.3 SAFETY (continued)

All signs shall meet requirements as specified in Parts 1 and 6 of the Manual of Uniform Traffic Control Devices (MUTCD).

Sign borders and lettering shall be black. Borders are 7/8 inch wide, inset 5/8 inch from outside edge of sign. All sign backgrounds shall be orange, except that signs that need to be seen both day and night shall be retroreflective orange or illuminated.

Signs shall be installed on posts, with a 5 foot minimum height above road surface, or on temporary supports complying with MUTCD standards.

All signs are to be removed or covered when operations are interrupted for seasonal nonuse or other extended periods.

Contractor shall furnish flag personnel and advance warning signs when cable or helicopter logging above roads or trails, felling adjacent to roads or trails, where logs being bucked may roll into roads or trails, and in areas where fallout from blasting may occur. Except as identified in Part II, Contractor may temporarily block roads listed in K-F.3.1# and temporary roads in lieu of furnishing flag personnel. On roads controlled by other jurisdictional authorities, Contractor shall receive approval from that authority for Contractor's safety measures and traffic control plans before commencement of operations.

(b) Barricades. On roads listed in K-F.3.1#, if Contractor's Operations cause the traveled way or road shoulders to be constricted overnight, or longer, by such obstructions as decked logs, parked equipment, or piled slash, Contractor shall place barricades on both sides of the encroaching obstruction to safely channel traffic around such obstructions. Barricades shall remain in place until the obstruction is removed.

Barricades shall be Type II and meet specifications in MUTCD, Part 6. Barricades must be at least 3 feet high. Rails must be at least 2 feet long. Striping shall be alternating orange and white, sloping at a 45 degree angle, and reflectorized. For rails 2 feet to 3 feet long, striping shall be 4 inches wide. For rails longer than 3 feet, striping shall be 6 inches wide. Two rails, 8-12 inches in width, must face each direction.

(c) Other Traffic Control Methods. The posting of CB channel signs may be authorized.

On roads listed in K-F.3.1#, Contractor may be authorized to install temporary gates, barricades (except cables), or natural barriers. The devices must be installed with the necessary hazard markers, be reasonably passable by Forest Service, and be removed to acceptance of the subdivision being served by the road.

Part II. Specific Requirements:

Contractor and Forest Service agree to the above stated requirements of the Traffic Control Plan:

Name	Name
------	------

Contractor Title	Forest Service Title
------------------	----------------------

Date	Date
------	------

K-C.3# - RESERVE TREES (09/2004)

Notwithstanding the designations for cutting under C.3.1, C.3.2, C.3.3, or C.3.4, live or dead genetic reserve trees or groups of reserve trees within such cutting units or clearings shall be left uncut. Reserve trees are identified by a band of orange paint and a yellow metal tag and shall be protected in accordance with K-G.3.2#. Units with reserve trees are shown on Contract Area Map.

K-C.3.5.5# - DESIGNATION BY PRESCRIPTION (05/2015)

Within Subdivision(s) or Cutting Unit(s) 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16, as shown on Contract Area Map, the following criteria shall be used by Contractor to designate trees and other products for cutting and removal:

(a) 1/ Trees meeting the attached designation description (b) Additional trees to be cut, if any, are marked by Forest Service with 2/ green tracer paint.

(c) Cutting unit boundaries and other trees that shall be left uncut are marked by Forest Service with 2/ diagonal slashes, or two bands of orange tracer paint.

Contractor may select cut trees in cutting unit(s) 3/ 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 without pre-harvest marking in accordance with the criteria in (a). If specified in (a), Contractor shall mark leave trees in cutting unit(s) 4/ N/A with Contractor's non-tracer 2/ N/A paint for inspection and approval by Forest Service prior to cutting.

Prescriptive Criteria/Associated Cutting Units

DESCRIPTION PURSUANT TO K-C.3.5.5# - DESIGNATION BY PRESCRIPTION (09/2004)

DESCRIPTION PURSUANT TO K-C.3.5.5# - DESIGNATION BY PRESCRIPTION (09/2004)

Subdivision 1 - Thinning from Below to a Target Trees per Acre

Subdivision	Acres	Leave Trees per Acre		Designated Species*	DBH Limits (Min - Max inches)
		Average	Range		
1	11	120 ± 10	100 - 140	PP, DF, LP, GF	5.0 - 20.0

*PP-Ponderosa Pine, DF-Douglas-fir, LP-Lodgepole pine, GF-Grand fir

Leave Trees Per Acre - Target number of live conifers per acre to be left, inclusive of skid trails, exclusive of landings, temporary roads, system roads, and skips. All live conifers greater than 5.0" DBH, regardless of species, may be counted toward the leave tree target. Leave trees may range from 100 to 140 trees per acre on any one acre, but the average for the subdivision needs to equal 120 ± 10 trees per acre.

Designated Species - These are tree species that may be removed if they are within the **DBH Limits**. All other tree species are to be left, as are all trees outside of the diameter limits.

DBH - Diameter Breast Height is 4.5 feet on the uphill side.

Subdivision 1 is a young plantation that is to be "thinned from below", leaving the larger (diameter and height) trees of good form and health. Where desirable leave trees are of the same size, the preference for leave is by species in the following order: (1) ponderosa pine, (2) Douglas-fir, (3) lodgepole pine, and (4) grand fir. Leave tree spacing should vary to meet these criteria.

Trees to be removed are in excess of the Leave Trees per Acre average. They are the smaller trees, of poor form and health, and/or lower species preference.

Standing dead and down trees are to be left where they occur. Where necessary for safety and to accommodate logging operations, dead trees may be felled or moved.

Live trees that otherwise would be left, may also be removed for safety and operational reasons (e.g. temporary roads, landings, and skid trails).

No-Cut Skip: A no-cut skip is to be left surrounding a tree with two bands of orange paint. No trees are to be cut within 59 feet of the center banded tree.

Subdivisions 2-16 - Radial Thinning and Thinning to a Target Basal Area

Subdivisions 2-16 would be thinned to improve the vitality of the large ponderosa pine and increase stand resistance to drought, insects, disease, and wildfire. Thinning will be accomplished by a combination of radial thinning around ponderosa pine (step 1), and thinning to a target basal area across the remainder of the subdivision (step 2).

Step 1 - Radial Thinning around Large Ponderosa Pine

Focal Tree	Clearing Radius	Designated Trees to Remove
Ponderosa pine 20-29.9" DBH	30 ± 1 feet	Grand fir @ 5+" DBH Lodgepole pine @ 5+"DBH
Ponderosa pine 30+" DBH	50 ± 2 feet	Douglas-fir @ 5-23.9" DBH

Radial thinning seeks to remove all trees specified in the table above, whose bole is within the clearing radii of live ponderosa pine, 20+” DBH, that do not have obvious crown fade (yellowing to red needles) indicating they are dying. Crown fade is not to be confused with annual needle cast of older needles. The clearing radii vary by ponderosa pine DBH. Clearing radii are measured in slope distance from the closest face of the trees at breast height (4.5 ft).

Radial thinning does not apply to any no-cut areas within subdivisions. Do not cut and remove any trees within no-cut areas.

Step 2 - Thinning to Basal Area Target

Leave Tree Basal Area (Sq Ft / Ac)		Designated Trees to Remove
Average	Range	
120 ± 20	80-140	Grand fir @ 5-29.9” DBH Lodgepole pine @ 5-29.9” DBH Douglas-Fir @ 5-23.9” DBH Ponderosa Pine @ 5-19.9” DBH

Thin the remainder of the subdivision to a leave a live tree basal area that averages 120 ± 20 square feet per acre. Any one acre may range from 80 to 140 square feet of basal area.

Basal area is to be measured at breast height (4.5 feet) on the tree bole. Measurements are to include all live conifers, broadleaf trees, and skid trails. Measurements are to exclude areas of radial thinning around ponderosa pine, no-cut areas, system roads, landings, and temporary roads.

Remove grand fir where possible to achieve the target basal area average.

In areas of mixed species and high density, remove grand-fir and lodgepole pine first regardless of size (excepting those outside the diameter range in table above). If additional Douglas-fir and ponderosa pine need to be removed, thin just those species from below, leaving the larger (height and diameter) trees of good form and health and then favoring ponderosa pine.

In areas of pure grand fir and lodgepole pine, the lower end of the basal area range should be retained by thinning from below, leaving the larger (height and diameter) trees of good form and health.

It will be necessary to retain areas of high density (140 sq. ft.) where there are Douglas-fir and ponderosa pine in order to balance areas of low density (80 sq. ft.) pure grand fir.

Recent dead trees (still retaining their needles) may be removed. Consider leaving recent dead standing trees where needed to meet the snag requirements of Stewardship project 002.

Standing dead trees without needles and down trees are to be left where they occur. Standing dead trees and downed trees may be felled and moved where necessary for safety and operational reasons (e.g. temporary roads, landings, and skid trails).

K-D.3.5# - SCHEDULED RATE REDETERMINATION (09/2004)

Contracting Officer shall redetermine rates to be made effective on 12/15/2024. Redetermined rates for Included Timber shall be used under D.1 for determination of Current Contract Rates. Rate redeterminations shall cover Included Timber in the entire contract. Base Indices and Required Deposits shall be redetermined. At the time of each rate redetermination, Forest Service shall also determine cost changes for stewardship projects not yet completed. Stewardship project costs shall be adjusted by cost changes to establish a revised A.4.3.

If rates established by a scheduled rate redetermination result in lower than Current Contract Rates determined from Bid Rates and Base Indices stated in A.4, such lower rates shall become effective only after at least 28618 Ton has been cut and Scaled. However, if the scheduled rate redetermination date is later than the beginning date of contract adjustment under I.2.1 or I.2.1.2, the rate redetermination shall be made as originally scheduled. If redetermined rates, plus Bid Premium Rates, are higher than rates in effect immediately prior to the rate redetermination date, the date on which the redetermined rates shall become effective shall be adjusted by the number of days of contract adjustment prior to the rate redetermination date. Rates and Required Deposits established under D.3.1, D.3.2, or D.3.3 shall be superceded by any subsequent scheduled rate redetermination.

In scheduled rate redeterminations, Contracting Officer may make modifications in minimum specifications for trees or products in A.2, road maintenance requirements or deposits in F.3.1 or F.3.2, logging methods in G.4, slash disposal in G.7, and fire precautionary measures in H.2 if, and to the extent that, such changes are reasonably necessary to protect the interest of the United States. Such modifications shall be limited to requirements generally being made in Forest Service contracts in the Region at the time of rate redetermination and with which Contractor can reasonably comply. Such changes shall be reflected in the rate redetermination, but changes affecting rates shall not be implemented until the redetermined rates become effective.

K-D.4.7# - ABNORMAL DELAY (05/2005)

Unless otherwise agreed, felled timber meeting Utilization Standards shall be removed by Contractor pursuant to C.2 and shall be presented for Scaling within the time period indicated in the following removal schedule. The number of days shown are consecutive calendar days.

Failure to remove and present such timber for Scaling within the required time limits will be considered abnormal delay, subject to D.4.7.

See attached removal schedule.

REMOVAL SCHEDULE PURSUANT TO K-D.4.7# - ABNORMAL DELAY (05/2005)

<i>Included Timber</i>	<i>Time Limits</i>	
All	180	days after felling is started.
All timber decked during construction clearing.	NA	days after felling on each temporary road constructed by Contractor is initiated.
Timber decked during road construction.	NA	days after Forest Service authorizes Contractor to use roads pursuant to F.2.

K-E.2.2 - CHANGES IN STEWARDSHIP CREDITS (06/2008)

The Contracting Officer may at any time, by written order, make changes within the general scope of this contract in any one or more of the following:

- (1) Specifications for Stewardship Projects listed in K-G.9#.
- (2) Quantities of Stewardship Projects listed in A.4.3.
- (3) Prices for Stewardship Projects listed in A.4.3.
- (4) Place of performance of the Stewardship Projects as shown on the Contract Area Map.

In addition, by written agreement, new Stewardship Projects may be added to K-G.9# and A.4.3 as long as they are within the general scope of this contract. Contract Area may be expanded to add new stewardship projects.

If a written change order causes an increase in the time required for performing any part of the work under this contract, the Contracting Officer shall make an adjustment in the Contract Termination Date and shall modify the contract accordingly.

The Contractor must assert their right to equitable adjustments under this provision within 30 days from receipt of the written order. However, if the Contracting Officer decides that the facts justify it, the Contracting Officer may receive and act upon a proposal submitted before contract closure.

If the Contractor's proposal includes the cost of property made obsolete or excess by the change, the Contracting Officer shall have the right to prescribe the manner of the disposition of the property.

Failure to agree to an adjustment under this provision shall be considered a dispute under J.2. However, nothing in this provision shall excuse the Contractor from proceeding with the contract as changed.

In addition, by written modification of the contract, new Stewardship Projects may be added to K-G.9# and A.4.3, with or without expanding the Contract Area, as long as they are within the general scope of this contract.

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.1.0.1# - TEMPORARY ROAD AND LANDING CONSTRUCTION (OPTION 1) (06/2010)

In addition to the requirements of F.1 and G.6.3, Contractor and Forest Service will agree to the design, construction, maintenance, closure, and obliteration of all Temporary Roads.

Construction of Temporary Roads in areas shown on Contract Area Map shall be in accordance with the attached plans or criteria.

Unless otherwise agreed, if Contractor's Operations require more than 0 cubic yards of rock for Temporary Roads, landings, or other temporary uses, such rock shall be obtained from commercial sources.

See attached Plans and/or Criteria.

PLANS AND/OR CRITERIA PURSUANT TO K-F.1.0.1# - TEMPORARY ROAD AND LANDING CONSTRUCTION (OPTION 1)

Construction: A light-on-the-land approach will be utilized. Apply rock only when necessary to reduce erosion, puddling and compaction.

Use rock that is determined to be weed free by Forest Service weed specialists.

Whenever possible, reestablish at previous locations rather than constructing new unless a new location would cause less resource damage.

Locate new landings outside of no harvest areas. Contractor is to construct, use, and close/decompact in the same operating season unless otherwise agreed to by the Forest Service.

CLOSURE: Remove applied rock and/or incorporate into the roadbed by ripping or scarification.

Roadbed and/or landing will be decompacted as required in K-G.6.0#.

Special attention shall be given road entrances to prevent any further use of road. Construct an approved closure device (e.g. construction of a 4-foot high berm at the entrance to the road or landing).

Following decompaction, all areas of exposed soil shall be covered with logging slash/debris and/or seeded and mulched as required in K- G.6.0#.

K-F.1.1.2# - USE OF ROADS BY CONTRACTOR (09/2004)

Contractor's use of existing roads identified on Contract Area Map by the following codes is prohibited or subject to restrictive limitations, unless agreed otherwise:

Code	Use Limitations
X	Hauling prohibited
R	Hauling restricted
U	Unsuitable for hauling prior to completion of agreed reconstruction
P	Use prohibited
A	Public use restriction
W	Regulation waiver

Roads coded A will be signed by Forest Service to inform the public of use restrictions. Contractor's use of roads coded R, A, or W shall be in accordance with the following restrictions:

See Restricted Road List Table.

K-F.1.2# - PURSUANT TO USE OF ROADS BY CONTRACTOR (09/2004)

Purchaser's use of existing roads identified on Contract Area Map by the following codes is prohibited or subject to restrictive limitations, unless agreed otherwise:

<u>Code</u>	<u>Use Limitations</u>
R	Hauling restricted
U	Reconstruction prior to haul required.

Roads coded A will be signed by Forest Service to inform the public of use restrictions. Purchaser's use of roads coded R, A, or W shall be in accordance with the following restrictions:

Restricted Road List

Road Number	Road Name	Termini		Map Legend	Description of Restrictions
		From	To		
8200000	Bird Creek Meadows	MP 0.00	MP 3.82	R,U	1, 2, 4
8200000	Bird Creek Meadows	MP 3.82	MP 4.50	R,U	1, 2, 3, 4,
8200061	8200 - 8200101 (agg)	MP 0.00	MP 1.30	R	2, 3
8200080	Furman N700F (agg)	MP 0.00	MP 0.58	R	2, 3
8200090	County Sale (agg)	MP 0.00	MP 0.90	R	2, 3
8200101	Highland N74 (agg)	MP 0.00	MP 0.81	R	2, 3
8200160	N700B (agg)	MP 0.00	MP 0.60	R	2, 3
8200190	N719 Kong (agg)	MP 0.00	MP 1.65	R	2, 3
8200191	8200191 (agg)	MP 0.00	MP 0.70	R	2, 3
8200200	N718 King Lake (agg)	MP 0.00	MP 1.10	R	2, 3
8200706	ED-10	MP 0.00	MP 0.40	R	2, 3
8200707	ED-10	MP 0.00	MP 0.14	R	2, 3
8200709	ED-10	MP 0.00	MP 0.40	R	2, 3
8200715	ED-10	MP 0.00	MP 0.30	R	2, 3
8200716	ED-10	MP 0.00	MP 0.20	R	2, 3
8200719	ED-10	MP 0.00	MP 0.60	R	2, 3
8200720	ED-10	MP 0.00	MP 0.20	R	2, 3
8200724	ED-10	MP 0.00	MP 0.61	R	2, 3
8200729	ED-10	MP 0.00	MP 0.33	R	2, 3
8200730	ED-10	MP 0.00	MP 0.34	R	2, 3
8200734	ED-10	MP 0.00	MP 0.45	R	2, 3
8225000	N839 Gotchen Creek	MP 0.00	MP 0.76	R	2, 3

1. Reconstruction prior to haul required.
2. **Protection of Roads - Road Damage from High Soil Moisture Content.** Use of listed roads is restricted and will cease when the following damage begins to occur as described and/or directed by the CO. All hauling and road reconstruction is prohibited on Native and Aggregate surface roads when soil water content is high enough to cause **either** of the following conditions; rutting that exceeds 6 inches in depth for a length of 10 feet or more; potholes and/or washboarding exceeding 3 inches in depth and more than 40% of the Traveled Way. Rutting up to 3 inches on roads in permissible on Native and Aggregate roads where road maintenance can re-establish a smooth running surface that provides drainage and no sediment delivery potential exists.
3. **Protection of Roads - Wet Weather Haul Restricted.** After October 31, hauling on unpaved roads may proceed only when no visible sediment delivery to live water is occurring from ditches and culverts affected by the haul.
4. **Protection of Roads - Road Reconstruction.** Reconstruction activities shall take place between 06/1 - 10/31.

Title and date of Governing Road Rules Document:

Road Rules for Commercial Haul
Gifford Pinchot National Forest
 Commercial Road Rules

8/7/2007

Effective Date

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

Construction of Specified Roads shall be completed no later than 09/30/2021 ; except for earlier construction completion dates for roads listed below:

Road Number	Road Name	Station		Completion Date
		From	To	

N/A

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 Contractors 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 \$ \$3,009.00 . 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 Contractors 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 Contractors 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.	From	Termini To	Engineering Services Completion Date
<hr/> N/A			

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.

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

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

See Contract Road Maintenance Requirements Summary Table.

PLANS AND/OR CRITERIA PURSUANT TO K-F.3.1# - ROAD MAINTENANCE REQUIREMENTS.

Road	Termini		Miles	Applicable Prehaul Road Maintenance Specifications															
	From	To		Travel Way	T-811	T-812	T-813	T-831	T-832	T-834	T-836	T-838	T-839	T-841	T-842	T-851	T-854	T-891	
8200000	FS Boundary	End Asphalt	0.40								P								
8200000	End Asphalt	Jct 8200200	4.10								P								
8200061	Jct 8200	Landing	1.30									P						P	
8200080	Jct 8200	Jct 8200719	0.58									P						P	
8200090	Jct 8200	FS Boundary	0.90		P			P	P	P					P			P	P
8200101	Jct 8200	Landing	0.81									P						P	
8200160	Jct 8200	End of Road	0.60									P						P	
8200190	Jct 8200	Jct 8200191	1.65									P						P	
8200191	Jct. 8200190	End of Road	0.70									P						P	
8200200	Jct 8200	End of Road	1.10		P			P	P	P					P			P	P
8200706	Jct 8200061	End of Road	0.40										P					P	
8200707	Jct 8200729	End of Road	0.14										P					P	
8200709	Jct 8200061	Jct 8200	0.40									P						P	
8200715	Jct 8200	End of Road	0.30										P					P	
8200716	Jct 8200730	Jct 8200719	0.20										P					P	
8200719	Jct 8200080	Jct 8200716	0.60											P				P	
8200720	Jct 8200	Jct 8200715	0.20									P						P	
8200724	Jct 8200709	Landing	0.61										P					P	
8200729	Jct 8200061	Landing	0.33									P						P	
8200730	Jct 8200090	Jct 8200716	0.34									P						P	
8200734	Jct 8200727	Landing	0.45										P					P	
8225000	Jct 8200	Landing	0.76		P			P	P	P								P	P

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

PLANS AND/OR CRITERIA PURSUANT TO K-F.3.1# - ROAD MAINTENANCE REQUIREMENTS.

Road	Termini		Miles	Travel Way	Applicable During Haul Road Maintenance Specifications														
	From	To			T-811	T-812	T-813	T-831	T-832	T-834	T-836	T-838	T-839	T-841	T-842	T-851	T-854	T-891	
8200000	FS Boundary	End Asphalt	0.40	D								P						P	
8200000	End Asphalt	Jct 8200200	4.10			P			P	P	P						P		P
8200061	Jct 8200	Landing	1.30										P				P		P
8200080	Jct 8200	Jct 8200719	0.58										P						P
8200090	Jct 8200	FS Boundary	0.90			P		P	P	P	P						P		P
8200101	Jct 8200	Landing	0.81										P						P
8200160	Jct 8200	End of Road	0.60										P						P
8200190	Jct 8200	Jct 8200191	1.65										P						P
8200191	Jct. 8200190	End of Road	0.70										P						P
8200200	Jct 8200	End of Road	1.10			P			P	P	P						P		P
8200706	Jct 8200061	End of Road	0.40												P				P
8200707	Jct 8200729	End of Road	0.14												P				P
8200709	Jct 8200061	Jct 8200	0.40										P						P
8200715	Jct 8200	End of Road	0.30												P				P
8200716	Jct 8200730	Jct 8200719	0.20												P				P
8200719	Jct 8200080	Jct 8200716	0.60												P				P
8200720	Jct 8200	Jct 8200715	0.20										P						P
8200724	Jct 8200709	Landing	0.61												P				P
8200729	Jct 8200061	Landing	0.33										P						P
8200730	Jct 8200090	Jct 8200716	0.34										P						P
8200734	Jct 8200727	Landing	0.45												P				P
8225000	Jct 8200	Landing	0.76			P		P	P	P	P								P

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

Travel Way (column) D = Mandatory Deposits for Road Maintenance, and/or Bridges at the following locations: NFR 8200000; MP 0.0 - 0.4

PLANS AND/OR CRITERIA PURSUANT TO K-F.3.1# - ROAD MAINTENANCE REQUIREMENTS.

Road	Termini		Miles	Applicable Post Haul Road Maintenance Specifications															
	From	To		Travel Way		T-811	T-812	T-813	T-831	T-832	T-834	T-836	T-838	T-839	T-841	T-842	T-851	T-854	T-891
8200000	FS Boundary	End Asphalt	0.40								P								
8200000	End Asphalt	Jct 8200200	4.10			P			P	P	P								P
8200061	Jct 8200	Landing	1.30									P							
8200080	Jct 8200	Jct 8200719	0.58									P							
8200090	Jct 8200	FS Boundary	0.90			P			P	P	P								P
8200101	Jct 8200	Landing	0.81									P							
8200160	Jct 8200	End of Road	0.60									P							
8200190	Jct 8200	Jct 8200191	1.65									P							
8200191	Jct. 8200190	End of Road	0.70									P							
8200200	Jct 8200	End of Road	1.10			P			P	P	P								P
8200706	Jct 8200061	End of Road	0.40											P					
8200707	Jct 8200729	End of Road	0.14												P				
8200709	Jct 8200061	Jct 8200	0.40									P							
8200715	Jct 8200	End of Road	0.30											P					
8200716	Jct 8200730	Jct 8200719	0.20											P					
8200719	Jct 8200080	Jct 8200716	0.60											P					
8200720	Jct 8200	Jct 8200715	0.20											P					
8200724	Jct 8200709	Landing	0.61												P				
8200729	Jct 8200061	Landing	0.33									P							
8200730	Jct 8200090	Jct 8200716	0.34											P					
8200734	Jct 8200727	Landing	0.45												P				
8225000	Jct 8200	Landing	0.76			P			P	P	P								P

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

ROAD MAINTENANCE REQUIREMENTS SPECIFICATION CODES TABLE PURSUANT TO KT-FT.3.1# -
ROAD MAINTENANCE REQUIREMENTS (09/2004)

Heading	Entry	Explanation
Any	Blank	Except as otherwise described, no entry indicates Contractor is not authorized or required to perform the work item(s).
Any	RC	This work requirement applies only when haul of contract related construction materials occurs.
Special Project Specification	Number	Entry indicates Special Project Specification which applies.
Travel Way	EX	Contractor shall maintain the traveled way to the width existing upon entry, or at the completion of Specified Road work.
	Numbers IS, C, OS, F, or AI A or B	Contractor shall maintain the traveled way to the standard width indicated by the entry, plus curve widening, in accordance with Section T-811. If required, the road template shall be shaped to this width and to the designated cross slope before haul and during recurring maintenance. Cross slopes are designated as: IS (Inslope), C (Crown), OS (Outslope), F (Flat), AI (As Is). If compaction is required.
Brush and Log Out Surfacing	Numeric & R and or L	Contractor shall remove brush for specified width on either or both the right (R) side or left (L) side of road.
	As Staked	Limits of brushing are as staked or marked in the
	OPT	field. Contractor may use hand or mechanical means
	H	of brushing. Only hand brushing may be used.
Aggregate Grading		Contractor shall place surfacing on roads listed according to the grading indicated.
Dust Abatement	OPT	Product Selection is purchaser's choice from those listed in Section T-812
	Product Abbr.	Unless otherwise agreed, Purchaser is restricted to product listed corresponding to abbreviation shown in Section T-812 (i.e., LigS = Lignon Sulfanate) Application rates are estimated amounts.
	EX	Contractor shall abate dust on the existing width.
Seasonal Maintenance	W	Water bars and/or cross ditching shall be required prior to expected seasonal precipitation.
	B	Entrance barriers shall be installed by Contractor prior to non-use periods.
Snow Removal	TS	Snowplowing authorized for Purchaser's Operations without recreation access being provided per section T-803 requirements.
	JU	Snowplowing authorized, but must provide for recreation joint use per section T-803 requirements.
	Blank	Snowplowing is not authorized. Forest Service may authorize plowing by permit when no in conflict with other uses.
Post Haul	PR	PR denotes that work is Purchaser's Responsibility to perform.

