U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE **INTEGRATED RESOURCE CONTRACT** (Applicable to Contracts with Measurement before Harvest)		**Name of Contractor**	
National Forest Gifford Pinchot	**Ranger District** Mt Adams	**Region** Pacific N-West	**Contract Number**
Contract Name Cave Thin Stewardship		**Award Date**	**Termination Date** 09/30/2021

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

_____
(Title)

_____
(Name)

By: _____
(Contractor) [3/]

_____
(Address)

_____

_____
(Name)

_____
(Title)

_____
(Address)

_____
(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 corporate 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 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.

AT.0 - SPECIFIC CONDITIONS. The following conditions apply to the indicated portions of Division BT - Standard Provisions issued September 2004.

AT.1 - Location and Area, applicable to BT.1

This Contract Area of 1200 acres more or less is located in:

T. 5 N., R. 9 E., Sections 1, 2, 3, 10, 11, 12, 13, and 14; T. 6 N., R. 9 E., Sections 23, 26, 30, 34, and 35; T. 7 N., R. 9 E., Sections 25 and 26, W.M., Partially Surveyed, Skamania County, T. 5 N., R. 10 E., Sections 6, 7, 8, 9, 17, and 18, W.M., Surveyed, Klickitat County, Washington

AT.2 - Volume Estimate and Utilization Standards, applicable to CT.1, CT.2, CT.4, and GT.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
Douglas-fir and Other Coniferous Species	Sawtimber	10,564.00	CCF	7.0	1	8	5.0	40
Douglas-fir and Other Coniferous Species - Helicopter Logging Required	Sawtimber	2,846.00	CCF	8.0	1	8	5.0	40
All Species	Grn Bio Cv	578.00	CCF	5.0	1	8	4.0	N/A
Total Quantity		13,988.00	CCF					

* Quantities not included here are described in CT.4.

AT.3- Timber Designations, applicable to CT.3; acres are approximate:

	Number	Acres
Clearcutting Units (CT.3.1)		
Specified Road Clearing (CT.3.2)		
Overstory Removal Units (CT.3.3)		
Understory Removal Units (CT.3.4)		
Individual Trees (CT.3.5)		439
Incompletely Measured Payment Units (CT.3.6)		

AT.4 - Timber Payment Rates, applicable to DT.1 and ET.0

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

Species	Product	Unit of Measure	Rates per Unit of Measure					Base Index
			Base $	Advertised $	Bid Premium $	Bid (Tentative) $	Required Deposits Slash Disposal $	
Douglas-fir and Other Coniferous Species	Sawtimber	CCF	1.00	12.12			1.28	215.11
Douglas-fir and Other Coniferous Species - Helicopter Logging Required	Sawtimber	CCF	1.00	12.12			1.28	215.11

AT.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				
			Base $	Advertised $	Bid Premium $	Bid (Flat) $	Required Deposits Slash Disposal $
All Species	Grn Bio Cv	CCF	.25	.25			1.28

For purposes of convenience in collection and bookkeeping, Bid Rates stated in AT.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.

AT.4.3 - Schedule of Payment Units

Pay-ment Unit No.	App rox. Acres	To be Escalated under AT.4.1				Total Tentative Payment $	To be Paid for at Flat Rates under AT.4.2				Total Flat Rate Payment $	Total Required Deposits for Slash Disposal $
		Species	Product	Qty	UOM		Species	Product	Qty	UOM		
1	81	Douglas-fir and Other Coniferous Species	*Sawtimber*	2,397.00	CCF		All Species	Grn Bio Cv	132.00	CCF		3,237.12
		Total PU Quantity And Value		2,397.00	CCF		**Total PU Quantity And Value**		132.00	CCF		
2	18	Douglas-fir and Other Coniferous Species	*Sawtimber*	533.00	CCF		All Species	Grn Bio Cv	29.00	CCF		719.36
		Total PU Quantity And Value		533.00	CCF		**Total PU Quantity And Value**		29.00	CCF		
3	20	Douglas-fir and Other Coniferous Species	*Sawtimber*	592.00	CCF		All Species	Grn Bio Cv	32.00	CCF		798.72
		Total PU Quantity And Value		592.00	CCF		**Total PU Quantity And Value**		32.00	CCF		
4	18	Douglas-fir and Other Coniferous Species	*Sawtimber*	533.00	CCF		All Species	Grn Bio Cv	29.00	CCF		719.36
		Total PU Quantity And Value		533.00	CCF		**Total PU Quantity And Value**		29.00	CCF		
5	3	Douglas-fir and Other Coniferous Species - Helicopter Logging Required	*Sawtimber*	104.00	CCF							133.12
		Total PU Quantity And Value		104.00	CCF							
6	1	Douglas-fir and Other Coniferous Species - Helicopter Logging Required	*Sawtimber*	35.00	CCF							44.80
		Total PU Quantity And Value		35.00	CCF							
7	4	Douglas-fir and Other Coniferous Species - Helicopter Logging Required	*Sawtimber*	139.00	CCF							177.92
		Total PU Quantity And Value		139.00	CCF							
8	4	Douglas-fir and Other Coniferous Species - Helicopter Logging Required	*Sawtimber*	139.00	CCF							177.92
		Total PU Quantity And Value		139.00	CCF							

Pay-ment Unit No.	App rox. Acres	To be Escalated under AT.4.1	Total Tentative Payment $	To be Paid for at Flat Rates under AT.4.2	Total Flat Rate Payment $	Total Required Deposits for Slash Disposal $
9	8	Douglas-fir and Other Coniferous Species *Sawtimber* 237.00 CCF		All Species Grn Bio Cv 13.00 CCF		320.00
		Total PU Quantity And Value 237.00 CCF		**Total PU Quantity And Value** 13.00 CCF		
10	7	Douglas-fir and Other Coniferous Species *Sawtimber* 207.00 CCF		All Species Grn Bio Cv 11.00 CCF		279.04
		Total PU Quantity And Value 207.00 CCF		**Total PU Quantity And Value** 11.00 CCF		
11	4	Douglas-fir and Other Coniferous Species *Sawtimber* 118.00 CCF		All Species Grn Bio Cv 7.00 CCF		160.00
		Total PU Quantity And Value 118.00 CCF		**Total PU Quantity And Value** 7.00 CCF		
12	19	Douglas-fir and Other Coniferous Species - Helicopter Logging Required *Sawtimber* 659.00 CCF				843.52
		Total PU Quantity And Value 659.00 CCF				
13	7	Douglas-fir and Other Coniferous Species - Helicopter Logging Required *Sawtimber* 243.00 CCF				311.04
		Total PU Quantity And Value 243.00 CCF				
14	2	Douglas-fir and Other Coniferous Species *Sawtimber* 59.00 CCF		All Species Grn Bio Cv 3.00 CCF		79.36
		Total PU Quantity And Value 59.00 CCF		**Total PU Quantity And Value** 3.00 CCF		
15	10	Douglas-fir and Other Coniferous Species *Sawtimber* 296.00 CCF		All Species Grn Bio Cv 16.00 CCF		399.36
		Total PU Quantity And Value 296.00 CCF		**Total PU Quantity And Value** 16.00 CCF		
16	15	Douglas-fir and Other Coniferous Species *Sawtimber* 444.00 CCF		All Species Grn Bio Cv 24.00 CCF		599.04
		Total PU Quantity And Value 444.00 CCF		**Total PU Quantity And Value** 24.00 CCF		
17	10	Douglas-fir and Other Coniferous Species *Sawtimber* 296.00 CCF		All Species Grn Bio Cv 16.00 CCF		399.36
		Total PU Quantity And Value 296.00 CCF		**Total PU Quantity And Value** 16.00 CCF		

Contract Name: Cave Thin Stewardship **Contract No:**

Pay-ment Unit No.	App rox. Acres	To be Escalated under AT.4.1	Total Tentative Payment $	To be Paid for at Flat Rates under AT.4.2	Total Flat Rate Payment $	Total Required Deposits for Slash Disposal $
18	11	Douglas-fir and Other Coniferous Species *Sawtimber* 326.00 CCF		All Species Grn Bio Cv 18.00 CCF		440.32
		Total PU Quantity And Value 326.00 CCF		**Total PU Quantity And Value** 18.00 CCF		
19	9	Douglas-fir and Other Coniferous Species *Sawtimber* 266.00 CCF		All Species Grn Bio Cv 15.00 CCF		359.68
		Total PU Quantity And Value 266.00 CCF		**Total PU Quantity And Value** 15.00 CCF		
20	12	Douglas-fir and Other Coniferous Species *Sawtimber* 355.00 CCF		All Species Grn Bio Cv 20.00 CCF		480.00
		Total PU Quantity And Value 355.00 CCF		**Total PU Quantity And Value** 20.00 CCF		
22	28	Douglas-fir and Other Coniferous Species *Sawtimber* 828.00 CCF		All Species Grn Bio Cv 45.00 CCF		1,117.44
		Total PU Quantity And Value 828.00 CCF		**Total PU Quantity And Value** 45.00 CCF		
23	18	Douglas-fir and Other Coniferous Species *Sawtimber* 533.00 CCF		All Species Grn Bio Cv 29.00 CCF		719.36
		Total PU Quantity And Value 533.00 CCF		**Total PU Quantity And Value** 29.00 CCF		
24	5	Douglas-fir and Other Coniferous Species *Sawtimber* 148.00 CCF		All Species Grn Bio Cv 8.00 CCF		199.68
		Total PU Quantity And Value 148.00 CCF		**Total PU Quantity And Value** 8.00 CCF		
25	28	Douglas-fir and Other Coniferous Species *Sawtimber* 828.00 CCF		All Species Grn Bio Cv 45.00 CCF		1,117.44
		Total PU Quantity And Value 828.00 CCF		**Total PU Quantity And Value** 45.00 CCF		
26	1	Douglas-fir and Other Coniferous Species *Sawtimber* 30.00 CCF		All Species Grn Bio Cv 2.00 CCF		40.96
		Total PU Quantity And Value 30.00 CCF		**Total PU Quantity And Value** 2.00 CCF		
27	5	Douglas-fir and Other Coniferous Species *Sawtimber* 148.00 CCF		All Species Grn Bio Cv 8.00 CCF		199.68
		Total PU Quantity And Value 148.00 CCF		**Total PU Quantity And Value** 8.00 CCF		

Pay-ment Unit No.	App rox. Acres	To be Escalated under AT.4.1	Total Tentative Payment $	To be Paid for at Flat Rates under AT.4.2	Total Flat Rate Payment $	Total Required Deposits for Slash Disposal $
28	26	Douglas-fir and Other Coniferous Species *Sawtimber* 769.00 CCF		All Species Grn Bio Cv 42.00 CCF		1,038.08
		Total PU Quantity And Value 769.00 CCF		**Total PU Quantity And Value** 42.00 CCF		
29	16	Douglas-fir and Other Coniferous Species *Sawtimber* 473.00 CCF		All Species Grn Bio Cv 26.00 CCF		638.72
		Total PU Quantity And Value 473.00 CCF		**Total PU Quantity And Value** 26.00 CCF		
30	5	Douglas-fir and Other Coniferous Species *Sawtimber* 148.00 CCF		All Species Grn Bio Cv 8.00 CCF		199.68
		Total PU Quantity And Value 148.00 CCF		**Total PU Quantity And Value** 8.00 CCF		
31	3	Douglas-fir and Other Coniferous Species - Helicopter Logging Required *Sawtimber* 104.00 CCF				133.12
		Total PU Quantity And Value 104.00 CCF				
32	3	Douglas-fir and Other Coniferous Species - Helicopter Logging Required *Sawtimber* 104.00 CCF				133.12
		Total PU Quantity And Value 104.00 CCF				
33	38	Douglas-fir and Other Coniferous Species - Helicopter Logging Required *Sawtimber* 1,319.00 CCF				1,688.32
		Total PU Quantity And Value 1,319.00 CCF				

AT.4.4 - Stewardship Credits, applicable to ET.2.2 and KT-GT.9#

Mandatory Stewardship Projects

Project Number	Project Description	Units of Measure	Quantity	Bid Rate $	Total Credits
1	Stream Crossing Restoration	Tasks	1.00		
2	Precommercial Thinning	Acres	388.00		

Optional Stewardship Projects

Priority	Project Number	Project Description	Units of Measure	Quantity	Bid Rate $	Total Credits
3	3	Culvert Replacement	Tasks	1.00		
4	4	Road Decomissioning	Each	12.00		
5	5	Snag and Down Log Creation	Each	332.00		

The following definitions are established for the terms used in AT.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 DT.3.1, DT.3.2, or DT.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 AT.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 DT.3.1, DT.3.2, and DT.3.3.

Bid Rates are the rates bid by Contractor (exclusive of Required Deposits for slash disposal and road maintenance) 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 AT.4.1 is the Tentative Rate that is subject to quarterly adjustment under DT.2; for species and products in AT.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) and road maintenance (16 USC 537). 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 KT-FT.3.2#.

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 DT.2.

AT.5 - Indices Used in Quarterly Adjustment, applicable to DT.2

Species	Index Name and Date
Douglas-fir and Other Coniferous Species	WWPA, PNW Douglas Fir (07-08 Basis), (PNWCC)
Douglas-fir and Other Coniferous Species - Helicopter Logging Required	WWPA, PNW Douglas Fir (07-08 Basis), (PNWCC)

AT.6 - High Stumps, applicable to GT.4.1.2

Species	Product	Maximum Stump Height (inches)
All	All	12

AT.7 - Specified Roads, applicable to FT.2

Name and Date of Governing Road Specifications: Federal Highway Administration Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects(2003)-english

Project		Design Class	Approx. Length (mi./km.)	Sheet Numbers and Approval Date	Performance Responsibility		
Road No.	Name				Survey	Design	Construction Staking 1/
8631000	N61 CAVE CR (R) (segment .65 to 3.56)	Single Lane - 25 mph	2.91 / 4.68	1-7 12/03/2014	FS	FS	Contractor AC
8631011	N61C TRAIL CREEK (R) (segment .31 to .32)	Single Lane - 15 mph	.01 / .02	1-7 12/03/2014	FS	FS	Contractor AC

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

AT.8 - Forest Service Engineering Completion Schedule, applicable to FT.2.1

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

AT.9 - Fire Precautionary Period, applicable to HT.2

April 01 to October 31, inclusive

AT.10 - Contractor Responsibility to Furnish Crews and Equipment for:

Initial Fire Supression, applicable to HT.3

Within 5 road miles

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

Within 100 road miles

AT.11 - Contractor's Obligation per Operations Fire, applicable to HT.4.1

Maximum Amount: $ $300,000

AT.12 - Termination Date, applicable to IT.2

September 30, 2021

AT.13 - Normal Operating Season, applicable to GT.3.1, GT.6.6, IT.2.1, and JT.3

First Period: July 15 to September 30, inclusive

Second Period: _____ to _____, inclusive

AT.14 - Performance Bond, applicable to JT.1

Performance Bond Amount: N/A

AT.15 - Downpayment, applicable to E.T.2.1.1

Downpayment Amount: Not Applicable

AT.16 - Periodic Payment Amount, applicable to ET.2.1.3

	Periodic Payment Determination Date	Amount
Initial Payment:	N/A	N/A
Additional Payment:	N/A	N/A

AT.17 - Market-Related Contract Term Addition Producer Price Index, applicable to IT.2.1.2

Index Name: Softwood Lumber **Index Number:** 0811

AT.18 - Inapplicable Provisions

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

ET.4	PAYMENTS NOT RECEIVED
IT.2.1.2	MARKET-RELATED CONTRACT TERM ADDITION

AT.19 - List of Special Provisions in Part KT

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.)

KT-CT.3.5.7#	INDIVIDUAL TREE DESIGNATION (OPTION 1) (06/2008)
KT-ET.2.2	CHANGES IN STEWARDSHIP CREDITS (06/2008)
KT-ET.4	PAYMENTS NOT RECEIVED (08/2012)
KT-FT.1.0.1#	TEMPORARY ROAD AND LANDING CONSTRUCTION (OPTION 1) (06/2008)
KT-FT.1.2#	USE OF ROADS BY CONTRACTOR (09/2004)
KT-FT.1.3#	ROAD COMPLETION DATE (09/2004)
KT-FT.2.2.1#	MATERIAL SOURCES (09/2004)
KT-FT.3.1#	ROAD MAINTENANCE REQUIREMENTS (09/2004)
KT-FT.3.2#	ROAD MAINTENANCE DEPOSIT SCHEDULE (09/2004)
KT-GT.3.1.5#	PROJECT OPERATION SCHEDULE (05/2005)
KT-GT.4.0.5	ALTERNATE REMOVAL OF INCLUDED TIMBER (05/2005)
KT-GT.4.1#	SPECIFIC REQUIREMENTS (05/2005)
KT-GT.4.2#	YARDING/SKIDDING REQUIREMENTS (05/2005)
KT-GT.6.0#	EROSION CONTROL AND SOIL TREATMENT BY CONTRACTOR (04/2014)
KT-GT.7	SLASH DISPOSAL (06/2008)
KT-GT.7.4.2#	SLASH TREATMENT REQUIREMENTS (OPTION 2) (06/2010)
KT-GT.8	MEASURING (05/2005)
KT-GT.8.1.1	ACCOUNTABILITY (05/2005)
KT-GT.8.4	USE OF PAINT BY CONTRACTOR (OPTION 1) (06/2006)
KT-GT.9#	STEWARDSHIP PROJECTS (09/2004)
KT-HT.1	PLANS (05/2005)
KT-HT.2	SPECIFIC FIRE PRECAUTIONS (05/2005)
KT-HT.2.0.1	BURNING BY CONTRACTOR (06/2006)
KT-HT.2.2	EMERGENCY FIRE PRECAUTIONS (05/2005)

KT-HT.3.1	ADDITIONAL AREA OF FIRE RESPONSIBILITY (05/2005)
KT-IT.1.0	DISCLAIMER OF EXPRESSED OR IMPLIED WARRANTY (05/2005)
KT-IT.2.1.2	MARKET-RELATED CONTRACT TERM ADDITION (11/2008)
KT-IT.6.8#(Option 1)	USE OF TIMBER (09/2004)

UNITED STATES DEPARTMENT OF AGRICULTURE
Forest Service

INTEGRATED RESOURCE CONTRACT

September 2004
*(*Date of Issue)

PROVISIONS FOR MEASUREMENT OF PRODUCTS BEFORE HARVEST

This contract is organized into Parts, Sections, Subsections, and Items. These are numbered in accordance with the following scheme: Part BT, Section BT.1, Subsection BT.1.1, and Item BT.1.1.1. References to a Part include all Sections, Subsections, and Items within that Part; references to a Section include all Subsections and Items within that Section; and references to a Subsection include all Items within that Subsection. Cross-references within this contract cite the reference number of the applicable Part, Section, Subsection, and Item. Descriptive headings used are not to be considered in determining the rights and obligations of the parties.

Parts BT through JT are subject to Specific Conditions in Part AT. Wherever appropriate, Specific Conditions established in Part AT are cited by reference number. The listing of Sections, Subsections, or Items in provision AT.18 has the effect of striking or deleting them from Part BT through JT. Provision AT.19 lists provisions that comprise Part KT. Where appropriate, references to Special Provisions are made by citing the applicable reference numbers.

INDEX TO TERMS

CONTENTS

BT.0—CONTRACT AREA

BT.1 Contract Area Map. The boundaries of "Contract Area" and any Payment Unit 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 AT.1. Payment Units may be revised and additional ones may be established only by written agreement. Upon Contractor's request, Forest Service shall subdivide Payment Units to reduce them to a size that can be logged within 60 days at Contractor's normal rate of logging. However, the rate of logging used in such adjustment of Payment Unit size shall not be less than a rate necessary for removal of all Included Timber during Normal Operating Seasons prior to Termination Date. Payment Units and stewardship project areas may be eliminated from Contract Area under conditions described in GT.3.6. Catastrophically Damaged areas may be removed from Contract Area under IT.3.2.

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

(a) Identified claims limiting Contractor's rights under BT.2;

(b) Payment Units where timber is to be Measured or Marked after date of contract advertisement and approximate location of sample Marked timber under CT.3.6 and CT.4;

(c) Boundaries of Clearcutting Units, Overstory Removal Units, and Understory Removal Units under CT.3;

(d) Diameter limits for Overstory Removal Units and Understory Removal Units under CT.3.3 and CT.3.4;

(e) Areas where leave trees are Marked to be left uncut under CT.3.5;

(f) Specified Roads listed in AT.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 FT.1.2;

(i) Roads and trails to be kept open under GT.2.2;

(j) Improvements to be protected under GT.2.2;

(k) Locations of known wildlife or plant habitat and cave resources to be protected under GT.2.4;

(l) Locations of areas known to be infested with specific invasive species of concern under GT.3.5;

(m) Maximum stump heights when more than one height is listed by areas in AT.6 under GT.4.1.2;

(n) Skidding or yarding methods specified under GT.4.2;

(o) Streamcourses to be protected under GT.5;

(p) Locations of meadows requiring protection under GT.6.1;

(q) Locations of wetlands requiring protection under GT.6.2;

(r) Locations of temporary roads to be kept open under GT.6.3.1; and

(s) Other features required by Parts A through K.

BT.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.

CT.0—TIMBER SPECIFICATIONS

CT.1 Included Timber. "Included Timber" consists of:

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

CT.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.

CT.1.3 Damaged Timber.

CT.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.

CT.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.

CT.1.3.3 Damage by Catastrophe. As provided under IT.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 quantity stated in AT.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.

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

CT.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 CT.3 but that are cut through mistake by Contractor, when included by Contracting Officer.

CT.1.5 Construction Timber. Trees to be used for construction under FT.1.

CT.1.6 Other Material. Species or products not listed in AT.2, upon written approval of Contracting Officer under DT.4.1.

CT.2 Utilization and Removal of Included Timber. "Utilization Standards" for trees and minimum pieces are stated in AT.2. To meet minimum tree specifications, trees must equal or exceed tree diameters listed in AT.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 all pieces that:

(a) Meet minimum piece standards in AT.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.

CT.3 Timber Designations. Timber designated for cutting shall be confined to Contract Area, except as provided in CT.1.3.1, CT.1.4, CT.1.5, CT.3.2, and FT.1. Contract Area Map indicates Payment Units, if any, where Marking under CT.3.5 is to be done after contract advertisement, except for construction clearing under CT.3.2, designation changes under CT.37, 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. Such units where Measuring is to be completed after date of contract advertisement are also shown. The number of units and approximate acreage of timber designations are stated in AT.3.

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

CT.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 FT.2.

CT.3.2.1 Specified Road Clearings. Timber within the clearing limits of Specified Roads is within separate Payment Units, as shown on Contract Area Map, and the quantities are in AT.2. These Payment Units are subject to revision, as specified in CT.37. The quantities of dead or unstable trees designated outside the clearing limits are not included in AT.2.

CT.3.2.2 Other Authorized Clearings. Timber within authorized clearings for Temporary Roads, landings, or other construction clearings is designated for cutting. Quantities of such timber are not included in AT.2.

CT.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.

CT.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.

CT.3.5 Individual Trees. All trees to be cut, other than in the units described in CT.3.1, CT.3.2, CT.3.3, and CT.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.

CT.3.6 Incompletely Measured Payment Units. Live trees within incompletely Measured Payment Units shown on Contract Area Map at time of contract advertisement shall be designated in accordance with KT-CT.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.

CT.37 Designation 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.

In event Contracting Officer accepts alternate facilities under FT.2.6, Contracting Officer shall revise the affected Payment Units and adjust estimated quantities.

In the event Contractor does not construct portions of Specified Roads, Payment Units involved shall be revised to eliminate the road portions not to be constructed. Parts of such areas within non-road-related Payment Units shall be added to such Payment Units and the timber thereon shall be designated by the methods provided for in the Payment Units. Estimated quantities for Payment Units so revised shall be adjusted as necessary.

CT.4 Quantity Estimate. The estimated quantities of timber by species designated for cutting under CT.3 and expected to be cut under Utilization Standards are listed in AT.2. Estimated quantity in AT.2 does not include the following:

(a) Damaged timber under CT.1.3;

(b) Unintentionally cut timber under CT.1.4;

(c) Construction timber under CT.1.5 cut outside of Payment Units and removed from construction use for utilization by Contractor;

(d) Timber within clearing limits of Temporary Roads or other authorized clearings and that is not designated under CT.3.1, CT.3.3, CT.3.4, or CT.3.5; or

(e) Dead or unstable live trees that are sufficiently tall to reach Contractor's landings, work areas, or the roadbed of Specified Roads under CT.3.2.

Estimated quantities for such timber not included in AT.2 shall be determined as stated in KT-GT.8.

If Contract Area Map shows Payment Units where Marking or Measuring is to be completed after date of contract advertisement, the objective of Forest Service shall be to designate for cutting in such Payment Units sufficient timber so that Contract Area shall yield the approximate estimated quantities by species or species groups stated in AT.2. However, the estimated quantities stated in AT.2 are not to be construed as guarantees or limitations of the timber quantities to be designated for cutting under the terms of this contract.

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

CT.4.1 Adjustment for Quantity Deficit. If Contract Area Map shows Payment Units where Marking or Measuring is to be completed after the date of contract advertisement and if Contracting Officer determines that a deficit in the estimated quantity will cause the quantity designated to be less than 90 percent of the total estimate shown in AT.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 quantities by species listed in AT.2. Any such additional designation shall be consistent with land and resource management plans.

CT.4.2 Adjustment for Excess Quantity. If Contract Area Map shows Payment Units where Marking or Measuring is to be completed after date of contract advertisement and if Contracting Officer determines that the quantity designated will be more than 120 percent of the total estimated quantity listed in AT.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 quantities by species listed in AT.2. Such adjustments in quantities 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 BT.1 and CT.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 AT.2, Contractor, after cutting 120 percent of the total estimated quantity listed in AT.2, may elect to have Contract Area reduced to eliminate Payment Units where felling has not begun.

CT.4.3 Adjustment for Quantity Errors. An estimated quantity shown in AT.2 shall be revised by correcting identified errors made in determining estimated quantity that result in a change in total contract quantity of at least 10 percent or $1,000 in value, whichever is less, when an incorrect estimated quantity is caused by computer malfunction or an error in calculations, area determination, or computer input.

No adjustments in quantity shall be made for variations in accuracy resulting from planned sampling and Measuring methods or judgments of timber quality or defect.

For payment purposes, corresponding revisions in quantity and total payment shall be shown in AT.4.3 for each Payment Unit involved. Adjustment in rates will not be made. Adjustment in quantities shall not obligate Forest Service to designate additional quantities when the original quantity estimate is overstated.

DT.0—RATES OF PAYMENT

DT.1 Current Contract Rates. Included Timber that is Released for Cutting 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 DT.2. Flat Rates and Tentative Rates shall be those listed in AT.4, unless superseded by rates redetermined under DT.3 or established for Contract Term Extension.

Current Contract Rates, based on rates redetermined under DT.3 or established under IT.2.3, shall apply to all Payment Units from which removal of timber from Contract Area has not been completed on the effective date of the revised rates, except Current Contract Rates in effect at the time of Release for Cutting shall be applicable:

(a) On Payment Units for Specified Roads Released for Cutting on which clearing has begun and

(b) For not more than two other Payment Units from which removal from Contract Area has begun.

Notwithstanding the exceptions provided in this Section, rates redetermined under BT3.31, BT3.32, and BT3.33 shall apply to all Included Timber removed subsequent to the rate redetermination.

In event there are more than two Payment Units from which timber removal has not been completed on the effective date, the rates in effect at the time of Release for Cutting shall apply to the two units from which the greatest estimated proportions of Payment Unit quantities have been removed. Otherwise, in released Payment Units, redetermined rates or rates established for Contract Term Extension shall apply to the entire quantity shown in AT.4.3 for those units. In addition, Required Deposits shall be made as listed in AT.4 and KT-FT.3.2, or established under DT.3 or IT.2.3.

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

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

DT.2 Escalation Procedure. Tentative Rates for those species and products listed in AT.4.1 are subject to quarterly escalation in accordance with the following procedures: The calendar quarter index average for each price index described in AT.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 AT.4.1 shall be the basis for quarterly escalation. To arrive at Current Contract Rates for Payment Units Released for Cutting 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 IT.2.3 for the extension period.

DT.2.1 Unavailable Index. If an index described in AT.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 AT.5 for a 12-month period prior to its becoming unavailable using the quarterly adjustment procedure outlined in DT.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.

DT.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 DT.3.1, DT.3.2, and DT.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 AT.4, except for reduction under DT.3.1, DT.3.2, or DT.3.3. Required Deposits shall be redetermined. Redetermined Specified Road construction cost is subject to the limitations of FT.2.6.

DT.3.1 Rate Redetermination for Environmental Modification. In the event of a contract modification under IT.3.3 or partial termination under IT.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 DT.2, and Required Deposits shall be considered established under DT.1 for Included Timber removed subsequent to the contract revision.

DT.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 IT.3.2. Potential Included Timber is any that would be added under IT.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 IT.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 IT.3.2, redetermined rates and Required Deposits shall be considered established under DT.1 for Included Timber removed 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.

DT.3.3 Rate Redetermination for Market Change. In the event of delay or interruption, exceeding 90 days, under IT.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 DT.3.1, using remaining volumes.

Tentative Rates and Flat Rates in effect at the time of delay or interruption or established pursuant to DT.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 DT.1 Included Timber removed subsequent to the delay or interruption.

DT.3.4 Emergency Rate Redetermination. Forest Service shall redetermine rates if, upon Contractor's application, Forest Service determies 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 AT.17 has declined by 25 percent. Rates shall be redetermined under DT.3 and shall be considered established under DT.1 for timber Scaled subsequent to Contractor’s application. This Subsection shall not apply during Contract Term Extension.

DT.4 Other Payment Rates.

DT.4.1 Material and Quantities Not in AT.2. Incidental amounts of products or portions of trees of species listed on AT.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 AT.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 AT.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.

DT.4.2 Timber Cut Through Mistake. Undesignated timber meeting Utilization Standards, cut by Contractor through mistake and included by Contracting Officer under CT.1.4, shall be removed and paid for at Current Contract Rates and Required Deposits, unless such material is not listed in AT.2. In such event, Contracting Officer, in accord with standard Forest Service methods, shall establish rates to be paid.

DT.4.3 Undesignated Timber Damaged Without Negligence. Undesignated timber meeting Utilization Standards, damaged without negligence by Contractor and designated by Forest Service under CT.1.3.1, shall be cut, removed, and paid for at Current Contract Rates and Required Deposits.

DT.4.4 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 CT.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 DT.4.5.

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

DT.4.5 Liquidated Damages. Unnecessary damage to or negligent or willful cutting of undesignated timber, as described in DT.4.4, 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.

ET.0—PAYMENTS

ET.1 Amount Payable for Timber. Except as provided in DT.1, Current Contract Rates and Required Deposits in effect when a Payment Unit is Released for Cutting shall be applied to the timber quantities to determine the amount Contractor shall pay. A "Payment Unit" is a portion of Contract Area established for payment purposes.

ET.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 and road maintenance at Required Deposit rates;
(c) Cooperative work at rates established by specific agreement under ET.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 Payment Units Released for Cutting shall be made when Forest Service prepares and furnishes to Contractor periodic statements of quantity and value of such timber. Charges subject to escalation under DT.2 shall be made initially on the basis stated in ET.2.1.4 and shall be adjusted at the end of each calendar quarter, as provided in DT.2.

Charges shall be made according to DT.4 when trees are subsequently Marked or designated for cutting.

ET.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.

ET.2.1.1 Downpayment. The downpayment amount shown in AT.15 may not be applied toward any other payment required under the provisions of this contract, except damages determined pursuant to JT.4, transferred to other contracts, or refunded until stumpage value representing 25 percent of the total bid value of the contract is shown on Integrated Resource Account to have been cut, removed, and paid for or the estimated value remaining to be cut and removed, as shown on Integrated Resource Account, is equal to or less than the amount of the downpayment. For lump sum contracts, the downpayment may be applied to payment for release of the single payment unit.

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

Forest Service billings for advance cash deposits shall be in such amounts that Integrated Resource Account will maintain an unobligated balance that covers the applicable charges for Payment Units Released for Cutting and designated material not included in AT.2 expected to be cut within the next 60 days. This advance cash deposit may be reduced to a smaller amount by the terms of ET.2.1.1, ET.2.1.3, ET.2.1.5, and/or ET.2.1.7. Except for amounts required pursuant to ET.2.1.1, ET.2.1.3, and ET.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 exceeded by the charges for timber within Payment Units Released for Cutting and for the estimated quantity to be cut in 10 days of cutting designated material not included in AT.2, Contracting Officer will suspend all or any part of Contractor's Operations until payment or acceptable payment guarantee is received.

ET.2.1.3 Periodic Payment Schedule. Contractor shall make periodic payments for stumpage value, as shown in AT.16.

In the event Contractor has not paid the amount(s) stated in AT.16 as stumpage for quantity 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 ET.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.

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

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

ET.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.

ET.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 ET.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 ET.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 any Payment Unit is to be released.

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).

ET.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.

ET.2.2 Stewardship Credits. "Stewardship Credits" are credits that are earned and established when work described in KT-GT.9 has been performed and accepted. Stewardship Credits shall be earned at the rate as shown in AT.4.4. 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.

ET.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.

ET.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.

ET.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 AT.4.4, plus the optional projects shown in AT.4.4 that Contractor has been authorized to perform:

(a) Contracting Officer shall authorize additional optional projects shown in AT.4.4 if the excess timber value exceeds 10 percent of the total timber value, or

(b) Contracting Officer shall authorize additional optional projects shown in AT.4.4 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 AT.4.3.

ET.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.

ET.2.3 Temporary Reduction of Downpayment. When, under IT.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 AT.15, 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 AT.15 within 15 days after the date the bill for collection is issued, subject to the provisions of ET.4. Contractor shall not resume contract operations until the downpayment amount is fully restored.

ET.2.4 Refund of Excess Cash. If at any time the credit balance of Integrated Resource Account exceeds the charges for timber within Payment Units Released for Cutting and for designated material not included in AT.2 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 ET.2.1.1, ET.2.1.3, or ET.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. However, Forest Service shall not reduce the credit balance below the total value of partially cut Payment Units and designated material not included in AT.2 that is cut before operations cease. After a refund for a shutdown, deposits shall be made to meet the requirements of ET.2.1.2 before additional timber may be cut.

ET.2.5 Refund after Final Charges for Released Timber. Any cash deposit, in excess of that required to meet charges under ET.2, shall be refunded or transferred within 15 days of Contractor's request after final charges for Included Timber have been made, except for amounts estimated to be required under JT.5.

ET.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 JT.1.

ET.3.1 Blanket Bond. If Contractor furnishes an acceptable bond, or deposits securities, in accordance with ET.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.

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

ET.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 and road maintenance deposits;
(ii) Cooperative work at rates established by specific agreement under ET.2.1.8;
(iii) Damages pursuant to JT.4;
(iv) Road use fees;
(v) Restoration of downpayment pursuant to ET.2.2;
(vi) Periodic payments pursuant to ET.2.1.3;
(vii)Extension Deposits pursuant to ET.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 JT.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.

FT.0—TRANSPORTATION FACILITIES

FT.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 FT.2. Unless otherwise provided herein, construction may be progressive during this contract. Maintenance shall be governed by FT.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.

FT.1.1 Requirements of Rights-of-Way. Contractor's road construction and use of rights-of-way identified in attached list or KT-FT.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.

FT.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 AT.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 AT.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 AT.7 as an alternate facility under FT.2.6.

KT-FT.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.

FT.2 Specified Roads. "Specified Roads" are roads, including related transportation facilities and appurtenances, shown on Contract Area Map and listed in AT.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 AT.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 FT.2.1.2, FT.2.5, FT.2.6, or KT-FT.2.1.5, AT.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 FT.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.

FT.2.1 Engineering. Forest Service completed survey and design for Specified Roads prior to contract advertisement, unless otherwise shown in AT.8 or Contractor survey and design are specified in AT.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 AT.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) AT.7 to show Contractor's performance responsibility.

(b) The Schedule of Items to include costs of survey and design, as provided under FT.2.4, and adjust Integrated Resource Account, as provided in FT.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.

FT.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 AT.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 FT.2.5.3.

FT.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 ET.2.1.8.

When AT.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) AT.7 to show Contractor's performance responsibility.

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

FT.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.

FT.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.

FT.2.4 Estimated Cost. Estimated costs by construction phases for Specified Roads listed in AT.7 are stated by segments in the Schedule of Items. Such estimated costs are subject to adjustment under DT.3, FT.2, FT.2.1, FT.2.1.2, FT.2.5, and FT.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.

FT.2.5 Construction Cost Adjustment. Contracting Officer, as provided in FT.2.1, FT.2.1.2, FT.2.5.1, FT.2.5.2, and FT.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.

FT.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 FT.2.5.2 or FT.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 AT.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.

FT.2.5.2 Physical Change. (a) Forest Service shall adjust the Specified Road construction cost if, prior to acceptance under GT.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.

FT.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 FT.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.

FT.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 AT.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 DT.3, such allowed costs shall be the redetermined estimated costs of facilities listed in the original Schedule of Items that Contractor does not construct.

FT.2.7 Temporary Credit for Unamortized Specified Road Construction Cost. When, under IT.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.