ROAD MAINTENANCE REQUIREMENTS SPECIFICATION CODES TABLE PURSUANT TO
K-F.3.1# - ROAD MAINTENANCE REQUIREMENTS (09/2004)

- Note 1:* The treated road requires maintenance for limited use. T-836 includes logging out & minor brushing, ditch maintenance (T-831), drainage structure maintenance (T-834), remove and end-haul of material (T-832) as directed by CO, shaping traveled way suitable for high clearance vehicles. Disposal method 1 for all work unless noted otherwise.
- Note 2:* The treated road requires maintenance for limited use passable for project use by Contractor (high clearance). T-838 includes logging out & minor brushing, ditch maintenance (T-831), drainage structure maintenance (T-834), remove and end-haul of material (T-832), shaping traveled way suitable for high clearance vehicles. Disposal method 1 for all work unless noted otherwise.
- Note 3:* The treated road requires maintenance for minimum access for Contractor operations, quantities are described below. T-839 includes removing brush, trees and other materials from traveled way, ditch maintenance (T-831), drainage structure maintenance (T-834), roadway drainage post haul (T-835), remove and end-haul of material (T-832), installing or removing water bars and barriers, installing culverts and other temporary drainage structures. Disposal method 1 for all work unless noted otherwise.
- Note 4:* For work performed under T-842 (cutting roadway vegetation) the treated area includes the roadbed measured from centerline to bottom of ditch and/or defined road edge, plus an additional 5 feet on each side. If there is no defined road edge, or ditch does not exist, the treated area is 12 feet from both sides of centerline of the road. Provide a vertical clearance of 14 feet measured from the road surface elevation.
- Note 5:* Do not stage equipment or materials at Pineside Snow Park, Snow King Snow Park, or Smith Butte Snow Park.
- Note 6:* Snow plowing has not been appraised for but may occur on designated roads if contractor chooses to complete.

Road Maintenance T-Specifications for King Stewardship ReOffer

<u>NO.</u>	<u>Specification Title</u>
T-803	Snow Removal
T-811	Blading
T-813	Surfacing
T-831	Ditch Maintenance
T-832	Remove and End Haul Materials
T-834	Drainage Structure Maintenance
T-836	Maintenance For Limited Use
T-838	Maintenance For High Clearance Vehicle Use
T-839	Maintenance For Project Use
T-842	Cutting Roadway Vegetation
T-854	Treatment and Disposal of Danger Trees
T-891	Water Supply and Watering

T-803 - SNOW REMOVAL (05/07)

- **Description**

This Section provides for removal of snow from roads to facilitate logging operations and safe use.

- **Maintenance Requirements**

- Erect signs required by the Sign Plan in the SUPPLEMENTAL SPECIFICATIONS.
- Perform work in a manner to preserve and protect roads and appurtenances, and prevent erosion damage to roads, streams, and other Forest values.
- Do not undercut banks. Do not blade gravel or other surfacing material off the road.
- Keep roadbed drainage ditches, drain dips, and culverts functional when needed during operations and upon completion of operations.
- Control snow removal to identify the usable traveled way having roadbed support. Reshape over-width plowing as necessary to define the usable width.
- Space, construct, and maintain drainage holes in the dike of snow or berm caused by snow removal operations. Place drain holes to obtain surface drainage without discharging on erodible fills.
- Close roads to wheeled vehicles at times and in the manner specified in C(T)5.12 or the Road Rules document.
- Upon seasonal completion of Purchaser's Operations, effectively block the road by a snow barricade, unless otherwise approved by the Contracting Officer.
- Remove snow for either public access or project use as established in the SUPPLEMENTAL SPECIFICATIONS and meet the following requirements:
 - Removal for Public Access (Method JU) - Remove snow from all of the traveled way, including turnouts, for safe and efficient use for both timber transportation and the public. Remove intruding windfalls, debris, or

slough and slide material for the full width of the traveled way and deposit out of drainage's at locations designated by the Contracting Officer.

- Removal for Project Use (Method TS) - Remove snow from all or part of the traveled way, including sufficient turnouts for safe and efficient use for timber transportation and to protect the road. Remove intruding windfalls, debris or slough and slide material and dispose of only as necessary to provide passage for timber transportation. Removed materials may be deposited off the traveled way or outside the traveled way at locations designated by the Contracting Officer.
- When directed by the Contracting Officer, replace in kind, within sixty (60) days after the start of Normal Operating Season, any surfacing material which has been bladed off the road, unless otherwise agreed. Contracting Officer will notify Contractor in writing as to the cubic yard equivalent of bladed off material by the start of the normal operating season.

- **Equipment**

Contractor may use any type of equipment to remove snow, providing:

- a. Type or use of equipment is not restricted in C(T)5.12 or Road Rules document.
- b. Equipment is of the size and type commonly used to remove snow and will not cause damage to the road.
- c. The use of plows or dozers to remove snow requires written approval by the Contracting Officer. Equip plows or dozers with shoes or runners to keep the dozer blade a minimum of 2 inches above the road surface unless otherwise approved by the Contractor Officer.

- **Ice Control**

Ice control may be performed by Contractor when approved by the Contracting Officer in writing. Such approval will include ice control materials, application rates, and any specific requirements of use.

T-811 BLADING (05/07)**811.01 Description**

This work consists of surface blading the traveled way to a condition that facilitates traffic and provides proper drainage. Blading includes shaping the crown or slope of travel way, berms, and drainage dips in accordance with this specification. Compaction is required when shown on the ROAD LISTING.

811.02 Maintenance Requirements

A Timing - Perform surface blading during the contract period as often as needed to provide conditions stated for the maintenance level of the road.

B. General

1. Blade and shape the existing traveled way and shoulders, including turnouts , to produce a surface which is uniform, consistent to grade, and crowned or cross-sloped as indicated by the character of the existing surface, unless otherwise shown in the ROAD LISTING, to at least $\frac{1}{2}$ inch per 1 foot of width, but not more than $\frac{3}{4}$ inch per 1 foot of width. Thoroughly loosen surfacing material to no less than 2 inches depth or the depth of potholes or corrugations. Scarification to facilitate cutting to the full depth of potholes or corrugations may be elected, but will be considered incidental to blading. Do not scarify to a depth that will cause contamination of the surfacing.
2. Apply water during blading when sufficient moisture is not present to prevent segregation. Supply, haul, and apply water in accordance with Section T-891.
3. Shape existing native rock or aggregate surfaced drainage dips to divert surface runoff to existing outlet devices, ditches, or discharge locations.
4. Establish a blading pattern which provides a uniform driving surface, retains the surfacing on the roadbed, and provides a thorough mixing of the materials within the completed surface width. Upon final blading, no disturbed rock shall protrude more than 2 inches above the adjacent surface unless otherwise provided in the contract. Remove and place outside the roadbed, material not meeting this dimension so as not to obstruct drainage ways or structures. This material may be scattered off the roadbed if there is free drainage.

5. Where DESIGNATED ON THE GROUND, included in the ROAD LISTING, SHOWN ON THE DRAWINGS or as ordered by the Contracting Officer invasive species of concern prevention practices shall be followed as listed below.

Invasive Species of Concern Prevention Practices
<i>To be filled in by local FS invasive plant specialist, if applicable.</i>

C. Routine Blading

1. Conform to the dimensions SHOWN ON THE DRAWINGS or designated in the SUPPLEMENTAL SPECIFICATIONS upon completion of blading.
2. Shape roadbed width in excess of the dimensions shown only as needed to provide drainage away from the traveled way. Do not remove established grasses and other vegetation from the excess width except as incidental to providing drainage or unless otherwise provided in the contract.

D. Compaction

Roads requiring compaction will be included in the ROAD LISTING. Unless compaction Method B is designated in the ROAD LISTING, all traveled ways requiring compaction may be compacted by Method A. Compaction shall commence immediately following blading.

Compaction methods are:

Compaction Method A: Breaking track while operating equipment on the traveled way.

Compaction Method B: 7-10 ton pneumatic, steel, or equivalent vibratory roller, operated to cover the full width two (2) times.

E. Undercutting - Undercutting roadway back slope is not permitted.

F. Intersections

1. At intersections, blade the roadbeds of side roads which are not closed or restricted from vehicular use to ensure smooth transitions.
2. Signing, cross ditching in the road surface (traveled way), earth berms, or other devices placed to discourage or eliminate use by passenger cars, are field evidence of road closure or restriction. Roads listed for work under Sections T-835, T-836, T-838, or T- 839 are considered restricted.
3. Side roads listed for work under this Section are not restricted.

G. Cleaning of Structures - Do not allow materials resulting from work under this Section to remain on or in structures, such as bridges, culverts, cattle guards, or drainage dips.

H. Berms - Maintain existing berms to the condition of adjacent segments. Do not create new berms.

I. Smooth Blading - Smooth blading may be used as an interim measure to remove loose surfacing material from the wheel paths, and store removed materials in a recoverable windrow, until blade processing as described in this section is feasible. Watering will not be required for smooth blading. Accomplish smooth blading without distorting the existing cross-slope or crown of the traveled way. Move and store loose surfacing materials on the high side of super-elevated curves and sections with uniform inslope or outslope. In crowned sections, store the material on either or both sides as elected. Windrow and place stored materials to provide not less than 12 feet of smooth traveled way on one-lane segments, or 20 feet of smooth traveled way on two-lane segments, or segments with turnouts. Cut holes through windrows, which may collect water on the road, for drainage at least every 500 feet.

T-813 SURFACING (10/07)

813.01 Description

This work consists of placing surface aggregate as DESIGNATED ON THE GROUND, or as ordered by the Contracting Officer. It includes preparing the area, furnishing, hauling, and placing all necessary materials and other work necessary to blend with the adjacent road cross section.

813.02 Materials

Materials will be Government-furnished when stated in the supplemental specifications.

Materials furnished by the Contractor shall conform to the gradation and quality requirements of Section 703 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-03 U.S. Customary Units" and FS supplements to the FP-03.

All materials transported onto National Forest System land shall be free of invasive species of concern. Written documentation of methods used to determine the invasive species of concern free status of any and all materials furnished by the Contractor shall be submitted to the Contracting Officer before transport of any materials onto National Forest System land.

The Contracting Officer shall have 5 days, excluding weekends and Federal holidays, to review the methods and inspect the materials after the required written documentation is provided by the Contractor. After satisfactory review and inspection or after such 5 day period, the Contractor may transport the material onto National Forest System land.

Material or methods appropriate for establishing invasive species of concern free status for the invasive species of concern are listed below.

Invasive Species of Concern and Acceptable Methods specific to this project:

Invasive Species of Concern Prevention Practices

N/A

813.03 Maintenance Requirements

A. Thoroughly loosen the area to be surfaced to a minimum depth of 1 inch prior to placement of aggregate.

B. Mixing and Placing

When scheduled coincidentally with work under Section T-811, and included in the SUPPLEMENTAL SPECIFICATIONS, mix surfacing and existing aggregate with water until a uniform mixture is obtained prior to final shaping and compaction.

Otherwise, spread the material on the prepared area in layers no more than 4 inches in depth. When more than one (1) layer is required, shape and compact each layer before the succeeding layer is placed. Upon completion, the surfacing shall reasonably conform to the adjacent cross section and provide smooth transitions in the road profile.

B. Compaction Methods

Compaction Method A: Breaking track while operating equipment on the traveled way.

Compaction Method B: 7-10 ton pneumatic, steel, or equivalent vibratory roller, operated to cover the full width two (2) times.

Either Method A or B may be used unless Method B is designated in the ROAD LISTING.

T-831 DITCH MAINTENANCE (05/07)

831.01 Description

This Section provides for routine maintenance of various types of ditches to provide a waterway which is unobstructed, as shown on the ROAD LISTING or DESIGNATED ON THEGROUND.

831.02 Maintenance Requirements

- A. Maintain ditches by removing rock, soil, wood, and other materials. Maintained ditches shall function to meet the intent of the original design.
- B. Undercutting backslopes during removal operations is not permitted.
- C. Suitable material up to 4 inches in greatest dimension removed from the ditches may be blended into existing native road surface and shoulder or placed in designated berm.
- D. Do not blend material from ditch cleaning operations into aggregate surfaced roads. Do not blade material across aggregate or bituminous surfaced roads, unless approved in writing by the Contracting Officer.
- E. Haul material in excess of 831.02 D or subject to 831.02 E to a designated waste area under Section T-832. Remove excess materials temporarily stored on the ditch slope or edge of the shoulder daily.
- F. Remove limbs and wood chunks in excess of 12 inches in length or 3 inches in diameter from ditches and place outside the roadway.
- G. Clean paved surfaces of all materials resulting from ditch maintenance work.

Shape lead-off ditches to drain away from the traveled way.

Where DESIGNATED ON THE GROUND, included in the ROAD LISTING, SHOWN ON THE DRAWINGS or as ordered by the Contracting Officer invasive species of concern prevention practices shall be followed as listed below.

Invasive Species of Concern Prevention Practices
NA

T-832 REMOVE AND END HAUL MATERIALS (05/07)**832.01 Description**

Work consists of loading, hauling, and placing of slide, slough, or excess materials such as rock, soil, vegetation, and other materials to designated disposal sites.

832.02 Maintenance Requirements

- A. Remove, end haul, and dispose of excess materials generated by work under other Sections of this contract.
- B. Remove the slide and slough materials in the area extending approximately 6 feet vertically above the road surface and not more than 3 feet down slope from the roadbed. Dispose of material at designated sites as SHOWN ON THE DRAWINGS, identified in SUPPLEMENTAL SPECIFICATIONS, or as ordered by the Contracting Officer. Reshape the slope which generated the slide material as nearly as practical to its original condition by equipment operating from road surface. Reshaping of roadside ditches in slide area shall be in accordance with Section T-831.
- C. When approved by the Contracting Officer, fill slumps by compacting selected materials into roadway depressions. Compaction is by Method 2.
- D. Place all materials in disposal sites as specified in the SUPPLEMENTAL SPECIFICATIONS, as SHOWN ON THE DRAWINGS, or as ordered by the Contracting Officer.
 - 1. Method 1 - Side Casting and End Dumping. Material may be placed by side casting and end dumping. Where materials include large rocks, provide a solid fill by working smaller pieces and fines into voids. Shape the finished surfaces to drain.
 - 2. Method 2 Layer Placement - Step or roughen surfaces on which materials are to be placed prior to placing any material. Place materials in approximately horizontal layers no more than 12 inches thick. Compact each layer by operating hauling and spreading equipment over the full width of each layer.
- E. Repair any damage to existing aggregate or pavement surfaces.

T-834 DRAINAGE STRUCTURE MAINTENANCE (05/07)**834.01 Description**

This work consists of cleaning and reconditioning culverts and other drainage structures.

834.02 Maintenance Requirements

- A. Clean drainage structures, inlet structures, culverts, catch basins, and outlet channels specified in the SUPPLEMENTAL SPECIFICATIONS. Clean catch basins by removing the material within the area SHOWN ON THE DRAWINGS.
- B. Clean the transition from the ditch line to the catch basin a distance of 10 feet from the catch basin. Clean outlet channels and lead-off ditches a distance of 6 feet. Remove and place debris and vegetation so as to not enter the channel or ditch, or obstruct traffic. Haul debris and vegetation to a designated disposal area in accordance with Section T-832.
- C. Hydraulic flushing of drainage structures is not allowed unless provided for in the SUPPLEMENTAL SPECIFICATIONS.
- D. Cleaning and reconditioning are limited to the first 3 feet of inlet and outlet, determined along the top of the structure. Recondition culvert inlet and outlet by field methods such as jacking out or cutting away damaged metal which obstructs flow. Treat cut edges with a zinc rich coating, in accordance with AASHTO M 36M and ASTM A 849.
- E. Where DESIGNATED ON THE GROUND, included in the ROAD LISTING, SHOWN ON THE DRAWINGS or as ordered by the Contracting Officer invasive species of concern prevention practices shall be followed as listed below.

T-836 - MAINTENANCE FOR LIMITED USE (05/07)**836.01** Description

This work consists of making limited use roads passable for joint use by Contractor and high clearance vehicles, and providing drainage from the traveled way and roadbed.

836.02 Maintenance Requirements**A.** Traveled Way

Purchaser may smooth or fill existing cross ditches and water bars and by agreement modify existing road junctions to enable vehicle access. Prior to beginning haul and resumption of haul after an extended stoppage:

1. Remove brush, fallen trees, rocks, and other debris from traveled way, including turnouts, turnarounds, and other locations that interfere with needed maintenance as follows:
 - a. No object extending over 4 inches above the road surface shall remain within the 12 feet usable traveled way and 10 feet turnout widths. Center the usable width on the roadbed or position away from the fill slope.
 - b. Cut and remove standing or down trees, logs, brush, and limbs from within the area described in 1 a. above. Remove encroaching limbs to a height of 14 feet above the traveled way surface. Scatter material not meeting utilization standards outside and below the roadbed on the fill side. Limb and remove timber which meets utilization standards or deck at agreed locations.
- c. Place all removed materials away from drainages.
- d. During use, maintain drainage structures, including dips, ditches and culverts in a useable condition.
2. Clean and recondition drainage facilities in accordance with: Section T-831 and T-834.

B. Slough and Slides

1. Slough and slides may be left in place, provided surface drainage is provided and at least 12 feet of width is available for vehicle passage.
2. Contractor may reposition or ramp over slides and slough when the traveled way is less than 12 feet providing the material is capable of supporting vehicles. Limit out slope to no more than 2% percent.

3. Reposition slough or slide materials on the roadbed which are not capable of supporting a vehicle to provide the 12 foot width. When directed by the Contracting Officer, slough or slide material will be removed under Section T-832.

C. Slumps and Washouts

1. Drain the roadbed immediately upgrade of slumps and longitudinal cracks to prevent water from entering slump area.
2. Slumps and longitudinal cracks at the edge of the roadbed shall not be considered a part of the usable width. Usable width may be reduced to 10 feet in the area of the slump.
3. Unless the Contractor Officer agrees to material being placed on slumps, ramp the slumps on both ends into undisturbed roadbed to provide at least 10 feet usable width. Use removed materials to guide vehicles to the ramp location or to aid in draining the area.
4. Washouts may be filled with suitable material.

D. Post haul

At the end of hauling or prior to entering into seasonal shutdowns or a period of extended inactivity:

1. Shape the traveled way and disturbed roadbed to provide functional drainage.
2. Reinstall removed cross ditches and water bars and provide any additional drainage structures necessary to offset changes caused through use and maintenance.
3. Leave roads useable for high clearance vehicles. Remove or reshape Contractor modifications at road junctions to leave the entrance as it was before use, or as agreed at the time of improvement.

T-838 - MAINTENANCE FOR HIGH CLEARANCE VEHICLE USE (05/07)**838.01 Description**

This work consists of making limited use roads passable for project use by Contractor and providing drainage from the traveled way and roadbed.

838.02 Maintenance Requirements**A. Traveled Way**

Purchaser may smooth or fill existing cross ditches and water bars and by agreement modify existing road junctions to enable vehicle access. Prior to beginning haul and resumption of haul after an extended stoppage:

1. Remove brush, fallen trees, rocks, and other debris from traveled way, including turnouts, turnarounds, and other locations that interfere with needed maintenance as follows:
 - a. No object extending over 4 inches above the road surface shall remain within the 12 feet usable traveled way and 10 feet turnout widths. Center the usable width on the roadbed or position away from the fill slope.
 - b. Cut and remove standing or down trees, logs, brush, and limbs from within the area described in 1 a. above. Remove encroaching limbs to a height of 14 feet above the traveled way surface. Scatter material not meeting utilization standards outside and below the roadbed on the fill side. Limb and remove timber which meets utilization standards or deck at agreed locations.
 - c. Place all removed materials away from drainages.
 - d. During use, maintain drainage structures, including dips, ditches and culverts in a useable condition.
2. Clean and recondition drainage facilities in accordance with: Section T-831 and T-834.

B. Slough and Slides

1. Slough and slides may be left in place, provided surface drainage is provided and at least 12 feet of width is available for vehicle passage.
2. Contractor may reposition or ramp over slides and slough when the traveled way is less than 12 feet providing the material is capable of supporting vehicles. Limit out slope to no more than 2 percent.

3. Reposition slough or slide materials on the roadbed which are not capable of supporting a vehicle to provide the 12 foot width. When directed by the Contracting Officer, slough or slide material will be removed under Section T-832.

C. Slumps and Washouts

1. Drain the roadbed immediately upgrade of slumps and longitudinal cracks to prevent water from entering slump area.
2. Slumps and longitudinal cracks at the edge of the roadbed shall not be considered a part of the usable width. Usable width may be reduced to 10 feet in the area of the slump.
3. Unless the Contractor Officer agrees to material being placed on slumps, ramp the slumps on both ends into undisturbed roadbed to provide at least 10 feet usable width. Use removed materials to guide vehicles to the ramp location or to aid in draining the area.
4. Washouts may be filled with suitable material.

D. Post haul

At the end of hauling or prior to entering into seasonal shutdowns or a period of extended inactivity:

1. Shape the traveled way and disturbed roadbed to provide functional drainage.
2. Reinstall removed cross ditches and water bars and provide any additional drainage structures necessary to offset changes caused through use and maintenance.
3. Leave roads useable for high clearance vehicles. Remove or reshape Contractor modifications at road junctions to leave the entrance as it was before use, or as agreed at the time of improvement.

T-839 MAINTENANCE FOR PROJECT USE (05/07)

839.01 Description

Work consists of providing minimum access required for Purchaser's Operations and associated Forest Service contract administration and preventing unacceptable resource or road damage.

839.02 Maintenance Requirements

- A.** Contractor is authorized to perform the following maintenance to provide vehicle passage and drainage:
1. Removing log, earth, and rock barriers and/or improving existing road junctions to enable vehicle access as mutually agreed.
 2. Smoothing or filling existing cross ditches and water bars.
 3. Installing Contractor-furnished culverts or other temporary drainage structures for shallow stream crossings as approved by the Contracting Officer.
 4. Removing brush, fallen trees, rocks, and other materials from the traveled way and other locations that interfere with needed maintenance:
 - a. Place all removed materials away from drainages.
 - b. Limb and remove timber which meets utilization standards or deck at locations approved by the Contracting Officer. Scatter other woody materials, including limbs, off of and below the roadbed without creating concentrations.
 5. Clean and recondition drainage structures in accordance with Section T-831 and Section T-834.
 6. Reposition or ramp over slough and slides to provide adequate width of traveled way material.
 7. Provide traveled way drainage above slumps and seal cracks in slump area. Ramp the slumps on both ends into undisturbed roadbed to provide usable width unless otherwise ordered by the Contracting Officer.

- B.** During use, the traveled way shall not channel water along the road. Prior to seasonal periods of anticipated rains and runoff, perform the following work:
1. Shape the traveled way and roadbed to drain.
 2. Reinstall removed cross ditches and water bars and provide any additional drainage structures necessary to offset changes through use and maintenance.
 3. Perform work outlined in 839.02 A (5), (6), and (7).
 4. During periods of non use, replace original barrier or provide and maintain standard MUTCD, Type 3, barricades unless alternate type barriers are approved by the Contracting Officer.

839.03 Post Haul Requirements

- A.** Upon completion of project use perform such work as needed to reasonably conform to the character of the existing road prior to Purchaser's maintenance for project use, unless otherwise provided in the SUPPLEMENTAL SPECIFICATIONS or the Road Listing. Work shall be in addition to requirements of 839.02 B and in accordance with 839.03 B and C.
- B.** Roads designated in the Road Listing to be blocked shall have an earth berm installed at location marked by CO. Earth berm shall be skewed to drain, full road width, and a minimum of 2' high. Unless otherwise approved by the Contracting Officer, remove Contractor-installed temporary structures from National Forest System land. Associated commercially-obtained materials shall remain the property of the Contractor.
- C.** Remove or reshape Contractor improvements at road junctions, as approved by the Contracting Officer at the time of improvement.

T-842 CUTTING ROADWAY VEGETATION (10/07)

842.01 Description

This work consists of cutting all vegetative growth, including trees and other vegetation less than 4 inches in diameter measured 6 inches above the ground, on roadway surfaces and roadsides.

842.02 Maintenance Requirements**A.** General

1. Cut brush, trees, and other vegetation within each area treated to a maximum height of 6 inches above the ground surface or obstruction such as rocks or existing stumps. When work is performed under this Section, remove all limbs which extend into the treated area, or over the roadbed, to a height of 14 feet above the traveled way surface elevation.
2. Items to remain will be DESIGNATED ON THE GROUND.
3. Work may be performed either by hand or mechanically unless specifically shown in the Road Listing. Self-propelled equipment is not allowed on cut and fill slopes or in ditches.
4. Correct damage to trunks of standing trees caused by Purchaser's operation either by treatment with a commercial nursery sealer or by removing the tree as directed by the Contracting Officer.
5. Limb trees within the cutting limits which are over 4 inches -measured at 6 inches above the ground in lieu of cutting.
6. When trees are limbed, cut limbs within 4 inches of the trunk.

B. Cutting Side Vegetation

1. Show the width of vegetation to be removed in the Road Listing.
2. Unless otherwise included in the SUPPLEMENTAL SPECIFICATIONS or DESIGNATED ON THE GROUND:
 - a. Commence work at the edge of the traveled way and proceed away from the road centerline.
 - b. Roads without a defined traveled way: The starting point for cutting will be marked on the ground or defined in the SUPPLEMENTAL SPECIFICATIONS.
3. The points for establishing cutting limits are as follows:
 - a. Fill and daylighted (wide roadbed) section cutting commences at the edge of the traveled way and proceeds away from the road center line.
 - b. Drainage ditched section cutting commences at the bottom of the existing ditch and proceeds away from the road center line. Cutting on ditch foreslopes is not required.
 - c. Unditched cut section cutting commences at the intersection of the cutbank and the roadbed and proceeds away from center line.
4. Provide transitions between differing increments of cutting width. Accomplish transitions in a taper length of not less than 50 feet nor more than 70 feet.

C. Debris

1. Materials resulting from the cutting operation in excess of 12 inches in length or 3 inches in diameter is not allowed to remain on roadway slopes within the treated area, in ditches, or within water courses.
2. Remove limbs and chunks in excess of 3 inches in any dimension from the traveled way and shoulders.
3. Materials may be scattered down slope from the roadbed, outside of the work area and drainages unless otherwise listed in D. Invasive Species of Concern.

D. Invasive Species of Concern

Where DESIGNATED ON THE GROUND, included in the ROAD LISTING, SHOWN ON THE DRAWINGS or as ordered by the Contracting Officer invasive species of concern prevention practices shall be followed as listed below.

T-854 - TREATMENT AND DISPOSAL OF DANGER TREES (5/07)

854.01 Description

This work consists of felling and disposal of designated live or dead danger trees sufficiently tall to reach roads used by the Contractor. Any removal of logs is subject to prior agreement between the Contractor Officer and the Contractor.

854.02 Requirements**A. Designation of danger trees.**

Danger trees to be felled will be designated in advance by the Contracting Officer. Trees to be removed will be Marked.

B. Falling, bucking and treatment for disposal.

Use controlled felling to ensure the direction of fall and prevent damage to property, structures, roadway, residual trees, and traffic. Stump heights, measured on the side adjacent to the highest ground, must not exceed 12 inches or 1/3 of the stump diameter, whichever is greater. Higher stump heights are permitted when necessary for safety.

Felled snags and trees, which are not Marked for removal, will be left in a stable condition such that they will not roll or slide. Position logs away from standing trees so they will not roll, are not on top of one another, and are located out of roadway and drainage structures.

Fell, limb and, remove trees, which are Marked for removal, that equal or exceed the utilization standards as listed in the Timber Sale contract or SUPPLEMENTAT SPECIFICATIONS. Dispose of merchantable timber designated for removal in accordance with E/BT2.32 Construction Clearing, of the Timber Sale Contract, or as described in SUPPLEMENTAL SPECIFICATIONS.

C. Slash treatment.

Within the roadway, remove limbs, chunks, and debris in excess of 12 inches in length and 3 inches in diameter, and concentrations that may plug ditches or culverts, and water courses.

Dispose of slash by scattering outside the roadway limits without damaging trees, or improvements. Large accumulations of slash may be ordered hauled under T-832.

T-891 WATER SUPPLY AND WATERING (5/07)

891.01 Description

This work consists of providing facilities to furnish an adequate water supply, hauling and applying water.

891.02 Materials

If the Contractor elects to provide water from other than designated sources, the Contractor is responsible to obtain the right to use the water, including any cost for royalties involved. Suitable and adequate water sources available for Purchaser's use under this contract are designated as follows:

Map Key No.	Location Road	Location Milepost	Use Restrictions
	8225060	MP 0.50	None

Only sites approved by contracting officer.

891.03 Equipment

A. Positive control of water application is required. Equipment shall provide uniform application of water without ponding or washing.

B. An air gap or positive anti-siphon device shall be provided between the water source and the vehicle being loaded if the vehicle has been used for other than water haul, if the source is a domestic potable water supply, or the water is used for tank mixing with any other materials.

C. The designated water sources may require some work prior to their use. Such work may include cleaning ponded areas, installing temporary weirs or sandbags, pipe repair, pump installation, or other items appropriate to the Purchaser's operations. Flowing streams may be temporarily sandbagged or a weir placed to pond water, provided a minimum flow of 10 cu. ft/sec is maintained. Obtain approval from the Contracting Officer on improvements for sandbags or weirs prior to placement.

K-F.3.2# - ROAD MAINTENANCE DEPOSIT SCHEDULE (08/2012)

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 are **\$.12 per Ton** for recurrent maintenance, and **N/A per Ton** for deferred maintenance.

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

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

- Cultural Resource Protection Measures: **N/A**
- Wildlife and Botanical Protection Measures: **See attachment**
- Cave Resource Protection Measures: **N/A**

K-G.3.1.5# - PROJECT OPERATION SCHEDULE (05/2005)

Unless otherwise agreed to between Contractor and Forest Service, Contractor's Operations shall be performed in accordance with the following schedule.

See attached schedule.

MEASURES PURSUANT TO K-G.2.4# - SITE SPECIFIC SPECIAL PROTECTION MEASURES (04/2004)

Drafting Water Source is on Forest Road 8225-060 mp.18 (Shown on Contract Area Map).

Wildlife and Botanical Protection Measures

Streams or lakes that will be used for drafting water for the purpose of dust abatement during timber contract activities will be approved by a fisheries biologist and will include the following protection measures:

1. The location, pumping rate, and duration of water withdrawals will be designed to minimize aquatic impacts:
 - a. A stable, preferably paved, location must be used for truck access to the stream.
 - b. Pumping will not reduce total instream flows by more than 50% in order to protect fish and fish habitat at and/or downstream of the water withdrawal site.
2. Minimize disturbance of riparian vegetation to the greatest extent practicable. Erosion control measures, such as placing WA State-certified weed-free straw bales/wattles or sediment fences to intercept mobilized sediment prior to its entering the stream, must be in place and maintained/cleaned for the duration of water withdrawal activities.
3. If a pump set-up is required, ensure that appropriate spill mitigations are in place:
 - a. Do all refueling at least 150 ft. away from any waterbody (wetted or dry).
 - b. Pump set-up will include containment tray and absorbent pads.
 - c. Entire containment system needs to be level. If necessary, move soil to level the pump setup area and restore it to its original appearance when water withdrawal is completed.
 - d. The edges of the containment tray will, if necessary, be held upright with sticks and/or rocks so gasoline does not leak out.
 - e. Gas absorbent pads will be folded lengthwise and placed under the fuel tank. The absorbent pads will be checked and replaced at least daily. If there is a rain event expected or precipitation has begun, the absorbent pads will immediately be checked and, if necessary, replaced and additional absorbent pads will be placed around the inside edges of the containment tray.
 - f. If water with a gas sheen on the surface accumulates within the containment tray, place the absorbent pad on the surface of the water and allow the pad to absorb the gas (10-15min). Discard the pad in a plastic bag, pour residual water into a bucket or carefully carry the containment tray at least 300 ft. away from any waterbody (wetted or dry), and pour water on the ground.
 - g. Used absorbent pads must be discarded in plastic bags and at an appropriate facility off-Forest.
 - h. If temporary dams are required, they will be constructed of sandbags or bags filled with gravel.
4. No dirt from outside the bankfull channel will be used to seal the dam and no logs or woody material within the bankfull channel will be utilized for construction of the temporary dam.
5. Temporary sandbag/gravel bag dams will be completely dismantled and the streambed restored to its original condition following completion of water withdrawal.
6. Unless they're new/unused, all screens, pump intakes, and hoses that will be in contact with the stream must be disinfected prior to entering the Forest in order to avoid introducing aquatic invasive species. Disinfection will be accomplished by thoroughly pressure washing screens, pump intakes, and the portions of hoses that will come into contact with the stream. Pressure washing should be done with hot water that is 140°F (60°C) or higher for a minimum of five minutes on each component/surface or with water that is 120°F or higher for a minimum of 15 minutes on each component/surface. If pressure washing with hot water is not feasible, an alternative method of disinfection is to spray and scrub the screens, pump intakes, and portions of hoses that will come into contact with the stream with bleach or Sparquat and then thoroughly rinsing them with water.

Additional measures to be implemented when drafting from fish-bearing streams:

7. All pump intakes must be screened with material that has openings no larger than 5/64 inch for square openings (measured side to side) or 3/32 inch diameter for round openings, and the screen must have at least one square inch of functional screen area for every gallon per minute (gpm) of water drawn through it. For example, a 100 gpm-rated pump would require at least a 100 square inch screen. 10. Screens will be maintained and cleaned at least once a day in order to prevent injury or entrapment of juvenile fish. The screens will remain in place whenever water is withdrawn through the pump intake.

TABLE PURSUANT TO K-G.3.1.5# - PROJECT OPERATION SCHEDULE (05/2005)

SUBDIVISIONS UNITS and ROADS	ACTIVITY	OPERATION CONDITIONS	PURPOSE (allowed operational time)
Subdivision 1	Falling/Skidding	All operations shall take place June 01 through October 31	Soils/Hydrology 06/01 - 10/31
Subdivisions 2, 3, 4, 5, 6, 7, 8, 9	Falling/Skidding	All operations shall take place July 16 through October 31	Soils/Hydrology 06/01 - 10/31 Wildlife 07/16 - 02/29
Subdivisions 10, 11, 12, 13, 14, 15, 16	Falling/Skidding	All operations shall take place September 1 through October 31	Soils/Hydrology 06/01 - 10/31 Wildlife 09/01 - 02/29
Subdivision 1	Haul	Hauling operations shall take place June 1 through October 31	
Subdivisions 10, 11, 12, 14, 15,	Haul	Hauling operations are allowed year around.	
Roads 8200706 8200707 8200715 8200716 8200719 8200724 8200734 8200191 8200745 8200746	Haul	Hauling Operations shall take place July 16 through October 31.	Wildlife 07/16 - 02/29 Recreation 04/01- 11/30
All Units, All Subdivisions	Haul	Upon Forest Service Approval, hauling may be allowed June 01 through November 30.	
All Roads	Road Brushing	Road brushing shall occur October 01 through July 15.	Botany
All Subdivisions	Winter Falling/Skidding	A Forest Service waiver is required for over the snow operations. Conditions required are: Snow that is at least 2 feet deep, or a combination of 3-4 inches of compacted snow, and soil frozen to at least 6 inches in depth. Operations shall not continue where snow and/or frozen soil does not provide protection from soil compaction and/or rutting (e.g. if it rains heavily and the soil and snow become saturated). As an indicator, overnight temperatures should be less than 25 degrees F. and afternoon/daytime temperatures should not exceed 35 degrees F.)	Soils/Hydrology
Road 8200	Reconstruction	All road reconstruction operations shall occur July 16 through October 31	Soils/Hydrology 06/01 - 10/31 Wildlife 07/16 - 02/29
All Subdivisions	Erosion Control	All grass seeding and mulch application shall occur February 01 through March 31 and/or September 01 through October 31	Botany

Limited Operation Period Restrictions may be lifted annually which could extend the Operating Season from June 1 through October 31.

Logging operations and/or heavy machinery are not allowed on Subdivisions 1-9 between December 01 to April 01. Waivers will not be granted for such.

K-G.3.2# - PROTECTION OF RESERVE TREES (09/2004)

Contractor's damage or destruction of reserve trees described in K-C.3# will cause serious and substantial silvicultural or other damage to the National Forest. It will be difficult if not impossible to determine the amount of such damage. Therefore, Contractor shall pay as fixed, agreed, and liquidated damages \$ 500 for each genetic reserve tree and \$ N/A for each N/A reserve tree damaged or destroyed by Contractor's Operations, in addition to amounts payable under D.4.5 and D.4.6.

Damage, as used herein, includes any injury to the living crown, bole, or roots of reserve trees. If areas are marked on the ground around such reserve trees, operation of heavy equipment or skidding of products within the area shall be considered to be damage to the tree.

K-G.4.0.5 - ALTERNATE REMOVAL OF INCLUDED TIMBER (05/2005)

Contractor and Forest Service may agree to alternate removal requirements of Included Timber contained in

A.2. Alternate removal requirements are to be set forth in an agreement signed by both Contractor and Contracting Officer. The terms of the agreement binds both parties and becomes part of the stewardship contract.

The development and execution of the agreement is based upon the determination by the Contracting Officer that removal of Included Timber is economically impractical if Contractor has no ready market for such logs in the tributary area. A tributary area is defined as the area in which the Contractor and competitors regularly deliver saw logs, or 200 miles from the Contract Area, whichever distance is greater.

The agreement for alternate removal requirements shall be executed prior to removing any timber from the Subdivisions included in the agreement. Alternate removal requirements shall apply only to whole units and not to portions of units. All material meeting alternate removal specifications shall be cut and removed to locations designated in the agreement.

Volumes of material with alternate removal requirements will be determined from the National Cruise report for the project. Contractor will be charged for the following:

- a) stumpage value at current contract rates of the alternatively removed timber;
- b) plus the cost of other work required by the Forest Service to dispose of alternatively removed material;
- c) plus the difference between the appraised transportation cost of the Sawtimber and/or Nonsawtimber material involved and the appraised transportation cost of the alternative;
- d) minus any work required to be completed by the Contractor associated with alternate removal requirements.

Charges will be debited to the Contractor's Integrated Resource Account.

Upon acceptance of the alternate removal requirements, the Subdivision will be removed from the Contract Area under G.3.6.

Title to material included in the alternate removal agreement shall remain with the Forest Service.

K-G.4.1# - SPECIFIC REQUIREMENTS (05/2005)

Notwithstanding G.4.1, G.4.1.1, G.5 and G.6.1, felling objectives shall be accomplished by the type of felling methods and equipment listed herein. Methods or equipment other than those specified may be approved. For Subdivisions shown in the following table, Contractor shall submit a cutting plan for Forest Service acceptance, prior to the start of felling operations.

See attached Table.

FELLING METHODS
If accepted by the Forest Service as part of the Contractor's Technical Proposal, mechanical harvester/feller-buncher will be allowed on slopes of 35% and less and approved on a unit-by-unit basis on slopes greater than 35%, up to 45%
Trees shall be directionally felled away from Subdivision/Unit boundaries, no cut areas, roads, protected streamcourses, or as directed by Forest Service. Exceptions include trees leaning towards the streamcourse, or when conditions would not allow safe felling. Any tree that falls into a protected streamcourse or no cut area shall be left in place.
Felling to the lead with trees being felled 30-45 degrees toward or away from skid trails/skyline corridors required.
Within Subdivision 15 Trees within 100' of forest Road 8200 Shall be cut to a maximum stump height of 6".

K-G.4.2# - YARDING/SKIDDING REQUIREMENTS (05/2005)

Contractor shall submit for Forest Service approval a Yarding/Skidding Plan prior to the start of felling operations. Requirements other than those specified in the following table may be approved. When appropriate, such approval shall include adjustments in Current Contract Rates and revision of the Contract Area Map. In no such case shall the adjustments result in Current Contract Rates less than Base Rates.

Location of all skid roads and trails, tractor roads, skyline corridors, mechanized harvester trails, forwarder roads, and other log skidding facilities, shall be approved prior to their use or construction.

See attached table for requirements.

TABLE PURSUANT TO K-G.4.2# - YARDING/SKIDDING REQUIREMENTS (05/2005)

<i>YARDING/SKIDDING REQUIREMENTS</i>
<p>If Contractor specifies in their technical proposal to use ground based equipment to meet the end results, the yarding system is to maintain one-end suspension of logs during in-haul. Site-specific terrain features may require pulling line at least 100 feet from designated skid trails. Skid trails shall be spaced a minimum of 150 feet apart. When feasible, use existing skid trails</p>
<p>If Contractor specifies in their technical proposal to use skyline yarding equipment to meet the end results, the yarding system is to have the capacity to keep logs one-end suspended above the ground during in-haul. Suspension is not required during lateral yarding. Skyline corridors shall be placed a minimum of 150 feet apart for a parallel configuration, or 200 feet apart at the ends of corridors for a fanned configuration.</p>
<p>Skid trails will be limited to slopes of 35% and less.</p>
<p>Equipment shall operate on slash mats that are as 4-6 inches thick, continuous as possible, and limited to as few trips as possible.</p>
<p>Ground-based machinery shall not operate where soil water content is high enough to cause rutting that exceeds 6 inches in depth for a length of 10 feet or more.</p>
<p>Ground-based equipment shall not operate on portions of roads and landings after decompacting is completed.</p>

K-G.6.0# - EROSION CONTROL AND SOIL TREATMENT BY CONTRACTOR (03/2017)

Erosion prevention and control work required by G.6, shall be completed within 15 calendar days after yarding/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.

On slopes greater than 35 percent, erosion control measures will be done with methods other than mechanized equipment, unless otherwise agreed.

Where soil has been disturbed or displaced on Contract Area by Contractor's Operations and where measures described in G.6 will not result in satisfactory erosion control or where subsoiling is shown on Contract Area Map, the following shall be performed. If applicable, timing of the work shall be coordinated with required scarification or subsoiling.

(a) Where staked or otherwise marked on the ground by Forest Service, seed, fertilizer, and mulch will be applied as indicated in the attached seeding, fertilizing, and mulching schedule. All applications shall be current and done during the period from September 1 to October 31 and/or February 1 through March 31, unless otherwise agreed to. Applications shall be done only during favorable conditions. If Contractor and Forest Service agree, seed can be applied and covered within 10 days of ground disturbance, and may be done outside the required periods.

(b) Where shown on Contract Area Map, landings, Temporary Roads and/or skidtrails/roads shall be scarified to a depth of 18 inches inches to provide a seedbed for grass seed, fertilizer, and mulch. Seed, fertilizer, and mulch shall be spread evenly at the rates shown in the table. When the seed, fertilizer, and mulch are applied in separate operations, the second or third operations shall be within 10 days of the first or second.

(c) Where shown on Contract Area Map, landings, Temporary Roads, and skid trails/roads used by Contractor shall be subsoiled to a minimum depth of 18 inches inches, except that Forest Service may agree to lesser depths. Each subsoiler shank shall be equipped with a shoe and wings which has a total width of at least 18 inches inches. The design of the shank and wings will be such that the treated, compacted soil is slightly lifted and well-fractured rather than plowed, mixed, or displaced. The distance between subsoiler shank passes shall not exceed 36 inches inches. Treated areas shall span the total width of compaction. Subsoiling shall be kept reasonably current and shall be done during Normal Operating Season unless otherwise agreed.

(d) When agreed to, Contractor may use alternate methods of erosion control. Seed shall meet current Forest Service requirements, with the additional requirement that no seed containing any noxious weed seed in excess of established state limitations as listed in the current "State Noxious Weed Requirements Recognized in the Administration of the Federal Seed Act" publication will be used (commonly referred to as the "all states" noxious weed seed list). Seed shall be furnished separately or in mixture in standard containers clearly marked with: (1) seed name; (2) lot number; (3) net weight; (4) percentages of purity and of germination (in case of legumes, percentage of germination to include hard seed); (5) percentage of weed seed content; and (6) certification that no noxious weed seeds in excess of

established state standards are present. The Contractor shall furnish the Government duplicate signed copies of a certificate, signed by a Registered Seed Technologist or Seed Analyst (certified through either the Association of Official Seed Analysis or the Society of Commercial Seed Technologists), certifying that each lot of seed has been tested in accordance with the Association of Official Seed Analysts Standards within 12 months prior to date of application. This certificate shall include (1) name and address of laboratory, (2) date of test, (3) lot number for each kind of seed, (4) name of seed, (5) percentage of germination, (6) percentage of purity, (7) percentage of weed seed content, and (8) certification that no noxious weed seeds in excess of established state limitations are present in any kind of seed. Legume seed shall be inoculated with approved cultures in accordance with the instructions of the manufacturer. No seed may be applied without prior written approval by the government.

- (e) Contractor may be required to seed areas disturbed by harvest activities to prevent the spread of noxious weeds, or the establishment of new areas.

See attached application schedule.

APPLICATION SCHEDULE PURSUANT TO K-G.6.0# - EROSION CONTROL AND SOIL TREATMENT BY CONTRACTOR (03/2017)

SUBDIVISION	AREAS B) SKID TRAILS C) FIRELINES D) TEMP. ROADS E) LANDINGS F) OTHER 4/	SEED APPLICATION		FERTILIZER APPLICATION		MULCH APPLICATION	
		SPECIES 1/ MIXTURE	LBS/AC	TYPE 2/	LBS/AC	TYPE 3/	LBS/AC
All	A, C, D, E, 5/ Service Trails					Slash	Scattered
All	C, D, 6/	Gifford Pinchot Seed	40			Weed Free Straw	2000

Grass seed will be provided by Forest Service.

The Contractor will be required to pay a co-op deposit \$.02/Ton for the cultivation and harvest of replacement seed of native species for use on future contracts.

1/ For projects in Oregon, the seed shall meet the State certification specifications. Seed must be packaged in containers carrying official certification labels sewn in, glued to, or printed upon the container, with the following information:

- A) Variety (if certified as to variety) and kind.
- B) Quantity of seed (pounds or bushels).
- C) Class of certified seed (blue tags for certified seed).
- D) Inspection or lot number traceable to the certifying agency's records.

For projects in Washington, the seed shall be labeled as "Prohibited and Restricted Noxious Weed Free for the State of Washington." The Contractor shall furnish a copy of the seed analysis.

For state of California lands in Region 6, seed must be certified by the state of California, or by an independent agency or company that is approved by the state of California for "prohibited and restricted noxious weed free for the state of California."

For mixtures of seed, each ingredient in excess of 5 percent must be listed with its percentage by weight and its germination percentage.

Legumes must be inoculated with nitrogen fixing bacteria before planting. The label must show the expiration date of the inoculant.

All seed treated with a fungicide or pesticide must be labeled that it is "treated" giving the name of the chemical used, and an appropriate warning or a caution statement.

2/ Fertilizer shall be a standard commercial fertilizer with guaranteed analysis of contents clearly marked on containers.

3/ Mulch shall meet the appropriate State's certification specifications, with evidence of its certification traceable to the certifying agency's records.

4/ Areas coded as 'E' in the table will be designated by the Forest Service for application of seed by the Contractor.

5/ Areas of gouging or soil displacement: Treatment may include, but is not limited to, repositioning displaced soil to re-contour disturbed sites, creating small ditches or diversions to redirect surface water movement, and scattering slash material.

6/ Areas of exposed soil shall be covered with slash and debris. Areas not effectively covered with slash and debris shall be seeded and mulched.

K-G.7 - SLASH DISPOSAL (03/2017)

As used in the following Subsections, the term "slash" is vegetative debris including, but not limited to, cull logs, blasted or pushed-out stumps, chunks, broken tops, limbs, branches, rotten wood, damaged brush, damaged or destroyed reproduction, saplings or poles, resulting from Contractor's Operations, including construction of roads or other improvements under this contract. Slash resulting from the construction of Specified Roads shall be disposed of as provided for in Section 201 of the Standard and Special Specifications and as shown in Drawings.

Any burning of slash or refuse by Contractor is subject to K-H.2.0.1.

Forest Service may agree to substitute methods of slash disposal if such substitute methods will give equally satisfactory results.

Forest Service may waive specific slash treatment requirements of the Contractor. Contractor's Integrated Resource Account will be charged for any slash treatment requirements waived. The amount of such charges will be determined by Forest Service prior to felling operations in each Subdivision.

K-G.7.4.2# - SLASH TREATMENT REQUIREMENTS (OPTION 2) (06/2008)

Contractor shall pile, burn, yard, construct firelines or otherwise treat slash defined in K-G.7, within designated areas. Work required of Contractor shall be in accordance with the following slash plan and specifications, and the Contract Area Map.

Unless otherwise agreed, or shown in the attached slash plan or specifications, when Included Timber is removed during Normal Operating Season, required slash work shall be completed within 30 days of removal of approximately three-quarters of the volume in the subdivision. When Included Timber is removed outside Normal Operating Season, required work will be completed within 30 days of the beginning of the next Normal Operating Season.

See following specifications.

SPECIFICATIONS PURSUANT TO K-G.7.4.2# - SLASH TREATMENT REQUIREMENTS (02/2002)*- TIME OF PREPARATION OF SLASH FOR DISPOSAL -*

Contractor shall accomplish slash disposal obligations in a sequence of work and/or timing of work that is in accordance with the items listed below:

1. Time of year when hand, machine piling and/or covering must be approved by Sale Administrator before work starts.
2. As stated in BT6.7, Contractor shall not unnecessarily delay slash disposal by the Forest Service. Purchaser's delay of such slash disposal work is hereby defined as the failure to fully complete and have accepted slash disposal work on a Subdivision beyond 30 days after the majority of included timber on that subdivision has been removed. Unless otherwise agreed in writing.

PILING OF SLASH, MACHINE

This Specification applies to Subdivision: 15 (4 acres), and Units 17, 18, and 19. In accordance with Special Provision K-G.7.4.2#, Contractor shall pile slash by machine. Contractor shall pile slash in areas designated by Forest Service. The method of designation shall be in a manner agreed to with the Contractor. Unless otherwise agreed in writing between Contractor and Forest Service, the machine piling of slash shall be accomplished as listed below:

1. Equipment requirements - As approved by Forest Service.
2. Slash to be piled -Subdivision 15 - Contractor shall pile all slash less than 5 inches diameter within 200 feet of Forest Road 8200000 that is excess of 5 tons per acres. A maximum of 5 tons per acre of slash less than 5 inches diameter is permitted to remain after treatment. Units 17, 18, and 19 - Contractor shall pile all slash less than 5 inches diameter that is excess of 8 tons per acre. A maximum of 8 tons per acre of slash less than 5 inches diameter is permitted to remain after treatment.
3. Location of Piles - Piles will be located so that burning will not cause damage to standing trees. This is construed to be at least 30 feet from the base or crown of any live ponderosa pine 20+” DBH and 15 feet from the base or crown of any other live tree. Piles shall be located at least 15 feet from any adjacent pile. All piles in payment units/subdivisions will be a minimum of 25 feet from the subdivision boundary.
4. Construction and Size of Piles - Prior to commencement of piling operations, down trees and logs to be piled will be bucked into lengths not exceeding 20 feet. Piles shall be compact as possible and shall be free of dirt. Wind rowing of slash is not permitted. Height shall be not less than 5 feet nor greater than 15 feet; diameter shall be not less than 10 feet nor greater than 20 feet.

PILING OF SLASH AT LANDINGS

This Specification applies to All Subdivisions:

In accordance with Special Provision K-G.7.4.2#, Contractor shall pile slash on landings and other loading areas. Unless otherwise agreed in writing between Contractor and Forest Service, the piling of landings shall be accomplished as listed below:

1. Equipment Requirements - As approved by Forest Service.
2. Slash to be Piled - Contractor shall pile all slash and unutilized material which is located on and within 30 feet of landings or loading areas. This includes slash resulting from landing construction, any unutilized material yarded to landings, and that which is cleared away.
3. Location of Piles - Piles will be located on flat surface at landing site. Landings will be established to maximize distance between standing trees such that burning will not cause damage to any standing tree. This is construed to be at least 25 feet from the base or crown of any live tree.
4. Construction and Size of Piles - Prior to commencement of piling operations, down trees and logs will be bucked into lengths not exceeding 20 feet. All logs will be placed in piles parallel to each other. Piles shall be as compact as possible and shall be free of dirt.

SPECIFICATIONS PURSUANT TO K-G.7.4.2# - SLASH TREATMENT REQUIREMENTS (02/2002)

COVERING OF PILES - MACHINE & LANDING

This Specification applies to ALL Payment Subdivisions and Units 17, 18, and 19.