FT.3 Road Maintenance. Contractor shall maintain roads, commensurate with Contractor's use, in accordance with Road Maintenance Requirements in KT-FT.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 GT.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 KT-FT.3.1, Forest Service shall determine Contractor's commensurate share of road maintenance and revise road maintenance deposits in KT-FT.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.

FT.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 KT-FT.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.

GT.0—OPERATIONS

GT.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 suspended 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 perform-

ance 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 GT.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.

GT.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.

GT.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 stewardship project for Contractor. Such permission, if granted, shall be without charge to Contractor.

GT.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 JT.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.

GT.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 KT-GT.2.2.

GT.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.

GT.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.

GT.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.

GT.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 KT-GT.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 IT.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 FT.1 or GT.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 GT.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.

GT.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.

"Release for Cutting" is written authorization to Contractor to begin cutting in a Payment Unit. Upon Contractor's request for release of a Payment Unit, Forest Service shall either:

(a) Give tentative approval and bill Contractor as necessary under ET.2.1 or

(b) Reject the request, stating reasons for rejection.

When payment or payment guarantee has been confirmed, Forest Service shall issue Release for Cutting within 10 days. Contractor shall not cut timber in any Payment Unit until it is Released for Cutting.

GT.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, and construction, including construction staking under FT.2.1.2 and material delivery under FT.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 GT.6 and when the requirements of GT.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 AT.13 of any year.

GT.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 unforseen 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.

GT.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.

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

GT.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.

GT.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.

GT.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.

GT.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.

GT.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 IT.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.

GT.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 Payment Unit (such as logging, stewardship project operations, slash disposal, erosion control, or snag felling); or

(c) All contract requirements on a Payment Unit.

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 Payment Unit or stewardship project area, it shall be eliminated from Contract Area on written notice of either party to this contract.

GT.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.

GT.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 CT.2, prior to acceptance of Payment Unit for completion of logging and stewardship projects under GT.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 KT-GT.4 provisions set forth requirements to meet special or unusual logging conditions:

GT.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 AT.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 Measure in percentage of gross Measure, or based on the merchantability factor, whichever is stated in AT.2. If necessary to assess extent of defect, Contractor shall make sample saw cuts or wedges.

GT.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.

GT.4.1.2 Stump Heights. Stumps shall not exceed, on the side adjacent to the highest ground, the maximum heights set forth in AT.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 AT.6 and shall dispose of severed portions in the same manner as other logging debris. The stump heights shown in AT.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.

GT.4.1.3 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.

GT.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.

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

GT.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.

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

GT.4.2.4 Arches and Dozer Blades. Unless otherwise specified in KT-GT.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.

GT.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.

GT.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 ET.2.1.8.

GT.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 FT.1 or GT.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.

GT.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 FT.1 or GT.4.2.2. Additional measures needed to protect such areas are provided in KT-GT.6.2.

GT.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.

GT.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 GT.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.

GT.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.

GT.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.

GT.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.

GT.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 ET.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.

GT.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 KT-GT.7 and are in addition to Required Deposits for slash disposal.

GT.8 Measuring. "Measuring" is the estimation of timber quantities using certain dimensions and applicable volume tables or formulae to determine the contents of trees or stands in a standard manner. Sampling may be on an individual tree or area basis. Examples of standard procedures are tree measurement, sample tree measurement, and area estimate. The quantity of timber designated or to be designated for cutting has been or shall be Measured, as specified in KT-GT.8.

GT.8.1 Product Identification. For contracts west of the 100th meridian, 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.

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

All of the mandatory stewardship projects, as shown in AT.4.4, shall be performed. Optional stewardship projects, as shown in AT.4.4, 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.

GT.9.1 Refund of Unused Stewardship Credits. When, under IT.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.

HT.0—FIRE PRECAUTIONS AND CONTROL

HT.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.

HT.2 Fire Precautions. Specific fire precautionary measures listed in KT-HT.2 shall be applicable during Contractor's Operations in "Fire Precautionary Period" described in AT.9. 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.

HT.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.

HT.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 KT-HT.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.

HT.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 AT.10.

HT.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:

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

HT.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 AT.10. 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.

HT.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 AT.10. Equipment shall be operated only by personnel approved by Contractor, if so requested by Contractor.

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

HT.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 HT.3, shall use cooperative deposits under ET.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 AT.11. The cost of Contractor's actions, supplies, and equipment on any such fire provided pursuant to HT.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 AT.11, Forest Service shall reimburse Contractor for the excess.

HT.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 HT.2 and HT.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.

HT.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 HT.3, or otherwise at the request of Forest Service, on any fire on Contract Area other than an Operations Fire or a Negligent Fire.

HT.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 HT.4.1 shall not be withheld pending settlement of any such claim or action based on State law.

HT.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.

IT.0—OTHER CONDITIONS

IT.1 Title and Liability.

IT.1.1 Title Passage. All right, title, and interest in and to any Included Timber shall remain in Forest Service until it has been Measured, 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 in Payment Units Released for Cutting covered by cash deposit or payment guarantee under ET.3 shall be considered to have been paid for. Title to any Included Timber that has been Measured 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.

IT.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 caused by insect or disease after felling of timber shall be borne by Contractor, unless Contractor is prevented from removing such timber for reasons that would qualify for Contract Term Adjustment. 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 IT.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.

IT.2 Period of Contract. All obligations of Contractor shall be discharged not later than "Termination Date" stated in AT.12, unless it is adjusted pursuant to IT.2.1 or IT.2.1.2 or extended pursuant to IT.2.3 or IT.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.

IT.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 GT.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 ET.4 or JT.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 IT.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.

IT.2.1.1 Delay in Reconstruction of Processing Facilities. Notwithstanding the 12-month limitation in IT.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.

IT.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 AT.17. 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.

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

IT.2.2.1 Termination by Contractor. This contract shall be terminated, upon election and written notice by Contractor, if Catastrophic Damage rate redetermination under DT.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.

IT.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 IT.3.2, within 30 days of receipt from Contracting Officer of contract modifications proposed to permit the harvest of the catastrophe-affected timber.

IT.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.

IT.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 GT.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 ET.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.

IT.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.

IT.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 DT.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.

IT.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 pursuant, (ii) reimbursement for Out-of-Pocket Expenses, (iii) rate redetermination to measure any decline in the market pursuant to DT.3.3, (iv) temporary reduction of downpayment pursuant to ET.2.3, (v) temporary credit for unamortized Specified Road construction cost pursuant to FT.2.7, and (vi) temporary bond reduction pursuant to JT.1.3.

(c) In addition to the compensation scheme set forth in subparagraph (b), Contractor may seek termination pursuant to IT.3.6 or, at any time prior to authorization to resume work suspended under this Subsection, demand termination under IT.3.4. If Contractor elects termination under IT.3.4 or IT.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 DT.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.

IT.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 IT.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 ET.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 t 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 DT.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 IT.3.3, Contractor shall only be entitled to damages pursuant to subparagraph (d) if the IT.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 DT.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.

IT.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 IT.3.3 or IT.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.

IT.3.6 Termination for Market Change. In the event of delay or interruption under IT.3.3, exceeding 90 days, this contract may be:

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

(b) Terminated upon election and written notice by Contractor, if a rate redetermination for market change under DT.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.

IT.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.

IT.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.

IT.6 Provisions Required by Statute.

IT.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.

IT.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).

IT.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.

IT.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.

IT.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.

JT.0—PERFORMANCE AND SETTLEMENT

JT.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 AT.14, unless the

amount is adjusted as provided in JT.1.1. In lieu of surety bond, Contractor may deposit into a Federal Depository, as directed by Forest Service under ET.2.1, and maintain therein, cash in the dollar amount stated in AT.14 or negotiable securities of the United States having market value at time of deposit of not less than the dollar amount stated in AT.14.

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.

JT.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 JT.5.

JT.1.2 Letters of Credit. Notwithstanding the provisions of JT.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.

JT.1.3 Temporary Bond Reduction. When, under IT.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 AT.14 within 15 days. Contractor shall not resume contract operations until the performance bond amount is fully restored.

JT.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.

JT.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 Payment Units, 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.

JT.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 KT
(b) Contract Area Map
(c) Specific Conditions in Part AT and Schedule of Items
(d) Standard Provisions in Parts BT through JT
(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

JT.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 GT.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.

JT.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 GT.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 JT.3, causing undesignated timber meeting Utiliza-

tion 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 JT.3.

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

JT.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 JT.3.1; Forest Service shall appraise remaining Included Timber and stewardship projects, unless termination is under IT.2.2 or IT.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 GT.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.

JT.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 ET.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.

JT.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 ET.2.4 and excess cooperative deposits under ET.2.1.8.

KT.0—SPECIAL PROVISIONS

In accordance with AT.19, 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 GT.3.3 SAFETY

Unless otherwise agreed, 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:

MINIMUM LETTER SIZE AND LEGEND	*MINIMUM SIZE AND SHAPE*	*WHEN AND WHERE REQUIRED*
1. LOGGING OPERATIONS NEXT <> MILES (4" letters)	24" (rectangle) 36"	Min. 100 ft. outside of any continuous work areas, on roads listed in KT-FT.3.1# and trails listed in Part II.
2. LOGGING OPERATIONS (3" letters)	24" (diamond) 24"	To be used in conjunction with "Logging Operations Next <> Miles" and where work area is not continuous.
3. FOR LOGGING USE ONLY (3" letters)	24" (diamond) 24"	Required where roads listed in KT-FT.3.1# and temporary roads intersect with KT-FT.3.1# roads. Install a cross ditch to discourage use when sign is covered or removed for extended periods.
4. TRUCKS (4" letters)	24" (diamond) 24"	At critical intersections on roads listed in KT-FT.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" (rectangle) 36"	Use in conjunction with "Logging Operations Next <> Miles" and "Logging Operations."
6. TREE FELLING AHEAD (3" letters)	24" (diamond) 24"	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 (3" letters)	24" (diamond) 24"	Required at least 200 feet in advance of Contractor road maintenance operations on roads listed in Schedule KT-FT.3.1#.

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

Sign borders and lettering shall be black. Borders are 1/2 inch wide, inset 1/2 inch from outside edge of sign. All sign backgrounds shall be orange, except signs #1 and 5 which shall be reflectorized orange.

Signs shall be installed on posts, with a 5 foot minimum ground clearance, 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. On roads listed in KT-FT.3.1# and temporary roads, Contractor may temporarily block the road in lieu of furnishing flag personnel.

TRAFFIC CONTROL PLAN AND SPECIFICATIONS PURSUANT TO GT.3.3 – SAFETY (CONTINUED)

(b) Barricades. On roads listed in KT-FT.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 VI. 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.

Barricades shall be equipped with warning lights which shall be Type A low intensity flashing and shall be maintained so as to be capable of being visible on a clear night from a distance of 3,000 feet.

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

On roads listed in KT-FT.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 prior to acceptance of the Payment Unit being served by the road.

Part II. Specific Requirements:

Signs in Part I will be installed and maintained by Contractor at locations indicated by the Forest Service prior to the start of operations.

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

Name		Name
Title		Title
Date		Date

KT-CT.3.5.7# - INDIVIDUAL TREE DESIGNATION (OPTION 1) *(06/2008)*

All **trees meeting the attached designation description** which meet the minimum tree diameter stated in AT.2 are designated for cutting. Additional timber to be cut, if any, will be designated for cutting in accordance with CT.3.7.

Leave trees, Marked with **orange or pink tracer paint** , or identified by **the description in the attached table** , are not to be cut, unless designated by the Forest Service.

KT-ET.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 KT-GT.9#.

(2) Quantities of Stewardship Projects listed in AT.4.4.

(3) Prices for Stewardship Projects listed in AT.4.4.

(4) Place of performance of the Stewardship Projects as shown on the Contract Area Map.

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 JT.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 KT-GT.9# and AT.4.4, with or without expanding the Contract Area, as long as they are within the general scope of this contract.

DESCRIPTION PURSUANT TO KT-CT.3.5.7# – INDIVIDUAL TREE DESIGNATION (OPTION 1)(06/2008)

DESIGNATION BY DESCRIPTION

End Result: Thinning is from below, leaving the largest diameter designated tree species and removing all smaller diameter designated tree species, which are closer than the minimum spacing.

Cut all Designated Species trees, if the tree is within the DxD spacing of a Designated Species tree that has a larger stump diameter. Leave the tree with the larger diameter. Trees less than the minimum stump diameter and greater the maximum stump diameter are not Included Timber and shall not be cut. These trees shall not be considered in spacing. Non-designated species shall not be considered in spacing and shall not be cut.

Table 1 – DXD by Payment Unit

Payment Unit	*Designated Species**	*Designated Tree DSH Limit (min–max inches)*	*DxD Spacing (feet)*	*Number of Skips*	*Number of Gaps*	*Number of LTM Areas*
1	DF, GF, H, PS, AF, NF	7.0 – 37.0	15		8	1
2	DF, GF, H, PS, AF, NF	7.0 – 37.0	14	2	1	
3	DF, GF, H, PS, AF, NF	7.0 – 37.0	14	2		1
4	DF, GF, H, PS, AF, NF	7.0 – 37.0	17	2	2	
5	DF, GF, H, PS, AF, NF	10.0 – 37.0	NA*			
6	DF, GF, H, PS, AF, NF	10.0 – 37.0	NA*			
7	DF, GF, H, PS, AF, NF	10.0 – 37.0	20			
8	DF, GF, H, PS, AF, NF	10.0 – 37.0	20			
9	DF, GF, H, PS, AF, NF	7.0 – 37.0	17	1		
10	DF, GF, H, PS, AF, NF	7.0 – 37.0	18			
11	DF, GF, H, PS, AF, NF	7.0 – 37.0	13	1		
12	DF, GF, H, PS, AF, NF	10.0 – 37.0	18	1	2	
13	DF, GF, H, PS, AF, NF	10.0 – 37.0	18	1		
14	DF, GF, H, PS, AF, NF	7.0 – 37.0	14			
15	DF, GF, H, PS, AF, NF	7.0 – 37.0	14	2	1	
16	DF, GF, H, PS, AF, NF	7.0 – 37.0	14	1	3	
17	DF, GF, H, PS, AF, NF	7.0 – 37.0	14		2	
18	DF, GF, H, PS, AF, NF	7.0 – 37.0	13		2	
19	DF, GF, H, PS, AF, NF	7.0 – 37.0	13			
20	DF, GF, H, PS, AF, NF	7.0 – 37.0	13	1	1	
22	DF, GF, H, PS, AF, NF	7.0 – 37.0	13	2	4	
23	DF, GF, H, PS, AF, NF	7.0 – 37.0	17	3	2	
24	DF, GF, H, PS, AF, NF	7.0 – 37.0	14			
25	DF, GF, H, PS, AF, NF	7.0 – 37.0	14	2	5	
26	DF, GF, H, PS, AF, NF	7.0 – 37.0	15			
27	DF, GF, H, PS, AF, NF	7.0 – 37.0	15			
28	DF, GF, H, PS, AF, NF	7.0 – 37.0	14	2	4	
29	DF, GF, H, PS, AF, NF	7.0 – 37.0	17		2	
30	DF, GF, H, PS, AF, NF	7.0 – 37.0	16			
31	DF, GF, H, PS, AF, NF	10.0 – 37.0	18			
32	DF, GF, H, PS, AF, NF	10.0 – 37.0	18			
33	DF, GF, H, PS, AF, NF	10.0 – 37.0	18		7	

* Payment Units 5 & 6: Cut all Designated Species trees within the DSH Limit (min-max inches) diameter limits.

DESCRIPTION PURSUANT TO KT-CT.3.5.7# – INDIVIDUAL TREE DESIGNATION (OPTION 1)(06/2008)

DESIGNATION BY DESCRIPTION

Skip: Do not cut any tree within 59 feet of a tree designated with 2 bands of orange tracer paint.

Gap: Cut all Designated Species trees within diameter limits, within 59 feet of a tree designated with 2 bands of pink tracer paint.

Leave Tree Mark (LTM) Area: Cut All trees within the diameter limits except for those designated with two, slanted, vertical stripes of pink tracer paint. LTM boundaries are designated on the ground with red “Special Treatment” tags labeled “LTM”, pink ribbon, and orange tracer paint through the tag and on the stump.

Definitions

Designated Species: DF = Douglas-fir, GF = grand fir, H = western hemlock, PS = Pacific silver fir, AF = alpine fir, NF = noble fir

DSH = Diameter at Stump Height.

Stump height is measured at 6.0 inches on high side of the tree.

KT-ET.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 and road maintenance deposits;

(ii) Cooperative work at rates established by specific agreement under ET.2.1.8;

(iii) Damages pursuant to JT.4;

(iv) Road use fees;

(v) Restoration of downpayment pursuant to ET.2.2;

(vi) Periodic payments pursuant to ET.2.1.3;

(vii) Extension Deposits pursuant to ET.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 JT.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.

KT-FT.1.0.1# - TEMPORARY ROAD AND LANDING CONSTRUCTION (OPTION 1) *(06/2008)*

In addition to the requirements of FT.1 and GT.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 **NA** cubic yards of rock for Temporary Roads, landings, or other temporary uses, such rock shall be obtained from commercial sources.

See attached Plans or Criteria. **NA** of rock for Temporary Roads, landings, or other temporary uses, such rock shall be obtained from commercial sources.

See attached Plans or Criteria.

See attached Plans or Criteria.

PLANS AND/OR CRITERIA PURSUANT TO KT-FT.1.0.1# -
TEMPORARY ROAD AND LANDING CONSTRUCTION (OPTION 1) (06/2008)

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. Set topsoil aside where directed by Forest Service. Locate landings outside of no harvest areas. Temporary drainage structures shall be designed to meet the base flow condition (approximately 36 inches) if utilized during the dry season (July 1 – September 30) and removed prior to the fall wet season. 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 KT-GT.6.0#. Topsoil will be moved back to the natural contour of the slope. 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 decompation, all areas of exposed soil shall be covered with logging slash/debris as required in KT-GT.6.0#.

KT-FT.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 the 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.

TABLE PURSUANT TO KT-FT.1.2# - USE OF ROADS BY CONTRACTOR (09/2004)

Restricted Road List

Road Number	*Road Name*	*Termini*		*Map Legend*	*Description of Restrictions*
		From	*To*		
8600000	--	Unit 28	Unit 28	R	1/
8631000	---	8620000	8620070	R	1/, 2/, 3/
8631011	---	8631000	MP 1.3	R	2/, 3/
All	---	All	All	R	3/

1/ Keep road open. Roads can be closed for up to 30 minutes at a time for operations.

2/ Reconstruct prior to haul.

3/ Reconstruction, haul, and maintenance with the exception of brushing and blading shall take place from July 15 through September 30.

Title and Date of Governing Road Rules Document:

Gifford Pinchot National Forest Commercial Road Rules	4/2001 Effective Date

KT-FT.1.3# - ROAD COMPLETION DATE *(09/2004)*

Construction of Specified Roads shall be completed no later than **09/30/2015** ; except for earlier construction completion dates for roads listed below:

Road Number	Road Name	Station From	Station To	Completion Date
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 GT.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 DT.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 FT.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 Subsection, construction of a road is completed when:

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

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

Notwithstanding FT.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.

KT-FT.2.2.1# - MATERIAL SOURCES *(09/2004)*

Sources of local materials are designated on Plans and Contract Area Map. Forest Service assumes responsibility for the quality and quantity of material in designated sources. Contractor shall determine the equipment and work required to produce the specified product, including the selection of acceptable material that is reasonably available in the source that meets specifications. The designation of source includes the rights of Contractor to use certain area(s) for plant site, stockpiles, and haul roads.

Should the designated source, due to causes beyond the control of Contractor, contain insufficient acceptable material, Forest Service will provide another source with adjustment in accordance with FT.2.5.3.

When Contractor elects not to use designated sources, Contractor shall furnish the specified product with no adjustment in unit rates. Quality testing shall be the responsibility of Contractor. Test results shall be furnished to Forest Service.

When Contractor elects not to use designated sources and Schedule of Items lists pit development separately, cost allowance will be reduced under FT.2.5.3 when Forest Service determines the work will not be required.

When materials are subject to a weight measurement, the specific gravity or weight/volume relationship used as a basis for determination of estimated quantities shall be:

Source I **Dry Creek Quarry** , Source II **NA** , and Source III **NA** .

Contractor may, when agreed in writing, use on the project such suitable stone, gravel, and sand, or other material found in the excavation, and will earn a cost allowance for the excavation of such materials at the corresponding contract unit price and for the pay items for which the excavated material is used. Contractor shall replace, without additional cost allowance, sufficient suitable materials to complete the portion of the work, which was originally contemplated to be constructed with such material. Contractor shall not excavate or remove any material, except that which is within the excavation limits, without written authorization from Forest Service.

When material is appraised from non-National Forest designated sources, owner charges for the material in terms of unit cost for royalties, purchase of raw materials, or finished products shall be as follows until **NA** :

See Material Source Table.

Should quantity vary from that estimated, payment to owners shall be for units actually obtained. Contractor shall make arrangements with owner(s) for measurement and payment for royalties, purchase of raw materials, or finished products, as shown above.

Materials produced or processed from National Forest lands in excess of the quantities required for performance of this contract are the property of Forest Service, unless prior written agreement has been obtained to use excess material on other National Forest contracts. Forest Service is not obligated to reimburse Contractor for the cost of their production.

Materials shall be stored to assure the preservation of their quality and fitness for the work. Stored materials shall be located to facilitate their prompt inspection. Sites on Forest Service administered land, approved by Forest Service, may be used for storage purposes and for the placing of Contractor's plant equipment. All storage sites provided by Forest Service shall be restored at Contractor's expense.

Contractor shall be responsible for making arrangements for storage on other than Forest Service administered lands.

When the construction of the portion of the project for which Temporary Roads used for hauling materials is completed, all such Temporary Roads shall be restored as nearly as practicable to their original ground profile, unless otherwise agreed in writing.

TABLE PURSUANT TO KT-FT.2.2.1# - MATERIAL SOURCES *(09/2004)*

Material Source Table

Material	*Type of Purchase*	*Owner(s)*	*Unit of Measure*	*Unit Price*	*Estimated Quantity*	*Total*
NA						

KT-FT.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.

CONTRACT ROAD MAINTENACE REQUIREMENTS SUMMARY PURSUANT TO
KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS (09/2004)

CONTRACT ROAD MAINTENANCE REQUIREMENTS SUMMARY

Road	*Termini*		*Miles*	*Applicable Prehaul Road Maintenance Specifications*								
	From	*To*		*T-811*	*T-831*	*T-836*	*T-839*	*T-842*	*T-854*			
8600000	Hwy 141	MP 5.8	5.80	P	P	P		P				
8600071	8600000	8600080	0.12	P		P						
8600080	8600071	MP 0.85	0.85	P		P						
8600731	8600000	MP 0.5	0.50				P					
8600733	8600731	MP 0.2	0.20				P					
8620000	8600000	8620031	1.72	P		P		P				
8620011	8620000	MP 1.2	1.20	P		P						
8620015	8620011	MP 0.5	0.50	P		P						
8620031	8620000	MP 1.4	1.40	P		P		P				
8631000	8620000	MP 3.5	3.50	P		P		P				
8631011	8631000	MP 1.3	1.30	P		P		P				

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

Road	*Termini*		*Miles*	*Applicable During Haul Road Maintenance Specifications*								
	From	*To*		*T-803*	*T-811*	*T-831*	*T-836*	*T-839*	*T-842*	*T-854*		
8600000	Hwy 141	MP 5.8	5.80	P	P	P	P		P	P		
8600071	8600000	8600080	0.12	P	P		P					
8600080	8600071	MP 0.85	0.85	P	P		P					
8600731	8600000	MP 0.5	0.50	P				P				
8600733	8600731	MP 0.2	0.20	P				P				
8620000	8600000	8620031	1.72	P	P		P		P	P		
8620011	8620000	MP 1.2	1.20	P	P		P					
8620015	8620011	MP 0.5	0.50	P	P		P					
8620031	8620000	MP 1.4	1.40	P	P		P		P	P		
8631000	8620000	MP 3.5	3.50	P	P		P		P	P		
8631011	8631000	MP 1.3	1.30	P	P		P		P	P		
8620037	8620000	MP 1.0	1.00	P						P		

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

Road	*Termini*		*Miles*	*Applicable Post Haul Road Maintenance Specifications*								
	From	*To*		*T-811*	*T-831*	*T-836*	*T-839*	*T-842*	*T-854*			
8600000	Hwy 141	MP 5.8	5.80	P		P						
8600071	8600000	8600080	0.12	P		P						
8600080	8600071	MP 0.85	0.85	P		P						
8600731	8600000	MP 0.5	0.50				P					
8600733	8600731	MP 0.2	0.20				P					
8620000	8600000	8620031	1.72	P		P						
8620011	8620000	MP 1.2	1.20	P		P						
8620015	8620011	MP 0.5	0.50	P		P						
8620031	8620000	MP 1.4	1.40	P		P						
8631000	8620000	MP 3.5	3.50	P		P						
8631011	8631000	MP 1.3	1.30	P		P						

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

Description of work required by the above listed T-specs is shown in the following ROAD MAINTENANCE REQUIREMENTS SPECIFICATION table, and included in the stewardship contract.

Contract Name: Cave Thin Stewardship

CONTRACT ROAD MAINTENACE REQUIREMENTS SUMMARY TABLE PURSUANT TO
KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS (09/2004)

CONTRACT ROAD MAINTENANCE REQUIREMENTS SUMMARY (CONTINUED)

1	2	3			4	5	6			7	8	9	
Road No. and Termini	Special Project Specifi-cation	Travel Way			Brushing And Log Out (1)	Surfacing	Dust Abatement			Seasonal Mainte-Nance	Snow Removal	Post Haul(1)	
		Width	X Slope	Comp			Product	Applic Rate	Width			Block	Treat
8600000 Hwy 141–MP 5.8	811,831, 836,842, 854	EX	AI	A	MECHANICAL						TS		P
8600071 8600000-8600080	811,836 842,854	EX	AI	A	MECHANICAL					W	TS		P
8600080 8600071-MP 0.85	811,836 842,854	EX	AI	A	MECHANICAL					W	TS		P
8600731 8600000-MP 0.5	839,854	EX	AI								TS		P
8600733 8600731-MP 0.2	839,854	EX	AI							W	TS		P
8620000 8600000-8620031	811,836 842,854	EX	AI	A	MECHANICAL						TS		P
8620011 8620000-MP 1.2	811,836 842,854	EX	AI	A	MECHANICAL					W	TS		P
8620015 8620011–MP 0.5	811,836 842,854	EX	AI	A	MECHANICAL					W	TS		P
8620031 8620000-MP 1.4	811,836 842,854	EX	AI	A	MECHANICAL						TS		P
8631000 8620000-MP 3.5	811,836 842,854	EX	AI	A	MECHANICAL						TS		P
8631011 8631000-MP 1.3	811,836 842,854	EX	AI	A	MECHANICAL					W	TS		P
8620037 8620000-MP 1.0	803,854	EX	AI							W	TS	P	P

1) Brushing width is specified as 5′, brush shall be removed to a distance 5 feet beyond the shoulder of the road, edge of the traveled way, or 2 feet beyond the bottom of the ditch whatever is greater.

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

Column No.	*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 sale related construction materials occurs.
2	Special Project Specification	Number	Entry indicates Special Project Specification which applies.
3	Travel Way	EX	Contractor shall maintain the traveled way to the width existing upon entry, or at the completion of Specified Road work.
		Numbers	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.
		IS, C, OS, F, or AI	Cross slopes are designated as: IS (Inslope), C (Crown), OS (Outslope), F (Flat), AI (As Is).
		A or B	If compaction is required.
4	Brush and Log Out	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 field.
		OPT	Contractor may use hand or mechanical means of brushing.
		H	Only hand brushing may be used.
5	Surfacing	Aggregate Grading	Contractor shall place surfacing on roads listed according to the grading indicated.
		D	Contractor is to make deposits for listed road maintenance, including surface rock replacement.

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

Column No.	*Heading*	*Entry*	*Explanation*
6	Dust abatement	OPT	Product selection is Contractor's choice from those listed in Section T-812.
		Product Abbr.	Unless otherwise agreed, Contractor is restricted to product listed corresponding to the abbreviation shown in Section T-812; (i.e., LigS = Lignon Sulfonate) Application rates are estimated amounts.
		EX	Contractor shall abate dust on the existing width.
		Numbers	Contractor shall abate dust to the width indicated by entry.
7	Seasonal Maintenance	W	Waterbars and/or crossditching shall be required prior to expected seasonal precipitation.
		B	Entrance barriers shall be installed by Contractor prior to nonuse periods.
8	Snow Removal	TS	Snowplowing authorized for Contractor'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 not in conflict with other uses.
9	Post Haul	P	P denotes that work is Contractor's Responsibility to perform.

KT-FT.3.2# - ROAD MAINTENANCE DEPOSIT SCHEDULE *(09/2004)*

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

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

The Required Deposits for Forest Service work in lieu of Contractor performance and for deferred maintenance is: **$.73** per **CCF** .

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		

KT-GT.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.

SCHEDULE PURSUANT TO KT-GT.3.1.5# - PROJECT OPERATION SCHEDULE (05/2005)

PAYMENT UNIT	*OPERATION CONDITIONS*	*PURPOSE*
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33	All timber harvest activity shall take place from July 16 through September 30.	Spotted Owl 07/16 – 02/28 Soils/Hydrology 07/01 – 09/30
29	All timber harvest activity shall take place from July 1 through September 30.	Soils/Hydrology 07/01 – 09/30
30, 31, 32, 33	Winter harvest operations may be approved through a waiver outside the Soils/Hydrology limited operating period.	Winter Operations 11/01 – 11/30
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29	Winter harvest operations may be approved through a waiver outside the Soils/Hydrology limited operating period. Conditions required are a minimum of 24 inches of snow depth, or a combination of 3 to 4 inches of compacted snow and soil frozen to at least 6 inches in depth is required for operations between November 1 and February 28 unless otherwise agreed to by Forest Service.	Winter Operations 11/01 – 02/28

KT-GT.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 AT.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 Payment Units 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 Payment Unit will be removed from the Contract Area under GT.3.6.

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

KT-GT.4.1# - SPECIFIC REQUIREMENTS *(05/2005)*

Notwithstanding GT.4.1, GT.4.1.1, GT.5 and GT.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 Payment Units 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.

TABLE PURSUANT TO KT-GT.4.1# - SPECIFIC REQUIREMENTS (05/2005)

FELLING METHODS & EQUIPMENT	*PAYMENT UNIT*
If accepted by the Forest Service as part of the Contractor's Technical Proposal, use of mechanical harvester/feller-bunchers on slopes greater than 35 percent may be approved on a unit-by-unit basis. Conditions required to pre-bunch on steep slopes include: ➢ Equipment must avoid unstable soils (landslides), high erosion, and riparian no-cut buffers. Equipment traveling on forest soils greater than 35% must avoid uphill travel. Slope maximum limit for ground equipment is 45 percent. All activity must protect topsoil from linear ruts and soil displacement, whether it results from wheels, tracks, or log skidding. ➢ Equipment traveling on forest soils greater than 30% (steepness) avoids carrying logs (skidding). ➢ Equipment operating on slash mats that are as thick and continuous as possible and limited to as few trips as possible. Conditions required for winter operations: ➢ A minimum of 24 inches of snow depth, or a combination of 3 to 4 inches of compacted snow and soil frozen to at least 6 inches in depth is required for ground disturbing operations between November 1 and February 28, unless otherwise agreed to by Forest Service.	All
Trees shall be directionally felled away from Payment Unit boundaries, no harvest areas, roads, protected streamcourses, or as directed by Forest Service. Exceptions include trees leaning towards these features or when conditions would not allow safe felling. Any tree that falls into a no harvest buffer shall be left in place.	All

KT-GT.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 harvestor 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 KT-GT.4.2# - YARDING/SKIDDING REQUIREMENTS (05/2005)

YARDING/SKIDDING REQUIREMENTS	*PAYMENT UNIT*
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 not be permitted on slopes greater than 30%. They shall be spaced a minimum of 150 feet apart and located outside of no harvest buffers. When feasible, use existing skid trails except where existing skid trails from previous entry are causing detrimental soil or hydrologic conditions that could be	All
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 permitted through no harvest areas on streamcourses if full suspension can be achieved with the entire no harvest area, skyline corridor widths minimized, skyline corridor spacing maximized, and the trees cut for the purpose of creating skyline corridors left onsite.	All
Helicopter logging is required in listed Payment Units. The Flat Top Snow Park shall not be used as a log or service landing unless otherwise agreed to by Forest Service.	5, 6, 7, 8, 12, 13, 31, 32, 33
Where feasible, using existing temporary roads and skid trails.	All
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.	All
Any portion of a felled tree that lands in a no harvest buffer shall be left on the ground.	All
Equipment shall operate on slash mats that are as thick and continuous as possible and limited to as few trips as possible.	All
Ground based equipment will not operate on portions of roads and landings after decompaction is completed.	All
Protect existing down wood to the extent possible.	All

KT-GT.6.0# - EROSION CONTROL AND SOIL TREATMENT BY CONTRACTOR *(04/2014)*

Erosion prevention and control work required by GT.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 **30** 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 GT.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 **September 30** , 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 20 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 20 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. 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. 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 activites to prevent the spread of noxious weeds, or the establishment of new areas.

See attached application schedule.

APPLICATION SCHEDULE PURSUANT TO KT-GT.6.0# - EROSION CONTROL AND SOIL TREATMENT BY CONTRACTOR (04/2014)

Payment Unit	Areas A) Skid Trails B) Skyline Corridors C) Temp. Roads D) Landings E) Other: Areas of Heavy Disturbance	Seed Application		Fertilizer Application		Mulch Application	
		Species Mixture 1/	LBS/AC	Type 2/	LBS/AC	Type 3/	LBS/AC
All	A, C, D 4/					Slash	Scattered
All	D 5/					Weed Free Straw/Hay Bales	NA
All	A, B, E 6/					Slash	Scattered

The Contractor will be required to pay a co-op deposit of $.04/CCF for the cultivation and harvest of replacement seed of native species for use on future contracts. Seed required for erosion control will be provided by the Forest Service.

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:

1. Variety (if certified as to variety) and kind.
2. Quantity of seed (pounds or bushels).
3. Class of certified seed (blue tags for certified seed).
4. 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/ Available logging debris and slash shall be scattered across decompacted surface.

5/ Locate straw bales and silt fences or waddles to intercept runoff from the landing prior to reaching any road ditch or stream. Sediment shall be cleaned out and deposited on the forest floor prior to the wet season (October 1 – June 30). Remove following one wet season.

6/ 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.

KT-GT.7 - SLASH DISPOSAL *(06/2008)*

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 KT-HT.2.0.1.

Forest Service may enter into a written agreement with Contractor for the Contractor to remove slash from landings, subject to DT.4.1. Brush disposal deposits paid by the Contractor for the Forest Service to burn landing piles will be credited to the Contractor's integrated resource account in the amount shown in the brush disposal plan, less the amount needed by the Forest Service for final cleanup of the landings following removal of the landing slash piles by the Contractor. The credit will be made following the final removal of all Included Timber, and slash piles, from the Contract Area.

KT-GT.7.4.2# - SLASH TREATMENT REQUIREMENTS (OPTION 2) *(06/2010)*

Contractor shall pile, burn, yard, construct firelines or otherwise treat slash defined in KT-GT.7, within designated areas. Work required of Contractor shall be in accordance with the following slash plan and specifications, and the Contract Area Map.

See following slash plan and specifications.

SPECIFICATIONS PURSUANT TO KT-GT.7.4.2#-SLASH TREATMENT REQUIREMENTS (OPTION 2)(06/2010)

SPECIFICATION 6701 - TIME OF PREPARATION OF SLASH FOR DISPOSAL

In accordance with Special Provision KT-GT.7.4.2#, and Standard Provision GT.7, 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 Contract Administrator before work starts.

2. As stated in GT.7, Contractor shall not unnecessarily delay slash disposal by the Forest Service. Contractor's delay of such slash disposal work is hereby defined as the failure to fully complete and have accepted slash disposal work on a Payment Unit beyond 30 days after the majority of Included Timber on that unit has been removed, unless otherwise agreed in writing.

SPECIFICATION 6709# - PILING OF SLASH, MACHINE

This Specification applies to Payment Unit(s): 1 (4 acres), 10 (1 acre), 19 (2 acres), 20 (2 acres), 22 (2 acres)

In accordance with Special Provision KT-GT.7.4.2#, Contractor shall pile slash by machine. Contractor shall pile slash in areas designated by Forest Service. The method of designation shall been 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 - Contractor shall pile all slash over 2 feet in length and between 1 and 4 inches in diameter on the large end.

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 15 feet from the base or crown of any live tree. Piles will be located at least 20 feet from any adjacent pile. All piles in payment units will be a minimum of 25 feet from the unit boundary. Remnant logs shall not be incorporated into slash piles.

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 6 feet nor greater than 13 feet; diameter shall be not less than 10 feet nor greater than 15 feet.

SPECIFICATION 6711# - PILING OF SLASH AT LANDINGS

This Specification applies to Payment Unit(s): All

In accordance with Special Provision KT-GT.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 and 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 and such that burning will not cause damage to standing trees. 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 KT-GT.7.4.2#-SLASH TREATMENT REQUIREMENTS (OPTION 2)(06/2010)

SPECIFICATION 6714# - COVERING OF PILES – MACHINE & LANDING

This Specification applies to Payment Units(s): Al1

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 shall extend to the ground on two sides; one side toward the prevailing wind. 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.