In accordance with Special Provision KT-GT.7.4.2#, Contractor shall cover treated slash with plastic to maintain dryness of slash to facilitate later disposal of the slash by burning by Forest Service. On areas designated for piling of slash pursuant to the Slash Specifications, Contractor covering of the piles and/or decks shall be accomplished as listed below:

1. Piles to be Covered - All piles will be covered.
2. Material Requirements - Material used to cover piles will be supplied by Contractor.
Black Polyethylene Plastic Film, .006 (6 mil) minimum thickness by 16 feet minimum width.
3. Trimming of Piles - Protruding slash within area to be covered will be trimmed flush with the pile.
4. Location of Material on Pile - The covering material shall extend over not less than 1/4 of the pile area. The covering material on piles under 9 ft. tall shall extend to the ground on two sides; one side toward the prevailing wind. The covering material on piles 9 ft. tall or over shall extend to within 3 ft. of the ground on one side which shall be the prevailing wind side. On all piles, the covering material will be secured sufficiently around the perimeter to prevent wind from uncovering the piles. In addition, the covering will be held down by chunks or limbs at least 3 inches in diameter to prevent wind from blowing the covering material off the piles.

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.8.4 - USE OF PAINT BY CONTRACTOR (OPTION 1) (06/2006)

Notwithstanding G.8.4.2, use of paint by the Contractor within the Contract Area in the same color(s) used by the Forest Service in the preparation and administration of the contract will be by written approval of the Forest Service.

K-G.8.4.0 - ACCOUNTABILITY (04/2014)

Notwithstanding G.8.4, when Weight scaled contracts offer products at different rates in A.4.2, each product must be completely removed from a landing or decking area before another product can be removed, unless otherwise agreed to in writing by the Contracting Officer.

K-G.8.5.1 - WEIGHT OF LOST LOADS (04/2014)

Contractor shall present all loads for weighing and shall furnish a weight ticket for each load pursuant to a weighing services agreement. Any load for which a weight ticket is not provided, or the weight ticket is incomplete or unreadable, or does not include the Forest Service load receipt number, shall be considered a lost sample load with a net weight equal to the load with the heaviest net weight presented during the billing period, as established by the Forest Service.

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

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

Stewardship Projects

Specifications for Stewardship projects begin on Sample Contract page 111.

K-H.1 - PLANS (05/2005)

The plan shall state how Contractor's representative or alternates will be contacted in a fire emergency, both during periods of operation and at other times such as evenings or weekends. Contractor shall certify compliance with specific fire precautionary measures included as Subsections under K-H.2 - Specific Fire Precautions, before beginning operations during Fire Precautionary Period (closed season) and shall update such certification when operations change.

If helicopter yarding is required, the plan shall include a schedule of rates mutually agreed to for computing Contractor costs incurred toward meeting Contractor's obligations under A.14, or for paying for helicopters controlled by Contractor and used under Forest Service direction for suppressing Operations Fires or other fires on Contract Area, excluding Negligent Fires.

K-H.2 - SPECIFIC FIRE PRECAUTIONS (05/2005)

When the industrial fire precaution level is I or higher, unless waiver is granted under K-H.2.2, specific required fire precautionary measures are as follows:

A. Fire Security.

Contractor shall designate in writing a person or persons who shall perform fire security services listed below on Contract Area and vicinity. The designated person will be capable of operating Contractor's communications and fire fighting equipment specified in the contract, excluding helicopters, and of directing the activities of Contractor's personnel on Forest fires. Such person must report any fire detected to Forest Service within 15 minutes of detection. In lieu of having the designated person perform the required supervisory duties, Contractor may provide another person meeting the qualifications stated above to direct the activities of Contractor's personnel and equipment during all fire fighting activities.

Services described shall be for at least 1 hour from the time Contractor's Operations are shut down. For the purposes of this provision, personnel servicing equipment, and their vehicles, who are not engaged in cutting or welding metal are excluded.

Fire security services shall consist of moving throughout the operation area or areas constantly looking, reporting, and taking suppression action on any fires detected. Where possible, the designated person shall observe inaccessible portions of helicopter operating areas from vantage points within or adjacent to Contract Area.

Contractor shall furnish fire security services based on the predicted industrial precaution level, obtained by Contractor from the appropriate Ranger District Headquarters. If predictions made after 6:00 p.m. local time, are significantly different than originally estimated, Forest Service will inform Contractor when changes in fire security services are indicated.

B. Fire Extinguisher and Equipment (on Trucks, Tractors, Power Saws, etc.).

(a) Each yarder or loader equipped with an internal combustion engine or other spark emitting source shall be equipped with a readily accessible fire extinguisher, with an Underwriter's Laboratory (UL) Rating of at least 5 B,C.

(b) All power-driven equipment operated by Contractor on National Forest land, except portable fire pumps, shall be equipped with one fire extinguisher having a UL rating of at least 5 B,C and one "D" handled or long handled round point shovel, size 0 or larger. In addition, each motor patrol, truck and passenger-carrying vehicle shall be equipped with a double-bit axe or Pulaski, 3-1/2 pounds or larger.

(c) Equipment required in (a) and (b) shall be kept in a serviceable condition and shall be readily available.

(d) Each gasoline power saw operator shall be equipped with a pressurized chemical fire extinguisher of not less than 8-ounce capacity by weight, and one long handled round point shovel, size 0 or larger, except at a landing where a suitable fire extinguisher and shovel are immediately available. The extinguisher will be kept in possession of the saw operator at all times. The shovel shall be accessible to the operator within 1 minute.

(e) Each helicopter shall be equipped with one fire extinguisher having a UL rating of at least 5 B,C mounted inside the aircraft within reach of the pilot's operating position.

(f) One refill for each type or one extra extinguisher sufficient to replace each size extinguisher required on equipment shall be safely stored in the fire tool box or other agreed upon place on Contract Area that is protected and readily available.

(g) At each area where helicopters are being serviced or supplied, a carbon dioxide fire extinguisher with a UL rating of at least 20 B,C will be provided on the site and placed where it is available for immediate use.

C. Spark arresters and mufflers.

Each internal combustion engine shall be equipped with a spark arrester qualified and rated under USDA Forest Service Standard 5100-1a as shown in the National Wildfire Coordination Group Spark Arrester Guide, unless it is:

(a) Equipped with a turbine-driven exhaust supercharger such as the turbocharger. There shall be no exhaust bypass.

(b) A multi-position engine, such as on power saws which must meet the performance levels set forth in the Society of Automotive Engineers (SAE) "multi-positioned small engine exhaust fire ignition standard, SAE recommended practice J335B" as now or hereafter amended.

(c) A passenger carrying vehicle or light truck, or medium truck up to 40,000 GVW, used on roads and equipped with a factory designed muffler complete with baffles and an exhaust system in good working condition.

(d) A heavy duty truck, such as a dump or log truck, or other vehicle used for commercial hauling, used only on roads and equipped with a factory designed muffler and with a vertical stack exhaust system extending above the cab.

Exhaust equipment described in this Subsection, including spark arresters and mufflers, shall be properly installed and constantly maintained in serviceable condition.

D. Fire Tools.

Contractor shall furnish serviceable fire fighting tools in a readily accessible fire tool box or compartment of sound construction with a hinged lid and hasp so arranged that the box can be secured or sealed. The box shall be red and marked "Fire Tools" in letters at least 1 inch high. It shall contain a minimum of:

(a) Two axes or Pulaskis with a 32 inch handle.

(b) Three adze eye hoes. One Pulaski may be substituted for one adze eye hoe.

(c) Three long handled, round point shovels, size 0 or larger.

E. Tank Truck.

Contractor shall provide a tank truck or trailer, containing not less than 300 gallons of water, during yarding, skidding, loading, land clearing, right-of-way clearing, mechanical falling, and mechanical treatment of slash. Such tank truck or trailer shall be maintained in a serviceable condition and located within 10 minutes, round trip, from each operating side during Fire Precautionary Period (closed season), except as provided under H.2.1.

The tank truck or trailer shall be equipped with a pump capable of discharging 20 gallons of water per minute, using a 1/4 inch nozzle tip, through a 50 foot length of poly or rubber lined hose. In addition, 500 feet of serviceable hard rubber poly or rubber lined or FJRL hose of not less than 1 inch outside diameter, fitted with a nozzle capable of discharging a straight stream of 1/4 inch diameter and a spray pattern shall be immediately available for use. The tank, pump, nozzle and at least 250 feet, of the total 500 feet of hose, shall be connected and ready for use at all times. Synthetic hose may be used by

agreement.

If a trailer is used, it shall be equipped with a hitch to facilitate prompt movement. A serviceable tow vehicle shall be immediately available for attachment to the trailer and must meet the time requirements stated above. Such truck or trailer shall be equipped to operate for a minimum of 8 hours.

Where designated on Contract Area Map, Contractor shall provide a tank trailer or water source and pumping equipment, including accessories, which can be lifted and transported by the yarding system. The component parts shall meet all specifications above. The tank trailer or water supply and pumping accessories shall be deliverable to a fire, in area of operations, within 15 minutes of detection.

In lieu of the above tank trailer or water supply for helicopter operations, Contractor may provide a suitable helicopter water bucket with a 300 gallon capacity. When Contractor provides a water bucket, a water source shall be provided within 5 minutes round trip flight time from operating side.

F. Communications.

During Contractor's Operations, excluding powersaw falling and bucking, Contractor shall provide adequate two-way communication facilities to report a fire to Forest Service within 15 minutes of detection. Citizen Band radios (CB's) are not considered adequate two-way communications because FCC Regulations prohibit commercial use.

G. Smoking and Open Fire Restrictions.

Smoking and fires shall be permitted only at the option of Contractor. Contractor shall not permit open fires on Contract Area without advance permission in writing from Forest Service.

H. Blasting.

Blasting shall be permitted only for road construction purposes unless advance permission is obtained from Forest Service.

Whenever the Industrial Fire Precaution Level is II or greater, a fire security person equipped with a long handled round point No. 0 or larger shovel and a 5 gallon backpack pump can filled with water, will stay at location of blast for 1 hour after blasting is done. Blasting may be suspended by Forest Service, in areas of high rate of spread and resistance to control.

Fuses shall not be used for blasting. Explosive cords shall not be used without permission of Forest Service, which may specify conditions under which such explosives may be used and precautions to be taken.

I. Compliance with State Fire Laws.

Listing of specific fire precautionary measures in the foregoing 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.

J. Aircraft Communications.

Every aircraft used in conjunction with Contractor's Operations shall be equipped with an operable radio system. The radio system shall be capable of transmitting and receiving on VHF frequency 122.85 Megahertz (MHz) with a minimum output of 5 watts at the transmitter. The system shall be located and installed so that the pilot can operate it while flying. A shielded all-weather broad-band antenna shall be part of the system. Radio and antenna shall be properly installed and maintained.

Upon discovery or notification of a fire on Contract Area, all aircraft pilots controlled by Contractor

shall monitor VHF frequency 122.85 MHz when within 5 miles of a fire and broadcast their intentions.

K. Logging Block Equipment.

Contractor shall provide a serviceable 5 gallon backpack pump full of water, one axe, and one long handled round point shovel, size 0 or larger, at each haulback block through which a running line passes.

The area below such blocks must be kept clear of all flammable debris under 4 inches in diameter for a distance of 6 feet in all directions. Material larger than 4 inches that poses a fire risk, such as punky logs, must also be removed.

Contractor shall avoid line-rub on rocks or woody material which may result in sparks or sufficient heat to cause ignition of fire.

K-H.2.0.1 - BURNING BY CONTRACTOR (06/2006)

Notwithstanding the Fire Precautionary Period limitation of H.2, Contractor is required to obtain written permission from Forest Service prior to any burning on the National Forest Lands.

K-H.2.2 - EMERGENCY FIRE PRECAUTIONS (06/2018)

Contractor shall restrict operations in accordance with the Industrial Fire Precaution Levels attached. Forest Service may change the Industrial Fire Precaution Levels to other values upon revision of the National Fire Danger Rating System and may change the specific Industrial Fire Precaution Levels when such changes are necessary for the protection of the National Forest. When sent to Contractor, the revised Industrial Fire Precaution Levels will supersede the attached levels.

INDUSTRIAL FIRE PRECAUTIONS SCHEDULE

LEVEL I. FIRE SEASON

Fire season requirements are in effect. In addition to other fire prevention measures, a Firewatch is required at this and all higher levels unless otherwise waived

LEVEL II. LIMITED SHUTDOWN

The following may operate only between the hours of 8 P.M. and 1 P.M.:

- Power saws except at loading sites;
- Feller-bunchers with rotary head saws;
- Cable yarding;
- Blasting;
- Welding, cutting, or grinding of metal.

LEVEL III. RESTRICTED SHUTDOWN

Cable yarding is prohibited except that gravity operated logging systems employing non-motorized carriages or approved motorized carriages (defined below), may operate between 8 P.M. and 1 P.M. when all blocks and moving lines are suspended 10 feet above the ground except the line between the carriage and the chokers and during rigging.

The following are permitted to operate between the hours of 8 P.M. and 1 P.M. where mechanized equipment capable of constructing fire line is immediately available to quickly reach and effectively attack a fire start:

- Ground-based operations (defined below);
- Power saws on ground-based operations;
- Rotary head saw feller-bunchers with a continuous Firewatch;
- Non-rotary head saw feller-bunchers;
- Tethered logging systems (defined below).

The following are permitted to operate between the hours of 8 P.M. and 1 P.M.:

- Power saws at loading sites;
- Loading or hauling of any product or material;
- Blasting;
- Welding, cutting, or grinding of metal;
- Any other spark emitting operation not specifically mentioned.

LEVEL IV. COMPLETE SHUTDOWN

All operations are prohibited.

NOTE: Where hauling involves transit through more than one shutdown/regulated use area, the precaution level at the woods loading site shall govern the level of haul restriction, unless otherwise prohibited by other than the IFPL system. Under IFPL III, all trucks must be loaded and leaving the loading site no later than 1 P.M.

IFPL Definitions:

- >Approved motorized carriage: a cable yarding system employing a motorized carriage with two fire extinguishers, each with at least a 2A:10BC rating, mounted securely on opposite sides of the

carriage, an emergency motor cutoff, and an approved exhaust system.

>Cable yarding system: a yarding system employing cables, and winches in a fixed position.

>Fire Season: that season of the year when a fire hazard exists as declared by the responsible agency official.

>Ground-based operations: mobile and stationary equipment operations other than cable yarding systems, including but not limited to tractor/skidder, feller-buncher, forwarder, processor, and shovel operations.

>Loading sites: a place where any product or material (including, but not limited to logs, firewood, slash, soil, rock, poles, etc.) is placed in or upon a truck or other vehicle. Loading site shall govern the level of haul restriction, unless otherwise prohibited by other than the industrial precaution level system.

>Tethered logging system: winch-assisted, cable-assisted, traction-assisted, etc., which enable ground-based timber harvesting machines to operate on steep slopes.

Waivers:

Advance written waiver of the above precautions may be issued by the Contracting Officer or Forest Service Representative for any and all activities. Activities for which waivers may be issued include, but are not limited to:

>Mechanized loading and hauling.

>Road maintenance such as sprinkling, graveling, grading and paving.

>Cable yarding using gravity systems or suspended lines and blocks, or other yarding systems where extra prevention measures will significantly reduce the risk of fire.

>Power saws at loading sites or in felling and bucking where extra prevention measures will significantly reduce the risk of fire.

>Maintenance of equipment (other than metal cutting and welding) or improvements such as structures, fences and powerlines.

Contractor shall submit written waiver, or substitute precautions under H.2.1, with specific measures to be taken by Contractor to reduce the risk of ignition, and/or the spread of fire. The Contracting Officer or Forest Service Representative shall consider site specific weather factors, fuel conditions, and specific operations that result in less risk of fire ignition and/or spread than contemplated when precaution level was predicted. Consideration shall also be given to measures that reduce the precaution levels above. Contractor shall assure that all conditions of such waivers or substitute precautions are met.

Forest Service will inform Contractor when changes in restrictions or industrial precautions are indicated.

K-H.3.1 - ADDITIONAL AREA OF FIRE RESPONSIBILITY (05/2005)

The area within 200 feet slope distance of the center line of any road constructed or reconstructed under this contract on National Forest lands outside of Contract Area shall be considered as a part of Contract Area in connection with responsibilities under H.3 and H.4 until the road has been accepted in writing by Forest Service.

K-I.1.0 - DISCLAIMER OF EXPRESSED OR IMPLIED WARRANTY (05/2005)

Contractor and Forest Service hereby agree, acknowledge, and accept that there is no expressed or implied warranty provided by the Forest Service that guarantees the Contractor will be allowed to complete the removal of products sold under the terms of the contract. Upon execution of the contract, Contractor hereby acknowledges the acceptance of the risk that this contract is subject to interruption or termination as a result of litigation associated with the environmental analysis process used by the Forest Service in the planning of this project. If such interruption or termination occurs due to litigation, Contractor agrees to accept as full compensation for such interruption remedies pursuant to I.3.3, or for termination remedies pursuant to I.3.4.

K-I.2.1 - CONTRACT TERM ADJUSTMENT (07/2016)

"Contract Term Adjustment" (CTA) means adjustment only as provided for in the three circumstances described in this subsection. Under these circumstances, the contract term shall be adjusted in writing to include additional calendar days in one or more normal operating seasons equal to the actual time lost, except as limited by paragraph (2) in this subsection.

To qualify for such adjustment, contractor shall give written notice of the lost time not later than 30 days after the end of the normal operating season in which time was lost and at least 10 days before termination date. Contracting officer shall make prompt written acknowledgment of such notice, indicating concurrence with the number of days in the notice or the number of days the Forest Service considers as qualifying for the adjustment. Lost parts of days shall be disregarded in computing time lost. The three circumstances qualifying for a CTA are:

(1) Contractor experiences delay in starting operations scheduled under G.3.1 or interruptions in active operations, either of which stops such operations for 10 or more consecutive days during a normal operating season due to causes beyond the contractor's control, including, but not limited to, acts of God, acts of the public enemy, acts of the Government, labor disputes, fires, insurrections, or floods. Operations subject to these causes include:

(i) Removal of the included timber from contract area through curtailment in felling and bucking, yarding, skidding, loading, hauling, or road construction; or

(ii) Performance of stewardship projects shown in A.4.3.

(2) Causes described in paragraph (1) substantially affect the disposition or processing of included timber during the normal operating season through their effects on primary timber processing facilities, with a resulting delay of 60 days or more in use of such facilities. In such event, the CTA shall not extend for more than 12 consecutive months.

(3) (i) Contracting officer requests the contractor, in writing, to delay or interrupt operations during the normal operating season for any purpose other than suspension under E.4 or J.3; or

(ii) Contractor suffers a delay or interruption of the contractor's operations described in paragraph (1)(i) or (ii) because of a fire emergency closure ordered by Forest Service (or another agency on its behalf), and the total of such lost time is 10 or more days during any normal operating season.

If the termination date is adjusted, as described in this subsection, and later extended under I.2.3, the appraisal for the extension shall be made as of the unadjusted termination date, but the date on which the new rates become effective, if higher than current contract rates immediately prior to the termination date, shall be the adjusted termination date.

K-I.2.1.2 - MARKET-RELATED CONTRACT TERM ADDITION (11/2008)

The term of this contract may be adjusted when a drastic reduction in wood product prices has occurred in accordance with 36 CFR 223.52. The Producer Price Index used to determine when a drastic reduction in price has occurred is stated in A.20. Contractor will be notified whenever the Chief determines that a drastic reduction in wood product prices has occurred. If the drastic reduction criteria specified in 36 CFR 223.52 are met for 2 consecutive calendar quarters, after contract award date, Contracting Officer will add 1 year to the contract term, upon Contractor's written request. For each additional consecutive quarter such a drastic reduction occurs, Contracting Officer will, upon written request, add an additional 3 months to the term during Normal Operating Season, except that no single 3-month addition shall extend the term of the contract by more than one year. Contracting Officer must receive Contractor's written request for a market-related contract term addition before the expiration of this contract.

No more than 3 years shall be added to a contract's term by market-related contract term addition unless the following conditions are met:

(i) The contract was awarded after December 31, 2006; and

(ii) A drastic reduction in wood product prices occurred in at least ten of twelve consecutive quarters during the contract term, but not including the quarter in which the contract was awarded.

For each qualifying quarter meeting the criteria in paragraphs (i) and (ii) of this provision, the Forest Service will, upon the Contractor's written request, add an additional 3 months during the normal operating season to the contract, except no single 3-month addition shall extend the term of a contract by more than 1 year.

In no event shall a revised contract term exceed 10 years as a result of market-related contract term addition.

Additional contract time may not be granted for those portions of the contract that have a required completion date or for those portions of the contract where Contracting Officer determines that the timber is in need of urgent removal or that timber deterioration or resource damage may result from delay.

K-I.3.1# - CONTRACT CHANGES (OPTION 1) (05/2005)

Contract changes involving volumes and/or values will use a weight ratio of 3.0173 to convert net CCF cruise volumes to Tons.

K-I.6.4 - DEBARMENT AND SUSPENSION CERTIFICATION (03/2018)

Pursuant to 2 CFR 180 and 2 CFR 417, Contractor shall certify and obtain certifications from its Subcontractors regarding debarment, suspension, ineligibility, and voluntary exclusion, including additional Subcontractors obtained after award of this contract. 'Subcontractors' are participants in lower tier covered transactions.

Contractor may rely upon a certification of a prospective Subcontractor that it is not proposed for debarment under 48 CFR 9.4, debarred, suspended, ineligible, or voluntarily excluded from participating in covered transactions or contracts, unless Contractor knows that the certification is erroneous.

Contractor shall keep the certifications of its Subcontractors on file until contract Termination Date and any extensions thereof, and will provide a copy at the written request of Contracting Officer. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this Subsection. The knowledge and information of Contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

If Contractor knowingly enters into a contract transaction with a person who is proposed for debarment under 48 CFR 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in covered transactions or contracts, in addition to other remedies available to the Government, Forest Service may pursue available remedies, including suspension and/or debarment.

Contracting Officer shall provide a copy of Forms AD-1047, Certification Regarding Debarment, Suspension and Other Responsibility Matters-Primary Covered Transactions, and AD-1048, Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions to the Contractor.

Contractor shall complete form AD-1047 and provide to the Contracting Officer upon request.

Contractor shall require each Subcontractor to complete form AD-1048 and provide to the Contracting Officer upon request.

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, exchangee, 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.

PROJECT NUMBER 001 Snag Creation

End Result - Leave large snags across Subdivision 2-16 at density of 2 per acre. The target level of snags will be met via retention of existing snags and creating snags from live green trees where necessary. These snags will help provide foraging and possibly nesting structures for woodpecker species that are Forest Plan Management Indicator Species.

1. DESCRIPTION OF WORK

Project is to retain snags, and where necessary, create snags for a total of 2 snags per acre, 20+” dbh, in Subdivisions 2-16.

A total of up to 1,354 snags may need to be created.

Subdivision	Cut Acres	Snag Minimum >20.0”dbh x >20’ tall
2	39	78
3	21	42
4	76	152
5	44	88
6	47	94
7	68	136
8	29	58
9	23	46
10	53	106
11	66	132
12	48	96
13	31	62
14	38	76
15	41	82
16	53	106
Totals	677	1354

2. PROJECT LOCATION

Refer to the Contract Area Map for depiction of Subdivisions 2-16.

3. PROJECT SPECIFICATIONS

- A. Contractor is to assess snags left on each contiguous 10 acre grid, or portion thereof. Where there are less than 2 snags per acre, 20+” dbh, 20+ feet tall, of any conifer species, create snags from live grand fir to attain that level.
- B. Snags would be created by girdling trees just below breast height (4.5’). Girdling requires the removal of a circular band of bark and cambium around the entire bole of the tree, exposing the underlying sapwood. The band shall be at least eight inches (8”) wide at all points. Girdles may be created using hand tools or power tools.
- C. Contractor will select the live trees from which to create snags. These trees shall only be grand fir, 20+” dbh.
- D. Created snags shall not be within 200 feet of open Forest System roads.
- E. Created snags may be left in clumps of up to 5 trees.
- F. Contractor will record the number of created snags in each grid, the GPS coordinates of each clump of created snags and the number of snags in each clump. This information will be provided to the FS to facilitate inspection of completed work.

4. OPERATION SCHEDULE

Use of heavy equipment to create snags is subject to K-G.3.1.5# Project Operation Schedule.

Use of chainsaws to create snags is subject to the following:

Subdivision	Operation Conditions	Purpose
2, 3, 4, 5, 6, 7, 8, and 9	Chainsaw use shall take place between July 16 and February 29	Northern Spotted Owl - 7/16 to 2/29
10, 11, 12, 13, 14, 15, and 16	Chainsaw use shall take place between September 1 and February 29	Northern Spotted Owl - 9/1 to 2/29

5. CONTRACTOR'S OBLIGATIONS

The Contractor shall furnish all materials, supplies, labor, supervision, and transportation needed to complete the project.

7. PROSECUTION AND COMPLETION OF WORK

- A. The Contractor shall be required to commence work under this contract after a pre-work meeting agreed upon by the Contractor and Forest Service, prosecute the work diligently, and complete the entire work not later than the contract termination date. See A.15 - Termination Date.
- B. It is anticipated that adverse weather and/or road conditions may prevent access to work sites or performance to specification during certain times of the year.

8. INSPECTION

- A. The Forest Service may make periodic inspections to verify that the Contractor is meeting contract specifications. Inspections shall be performed in a manner that will not unduly delay work.
- B. Upon completion of a subdivision, the Contractor shall submit to the Forest Service a written request for final inspection. Partially completed subdivisions will not be accepted unless authorized by the Contracting Officer.

8. MEASUREMENT AND CREDIT

Accepted work will be credited at the contract unit rate for the items shown in A.4.3 - Stewardship Credits.

PROJECT NUMBER 002 and 003 - Fuels Reduction

End Result - Reduce fuel loads from down trees and standing live and dead trees. Reduce tree competition surrounding large ponderosa pine. Fuels reduction may be accomplished by removing the fuels (salvage of timber or biomass) and/or piling to burn. In sum these actions result in fuels profile that is conducive to future prescribed fire and improved vitality of any large ponderosa pine.

4. DESCRIPTION OF WORK

Contractor will manage specified fuels (down trees, standing live and dead trees) in a manner that leads to fuel reduction in the unit. Timber and biomass (green and salvage is available for removal.

PROJECT 002 Mandatory

Unit	Acres	Designation
18	127	Fuels Reduction

PROJECT 003 Optional

Unit	Acres	Designation
17	151	Fuels Reduction
19	48	Fuels Reduction
Total	199	

5. PROJECT LOCATION

This project work will be done within the boundaries of Units 17, 18 and 19. The locations of the units are shown in the Contract Area Map.

6. PROJECT SPECIFICATIONS

A. Step 1 - Radial Thinning around Large Ponderosa Pine

Focal Tree	Clearing Radius	Designated Trees to Fell
Ponderosa pine 20-29.9" DBH	30 feet	Grand fir @ 5+" DBH Lodgepole pine @ 5+"DBH
Ponderosa pine 30+" DBH	50 feet	Douglas-fir @ 5-20" DBH

Notes: DBH - Diameter at Breast Height (4.5' high side)

Radial thinning seeks to fell all trees specified above whose bole is within the clearing radii of live ponderosa pine without fading (yellowing to red) crowns. The clearing radii vary by ponderosa pine diameter. Distances are measured in slope distance from the closest face of the trees at breast height.

B. Step 2 - Thinning to Basal Area Target

Leave Tree Basal Area (Sq Ft / Ac)		Designated Trees to Fell
Average	Desired Range	
120 ± 20	100-140	Grand fir @ 5-29.9" DBH Lodgepole pine @ 5-29.9" DBH

After radial thinning around large ponderosa pine, remaining areas of the unit that exceed 120 square feet of basal areas, would be thinned down to 120 square feet of basal area. Fell grand fir and lodgepole pine to attain this basal area. Thin from below leaving the larger (height and diameter) trees of good health and form. Most of these stands currently have less than 120 square feet of basal area.

C. Step 3 - Fell all grand fir 0.1 to 4.9" DBH.

D. Step 4 - Snag Reduction

Fall all snags capable of falling and reaching Road 8200200 in Units 17 and 19. Furthermore, fall all other snags that are in excess of 7 snags per acre.

Retain 7 + 2 sags per acre that area >10" DBH and >10' tall and include 2 snags per acre that are > 20" DBH and >20' tall. Retain hard snags wherever possible, preferably ponderosa pine, western larch, and Douglas-fir.

E. Step 5 - Down Wood Management

Down wood includes trees felled per steps 1-4 above, slash created from wood removal, and down wood prior to any treatment. Manage down wood within the units (excepting areas identified as no-cut) to meet the following conditions:

- Down Surface Wood <5" diameter - 8 tons per acre maximum
- Down Surface Wood >5" diameter - 12 tons per acre maximum with a minimum of 130 + 10 linear feet of downed logs per acre that are ≥16 inches diameter large end and ≥16 feet long. Move down wood 10 feet away from the boles of ponderosa pine 20+" DBH receiving radial thinning.

Refer to Fuel Photos 3 and 4 (at end) for examples of the desired end state for down surface wood (ignore standing tree fuels in photos).

Down wood management may be achieved via removal, mastication, piling for burning by the Forest Service, or a combination thereof. Treatment methods are to be described in the Contractor's technical proposal.

F. Removal of timber or biomass would be subject to other provisions in this contract for timber removal.

G. Should timber be removed, use of feller bunchers in Unit 18 are not permitted on slopes exceeding 35%. All other provision in K-G.4.2# - Yarding and Skidding Requirements apply.

H. If piling for burning, provisions for piling and covering piles would apply. See K-G.7.4.2# - Slash Treatment Requirements

I. Avoid piling slash or skidding/yarding timber on any rock outcrop or areas tagged as "No-Cut."

5. FIRE PRECAUTIONS

Provision listed in K-H.2 - Specific Fire Precautions, K-H.2.0.1 - Burning by Contractor, K-H.2.2 Emergency Fire Precautions, and K-H.3.1 Additional Area of Fire Responsibility apply.

6. OPERATION SCHEDULE

All units are subject to the following Operation Conditions:

UNITS	Operation Conditions	Purpose (operational time)
17, 18, and 19	All operations shall take place between June 1 and October 31	Soils/Hydrology - 6/01 to 10/31 Winter Recreation - 4/01 to 11/30

6. CONTRACTOR'S OBLIGATIONS

The Contractor shall furnish all materials, supplies, labor, supervision, and transportation needed to complete the project.

9. PROSECUTION AND COMPLETION OF WORK

C. The Contractor shall be required to commence work under this contract after a pre-work meeting agreed upon by the Contractor and Forest Service, prosecute the work diligently, and complete the entire work not later than the contract termination date. See A.15 - Termination Date.

D. It is anticipated that adverse weather and/or road conditions may prevent access to work sites or performance to specification during certain times of the year.

10. Merchantable material is not considered "included timber" and shall be timber subject to agreement.

11. All merchantable timber left in units must be no less than 7.9 feet in length. Alternatively, if contractor does not wish to remove merchantable material, merchantable material could be cut, skidded and decked as agreed to by the Forest Service.

12. INSPECTION

- A. The Forest Service may make periodic inspections to verify that the Contractor is meeting contract specifications. Inspections shall be performed in a manner that will not unduly delay work.
- B. Upon completion of a unit, the Contractor shall submit to the Forest Service a written request for final inspection. There will be no payments for partial completion.

9. MEASUREMENT AND CREDIT

Accepted work will be credited at the contract unit rate for the items shown in A.4.3 - Stewardship Credits.

FUEL PHOTO 3

2-MC-3. Maxwell and Ward 1980, PNW-GTR-105.



2-MC-3

Down Surface Fuels <5" ≈ 8-10 tons/acre

Down Surface Fuels >5" ≈ 12 tons/acre

FUEL PHOTO 4

3-DF-4-PC. Maxwell and Ward 1976, PNW-GTR-051



3-DF-4-PC

Down Surface Fuels <5" \approx 6.5 tons/acre
Down Surface Fuels >5" \approx 14.5 tons/acre

Project Number 004: Pre-Commercial Thinning

End Results

Pre-commercial thinning seeks to leave the best and healthiest trees at the desired residual spacing and cut all other trees, as described in the following technical specifications. This is intended to provide adequate growing space for the leave trees to thrive.

Description of Work

This solicitation requires tree thinning and related work in compliance with its terms, specifications and provisions. This includes furnishing all labor, equipment, supervision, transportation, operating supplies and incidentals.

Required Completion Date

November 15, 2021

Sub Item #	Stand Tag	Spacing	Acres
1.01	300408	15ft x 15ft	36
1.02	305345 303527 305344 305343	15ft x 15ft	75
1.03	305347	13ft x 13ft	26
1.04	305339	13ft x 13ft	24
1.05	305353	13ft x 13ft	29
1.06	300397	13ft x 13ft	7
1.07	305338	13ft x 13ft	22
Total acres			206

Access

Most sub items may be reached by Forest roads that are accessible by standard pickup during the normal working season. The Government assumes no obligation to plow snow or do special maintenance to keep roads open. Due to deteriorating road conditions, some sub items may require walking cross-country, or along closed or deteriorated roads. Contractor shall assume responsibility for determining the best access by utilizing sub item photo information sheets, vicinity maps, a Forest map, and personal site visits.

Location and Boundaries

All sub item locations are signed on the ground with a white "Payment Unit" sign highlighted with fluorescent pink flagging.

Boundaries of sub items are indicated on sub item photo information sheets. In some cases boundaries or portions of boundaries have been marked with florescent pink flagging. Many boundaries are easily delineated by roads, adjacent stands of different ages, streams or other geographical features identifiable from air photos provided on sub item photo information sheets. Contractor is required to be able to accurately interpret air photos provided in this contract to determine boundaries. Contractor shall mark with fluorescent pink flagging any boundary that Contractor feels is needed to assure accurate following of boundaries by their employees.

If needed to further locate and define boundary line, the Contractor may use a mobile device with GPS (Global Positioning System) capability. Upon Purchaser's request, the same electronic geographic information used to establish boundary lines on the sub item photo information sheets can be made available to Contractor for downloading to their mobile device.

For purposes of verifying Contractors's complete thinning to boundary lines indicated on sub item photo information sheets, the Forest Service will use mobile devices with the same electronic information made available for download to Purchaser's mobile devices. For reference, the electronic files utilized by Forest Service and made available to Contractor are known as "Georeferenced PDF" files.

Technical SpecificationsDensity

The current density of trees vary to a large degree from sub item to sub item and within sub items. Only by on-the-ground examination can prospective Purchasers determine the work entailed in thinning and slash disposal.

Motorized Equipment

Use of motorized equipment other than hand held equipment such as power saws and brush cutters will not be permitted off designated roads in the project area without approval of the CO.

Selection of Leave Trees

The Contractor shall select leave trees in the following order of priority:

1. Tree Diameters. Leave all trees (both conifer and hardwood), which exceed the maximum dbh cut limit as specified on the project map/unit information sheet.
2. Species Preference. Leave all western red cedar, and all hardwoods. Give preference to species in order specified on unit information sheet.
3. Tree Health. Leave the healthiest tree. Leave trees shall generally be those tallest in height, largest crown and straightest stems that are free of damage due to insects, disease, physical, or mechanical causes.
4. Tree Height. Leave the tallest tree.
5. Minor Damage. If no healthy undamaged tree exists at the required spacing interval, leave a tree with minor damage.
6. If no healthy tree with minor damage exists, leave the healthiest tree present, within spacing limits.

Leave Tree Spacing

Required spacing is specified on unit information sheets. Spacing may be varied up to 25 percent to select the most desired tree. However, leave trees per acre, using spacing guides, shall not be materially increased or decreased.

Overtopping Brush Cutting Required

Cut only that brush which is within the specified average spacing distance from the bole (trunk) of the nearest leave tree, measured horizontally, whose height exceeds the top whorl of branches of the nearest leave tree.

Aquatic Feature and Riparian Buffers

Aquatic features (perennial streams, intermittent streams, wetlands, and ponds) require a fifteen foot (15') riparian buffer. No thinning is allowed within riparian buffers.

1. Mapped Aquatic Features. Location of known aquatic features and their riparian buffers may be shown on the project maps.
2. Unmapped Aquatic Features. Additional aquatic features may occur that are not indicated on project maps. These aquatic features also require riparian buffers.
3. Riparian Buffer Boundaries. Riparian buffer boundaries are not flagged. The Contractor is responsible for determining the riparian buffer boundary. This boundary extends fifteen feet (15') horizontal distance from the edge of channel (streams), edge of wetland vegetation (wetlands), or edge of standing water (ponds).
4. Notifications. The Contractor shall notify the CO of the location of unmapped aquatic features that had riparian buffers applied, and if any inadvertent thinning occurred within any riparian buffer.

Cutting Methods

1. Stump Height - Removal of Live Limbs. All trees other than leave trees shall be cut below the lowest live limb, except when prevented by natural obstacles. All live limbs below the cutting point shall be removed. Trees shall be completely severed from the stump. Stump height shall not exceed 8 inches above ground level or 4 inches above natural obstacles.

- 2. Felling. Cut trees shall be felled away from unit boundaries, roads, road ditches, telephone lines, established trails, stock driveways, fence lines, established land corners, road buffers, streams, and riparian buffers. Any trees falling in such areas shall be removed.
- 3. Cut Trees. Cut trees shall lay on or near the ground surface, so that it will not lean against or be suspended by an uncut tree. Should cut trees hang up in leave trees, they shall be pushed or bucked down until they are on the ground surface.

Slash Disposal

No slash shall remain on roads or across their ditches and culverts.

Inspection and Acceptance

Thinning Inspection Procedure

- 1. As sub items are completed, the CO will inspect the work for compliance with the technical specifications and end results. The Contractor or his representative is encouraged to observe the inspection and will receive inspection summaries upon request.
- 2. Initially, a walk-through inspection of each completed sub item will be conducted to determine acceptance. If necessary, measured sample plots will be taken to determine acceptance. A series of 1/20th acre plots distributed over the entire sub item sufficient to yield at least a one percent sample of the sub item will be taken. Plot centers will be marked and numbered where plots are taken.
- 3. Sample plots will be examined to record the items listed below: (#) refers to plot card columns
 - (2) Number of leave trees that should have been left (based on spacing and tree availability).
 - (3) Number of trees that were left.
 - (4) Number of satisfactory (appropriate) leave trees.
 - (5) Number of deficient (missing) leave trees: (2) - (4)
 - (6) Number of excess trees (trees that should have been cut) plus those that were cut improperly (e.g. partial cut, hung-up, high stump, and stump with live limbs): (3) - (2) + cut improperly
- 4. Sample plot thinning quality shall be calculated as follows:

$100\% - \frac{\# \text{ of deficient trees (5) + \# of excess trees (6)}}{\% + 5\%} = \text{Quality \%}$ <p>(Variation)</p>
--

- 5. Acceptance of work for a sub item is based on either a positive visual inspection or when sample plots average 90% or better quality.

Rework and Inspection after Rework

When inspection quality is less than 90% and it is due to excess trees, acceptance will not be made until the excess trees have been corrected. Inspections after rework will be made in the same manner as the first inspection but with different plot locations. If inspection quality less than 90% is due to deficient trees, partial payment may occur.

Contractor Obligations

1. Furnish all supplies, materials, tools and equipment, plus labor, supervision and travel to do the required work.
2. Immediately notify the CO of any conditions encountered that are either beyond the scope of the project or that prevent normal progress of work.
3. Keep the CO currently informed of the work schedule, physical location of his work force, and completion of sub items as they occur, to permit timely inspection of acceptance of work.
4. The Contractor shall not cut or disturb trees or markers used to identify property lines, property corners, or sub item boundaries.

Prewrite Conference

Prior to commencement of work, the Contractor shall meet with the CO to discuss contract terms and work performance requirements, work progress, schedule, and fire prevention and suppression plans. An order of preference to thin sub items may be established by the CO. The meeting will be held at the Mt. Adams Ranger Station unless otherwise agreed.

Limited Operating Periods

1. Use of motorized equipment (including chainsaws) in sub items 1.05, 1.06, and 1.07 may only occur from July 16 to February 29, to minimize noise disturbance to Northern spotted owls.

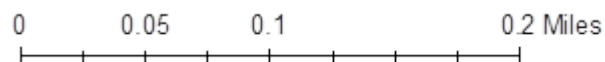
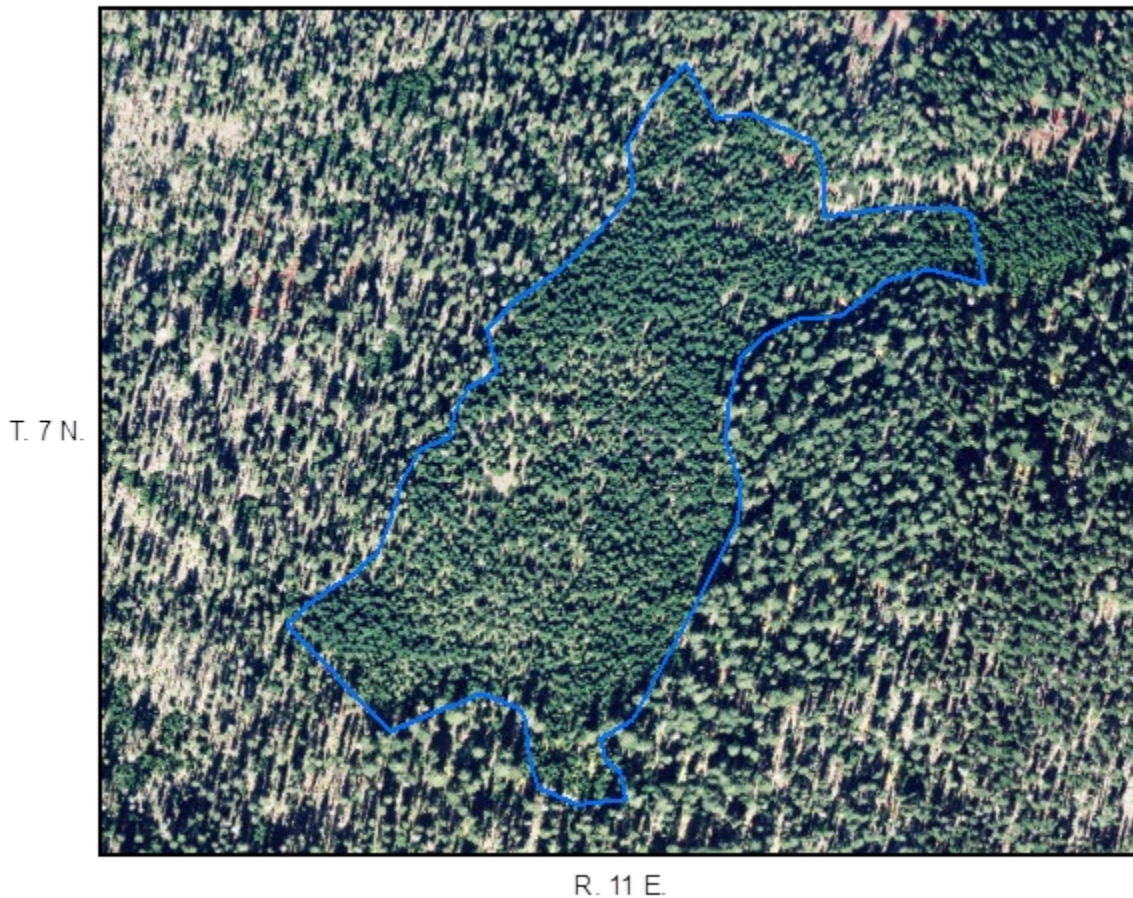
Definitions

- Average Spacing - The average of the distance between all leave trees necessary to provide the desired number of leave trees per acre.
- Buffer Areas - An area located inside of a sub item that no cutting is allowed. Boundaries are not marked.
- Contracting Officer (CO) - The person executing this contract on behalf of the Government, including any duly appointed successor and authorized representative of the CO acting within the limits of his authority, such as the Sale Administrator or Harvest Inspector.
- Damage - Includes any defect or deformity of a tree resulting from agents such as wind, snow, animals, insects, disease, and equipment, and evidenced by such things as dead or broken tops or trunks, crooks, and deep scars.
- DBH (Diameter Breast Height) - Diameter of the trunk measured at a point 4-1/2 feet above the ground level on the uphill side of tree.
- Deficient Trees - Trees cut that should have been left standing (aka "missing leave trees").
- Excess Trees - Uncut trees that do not meet leave tree specifications and should have been cut. Trees not severed from the stump, hung-up trees, stumps with live limbs, stumps higher than specified, trees not girdled or not girdled properly if required are also considered excess trees.
- Girdling - A cut through the bark and cambium tissue completely encircling the tree trunk for the purpose of killing the tree.
- Hung-Up Tree - Any cut tree suspended more than 3 feet off ground.

- Healthy Tree - The greenest, tallest, straightest stem which is free of disease, insect, weather, animal, or mechanical damage.
- Leave Trees - Any tree that is selected or required to be left standing as provided in the specifications.
- Minor Damage - Crooks in the trunk which are offset less than 3 inches from the long axis and within 13 feet of the ground, no forks, broken top, or bark damage extending more than 1/4 the circumference of the tree.
- Slash - Limbs and trunks of cut trees.
- Spacing - The horizontal distance from the trunk of one leave tree to the trunk of the next nearest leave tree.
- Stream Channel - An area associated with streams which shows annual scouring and deposition of materials caused by the movement of the water. Usually void of growing brush, trees, and other woody plants. Water may or may not be present.
- Sub Item - A pay item designated on the bid schedule with unique technical specifications.

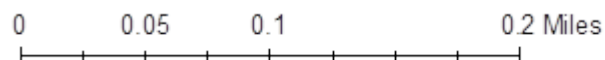
King Stewardship Precommercial Thinning Project

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
1	36	2	7	15 x 15	4343	9	1 western larch
							2 ponderosa pine
							3 western white pine
							4 noble fir
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine
							8 silver Fir

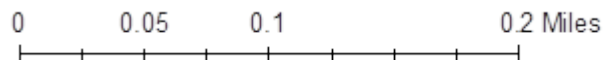


King Stewardship Precommercial Thinning Project

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
2	75	2	7	15 x 15	3363	10	1 western larch
							2 ponderosa pine
							3 western white pine
							4 noble fir
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine
							8 Silver Fir

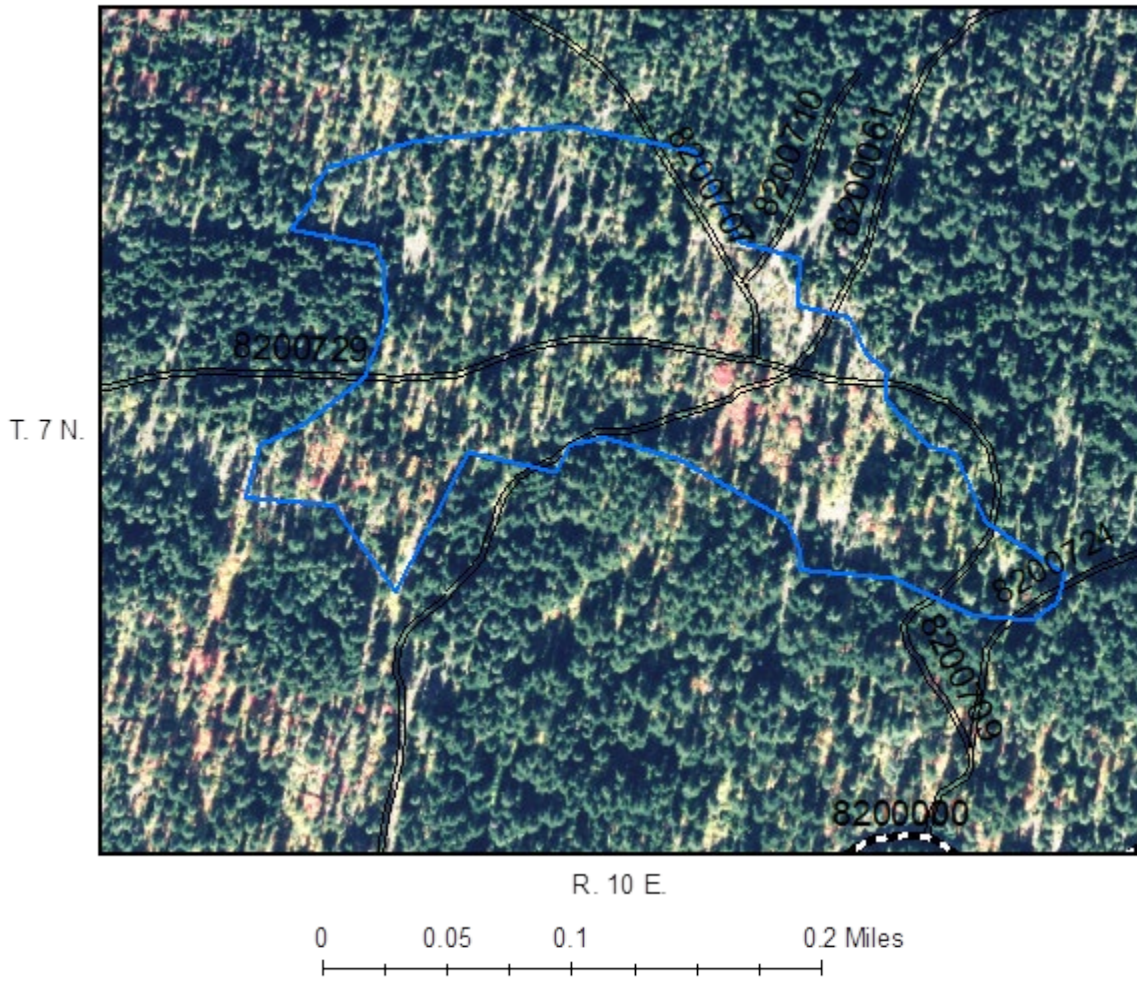


Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
3	25	2	7	13 x 13	3131	6	1 western larch
							2 ponderosa pine
							3 western white pine
							4 noble fir
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine
							8 silver Fir



King Stewardship Precommercial Thinning Project

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
4	27	2	7	13 x 13	2984	6	1 western larch
							2 ponderosa pine
							3 western white pine
							4 noble fir
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine
							8 silver Fir

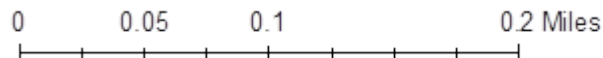


King Stewardship Precommercial Thinning Project

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
5	29	2	7	13 x 13	3091	4	1 western larch
							2 ponderosa pine
							3 western white pine
							4 noble fir
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine
							8 silver Fir

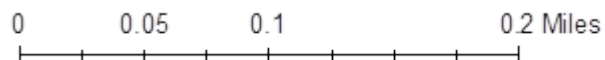
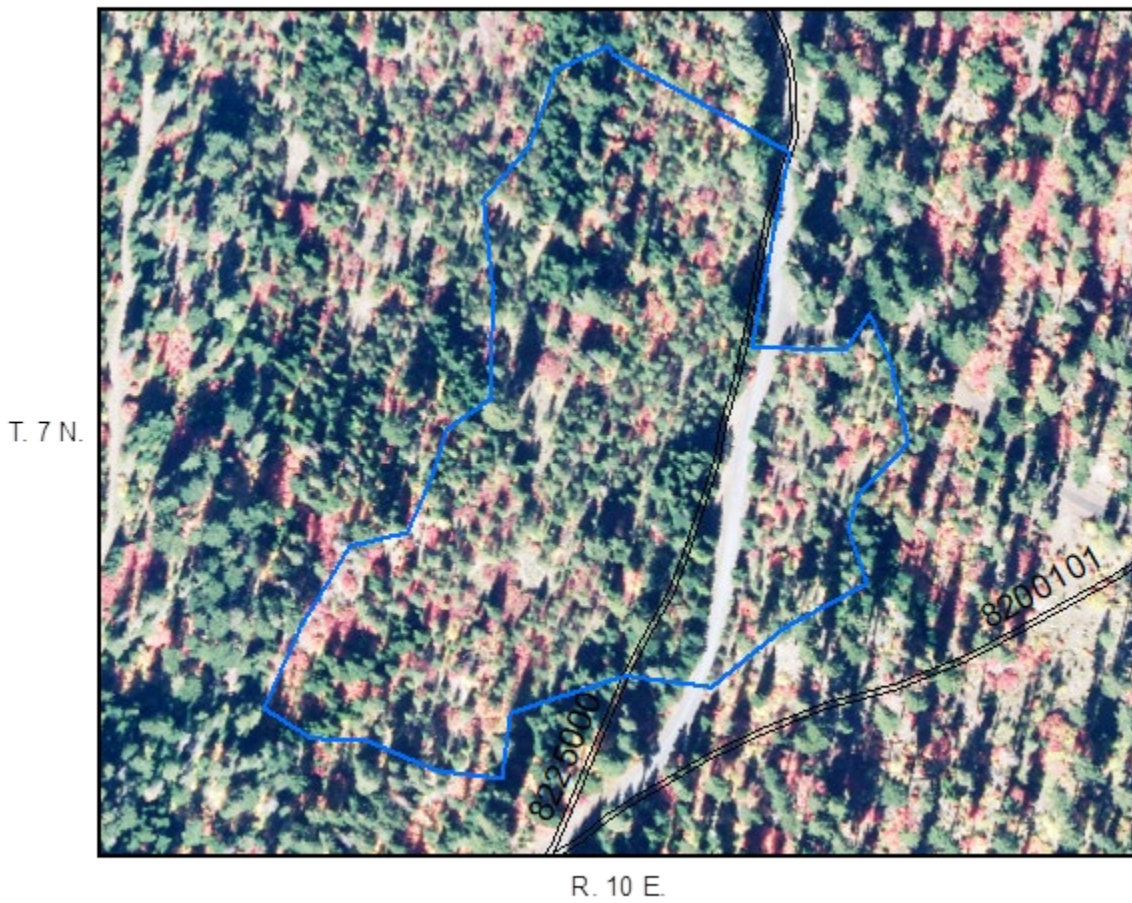