KT-GT.8 - MEASURING *(05/2005)*

The estimated quantity of timber in AT.2 was determined in advance of advertisement. Any timber subsequently added or deleted under CT.1.3, CT.1.4, CT.1.5, CT.3.1, CT.3.2, CT.3.3, CT.3.4, CT.3.5, or CT.3.7 will be measured by the Forest Service and formulated using Forest Service Handbook 2409.12, Timber Cruising Handbook Standards, unless otherwise agreed to in writing.

KT-GT.8.1.1 - ACCOUNTABILITY *(05/2005)*

The following requirements are applicable to product removal permits:

1. Forest Service will issue to Contractor or designated representative(s) serially numbered Product Removal Permit Books for use only on this contract. Product Removal Permit Books, whether used or unused, shall be returned to issuing Forest Service Office in accordance with instructions contained on cover of each book.

2. All permits shall be completed and attached to load by an individual named in writing, other than the truck driver in accordance with the instructions on the inside cover of the Product Removal Permit Book. Product Removal Permit will be attached prior to removal from the immediate vicinity where loading is done. The permit will remain attached until the load is decked at the delivery point.

3. Contractor shall require truck drivers to stop when requested by Forest Service for purposes of monitoring accountability when products are in transit. Methods to be used to alert drivers of an impending stop shall be agreed to in advance of hauling products.

KT-GT.8.4 - USE OF PAINT BY CONTRACTOR (OPTION 1) *(06/2006)*

Notwithstanding GT.8.1, use of paint by the Contractor within the Contract Area in the same color(s) as used by the Forest Service in the preparation of the sale and administration of the contract will be by written approval of the Forest Service.

KT-GT.9# - STEWARDSHIP PROJECTS *(09/2004)*

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

Stewardship Projects

PROJECTS AND SPECIFICATIONS PURSUANT TO KT-GT.9# - STEWARDSHIP PROJECTS (09/2004)

Project Number 1: Stream Crossing Restoration. See attached requirements and specifications.

Project Number 2: Precommercial Thinning. See attached requirements and specifications.

Project Number 3: Culvert Replacement. See attached requirements and specifications.

Project Number 4: Road Decommissioning. See attached requirements and specifications.

Project Number 5: Snag and Down Log Creation. See attached requirements and specifications.

KT-HT.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 KT-HT.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 AT.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.

KT-HT.2 - SPECIFIC FIRE PRECAUTIONS *(05/2005)*

When the industrial fire precaution level is I or higher, unless waiver is granted under KT-HT.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 O 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 O 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-la 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 HT.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.

KT-HT.2.0.1 - BURNING BY CONTRACTOR *(06/2006)*

Notwithstanding the Fire Precautionary Period limitation of HT.2, Contractor is required to obtain written permission from Forest Service prior to any burning on the National Forest Lands.

KT-HT.2.2 - EMERGENCY FIRE PRECAUTIONS *(05/2005)*

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.

LEVEL INDUSTRIAL FIRE PRECAUTION
I. Closed Season - Fire precaution requirements are in effect. A Fire Watch/Fire Security is required at this and all higher levels unless otherwise waived.

II. Partial Hootowl - The following may operate only between the hours of 8 p.m. and 1 p.m. local time:

power saws, except at loading sites;
cable yarding;
blasting;
welding or cutting of metal.

III. Partial shutdown - The following are prohibited:

cable yarding - except that gravity operated logging systems employing non-motorized carriages may be operated between the hours of 8 p.m. and 1 p.m. local time when all blocks and moving lines are 10 feet or more above the ground, excluding the line between the carriage and the choker.

power saws - except at loading sites and on tractor/skidder operations between the hours of 8 p.m. and 1 p.m. local time.

In addition, the following are permitted between the hours of 8 p.m. and 1 p.m. local time:

tractor, skidder, feller-buncher, forwarder, or shovel logging operations where tractors, skidders or other equipment with a blade capable of constructing fireline are immediately available to quickly reach and effectively attack a fire start;
mechanized loading and hauling;
blasting;
welding or cutting of metal;
any other spark-emitting operation not specifically mentioned.

IV. General Shutdown - All operations are prohibited.

The following definitions shall apply to these Industrial Fire Precaution Levels:

Cable yarding systems: A yarding system employing cables and winches in a fixed position.

Closed Season (Fire Precautionary Period): That time period each year when a fire hazard exists and as described in AT.12.

Hauling: Where hauling involves transit through more than one shutdown zone/regulated use area, the precaution level at the woods site shall govern the level of haul restrictions, unless prohibited by other than the Industrial Fire Precaution Level system.

Loading sites/woods site: A place where any product or material (including but not limited to logs, firewood, slash, soil, rock, poles, posts, etc.) is placed in or upon a truck or other vehicle.

Advance written waiver of the above precautions may be issued by the Contracting Officer or Forest Service Representative.

Such waiver, or substitute precautions under HT.2.1, shall prescribe 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.

Contractor shall obtain the predicted Industrial Fire Precaution Level 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 restrictions or industrial precautions are indicated.

KT-HT.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 HT.3 and HT.4 until the road has been accepted in writing by Forest Service.

KT-IT.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 IT.3.3, or for termination remedies pursuant to IT.3.4.

KT-IT.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 AT.17. 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.

KT-IT.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 Subsection, 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 Subsection, Forest Service will not be liable for any Claim submitted by Contractor relating to the termination.

CAVE THIN STEWARDSHIP SALE

8631000 & 8631011 Road Reconstruction

Mt Adams Ranger District

Gifford Pinchot National Forest

Schedule of Items: 1 Page

Forest Service Supplemental Specifications: 35 Pages

Project Drawings: 7 Pages

SCHEDULE OF ITEMS

8631000 & 8631011 Road Reconstruction

USFS ROAD 8631000

ITEM NO.	DESCRIPTION	PAY UNIT	EST. QTY.		
15101	Mobilization	Lump Sum	1		
21203	Excavation- Cut Slope	Cubic Yard	30		
25101	Riprap, Class 3, Machine-Placed	Cubic Yard	60		
30101	Haul, Place, Shape & Compact 1 1/2 “ minus Aggregate Commercial Source, Compaction B	Cubic Yard	1260		
30303	Recondition Ditch	Linear Feet	1200		
60201a	18 inch plastic culvert (compaction method A)	Foot	128		
60201b	24 inch plastic culvert (compaction method A)	Foot	40		
60201c	30 inch plastic culvert (compaction method A)	Foot	36		
60201d	36 inch plastic culvert (compaction method A)	Foot	68		

USFS ROAD 8631011

ITEM NO.	DESCRIPTION	PAY UNIT	EST. QTY.		
60201e	18” inch plastic culvert (compaction method A)	Linear Feet	36		

Table of Contents

Preface

Preface_wo_03_15_2004_m

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-03 for construction of National Forest System Roads.

101 - Terms, Format, and Definitions

101.00_nat_us_07_25_2005

101.01_nat_us_01_22_2009

101.01 Meaning of Terms

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03_nat_us_06_16_2006

101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	National Institute of Standards and Technology
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

.

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04_nat_us_03_29_2007

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

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--No definition.

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.

Add the following:

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.

Design Quantity--"Design quantity" is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges*. Under these FP specifications this term is replaced by the term "Contract Quantities".

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 sale area map that requires designated mitigation measures.

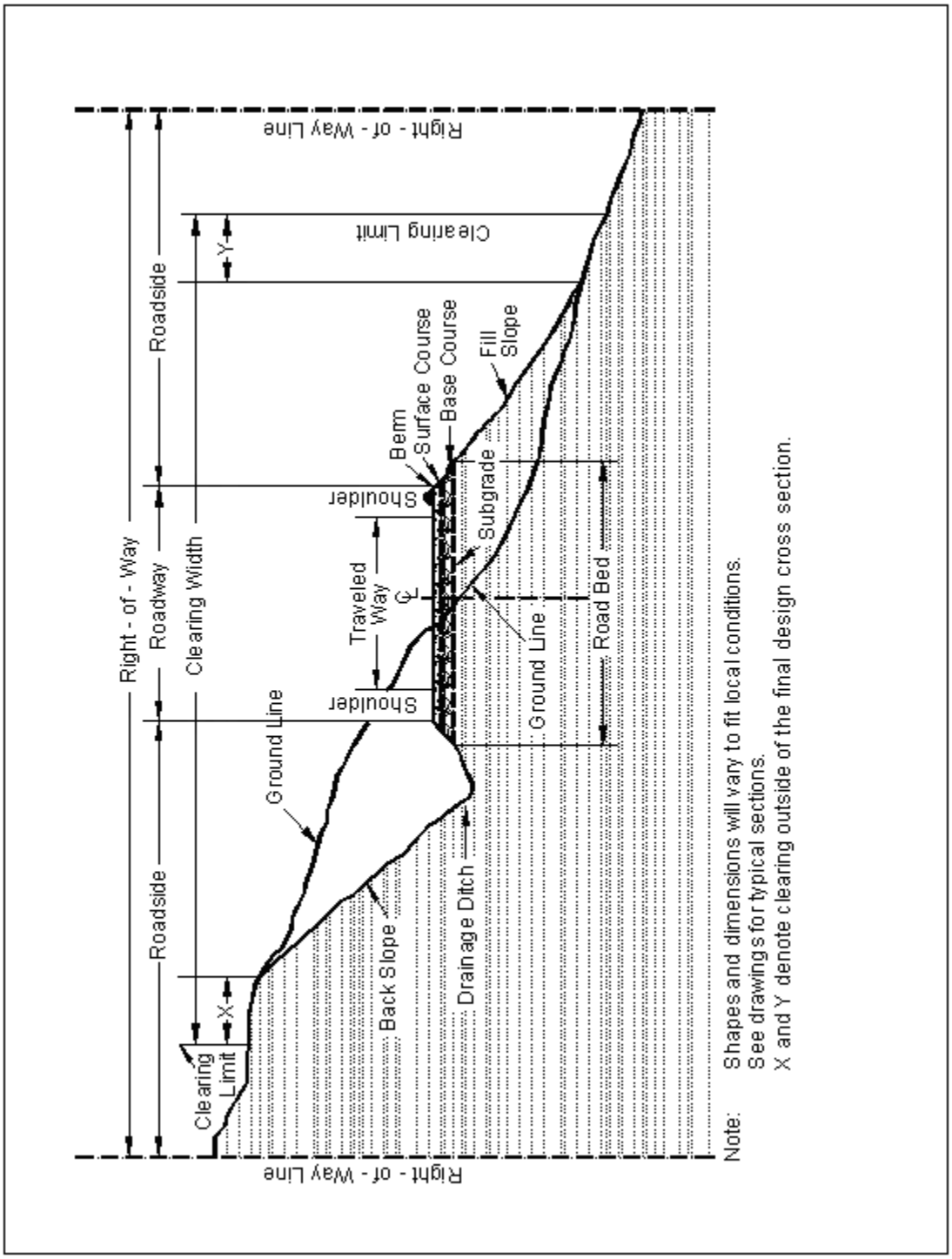
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

Schedule of Items--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

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_nat_us_02_16_2005

102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

103 - Scope of Work

103.00_nat_us_02_16_2005

Deletions

Delete all but subsection 103.01 Intent of Contract.

104 - Control of Work

104.00_nat_us_06_16_2006

Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.06_nat_us_02_17_2005

Add the following subsection:

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_nat_us_01_18_2007

105.02 Material Sources.

105.02(a) Government-provided sources.

Add the following:

Comply with the requirements of 30 CFR 56, subparts B and H. Use all suitable material for aggregate regardless of size unless otherwise designated. When required, re-establish vegetation in disturbed areas according to section 625.

105.05_nat_us_05_12_2004

105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. The Government is not obligated to make reimbursement for the cost of producing these materials.

106 - Acceptance of Work

106.07_nat_us_05_11_2004

106.07 Delete

Delete subsection 106.07.

107 - Legal Relations and Responsibility to the Public

107.05_nat_us_05_11_2004

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06_nat_us_06_16_2006

107.06 Contractor's Responsibility for Work.

Delete the following from the first paragraph.

"except as provided in Subsection 106.07".

107.09_nat_us_06_16_2006

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10_nat_us_06_16_2006

107.10 Environmental Protection.

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Before beginning any work, submit a Hazardous Spill Plan. List actions to be taken in the event of a spill. Incorporate preventive measures to be taken, such as the location of mobile refueling facilities, storage and handling of hazardous materials, and similar information. Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.
- Exact time and location of spill including a description of the area involved.
- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

108 - Prosecution and Progress

108.00_nat_us_02_16_2005

108 Delete.

Delete Section 108 in its entirety.

109 - Measurement and Payment

109.00_nat_us_02_17_2005

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

109.02_nat_us_06_16_2006

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Add the following:

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

Change the following:

"(b) Cubic yard" to "(c) Cubic yard".

Add the following definition:

(p) Thousand Board Feet (Mbf). 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

155 - Schedules for Construction Contracts

155.00_nat_us_05_11_2004

155 Delete.

Delete Section 155 in its entirety.

204 - Excavation and Embankment

204.00_nat_us_03_26_2009

Replace Section 204 in its entirety with the following:

Description

204.01 This work consists of excavating material and constructing embankments. This 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. All material excavated from within the right-of-way or easement areas, except subexcavation covered in (2) below 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 groundline in embankment sections. Subexcavation does not include the work required by Subsections 204.05, 204.06(b), and 204.06(c).

(3) Borrow excavation. Material used for embankment construction that is obtained from outside the roadway prism. Borrow excavation includes unclassified borrow, select borrow, and select 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:

Backfill material	704.03
Select borrow	704.07
Select topping	704.08
Topping	704.05
Unclassified borrow	704.06
Water	725.01

Construction Requirements

204.04 Preparation for Roadway Excavation and Embankment Construction. Clear the area of vegetation and obstructions according to Sections 201 and 203.

204.05 Reserved.

204.06 Roadway Excavation. Excavate as follows:

(a) General. Do not disturb material and vegetation outside the construction limits. Incorporate only suitable material into embankments. Replace any shortage of suitable material caused by premature disposal of roadway excavation. Dispose of unsuitable or excess excavation material according to Subsection 204.14.

At the end of each day's operations, shape to drain and compact the work area to a uniform cross-section. Eliminate all ruts and low spots that could hold water.

Retrieve material deposited outside of the clearing limits as directed by the CO. Place unsuitable material in designated areas.

(b) Rock cuts. Blast rock according to Section 205. Excavate rock cuts to 6 inches below subgrade within the roadbed limits. Backfill to subgrade with topping or with other suitable material. Compact the material according to Subsection 204.11

(c) Earth cuts. Scarify earth cuts to 6 inches below subgrade within the roadbed limits. Compact the scarified material according to Subsection 204.11.

(d) Pioneer Roads. Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation. 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.

204.07 Subexcavation. Excavate material to the limits designated by the CO. Take cross-sections according to Section 152. Prevent unsuitable material from becoming mixed with the backfill. Dispose of unsuitable material according to Subsection 204.14. Backfill the subexcavation with topping, or other suitable material. Compact the material according to Subsection 204.11.

204.08 Borrow Excavation. Use all suitable roadway excavation in embankment construction. Do not use borrow excavation when it results in excess roadway excavation. Deduct excess borrow excavation from the appropriate borrow excavation quantity.

Obtain borrow source acceptance according to Subsection 105.02. Develop and restore borrow sources according to Subsection 105.03. 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 less than 4 feet high over natural ground. When designated, remove topsoil and break up the ground surface to a minimum depth of 6 inches 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. Scarify or pulverize asphalt and concrete roads to 6 inches below the pavement. Reduce all particles to a maximum size of 6 inches 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 benches in the existing slope to a sufficient width to accommodate placement and compaction operations and equipment. Bench the slope as the embankment is placed and compacted in layers. Begin each bench at the intersection of the original ground and the vertical cut of the previous bench.

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 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 all 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 flatter than 1V:1.75H with a tamping type roller or by walking with a dozer. For slopes 1V:1.75H or steeper, compact the slopes as construction of the embankment progresses.

Where placing embankment on one side of abutments, wing walls, piers, or culvert headwalls, compact the material using methods that prevent excessive pressure against the structure.

Where placing embankment material on both sides of a concrete wall or box structure, conduct operations so compacted embankment material is at the same elevation on both sides of the structure.

Where structural pilings are placed in embankment locations, limit the maximum particle size to 4 inches.

(b) Embankment within the roadway prism. Place embankment material in horizontal layers not exceeding 12 inches in compacted thickness. Incorporate oversize boulders or rock fragments into the 12-inch layers by reducing them in size or placing them individually as required by (c) 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 layers may be placed in layers up to 24 inches thick. Incorporate oversize boulders or rock fragments into the 24-inch layer by reducing them in size or placing them individually according to (c) below. Place sufficient earth and smaller rocks to fill the voids. Compact each layer according to Subsection 204.11 before placing the next layer.

(c) Individual rock fragments and boulders. Place individual rock fragments and boulders greater than 24 inches in diameter as follows:

(1) Reduce rock to less than 48 inches 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 by (b) above. Fill all the voids between rocks.
(4) Compact each layer according to Subsection 204.11 before placing the next layer.

(d) Embankment outside of roadway prism. Where placing embankment outside the staked roadway prism, place material in horizontal layers not exceeding 24 inches 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) <u>Compaction A.</u> Use AASHTO T 27 to determine the amount of material retained on a Number 4 sieve. If there is more than 80 percent retained on the No. 4 sieve use procedure (1).

If there is 50 to 80 percent retained on the No. 4 sieve use procedure (2). If there is less than 50 percent retained on the No. 4 sieve use procedure (3).

(1) 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 6feet per second and vibratory rollers at speeds less than 3 feet 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 impact per vibration and a minimum frequency of 1000 vibrations per minute.
(b) Eight roller passes of a 20-ton compression-type roller.
(c) Eight roller passes of a vibratory roller having a minimum dynamic force of 30,000 pounds impact per vibration and a minimum frequency of 1000 vibrations per minute.

Increase the compactive effort for layers deeper than 12 inches as follows:

- For each additional 6 inches or fraction thereof, increase the number of roller passes in (a) above by four passes.
- For each additional 6 inches or fraction thereof, increase the number of roller passes in (b) and (c) above, by eight passes.

(2) Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 sieve. Multiply this number by the percentage of material passing a No. 4 sieve, and add 2 percent to determine the optimum moisture content of the material. 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 rollers at speeds less than 6 feet per second and vibratory rollers at speeds less than 3 feet per second. Compact each layer of material full width according to (1) above.

(3) 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 180, method D. For other material classifications, determine the optimum moisture content and 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 B. Place material by end dumping to the minimum depth needed for operation of spreading equipment. Adjust the moisture content of the material to obtain a mass that will not visibly deflect under the load of the hauling and spreading equipment. Operate 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.

(c) Compaction C. Place material by end dumping to the minimum depth needed for operation of spreading equipment. Level and smooth each embankment layer before placing the next layers. Operate hauling and spreading equipment uniformly over the full width of each layer. Construct a solid embankment with adequate compaction by working smaller rock and fines in with the larger rocks to fill the voids, and by operating hauling and spreading equipment uniformly over the full width of each layer as the embankment is constructed.

204.12 Ditches. Slope, grade, and shape ditches. Remove all projecting roots, stumps, rock, or similar matter. Maintain all ditches in an open condition and free from leaves, sticks, and other debris.

Form furrow ditches by plowing or using other acceptable methods to produce a continuous furrow. Place all excavated material on the downhill side so the bottom of the ditch is approximately 18 inches below the crest of the loose material. Clean the ditch using a hand shovel, ditcher, or other suitable method. Shape to provide drainage without overflow.

204.13 Sloping, Shaping, and Finishing. Complete slopes, ditches, culverts, riprap, and other underground minor structures before placing aggregate courses. Slope, shape, and finish as follows:

(a) Sloping. Leave all earth slopes with uniform roughened surfaces, except as described in (b) below, with no noticeable break as viewed from the road. Except in solid rock, round tops and bottoms of all slopes including the slopes of drainage ditches. Round material overlaying solid rock to the extent practical. Scale all rock slopes. Slope rounding is not required on tolerance class D though M roads.

If a slide or slipout occurs on a cut or embankment slope, remove or replace the material, and repair or restore all 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 by the contract, construct steps on slopes of 1⅓V:1H to 1V:2H. Construct the steps approximately 18 inches high. Blend the steps into natural ground at the end of the cut. If the slope contains nonrippable 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. Finish the roadbed to be smooth and uniform, and shaped to conform to the typical sections. Remove unsuitable material from the roadbed and replace it with suitable material. Finish roadbeds to the tolerance class shown in table 204-2.Ensure that the subgrade is visibly moist during shaping and dressing. Scarify to 6 inches below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material. Maintain proper ditch drainage.

For surfaced roads, remove all material larger than 6 inches from the top 6 inches of the roadbed.

For unsurfaced roads, use one of the following methods to finish the roadbed:

(1) Method A. Remove all material larger than 6 inches from the top 6 inches of the roadbed and replace with suitable material.
(2) Method B. Use a vibratory grid roller or approved equal with a minimum weight of 10 tons. Roll at least 5 full-width passes or until there is no visible evidence of further consolidation.
(3) Method C. For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate rock berms.

204.14 Disposal of Unsuitable or Excess Material. Dispose of unsuitable or excess material at designated sites or legally off of the project.

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 and testing 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.

Clearing and removal of obstructions will be evaluated under Sections 201 and 203.

Measurement

204.16 Measure the Section 204 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 shown in the bid schedule;
(d) Ditches, except furrow ditches measured under a separate bid item;
*(e*Topsoil;
(f) Borrow material used in the work when a pay item for borrow is not shown in the bid schedule;
(g) Loose scattered rocks removed and placed as required within the roadway;
(h) Conserved material taken from stockpiles and used in Section 204 work; 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; and
(l) Material excavated outside the established slope limits.

(3) When both roadway excavation and embankment construction pay items are shown in the bid schedule, measure the following as roadway excavation only:
(a) Unsuitable material below subgrade in cuts and unsuitable material beneath embankment areas when a pay item for subexcavation is not shown 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, select borrow, and select topping. When measuring by the cubic yard measure in its original position. If borrow excavation is measured by the cubic yard 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 used in place of excess roadway excavation.

(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. Measure rounding cut slopes horizontally along the centerline of the roadway if a pay item for slope rounding is included in the bid schedule. If a pay item for slope rounding is not included in the bid schedule slope rounding will be considered subsidiary to excavation.

(e) Waste. Measure waste by the cubic yard 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 in the hauling vehicle.

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 and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Topping (704.05) & unclassified borrow (704.06)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type	Processed material before incorporating in work	Yes, when requested	Before using in work
		Moisture-density	—	AASHTO T 180, method D[(1)] or T 99, method C[(1)]	1 per soil type but not less than 1 per	“	“	“
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 6000 yd^2 but not less than 1 per layer	In-place	—	Before placing next layer
Select borrow (704.07 & Select topping (704.08)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type but not less than 1 for each day of production	Processed material before incorporating	Yes, when requested	Before using in work
		Gradation	—	AASHTO T 27	“	“	“	“
		Liquid limit	—	AASHTO T 89	“	“	“	“
		Moisture-density	—	AASHTO T 180, method D[(1)] or T 99, method C[(1)]	1 per soil type but not less than 1 per	“	“	“
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 6000 yd^2 but not less than 1 per layer	In-place	—	Before placing next layer

(1) Minimum of 5 points per proctor

Table 204-1 (continued)
Sampling and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Earth embankment (204.11, Compaction A)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type	Source of Material	Yes, when requested	Before using in work
		Moisture-density	—	AASHTO T 180, method D(1) or T 99, method C(1)	1 per soil type but not less than 1 per 13,000 yd^3	"	"	"
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 3500 yd^2 but not less than 1 per layer	In-place	—	Before placing next layer
Top of subgrade (204.11 Compaction A)	Measured and tested for conformance (106.04)	Compaction	—	AASHTO T 310 or other approved procedures	1 per 2500 yd^2	In-place	—	Before placing next layer

(1) Minimum of 5 points per proctor.

Table 204-2
Construction Tolerances

	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.

251 - Riprap

251.03_nat_us_08_05_2009

Construction Requirements

251.03 General.

Add the following:

Place riprap under or adjacent to structures before placing prefabricated superstructure units or constructing superstructure falsework unless otherwise approved by the CO.

251.08 Measurement.

Add the following:

Payment for excavation and embankment required for placement of riprap is indirectly included in the pay item for riprap.

301 - Untreated Aggregate Courses

301.00_nat_us_03_03_2005

301 Title Change.

Change the title to: **Section 301 Aggregate Courses**

301.01_nat_us_03_03_2005

301.01 Work.

Add the following:

Work includes producing aggregate by pit-run, grid rolling, screening, or crushing methods, or placing Government-furnished aggregate. Work may include additive mineral filler, or binder.

301.02_nat_us_05_16_2005

301.02 Material.

Add the following:

Bentonite	725.30
Calcium Chloride Flake	725.02
Lignon Sulfonate	725.20
Magnesium Chloride Brine or Calcium Chloride Liquid	725.02

301.03_nat_us_02_28_2013

301.03 General.

Add the following:

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 other than maximum size will be required for pit-run or grid-rolled material. For grid rolling, use all suitable material that can be reduced to maximum size. After processing on the road, remove all oversize material from the road and dispose of it 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 stockpiled according to Section 320. Establish stockpile sites at locations approved. Clear and grub stockpile sites according to Section 201.

301.04_nat_us_03_03_2005

301.04 Mixing and Spreading.

Delete the first sentence of the first paragraph and add the following:

Ensure that aggregate and any required additives, water, mineral filler, and binder are mixed by the specified method except, if crushed aggregate products are being produced and mineral filler, binder, or additives are required, uniformly blend following crushing. Control additive proportions to 0.5 percent dry weight.

(a) Stationary Plant Method. Mix the aggregate with other required materials in an approved mixer. Add water during the mixing operation in the amount necessary to provide the moisture content for compacting to the specified density. After mixing, transport the aggregate to the jobsite while it contains the proper moisture content, and place it on the roadbed or base course using an aggregate spreader.

(b) Travel Plant Method. After placing the aggregate for each layer with an aggregate spreader or windrow-sizing device, uniformly mix it with other required materials using a traveling mixing plant. During mixing, add water to provide the necessary moisture content for compacting.

(c) Road Mix Method. After placing the aggregate for each layer, mix it with other required materials at the required moisture content until the mixture is uniform throughout. Mix aggregate, water, and all other materials until a uniform distribution is obtained.

Spread the aggregate in a uniform layer, with no segregation of size, and to a loose depth that will provide the required compacted thickness.

When placing aggregate over geotextile, place aggregate in a single lift to the full depth specified.

Route and distribute hauling and leveling equipment over the width and length of each layer.

301.05_nat_us_05_17_2005

301.05 Compacting

Delete and replace with the following:

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 one of the following methods as specified:

Compaction A. Operating spreading and hauling equipment over the full width of the travelway.

Compaction B. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction C. Moisten or dry the aggregate to a uniform moisture content between 5 and 7 percent based on total dry weight of the mixture. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction D. Compact to a density of at least 95 percent of the maximum density, as determined by AASHTO T 99, method C or D.

Compaction E. Compact to a density of at least 96 percent of the maximum density, as determined by the Modified Marshall Hammer Compaction Method (available upon request from USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

Compaction F. Compact to a density of at least 95 per-cent of the maximum density, as determined by AASHTO T 180, method C or D.

Compaction G. Compact to a density of at least 100 percent of the maximum density as determined by the Modified Marshall Hammer Compaction Method (available upon request from USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

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.

301.06_nat_us_03_03_2005

301.06 Surface Tolerance.

Add the following:

Thickness and Width requirements:

The maximum variation from the compacted specified thickness is ½ inch. The compacted thickness is not consistently above or below the specified thickness and the average thickness of 4 random measurements for any ½ mile of road segment is within + ¼ inch of the specified thickness.

The maximum variation from the specified width will not exceed +12 inches at any point. The compacted width is not consistently above the specified width and the average of any four random measurements along any ½ mile of road segment is within +4 inches of the specified width.

301.08_nat_us_03_30_2005

301.08(b) Plasticity Index.

Add the following to the first sentence:

“and under 703.05(c)(1)”.

301.08_nat_us_03_03_2005

Table 301-1: Add the following:

Table 301-1—Acceptance Sampling and Testing Requirements.

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Subbase & Base Courses L, M, N, O, P, Q, R	Measured and tested conformance (Subsection 106.04)	Plastic Limit	-	AASHTO T 90	1 per each 1,000 T	From the windrow or roadbed after processing	Yes	4 Hours

Table 301-1—Acceptance Sampling and Testing Requirements.

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Aggregate Width	Measured and tested conformance (Subsection 106.04)	Width	-	-	4 per each 0.5 mi	Roadbed after processing	-	4 Hours
Aggregate Thickness	Measured and tested conformance (Subsection 106.04)	Thickness	-	-	4 per each 0.5 mi	Roadbed after processing	-	4 Hours
Additive	Measured and tested conformance (Subsection 106.04)	Amount of Additive	-		1 per each 1,000 T	From the windrow or roadbed after processing	No	4 Hours

301.08_nat_us_10_14_2011

Table 301-1 Field Density Requirements.

Table 301-1: Delete laboratory and field density requirements for base, subbase, and surfacing and replace with the following:

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Base and Subbase	Measured and tested conformance (Subsection 106.04)	Moisture Density	---					
		Method C	---	AASHTO T 99	1 per type and source of material	Source of material	Yes	Before using in work
			---		"	"	"	"
		Method D	---	AASHTO T 180	"	"	"	"
			---		"	"	"	"
		Compaction	---					
		Method C, D	---	AASHTO T 310 or other approved procedures	1 per 500 t	In-place	---	Before placing the next layer
Surfacing	Measured and tested conformance (Subsection 106.04)	Moisture Density						
			---		"	"	"	Before using in work
		Method D	---	AASHTO T 180	"	"	"	"
			---		"	"	"	"
		Compaction						
		Method C, D	---	AASHTO T 310 or other approved procedures	1 per 500 t	In-place	---	Before placing the next layer

301.09_nat_us_07_07_2005

301.09 Measurement.

Replace the second paragraph with the following:

Measure aggregate by cubic yard compacted in place when payment is by contract quantities.

301.10_nat_us_03_03_2005

301.10 Payment

Delete the following:

adjusted according to Subsection 106.05

303 - Road Reconditioning

303.01_nat_us_03_02_2005

303.01 Work.

Delete and add the following:

This work consists of reconditioning ditches, shoulders, roadbeds, cattleguards, asphalt surfaces, and aggregate surfaces.

602 - Culverts and Drains

602.03_nat_us_09_06_2005

602.03 General.

Add the following:

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.

602.06_nat_us_08_05_2009

602.06 Laying Plastic Pipe.

Delete the second paragraph and substitute the following:

Provide soil-tight bell and spigot joints for plastic pipe culverts.

625 - Turf Establishment

625.03_nat_us_02_25_2005

625.03 General.

Delete the first subsection and add the following:

Apply turf establishment to finished slopes and ditches between _____ and _____. Do not seed during windy weather or when the ground is excessively wet, frozen, snow covered, extremely dry, cloddy, hard pan, or is otherwise untillable.

625.05_nat_us_03_30_2005

625.05 Watering.

Delete the entire subsection

625.07_nat_us_02_25_2005

625.07 Seeding. (a) Dry method.

Remove the last sentence “Lightly compact the seedbed within 24 hours after seeding.”

625.07 Seeding. (b) Hydraulic method.

Add the following:

Apply fertilizer conforming to Subsection 713.03 at the rates shown in Table 625-1. Fertilize areas inaccessible to hydro-type equipment by hand.

Table 625-1. Fertilizer Application Rate.

Type	Quantity per Slurry Unit
: :	__lbs
: :	__lbs

Apply the seed mixture at the rate of _____ kilograms of live seed per _____ (hectare/slurry unit). Include a tracer material consisting of either wood fiber mulch or grass cellulose fiber mulch to provide visible evidence of uniform application. Add the tracer to the slurry at a rate of _____ (400 pound per acre or 100 pound per slurry unit). Seed areas inaccessible to hydro-type equipment by hand.

718 - Traffic Signing and Marking Material

718.05_nat_us_08_05_2009

718.05 Aluminum Panels

Delete the third paragraph and replace with the following:

Clean, degrease and properly prepare the panels according to methods recommended by the sheeting manufacturer. Conversion coatings will conform to ASTM B-921 or ASTM B-449.

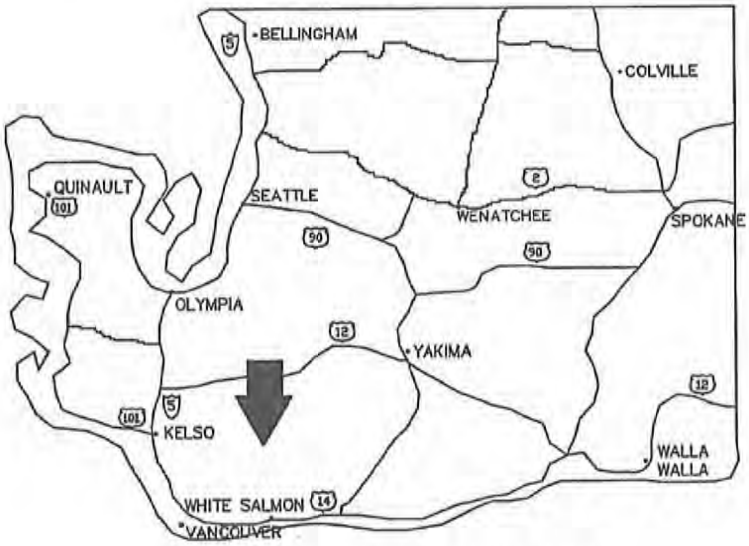
UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE – REGION SIX

GIFFORD PINCHOT NATIONAL FOREST

MT ADAMS RANGER DISTRICT

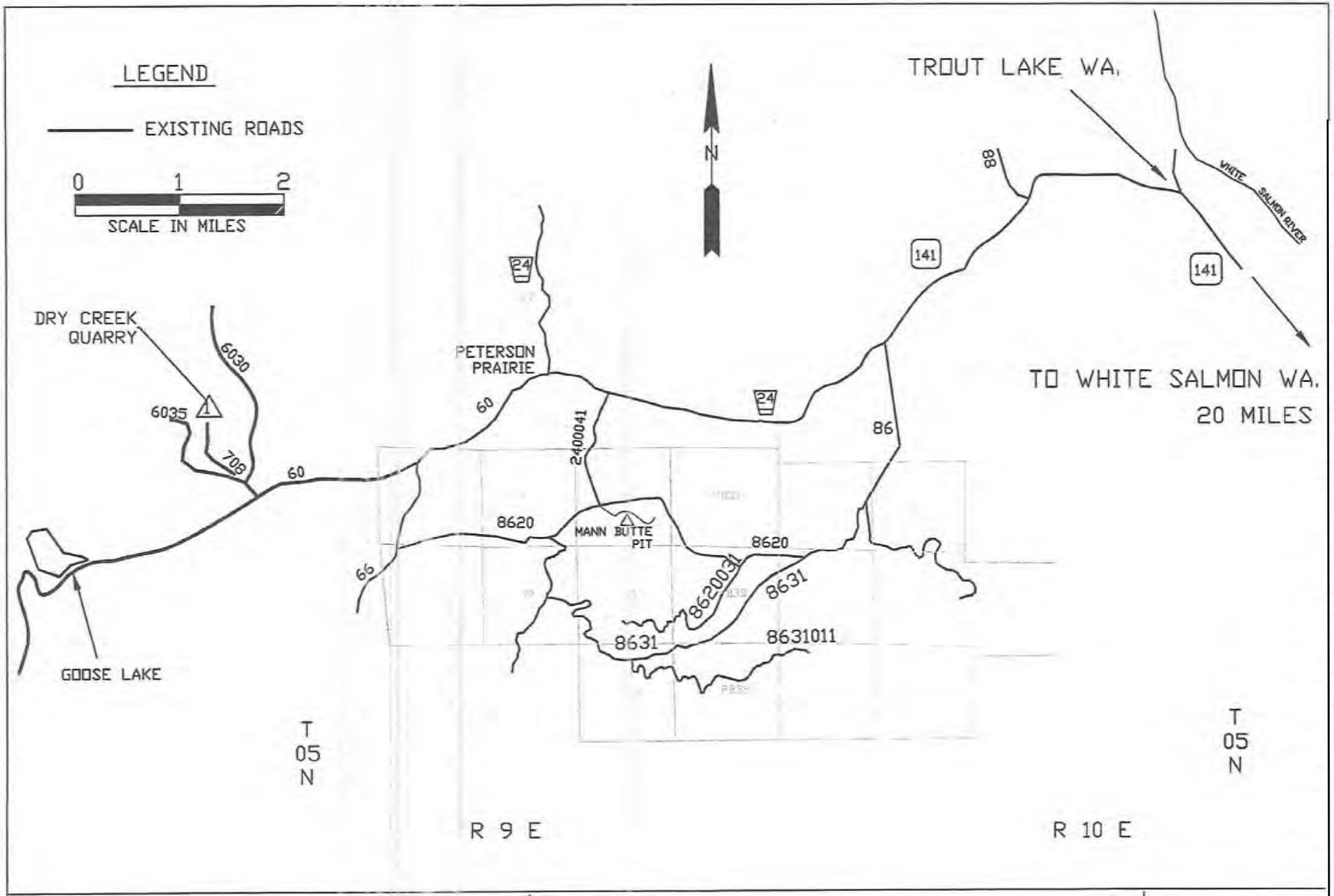
Cave Thin – 8631 & 8631011
Road Reconstruction



KEY MAP OF WASHINGTON
SHOWING PROJECT LOCATION

INDEX TO SHEETS

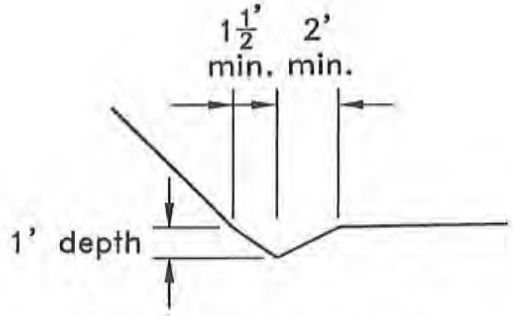
DESIGNER – SUBMITTED BY:	
NAME	DATE 11/25/14
DISTRICT ENGINEER – RECOMMENDED BY:	
NAME	DATE 11/25/14
DISTRICT RANGER – RECOMMENDED BY	
NAME	DATE 11/26/14
FOREST ENGINEER – APPROVED BY:	
NAME	DATE 12/3/14



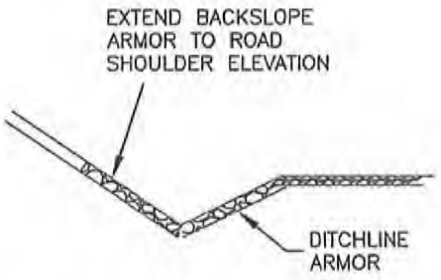
Cave Thin	DEPARTMENT OF AGRICULTURE FOREST SERVICE GIFFORD PINCHOT NATIONAL FOREST	SHEET 2 OF 7

GENERAL NOTES

- THE MEMORANDUM OF UNDERSTANDING (MOU) BETWEEN THE FOREST SERVICE AND THE WASHINGTON DEPT OF FISHERIES IS PART OF THIS CONTRACT. A COPY MUST BE ON THE PROJECT SITE DURING ALL CONSTRUCTION ACTIVITIES.
- ALL WORK IN AND NEAR WATER SOURCES SHALL COMPLY WITH THE REQUIREMENTS OF THE MOU.
- THE CONTRACTOR IS REQUIRED TO STAKE AND MARK ALL LIMITS OF WORK. THE C.O. NEEDS TO APPROVE THE STAKING BEFORE CONSTRUCTION CAN PROCEED.
- MOBILIZATION INCLUDES ALL MOVEMENT OF EQUIPMENT AND MATERIAL TO THE PROJECT SITE.
- CLEANING EQUIPMENT AND OIL SPILL PREVENTION ARE REQUIREMENTS OF SECTION H OF THE CONTRACT.
- CLEARING AND GRUBBING:
  - ALL TREES, LIMBS AND STUMPS WILL BE DISPOSED OF BY METHOD *F*.
- EXCAVATION:
  - EXCESS AND UNSUITABLE EXCAVATION SHALL BE DISPOSED OF AT MANN BUTTE PIT. ALL DISPOSAL SITES SHALL BE SLOPED TO DRAIN.
  - BORROW EXCAVATION SHALL BE OBTAINED AT A SOURCE APPROVED BY THE C.O.
- SEEDING AND MULCHING:
  - ALL DISTURBED AREAS, NOT PART OF THE ROADWAY SHALL BE SEEDED, MULCHED, AND IF REQUIRED BY THE SPECIFICATIONS, FERTILIZED. THIS INCLUDES BORROW AND EXCESS DISPOSAL SITES, TEMPORARY STORAGE SITES AND STAGING AREAS.
  - SEED SHALL BE APPLIED BEFORE THE MULCH.

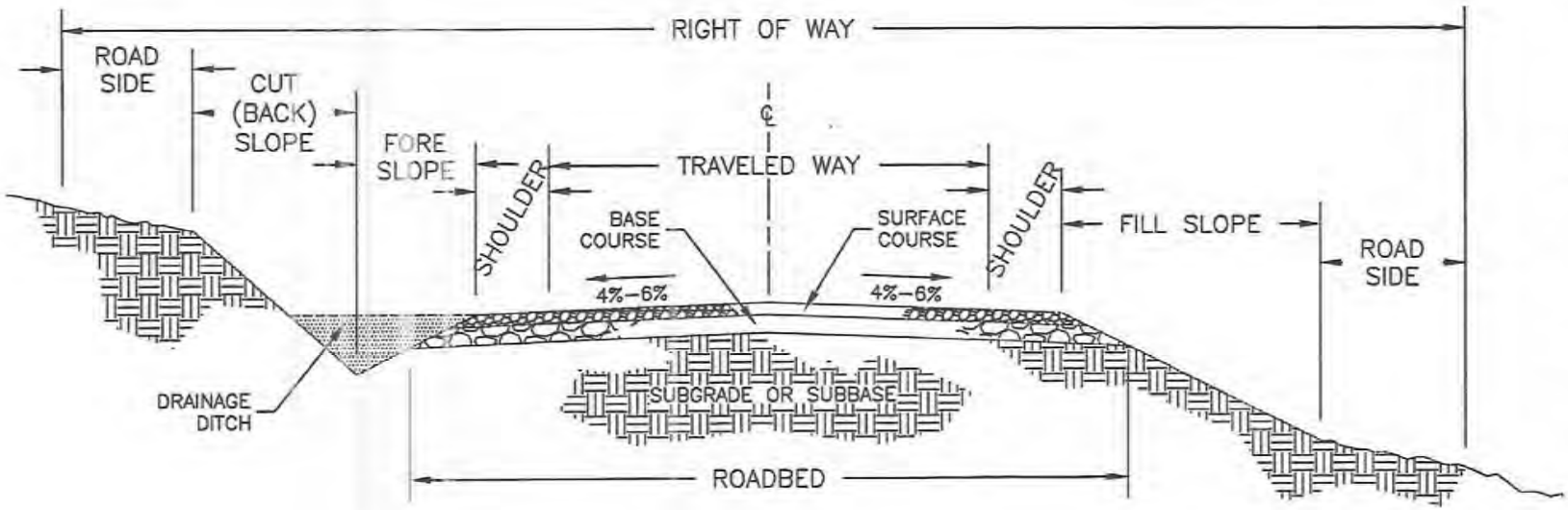


DITCH RECONSTRUCTION



DITCHLINE ARMOR CROSS-SECTION

881-1 ROAD STRUCTURE TERMS



NOTE:

1. TURNOUTS ARE INCLUDED IN THE TRAVELED WAY.
2. DITCH INCLUDES FORE SLOPE, BACK SLOPE TO DITCH DEPTH, AND BOTTOM WHEN PRESENT.
3. FORE SLOPE OF DITCH TO BE 1V:3H AND MAY BE STEEPER WITH COR APPROVAL.
4. DITCH DEPTH 1.5' MIN. AS MEASURED FROM THE SURFACE OF THE SHOULDER EDGE.
5. INSLOPE OR OUTSLOPE IN THROUGH CUT CONDITION.

Cave Thin	DEPARTMENT OF AGRICULTURE FOREST SERVICE GIFFORD PINCHOT NATIONAL FOREST	SHEET 4 OF 7

Cave Thin - Work List

Perform work listed below by milepost (mp):

8631 Rd.

mp 0.65	Rebuild Road where missing overtop pipe, near outlet
mp 0.72 – 0.82	Reconstruct Ditch. Remove deposition- haul waste to Mann Butte Pit; where eroded, from mp 0.74 to 0.77 Place Riprap Class 3 AS SHOWN ON DRAWINGS
1.07 – 1.10	Reconstruct Ditch (removed material to be placed adjacent on side opposite road, dispersed on fill slope- do not concentrate)
1.27	Construct Drainage Confinement Berm (Build up the Road 2' higher than existing road surface for 18' horizontally, and ramp down similarly toward Existing Low Water Crossing (36' long horizontally in total) AS SHOWN ON DRAWINGS. This driveable berm should be 26' wide, extending out 8' – 10' beyond the Road Edge on the upstream side (left side of road).
1.30 – 2.80	Haul Commercial 1 1/2" minus aggregate – place, shape and compact 4" deep aggregate layer (1,260 CY)
1.62	Remove & Replace 15" steel pipe w/ 36" HDPE x 34' long *
2.00	Remove & Replace 15" steel pipe w/ 18" HDPE x 32' long *
2.25	Remove & Replace 15" steel pipe w/ 18" HDPE x 34' long *
2.38 – 2.40	Place & Compact 10 CY Pit Run Rock as Road Surfacing
2.48	Remove & Replace 18" steel pipe w/ 24" HDPE x 40' long *. Place 6 CY Class 3 Riprap at outlet as protective apron
2.60 – 2.65	Reconstruct Ditch- haul waste to Mann Butte Pit
2.67	Install 36" HDPE pipe x 34' long * at existing Low Water Crossing
2.68 – 2.80	Reconstruct Ditch- haul waste to Mann Butte Pit
2.80	Remove & Replace 18" pipe w/ 30" HDPE x 36' long *
3.12	Widen Road 5' into Cut Slope at narrowest section above Fillslope slide, tapering from 15' on both downhill and uphill sides of road. Material from Excavation of Cut Slope to be hauled to Mann Butte Pit Install 18" HDPE x 62' * total (30' downdrain, anchored) as staked by Forest Service, at location approx. 50' uphill along road from narrowest width.
3.52 – 3.56	Reconstruct Ditch & Construct Leadout ditch at mp 3.52

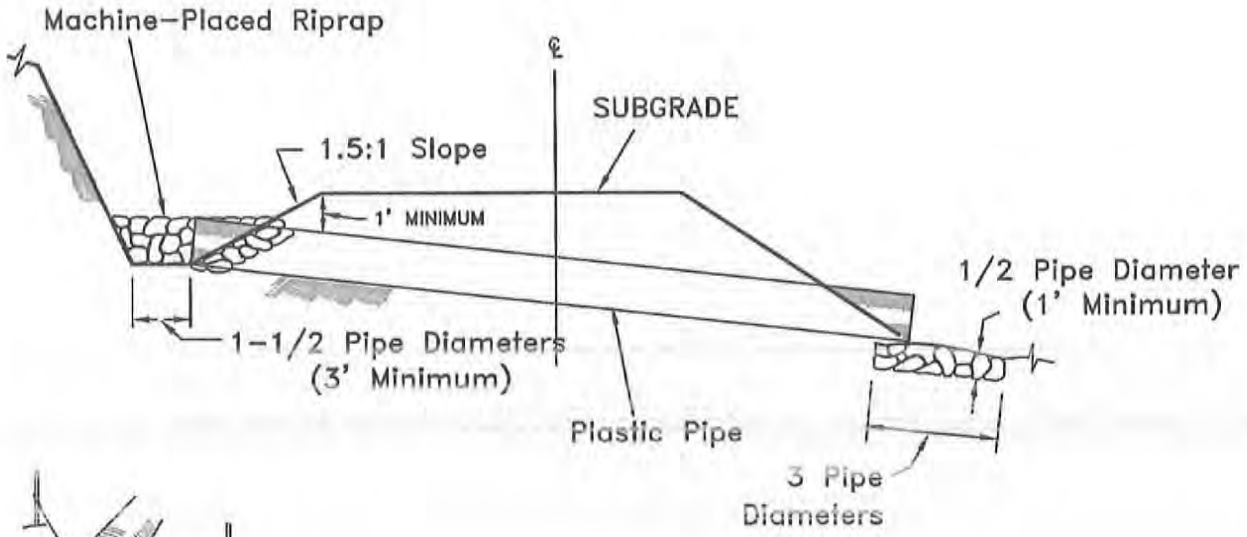
8631011

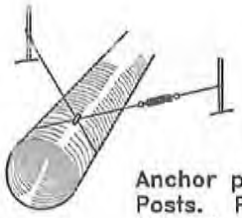
mp 0.31	Install 18" HDPE pipe x 36' long *

* culverts shall be installed to match the line and grade of existing pipe alignment

Notes-

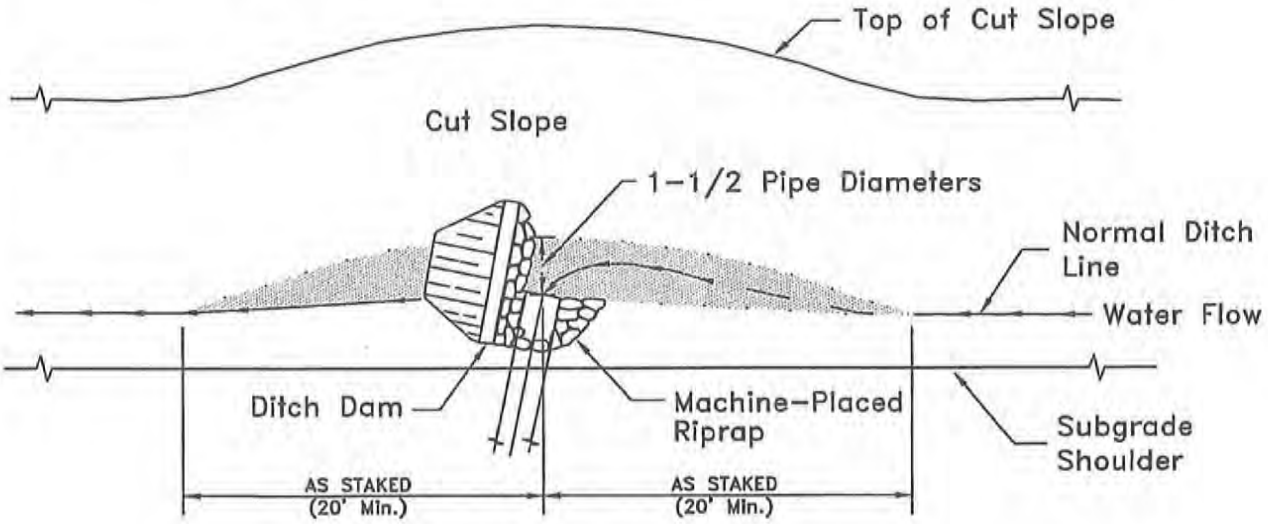
1. All culvert installations- conserve existing aggregate; remove vegetation within 15' of inlets and outlets
2. Comply with the provisions of Washington State/ Forest Service MOU covering culvert installations- see Specification 107.
3. Seed and mulch all culvert locations upon completion of work- Forest Service to provide seed- Contractor to provide certified weed-free mulch meeting either WWHAM or NAWMA standards. This work is to be indirectly paid for by culvert installations. Mulch application rate 1 ton/acre.
4. All new culverts are to be HDPE plastic pipe, except as specified.
5. Aggregate to be obtained from Commercial source.
6. Riprap to be government source, from Dry Creek Rock Pit.
6. See road maintenance provisions for other road related work.
7. Aggregate quantity is measured compacted in-place on road.
8. Provide traffic control plan for approval by F.S.- see Specification 156.
9. Dispose of all culverts off National Forest Lands.





Specifications for Downdrain Anchors

Anchor posts shall be 6' Galvanized Steel Fence Posts. Posts shall be set 3' or more in the ground. Anchor Cable shall be 3/8" Wire Rope. Cable Clamps shall be Galvanized Steel. Turn–buckles shall be 12" Galvanized Steel.

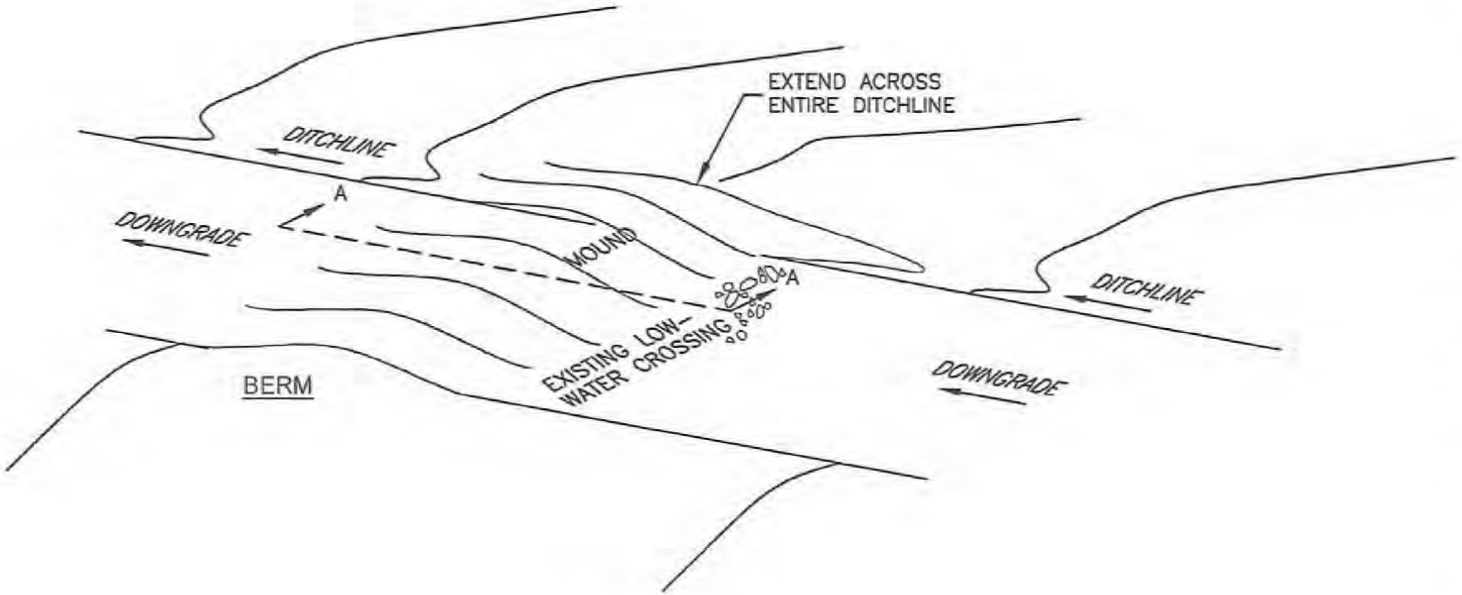


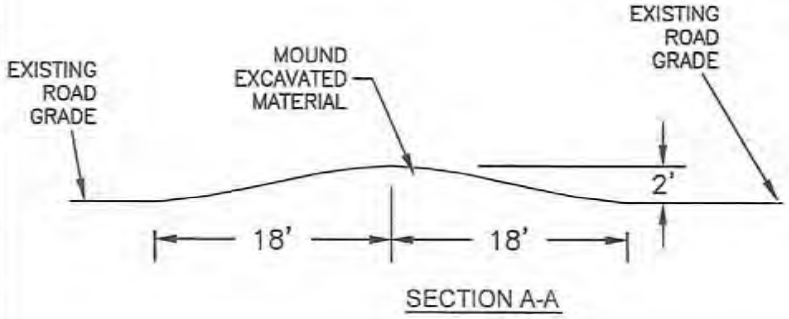
PLAN VIEW

CATCH BASIN DETAIL
POLYETHYLENE PIPE INSTALLATION

Culvert Details	DEPARTMENT OF AGRICULTURE FOREST SERVICE GIFFORD PINCHOT NATIONAL FOREST	SHEET 6 OF 7

DRAINAGE CONFINEMENT BERM INSTALLATION





SECTION A-A

NOTE:

1. MATERIAL SHALL BE PLACED TO FORM A SMOOTH DRIVABLE TRANSITION.
2. THE MOUND SHALL EXTEND ACROSS THE ENTIRE WIDTH OF THE ROAD AND DITCHLINE.

Cave Thin	DEPARTMENT OF AGRICULTURE FOREST SERVICE GIFFORD PINCHOT NATIONAL FOREST	SHEET 7 OF 7

Contract Name: Cave Thin Stewardship

T-SPECIFICATIONS PURSUANT TO KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS

T-803 - SNOW REMOVAL

803.01 Description

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

803.02 Maintenance Requirements

1. Erect signs required by the Sign Plan in the SUPPLEMENTAL SPECIFICATIONS.

2. Perform work in a manner to preserve and protect roads and appurtenances, and prevent erosion damage to roads, streams, and other Forest values.

3. Do not undercut banks. Do not blade gravel or other surfacing material off the road.

4. Keep roadbed drainage ditches, drain dips, and culverts functional when needed during operations and upon completion of operations.

5. Control snow removal to identify the usable traveled way having roadbed support. Reshape over-width plowing as necessary to define the usable width.

6. 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.

7. Close roads to wheeled vehicles at times and in the manner specified in KT-FT.1.2# or the Road Rules document.

8. Upon seasonal completion of Contractor's Operations, effectively block the road by a snow barricade, unless otherwise approved by the Contracting Officer.

9. Remove snow for either public access or project use as established in the SUPPLEMENTAL SPECIFICATIONS and meet the following requirements:

    a. 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.

    b. 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.

10. 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.

803.03 Equipment

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

a. Type or use of equipment is not restricted in KT-FT.1.2# 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.

803.04 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-SPECIFICATIONS PURSUANT TO KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS

T-811 BLADING

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 ½ inch per 1 foot of width, but not more than ¾ 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
NA

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.

T-SPECIFICATIONS PURSUANT TO KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS

T-811 BLADING (CONTINUED)

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-831 DITCH MAINTENANCE

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 THE GROUND.

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.

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

I. 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-SPECIFICATIONS PURSUANT TO KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS

T-832 REMOVE AND END HAUL MATERIALS

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

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.

Invasive Species of Concern Prevention Practices
NA

T-SPECIFICATIONS PURSUANT TO KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS

T-836 - MAINTENANCE FOR LIMITED USE

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

Contractor 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 width is less than 12 feet providing the material is capable of supporting vehicles. Limit out slope to no more than six 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.

T-SPECIFICATIONS PURSUANT TO KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS

T-836 - MAINTENANCE FOR LIMITED USE (CONTINUED)

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

839.01 Description

Work consists of providing minimum access to roads required for Contractor's Operations 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 waterbars.

3. Installing Contractor-furnished culverts or other agreed temporary drainage structures for shallow stream crossings.

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 drainage’s.

   b. Limb and remove timber which meets utilization standards or deck at agreed locations. 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. Unless Forest Service agrees to material being placed on slumps, ramp the slumps on both ends into undisturbed roadbed to provide usable width.

B. During use, the traveled way shall not channel water along the road. Prior to seasonal periods of anticipated rains and runoff, additionally perform the following work:

1. Shape the traveled way and roadbed to drain.

2. Reinstall removed cross ditches and waterbars 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.

839.03 Post Haul Requirements

This work consists of providing post haul drainage on roads.

A. Drainage

1. Upon completion of work, shape the roadway to provide for the removal of surface water. The roadway need not be passable to vehicles. Reinstall or repair waterbars, cross-drains, outlet ditches, or berms existing prior to the Contractor's operation and/or construct additional devices as staked on the ground. Areas where water is ponded by existing centerline profile sags

T-SPECIFICATIONS PURSUANT TO KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS

T-839 MAINTENANCE FOR PROJECT USE(CONTINUED)

in through cuts may be left untreated. The following methods are acceptable for treatment of the traveled way:

a. Method A: Outsloping the roadbed at not less than 13 mm (½ inch) per meter (yard) of width.

b. Method B: Insloping the roadbed at not less than 13 mm (½ inch) per meter (yard) of width.

2. Unless otherwise approved by the Forest Service, water bars shall be installed in accordance with the drawings specified in KT-FT.3.1#.

3. Continuous blade shaping of the roadbed is not required under this specification.

4. Drainage structures located in through fills and natural watercourses shall be fully functional without obstructions, including inlet and outlet channel within 6 meters (20 feet) of the structure.

5. Clean culverts and other fabricated structures to provide drainage from road ditches and make the ditch functional. Remove all Contractor-installed temporary drainage structures and reshape drainage to original contours. Removed structures shall become Contractor's property to be removed from Government land.

B. Slides, Slumps and Slough

1. Slides and slough may be left in place, provided they do not impound water or divert water from watercourses. As necessary, reshape the various surfaces to provide drainage.

2. Provide drainage to effectively decrease or eliminate the entry of surface water into slides, slumps, and roadbed surface cracks. Place berms, waterbars or ditches as needed to intercept and remove runoff water from the roadbed. Surface seal cracks by covering over with native soil materials to prevent additional water entry and compact with equipment tires.

C. Entrance Devices

Upon completion of work, construct or replace entrance devices to effectively eliminate access by motorized vehicles.

Construct entrance device in accordance with the drawings indicated on the Road Listing KT-FT.3.1#.

D. Seeding

When required in KT-FT.3.1#, seed and fertilize all disturbed areas in accordance with requirements set forth in Section T-841.

T-842 CUTTING ROADWAY VEGETATION

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 Contractor's operation either by treatment with a commercial nursery sealer or by removing the tree as directed by the Contracting Officer.

T-SPECIFICATIONS PURSUANT TO KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS

T-842 CUTTING ROADWAY VEGETATION (CONTINUED)

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.

Invasive Species of Concern Prevention Practices
NA

T-854 – TREATMENT AND DISPOSAL OF DANGER TREES

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.

T-SPECIFICATIONS PURSUANT TO KT-FT.3.1# - ROAD MAINTENANCE REQUIREMENTS

T-854 – TREATMENT AND DISPOSAL OF DANGER TREES (CONTINUED)

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 Stewardship Sale Contract or SUPPLEMENTATAL SPECIFICATIONS. Dispose of merchantable timber designated for removal in accordance with C.3.2 Construction Clearing, of the Stewardship 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

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 Contractor's use under this contract are designated as follows: No government designated sources.

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 Contractor's operations. Flowing streams may be temporarily sandbagged or a weir placed to pond water, provided a minimum flow is maintained. Obtain approval from the Contracting Officer on improvements for sandbags or weirs prior to placement.

Contract Name: Cave Thin Stewardship

KT-GT.9# - STEWARDSHIP PROJECTS

Project Number 1: Stream Crossing Restoration

End Result

This project is intended to restore streams at two crossings on Forest Road 8800714 to improve channel function and water quality in tributaries to Trout Lake Creek in the White Salmon River watershed.

Description of Work

Work Items
Mobilization
Excavator with Operator

Forest Road 8800714 is accessed from Forest Road 8800 at the Flattop SnoPark. The crossings to be treated are approximately ½ mile and ¾ miles in on Rd 8800714. Refer to Contract Area Map.

Work will include removing road fill and culverts or other non-native material from the stream channel at each of the two crossings, and from the floodprone areas on either side of the crossings. Floodprone areas are estimated to extend out to 20 feet from the streambanks on either side of each crossing. The stream channels will then be shaped to mimic the form and gradient of natural channels upstream and downstream of each crossing site, such that there is no break in stream gradient as it crosses the road prism.

The objective is to create a constant profile grade across the road prism for the stream channel and its floodprone margins (up to 20 feet on either side of the channels), so that the stream profile and surrounding ground surface topography is continuous from upstream to downstream. When completed, the ground surface topography and channel shape through the reconstructed xing should match the upstream and downstream contours.

Excavated fill from each site can be disposed of near the crossings, by spreading it across the road surface and shaping it to blend into the upslope ground surface. Disturbed areas outside of the channel itself should be seeded with native seed mix provided by the government, and mulched using certified weed-free straw.

Work must be done in the dry season (July 1 – September 30). If there is surface flow in the channels during the work period, then streamflow must be diverted around the worksite by a temporary culvert or other means while excavation and channel work is underway.

Contractor Obligation

Provide equipment, materials, labor, supervision, transportation, and all other supplies required to perform project.

Contract Name: Cave Thin Stewardship

KT-GT.9# - STEWARDSHIP PROJECTS

Project Number 2: Precommercial Thinning

End Results

Precommercial thin project units leaving the best and healthiest trees as well as the desired residual spacing as described in the following technical specifications.

Description of Work

This stewardship project requires services for tree thinning, slash treatment and related work.

Unit Number	*Acres*
1	24
2	35
3	34
4	23
5	7
6	28
7	40
8	30
9	21
10	12
11	43
12	37
13	14
14	40
Total	**388**

Project Location

The locations of the units are shown on the Contract Area Map.

Unit boundaries are indicated on attached photo/unit information sheets. In some cases boundaries or portions of boundaries have been marked with pink plastic ribbon. Many boundaries are easily delineated by roads, adjacent stands of different ages, streams or other geographical features identifiable from air photos provided on photo/unit information sheets. Contractor is required to be able to accurately interpret air photos provided in this contract to determine boundaries. Contractor shall mark with flourescent orange flagging any boundary that Contractor feels is needed to assure accurate following of boundaries by their employees. Units are signed with a white “Payment Unit” sign highlighted with pink flagging.

Most units 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 units may require walking from Forest Service Roads across country or along closed or deteriorated road. Contractor shall assume responsibility for determining best access.

Technical Specifications

Density
The density of trees on units vary to a large degree from unit to unit and within units. Only by on-the-ground examination can prospective Contractors determine the work entailed in thinning and slash disposal. Stand examination data, if available, may be reviewed at the Mt. Adams Ranger District upon request.

KT-GT.9# - STEWARDSHIP PROJECTS

Project Number 2: Precommercial Thinning

Salvageable Material
Salvage material is made available to the Contractor. Any such material shall become the property of the Contractor on a salvage rights basis and may be removed from the project provided project work is progressing as scheduled. The Government makes no guarantees of quality or quantity of salvageable material.

1. Contractor will develop a removal plan prior to any salvage activity for Contracting Officer's approval.

2. In the event Contractor elects to salvage material, no cut tree or portion thereof shall be moved more than 2 feet from the stump before inspection and acceptance of the thinning on the area. Salvage material is defined as thinning slash.

3. Material removed must be marked and transported in conformance with applicable State and Federal laws, regulations, and policies.

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 Contracting Officer.

Selection of Leave Trees
A. 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 of 7 inches. These will count as leave trees unless there are more than the specified numbers of leave trees.

2. Tree Species. **Leave all Golden chinquapin**, pacific yew, western red-cedar, hardwoods and standing dead trees (These are not considered leave trees). Leave order of preference (unless otherwise designated on sub-item photo sheets):
   (1) western larch
   (2) ponderosa pine
   (3) western white pine
   (4) noble fir
   (5) Douglas-fir
   (6) western hemlock
   (7) lodgepole pine

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. Minimum height is 2 feet.

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 most healthy tree present, within spacing limits.

B. Leave Tree Spacing. Spacing may be varied up to 25 percent (3 feet) to select the most desired tree. However, leave trees per acre, using spacing guides, shall not be materially increased or decreased.

KT-GT.9# - STEWARDSHIP PROJECTS

Project Number 2: Precommercial Thinning

Unit Number	*Desired Average Spacing (feet)*
1	12 x 12
2*	12 x 12
3	12 x 12
4	12 x 12
5	14 x 14
6	14 x 14
7	12 x 12
8	12 x 12
9	12 x 12
10	12 x 12
11	12 x 12
12	12 x 12
13	12 x 12
14	12 x 12
Total	

Note - Unit 2 has some isolated Golden Chinquapin. All trees within 25 feet of each Golden Chinquapin tree shall be cut.

C. 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.

Streams and Wet Areas
Streams and wet areas require a fifteen foot (15') riparian buffer. No thinning is allowed within riparian buffers. The Contractor shall establish the boundaries using horizontal measurement.

A. Identified Riparian Areas. Location of known streams and wet areas are shown on the project maps. Units with known riparian areas are designated on the project map/unit information sheet.

B. Unidentified Riparian Areas. Location of known streams and wet areas are shown on photo/unit information sheets. Discovery of additional streams or wet areas by the Contractor shall be promptly reported to the Forest Service.

1. Contractor shall immediately notify the Forest Service if disturbance occurs to any site, and immediately buffer the stream or wet area fifteen feet (15').

2. If other such streams or wet areas are discovered, the Forest Service may modify this contract to provide additional protection regardless of when such facts become known.

C. Riparian Buffer Boundaries Riparian buffer boundaries are not flagged. All riparian buffer distances shall be established using horizontal measurement.

1. Stream Buffer The riparian buffer consists of the stream and the area on each side of the stream extending from the edge of the active stream channel to a horizontal distance of fifteen feet (15').

2. Wet Area Buffers Riparian buffers consist of the body of wetland and the area to the edge of the standing water to a horizontal distance of fifteen feet (15').

KT-GT.9# - STEWARDSHIP PROJECTS

Project Number 2: Precommercial Thinning

Cutting Methods

A. 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.

B. Felling. Cut trees shall be felled away from unit boundaries, roads, 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.

C. Thinning slash shall be placed on or near the ground surface, so that it will not lean against or be suspended by an uncut tree.

Slash Disposal Schedule

Slash disposal includes treatment of cut materials as described in the unit information sheet. Slash disposal, where required shall be completed during the contract period and within one week of creation of the slash, whichever is sooner. See unit information sheet for unit specific information.

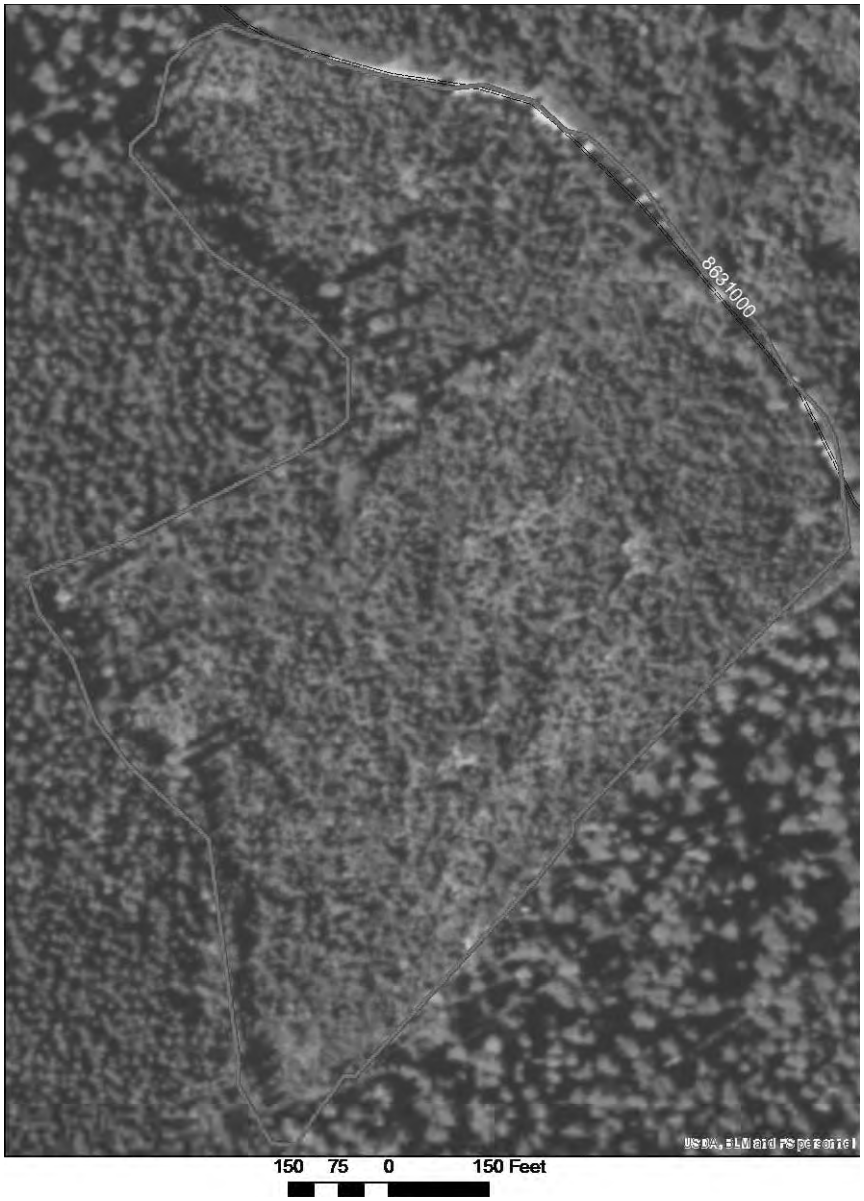
Contractor Obligation

Provide materials, labor, supervision, transportation, and all other supplies required to perform project.

GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

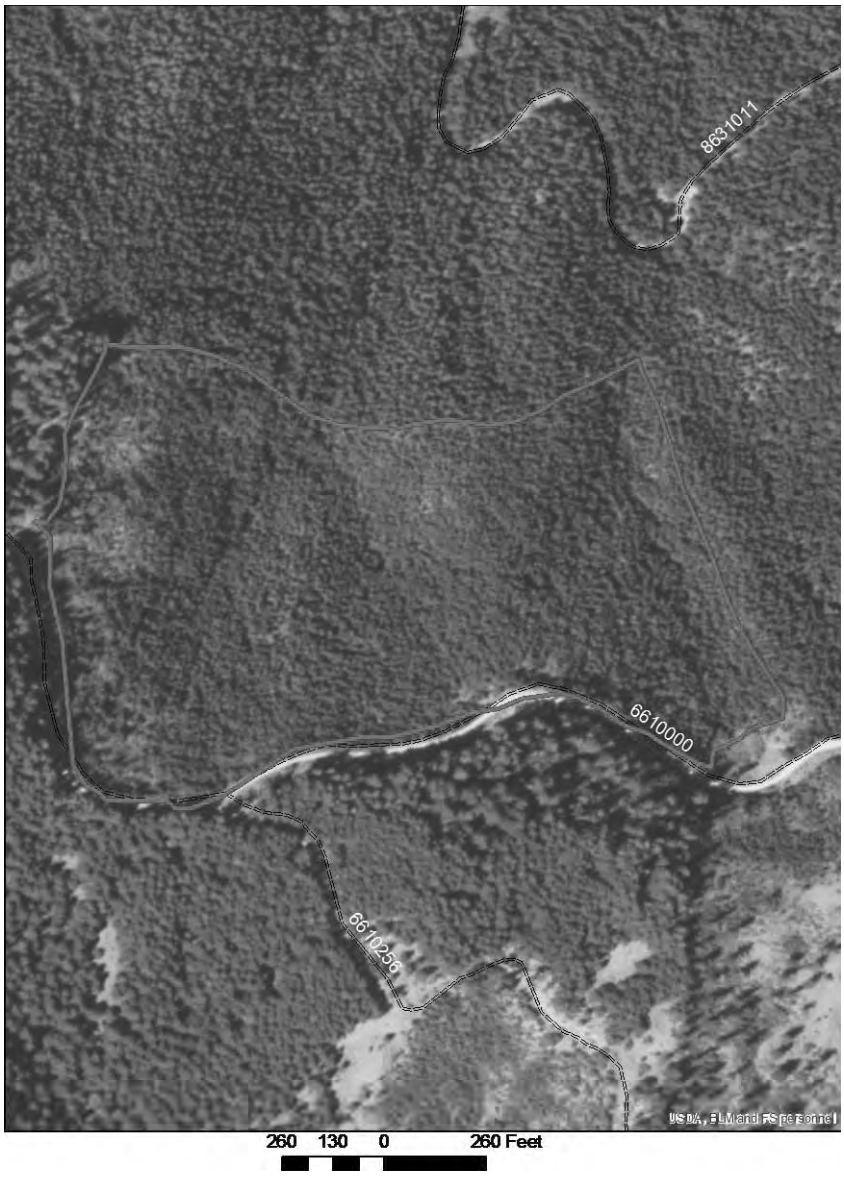
Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
1	24	2	7	12 x 12	2918	12	1 western larch
Remarks:							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

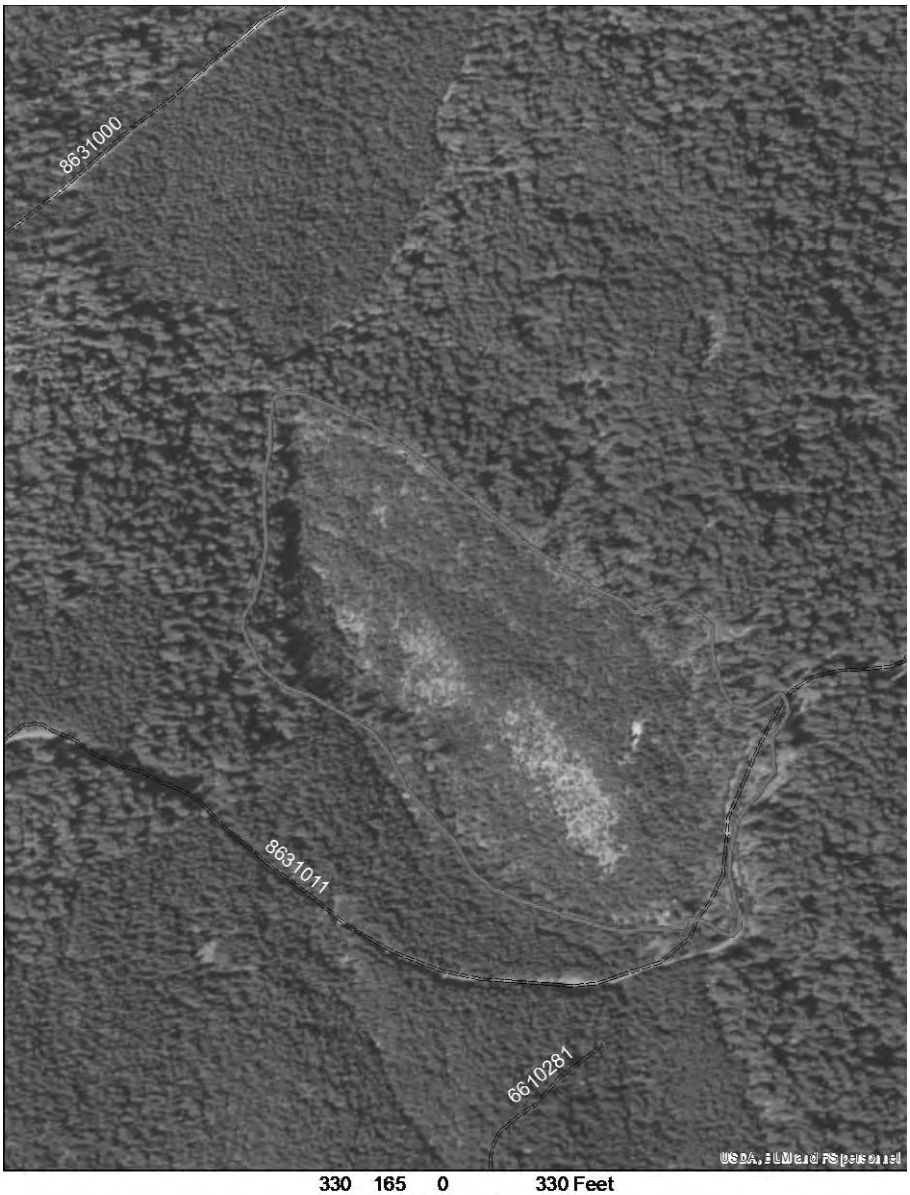
Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
2	35	2	7	12 x 12	3194	26	1 western larch
Remarks: Slash treatment along road 86. All slash 50 feet from road shall be cut and piled into 6 x 6 foot piles and covered with 6 millimeter polyethylene plastic supplied by contractor. Covering material will extend over ¾ of the pile, and shall be sufficiently secured. Unit 2 has some isolated Golden Chinquapin. All trees less than 7 inches DBH within 25 feet of each Golden Chinquapin tree shall be cut.							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
3	34	2	7	12 x 12	3241	25	1 western larch
Remarks							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

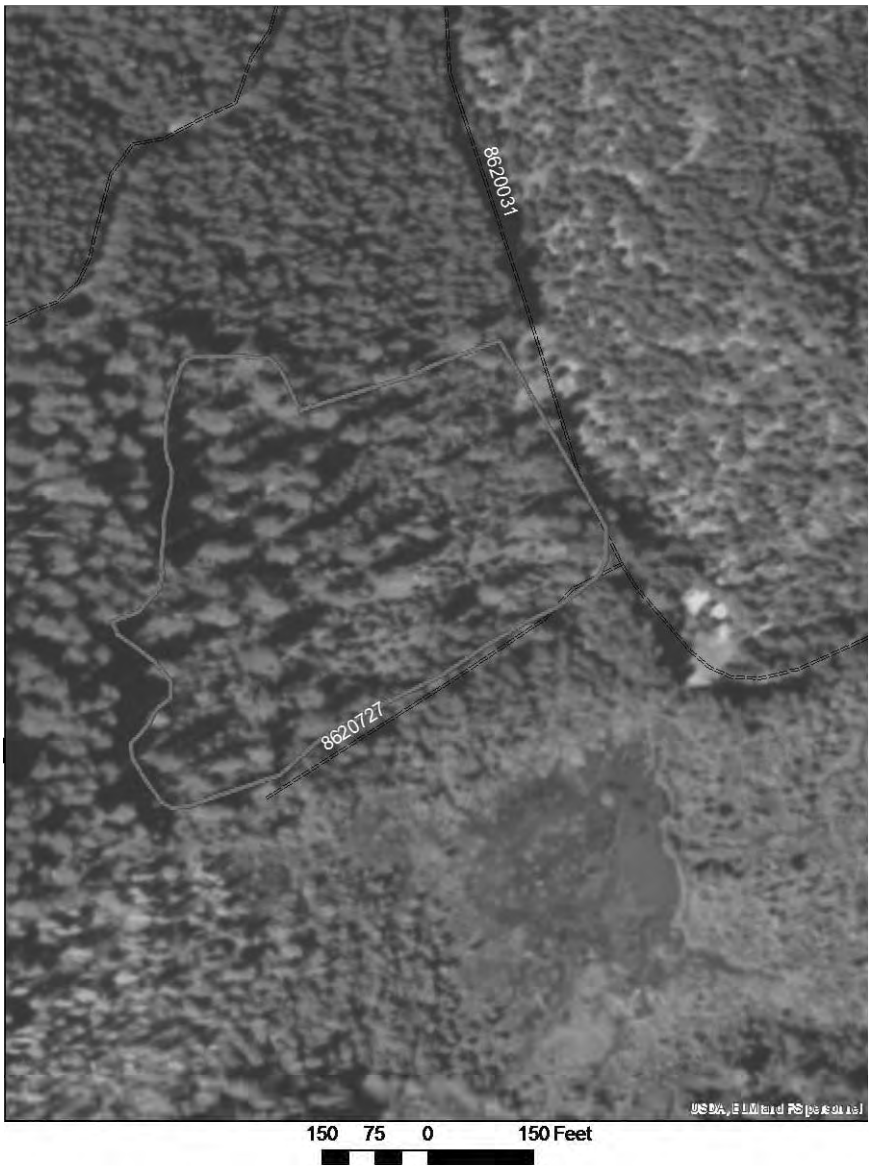
Cave Thin Stewardship
Project 2: Precommercial Thinning

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
4	23	2	7	12 x 12	3435	23	1 western larch
Remarks							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine

GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

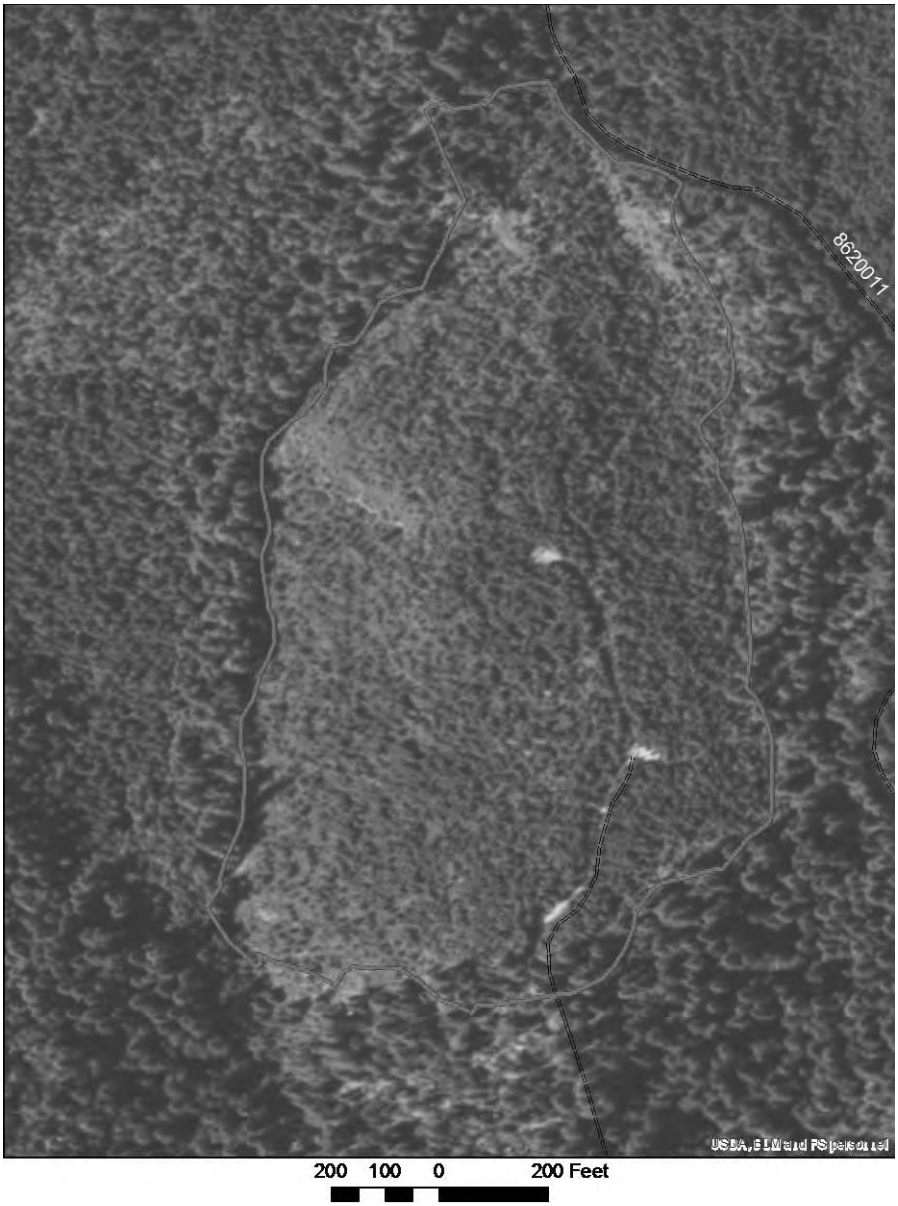
Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
5	7	2	7	14 x 14	2780	7	1 western larch
Remarks							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

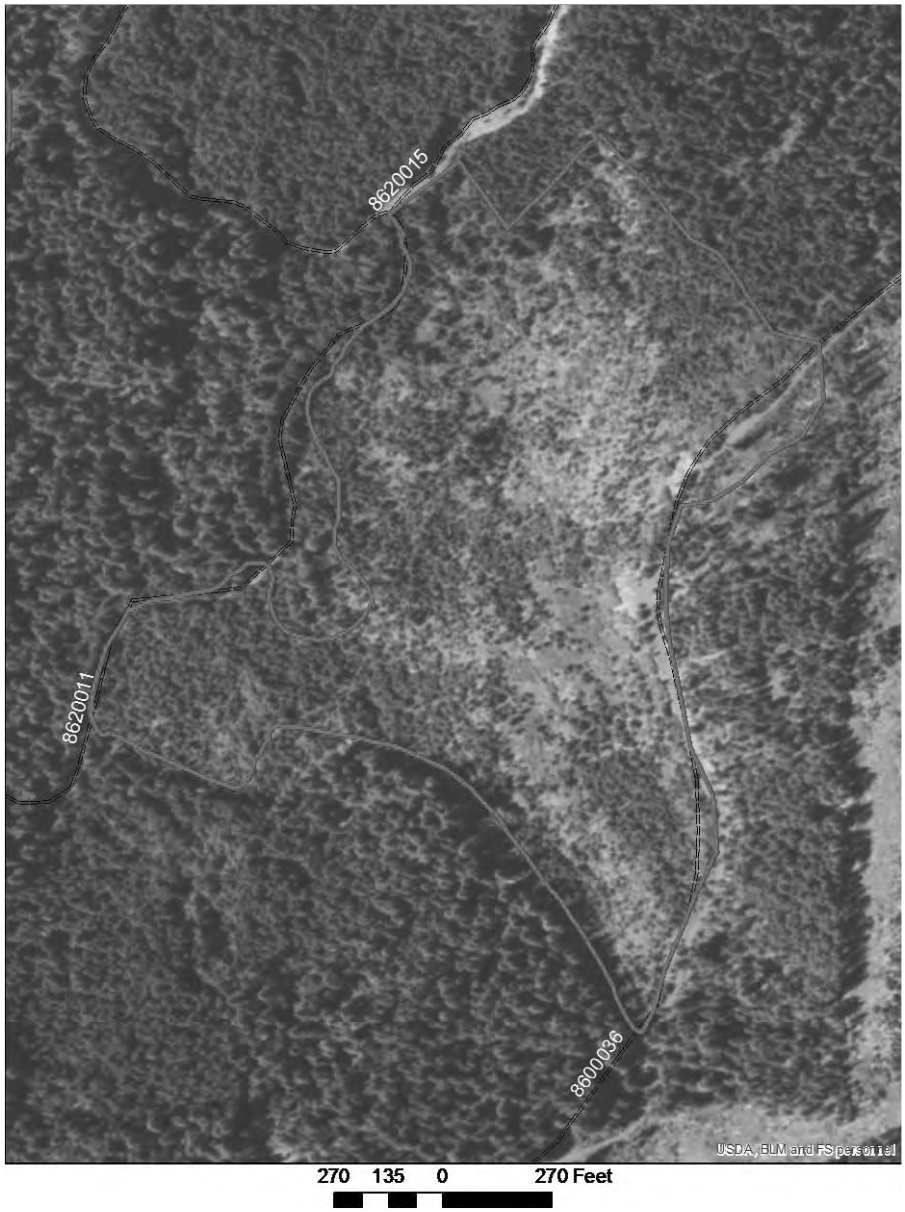
Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
6	28	2	7	14 x 14	2866	20	1 western larch
Remarks							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

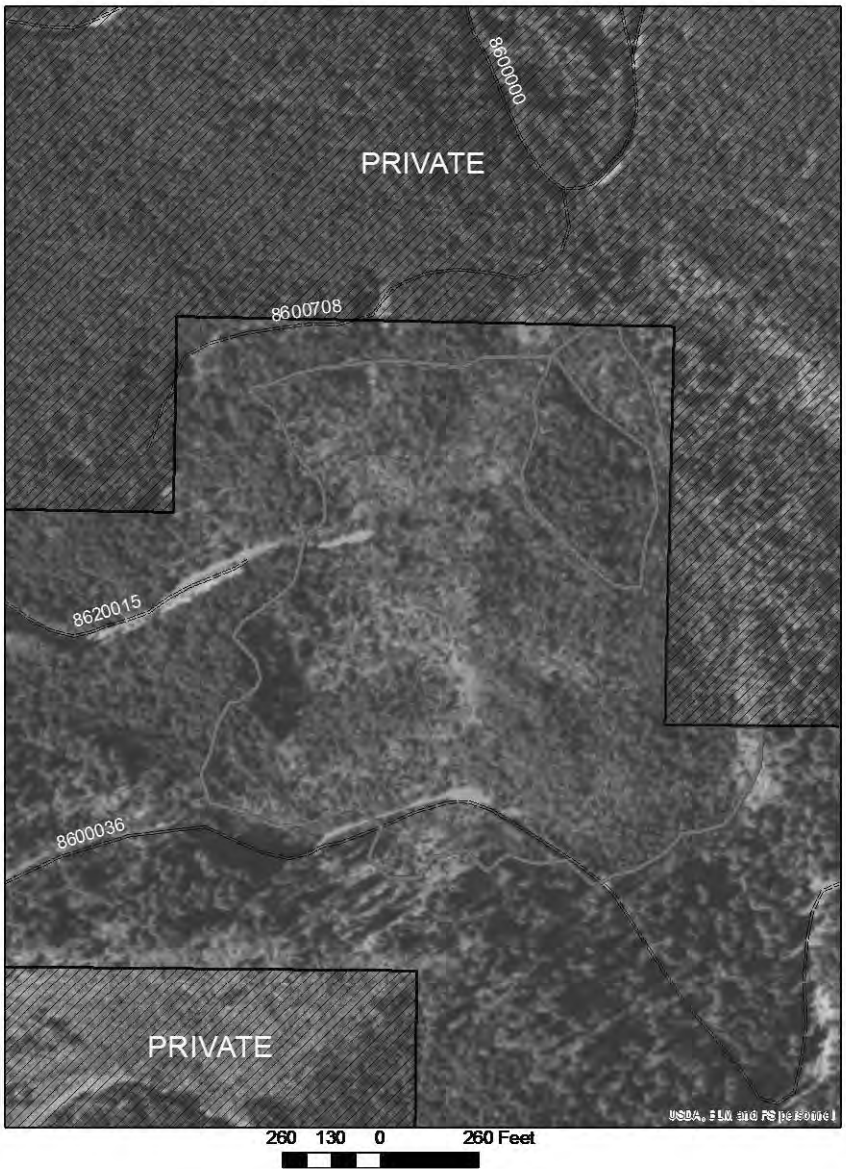
Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
7	40	2	7	12 x 12	3330	38	1 western larch
Remarks: Slash treatment along FS road 8620011. All slash 100 feet from road center shall be cut and piled into 6 x 6 foot piles and covered with plastic supplied by contractor. Covering material will extend over ¾ of the pile, and shall be sufficiently secured.							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

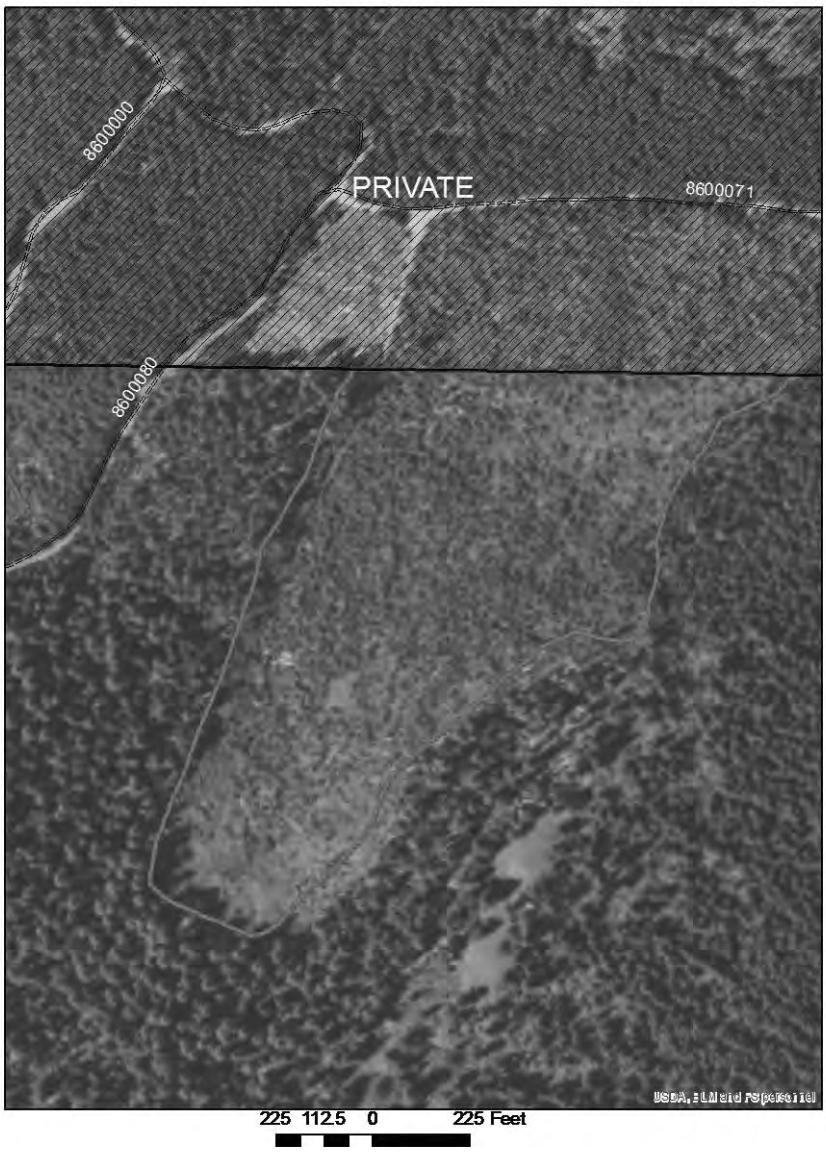
Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
8	30	2	7	12 x 12	3209	32	1 western larch
Remarks: Adjacent private land.							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

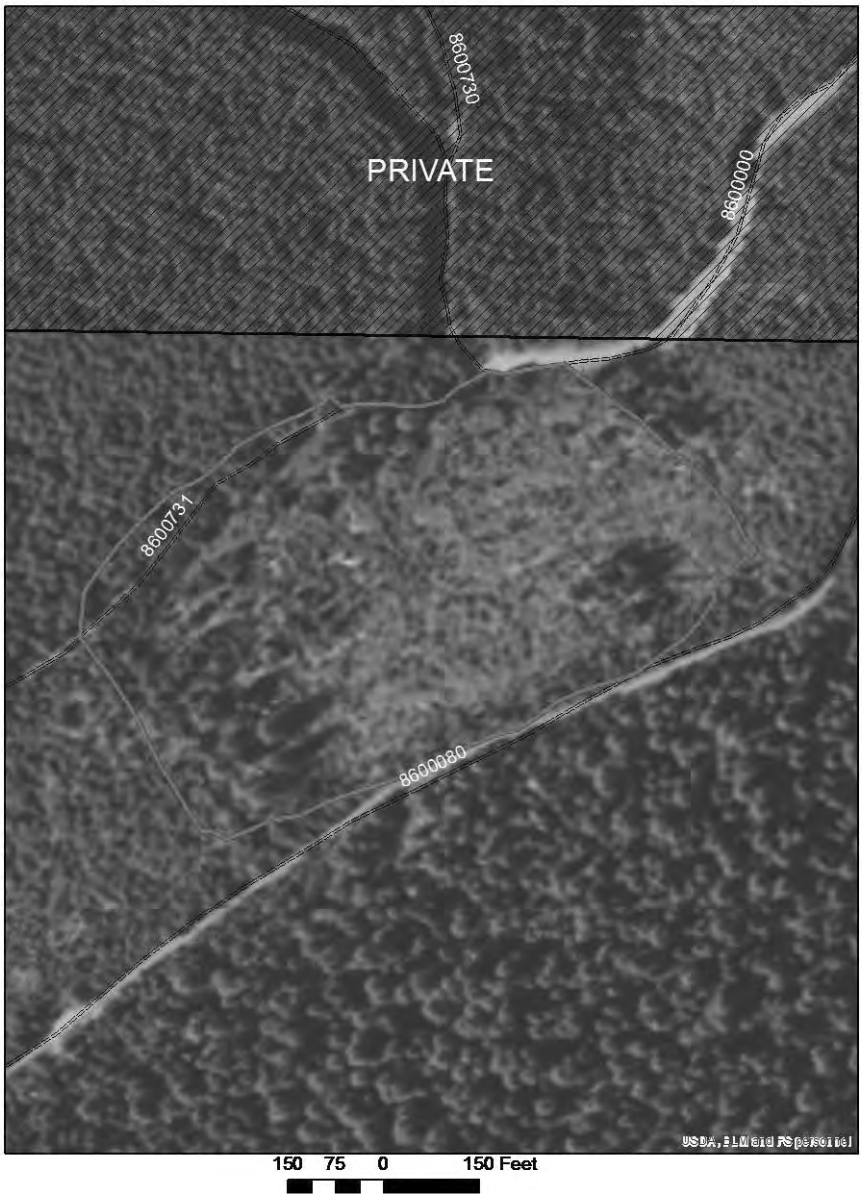
Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
9	21	2	7	12 x 12	4038	20	1 western larch
Remarks: Adjacent to private land							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

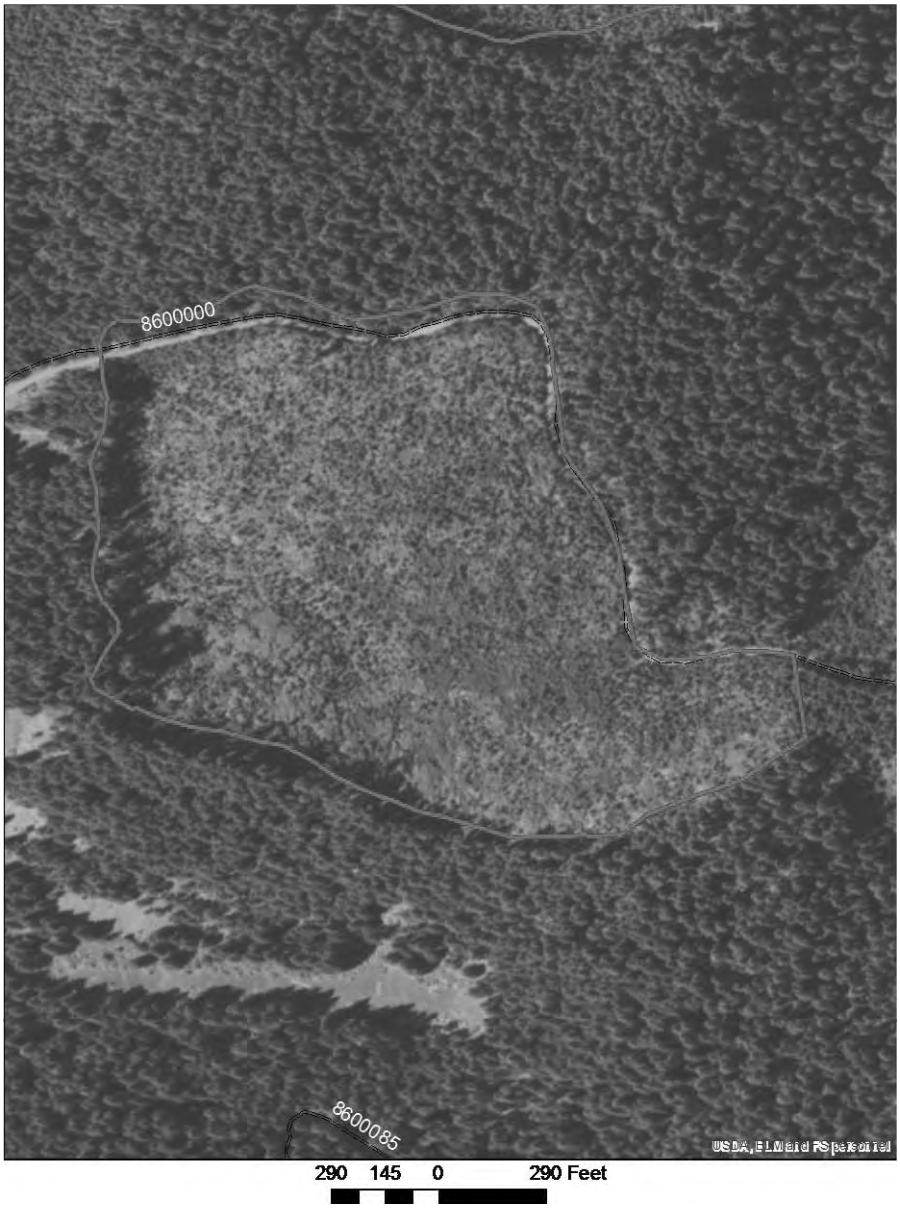
Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
10	12	2	7	12 x 12	3926	20	1 western larch
Remarks:							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
11	43	2	7	12 x 12	3890	12	1 western larch
Remarks: Slash treatment along FS road 86. All slash 100 feet from road center shall be cut and piled into 6 x 6 foot piles and covered with plastic supplied by contractor. Covering material will extend over ¾ of the pile, and shall be sufficiently secured.							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

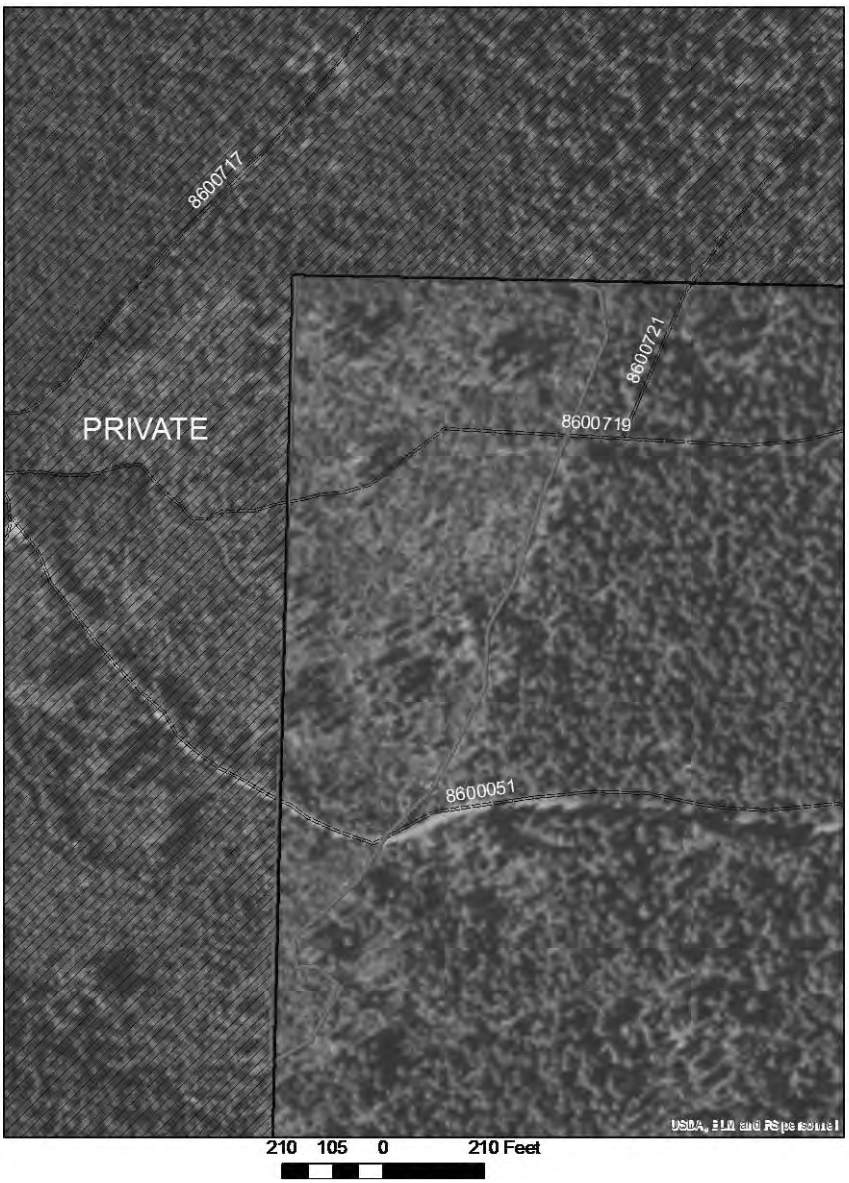
Cave Thin Stewardship
Project 2: Precommercial Thinning

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
12	37	2	7	12 x 12	4039	26	1 western larch
Remarks: Slash treatment along FS road 86. All slash 100 feet from road center shall be cut and piled into 6 x 6 foot piles and covered with plastic supplied by contractor. Covering material will extend over ¾ of the pile, and shall be sufficiently secured.							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine

GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
13	14	2	7	12 x 12	3482	13	1 western larch
Remarks: Adjacent private land.							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine



GIFFORD PINCHOT NATIONAL FOREST
Mt. Adams Ranger District

Cave Thin Stewardship
Project 2: Precommercial Thinning

Unit	Acre	Cut Tree Size		Spacing	Elevation	Slope	Species Preference
		Min. Feet Height	Max. inches DBH				
14	40	2	7	12 x 12	3558	8	1 western larch
Remarks							2 ponderosa pine
							3 noble fir
							4 western white pine
							5 Douglas fir
							6 western hemlock
							7 lodgepole pine

KT-GT.9# - STEWARDSHIP PROJECTS

Project Number 3: Culvert Replacement

End Results

Remove the existing culvert and replace with concrete box culvert that conforms to the contract plans and specifications. New structure will provide aquatic organism passage (AOP), a channel that simulates stream reaches upstream and downstream in terms of grade, width, form and substrate.

Description of Work
The project mainly consists of removal and disposal of an 72-inch x 60-inch arch x 40-ft length corrugated metal pipe and design, furnishing and installation of a three sided concrete bottomless culvert with wingwalls and concrete footing foundation. The project also consists of installation and furnishing an approximately 36-inch x 40-ft corrugated metal overflow culvert pipe located approximately 60 feet from the concrete culvert. Other items include excavation, embankment, waste haul, furnishing and placing crushed aggregate and riprap, streambed reconstruction including placement of woody debris and/or rock materials, traffic control, and temporary and permanent erosion control.

The project site is located approximately 7 miles west of Trout Lake, Washington on the Mount Adams Ranger District of the Gifford Pinchot National Forest. Construction will take place at Cave Creek on Forest Road 8620000 approximately mile post 1.6.

Work must be done in the dry season (July 1 – September 30).

Contractor Obligations

The Contractor shall furnish all labor, materials, equipment, tools, transportation and supplies, and perform all work required according to the drawings and specifications of the contract.

KT-GT.9# - STEWARDSHIP PROJECTS

Project Number 3: Culvert Replacement

Forest Road 8620000

Schedule of Items

Sub-Item	Description	Quantity	Unit
15101	Mobilization	1	LS
15201	Construction Survey and Staking, Method 1, Tolerance A	1	LS
20801	Structure Excavation, 3-Sided Culvert	213	CY
55201	Structural Concrete, Class A(A/E), Precast Reinforced 3-Sided Culvert and Wingw alls (Includes design, fabrication, delivery, unloading, and placement)	1	LS
55202	Structural Concrete, Cast in Place Foundation for Culvert and Wingw all (Includes design and placement)	1	LS
20401	Drainage Excavation, Reshape Cave Creek	120	LF
60201	36" Corrugated Steel Pipe 0.064" Thick Installation	35	LF
32401	Minor Aggregate Course, Commercial Source Base Material, Compaction Method A	82	CY
32402	Minor Aggregate Course, Commercial Source Surfacing Material	41	CY

Note:

1. All Items are contract quantity items.

Table of Contents

Preface

Preface_wo_03_15_2004_m

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-03 for construction of National Forest System Roads.