R. 10 E.



King Stewardship Precommercial Thinning Project

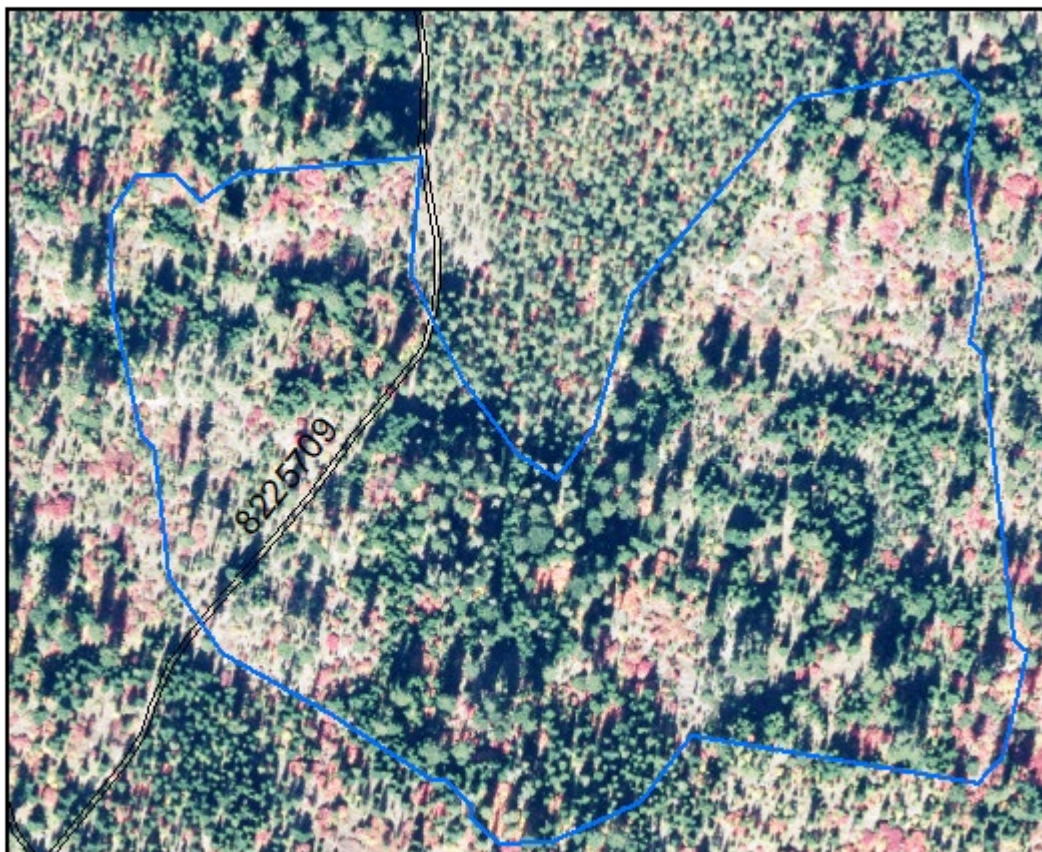
Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
6	7	2	7	13 x 13	3212	5	1 western larch
							2 ponderosa pine
							3 western white pine
							4 noble fir
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine
							8 silver Fir



King Stewardship Precommercial Thinning Project

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
7	22	2	7	13 x 13	3256	2	1 western larch
							2 ponderosa pine
							3 western white pine
							4 noble fir
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine
							8 silver Fir

T. 7 N.



R. 10 E.

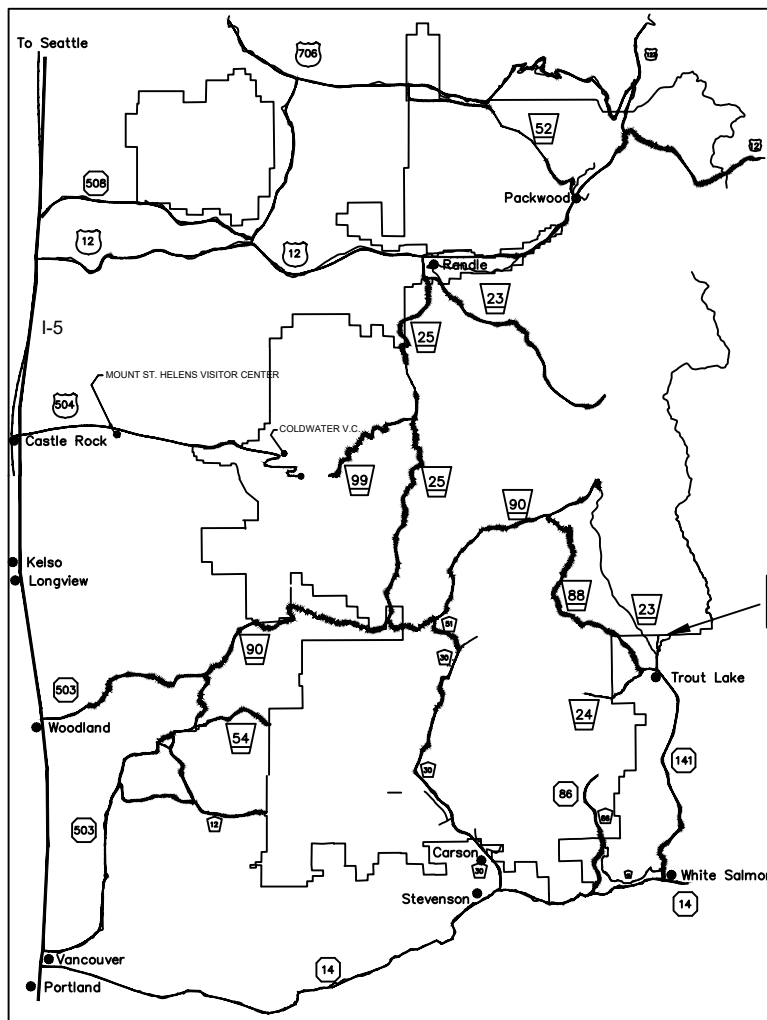
King Stewardship ReOffer Reconstruction Plans

**UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE – REGION SIX
GIFFORD PINCHOT NATIONAL FOREST
MT. ADAMS RANGER DISTRICT**



DRAWINGS FOR PROPOSED
ROADS FOR KING STEWARDSHIP
TIMBER CONTRACT

FOREST AND PROJECT LOCATION MAP



PROJECT
LOCATION

DESIGN

DESIGNER _____ DATE _____

REVIEW

DISTRICT ENGINEER _____ DATE _____

ASSISTANT FOREST ENGINEER _____ DATE _____

RECOMMENDED BY

FOREST ENGINEER _____ DATE _____

APPROVAL

LINE OFFICER _____ DATE _____

SHEET INDEX

1	TITLE SHEET
2	VICINITY MAP
3	ESTIMATE OF QUANTITIES
4	RECONSTRUCTION SUMMARIES
5	DRAINAGE LISTING
6	CULVERT DETAILS
7	ROAD RECONDITIONING

ROAD NUMBER	LENGTH	TYPE OF WORK
8200000	4.50	RECONSTRUCTION

Mt. Adams Ranger District Region 6
 King Stewardship
 Timber Sale
 Title Sheet

Designed M. Lorman 09/19
 Drawn M. Lorman 09/19
 Checked J. Cook 09/19
 Approved J. Heyl 09/19

Drawing Name
 King Stewardship Plans
 Sheet
 1 of 7

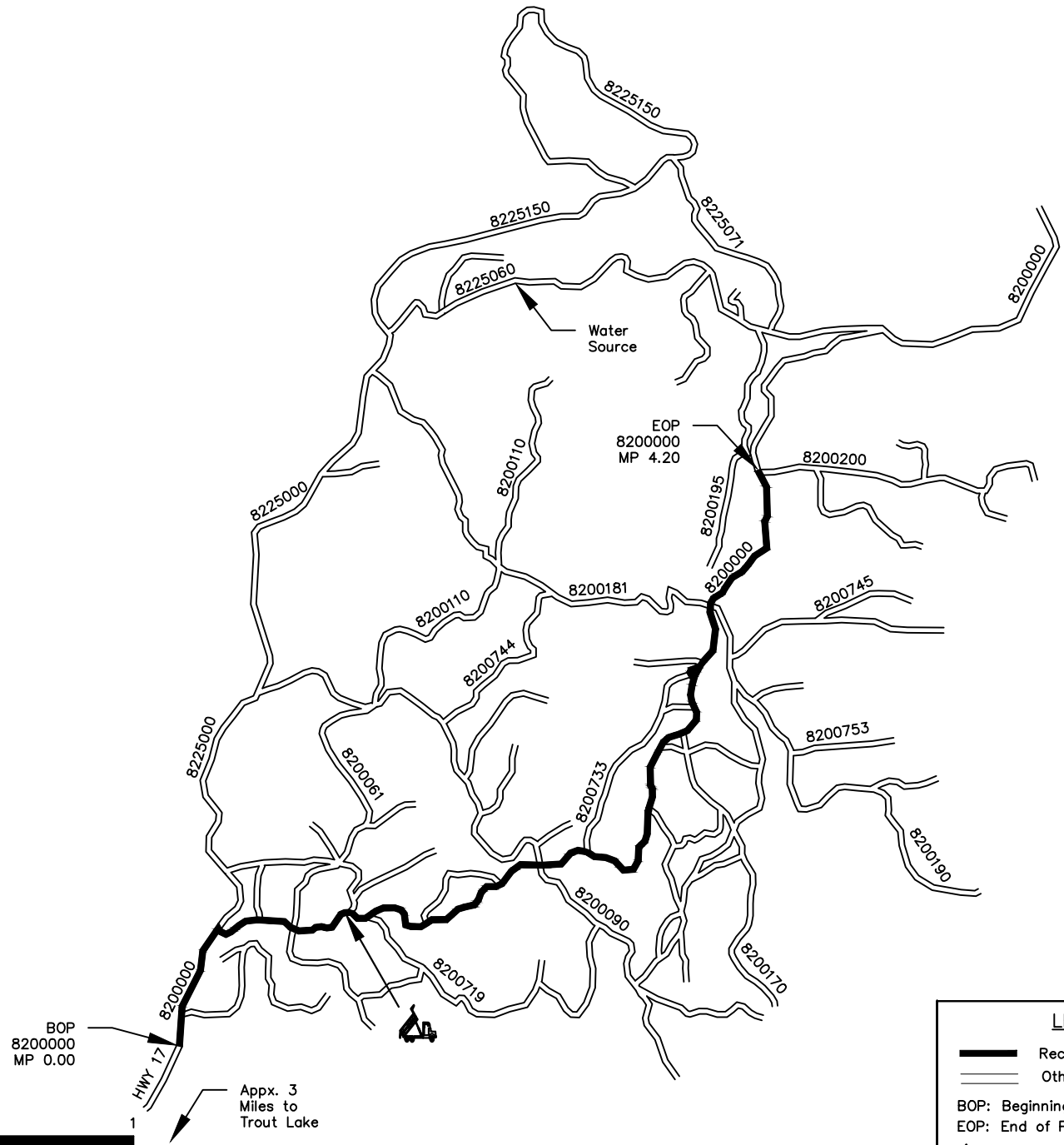
Contract Name: King Stewardship ReOffer



King Stewardship
 Timber Sale
 Vicinity Map
 Mt. Adams Ranger District
 Region 6

Designed	<i>M. Larman</i>	Date	<i>09/19</i>
Drawn	<i>M. Larman</i>		<i>09/19</i>
Checked	<i>J. Cook</i>		<i>09/19</i>
Approved	<i>J. Heyl</i>		<i>09/19</i>

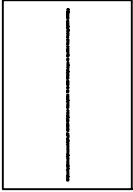
Drawing Name	King Stewardship Plans
Sheet	2 of 7



LEGEND

- Reconstruction Segments
- Other Roads
- BOP: Beginning of Project
- EOP: End of Project
- Disposal Site

Contract Name: King Stewardship ReOffer



King Stewardship
Timber Sale
Estimate of Quantities

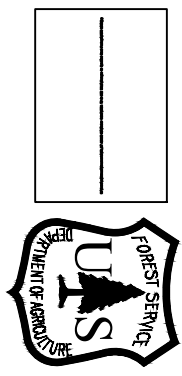
Mt. Adams Ranger District Region 6

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Approved	J. Heyl	09/19

Drawing Name
King Stewardship Plans
Sheet
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ITEM NUMBER	DESCRIPTION - All Roads	UNIT	QUANTITIES	REMARKS
	FS ROAD NUMBER		8200000	
	PROJECT ROAD LENGTH	Miles	4.50	
15101	Mobilization	Lump Sum	All	Includes fire protection, temporary traffic control, and equipment cleaning.
20207	Removal of Individual Trees, disposal of tops and limbs (f), logs (f), stumps (n/a)	Each	5	Fell and leave all hazard trees marked by Contracting Officer.
20302	Removal of corrugated metal pipe, disposal method (a)	Each	4	Includes excavation to remove culvert.
20424	Drainage excavation, type culvert outlet ditch	Foot	350	Includes removal of material inside of culvert.
20425	Drainage excavation, type culvert catchbasin	Each	4	Includes removal of material inside of culvert.
30115	Aggregate surface course, grading D	Cubic Yard*	3,500	Commercial Source.
30307	Roadbed reconditioning, compaction method (a)	Mile	4.12	
60201	18-inch pipe culvert, type aluminized steel, 0.064-inch thickness	Foot	110	Commercial Source. Includes bands and necessary hardware.
60708	Cleaning culverts in place	Each	1	Remove and dispose of all foreign material within the barrel of the culvert by any method that does not damage the culvert.
62552	Seeding and mulching, dry method	Lump Sum	All	Government provided seed. Commercial source, certified weed free mulch. Includes mulching of all areas and disposal areas for ENTIRE project.
* Denotes contract quantity				

Contract Name: King Stewardship ReOffer



King Stewardship
 Timber Sale
 Reconstruction Summaries
 Mt. Adams Ranger District
 Region 6

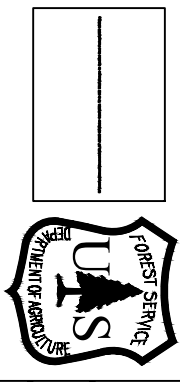
Designed M. Larman 09/19 Date
 Drawn M. Larman 09/19
 Checked J. Cook 09/19
 Approved J. Heyl 09/19

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 King Stewardship
 Plans
 Sheet
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ROAD 8200000 RECONSTRUCTION SUMMARY				
Mile	ITEM NUMBER	QUANTITY	UNIT	RECONSTRUCTION SUMMARY
0.00				Beginning of project. Intersection with Hwy 17, straight.
	20207	5	Each	Remove hazard trees, to be field identified.
0.02				Reference: Intersection with Road 8200020, right.
0.38				Reference: End of asphalt. End clearing and grubbing.
	30307	4.12	Mile	Begin roadbed roadway. Scarify a minimum of 1" below the depth of all existing potholes, corrugations or surface irregularities.
0.41				Reference: Intersection with Road 8225, left.
0.73				Reference: Intersection with Road 8200061, left and Road 8200070, right. Designated disposal area.
1.01				Reference: Intersection with Road 8200709, left.
1.07	20424	10	Foot	Construct outlet ditch.
1.18				Reference: Intersection with Road 8200080, right.
1.22	20425	1	Each	Reconstruct catchbasin.
	20424	25	Foot	Construct outlet ditch.
1.32	20424	10	Foot	Construct outlet ditch.
1.39	20424	25	Foot	Construct outlet ditch.
1.50				Reference: Intersection with Road 8200715, left.
1.64	20424	10	Foot	Construct outlet ditch.
1.80	20424	50	Foot	Construct outlet ditch.
2.08				Reference: Snowing Snow Park, left. Reference: Intersection with Road 8200101, left and Road 8200090, right.
	20425	1	Each	Reconstruct catchbasin (protect existing waterline).
	20424	10	Foot	Construct outlet ditch (protect existing waterline).
2.25				Reference: Intersection with Road 8200733, left.
	20425	1	Each	Reconstruct catchbasin.
	20424	15	Foot	Construct outlet ditch.
2.42				Replace culvert.
	20302	1	Each	Remove existing culvert.
	60201	36	Foot	Install 18-inch CMP at same skew and grade.
	20424	50	Foot	Construct outlet ditch.
	30115	20	Cubic Yard*	Place aggregate surfacing.
2.56				Replace culvert.
	20302	1	Each	Remove existing culvert.
	60201	34	Foot	Install 18-inch CMP at same skew and grade.
	20424	10	Foot	Construct outlet ditch.
	30115	20	Cubic Yard*	Place aggregate surfacing.
2.62				Reference: Intersection with un-named road, left.
2.68				Reference: Intersection with Road 8200160, right.
2.73	20424	10	Foot	Construct outlet ditch.
2.85	20424	25	Foot	Construct outlet ditch.

ROAD 8200000 RECONSTRUCTION SUMMARY				
Mile	ITEM NUMBER	QUANTITY	UNIT	RECONSTRUCTION SUMMARY
2.95				Reference: Intersection with un-named road, left.
3.01	20424	10	Foot	Construct outlet ditch.
3.11	20302	1	Each	Remove 4' of existing culvert from inlet.
	60201	4	Foot	Attach to existing culvert inlet at same skew and grade.
3.19				Reference: Intersection with Road 8200170, right.
3.28	60708	1	Each	Clean entire barrel of existing culvert.
	20424	50	Foot	Construct outlet ditch.
3.38				Reference: Intersection with Road 8200733, left.
3.55				Reference: Intersection with Road 8200748, left.
3.61	20424	10	Foot	Construct outlet ditch.
3.82				Reference: Intersection with Road 8200181, left and Road 8200190, right.
4.06				Replace culvert.
	20302	1	Each	Remove existing culvert.
	60201	36	Foot	Install 18-inch CMP at same skew and grade.
	20424	10	Foot	Construct outlet ditch.
	30115	20	Cubic Yard*	Place aggregate surfacing.
4.23	20425	1	Each	Reconstruct catchbasin.
	20424	10	Foot	Construct outlet ditch.
4.39	20424	10	Foot	Construct outlet ditch.
4.50				Reference: Intersection with Road 8200200, right and Road 8200195, left.
	30115	3,440	Cubic Yard*	Place 4-inch lift, full road width at locations marked by ER.
				End all pay items.
				End of project.

Contract Name: King Stewardship ReOffer



King Stewardship
Timber Sale
Drainage Listing

Mt. Adams Ranger District Region 6

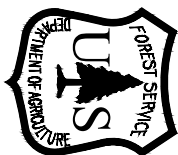
Designed M. Larrman Date 09/19
 Drawn M. Larrman 09/19
 Checked J. Cook 09/19
 Approved J. Heyl 09/19

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King Stewardship Plans
Sheet
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ROAD NUMBER	STATION OR MILE POST	DESIGNED			AS BUILT			INSTALLATION DETAILS			DEWATER CULVERT	CULVERT INLET DITCH (FT)	CULVERT OUTLET DITCH (FT)	RECONSTRUCT CATCH BASIN	CLEAN EXISTING CULVERT	SAW CUT CULVERT	JACK OPEN CULVERT INLET / OUTLET	CONSTRUCT HEADWALL (CY*)	CONSTRUCT SPLASH APRON (CY*)	AGGREGATE		REMARKS
		PIPE		SPILLWAY PIPE	PIPE		SPILLWAY PIPE	TYPE	SKEW (°)	GRADE (%)										DEPTH (INCH)	TOTAL (CY*)	
		DIAMETER (INCH)	LENGTH (FT)	FULL CIRCLE (FT)	DIAMETER	LENGTH (FT)	FULL CIRCLE (FT)															
8200000	1.07											10										
	1.22											25	✓									
	1.32											10										
	1.39											25										
	1.64											10										
	1.80											50										
	2.08											10	✓									Protect existing waterline.
	2.25											15	✓									
	2.42	18	36					#	#	#		50								8	20	
	2.56	18	34					#	#	#		10								8	20	
	2.73											10										
	2.85											25										
	3.01											10										
	3.11	18	4					#	#	#												Remove and replace 4 ft of inlet.
	3.28													✓								
	3.61											10										
	4.06	18	36					#	#	#		10								8	20	
	4.23											10	✓									
	4.39											10										

Denotes skew, grade and type shall match removed installation unless otherwise noted.
 Some installations of culverts may require additional excavation below existing grade line. (Indirect to corresponding culvert installation.)

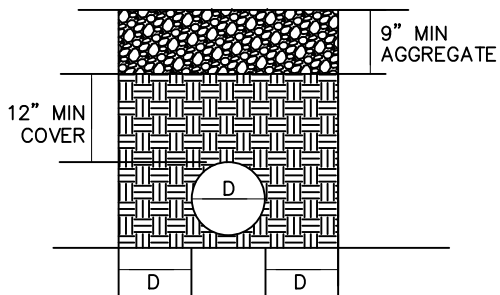
Contract Name: King Stewardship ReOffer



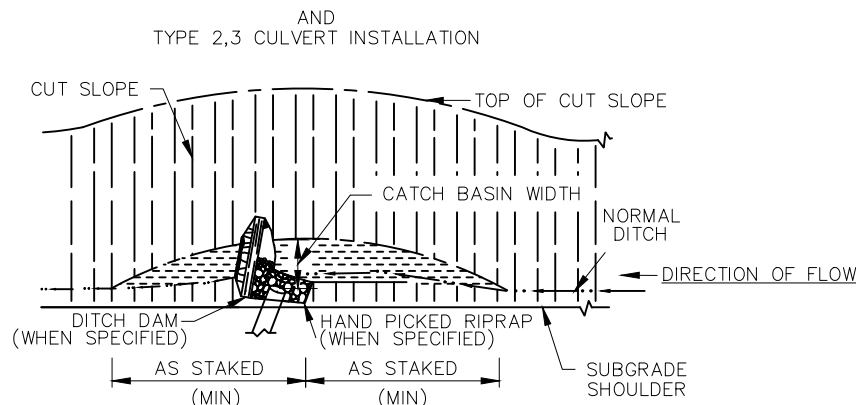
King Stewardship
 Timber Sale
 Culvert Details
 Mt. Adams Ranger District
 Region 6

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Checked	J. Cook		09/19
Approved	J. Heyl		09/19

Drawing Name
 King Stewardship Plans
 Sheet 6 of 7

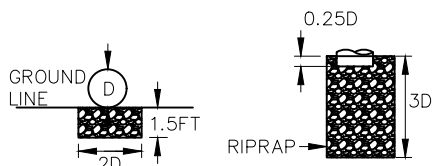


NOTE: TYPICAL FOR ALL CULVERT INSTALL TYPES
CULVERT BACKFILL
 NOT TO SCALE



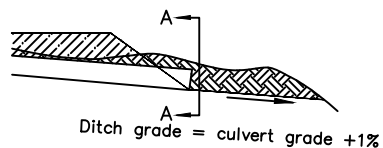
CATCH BASIN DETAIL

SPLASH APRON DETAIL



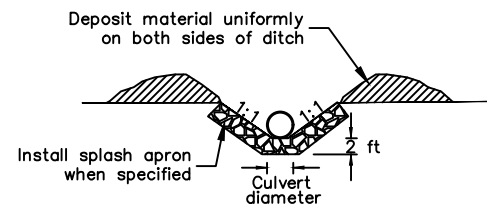
APRON SURFACE SHALL BE LEFT WITH PROTRUDING RIPRAP FOR VELOCITY BREAK.