101 - Terms, Format, and Definitions

101.00_nat_us_07_25_2005

101.01_nat_us_01_22_2009

101.01 Meaning of Terms

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03_nat_us_06_16_2006

101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	National Institute of Standards and Technology
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

.

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04_nat_us_03_29_2007

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

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--No definition.

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.

Add the following:

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.

Design Quantity--"Design quantity" is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges*. Under these FP specifications this term is replaced by the term "Contract Quantities".

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 sale area map that requires designated mitigation measures.

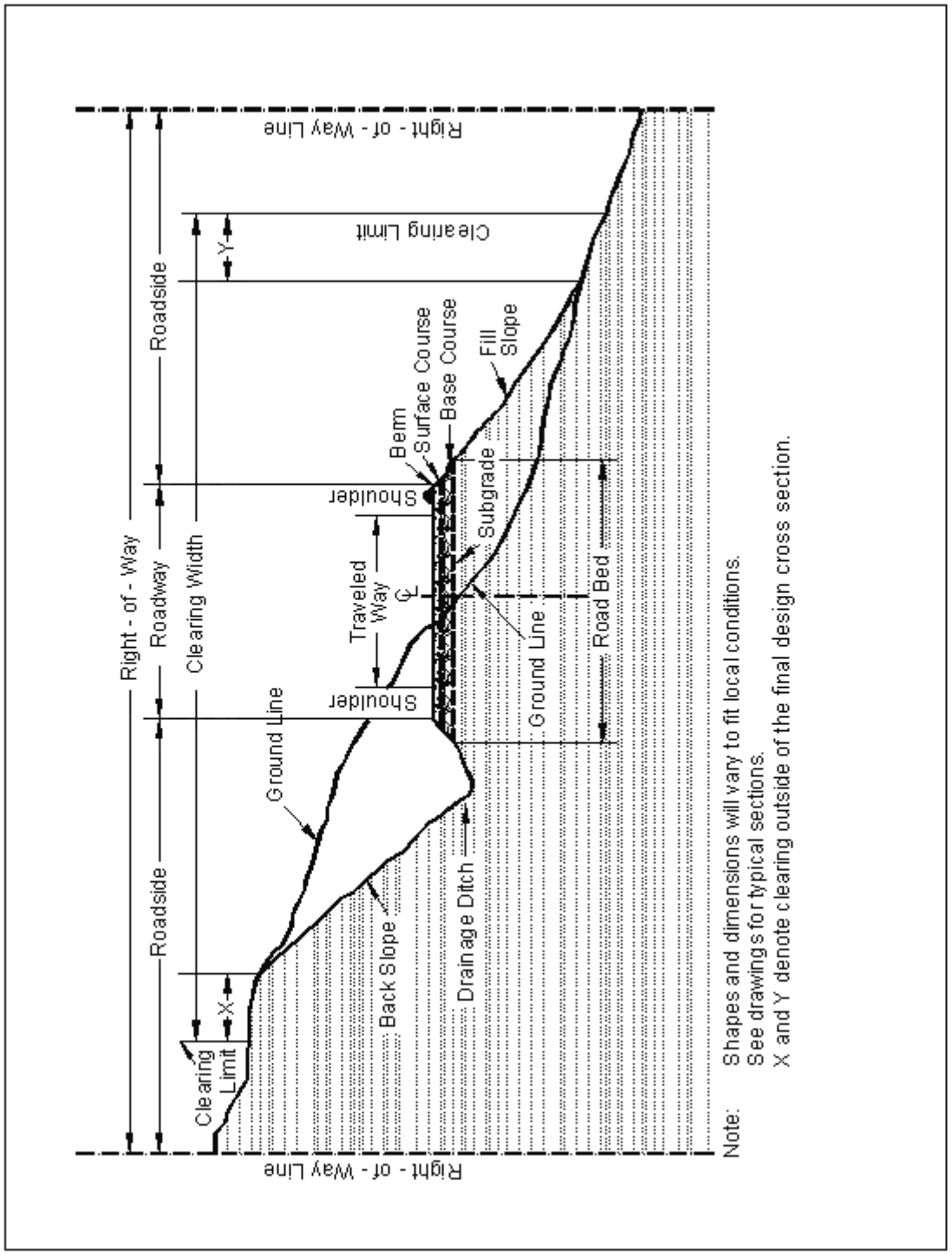
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

Schedule of Items--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

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_nat_us_02_16_2005

102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

103 - Scope of Work

103.00_nat_us_02_16_2005

Deletions

Delete all but subsection 103.01 Intent of Contract.

104 - Control of Work

104.00_nat_us_06_16_2006

Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.06_nat_us_02_17_2005

Add the following subsection:

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_nat_us_01_18_2007

105.02 Material Sources.

105.02(a) Government-provided sources.

Add the following:

Comply with the requirements of 30 CFR 56, subparts B and H. Use all suitable material for aggregate regardless of size unless otherwise designated. When required, re-establish vegetation in disturbed areas according to section 625.

105.05_nat_us_05_12_2004

105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. The Government is not obligated to make reimbursement for the cost of producing these materials.

106 - Acceptance of Work

106.07_nat_us_05_11_2004

106.07 Delete

Delete subsection 106.07.

107 - Legal Relations and Responsibility to the Public

107.05_nat_us_05_11_2004

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06_nat_us_06_16_2006

107.06 Contractor's Responsibility for Work.

Delete the following from the first paragraph.

"except as provided in Subsection 106.07".

107.09_nat_us_06_16_2006

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10_nat_us_06_16_2006

107.10 Environmental Protection.

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Before beginning any work, submit a Hazardous Spill Plan. List actions to be taken in the event of a spill. Incorporate preventive measures to be taken, such as the location of mobile refueling facilities, storage and handling of hazardous materials, and similar information. Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.
- Exact time and location of spill including a description of the area involved.
- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

USDA, Forest Service OMB 0596-0217 FS-1500-15

FS Agreement No. NFS 12-MU-11062754-005
Cooperator Agreement No. WDFW 11-1949

MEMORANDUM OF UNDERSTANDING
Between The
WASHINGTON STATE DEPARTMENT OF FISH AND WILDLIFE
And The
USDA, FOREST SERVICE
PACIFIC NORTHWEST REGION

This MEMORANDUM OF UNDERSTANDING (MOU) is hereby made and entered into by and between the Washington State Department of Fish and Wildlife, hereinafter referred to as "WDFW," and the USDA, Forest Service, Pacific Northwest Region, hereinafter referred to as the "U.S. Forest Service."
This MOU supersedes existing MOU number NFS 05-MU-11060000-391, which expires 1/31/2012.

Title: Hydraulic Projects Conducted by the U.S. Forest Service

I. **PURPOSE:** The purpose of this MOU is to document the understanding reached between the parties for Forest Service hydraulic projects on lands administered by the Forest Service within the State of Washington. This includes any right-of-way easements that the Forest Service may have over state or other lands. There are differing legal views regarding the jurisdiction of WDFW over Forest Service activities that may affect waterbodies within the State of Washington. The WDFW maintains that hydraulic projects conducted within the State of Washington require the approval of WDFW prior to the start of the project pursuant to Chapter 77.55 RCW. The Forest Service maintains that there has not been a waiver of Federal sovereign immunity requiring such authorization for its projects.

II. **SCOPE:** Hydraulic projects subject to this MOU are those projects that involve work that will use, divert, obstruct, or change the natural flow, bed, or banks of any perennial or intermittent fresh or salt waters (waterbodies) and where the design and implementation are under the direct control of the Forest Service. Projects that are designed and implemented on National Forest System lands by other entities, where the Forest Service is not primarily responsible for implementation or contract administration, are not covered by this MOU.

III. STATEMENT OF MUTUAL BENEFIT AND INTERESTS:

The WDFW has been established by the laws of the State of Washington to provide an adequate and flexible system for the management and protection of fish and aquatic resources of the state, and for the protection, maintenance, and enhancement of viable habitat for the perpetuation of these species;

The Forest Service, under the laws of the United States and regulations of the Secretary of Agriculture, is responsible for the protection, maintenance, and enhancement of water quality and aquatic habitat on National Forest System lands;

The WDFW and Forest Service share a common objective to protect, maintain, and enhance water, fish, and aquatic resources, and recognize their mutual desire to continue a long-standing working relationship;

The WDFW and Forest Service share the common purpose of developing, maintaining, and managing all of the natural resources in the best interests of the citizens of Washington and of the United States;

In consideration of the above premises, the agencies agree to work in a cooperative spirit while carrying out their respective programs for the good of fish, water, and aquatic resources as follows:

IV. WDFW SHALL:

A. Agree to recognize the Forest Service as being responsible for the protection and enhancement of aquatic resources on National Forest System lands.

B. Agree to recognize the Forest Service has multiple statutory requirements, regulatory direction, and authorities that provide a substantial amount of protection to aquatic resources.

V. THE U.S. FOREST SERVICE SHALL:

A. Agree to recognize the WDFW is responsible for the protection, perpetuation, and management of fish life in the State of Washington. Fish life means all fish species, including but not limited to food fish, shellfish, game fish, and other non-classified fish species and all stages of development of those species.

B. Agree to coordinate and collaborate with WDFW on Forest Service hydraulic projects that may have an impact on fish and fish habitat in the State of Washington.

C. Agree to encourage holders of special use permits, easements, rights-of-way or other occupancy authorities on National Forest System lands to acquire individual HPAs, as necessary, for their non-Forest Service projects.

VI. IT IS MUTUALLY UNDERSTOOD AND AGREED BY AND BETWEEN THE PARTIES THAT:

A. Both WDFW and the Forest Service possess substantial expertise in fish and fish habitat, engineering, and hydraulic project design and implementation.

B. The Forest Service's objective is to meet or exceed the intent of WDFW's standards and guidelines for fish and fish habitat for all Forest Service hydraulic projects.

C. The Forest Service will notify WDFW of proposed Forest Service hydraulic projects by sending a National Environmental Policy Act (NEPA) scoping letter to the appropriate WDFW Regional Habitat Program Manager for those hydraulic projects for which a scoping letter is issued. The scoping letter will include project name, location, proposal description, and anticipated decision date in sufficient detail to enable WDFW to identify possible impacts to fish and fish habitats.

D. Communication and collaboration between the Forest Service and WDFW regarding Forest Service hydraulic projects will be critical to the successful implementation of this MOU. Individual Forest Service units and local WDFW Area Habitat Biologists are encouraged to meet at least once per year to review completed projects, discuss upcoming Forest Service projects, and resolve any issues regarding implementation of the MOU.

E. Appendix A of this MOU provides design and implementation standards for common types of Forest Service hydraulic projects.

F. Appendix B of this MOU provides a process for implementing types of Forest Service hydraulic projects that are not described in Appendix A, or for projects that do not meet both the general provisions and the project specific provisions specified in Appendix A. For these projects the Forest Service will collaborate with WDFW to develop appropriate project designs and implementation provisions on a site-specific basis.

G. Appendix C of this MOU provides a process for implementing hydraulic projects conducted in response to emergency situations where immediate action is required to protect life, public or private property, or prevent serious environmental degradation arising from weather, high stream flows, other natural conditions, or fire.

H. Appendix D describes work periods for Forest Service hydraulic projects in this MOU.

I. Every effort will be made by the Forest Service and WDFW to resolve disputes regarding hydraulic projects within the scope of this MOU at the field level in a cooperative and professional manner. In the event that issues cannot be resolved by field personnel in consultation with technical experts within the two agencies, the

parties agree to elevate the issues of concern through equivalent levels of each organization until the conflict is resolved. Unless the conflict involves an emergency action per Appendix C, or a project delay may cause substantial damage to public resources or risk to public safety, the Forest Service will consider delaying any disputed hydraulic projects until conflicts are resolved. If the Forest Service makes the decision to proceed with a disputed project without reaching agreement with WDFW, the rationale for the decision will be documented in a letter from the Forest Service Line Officer to the WDFW Regional Habitat Program Manager.

J. By March 31st of each year the Forest Service will submit an annual report to WDFW summarizing the Forest Service hydraulic projects that were completed under this MOU within the preceding calendar year. The report will include general project types, a brief description of each activity, and project locations.

K. PRINCIPAL CONTACTS. Individuals listed below are authorized to act in their respective areas for matters related to this instrument.

Principal Cooperator Contacts:

Cooperator Program Contact	Cooperator Administrative Contact
Pat Chapman 600 Capitol Way N. Olympia, WA 98502 360-902-2571 Pat.Chapman@dfw.wa.gov	Assistant Director, Habitat Program 600 Capitol Way N. Olympia, WA 98502 360-902-2534

Principal U.S. Forest Service Contacts:

U.S. Forest Service Contact	U.S. Forest Service Administrative Contact
Bob Metzger 1835 Black Lake Blvd SW Olympia, WA 98512 360-956-2293 FAX: 360-956-2330 rpmetzger@fs.fed.us	Director, Natural Resources PO Box 3623 Portland, OR 97208 503-808-2955

L. NON-LIABILITY. The U.S. Forest Service does not assume liability for any third party claims for damages arising out of this instrument.

M. NOTICES. Any communications affecting the operations covered by this agreement given by the U.S. Forest Service or WDFW is sufficient only if in writing and delivered in person, mailed, or transmitted electronically by e-mail or fax, as follows:

To the U.S. Forest Service Program Manager, at the address specified in the MOU.

To WDFW, at the Assistant Director's address shown in the MOU or such other address designated within the MOU.

Notices are effective when delivered in accordance with this provision, or on the effective date of the notice, whichever is later.

N. PARTICIPATION IN SIMILAR ACTIVITIES. This MOU in no way restricts the U.S. Forest Service or WDFW from participating in similar activities with other public or private agencies, organizations, and individuals.

O. ENDORSEMENT. Any of WDFW's contributions made under this MOU do not by direct reference or implication convey U.S. Forest Service endorsement of WDFWWDFW's products or activities.

P. NONBINDING AGREEMENT. This MOU creates no right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity. The parties shall manage their respective resources and activities in a separate, coordinated and mutually beneficial manner to meet the purpose(s) of this MOU. Nothing in this MOU authorizes any of the parties to obligate or transfer anything of value.

Specific, prospective projects or activities that involve the transfer of funds, services, property, and/or anything of value to a party requires the execution of separate instruments and are contingent upon numerous factors, including, as applicable, but not limited to: agency availability of appropriated funds and other resources; cooperator availability of funds and other resources; agency and cooperator administrative and legal requirements (including agency authorization by statute); etc. This MOU neither provides, nor meets these criteria. If the parties elect to enter into an obligation instrument that involves the transfer of funds, services, property, and/or anything of value to a party, then the applicable criteria must be met. Additionally, under a prospective instrument, each party operates under its own laws, regulations, and/or policies, and any Forest Service obligation is subject to the availability of appropriated funds and other resources. The negotiation, execution, and administration of these prospective instruments must comply with all applicable law

Nothing in this MOU is intended to alter, limit, or expand the agencies' statutory and regulatory authority.

Q. MEMBERS OF U.S. CONGRESS. Pursuant to 41 U.S.C. 22, no U.S. member of, or U.S. delegate to, Congress shall be admitted to any share or part of this instrument, or benefits that may arise therefrom, either directly or indirectly.

R. FREEDOM OF INFORMATION ACT (FOIA). Public access to MOU or agreement records must not be limited, except when such records must be kept confidential and would have been exempted from disclosure pursuant to Freedom of Information regulations (5 U.S.C. 552).

S. TEXT MESSAGING WHILE DRIVING. In accordance with Executive Order (EO) 13513, "Federal Leadership on Reducing Text Messaging While Driving," any and all text messaging by Federal employees is banned: a) while driving a Government owned vehicle (GOV) or driving a privately owned vehicle (POV) while on official Government business; or b) using any electronic equipment supplied by the Government when driving any vehicle at any time. All cooperators, their employees, volunteers, and contractors are encouraged to adopt and enforce policies that ban text messaging when driving company owned, leased or rented vehicles or GOVs when driving while on official Government business or when performing any work for or on behalf of the Government.

T. TERMINATION. Any of the parties, in writing, may terminate this MOU in whole, or in part, at any time before the date of expiration.

U. DEBARMENT AND SUSPENSION. WDFW shall immediately inform the U.S. Forest Service if they or any of their principals are presently excluded, debarred, or suspended from entering into covered transactions with the federal government according to the terms of 2 CFR Part 180. Additionally, should WDFW or any of their principals receive a transmittal letter or other official Federal notice of debarment or suspension, then they shall notify the U.S. Forest Service without undue delay. This applies whether the exclusion, debarment, or suspension is voluntary or involuntary.

V. MODIFICATIONS. Modifications within the scope of this MOU must be made by mutual consent of the parties, by the issuance of a written modification signed and dated by all properly authorized, signatory officials, prior to any changes being performed. Requests for modification should be made, in writing, at least 30 days prior to implementation of the requested change.

W. COMMENCEMENT/EXPIRATION DATE. This MOU is executed as of the date of the last signature and is effective for a period of 5 years, after which time it will expire.

X. AUTHORIZED REPRESENTATIVES. By signature below, each party certifies that the individuals listed in this document as representatives of the individual parties are authorized to act in their respective areas for matters related to this MOU. In witness whereof, the parties hereto have executed this MOU as of the last date written below.

USDA, Forest Service OMB 0596-0217 FS-1500-15

LEE ROLLE
Chief Financial Officer *for* 1/23/2012

PHIL ANDERSON, Director Date
Washington Department of Fish and Wildlife

Nora B Kasue Deputy Regional Forester 2/3/12

KENT CONNAUGHTON, Regional Forester Date
U.S. Forest Service, Pacific Northwest Region

The authority and format of this instrument have been reviewed and approved for signature. **NFS 12-MU-11062754-005**

1/12/2012

DENNIS MOTSINGER Date
U.S. Forest Service Grants & Agreements Specialist

Burden Statement

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0596-0217. The time required to complete this information collection is estimated to average 3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free (866) 632-9992 (voice). *TDD* users can contact USDA through local relay or the Federal relay at (800) 877-8339 (TDD) or (866) 377-8642 (relay voice). USDA is an equal opportunity provider and employer.

Appendices for
MEMORANDUM OF UNDERSTANDING

Between
Washington State Department of Fish and Wildlife
And
USDA Forest Service, Pacific Northwest Region

Regarding
Hydraulic Projects Conducted by
USDA Forest Service, Pacific Northwest Region

January 2012

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APPENDIX A. PROVISIONS AND STANDARDS FOR COMMON TYPES OF FOREST SERVICE HYDRAULIC PROJECTS

HYDRAULIC PROJECTS COVERED BY APPENDIX A

Hydraulic project types which are included in Appendix A and which adhere to all applicable general and project-specific provisions may be implemented without further input on project design or implementation standards by WDFW Area Habitat Biologist and without further documentation, except annual reporting, by the Forest Service. Note that culvert and bridge installations or replacements on fish-bearing streams require the Forest Service to notify WDFW when it begins the design process for these projects. Collaboration is specifically encouraged for these projects.

Projects which include minor modifications of the provisions in this appendix may also be implemented under Appendix A so long as the modifications have been coordinated with and agreed to by WDFW. Minor modifications are defined as changes that are unlikely to cause adverse effects to fish life. The Forest Service will initiate requests for minor modifications to project provisions, including requests to modify in-water work windows, by phone or email to the appropriate Area Habitat Biologist. WDFW shall complete the coordination and send an email to the Forest Service confirming agreement or disagreement with minor modifications to project provisions within 10 working days of a request for collaboration.

The Forest Service shall immediately notify the appropriate WDFW Regional Habitat Program Manager if it becomes aware that project activities occur that do not adhere to Appendix A provisions. Additionally, the Forest Service shall immediately notify the appropriate WDFW Regional Habitat Program Manager of project activities that adhere to these provisions but that may result in unanticipated fish or fish habitat damage.

GENERAL PROVISIONS APPLICABLE TO ALL APPENDIX A PROJECTS

Fish-bearing Waters

1. Streams which meet the Washington State Forest Practices Act physical criteria for fish presence (WAC 222-16-031 Interim Water Typing System) are assumed to be fish-bearing unless documented survey information is available that provides evidence of a lack of fish presence.

2. The Forest Service will consult with WDFW to agree on the status of streams that meet the physical criteria for fish presence but where biological information is incomplete, inconclusive, or not well documented.

Timing

3. Freshwater hydraulic projects conducted under Appendix A in fish-bearing streams or in tributary streams within ¼ mile of fish-bearing streams will be implemented only during the work periods outlined in Appendix D unless the Forest Service fisheries biologist and the WDFW Area Habitat Biologist agree that implementing the activity outside of the normal work period would be unlikely to cause negative impacts to fish and fish habitat. The location of the project within a watershed, site-specific conditions, circumstances, nature of the proposed work, and fish species and life stages actually present at the project site may make alternative instream work periods acceptable for many projects. Any agreements to modify the work periods in Appendix D for specific projects or specific sites shall be documented by WDFW.

4. Those portions of hydraulic project work that occur outside or above the bankfull channel and have little or no potential to negatively affect fish or fish habitat are not subject to the work periods specified in Appendix D. Examples of such work include replacing bridge decking, constructing a bridge superstructure after footings are in place, and building up the fill over a culvert that is in place. These projects are still bound by the other provisions in Appendix A.

5. Hydraulic projects conducted in intermittent non-fish-bearing streams that are dry during the proposed work are not subject to the work periods specified in Appendix D unless the USFS fish biologist determines the activities are likely to negatively affect fish life, in which case the work periods specified in Appendix D apply.

6. Hydraulic projects conducted in wetted non-fish-bearing streams that are greater than ¼ mile from fish-bearing waters are not subject to the work periods specified in Appendix D unless the USFS fish biologist determines the activities are likely to negatively affect fish life, in which case the work periods specified in Appendix D apply.

Fish Protection

1. The intake on any pump used for diverting water from a fish-bearing waterbody shall 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. Screen maintenance shall be adequate to prevent injury or entrapment to juvenile fish and shall remain in place whenever water is withdrawn from the waterbody through the pump intake.

2. Fish within construction sites that will be dewatered or isolated from the main waterbody shall be captured and safely moved from the job site. Fish capture and transportation equipment shall be available on the job site during all inwater activities.

3. If at any time, as a result of project activities, a fish kill occurs, fish are observed in distress, or water quality problems develop that may present a threat to fish life, the Forest Service shall immediately notify the Washington Military Department's Emergency Management Division at 1-800-258-5990 .

Erosion Control

1. Alteration or disturbance of the bed, banks, and bank vegetation of waterbodies shall be minimized and limited to that necessary to construct the project.

2. Erosion prevention and control methods shall be used as necessary during and immediately after project implementation to minimize loss or displacement of soils and to prevent delivery of sediment into waterbody. These may include, but are not limited to, operational techniques, straw bales, silt fencing, erosion control blankets, temporary sediment ponds, and/or immediate mulching of exposed areas. Disturbed ground with the potential to deliver sediment into waterbodies shall be revegetated or protected from surface erosion by seeding, mulching, or other methods prior to the fall rainy season.

3. After project completion, disturbed streambanks and lakeshores shall be revegetated with site-appropriate vegetation to maintain soil stability and provide shade and future sources of large wood. Revegetation can be accomplished by planting or natural reproduction, depending on site conditions.

Dewatering

1. Where the project-specific provisions require worksite isolation from flowing waters and/or dewatering, a written dewatering plan shall be prepared prior to the start of the instream work that describes the method of bypass, location and construction of any coffer dams or diversion dams, the number and size of pumps to be used, and backup plans in place in case of mechanical failure or unanticipated storm events. The dewatering plan does not require review or approval by WDFW.

2. The dewatering system will be designed and installed to minimize erosion and sediment delivery to watercourses and to withstand all streamflows anticipated during the construction period.

3. Water bypassed around the site will be returned to the stream channel downstream of the

work site. The bypass discharge point shall be designed to minimize erosion and scour of the stream channel, banks, and vegetation.

4. Wastewater from project activities within the dewatered area shall be routed to an area outside the bankfull channel to allow removal of fine sediment and other contaminants prior to infiltrating back into waterbodies.

5. Water shall be reintroduced back into the channel in a manner that minimizes the mobilization of fines and sediment into downstream waters.

6. Any materials used to construct the dewatering system will be removed prior to the completion of the project.

Heavy Equipment

1. The use of heavy equipment within the bankfull channel in streams and below the ordinary high water line in lakes is discouraged. If such work is necessary, operation of heavy equipment in these areas shall be minimized and appropriate measures shall be taken to minimize damage to streambanks and streambed.

2. Accumulations of soil or debris shall be removed from drive mechanisms (wheels, tires, tracks, etc.) and undercarriage of all heavy equipment prior to its working within the bankfull channel in streams or below the ordinary high water line in lakes.

3. To prevent contamination, equipment used around waterbodies shall be free of external petroleum-based products. Equipment shall be checked daily for leaks and any necessary repairs shall be completed prior to commencing work activities. All machinery fueling and maintenance involving petroleum products shall occur at a sufficient distance from stream channels, waterbodies, or wetlands to prevent delivery of potential contaminants. Spill containment equipment and material shall be on site.

Concrete and Treated Wood

1. Fresh concrete, concrete by-products, or other chemical contaminants shall not be allowed to enter waterbodies. Structures containing concrete shall be sufficiently cured to prevent leaching prior to contact with the waterbody.

2. Wood treated with creosote or with pentachlorophenol in heavy oil solvent may not be used for wood components that will be over or in contact with water in hydraulic projects. Wood treated with any pentachlorophenol formulation may not be used for in-water contact (i.e., within the 100 year floodplain). All treated wood used for hydraulic projects shall meet or exceed the criteria and guidance established in the most current edition of 'Best Management Practices For the Use of Treated Wood in Aquatic and Other Sensitive Environments' developed by the Western Wood Preservers Institute, Wood Preservation Canada, Southern Pressure Treaters' Association, and Timber Piling Council, and any current amendments or addenda to it. Current amendments and addenda include but may not be limited to 'Amendment #1: CCA - Chromated Copper Arsenate', dated October 25,

2006; and 'Addendum #1: ACC - Acid Chromated Copper', dated February 28, 2007.

Invasive Species Control

1. All materials and equipment used in the construction of hydraulic projects shall be free of aquatic invasive species and noxious weeds. Materials and equipment used at a project site at which aquatic invasive species are already established shall be decontaminated so that no viable aquatic invasive species are transported from the job site.

Other

1. A copy of this MOU shall be available on site at all times when work is conducted under the provisions of Appendix A.

SPECIFIC PROJECT PROVISIONS

Bank Protection

NOTE: Bank protection projects include, but are not limited to: installation and maintenance of riprap, groins, bank barbs, and large wood to protect streambanks and lakeshores from erosion. Bio-engineering is the preferred method of bank protection where practicable. Placing riprap or armoring at individual road/stream crossings is not included under this project type.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting bank protection projects.

1. Bank protection shall be designed, installed and maintained to minimize potential negative effects to aquatic habitat, stream channel morphology, and hydraulics of the stream. Site investigations and selection of appropriate bank stabilization techniques should be guided by the Washington State Integrated Streambank Protection Guidelines (ISPG) or an equivalent process.

2. Bank protection projects shall be designed, installed and maintained to maintain the productive capacity of adjacent aquatic habitat. It may be necessary to incorporate mitigation measures such as placement of log and/or rock structures into project designs to achieve this objective.

3. Where hard armoring is required, bank protection material shall be clean, angular rock and shall be installed to withstand 100-year peak flows. River gravels or other round cobbles shall not be used as exterior armor. Grout or concrete products shall not be used.

4. Placement of bank protection material within the bankfull channel shall be limited to the minimum amount necessary to achieve project objectives. Bank protection material shall not constrict the flow or cause any measurable increase in backwater elevation.

5. A Forest Service staff with expertise in stream processes and fish habitat shall be involved in the planning, design, and implementation of any bank protection project within the bankfull channel of streams or the ordinary high waterline in lakes.

6. Bank protection projects totaling more than 100 lineal feet of bank are not included under Appendix A.

7. Projects involving bulkheads in any waters are not included under Appendix A.

Permanent Culvert Installation and Replacement

NOTE: Permanent culvert installation and replacement projects include installation of new culverts that are installed for more than one year and replacement of existing culverts with similar or larger structures.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting permanent culvert installation or replacement projects.

1. In non fish-bearing waters, provisions highlighted with a * are not required.

2. *Culverts in fish-bearing streams shall be designed, installed, and maintained to provide passage for all fish species and all life stages that are likely to be encountered at the site.

3. *Culverts in fish-bearing streams shall be designed and installed based on the stream simulation approach. Stream simulation designs are intended to mimic the natural stream characteristics and processes.

4. *Site investigations and selections of appropriate stream simulation culvert designs will be guided by the current version of Forest Service design manual “Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms as Road-Stream Crossings” or the current version of Washington State “Design of Road Culverts for Fish Passage”.

5. *Forest Service shall notify WDFW when it begins the design process for a fish passage culvert. Collaboration is encouraged on these projects and can be initiated by either agency.

6. *A Forest Service staff with expertise in stream processes and fish habitat shall be on-site during initial culvert placement and placement of streambed materials inside the pipe for all culverts in fish-bearing streams.

7. *Installation of baffled culverts in fish-bearing streams is not included under Appendix A.

8. *Installation of culverts in fish-bearing streams utilizing the “Hydraulic Method” or “No-Slope” method are not included under Appendix A.

9. Culverts shall be designed, installed and maintained to accommodate the 100-year peak flow with consideration of the sediment load and wood likely to be encountered.

10. Culverts shall be designed, installed and maintained to avoid negative channel changes such as inlet scouring or erosion of the streambed or banks downstream of the project.

11. The crossing structure shall consist of a single culvert.

12. Construction sites shall be dewatered or isolated from flowing waters to prevent delivery of sediment to watercourses.

13. Every effort shall be made to avoid stream crossings with heavy equipment. A single round-trip equipment crossing of the stream channel shall be allowed, if necessary. Equipment operation within the stream channel inside of the approximate culvert footprint is permissible so long as the stream has been dewatered.

Permanent Bridge Installation and Replacement

NOTE: Permanent bridge installation and replacement projects include new bridges that are installed for more than one year, replacing culverts with permanent bridges, and replacing or upgrading permanent bridges.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting permanent bridge installation or replacement projects.

1. In non fish-bearing waters, provisions highlighted with a * are not required.

2. *Bridges on fish-bearing streams shall be designed, installed, and maintained to provide unhindered passage for all fish species and all life stages that are likely to be encountered at the site.

3. * Forest Service shall notify WDFW when it begins the design process for permanent bridges on fish bearing streams. Collaboration is encouraged on these projects and can be initiated by either agency when there are concerns about any of these projects.

4. Installation of multiple span bridges with piers within the bankfull channel is not included under Appendix A.

5. Bridges shall be designed, installed and maintained to accommodate the 100-year peak flow with consideration of the sediment load and wood likely to be encountered.

6. Bridges shall be designed, installed and maintained to avoid causing negative channel effects such as scouring or erosion of the streambed or banks.

7. No abutments or riprap shall be placed within the bankfull channel.

8. Construction sites shall be dewatered or isolated from flowing waters to prevent delivery of sediment to watercourses.

9. Every effort shall be made to avoid stream crossings with heavy equipment. A single round-trip equipment crossing of the stream channel shall be allowed, if necessary.

Permanent Culvert, Bridge, and Ford Removal

NOTE: Permanent stream crossing structures include culverts, bridges, and fords of any size that have been in place for more than one year. The following provisions cover the permanent removal of these stream crossing structures.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting permanent culvert, bridge, or ford removal projects.

1. All fill material and man-made structures that may impede channel-forming or channel-migration processes shall be removed. The natural stream channel profile shall be restored. Bottom width opening of the fill removal at stream channel crossings shall be equal to, or greater than, the natural bankfull channel width.

2. Streambanks shall be shaped to mimic the natural stream channel and banks and restore the natural valley configuration.

3. Streambed substrates shall mimic the natural streambed characteristics upstream and downstream of the crossing removal. Large woody material and/or large rocks may need to be placed within the crossing removal site to accomplish this objective.

4. The toe of the excavation shall be stabilized with large wood, appropriately sized rock, and/or vegetation as necessary to prevent excessive erosion of the new streambanks.

5. Construction sites shall be dewatered or isolated from flowing waters to prevent delivery of sediment to watercourses.

6. Every effort shall be made to avoid stream crossings with heavy equipment. A single round-trip equipment crossing of the stream channel shall be allowed, if necessary.

Temporary Culvert and Bridge Installation and Removal

NOTE: Temporary culvert and bridge installation and removal includes culverts and bridges of any size that are installed to accommodate a single season of work. They are removed prior to the onset of high flows.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting temporary culvert projects.

1. In non fish-bearing waters, provisions highlighted with a * are not required.

2. *When placed in fish-bearing waters, the stream crossing structure shall be designed, installed, and maintained to provide unhindered passage for all fish species and all life stages that are likely to be encountered at the site during the period the structure will be in place.

3. The crossing structure shall be designed, installed and maintained to pass all anticipated stream flows, sediment, and wood likely to be encountered at the site during the period the structure will be in place.

4. Imported fill which will remain in the stream after temporary culvert removal shall consist of clean, rounded, uniformly-graded gravel or material that mimics the naturally occurring bed material at the site.

5. Clean, angular rock may be used for fill provided that all of the rock is removed from the stream upon removal of the temporary culvert. Fabric underlayment may be needed to achieve complete removal of fill material.

6. The temporary stream crossing structure shall only remain in place during the work periods allowed in Appendix D.

7. Affected streambed and bank areas shall be restored to pre-project condition following removal of the temporary culvert or bridge.

8. Construction sites shall be dewatered or isolated from flowing waters to prevent delivery of sediment to watercourses.

9. Every effort shall be made to avoid stream crossings with heavy equipment. Single round-trip equipment crossings of the stream channel shall be allowed for both installation and removal, if necessary.

Permanent Ford Construction and Maintenance

NOTE: Fords range from highly engineered concrete or rock structures designed for high clearance vehicles during low water periods to simple hardened crossings for livestock or trail users. Fords designed for use by automobiles, trucks, or heavy equipment are generally discouraged. Culverts or bridges should be utilized at these sites whenever possible.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when constructing or maintaining permanent ford projects.

1. In non fish-bearing waters, provisions highlighted with a * are not required.

2. * Construction of fords in fish-bearing streams is limited to existing livestock, hiking trail, or off-highway vehicle crossings. Construction of fords for standard highway vehicles in fish-bearing streams is not included under Appendix A.

3. * Fords in fish-bearing streams shall be designed, installed, and maintained to provide unhindered passage for all fish species and all life stages that are likely to be encountered at the site.

4. *A Forest Service staff with expertise in stream processes and fish habitat shall be on-site during ford construction in fish-bearing streams.

5. Fords shall be designed, installed and maintained to avoid negative channel changes such as channel widening or erosion of the streambed or streambanks.

6. The number of fords constructed through individual streams or reaches shall be minimized to limit streambank and streambed disturbance.

7. Permanent fords shall be installed to maintain structural integrity to the 100-year peak flow.

8. Construction sites shall be dewatered or isolated from flowing waters to prevent delivery of sediment to watercourses.

9. A single round-trip equipment crossing of the stream channel at the ford site shall be allowed during construction of the ford.

Temporary Ford Construction and Removal

NOTE: Temporary fords include those fords that are installed to accommodate a single season of work. They are removed prior to the onset of high flows. Temporary fords range from crossings designed for high clearance vehicles during low water periods to simple hardened crossings for livestock or trail users. Temporary fords designed for use by automobiles, trucks, or heavy equipment are generally discouraged.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting temporary ford projects.

1. In non fish-bearing waters, provisions highlighted with a * are not required.

2. * Construction of temporary fords for standard highway vehicles in fish-bearing streams is not included under Appendix A.

3. * Fords in fish-bearing streams shall be designed, installed, and maintained to provide unhindered passage for all fish species and all life stages that are likely to be encountered at the site.

4. *A Forest Service staff with expertise in stream processes and fish habitat shall be on-site during ford construction in fish-bearing streams.

5. The temporary ford shall only remain in place during the work periods allowed in Appendix D.

6. Fords shall be designed, installed and maintained to avoid negative channel changes such as channel widening or erosion of the streambed or streambanks.

7. Imported fill which will remain in the stream after temporary ford removal shall consist of clean, rounded, uniformly-graded gravel or material that mimics the naturally occurring bed material at the site.

8. Clean, angular rock may be used for fill provided that all of the rock is removed from the stream upon removal of the temporary ford.

9. The streambed and streambanks shall be restored to pre-project conditions following removal of the temporary ford.

10. Construction sites shall be dewatered or isolated from flowing waters to prevent delivery of sediment to watercourses.

11. A single round-trip equipment crossing of the stream channel at the temporary ford shall be allowed during construction of the ford and again during removal of the ford.

Bridge Maintenance

NOTE: Bridge maintenance activities include deck cleaning, painting, replacing decking, and minor structural repairs outside of the wetted perimeter or above the bankfull elevation. This project type also includes repair of existing sills and columns. This project type does not include placement of riprap.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting bridge maintenance projects.