INLET/OUTLET DITCH

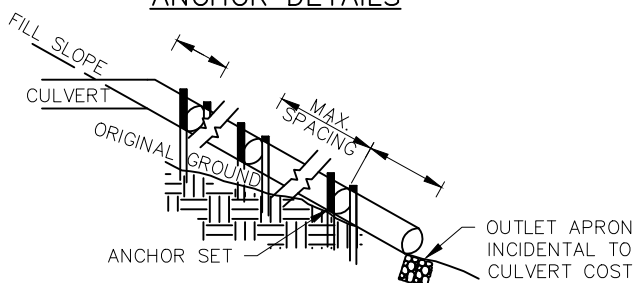


Note: Seed ditch and berm when specified

INLET/OUTLET DITCH SECTION A-A

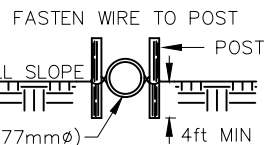


ANCHOR DETAILS



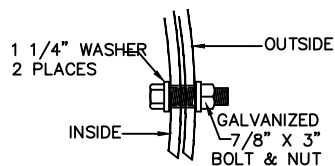
NOTE:

24in DIAMETER AND LARGER DOWNPIPE SHALL BE HALF BURIED. ANCHOR SETS SHALL CONSIST OF TWO 6ft METAL FENCE POST AND 3 STRANDS OF NO. 9 WIRE (3.77mm ϕ). THE 3 STRANDS OF WIRE SHALL BE TWISTED TOGETHER AND ENCOMPASS THE ENTIRE CIRCUMFERENCE OF THE PIPE AND BOTH ANCHORS. ANCHOR ASSEMBLY FOR DOWNPIPE SHALL BE THE SAME BASE METAL AS THE DOWNPIPE. MAX POST SPACING IS 10FT

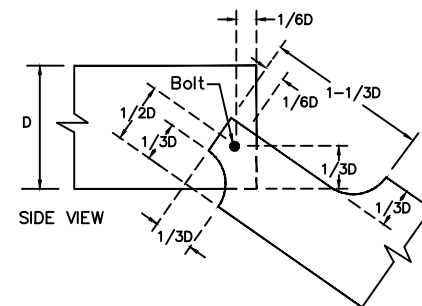


NO. 9 WIRE (3.77mm ϕ)

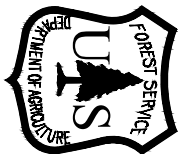
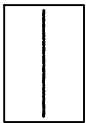
BOLT DETAIL FOR METAL PIPE



FLEX ELBOW DETAIL FOR METAL PIPE



Contract Name: King Stewardship ReOffer



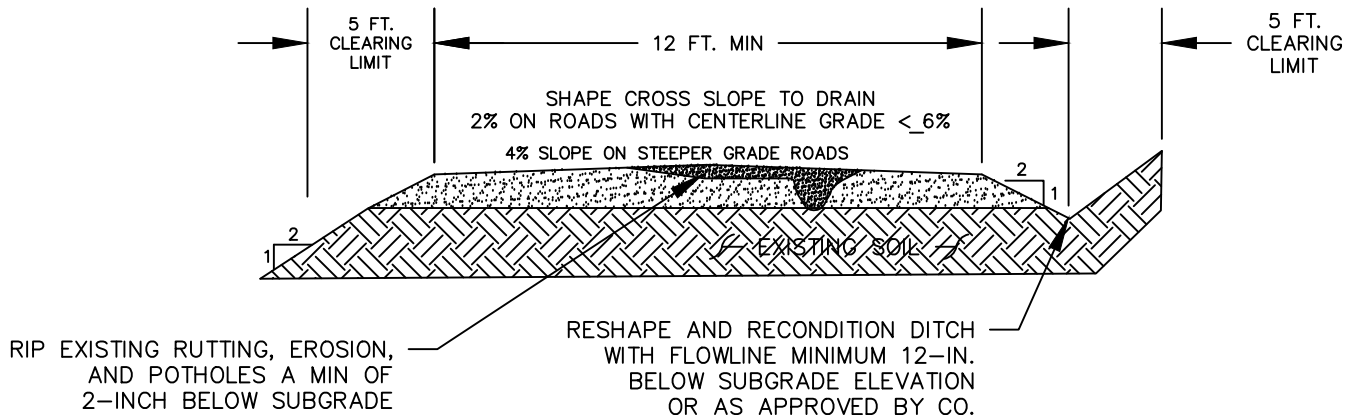
Mt. Adams Ranger District

Region 6

King Stewardship
Timber Sale
Road Reconditioning

Designed	<u>M. Larman</u>	Date	<u>09/19</u>
Drawn	<u>M. Larman</u>		<u>09/19</u>
Checked	<u>J. Cook</u>		<u>09/19</u>
Approved	<u>J. Heyl</u>		<u>09/19</u>

Drawing Name
King Stewardship Plans
Sheet
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TYPICAL ROADBED RECONDITIONING SECTION

Not to Scale

NOTES:

1. RECONDITION ROADS AS SHOWN IN ACCORDANCE WITH SECTION 303.
2. WHERE RUTTING, EROSION, AND POTHOLES EXIST, SCARIFY PER FP14 REQUIREMENTS.
3. ADD AGGREGATE AS SHOWN ON WORK LIST AND SCHEDULE OF ITEMS.
4. MATCH EXISTING ROAD WIDTHS.

Gifford Pinchot National Forest

Mt. Adams Ranger District

Yakima County

FP-14 - SUPPLEMENTAL SPECIFICATIONS

for

King Stewardship ReOffer Timber Contract

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Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-14 for construction of National Forest System Roads.

101 - Terms, Format, and Definitions

101.01_National_3_15_2017

Add the following paragraph to Subsection 101.01:

101.01 Meaning of Terms.

Delete all references to the FAR (Federal Acquisition Regulations) in the specifications when incorporating into 2400-6(T) Timber Sale or 2400-13(T) Stewardship contracts.

101.01_National_11_9_2016

Add the following paragraph to Subsection 101.01:

101.01 Meaning of Terms.

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03_National_11_9_2016

Add the following to Subsection 101.03:

101.03 Abbreviations.

(a) Acronyms.

AGAR — Agriculture Acquisition Regulations

AFPA — American Forest and Paper Association

FSAR — Forest Service Acquisition Regulations

MSHA — Mine Safety and Health Administration

NESC — National Electrical Safety Code

WCLIB — West Coast Lumber Inspection Bureau

(f) Miscellaneous unit abbreviations.

MP — milepost location

ppm — parts per million volume

STA — station location

Make the following changes to Subsection 101.04:

101.04 Definitions.

Delete these definitions and replace the following:

Bid Schedule — The Schedule of Items.

Bridge — A structure, including supports, erected over a depression or an obstruction such as water along a road, a trail, or a railway and having a deck for carrying traffic or other loads.

Contractor — The individual or legal entity contracting with the Government for performance of prescribed work. In a timber sale contract, the contractor is the “Purchaser”.

Culvert — Any structure with a bottom, regardless of fill depth, depth of invert burial, or presence of horizontal driving surface, or any bottomless (natural channel) structure with footings that will not have wheel loads in direct contact with the top of the structure.

Drawings — (Public Works Contracts) Design sheets or fabrication, erection, or construction details submitted to the CO by the Contractor according to FAR Clause 52.236-21 Specifications and Drawings for Construction. Also refers to submissions and submittals.

Notice to Proceed — (Public Works Contracts) Written notice to the Contractor to begin the contract work.

Right-of-Way — A general term denoting (1) the privilege to pass over land in some particular line (including easement, lease, permit, or license to occupy, use, or traverse public or private lands), or (2) Real property necessary for the project, including roadway, buffer areas, access, and drainage areas.

Solicitation—(Public Works Contracts) The complete assembly of documents (whether attached or incorporated by reference) furnished to prospective bidders.

Add the following definitions:

Adjustment in Contract Price — “Equitable adjustment,” as used in the Federal Acquisition Regulations, or “construction cost adjustment,” as used in the Timber Sale Contract, as applicable.

Change — “Change” means “change order” as used in the Federal Acquisition Regulations, or “design change” as used in the Timber Sale Contract.

Forest Service — The United States of America, acting through the Forest Service, U.S. Department of Agriculture.

Neat Line — A line defining the proposed or specified limits of an excavation or structure.

Pioneer Road — Temporary construction access built along the route of the project.

Purchaser — The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through agents, employees, or subcontractors.

Protected Streamcourse — A drainage shown on the plans or timber contract area map that requires designated mitigation measures.

Road Order — An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

Shop Drawings — (Timber and Stewardship Contracts) Referred to as “Drawings” in FP-14, include drawings, diagrams, layouts, schematics, descriptive literature, illustrations, lists or tables, performance and test data, and similar materials furnished by Purchaser to explain in detail specific portions of the work required by the contract.

Utilization Standards — The minimum size and percent soundness of trees described in the specifications to determine merchantable timber.

Add Figure 101-1—Illustration of road structure terms:

Figure 101-1—Illustration of road structure terms.

102 - Bid, Award, and Execution of Contract

102.00_National_11_9_2016

Delete Section 102 in its entirety.

Delete Section 102.

103 - Scope of Work

103.00_National_11_9_2016

Delete all of Section 103 except Subsection 103.01 Intent of Contract.

Delete Subsections 103.02, 103.03, 103.04, 103.05.

104 - Control of Work

104.00_National_11_9_2016

Delete Subsections 104.01, 104.02, and 104.04.

Delete Subsections 104.01, 104.02, 104.04.

104.03_National_11_4_2016

Delete Subsection 104.03 and replace with the following:

104.03 Specifications and Drawings.

Refer to B(T) 5.211 in the 2400-6(T)) or F(T).2.1.1 in the 2400-13(T) contracts for requirements under this subsection.

104.06_National_11_9_2016

Add the following to Subsection 104.06:

104.06 Use of Roads by Contractor.

The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete this contract, subject to the limitations and authorizations designated in the Road Order(s) or described in the contract, when such use will not damage the roads or national forest resources, and when traffic can be accommodated safely.

105 - Control of Material

105.02_National_11_1_2016

Add the following to Subsection 105.02c:

105.02(c) Contractor-located sources.

A Forest Service weed specialist will inspect proposed sources to determine weed-free status. Provide the Contracting Officer written notification of proposed material sources ~~<14>~~ days prior to use. Written approval of the specific source will be provided to the contractor by the CO. If weed species are present in the proposed source, appropriate mitigation measures may allow conditional use of the source as required by the Contracting Officer.

106 - Acceptance of Work

106.01_National_7_18_2017

Delete Subsection 106.01 and replace with the following:

106.01 Conformity with Contract Requirements.

Follow the requirements of FAR Clause 52.246-12 Inspection of Construction.

References to standard test methods of AASHTO, ASTM, GSA, and other recognized standard authorities refer to the methods in effect on the date of solicitation for bids.

Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown on the plans or specified in the contract.

Incorporate manufactured materials into the work according to the manufacturer's recommendations or to these specifications, whichever is more strict.

Plan dimensions and contract specification values are the values to be strived for and complied with as the design values from which any deviations are allowed. Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons.

When standard manufactured items are specified (such as fence, wire, plates, rolled shapes, pipe conduits, etc., that are identified by gauge, unit mass, section dimensions, etc.), the identification will be considered to be nominal masses or dimensions. Unless specific contract tolerances are noted, established manufacturing tolerances will be accepted.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. When the Government tests work, copies of test reports are furnished to the Contractor upon request. Government tests may or may not be performed at the work site. If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance. Do not rely on the availability of Government test results for process control.

Acceptable work conforming to the contract will be paid for at the contract unit bid price. Four methods of determining conformity and accepting work are described in Subsections 106.02 to 106.05 inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the contract.

Remove, repair, or replace work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted. Removing, repairing, or replacing work; providing temporary traffic control; and any other related work to accomplish conformity will be at no cost to the Government.

(a) Disputing Government test results. If the accuracy of Government test results is disputed, promptly inform the CO. If the dispute is unresolved after reasonable steps are taken to resolve the dispute, further evaluation may be obtained by written request. Include a narrative describing the dispute and a proposed resolution protocol that addresses the following:

1. Sampling method;
2. Number of samples;
3. Sample transport;
4. Test procedures;
5. Testing laboratories;
6. Reporting;
7. Estimated time and costs; and
8. Validation process.

If the evaluation requires additional sampling or testing be performed, mutually agree with the Government on witnessing procedures and on sampling and testing by a third party laboratory. Use a third party laboratory accredited by the AASHTO accreditation program. Provide proof of the laboratory's accreditation for the test procedures to be used. Do not use the same laboratory that produced the disputed Government test results or that produced the test results used as a basis for the dispute.

The CO will review the proposed resolution protocol and may modify it before final approval and execution.

The Government will use the approved resolution protocol test results to determine the validity of the disputed testing. If the Government test results are validated, the Contractor will be responsible for all costs associated with developing and performing the resolution protocol. If the Government test results are not validated, the Government will be responsible for all costs associated with developing and performing the resolution protocol. If the validity of the Government test results cannot be determined, the Contractor and Government will equally share all costs associated with developing and carrying out the resolution protocol.

(b) Alternatives to removing and replacing non-conforming work. As an alternative to removal and replacement, the Contractor may submit a written request to:

1. Have the work accepted at a reduced price; or
2. Be given permission to perform corrective measures to bring the work into conformity.

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The CO will determine disposition of the nonconforming work.

Delete Subsection 106.02 and replace with the following:

106.02 Visual Inspection.

Acceptance is based on visual inspection of the work for compliance with the specific contract requirements. Use prevailing industry standards in the absence of specific contract requirements or tolerances.

Delete Subsection 106.07.

106.07 Partial and Final Acceptance.

107 - Legal Relations and Responsibility to the Public

107.02_National_11_1_2016

Add the following to Subsection 107.02:

107.02 Protection and Restoration of Property and Landscape.

Seeding and mulching can only be placed between February 1st to March 31st and September 1st to October 31st.

Road work between MP 2.25 (Intersection with Road 8200733) and MP 2.68 (Intersection with Road 8200160) can only be completed between July 16th and October 31st.

Do not stage any equipment or materials at Snow King Snow Park.

107.05_National_7_18_2017

Delete Subsection 107.05.

Delete Subsection 107.05.

107.08_National_11_1_2016

Delete Subsection 107.08 and replace with the following:

107.08 Sanitation, Health, and Safety.

Refer to specific provisions under B(T) 6.0 in the 2400-6(T) or G(T).0 in the 2400-13(T) contracts for requirements under this subsection.

108 - Prosecution and Progress

108.00_National_11_9_2016

Delete Section 108 in its entirety.

Delete Section 108.

109 - Measurement and Payment

109.00_National_11_9_2016

Delete Subsections 109.06, 109.07, 109.08, and 109.09:

Delete Subsections 109.06, 109.07, 109.08, 109.09.

109.02_National_11_9_2016

Add the following sentence to Subsection 109.02(b):

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

151 - Mobilization

151.01_0603_us_01_17_2017

Description

151.01.

Add the following:

Noxious weed control requirements:

Clean all construction equipment prior to entry onto the project area. Remove all dirt and plant parts and material that could carry noxious weed seeds into the project area. Only construction equipment so cleaned and inspected by the Forest Service will be allowed to operate within the project area. Treat all subsequent move-ins of construction equipment in the same manner as initial move-ins. "Construction equipment" does not include personal vehicles, paving equipment or support equipment that remains on the main travel route.

Prior to the initial move-in, the contractor shall make all construction equipment available for inspection by the Forest Service at an agreed upon location. Provide the Forest Service at least **48 hours** advance notification when equipment is ready for inspection.

Payment

151.03

Add the following to the first paragraph:

Compensation for all costs associated with the cleaning of equipment is made as an indirect payment to Section 151 item listed in the bid schedule.

Add the following to the beginning of paragraph (a).

"If applicable,"

155 - Schedules for Construction Contracts

155.00_National_11_9_2016

Delete Section 155 in its entirety.

Delete Section 155.

156 - Public Traffic

156.00_National_11_4_2016

Delete Section 156 in its entirety and replace with the following:

Section 156. – PUBLIC TRAFIC

Description

156.01 This work consists of controlling and protecting public traffic adjacent to and within the project.

Material

156.02 Conform to the MUTCD and the following Sections and Subsections:

Permanent Traffic Control	633
Traffic Signing and Marking Material	718
Concrete Barriers and Precast Guardwalls	618
Temporary plastic fence	710.11

Construction Requirements

156.03 General. Accommodate traffic according to MUTCD, approved traffic control plan and this section. Perform work in a manner that ensures safety and convenience of the public. Unless otherwise provided for in Table 156-1, keep existing roads open to all traffic during road improvement work, and maintain them in a condition that will adequately accommodate traffic. Delays may not exceed **<30>** minutes at any one time followed by an open period of no less than **<5>** minutes. Accommodate public traffic on roads adjacent to and within the project until the project is accepted according to Subsection 106.07(b).

Submit traffic control plan at least 30 days prior to intended use. Perform no work that interferes or conflicts with traffic or existing access to the roadway surface until a traffic control plan has been approved.

Post construction signs and traffic control devices in conformance with MUTCD and Forest Service EM 7100-15. All required signs will be in place and approved prior to beginning work on project.

If the Contractor agrees in writing to allow public traffic to use a new road being constructed prior to completion, it will be considered an existing road for traffic control purposes.

156.04 Temporary Traffic Control. Install and maintain temporary traffic control devices adjacent to and within the project as required by the approved traffic control plan and the MUTCD. Install and maintain traffic control devices as follows:

- (a) Furnish and install traffic control devices before the start of construction operations.
- (b) All detours outside of clearing limits will be approved in writing by the Contracting Officer as part of the traffic control plan.
- (c) Install only those traffic control devices needed for each stage or phase.

- (d) Relocate temporary traffic control devices as necessary.
- (e) Remove devices that no longer apply to the existing conditions.
- (f) Immediately replace any device that is lost, stolen, destroyed, or inoperative.
- (g) Keep temporary traffic control devices clean.
- (h) Remove all temporary traffic control devices upon contract completion or when approved.
- (i) When required, use flaggers certified by the American Traffic Safety Services Association, the National Safety Council, the International Municipal Signal Association, a state agency, or other acceptable organization. Perform the work described under MUTCD Part 6. Use type III, VII, VIII, or IX retroreflective sheeting on flagger paddles. Do not use flags. Flaggers must wear high visibility safety apparel as required by MUTCD 6E.02.

156.05 Temporary Closures. Road segments may be closed as shown in Table 156-1. The maximum consecutive days of closure shall be followed by a minimum number of consecutive days open to traffic as shown. Maintain traffic control devices during closure period(s). Appropriate barricades and signs will be erected and maintained as shown in the traffic control plan or as otherwise designated.

Prior to closing roads during construction, give written notice to the Contracting Officer at least 10 days in advance.

**Table 156-1
Temporary Road Closures**

Road Number	From Terminus	To Terminus	Maximum Consecutive Days of Closure	Minimum Consecutive Days Open
N/A	N/A	N/A	N/A	N/A

156.06 Acceptance. Public traffic work will be evaluated under Subsection 106.02.

Measurement and Payment

156.07 Do not measure Public Traffic for payment. Payment for contract work is provided indirectly. See Subsection 109.05.

157 - Soil Erosion and Sediment Control

157.04_0603_2_24_2005

Delete Subsection 157.04 and replace with the following:

157.04 General.

Prior to the start of construction, submit a written plan that provides permanent and temporary erosion control measures to minimize erosion and sedimentation during and after construction. Do not begin work until the necessary controls for that particular phase of work have been implemented. Do not modify the type, size, or location of any control. An alternate erosion control plan with all necessary permits may be submitted 30 days before intended use.

Incorporate all permanent erosion control features into the project at the earliest practicable time, as outlined in the approved plan.

When erosion control measures are not functioning as intended, immediately take corrective action.

201 - Clearing and Grubbing

201.04_National_11_2_2016

Add the following paragraph to Subsection 201.04:

201.04 Clearing.

(e) Do not cut vegetation less than 3 feet in height and less than 3 inches in diameter that is within the clearing limits but beyond the roadway and not in a decking area and that does not interfere with sight distance along the road unless otherwise designated.

201.04_0603_02_22_2005

201.04 Clearing. (c)

Delete paragraph (c) and replace with the following:

(c) In areas outside the excavation, embankment, and slope rounding limits, cut stumps to within 12 inches or one-third of the stump diameter of the ground, whichever is higher, measured on the side adjacent to the highest ground. For timber sales, stump heights will meet the requirements of the Timber Sale contract.

Replace with the following:

(d) Trim branches of remaining trees or shrubs to give a clear height of 14 feet above the roadbed unless otherwise indicated. Trim tree limbs as near flush with the trunk as practicable.

201.06_National_11_2_2016

Delete the first sentence of this Subsection 201.06 and replace the following:

201.06 Disposal.

Dispose of merchantable timber designated for removal according to the provisions of the timber sale contract.

203 - Removal of Structures and Obstructions

203.05_National_11_8_2016

Add the following to Subsection 203.05:

203.05 Disposing of Material.

(e) Windrowing Construction Slash. Place construction slash outside the roadway in neat, compacted windrows approximately parallel to and along the toe line of embankment slopes. Do not permit the top of the windrows to extend above subgrade. Use construction equipment to matt down all material in a windrow to form a compact and uniform pile. Construct breaks of at least 15 feet at least every 200 feet in a windrow. Do not place windrows against trees.

(f) Scattering. Scatter construction slash in designated areas without damaging trees. Limb all logs. Place logs and stumps away from trees, positioned so they will not roll, and are not on top of one another. Limb and scatter other construction slash to reduce slash concentrations. When scattering for erosion control, place construction slash as flat as practicable on the completed slope.

(g) Chipping. Use an approved chipping machine to chip slash longer than 3 feet. Deposit chips on embankment slopes or outside the roadway to a loose depth less than 6 inches. Minor amounts of chips or ground woody material may be permitted within the roadway if they are thoroughly mixed with soil and do not form a layer.

(h) Debris Mat. Use tree limbs, tops, cull logs, split stumps, wood chunks, and other debris to form a mat upon which construction equipment is operated. Place stumps upside down and blend stumps into the mat.

(i) Decking. Remove brush from designated log deck areas. Limb and top logs.

Logs not meeting the Utilization Standards described in Subsection 201.04(c) shall be cut to lengths less than <20> feet and decked in designated log deck location.

Merchantable timber not associated with an existing timber sale shall be cut to length meeting the Utilization Standards described in Subsection 201.04(c).

Deck logs so that logs are piled parallel to one another; can be removed by standard log loading equipment; will not damage standing trees; will not interfere with drainage, and will not roll. Keep logs in log decks free of brush and soil.

(j) Removal to designated locations. Remove construction slash to designated locations.

(k) Piling. Pile construction slash in designated areas. Place and construct piles so that if the piles are burned, the burning will not damage remaining trees. Keep piles free of dirt from stumps.

204 - Excavation and Embankment

204.00_National_11_4_2016

Delete Section 204 in its entirety and replace with the following.

Section 204. — EXCAVATION AND EMBANKMENT

Description

204.01 This work consists of excavating material and constructing embankments. This work also includes furnishing, hauling, stockpiling, placing, disposing, sloping, shaping, compacting, and finishing earthen and rocky material.

204.02 Definitions.

(a) Excavation. Excavation consists of the following:

(1) Roadway excavation. Material excavated from within the right-of-way or easement areas, except subexcavation covered in Subsection 204.02(a)(2) and structure excavation covered in Sections 208 and 209. Roadway excavation includes all material encountered regardless of its nature or characteristics.

(2) Subexcavation. Material excavated from below subgrade elevation in cut sections or from below the original ground-line in embankment sections. Subexcavation excludes the work required by Subsection 204.05 or 204.06.

(3) Borrow excavation. Material used for embankment construction that is obtained from outside the roadway prism. Borrow excavation includes unclassified borrow, and topping.

(b) Embankment construction. Embankment construction consists of placing and compacting roadway or borrow excavation. This work includes:

- (1)** Preparing foundation for embankment;
- (2)** Constructing roadway embankments;
- (3)** Benching for side-hill embankments;
- (4)** Constructing dikes, ramps, mounds, and berms; and
- (5)** Backfilling subexcavated areas, holes, pits, and other depressions.

(c) Conserved topsoil. Excavated material conserved from the roadway excavation and embankment foundation areas that is suitable for growth of grass, cover crops, or native vegetation.

(d) Waste. Excess and unsuitable roadway excavation and subexcavation that cannot be used.

Material

204.03 Conform to the following Subsections:

Topping	704.05
Unclassified borrow	704.06
Water	725.01(c)

Construction Requirements

204.04 Preparation for Roadway Excavation and Embankment Construction. Clear the area of vegetation and obstructions according to Sections 201 and 203.

Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation and embankment. Maintain drainage during pioneering operations.

204.05 Conserved Topsoil. When designated, conserve topsoil from roadway excavation and embankment foundation areas. Stockpile conserved topsoil in low windrows immediately beyond the rounding limits of cut and embankment slopes or in other approved locations. Separate conserved topsoil from other excavated material. When designated, place conserved topsoil on completed slopes according to Section 624.

204.06 Roadway Excavation. Excavate as follows:

(a) Rock cuts. Blast rock according to Section 205. Excavate rock cuts to 6 inches (150 millimeters) below subgrade within the roadbed limits. Backfill to subgrade with topping or other suitable material. Compact the material according to Subsection 204.11.

(b) Earth cuts. Scarify earth cuts to 6 inches (150 millimeters) below subgrade within the roadbed limits. Compact the scarified material according to Subsection 204.11.

(c) Pioneer Roads. Conduct excavation and placement operations so material to be treated under Section 201 will not be incorporated into the roadway unless specified in the slash treatment method. Maintain drainage during pioneering operations.

Remove snow and ice in advance of the work and deposit beyond the roadway limits in a manner that will not waste material or generate sediment. Do not incorporate snow and ice into embankments. Place snow or ice in a manner to prevent resource damage.

(d) Drainage Feature. Drainage feature includes construction of all ditches, minor channel changes, drainage dips, catch basins, surface water deflectors, and other minor drainage structures. Compact the material according to Subsection 204.11. Excavate on a uniform grade between control points.

Do not disturb material and vegetation outside the construction limits. Retrieve material deposited outside the construction limits. Dispose of unsuitable or excess excavation material according to Subsection 204.14. Replace shortage of suitable material caused by premature disposal of roadway excavation.

Shape to drain and compact the work area to a uniform cross-section at the end of each day's operations.

204.07 Subexcavation. Excavate material to the required limits. Dispose of unsuitable material according to Subsection 204.14. Take cross-sections according to Section 152. Backfill subexcavated area with suitable

material in horizontal layers not exceeding 12 inches (300 millimeters) in compacted thickness and compact according to Subsection 204.11. Prevent unsuitable material from mixing with suitable backfill material.

204.08 Borrow Excavation. Use suitable roadway excavation in embankment construction. Do not use borrow excavation when it results in excess roadway excavation. Deduct excess borrow excavation from the total borrow excavation quantity.

Obtain borrow source approval according to Subsection 105.02. Develop and restore borrow sources according to Subsections 105.03 and 105.06. Do not excavate beyond the established limits. When applicable, shape the borrow source to permit accurate measurements when excavation is complete.

204.09 Preparing Foundation for Embankment Construction. Prepare foundation for embankment construction as follows:

(a) Embankment over natural ground. Remove topsoil and break up the ground surface to a minimum depth of 6 inches (150 millimeters) by plowing or scarifying. Compact the ground surface according to Subsection 204.11.

(b) Embankments over an existing asphalt, concrete, or gravel road surface. Scarify gravel roads to a minimum depth of 6 inches (150 millimeters). Scarify or pulverize asphalt and concrete roads to 6 inches (150 millimeters) below the pavement. Reduce particles to a maximum size of 6 inches (150 millimeters) and produce a uniform material. Compact the surface according to Subsection 204.11.

(c) Embankment across ground not capable of supporting equipment. Dump successive loads of embankment material in a uniformly distributed layer to construct the lower portion of the embankment. Limit the layer thickness to the minimum depth necessary to support the equipment.

(d) Embankment on an existing slope steeper than 1V:3H. Cut horizontal steps in the existing slope to a sufficient width to accommodate placement and compaction operations and equipment. Step the slope as the embankment is placed and compacted in layers. Begin each step at the intersection of the original ground and the vertical cut of the previous step.

204.10 Embankment Construction. Incorporate only suitable roadway excavation material into the embankment. When the supply of suitable roadway excavation is exhausted, furnish unclassified borrow to complete the embankment. Obtain written approval before beginning construction of embankments over 6 feet (2 meters) high at subgrade centerline. Construct embankments as follows:

(a) General. At the end of each day's operations, shape to drain and compact the embankment surface to a uniform cross-section. Eliminate ruts and low spots that could hold water.

During all stages of construction, route and distribute hauling and leveling equipment over the width and length of each layer of material.

Compact embankment side slopes with a tamping foot roller, by walking with a dozer, or by over-building the fill and then removing excess material to the final slope line. For slopes 1V:1¾H or steeper, compact the slopes as embankment construction progresses.

(b) Embankment within the roadway prism. Place embankment material in horizontal layers not exceeding 12 inches (300 millimeters) in compacted thickness. Incorporate oversize boulders or rock fragments into the 12-inch (300-millimeter) layers by reducing them in size or placing them individually as required below. Compact each layer according to Subsection 204.11 before placing the next layer.

Material composed predominately of boulders or rock fragments too large for 12-inch (300-millimeter) layers may be placed in layers up to 24 inches (600 millimeters) thick. Incorporate oversize boulders or rock fragments into the 24-inch (600-millimeter) layer by reducing them in size or placing individual rock fragments and boulders greater than 24 inches (600 millimeters) in diameter as follows:

- (1) Reduce rock to less than 48 inches (1200 millimeters) in the largest dimension;
- (2) Distribute rock within the embankment to prevent nesting;
- (3) Place layers of embankment material around each rock to a depth not greater than that permitted above. Fill voids between rocks; and
- (4) Compact each layer according to Subsection 204.11(a) before placing the next layer.

(c) Embankment outside of roadway prism. When placing embankment outside the staked roadway prism, place material in horizontal layers not exceeding 24 inches (600 millimeters) in compacted thickness. Compact each layer according to Subsection 204.11.

204.11 Compaction. Compact the embankment using one of the following methods as specified.

(a) Placement Method 1. Use AASHTO T 27 to determine the quantity of material retained on a No. 4 (4.75-millimeter) sieve. Compact as follows:

(1) More than 80 percent retained on a No. 4 (4.75-millimeter) sieve. Adjust the moisture content to a level suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Compact each layer of material full width with one of the following and until there is no visible evidence of further consolidation:

- (a) Four roller passes of a vibratory roller having a minimum dynamic force of 40,000 pounds (180 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute;
- (b) Eight roller passes of a 20-ton (20-metric ton) compression-type roller; or
- (c) Eight roller passes of a vibratory roller having a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute.

Increase the compactive effort for layers deeper than 12 inches (300 millimeters) as follows:

- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 204.11(a)(1)(a), by four passes; or
- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 204.11(a)(1)(b) and (c), by eight passes.

(2) 50 to 80 percent retained on a No. 4 (4.75-millimeter) sieve. Classify the material according to AASHTO M 145. Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content. Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 (4.75-millimeter) sieve. Multiply this number by the percentage of material passing a No. 4 (4.75-millimeter) sieve, and add 2 percent to determine the optimum moisture content of the material.

Use nonvibratory rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Compact each layer of material full width according to Subsection 204.11(a)(1).

(3) Less than 50 percent retained on a No. 4 (4.75-millimeter) sieve. Classify the material according to AASHTO M 145. For material classified A-1 or A-2-4, determine the maximum density according to AASHTO T 99, Method C.

Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content.

Use compression-type or vibratory rollers. Compact each layer of material full width to at least 95 percent of the maximum density. Determine the in-place density and moisture content according to AASHTO T 310 or other approved test procedures. When required, use AASHTO T 224 to correct for coarse particles.

(b) Placement Method 2. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate roller compaction equipment over the full width of each layer until there is no visible evidence of further consolidation or, if when a sheepsfoot roller is used, the roller “walks out” of the layer. Make at least three complete passes. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Ensure rollers meet the following requirements:

(1) Steel wheeled rollers, other than vibratory, capable of exerting a force of not less than 250 pounds per inch (4.5 kilogram/millimeter) of width of the compression roll or rolls.

(2) Vibratory steel wheeled rollers equipped with amplitude and frequency controls with a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration, specifically designed to compact the material on which it is used.

(3) Pneumatic-tired rollers with smooth tread tires of equal size that will provide a uniform compacting pressure for the full width of the roller and capable of exerting a ground pressure of at least 80 psi (550 Kilopascals).

(4) Sheepsfoot, tamping, or grid rollers capable of exerting a force of 250 pounds per inch (4.5 kilogram/millimeter) of width of roller drum.

(c) Placement Method 3. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer until there is no visible evidence of further consolidation. Make at least three complete passes.

(d) Placement Method 4. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer.

(e) Placement Method 5. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact the complete surface with a bucket of an excavator larger than 39,000 pounds (18 metric ton) Gross Vehicle Weight using a minimum of three blows. Overlap compaction by ½ width of bucket.

(f) Placement Method 6. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact using an approved mechanical tamper for a minimum of three complete passes.

When compacting with rollers or hauling and spreading equipment is not practical, use approved mechanical tampers for a minimum of three complete passes.

204.12 Drainage Features. Slope, grade, and shape all drainage features. Remove projecting roots, stumps, rock, or similar matter. Maintain all drainage features in an open condition and without sticks, and other debris.

Form furrow ditches by plowing or using other acceptable methods to produce a continuous furrow. Place excavated material on the downhill side so the bottom of the ditch is approximately 18 inches (450 millimeters) below the crest of the loose material. Clean the ditch using a hand shovel or other suitable method. Shape to provide drainage without overflow.

204.13 Sloping, Shaping, and Finishing. Complete subgrade, slopes, drainage features, culverts, riprap, and other underground minor structures before placing aggregate courses. Slope, shape, and finish to the designated tolerance class as defined in Table 204-2 as follows:

(a) Sloping. Leave earth slopes with uniform roughened surfaces, except as described in Subsection 204.13(b), with no noticeable break as viewed from the road. Except in solid rock, round tops and bottoms of slopes including the slopes of drainage ditches. Round material overlaying solid rock to the extent practical. Scale rock slopes. Slope rounding is not required on tolerance class D through M roads.

If a slide or slipout occurs on a cut or embankment slope, remove or replace the material and repair or restore damage to the work. Bench or key the slope to stabilize the slide. Reshape the cut or embankment slope to an acceptable condition.

(b) Stepped slopes. Where required, construct steps on slopes of 1½V:1H to 1V:2H. Construct the steps approximately 18 inches (450 millimeters) high. Blend the steps into natural ground at the end of the cut. If the slope contains non-rippable rock outcrops, blend steps into the rock. Remove loose material found in transitional area. Except for removing large rocks that may fall, scaling stepped slopes is not required.

(c) Shaping. Shape the subgrade to a smooth surface and to the cross-section required. Shape slopes to gradually transition into slope adjustments without noticeable breaks. At the ends of cuts and at intersections of cuts and embankments, adjust slopes in the horizontal and vertical planes to blend into each other or into the natural ground.

(d) Finishing. Ensure that the subgrade is visibly moist during shaping and dressing; smooth and uniform, and shaped to conform to the typical sections. Remove material larger than 6 inches (150 millimeters) from the top 6 inches (150 millimeters) of the roadbed. Remove unsuitable material from the roadbed, and replace it with suitable material. Scarify to 6 inches (150 millimeters) below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material.

Maintain proper ditch drainage.

204.14 Disposal of Unsuitable or Excess Material. Dispose of unsuitable or excess material at designated sites or according to Subsection 203.05(a)

When there is a pay item for waste, shape and compact the waste material in its final location. Do not mix clearing or other material not subject to payment with the waste material.

204.15 Acceptance. See Table 204-1 for sampling, testing, and acceptance requirements.

Material for embankment and conserved topsoil will be evaluated under Subsections 106.02 and 106.04.

Excavation and embankment construction will be evaluated under Subsections 106.02 and 106.04.

Subexcavation will be evaluated under Subsections 106.02 and 106.04.

Measurement

204.16 Measure the Section 204 pay items listed in the bid schedule according to Subsection 109.02 and the following as applicable:

(a) Roadway excavation. Measure roadway excavation in its original position as follows:

(1) Include the following volumes in roadway excavation:

- (a)* Roadway prism excavation;
- (b)* Rock material excavated and removed from below subgrade in cut sections;
- (c)* Unsuitable material below subgrade and unsuitable material beneath embankment areas when a pay item for subexcavation is not listed in the bid schedule;
- (d)* Ditches, except furrow ditches measured under a separate pay item;
- (e)* Conserved topsoil;
- (f)* Borrow material used in the work when a pay item for borrow is not listed in the bid schedule;
- (g)* Loose scattered rocks removed and placed as required within the roadway;
- (h)* Conserved material taken from pre-existing stockpiles and used in Section 204 work, except topsoil measured under 624; and
- (i)* Slide and slipout material not attributable to the Contractor's method of operation.

(2) Do not include the following in roadway excavation:

- (a)* Overburden and other spoil material from borrow sources;
- (b)* Overbreakage from the backslope in rock excavation;
- (c)* Water or other liquid material;
- (d)* Material used for purposes other than required;
- (e)* Roadbed material scarified in place and not removed;

- (f)* Material excavated when stepping cut slopes;
- (g)* Material excavated when rounding cut slopes;
- (h)* Preparing foundations for embankment construction;
- (i)* Material excavated when benching for embankments;
- (j)* Slide or slipout material attributable to the Contractor's method of operation;
- (k)* Conserved material taken from stockpiles constructed at the option of the Contractor;
- (l)* Material excavated outside the established slope limits; and
- (m)* Road pioneering for the convenience of the Contractor.

(3) When both roadway excavation and embankment construction pay items are listed in the bid schedule, measure roadway excavation only for the following:

- (a)* Unsuitable material below subgrade in cuts and unsuitable material beneath embankment areas when a pay item for subexcavation is not listed in the bid schedule;
- (b)* Slide and slipout material not attributable to the Contractor's method of operations; and
- (c)* Drainage ditches, channel changes, and diversion ditches.

(b) Unclassified borrow, and topping. When measuring by the cubic yard (cubic meter) measure in its original position. If borrow excavation is measured by the cubic yard (cubic meter) in-place, take initial cross-sections of the ground surface after stripping overburden. Upon completion of excavation and after the borrow source waste material is returned to the source, retake cross-sections before replacing the overburden. Do not measure borrow excavation until suitable roadway excavation is depleted.

(c) Embankment construction. Measure embankment construction in its final position. Do not make deductions from the embankment construction quantity for the volume of minor structures.

(1) Include the following volumes in embankment construction:

- (a)* Roadway embankments;
- (b)* Material used to backfill subexcavated areas, holes, pits, and other depressions;
- (c)* Material used to restore obliterated roadbeds to original contours; and
- (d)* Material used for dikes, ramps, mounds, and berms.

(2) Do not include the following in embankment construction:

- (a)* Preparing foundations for embankment construction;
- (b)* Adjustments for subsidence or settlement of the embankment or of the foundation on which the embankment is placed; and
- (c)* Material used to round fill slopes.

(d) Rounding cut slopes. If a pay item for slope rounding is included in the bid schedule measure rounding cut slopes horizontally along the centerline of the roadway. If a pay item is not included for slope rounding is not included in the bid schedule payment will be considered indirect to roadway excavation.

(e) Waste. Measure waste by the cubic yard (cubic meter) in its final position. Take initial cross-sections of the ground surface after stripping over-burden. Upon completion of the waste placement, retake cross-sections before replacing overburden.

(f) Slope scaling. Measure slope scaling by the cubic yard (cubic meter) in the hauling vehicle.

(g) Subexcavation. Measure subexcavation by the cubic yard (cubic meter) in its original position.

(h) Drainage features. Measurement includes all excavation, embankment, shaping, and grading necessary for a completed drainage feature.

Payment

204.17 The accepted quantities will be paid at the contract price per unit of measurement for the Section 204 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

**Table 204-1
Sampling, Testing, and Acceptance Requirements**

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Source								
Topping (704.05)	Measured and tested for conformance (106.04 & 105)	Classification ⁽¹⁾	–	AASHTO M 145	1 per soil type and source of material	Processed material	Yes	Before using in work
Unclassified borrow (704.06)	"	"	–	"	"	"	"	"
Production								
Topping (704.05) and (204.11(a))	Measured and tested for conformance (106.04)	Moisture-density	–	T 99, Method C ⁽²⁾	1 per soil type, but not less than 1 per each 13,000 yd ³ (10,000 m ³)	Processed material	Yes	Before using in work
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd ² (3000 m ²), but not less than 3 per layer	In-place	No	Before placement of next layer
Unclassified borrow (704.06) and (204.11(a))	"	Moisture-density	–	T 99, Method C ⁽²⁾	1 per soil type, but not less than 1 per each 13,000 yd ³ (10,000 m ³)	Processed material	Yes	Before using in work
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd ² (3000 m ²), but not less than 3 per layer	In-place	No	Before placement of next layer

**Table 204-1
Sampling, Testing, and Acceptance Requirements**

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Production (continued)								
Earth embankment (204.11(a))	Measured and tested for conformance (106.04)	Classification	–	AASHTO M 145	1 per soil type	Source of material	Yes	Before using in work
		Moisture-density	–	T 99, Method C ⁽²⁾	1 per soil type, but not less than 1 per each 13,000 yd ³ (10,000 m ³)	"	"	"
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd ² (3000 m ²), but not less than 3 per layer	In-place	No	Before placement of next layer
Top of subgrade (204.11(a))	"	Density	–	AASHTO T 310 or other approved procedures	1 per 2500 yd ² (2000 m ²), but not less than 3 per layer	In-place	No	Before placement of next layer
Finished Product								
Roadbed (204.13)	Measured and tested for conformance (106.04)	Final line & grade	–	Field measured	Determined by the CO	Determined by the CO	No	Before placement of next layer

(1) Not required when using Government-provided source.

(2) Minimum 5 points per proctor.

**Table 204-2
Construction Tolerances**

Location Description	Tolerance Class (a)												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Roadbed width (ft)	+0.5	+0.5	+1.0	+1.0	+1.0	+1.0	+1.5	+1.0	+2.0	+2.0	+2.0	+2.0	+2.0
Subgrade elevation (ft)	±0.1	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±2.0	±3.0	±2.0	±3.0	(c)
Centerline alignment (ft)	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±1.5	±2.0	±3.0	±3.0	±5.0	(c)
Slopes, excavation, and embankment (% slope ^(b))	±3	±5	±5	±5	±5	±5	±10	±10	±10	±10	±20	±20	±20

(a) Maximum allowable deviation from construction stakes and drawings.

(b) Maximum allowable deviation from staked slope measured from slope stakes or hinge points.

(c) Unless otherwise shown the centerline alignment and subgrade elevation, as built, have no horizontal curves with a radius of less than 80 feet, and no vertical curves with a curve length of less than 80 feet when the algebraic difference in the grade change is less than 10 percent, or a curve length of less than 100 feet when the algebraic difference of the grade change is greater than or equal to 10 percent. The centerline grade is not to exceed 20 percent in 100 feet of length.

209 - Structure Excavation and Backfill

209.09_National_7_18_2017

Make the following Changes to Subsection 209.09:

209.09 Backfill.

Add the following to Subsection 209.09(a):

(a) General.

Backfill without damaging or displacing the culvert or structural plate structure. Replace any pipe that is distorted by more than 5 percent of nominal dimensions, or that is ruptured or broken.

Add the following to Subsection 209.09(b)

(b) Pipe culverts.

Do not place or backfill pipe that meets any of the following conditions until the excavation and foundation have been approved in writing by the CO:

- Embankment height greater than 6 feet at subgrade centerline.
- Installation in a protected stream course.
- Round pipe with a diameter of 48 inches or greater.
- Pipe arches with a span of 50 inches or greater.
- Any box culvert or structure other than pipe culverts.

Delete Subsection 209.10 and replace with the following:

209.10 Compacting.

Compact the embankment using one of the following methods as specified.

(a) Compaction Method 1. Use AASHTO T 27 to determine the quantity of material retained on a No. 4 (4.75-millimeter) sieve. Compact as follows:

(1) More than 80 percent retained on a No. 4 (4.75-millimeter) sieve. Adjust the moisture content to a level suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Compact each layer of material full width with one of the following and until there is no visible evidence of further consolidation:

(a) Four roller passes of a vibratory roller having a minimum dynamic force of 40,000 pounds (180 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute;

(b) Eight roller passes of a 20-ton (20-metric ton) compression-type roller; or

(c) Eight roller passes of a vibratory roller having a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute.

Increase the compactive effort for layers deeper than 12 inches (300 millimeters) as follows:

- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 209.10(a)(1)(a), by four passes; or
- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 209.10(a)(1)(b) and (c), by eight passes.

(2) 50 to 80 percent retained on a No. 4 (4.75-millimeter) sieve. Classify the material according to AASHTO M 145. Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content. Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 (4.75-millimeter) sieve. Multiply this number by the percentage of material passing a No. 4 (4.75-millimeter) sieve, and add 2 percent to determine the optimum moisture content of the material.

Use nonvibratory rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Compact each layer of material full width according to Subsection 209.10(a)(1).

(3) Less than 50 percent retained on a No. 4 (4.75-millimeter) sieve. Classify the material according to AASHTO M 145. For material classified A-1 or A-2-4, determine the maximum density according to AASHTO T 99, Method C..

Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content.

Use compression-type or vibratory rollers. Compact each layer of material full width to at least 95 percent of the maximum density. Determine the in-place density and moisture content according to AASHTO T 310 or other approved test procedures. When required, use AASHTO T 224 to correct for coarse particles.

(b) Compaction Method 2. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate roller compaction equipment over the full width of each layer until there is no visible evidence of further consolidation or, if when a sheepsfoot roller is used, the roller “walks out” of the layer. Make at least three complete passes. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Ensure rollers meet the following requirements:

(1) Steel wheeled rollers, other than vibratory, capable of exerting a force of not less than 250 pounds per inch (4.5 kilogram/millimeter) of width of the compression roll or rolls.

(2) Vibratory steel wheeled rollers equipped with amplitude and frequency controls with a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration, specifically designed to compact the material on which it is used.

(3) Pneumatic-tired rollers with smooth tread tires of equal size that will provide a uniform compacting pressure for the full width of the roller and capable of exerting a ground pressure of at least 80 psi (550 Kilopascals).

(4) Sheepsfoot, tamping, or grid rollers capable of exerting a force of 250 pounds per inch (4.5 kilogram/millimeter) of width of roller drum.

(c) Compaction Method 3. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer until there is no visible evidence of further consolidation. Make at least three complete passes.

(d) Compaction Method 4. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer.

(e) Compaction Method 5. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact the complete surface with a bucket of an excavator larger than 39,000 pounds (18 metric ton) Gross Vehicle Weight using a minimum of three blows. Overlap compaction by $\frac{1}{2}$ width of bucket.

(f) Compaction Method 6. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact using an approved mechanical tamper for a minimum of three complete passes.

When compacting with rollers or hauling and spreading equipment is not practical, use approved mechanical tampers for a minimum of three complete passes.

301 - Untreated Aggregate Courses

301.03_National_7_17_2017

Add the following to Subsection 301.03:

301.03 General.

Written approval of the roadbed is required before placing aggregate.

For pit run or grid-rolled material, furnish material smaller than the maximum size, no gradation will be required otherwise. After processing on the road, remove all oversize material from the road and dispose as directed by the CO.

Provide additives or binder, if required, at the proportions specified.

Develop and use Government furnished sources according to Section 105.

If the aggregate is produced and stockpiled before placement, handle and stockpile according to Section 314.

301.04_Regional_5_31_2018

Delete the first paragraph of Subsection 301.04 and replace with the following:

301.04 Mixing and Spreading. Obtain moisture content in accordance with the compaction method specified. If moisture content is not specified by the compaction method adjust the moisture content to a level suitable for compaction. Mix the aggregate and adjust the moisture content to obtain a uniform mixture. Spread and shape the mixture on the prepared surface in a uniform layer.

Delete Subsection 301.05 and replace with the following:

301.05 Compacting. Compact each layer full width. Roll from the sides to the center, parallel to the centerline of the road. Along curbs, headers, walls, and all places not accessible to the roller, compact the material with approved tampers or compactors.

Compact the aggregate using according to 204.11

For all compaction methods, blade the surface of each layer during the compaction operations to remove irregularities and produce a smooth, even surface. When a density requirement is specified, determine the in place density and moisture content according to AASHTO T 310 or other approved test procedures.

Delete Subsection 301.06 and replace with the following:

301.06 Surface Tolerance. Remove irregularities and shape to a uniform surface.

303 - Road Reconditioning

303.05_Regional_5_31_2018

Delete Subsection 303.05 and replace with the following:

303.05 Roadbed Reconditioning.

Remove organic, deleterious, and material larger than 6 inches brought to the surface during reconditioning. Scarify potholes, ruts, and areas shown in the plans to a 6-inch depth or the bottom of the pothole, whichever is less. Dispose of waste at designated sites or according to Subsection 204.14. Repair soft and unstable areas according to Subsection 204.07. Remove irregularities and shape to a uniform surface. Perform the work, including mixing or spreading, when the moisture content is suitable for the specified compaction method. Compact the surface according to Subsection 204.11. Shape the surface according to 204.13(c).

Delete Subsection 303.06 and replace with the following:

303.06 Aggregate Surface Reconditioning.

Repair soft and unstable areas to the full aggregate surface depth and according to Subsection 204.07. Scarify potholes, ruts, and areas shown in the plans to a 6-inch depth or the bottom of the pothole, whichever is less. Remove irregularities and shape to a uniform surface. Perform the work, including mixing or spreading, when the moisture content is suitable for the specified compaction method. Compact the surface according to Subsection 204.11. Shape the surface according to 204.13(c).

602 - Culverts and Drains

602.03_0603_09_06_2005

602.03 General.

Add the following to Subsection 602.03

Ensure that the final installed alignment of all pipe allows no reverse grades, and does not permit horizontal and vertical alignments to vary from a straight line drawn from center of inlet to center of outlet by more than 2 percent of pipe center length or 1.0 feet, whichever is less.

602.03_0603_03_17_2010

602.03 General

Add the following to Subsection 602.03

Clean and paint damaged coating caused by welding, field cutting, or handling in accordance with AASHTO M 36M and ASTM A 849.

625 - Turf Establishment

625.08_0603_01_29_2009

625.06 Mulching. (a) Dry method.

Delete the paragraph and replace with the following:

Apply certified weed free straw mulch as shown on the plans.

703 - Aggregate

703.05_National_6_7_2018

Delete 703.05 and replace with the following:

703.05 Subbase, Base, Surface Course, and Screened Aggregate.

(a) Subbase or base aggregate. Furnish hard, durable particles or fragments of crushed stone, crushed slag, or crushed gravel conforming the following:

(1) Gradation	Table 703-2
(2) Liquid limit, AASHTO T 89	25 max.
(3) Plastic limit, AASHTO T 90	Nonplastic
(4) Los Angeles abrasion, AASHTO T 96	40% max.
(5) Sodium sulfate soundness loss (5 cycles), AASHTO T 104	12% max.
(6) Durability index (coarse), AASHTO T 210	35 min.
(7) Durability index (fine), AASHTO T 210	35 min.
(8) Fractured faces, ASTM D 5821	50% min.
(9) Free from organic matter and lumps or balls of clay	

Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary. Fine aggregate, material passing the No. 4 sieve, shall consist of natural or crushed sand and fine mineral particles.

(b) Surface course aggregate. Furnish hard, durable particles or fragments of crushed stone, crushed slag, or crushed gravel conforming the following:

(1) Gradation	Table 703-3
(2) Liquid limit, AASHTO T 89	35 max.
(3) Plastic Index, AASHTO T 90	
a) If the percent passing the No. 200 sieve is less than 12%	2 to 9
b) If the percent passing the No. 200 sieve is greater than 12%	Less than 2
(4) Los Angeles abrasion, AASHTO T 96	40% max.
(5) Sodium sulfate soundness loss (5 cycles), AASHTO T 104	12% max.
(6) Durability index (coarse), AASHTO T 210	35 min.
(7) Durability index (fine), AASHTO T 210	35 min.
(8) Fractured faces, ASTM D 5821	75% min.
(9) Free from organic matter and lumps or balls of clay	

Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Do not furnish material that contains asbestos fibers.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary. Fine aggregate, material passing the No. 4 sieve, shall consist of natural or crushed sand and fine mineral particles.

(c) Screened aggregate – Furnish hard, durable particles or fragments of stone, slag, or gravel conforming the following:

- | | |
|--|--------------|
| (1) Gradation | Table 703-16 |
| (2) Plastic Index, AASHTO T 90 | Less than 9 |
| (3) Los Angeles abrasion, AASHTO T 96 | 55% max. |
| (4) Free from organic matter and lumps or balls of clay. | |

Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary.

Delete Table 703-2 and replace with the following:

Table 703-2
Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)

Sieve Size	Grading Destination				
	A (Subbase)	B (Subbase)	C (Base)	D (Base)	E (Base)
2½ inch	100				
2 inch	97 – 100	100	100		
1½ inch		97 – 100			
1 inch	65 – 79 (6)		80 – 100 (6)	100	
¾ inch			64 – 94 (6)	86 – 100 (6)	100
½ inch	45 – 59 (7)				
3/8 inch			40 – 69 (6)	51 – 82 (6)	62 – 90 (6)
No. 4	28 – 42 (6)	40 – 60 (8)	31 – 54 (6)	36 – 64 (6)	36 – 74 (6)
No. 40	9 – 17 (4)			12 – 26 (4)	12 – 26 (4)
No. 200	4.0 – 8.0 (3)	4.0 – 12.0 (4)	4.0 – 7.0 (3)	4.0 – 7.0 (3)	4.0 – 7.0 (3)

() The value in the parentheses is the allowable deviation (±) from the target values..

Delete Table 703-3 and replace with the following:

Table 703-3

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)					
	F	G	H	S	T	U
1 1/2 inch	100			100		
1 inch	97-100	100		72 - 92 (6)	100	
3/4 inch	76-89 (6)	97 - 100	97 - 100			100
1/2 inch					71 - 91 (6)	
3/8 inch	56-68 (6)	70 - 80 (6)	80 - 92 (6)	51 - 71 (6)		71 - 90 (6)
No. 4	43-53 (7)	51 - 63 (7)	58 - 70 (7)	36 - 53 (7)	43 - 60 (7)	50 - 68 (7)
No. 8				26 - 40 (6)	30 - 46 (6)	34 - 51 (6)
No. 16	23-32 (6)	28 - 39 (6)	28 - 40 (6)			
No. 40	15-23 (5)	19 - 27 (5)	16 - 26 (5)	14 - 25 (5)	16 - 28 (5)	19 - 30 (5)
No. 200	10.0-16.0 (4)	10.0 - 16.0 (4)	9.0 - 14.0 (4)	8.0 - 15.0 (4)	8.0 - 15.0 (4)	8.0 - 15.0 (4)

() The value in the parentheses is the allowable deviation (\pm) from the target values.
 If the plasticity index (PI) is greater than 0, the TV range for the No. 200 sieve size is 8-12 (4).

Add Table 703-13:

**Table 703-13
Gradation Requirements for Screened Aggregate**

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)						
	Grading Designation						
	L	M	N	O	P	Q	R
6 inch	100	100					
4 inch			100	100			
3 inch					100	100	
2 inch							100
No. 4		15-45		15-45		15-45	