1. No material (i.e. sediments, paint, wood, rock, grease, sand, etc.) shall be allowed to enter waterbodies.

2. Maintenance activities shall not result in damage to the stream bed or banks.

Culvert and Bridge Debris Removal

NOTE: Culvert and bridge debris removal includes removing wood, trash, and accumulated bedload from the immediate vicinity of these structures to maintain their functionality. Large woody material is defined as trees or tree parts larger than 4 inches in diameter and longer than 6 feet in length, and rootwads.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting culvert and bridge debris removal projects.

1. Woody material and trash may be removed from and/or repositioned within a maximum of 25 feet upstream of a culvert inlet, within 25 feet downstream of a culvert outlet and from bridge piers, braces, wingwalls and abutments. Debris may also be removed from entirely artificial watercourses, such as highway ditches that were never part of a natural stream channel.

2. To promote the natural passage of wood through the system, large woody material that is removed from above a culvert or bridge shall be placed back into the stream channel below the structure whenever feasible.

3. The removal or repositioning of existing large woody material embedded in a streambank or streambed is not included under Appendix A. Embedded large woody material is defined as large woody material that is buried by sediments that were deposited prior to the most recent high water event.

4. Debris removal projects that remove substantial quantities of large wood from the stream channel and do not reposition the material back into the stream channel below the structure are not included under Appendix A.

5. Large accumulations of debris shall be removed gradually to prevent a sudden release of impounded water, bedload, logs, or other material that may result in downstream bed and bank degradation, sedimentation or flooding.

6. Up to 50 cubic yards of deposited bedload material (boulders, round river rock, and gravel) above a structure may be removed from the stream channel, if necessary to maintain proper functioning of a culvert or bridge. Bedload material may only be removed within a maximum of 25 feet upstream of a culvert inlet, bridge pier, wingwall or abutment.

7. The use of explosives to remove culvert or bridge debris is not included under Appendix A.

8. Accumulations of wood associated with beaver activity that are impinging on or restricting the capacity of a culvert or bridge may be removed under this project type.

New beaver dams (less than 1 year old) that are within 25 feet of a water crossing structure and which pose potential risk to the stability or function of the structure may also be removed under this project type.

9. Removal of established beaver dams (more than 1 year old) is not included under Appendix A.

Instream Habitat Improvement

NOTE: Instream habitat improvement projects include, but are not limited to the placement of large wood complexes, log weirs, rock and log spurs, boulders, and vortex rock weirs.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting instream restoration/enhancement projects.

1. A Forest Service staff with expertise in stream processes and fish habitat shall be involved in planning and design and shall be on-site during construction or placement of instream habitat improvement structures.

2. Work operations shall be conducted to minimize the generation or redistribution of sediment within stream channels. If high flow conditions are encountered during project construction, work shall stop until the flow subsides.

3. Instream excavation shall be limited to the minimum amount necessary to construct the project.

4. If the project includes excavation of the streambed or banks, those work areas shall be isolated from flowing waters to prevent movement of sediment and minimize turbidity.

5. Existing boulders or large woody material embedded in the streambank or streambed shall be left undisturbed.

6. Instream habitat improvement projects shall be designed, installed and maintained to avoid negative channel effects such as excessive erosion of the streambed or banks. Project designs shall consider downstream and off-site impacts in addition to site-specific changes.

7. Projects that are intended to create permanent changes in channel location (such as reopening side channels or rerouting existing stream channels) are not included under Appendix A.

Streambank Restoration

NOTE: Streambank restoration projects include shaping channel banks and utilizing bio-engineering techniques to increase stability and restore natural function and native vegetation on disturbed sites. This project type includes restoration of off-road vehicle (ORV) roads/trails in riparian areas.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting streambank restoration projects.

1. Bank restoration activities shall be designed and installed to maintain or improve the natural aquatic habitat, riparian condition, stream channel morphology, and hydraulics of the stream. Site investigations and selection of appropriate bank stabilization techniques should be guided by the Washington State Integrated Streambank Protection Guidelines (ISPG) or similar process.

2. Placement of riprap for bank protection is not included under Appendix A for this project type.

3. A Forest Service staff with expertise in stream processes and fish habitat shall be involved in the planning, design, and implementation of any bank restoration project within the bankfull channel of streams or the ordinary high waterline in lakes.

4. Specific project provisions for removal of ORV stream crossings and fords are addressed under “Permanent Culvert, Bridge, and Ford Removal”.

Non-Emergency Water Withdrawal

NOTE: Water withdrawal projects include removal of water from streams, lakes or ponds for non-emergency uses such as road dust abatement. Water is generally removed by pumping at established “pump chances” or “pumper shows” although it may also be withdrawn by other means.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting water diversion projects.

1. Only non-emergency fire response and non-emergency pumping of water and construction of associated small sandbag or gravel berm dams with hand tools are included under Appendix A.

2. The location, pumping rate, and duration of water withdrawals shall be designed to minimize aquatic impacts. Pumping shall not reduce streamflows to the detriment to fish life.

3. Any intake on a pump used for withdrawing water from fish-bearing waterbodies shall 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. Screen maintenance shall be adequate to prevent injury or entrapment to juvenile fish and shall remain in place whenever water is withdrawn from waterbodies through the pump intake.

4. Temporary gravel berm dams shall be constructed of gravels available on-site within the bankfull channel, or of clean, round gravel transported to the site.

5. No dirt from outside the bankfull channel shall be used to seal the dam and no logs or woody material within the bankfull channel shall be utilized for construction of the temporary dam.

6. Temporary sandbag or gravel berm dams shall be completely dismantled and the streambed restored to its original condition following completion of withdrawal.

Fish Traps

NOTE: Fish traps include all types of passive or active mechanisms for the collection of juvenile fish or smolts with the exception of portable electrofishing equipment.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting fish trap projects.

1. Fish traps shall be installed using hand tools only.

2. Fish traps shall be checked and fish removed from them at least daily.

3. Smolt and juvenile fish traps shall not hinder adult fish passage.

4. The trap shall be completely removed following completion of trapping.

5. Adult fish trap projects are not included under Appendix A.

Piers, Docks, and Floats

NOTE: The following provisions apply to installation and maintenance of piers, docks and floats in freshwaters.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting pier, dock and float projects.

1. Piers, docks, and floats shall be designed, installed and maintained and constructed to minimize negative impacts to the streambed, lakebed, aquatic vegetation, and fish.

2. Piers, docks, and floats shall be designed and constructed to allow maximum natural light penetration so that the light areas are evenly distributed under the surface of the structure in order to avoid the creation of large dark areas. This may be accomplished by such methods as structure orientation, placement in deep water, or installing open grating.

3. Footings and foundations shall not be placed within the bankfull channel in streams or the ordinary high water line in lakes. Piles may be installed by methods other than pile driving as necessary within these areas to support the structure. Installation or placement of new piles within the bankfull channel in streams or the ordinary high water line in lakes shall be minimized. Pile driving is not covered in Appendix A.

4. The structure shall be designed, installed and maintained to prevent the breakup or loss of the floatation material into the water.

5. New docks and floats shall be designed, installed and maintained so that no portion of the structure grounds out on the streambed or lakebed.

Timber Felling and Yarding

NOTE: Felling and yarding activities include: felling of timber, hanging and moving cable, and yarding timber.

In addition to the General Provisions Applicable to All Projects, the following project-specific provisions apply when conducting felling and yarding projects.

1. With the exception of trees felled for instream habitat improvements, trees shall not be felled into or across a waterbody with identifiable bed or banks.

2. Any trees inadvertently felled into a fish-bearing stream shall remain undisturbed to serve as fish habitat unless a Forest Service staff with expertise in stream processes and fish habitat approves their removal.

3. Timber felling and yarding activities shall be designed and conducted to prevent or minimize damage to beds, banks, and riparian vegetation.

4. If limbs or other small debris enter a perennial stream channel as a result of timber felling or yarding in quantities that may be detrimental to fish or fish habitat, they shall be removed within 72 hours and placed outside the bankfull width. Limbs or other small debris in quantities that may be detrimental to fish or fish habitat shall be removed from intermittent streams prior to the normal onset of high flows. Large woody material that was in place prior to felling and yarding of timber shall not be disturbed.

APPENDIX B. HYDRAULIC PROJECTS NOT COVERED BY APPENDIX A

Project designs, implementation procedures, and mitigation needs, if any, for hydraulic project types which are not included in Appendix A or for projects that do not meet all of the general and project-specific provisions in Appendix A shall be developed collaboratively with WDFW on a site-specific basis. (Note – Agreed-upon adjustments to work periods will be considered "minor modifications" to project provisions and will not exclude the project from being implemented under Appendix A).

WDFW shall complete the coordination and transmit written documentation of the agreement on design and implementation standards for these projects to the Forest Service within 45 days of a request for collaboration.

This Appendix also includes projects conducted in response to imminent threat (those threatened by weather, water flow, or other natural conditions that are likely to occur within sixty days - typically considered to be expedited projects by WDFW staff), but not immediate danger or emergency situations. WDFW shall complete the coordination and transmit written documentation of the agreement on design and implementation standards for imminent threat projects to the Forest Service within 15 days of a request for collaboration.

The Forest Service shall immediately notify the appropriate WDFW Regional Habitat Program Manager if it becomes aware that project activities occur that do not adhere to Appendix B provisions. Additionally, the Forest Service shall immediately notify the appropriate WDFW Regional Habitat Program Manager of project activities that do adhere to these provisions but that may result in unanticipated fish or fish habitat damage.

Hydraulic projects conducted in saltwater are not included under Appendix A. Project designs, implementation procedures, work periods, and mitigation needs, if any, for hydraulic projects in saltwater shall be developed collaboratively with WDFW on a site-specific basis.

See Appendix C for hydraulic projects conducted in response to immediate danger or emergency situations.

APPENDIX C. EMERGENCY ACTIONS

For the purposes of this MOU, emergencies are defined as an immediate threat to life or property or an immediate threat of serious environmental degradation arising from weather, high stream flows, fire, or other natural conditions. General activities that are often undertaken in response to an emergency include, but are not limited to, repairing existing structures, protecting property that is in immediate danger, moving obstructions, stabilizing streambanks, and driving across streams.

For those hydraulic projects that are conducted in response to emergency situations, the Forest Service shall attempt to contact WDFW to collaborate prior to initiating the activity. During normal business hours the local WDFW Area Habitat Biologist shall be contacted directly. If the appropriate Area Habitat Area Biologist is not known or is not able to be contacted, the WDFW Regional Habitat Program Manager shall be contacted. The after-hours telephone number (360) 902-2537, shall be used outside of normal business hours. Projects may proceed immediately based on verbal agreement between the Forest Service and WDFW on project design and implementation standards. WDFW shall document the verbal agreement in writing within 30 days.

For emergency situations in which prior collaboration is not possible, the Forest Service shall conduct hydraulic projects in an environmentally sensitive manner and contact WDFW at the first opportunity regarding the emergency project. Emergency projects shall be limited to short-term fixes necessary to maintain public safety and to protect property and facilities from immediate damage. The Forest Service shall contact the appropriate Area Habitat Biologist within 30 days of emergency project completion to collaborate on long-term fixes and mitigation measures necessary to alleviate impacts of the emergency project, if any.

The Forest Service shall immediately notify the appropriate WDFW Regional Habitat Program Manager if it becomes aware that project activities have occurred under this Appendix but they do not meet the definition of “emergency” as described above. Additionally, the Forest Service shall immediately notify the appropriate WDFW Regional Habitat Program Manager of project activities that do adhere to these provisions but that may result in unanticipated fish or fish habitat damage.

APPENDIX D. WORK PERIODS FOR HYDRAULIC PROJECTS

Freshwater hydraulic projects conducted under Appendix A in fish-bearing streams or in tributary streams within ¼ mile of fish-bearing streams will be implemented only during the work periods outlined in Appendix D unless the Forest Service fisheries biologist and the WDFW Area Habitat Biologist agree that implementing the activity outside of the normal work period would be unlikely to cause negative impacts to fish and fish habitat. The location of the project within a watershed, site-specific conditions, circumstances, nature of the proposed work, and fish species and life stages actually present at the project site may make alternative instream work periods acceptable for many projects.

Any agreements to modify the work periods in Table 1 for specific projects or specific sites shall be documented by WDFW. Agreed-upon adjustments to work periods will be considered a "minor modification" to project provisions and will not exclude the project from being implemented under Appendix A.

Table 1 is subject to change by WDFW as warranted by new biological information. Revised versions of Table 1 shall be forwarded to the Forest Service by WDFW and shall be immediately incorporated into this MOU.

Those portions of hydraulic project work that occur outside or above the bankfull channel and have little or no potential to negatively affect fish or fish habitat are not subject to the work periods specified in Table 1. Examples of such work include replacing bridge decking, constructing a bridge superstructure after footings are in place, and building up the fill over a culvert that is in place. These projects are still bound by the other provisions within this MOU.

Hydraulic projects conducted in intermittent streams that are dry and are anticipated to remain dry during project activities are not subject to the work periods specified in Appendix D unless USFS fish biologists determine the activities are likely to negatively affect fish life. In that case the work periods specified in Appendix D apply.

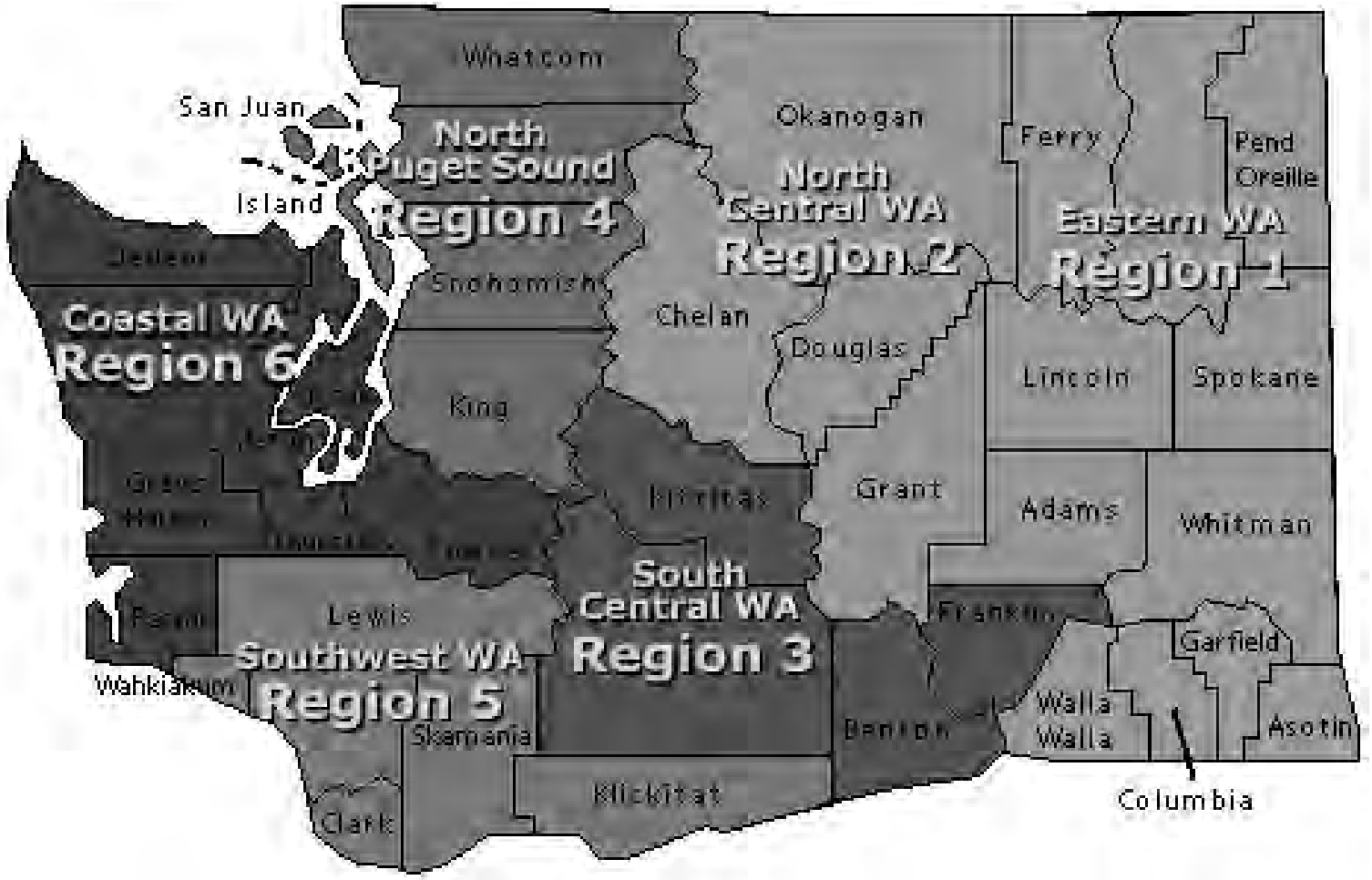
Hydraulic projects conducted in wetted non-fish-bearing streams that are greater than ¼ mile from fish-bearing waters are not subject to the work periods specified in Appendix D unless USFS fish biologists determine the activities are likely to negatively affect fish life. In that case the work periods specified in Appendix D apply.

Work periods for hydraulic projects conducted in saltwater shall be established collaboratively with WDFW on a site-by-site basis.

APPENDIX E. CONTACT INFORMATION FOR WDFW REGIONAL HABITAT PROGRAM MANAGERS

WDFW REGIONAL HABITAT PROGRAM MANAGERS			
WDFW Region	**Headquarters Location**	**Regional Habitat Program Manager and E-Mail Address**	**Address/Phone Number**
Region 1 Asotin, Columbia, Ferry, Garfield, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	Spokane	Mark Wachtel mark.wachtel@dfw.wa.gov	WDFW, Region 1 2315 North Discovery Place Spokane Valley, WA 99216-1566 (509) 892-1001
Region 2 Adams, Douglas, Franklin, Grant, Okanogan	Ephrata	Peter Birch (acting) peter.birch@dfw.wa.gov	WDFW, Region 2 1550 Alder ST NW Ephrata, WA 98823-9699 (509) 754-4624
Region 3 Benton, Chelan, Kittitas, Yakima	Yakima	Perry Harvester perry.harvester@dfw.wa.gov	WDFW, Region 3 1701 S 24th Avenue Yakima, WA 98902-5720 (509) 575-2740
Region 4 Island, King, San Juan, Skagit, Snohomish, Whatcom	Mill Creek	David Brock david.brock@dfw.wa.gov	WDFW, Region 4 16018 Mill Creek Blvd. Mill Creek, WA 98012-1541 (425) 775-1311
Region 5 Clark, Cowlitz, Klickitat, Lewis, Skamania, Wahkiakum	Vancouver	Dave Howe david.howe@dfw.wa.gov	WDFW, Region 5 2108 Grand Blvd. Vancouver, WA 98661 (360) 696-6211
Region 6 Clallam, Grays Harbor, Jefferson, Kitsap, Mason, Pacific, Pierce, Thurston	Montesano	Steve Kalinowski stephan.kalinowski@dfw.wa.gov	WDFW, Region 6 48 Devonshire RD Montesano, WA 98563 (360) 249-4628

Washington Department of Fish and Wildlife Regions



APPENDIX F. CONTACT INFORMATION FOR U.S. FOREST SERVICE STAFF

FOREST SERVICE FOREST-LEVEL MOU CONTACTS		
National Forest	**Contact Person and E-Mail Address**	**Address/Phone Number**
Columbia Gorge National Scenic Area	Brett Carre Fish and Wildlife Biologist email: bcarre@fs.fed.us	Columbia River Gorge National Scenic Area 902 Wasco Avenue, Suite 200 Hood River, OR 97031 541-308-1718
Colville National Forest	Brian Peck Fisheries Program Manager bjpeck@fs.fed.us	Colville National Forest 765 South Main Colville, WA 99114 509-447-7373
Gifford Pinchot National Forest	Ruth Tracy Soil & Water Program Manager rtracy@fs.fed.us	Gifford Pinchot National Forest 10600 NE 51st Circle Vancouver, WA 98682 360-891-5112
Mt Baker-Snoqualmie National Forest	Amy Lieb Soil &Water Program Manager alieb@fs.fed.us	Mt. Baker-Snoqualmie National Forest 2930 Wetmore Ave., Suite 3A Everett, WA 98201 425-783-6032
Olympic National Forest	Bob Metzger Aquatic Program Manager rpmetzger@fs.fed.us	Olympic National Forest 1835 Black Lake Blvd. SW, Suite A Olympia, WA 98512-5623 360-956-2293
Umatilla National Forest	Caty Clifton Forest Hydrologist cclifton@fs.fed.us	Umatilla National Forest 2517 SW Hailey Ave Pendleton, OR 97801 541-278-3822
Okanogan-Wenatchee National Forests	Richard Vacirca Fisheries Program Manager rvacirca@fs.fed.us	Okanogan-Wenatchee National Forests 215 Melody Lane Wenatchee, WA 98801-5933 509-664-9361

Table 1. ALLOWABLE FRESHWATER WORK TIMES FOR RIVERS AND STREAMS

Check the listing for the county in which you propose to work to determine the work time for that stream.

Washington Counties and State Waters including tributaries unless otherwise indicated[1] **Water Resource Inventory Area (WRIA) is given in parentheses**	**Work Is Allowed Only Between These Dates** **"Site Specific Timing Required" means: consultation with WDFW required to determine timing**
Adams County	July 1 - October 31
Crab Creek (41.0002)	July 16 - February 28
Esquatzel Creek (36.MISC)	June 1 - February 28
Palouse River (34.0003)	July 16 - February 28
Asotin County	July 16 - September 15
Snake River (35.0002)	See below
Alpowa Creek (35.1440)	July 16 - December 15
Asotin Creek (35.1716)	July 16 - August 15
Couse Creek (35.2147)	July 16 - December 15
Grande Ronde River (35.2192)	July 16 - September 15
Tenmile Creek (35.2100)	July 16 - December 15
Benton County	June 1 - September 30
Columbia River	See below
Glade Creek (31.0851)	August 1 - September 30
Yakima River (37.0002)	June 1 - September 15
Amon Creek (37.0009)	June 1 - September 30
Corral Creek (37.0002)	June 1 - September 30
Spring Creek (37.0205)	June 1 - September 30
Chelan County	July 16 - August 15
Columbia River	See below
Antoine Creek (49.0294) - Mouth to falls at river mile 1.0	July 1 - February 28

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Washington Counties and State Waters including tributaries unless otherwise indicated[1] **Water Resource Inventory Area (WRIA) is given in parentheses**	**Work Is Allowed Only Between These Dates** **"Site Specific Timing Required" means: consultation with WDFW required to determine timing**
Antoine Creek (49.0294) - Upstream of falls at river mile 1.0	July 1 - March 31
Chelan River (47.0052) - Mouth to Chelan Dam	July 16 - September 30
Colockum Creek (40.0760)	July 1 - October 31
Entiat River (46.0042) - Mouth to Entiat Falls	July 16 - July 31
Entiat River (46.0042) - Upstream of Entiat Falls	July 16 - March 31
Crum Canyon (46.0107)	July 16 - March 31
Mad River (46.0125)	July 16 - July 31
Indian Creek (46.0128)	July 16 - February 28
Lake Chelan (47.0052)	Site Specific Timing Required
Railroad Creek (47.0410)	July 16 - September 30
Stehekin River (47.0508)	Site Specific Timing Required
Twenty-five Mile Creek (47.0195)	July 16 - September 30
Other Lake Chelan tributaries outside North Cascades National Park	July 1 - August 15
Other Lake Chelan tributaries within North Cascades National Park	Site Specific Timing Required
Number 1 Canyon (45.0011)	July 1 - February 28
Number 2 Canyon (45.0012)	July 1 - February 28
Squilchuck Creek (40.0836) - Mouth to South Wenatchee Avenue	July 1 - September 30
Squilchuck Creek (40.0836) - Upstream of South Wenatchee Avenue	July 1 - February 28
Stemilt Creek (40.0808) - Mouth to falls	July 1 - September 30
Stemilt Creek (40.0808) - Upstream of falls	July 1 - February 28

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Wenatchee River (45.0030) - Mouth to Lake Wenatchee	July 1 - July 31
Beaver Creek (45.0751)	July 1 - September 30
Chiwaukum Creek (45.0700)	July 1 - July 31
Chiwawa River (45.0759) - Mouth to Phelps Creek	July 1 - July 31
Chiwawa River (45.0759) - Upstream of Phelps Creek	July 1 - July 31
Deep Creek (45.0764)	July 1 - February 28
Phelps Creek (45.0875)	July 16 - August 15
Icicle Creek (45.0474) - Mouth to Johnny Creek	July 1 - July 31
Icicle Creek (45.0474) - Upstream of Johnny Creek	July 1 - July 31
Fourth of July Creek (45.0525)	July 1 - February 28
Lake Wenatchee (45.0030)	Site Specific Timing Required
Little Wenatchee (45.0985) - Mouth to Wilderness Boundary	July 1 - July 31
Little Wenatchee (45.0985) - Upstream of Wilderness Boundary	Site Specific Timing Required
White River (45.1116) - Mouth to White River Falls	July 1 - July 31
White River (45.1116) - Upstream of White River Falls	July 1 - February 28
Nason Creek (45.0888)	July 1 - July 31
Peshastin Creek (45.0232) - Mouth to Negro Creek	July 16 - August 15
Peshastin Creek (45.0232) - Upstream of Negro Creek	August 1 - February 28
Ingalls Creek (45.0273) - Mouth to Cascade Creek	Site Specific Timing Required
Ingalls Creek (45.0273) - Upstream of Cascade Creek	July 16 - February 28
Negro Creek (45.0323) - Mouth to falls at stream mile 2.9	Site Specific Timing Required

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Washington Counties and State Waters including tributaries unless otherwise indicated[1] **Water Resource Inventory Area (WRIA) is given in parentheses**	**Work Is Allowed Only Between These Dates** **"Site Specific Timing Required" means: consultation with WDFW required to determine timing**
Negro Creek (45.0323) - Upstream of falls at stream mile 2.9	July 16 - February 28
Ruby Creek (45.0318)	July 16 - February 28
Tronson Creek (45.0346)	August 1 - February 28
Scotty Creek (45.0376)	August 1 - February 28
Shaser Creek (45.0365)	August 1 - February 28
Clallam County	July 16 - September 15
Clallam River (19.0129)	August 1 - August 15
Dungeness River (18.0018)	Site Specific Timing Required
Independent Creek (18.MISC)	August 1 - August 31
Elwha River (18.0272)	August 1 - August 15
Hoko River (19.0148)	August 1 - September 15
Jimmycomelately Creek (17.0285)	August 1 - August 31
Lake Ozette (20.0046)	Site Specific Timing Required
Little Quilcene River (17.0076)	July 16 - August 31
Lake Ozette tributaries	July 16 - September 15
Lyre River (19.0031)	August 1 - September 15
McDonald Creek (18.0160)	August 1 - September 15
Morse Creek (18.0185)	August 1 - August 15
Ozette River (20.0046)	July 16 - September 15
Pysht River (19.0113)	August 1 - September 15
Quillayute River (20.0096, 20.0162, 20.0175)	August 1 - August 15

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Bogachiel River (20.0162)	Site Specific Timing Required
Calawah River (20.0175)	August 1 - August 15
Salmon Creek (17.0245)	July 16 - August 31
Sekiu River (19.0203)	August 1 - September 15
Snow Creek (17.0219)	July 16 - August 31
Sol Duc River (20.0096)	Site Specific Timing Required
Lake Pleasant (20.0313)	Site Specific Timing Required
Lake Pleasant tributaries	July 16 - September 15
Sooes River (20.0015)	July 16 - September 15
Clark County	July 16 - September 30
Columbia River	See below
Lacamas Creek (28.0160) - Mouth to dam	August 1 - August 31
Lacamas Creek (28.0160) - Upstream of dam	August 1 - September 30
Lewis River (27.0168)	August 1 - August 15
East Fork Lewis River (27.0173) - Mouth to Lucia Falls	August 1 - August 15
East Fork Lewis River (27.0173) - Lucia Falls to Sunset Falls	August 1 - February 28
East Fork Lewis River (27.0173) - Upstream of Sunset Falls	August 1 - February 28
Lake River (28.0020)	January 1 - December 31
Burnt Bridge Creek (28.0143)	August 1 - August 31
Salmon Creek (28.0059)	August 1 - August 31
Whipple Creek (28.0038)	August 1 - September 30

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North Fork Lewis River (27.0334) - Confluence of East Fork to Merwin Dam	August 1 - August 15
Cedar Creek (27.0339)	August 1 - September 15
North Fork Lewis River (27.0334) - Merwin Dam to Lower Falls	July 16 - August 15
Canyon Creek (27.0442)	July 16 - February 28
North Fork Lewis River (27.0168) - Upstream of Lower Falls	July 16 - August 15
Washougal River (28.0159) - Mouth to headwaters	August 1 - August 31
Columbia County	July 16 - September 30
Touchet River (32.0097)	August 1 - August 15
Grande Ronde River tributaries (35.2192)	July 16 - August 15
North Fork Touchet/Wolf Fork (32.0761)	Site Specific Timing Required
South Fork Touchet (32.0708)	Site Specific Timing Required
Tucannon River (35.0009)	July 16 - August 15
Walla Walla River (32.0008) - Mouth to Oregon State line	July 16 - September 15
Mill Creek (32.1436) - Mouth to Oregon State line	August 1 - August 15
Cowlitz County	July 16 - September 30
Chehalis River (22.0190/23.0190) - South Fork Chehalis River - Mouth to Fisk Falls	August 1 - August 31
Chehalis River (22.0190/23.0190) - South Fork Chehalis River - Upstream of Fisk Falls	August 1 - August 31
Columbia River	See below
Abernathy Creek (25.0297)	July 16 - September 15
Burke Creek (27.0148)	August 1 - August 31

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Burris Creek (27.0151)	August 1 - August 31
Bybee Creek (27.0142)	August 1 - August 31
Canyon Creek (27.0147)	August 1 - August 31
Coal Creek (25.0340)	July 16 - September 15
Clark Creek (25.0371)	August 1 - August 31
Cowlitz River (26.0002) - Mouth to barrier dam at river mile 49.5	July 16 - August 15
Coweeman River (26.0003) - Mouth to Baird Creek	August 1 - August 31
Coweeman River (26.0003) - Upstream of Baird Creek	August 1 - August 31
Cowlitz River (26.0002) - Tributaries below barrier dam to mouth	July 16 - September 30
Owl Creek (26.1441)	July 16 - September 15
Toutle River (26.0227)	July 16 - August 15
North Fork Toutle River (26.0314) - Mouth to Debris Dam	July 16 - August 15
North Fork Toutle River (26.0314) - Upstream of Debris Dam	July 16 - August 15
Green River (26.0323) - Mouth to Shultz Creek	July 16 - September 30
Green River (26.0323) - Upstream of Shultz Creek	July 16 - September 30
South Fork Toutle (26.0248) - Mouth to Bear Creek	July 16 - September 15
South Fork Toutle (26.0248) - Upstream of Bear Creek	July 16 - September 15
Tributaries to Silver Lake	July 16 - September 30
Germany Creek (25.0313)	July 16 - September 15
Kalama River (27.0002) - Mouth to Kalama Falls	August 1 - August 15
Kalama River (27.0002) - Upstream of Kalama Falls	August 1 - August 15

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Lewis River (27.0168) - Mouth to East Fork Lewis River	August 1 - August 15
North Fork Lewis River (27.0334) - Confluence of East Fork to Merwin Dam	August 1 - August 15
North Fork Lewis River (27.0334) - Merwin Dam to Lower Falls	July 16 - August 15
Mill Creek (25.0284)	July 16 - September 15
Schoolhouse Creek (27.0139)	August 1 - August 31
Douglas County	July 1 - September 30
Columbia River	See below
Douglas Creek Canyon (44.0146)	May 16 - January 31
Foster Creek (50.0065)	August 1 - April 15
McCarteney Creek (44.0002)	July 1 - February 28
Pine/Corbaley Canyon Creek (44.0779)	September 16 - April 15
Rock Island Creek (44.0630)	July 1 - September 30
Ferry County	July 1 - August 31
Columbia River	See below
Kettle River (60.0002)	June 16 - August 31
Boulder Creek (60.0130) - Mouth to Hodgson Road Bridge	Site Specific Timing Required
Boulder Creek (60.0130) - Upstream of Hodgson Road Bridge	June 16 - February 28
Deadman Creek (60.0008) - Mouth to SR395 Crossing	Site Specific Timing Required
Deadman Creek (60.0008) - Upstream of SR395	June 16 - February 28
Goosmus Creek (60.0254)	June 16 - February 28

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Toroda Creek (60.0410)	July 1 - September 30
SanPoil River (52.0004)	June 16 - September 30
Granite Creek (52.0099) - Mouth to Powerhouse Dam	June 16 - September 30
Granite Creek (52.0099) - Upstream of Powerhouse Dam	June 16 - February 28
West Fork River SanPoil (52.0192) - Mouth to Deep Creek	June 16 - September 30
West Fork San Poil River (52.0192) - Upstream of Deep Creek	June 16 - September 30
Gold Creek (52.0197)	June 16 - February 28
Franklin County	June 1 - September 30
Columbia River	See below
Snake River	See below
Palouse River (34.0003)	July 16 - February 28
North bank tributaries of the lower Snake River between Palouse River and the mouth of the Snake River	June 16 - October 31
Garfield County	July 16 - September 30
Snake River (35.0003)	See below
Alpowa Creek (35.1440)	July 16 - December 15
Asotin Creek (35.1716)	July 16 - August 15
Deadman Creek (35.0688)	July 16 - December 15
Grande Ronde River tributaries (35.2192)	July 16 - August 15
Meadow Creek (35.0689)	July 16 - December 15
Tucannon River (35.0009) - Mouth to Panjab Creek	July 16 - August 15
Tucannon River (35.0009) - Upstream of Panjab Creek	July 16 - August 15

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Pataha Creek (35.0123) - Mouth to Pataha Creek	January 1 - December 31
Pataha Creek (35.0123) - Upstream of Pataha Creek	July 16 - December 31
Grant County	July 1 - October 31
Columbia River	See below
Crab Creek (41.0002)	July 16 - September 15
Grays Harbor County	July 16 - October 15
Chehalis River (22.0190/23.0190) - Mouth to Porter Creek	August 1 - August 31
Chehalis River (22.0190/23.0190) - Porter Creek to Fisk Falls	August 1 - August 15
Chehalis River (22.0190/23.0190) - Upstream of Fisk Falls	August 1 - August 15
Cedar Creek (23.0570)	August 1 - September 30
Cloquallum Creek (22.0501)	August 1 - September 30
Porter Creek (23.0543)	August 1 - September 30
Satsop River (22.0360)	August 1 - August 31
Wishkah River (22.0191)	August 1 - October 15
Wynoochee River (22.0260)	August 1 - September 30
Copalis River (21.0767)	August 1 - October 15
Elk River (22.1333)	July 1 - October 31
Hoquiam River (22.0137)	August 1 - October 15
Humptulips River (22.0004) - Mouth to Forks	August 1 - September 30
Humptulips River (22.0004) - Upstream of Forks	August 1 - September 30
Johns River (22.1270)	August 1 - September 30

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Moclips River (21.0731)	August 1 - October 15
North River (24.0034)	August 1 - September 30
Queets River (21.0001)	August 1 - August 15
Quinault River (21.0398)	August 1 - August 15
Raft River (21.0337)	August 1 - October 15
Island County	June 16 - October 15
Cavalero Creek (06.0065)	June 16 - December 15
Chapman Creek (06.0070)	June 16 - December 15
Crescent Creek (06.0002)	June 16 - December 15
Cultus Creek (06.0026)	June 16 - March 15
Deer Creek (06.0024)	June 16 - March 15
Dugualla Creek (06.0001)	June 16 - March 15
Glendale Creek (06.0025)	June 16 - December 15
Kristoferson Creek (06.0062-06.0063)	May 1 - December 15
Maxwelton Creek (06.0029)	June 16 - December 15
North Bluff Creek (06.0006)	June 16 - March 15
Old Clinton Creek (06.0023)	June 16 - March 15
Jefferson County	July 16 - October 31
Big Quilcene River (17.0012) - Mouth to Falls	July 16 - August 31
Big Quilcene River (17.0012) - Falls to Forks	August 1 - February 28
Big Quilcene River (17.0012) - Upstream of Forks	August 1 - February 28

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Bogachiel River (20.0162)	Site Specific Timing Required
Chimacum Creek (17.0203)	July 16 - September 15
Donovan Creek (17.0115)	July 1 - October 15
Dosewallips River (16.0442)	July 16 - August 15
Duckabush River (16.0351)	July 16 - August 15
Dungeness River (18.0018)	August 1 - August 15
Elwha River (18.0272)	August 1 - August 15
Goodman Creek (20.0406)	August 1 - September 15
Hoh River (20.0422)	August 1 - August 15
Little Quilcene River (17.0076)	July 16 - August 31
Queets River (21.0001)	August 1 - August 15
Matheny Creek (21.0165)	August 1 - August 15
Sams River (21.0205)	August 1 - August 15
Quinault River (21.0398)	August 1 - August 15
Salmon Creek (17.0245)	July 16 - August 31
Skokomish River (16.0001)	August 1 - August 31
Snow Creek (17.0219)	July 16 - August 31
Tarboo Creek (17.0129)	August 1 - September 30
Thorndyke Creek (17.0170)	August 1 - October 15
King County	July 16 - September 30
Cedar River (08.0299) - Mouth to Forks	August 1 - August 31

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Cedar River (08.0299) - Upstream of Forks	August 1 - August 31
Issaquah Creek (08.0178)	August 1 - August 31
Sammamish River (08.0057)	August 1 - August 31
Steele Creek (08.0379)	July 16 - February 28
Green River (Duwamish River) (09.0001) - Mouth to Sawmill Creek	August 1 - August 31
Green River (Duwamish River) (09.0001) - Upstream of Sawmill Creek	August 1 - August 31
Lake Washington tributaries (08.LKWA)	August 1 - August 31
Snoqualmie River (07.0219) - Mouth to Snoqualmie Falls	August 1 - August 15
Snoqualmie River (07.0219) - Snoqualmie Falls to mouth of South Fork	July 16 - February 28
Patterson Creek (07.0376)	July 16 - September 30
Middle Fork Snoqualmie River (07.0219) - Mouth to Taylor Creek	July 16 - February 28
Middle Fork Snoqualmie River (07.0219) - Upstream of Taylor Creek	July 16 - February 28
Goat Creek (07.0754)	July 16 - February 28
North Fork Snoqualmie River (07.0527) - Mouth to Lennox Creek	July 16 - February 28
North Fork Snoqualmie River (07.0527) - Upstream of Lennox Creek	July 16 - February 28
Deep Creek (07.0562)	July 16 - February 28
Illinois Creek (07.0624)	July 16 - February 28
Lennox Creek (07.0596)	July 16 - February 28
Bear Creek (07.0606)	July 16 - February 28

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Raging River (07.0384)	August 1 - September 15
South Fork Skykomish River (07.0012) - Mouth to Sunset Falls	August 1 - August 15
South Fork Skykomish River (07.0012) - Upstream of Sunset Falls	August 1 - August 15
Beckler River (07.1413) - Mouth to Boulder Creek	August 1 - August 15
Beckler River (07.1413) - Upstream of Boulder Creek	July 16 - February 28
Rapid River (07.1461) - Mouth to Meadow Creek	August 1 - August 31
Rapid River (07.1461) - Upstream of Meadow Creek	August 1 - February 28
Index Creek (07.1264) - Mouth to Mud Lake Creek	August 1 - August 31
Index Creek (07.1264) - Upstream of Mud Lake Creek including Salmon Creek	July 16 - February 28
Miller River (07.1329) - Mouth to Forks	August 1 - August 15
Miller River (07.1329) - Upstream of Forks	August 1 - August 15
Coney Creek (07.1347)	July 16 - February 28
East Fork Miller River (07.1329) - Mouth to Great Falls Creek	July 16 - August 15
East Fork Miller River (07.1329) - Upstream of Great Falls Creek	July 16 - February 28
Foss River (07.1562) - Mouth to Forks	July 16 - August 31
East Fork Foss River (07.1562) - Mouth to Burn Creek	July 16 - August 15
East Fork Foss River (07.1562) - Upstream of Burn Creek	July 16 - February 28
West Fork Foss River (07.1573) - Mouth to falls at River Mile 2.0	July 16 - August 31
West Fork Foss River (07.1573) - Upstream of falls at River Mile 2.0	July 16 - February 28

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West Fork Miller River (07.1335)	July 16 - February 28
Money Creek (07.1300) - Mouth to 0.5 mile upstream of Kimball Creek	August 1 - August 31
Money Creek (07.1300) - Upstream of 0.5 mile upstream of Kimball Creek	August 1 - February 28
Kimball Creek (07.1301)	August 1 - August 31
Tye River (07.0012) - Mouth to Alpine Falls	August 1 - August 31
Tye River (07.0012) - Upstream of Alpine Falls	July 16 - February 28
South Fork Snoqualmie River (07.0467)	July 16 - February 28
Denny Creek (07.0517)	July 16 - February 28
Tolt River (07.0291) - Mouth to forks	August 1 - August 31
North Fork Tolt River (07.0291) - Mouth to Yellow Creek	July 16 - September 15
North Fork Tolt River (07.0291) - Upstream of Yellow Creek	July 16 - February 28
South Fork Tolt River (07.0302) - Mouth to dam	July 16 - September 15
South Fork Tolt River (07.0302) - Upstream of Tolt Reservoir	July 16 - February 28
Yellow Creek (07.0337)	July 16 - February 28
White River (10.0031)	July 16 - August 15
Greenwater River (10.0122)	July 16 - August 15
Kittitas County	July 1 - September 30
Brushy Creek (40.0612)	July 1 - February 28
Colockum Creek (40.0760)	July 1 - October 31
Quilomene Creek (40.0613)	July 1 - October 31

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Stemilt Creek (40.0808) - Upstream of falls	July 1 - February 28
Tarpiscan Creek (40.0723)	July 1 - February 28
Tekiason Creek (40.0686)	July 1 - February 28
Whisky Dick Creek (40.0591)	July 1 - February 28
Yakima River (39.0002) - Roza Dam to Teanaway River	August 1 - August 31
Naches River (38.0003) - Tieton River to Bumping River	July 1 - August 15
Little Naches River (38.0852) - Mouth to Matthew Creek	July 16 - August 15
Little Naches River (38.0852) - Upstream of Matthew Creek	July 16 - August 15
Pileup Creek (38.0932)	July 16 - August 31
Gold Creek (38.MISC)	July 16 - February 28
Swauk Creek (39.1157)	July 16 - September 30
Baker Creek (39.1157)	July 16 - September 30
First Creek (39.1157)	July 16 - September 30
Iron Creek (39.1157)	July 16 - September 30
Williams Creek (39.1157)	July 16 - September 30
Boulder Creek (39.1157)	July 16 - February 28
Cougar Gulch (39.1157)	July 16 - February 28
Lion Gulch (39.1157)	July 16 - February 28
Yakima River (39.0002) - Teanaway River to Easton Dam	August 1 - August 31
Yakima River (39.0002) - Upstream of Easton Dam	August 1 - August 31
Cle Elum River (39.1434) - Mouth to Dam	July 16 - August 31

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Cle Elum River (39.1434) - Upstream of Cle Elum Dam	Site Specific Timing Required
Big Boulder Creek (39.1434MISC)	August 1 - February 28
Camp Creek (39.1434MISC)	August 1 - February 28
Fortune Creek (39.1434MISC)	August 1 - August 15
South Fork Fortune Creek (39.1434MISC)	August 1 - February 28
Howson Creek (39.1434)	July 16 - February 28
Little Salmon Le Sac Creek (39.1482)	August 1 - August 15
Paris Creek (39.1434MISC)	August 1 - February 28
Salmon Le Sac Creek (39.1520)	August 1 - February 28
Kachess River (39.1739) - Upstream of Lake Kachess	Site Specific Timing Required
Kachess River (39.1739) - Below Dam	July 16 - August 15
Box Canyon Creek (39.1765)	Site Specific Timing Required
Mineral Creek (39.1792)	August 1 - August 15
Lake Keechelus (39.1842) tributaries	July 16 - August 15
Gold Creek (Lake Keechelus) (39.1842)	Site Specific Timing Required
Manastash Creek (39.0988)	July 16 - September 30
Naneum Creek (39.0821)	July 16 - September 30
Taneum Creek (39.1081) - Mouth to I-90	July 16 - August 31
Taneum Creek (39.1157) - Upstream of I-90	July 16 - September 30
Teanaway River (39.1236)	July 16 - August 31
NF Teanaway River (39.1260)	Site Specific Timing Required

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Umtanum Creek (39.0553)	July 16 - September 30
Wenas Creek, Below Dam (39.0032)	July 16 - October15
Wenas Creek, Upstream of Wenas Lake (39.0032)	July 16 - February 28
Other Yakima River tributaries not listed	July 16 - August 31
Kitsap County	July 16 - October 15
Anderson Creek (15.0211)	August 1 - November 15
Barker Creek (15.0255)	August 1 - September 30
Big Beef Creek (15.0389)	August 1 - August 15
Big Scandia Creek (15.0280)	August 1 - September 30
Blackjack Creek (15.0203)	August 1 - September 30
Burley Creek (15.0056)	August 1 - September 30
Chico Creek (15.0229)	August 1 - October 15
Clear Creek (15.0249)	August 1 - September 30
Curley Creek (15.0185)	August 1 - September 30
Dewatto River (15.0420)	August 1 - August 15
Dogfish Creek (15.0285)	August 1 - September 30
Gorst Creek (15.0216)	August 1 - August 31
Grovers Creek (15.0299)	August 1 - September 30
Johnson Creek (15.0387)	August 1 - October 31
Ollala Creek (15.0107)	August 1 - September 30
Ross Creek (15.0209)	August 1 - November 15

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Salmonberry Creek (15.0188)	August 1 - November 30
Seabeck Creek (15.0400)	August 1 - August 15
Steele Creek (15.0273)	August 1 - September 30
Tahuya River (15.0446)	August 1 - August 31
Union River (15.0503)	August 1 - August 31
Klickitat County	July 15 - September 30
Alder Creek (31.0459)	August 1 - September 30
Chapman Creek (31.0192)	August 1 - September 30
Glade Creek (31.0851)	August 1 - September 30
Juniper Canyon Creek (31.0378)	August 1 - September 30
Klickitat River (30.0002) - Mouth to Klickitat hatchery	Site Specific Timing Required
Klickitat River (30.0002) - Upstream of Klickitat hatchery	Site Specific Timing Required
Little White Salmon River (29.0131) - Mouth to Cabbage Creek	July 16 - January 31
Little White Salmon River (29.0131) - Upstream of Cabbage Creek	July 16 - January 31
Pine Creek (31.0354)	August 1 - September 30
Rock Creek (31.0014)	August 1 - September 30
Six Prong Creek (31.0465)	August 1 - September 30
White Salmon River (29.0160) - Mouth to Cascade Creek	July 16 - August 15
White Salmon River (29.0160) - Upstream of Cascade Creek	July 16 - August 15
Wood Gulch Creek (31.0263)	August 1 - September 30
Lewis County	August 1 - September 30

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Chehalis River (22.0190/23.0190) - Mouth to South Fork Chehalis River	August 1 - August 15
Chehalis River (22.0190/23.0190) - Upstream of South Fork Chehalis River	August 1 - August 31
Newaukum River (23.0882) - Mouth to South Fork	August 1 - August 31
Newaukum River (23.0882) - Upstream of South Fork	August 1 - August 31
Skookumchuck River (23.0761)	August 1 - August 31
Cowlitz River (26.0002)	August 1 - August 15
Cispus River (26.0668) - Mouth to Squaw Creek (26.1010)	August 1 - August 15
Cispus River (26.0668) - Squaw Creek to Chambers Creek	July 16 - February 28
Cispus River (26.0668) - Upstream of Chambers Creek	July 16 - February 28
Yellowjacket Creek (26.0757)	August 1 - August 15
McCoy Creek (26.0766) - Mouth to lower falls	August 1 - August 15
McCoy Creek (26.0766) - Upstream of lower falls	July 16 - February 28
Walupt Creek (26.1010)	Site Specific Timing Required
Packwood Lake Tributaries	August 16 - September 15
Tilton River (26.0560) - Mouth to North Fork	August 1 - September 30
Tilton River (26.0560) - Upstream of North Fork	August 1 - September 30
Toutle River (26.0227)	August 1 - August 31
North Fork Toutle River (26.0314)	July 16 - August 15
Green River (26.0323)	July 16 - September 30
Deschutes River (13.0028)	July 16 - August 31

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Little Deschutes River (13.0110)	July 16 - February 28
Nisqually River (11.0008) - Upstream of Alder Lake	July 16 - September 30
Lincoln County	June 16 - February 28
Columbia River	See below
Hawk Creek (53.0101) - Mouth to falls	June 16 - August 31
Hawk Creek (53.0101) - Upstream of falls	June 16 - February 28
Upper Crab Creek (42.0001)	June 16 - February 28
Wilson Creek (43.0020)	June 16 - February 28
Mason County	August 1 - October 15
Cloquallum Creek (22.0501)	August 1 - September 30
Coulter Creek (15.0002)	August 1 - August 31
Dewatto River (15.0420)	August 1 - August 31
Goldsborough Creek (14.0035)	August 1 - October 15
John Creek (16.0253)	August 1 - August 31
Hamma Hamma River (16.0251) - Mouth to falls	August 1 - August 31
Johns Creek (14.0049)	August 1 - August 15
Lilliwaup River (16.0230) - Mouth to falls	August 1 - August 31
Lilliwaup River (16.0230) - Upstream of falls	August 1 - February 28
Mill Creek (14.0029)	August 1 - August 15
Satsop River (22.0360)	August 1 - August 31
Schaerer Creek (16.0326)	August 1 - August 31

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Sherwood Creek (14.0094)	August 1 - August 15
Skokomish River (16.0001) - Mouth to Forks	August 1 - August 31
Skokomish River (16.0001) - Upstream of Forks	August 1 - August 31
Tahuya River (15.0446)	August 1 - August 31
Twanoh Creek (14.0134)	August 1 - October 31
Union River (15.0503)	August 1 - August 31
Okanogan County	July 1 - August 15
Aneas Creek (49.0243) - Mouth to falls	July 16 - August 31
Aneas Creek (49.0243) - Upstream of falls	July 1 - March 31
Chewiliken Creek (49.0232) - Mouth to falls	July 16 - August 31
Chewiliken Creek (49.0232) - Upstream of falls	July 1 - March 31
Chiliwist Creek (49.0034) - Mouth to falls	July 16 - August 31
Chiliwist Creek (49.0034) - Upstream of falls	July 1 - March 31
Foster Creek (50.0065)	July 1 - February 28
Methow River (48.0007) - Columbia confluence to Twisp River	July 1 - July 31
Methow River tributaries between Black Canyon Creek and Gold Creek	July 1 - February 28
Black Canyon Creek (48.0015) - Mouth to Left Fork	Site Specific Timing Required
Black Canyon Creek (48.0015) - Upstream of Left Fork	July 1 - February 28
Gold Creek (48.0104) - Mouth to Foggy Dew Creek	Site Specific Timing Required
Foggy Dew Creek (48.0153) - Mouth to Foggy Dew Falls	Site Specific Timing Required
Foggy Dew Creek (48.0153) - Upstream of Foggy Dew Falls	July 1 - February 28

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Middle Fork Gold Creek (48.0139)	July 1 - February 28
North Fork Gold Creek (48.0104)	Site Specific Timing Required
Crater Creek (48.0177) - Mouth to Martin Creek	Site Specific Timing Required
Crater Creek (48.0177) - Upstream of Martin Creek	July 1 - February 28
Martin Creek (48.0177)	July 1 - February 28
South Fork Gold Creek (48.0105) - Mouth to Rainy Creek	Site Specific Timing Required
South Fork Gold Creek (48.0105) - Upstream of Rainy Creek	July 1 - February 28
Rainy Creek (48.0105)	July 1 - February 28
McFarland Creek (48.0090) - Mouth to Vinegar Gulch	Site Specific Timing Required
McFarland Creek (48.0090) - Upstream of Vinegar Gulch	July 1 - February 28
Methow River tributaries between Libby Creek and Beaver Creek	July 1 - February 28
Beaver Creek (48.0307)	Site Specific Timing Required
Frazer Creek (48.0309)	July 1 - February 28
Lightning Creek (48.0361)	July 1 - February 28
Middle Fork Beaver Creek (48.0307)	July 1 - February 28
South Fork Beaver Creek (48.0342)	July 1 - February 28
Libby Creek (48.0203) - Mouth to Hornet Draw Creek	Site Specific Timing Required
Libby Creek (48.0203) - Upstream of Hornet Draw	July 1 - February 28
Methow River (48.0007) - Twisp River to Goat Creek	July 1 - July 31
Methow River (48.0007) - Upstream of Goat Creek	July 1 - July 31
Chewuch River (48.0728) - Mouth to Meadow Creek	July 1 - July 31

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Chewuch River (48.0728) - Upstream of Meadow Creek	July 1 - February 28
Early Winters Creek (48.1408) - Mouth to Silver Star Creek	Site Specific Timing Required
Early Winters Creek (48.1408) - Upstream of Silver Star Creek	July 1 - February 28
Goat Creek (48.1364) - Mouth to 500' upstream of Montana Creek	Site Specific Timing Required
Goat Creek (48.1364) - 500' Upstream of Montana Creek to Roundup Creek	July 1 - February 28
Goat Creek (48.1364) - Upstream of Roundup Creek	Site Specific Timing Required
Lost River (48.0592)	July 16 - August 15
Twisp River (48.0374)	July 1 - July 31
Buttermilk Creek (48.0466)	Site Specific Timing Required
North Creek (48.0674)	Site Specific Timing Required
North Fork Twisp River (48.0691)	July 1 - February 28
South Creek (48.0641) - Upstream of Louis Creek	July 1 - February 28
South Creek (48.0641) - Mouth to Louis Creek	Site Specific Timing Required
South Fork Twisp River (48.0698)	July 1 - February 28
Wolf Creek (48.1300)	Site Specific Timing Required
Myers Creek (60.0517)	July 1 - February 28
Bolster Creek (60.0517)	July 1 - February 28
Ethel Creek (60.0517)	July 1 - February 28
Gold Creek (60.0517)	July 1 - February 28
Mary Ann Creek (60.0517)	July 1 - February 28
North Fork Mary Ann Creek (60.0517)	July 1 - February 28

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Okanogan River (49.0019) - Mouth to Zosel Dam	July 1 - August 31
Antoine Creek (49.0294) - Mouth to velocity gradient at river mile 1.0	July 1 - February 28
Antoine Creek (49.0294) - Upstream of falls	July 1 - March 31
Bonaparte Creek (49.0246) - Upstream of falls	July 1 - March 31
Bonaparte Creek (49.0246) - Mouth to Bonaparte Falls at river mile 1.0	July 1 - February 28
Loup Loup Creek (49.0048) - Mouth to Loup Loup Falls at river mile 2.4	July 1 - February 28
Loup Loup Creek (49.0048) - Upstream of Loup Loup Falls at river mile 2.4	July 1 - March 31
Mosquito Creek (49.0321) - Mouth to falls	July 1 - August 31
Mosquito Creek (49.0321) - Upstream of falls	July 1 - March 31
Nine Mile Creek (49.0516)	July 1 - February 28
Omak Creek (49.0138) - Mouth to Mission Falls at river mile 5.4	July 1 - February 28
Omak Creek (49.0138) - Upstream of falls	July 1 - March 31
Salmon Creek (49.0079) - Mouth to diversion	July 1 - August 31
Salmon Creek (49.0079) - Upstream of diversion	July 1 - February 28
Similkameen River (49.0325) - Mouth to Enloe Dam	July 1 - August 31
Similkameen River (49.0325) - Upstream of Enloe Dam	July 1 - October 31
Sinlahekin Creek (49.0349) - Mouth to barrier dam at Connors Lake	July 1 - August 31
Cecile Creek (49.0447)	July 1 - February 28
Chopaka Creek (49.0357)	July 1 - February 28

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Toats Coulee Creek (49.0368)	July 1 - February 28
Cougar Creek (49.0368)	July 1 - February 28
Siwash Creek (49.0284) - Falls to headwaters	July 1 - March 31
Siwash Creek (49.0284) - Mouth to falls at river mile 1.4	July 1 - February 28
Tonasket Creek (49.0501) - Mouth to Tonasket Falls at river mile 1.8	July 1 - February 28
Tonasket Creek (49.0501) - Upstream of Tonasket Falls at river mile 1.8	July 1 - March 31
Tunk Creek (49.0211) - Mouth to falls	July 1 - February 28
Tunk Creek (49.0211) - Upstream of falls	July 1 - March 31
San Poil River (52.0004)	June 16 - September 30
West Fork SanPoil (52.0192)	June 16 - September 30
Gold Creek (52.0197)	June 16 - February 28
Toroda Creek (60.0410)	July 1 - September 30
Pacific County	August 1 - September 30
Bear River (24.0689)	August 1 - September 30
Bone River (24.0405)	August 1 - September 30
Chehalis River (22.0190/23.0190)	August 1 - August 15
Columbia River	See below
Chinook River (24.MISC)	August 1 - September 30
Grays River (25.0093)	July 16 - September 15
Naselle River (24.0543)	August 1 - September 15
Nemah River (24.0460)	August 1 - September 30

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Niawiakum River (24.0417)	August 1 - September 30
North River (24.0034)	August 1 - September 30
Palix River (24.0426)	August 1 - September 30
Willapa River (24.0251)	August 1 - September 30
Pend Oreille County	July 1 - August 31
Little Spokane River (55.0003)	August 1 - March 15
West Branch Little Spokane River (55.0439)	August 1 - March 15
Harvey Creek (62.0310) - Mouth to Rocky Fork of Harvey Creek	August 1 - August 31
Harvey Creek (62.0310) - Upstream of Rocky Fork of Harvey Creek	July 16 - February 28
Pend Oreille River (62.0002)	Site Specific Timing Required
Big Muddy Creek (62.0279)	August 1 - March 15
Bracket Creek (62.0815)	August 1 - March 15
Calispel Creek (62.0628)	August 1 - August 31
Exposure Creek (62.0261)	August 1 - August 31
Kent Creek (62.0819)	August 1 - March 15
Le Clerc Creek (62.0415)	August 1 - August 31
Lime Creek (62.0014)	August 1 - March 15
Lodge Creek (62.0859)	August 1 - August 31
Lost Creek (62.0322)	August 1 - March 15
Marshall Creek (62.0842)	August 1 - March 15
Pee Wee Creek (62.0007) - Mouth to falls	August 1 - August 31

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Table 1. ALLOWABLE FRESHWATER WORK TIMES FOR RIVERS AND STREAMS

Check the listing for the county in which you propose to work to determine the work time for that stream.

Washington Counties and State Waters including tributaries unless otherwise indicated[1] **Water Resource Inventory Area (WRIA) is given in parentheses**	**Work Is Allowed Only Between These Dates** **"Site Specific Timing Required" means: consultation with WDFW required to determine timing**
Pee Wee Creek (62.0007) - Upstream of falls	August 1 - March 15
Renshaw Creek (62.0310)	August 1 - March 15
Sullivan (O'Sullivan) Creek (62.0074)	August 1 - August 31
North Fork Sullivan Creek (62.0075)	August 1 - August 31
Tributaries of Deep Creek in Pend Oreille County (61.0195)	July 16 - August 15
Currant Creek (61.0249)	July 16 - August 15
Meadow Creek (61.0351)	July 16 - August 15
Rocky Creek (61.0364)	July 16 - August 15
Silver Creek (61.0195)	July 16 - August 15
Smackout Creek (61.0226)	July 16 - August 15
Pierce County	July 16 - August 31
Chambers/Clover Creek Watershed (12.MISC)	July 16 - September 30
Flett Creek (12.0009)	July 16 - October 31
Leach Creek (12.0008)	July 16 - September 30
Nisqually River (11.0008) - Mouth to Alder Lake	July 16 - August 31
Nisqually River (11.0008) - Upstream of Alder Lake	July 16 - September 30
Mashel River (11.0101) - Mouth to Busy Wild Creek	July 16 - September 30
Mashel River (11.0101) - Upstream of Busy Wild Creek	July 16 - September 30
Puyallup River (10.0021) - Mouth to PSE Electron Powerhouse Outfall	July 16 - August 31
Puyallup River (10.0021) - Upstream of PSE Electron Powerhouse Outfall	July 16 - August 15

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Carbon River (10.0413)	July 16 - August 15
Cayada Creek (10.0525) - Mouth to falls about 800 feet upstream	July 16 - August 31
Cayada Creek (10.0525) - Upstream of the falls	January 1 - December 31
South Prairie Creek (10.0429)	July 16 - August 15
Voight Creek (10.0414) - Mouth to falls at River Mile 4.0	July 16 - August 31
Voight Creek (10.0414) - Upstream of falls River Mile 4.0	July 16 - February 28
White River (10.0031)	July 16 - August 15
Clearwater River (10.0080)	July 16 - August 15
Greenwater River (10.0122)	July 16 - August 15
Huckleberry Creek (10.0253)	July 16 - August 15
West Fork White River (10.0186)	July 16 - August 15
Sequalitchew Creek (12.0019)	July 16 - September 30
San Juan County	July 1 - August 31
Cascade Creek (02.0057) Orcas Island - Upstream of lower falls	July 1 - February 28
Cascade Creek (02.0057) Orcas Island - Buck Bay to falls located approximately 300 feet above mouth	July 1 - October 31
Doe Creek (02.MISC) San Juan Island - Westcott Bay to falls (approximately 250 feet from mouth)	June 16 - October 15
False Bay Creek (02.MISC) San Juan Island - Mouth to lake	July 1 - October 31
Glenwood Springs Orcas Island - direct tributary to Eastsound Bay	July 1 - October 15
Moran Creek (02.MISC) Orcas Island - from Cascade Lake delta upstream 1/4 mile	July 1 - October 15

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Unnamed Creek (02.0041) San Juan Island - Mouth to lake	July 1 - October 15
Skagit County	August 1 - September 15
Granite Creek (04.2313) - Upstream of East Creek	July 16 - February 28
North Fork Stillaguamish River (05.0135) - Mouth to Squire Creek	August 1 - August 15
North Fork Stillaguamish River (05.0135) - Squire Creek to Cascade Creek	August 1 - August 15
North Fork Stillaguamish River (05.0135) - Upstream of Cascade Creek	July 16 - February 28
Samish River (03.0005)	August 1 - September 15
Skagit River (03.0176/04.0176)	Site Specific Timing Required
Baker River (04.0435) - Mouth to Baker Dam	Site Specific Timing Required
Cascade River (04.1411)	Site Specific Timing Required
Day Creek (03.1435)	July 16 - February 28
Lookout Creek (04.1447)	July 16 - February 28
Sibley Creek (04.1481)	July 16 - February 28
Day Creek (03.0299) - Mouth to Rocky Creek	Site Specific Timing Required
Day Creek (03.0299) - Upstream of Rocky Creek	August 1 - February 28
Finney Creek (04.0392) - Mouth to Big Fir Creek	Site Specific Timing Required
Finney Creek (04.0392) - Upstream of Big Fir Creek	July 16 - February 28
Illabot Creek (04.1346)	Site Specific Timing Required
Sauk River (04.0673) - Mouth to Forks	Site Specific Timing Required
Sauk River (04.0673) - Upstream of Forks	August 1 - August 15

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Suiattle River (04.0710)	August 1 - August 15
Wiseman Creek (03.0280) - Mouth to SR20	Site Specific Timing Required
Wiseman Creek (03.0280) - Upstream of SR20	July 16 - February 28
South Fork Nooksack River (01.0246) - Mouth to falls at River Mile 30	August 1 - August 15
South Fork Nooksack River (01.0246) - Falls at River Mile 30 to Wanlick Creek	July 16 - August 15
South Fork Nooksack River (01.0246) - Upstream of Wanlick Creek	July 16 - August 15
Skamania County	July 15 - September 15
Columbia River	See below
Cispus River (26.0668)	August 1 - August 15
Cispus River (26.0668) tributaries located in Skamania County	August 1 - October 31
East Fork Lewis River (27.0173) - Lucia Falls to Sunset Falls	August 1 - February 28
East Fork Lewis River (27.0173) - Upstream of Sunset Falls	August 1 - February 28
Green River (26.0323) (Tributary of North Fork Toutle River)	July 16 - September 30
Hamilton Creek (28.0303)	August 1 - August 31
Hardy Creek (28.0303)	August 1 - August 31
Little White Salmon River (29.0131) - Mouth to Hatchery	July 16 - August 15
Little White Salmon River (29.0131) - Hatchery to Cabbage Creek	July 16 - January 31
Little White Salmon River (29.0131) - Upstream of Cabbage Creek	July 16 - January 31
North Fork Lewis River (27.0168) - Merwin Dam to Lower Falls	July 16 - August 15
Canyon Creek (27.0442)	July 16 - February 28

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North Fork Lewis River (27.0168) - Upstream of Lower Falls	July 16 - February 28
Washougal River (28.0159) - Mouth to Stebbins Creek	August 1 - August 31
Washougal River (28.0159) - Upstream of Stebbins Creek	August 1 - August 31
White Salmon River (29.0160) - Mouth to Cascade Creek	July 16 - August 15
White Salmon River (29.0160) - Upstream of Cascade Creek	July 16 - August 15
Wind River (29.0023)	August 1 - August 15
Woodward Creek (28.0298)	August 1 - August 31
Snohomish County	July 16 - September 15
Lake Washington tributaries	August 1 - August 15
Sauk River (04.0673) - Mouth to Forks	August 1 - August 15
Sauk River (04.0673) - Upstream of Forks	August 1 - August 15
Suiattle River (04.0710)	August 1 - August 15
Snohomish River (07.0012) - Mouth to Highway 9	August 1 - October 31
Snohomish River (07.0012) - Upstream of Highway 9	August 1 - August 15
Pilchuck River (07.0125) - Mouth to City of Snohomish diversion dam	August 1 - August 31
Pilchuck River (07.0125) - City of Snohomish diversion dam to Boulder Creek	August 1 - September 15
Pilchuck River (07.0125) - Upstream of Boulder Creek	August 1 - September 15
Skykomish River (07.0012) - Mouth to forks	August 1 - August 15
Deer Creek (05.0173) - Mouth to stream mile 0.5	August 1 - August 31
Deer Creek (05.0173) - Upstream of stream mile 0.5	August 1 - February 28

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North Fork Skykomish River (07.0982) - Mouth to Bear Creek Falls	August 1 - August 31
North Fork Skykomish River (07.0982) - Bear Creek Falls to Deer Falls	August 1 - August 31
North Fork Skykomish River (07.0982) - Deer Falls to West Cady Creek	August 1 - February 28
North Fork Skykomish River (07.0982) - Upstream of West Cady Creek	August 1 - February 28
Howard Creek (07.1042)	July 16 - February 28
Silver Creek (07.1053) - Mouth to Lake Gulch	August 1 - August 31
Silver Creek (07.1053) - Upstream of Lake Gulch	August 1 - February 28
Troublesome Creek (07.1085)	August 1 - February 28
West Fork Troublesome Creek (07.1092)	August 1 - August 31
South Fork Skykomish River (07.0012) - Mouth to Sunset Falls	August 1 - August 15
Beckler River (07.1413) - Mouth to Boulder Creek	August 1 - August 15
Beckler River (07.1413) - Upstream of Boulder Creek	July 16 - February 28
Rapid River (07.1461) - Mouth to Meadow Creek	August 1 - August 31
Rapid River (07.1461) - Upstream of Meadow Creek	August 1 - February 28
Sultan River (07.0881) - Mouth to Diversion Dam at river mile 9.4	August 1 - August 15
Sultan River (07.0881) - Diversion Dam to Elk Creek	July 16 - February 28
Sultan River (07.0881) - Upstream of Elk Creek	July 16 - February 28
Wallace River (07.0940) - Mouth to Wallace Falls	August 1 - August 31
Wallace River (07.0940) - Upstream of Wallace Falls	August 1 - February 28

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Olney Creek (07.0946) - Mouth to Olney Falls	August 1 - August 31
Olney Creek (07.0946) - Upstream of Olney Falls	August 1 - February 28
Snoqualmie River Mouth to Falls (07.0219)	August 1 - August 15
All other Snohomish River tributaries	August 1 - August 31
Stillaguamish River (05.0001) - Mouth to forks	August 1 - August 31
North Fork Stillaguamish River (05.0135) - Mouth to Squire Creek	August 1 - August 15
North Fork Stillaguamish River (05.0135) - Squire Creek to Cascade Creek	August 1 - August 15
North Fork Stillaguamish River (05.0135) - Upstream of Cascade Creek	July 16 - February 28
South Fork Stillaguamish River (05.0001) - Mouth to Deer Creek	August 1 - August 15
South Fork Stillaguamish River (05.0001) - Upstream of Deer Creek	August 1 - August 15
Spokane County	June 16 - August 31
Latah Creek (56.0003)	June 16 - August 31
Little Spokane River (55.0600) - Mouth to Deer Creek	June 16 - August 31
Little Spokane River (55.0600) - Upstream of Deer Creek	June 16 - August 31
Spokane River (57.0001)	June 16 - August 31
Stevens County	July 16 - August 31
Columbia River	See below
Big Sheep Creek (61.0150)	July 16 - August 15
Colville River (59.0002) - Mouth to the Falls	July 16 - September 30

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Colville River (59.0002) - Upstream of the Falls	July 16 - September 30
Deep Creek (61.0195)	July 16 - August 15
Onion Creek (61.0098)	July 16 - August 15
Sheep Creek (59.0861)	July 16 - September 30
Lake Roosevelt tributaries from the mouth of the Spokane River to mouth of the Colville River	July 16 - February 28
Lake Roosevelt tributaries from the mouth of the Colville River north to the B.C. Border	July 16 - February 28
Tributaries of Little Spokane River (55.0600)	June 16 - August 31
Calispel Creek (62.0628)	August 1 - August 31
Other tributaries to the Pend Oreille River in Stevens County	July 1 - August 31
Thurston County	July 16 - September 15
Cedar Creek (23.0570)	August 1 - September 30
Chehalis River (22.0190/23.0190) - Upstream of Porter Creek	August 1 - August 15
Skookumchuck River (23.0761) - Mouth to Skookumchuck Reservoir	August 1 - August 31
Skookumchuck River (23.0761) - Upstream of Skookumchuck Reservoir	August 1 - August 31
Deschutes River (13.0028) - Mouth to Deschutes Falls	July 16 - August 31
Deschutes River (13.0028) - Upstream of Deschutes Falls	July 16 - August 31
Ellis Creek (13.0022)	May 16 - September 30
Little Deschutes River (13.0110)	July 16 - February 28
McLane Creek (13.0138)	August 1 - October 31

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Percival Creek (13.0029)	July 16 - August 31
Nisqually River (11.0008)	July 16 - August 31
Tributaries of Nisqually River (11.0008)	July 16 - August 31
Porter Creek (23.0543)	August 1 - September 30
Schneider Creek (14.0009)	August 1 - October 31
Waddell Creek (23.0677)	August 1 - September 30
Woodard Creek (13.0012)	July 16 - August 31
Woodland Creek (13.0006)	July 16 - September 30
Wahkiakum County	July 16 - September 15
Columbia River	See below
Abernathy Creek (25.0297)	July 16 - September 15
Deep River (25.0011)	July 16 - September 15
Elochoman River (25.0236)	July 16 - September 15
Grays River (25.0093)	July 16 - September 15
Mill Creek (25.0284)	July 16 - September 15
Naselle River (24.0543)	July 16 - September 15
Skamokowa Creek (25.0194)	July 16 - September 15
Walla Walla County	July 16 - September 30
Walla Walla River (32.0008) - Mouth to Oregon state line	July 16 - September 15
Mill Creek (32.1436) - Mouth to Oregon state line	August 1 - August 15
Touchet River (32.0097) - Mouth to Forks	August 1 - August 15

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North Fork Touchet/Wolf Fork (32.0761)	Site Specific Timing Required
South Fork Touchet (32.0708)	Site Specific Timing Required
Whatcom County	July 16 - August 15
Damfino Creek (00.0032)	July 16 - August 31
Nooksack River (01.0120)	July 16 - August 15
Cascade Creek (02.0057) - Mouth to FR 37	Site Specific Timing Required
Cascade Creek (02.0057) - Upstream of FR 37	July 16 - February 28
Middle Fork Nooksack River (01.0339) - Mouth to City of Bellingham Diversion Dam	July 16 - August 15
Middle Fork Nooksack River (01.0339) - Upstream of City of Bellingham Diversion Dam	Site Specific Timing Required
North Fork Nooksack River (01.0120) - Mouth to Nooksack Falls	July 16 - August 15
North Fork Nooksack River (01.0120) - Upstream of Nooksack Falls	Site Specific Timing Required
Barometer Creek (01.0513)	July 16 - February 28
Ruth Creek (01.0531)	July 16 - February 28
Swamp Creek (01.0518)	July 16 - February 28
Wells Creek (02.0057)	Site Specific Timing Required
Bar Creek (01.0500)	July 16 - February 28
South Fork Nooksack (01.0246) - Mouth to Wanlick Creek	August 1 - August 15
South Fork Nooksack (01.0246) - Upstream of Wanlick Creek	August 1 - August 15
Samish River (03.0005)	July 16 - August 15
Skagit River (03.0176/04.0176)	Site Specific Timing Required

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Baker River (04.0435) - Mouth to Baker Lake Dam (04.0435)	Site Specific Timing Required
Baker River (04.0435) - Baker Lake to national park boundary	Site Specific Timing Required
Boulder Creek (04.0499)	July 16 - February 28
Park Creek (04.0506) - Mouth to fish passage barrier at river mile 1.6	Site Specific Timing Required
Park Creek (04.0506) - Upstream of river mile 1.6	July 16 - February 28
Swift Creek (04.0509) - Mouth to Rainbow Creek	Site Specific Timing Required
Swift Creek (04.0509) - Upstream of Rainbow Creek	July 16 - February 28
Ross Lake (03.0176/04.0176) tributaries	Site Specific Timing Required
Ruby Creek (04.2199)	Site Specific Timing Required
Canyon Creek (04.2458) - Mouth to Barron Creek	Site Specific Timing Required
Canyon Creek (04.2458) - Upstream of Barron Creek and tributaries	October 1 - February 28
Barron Creek (04.2591)	October 1 - February 28
Boulder Creek (04.2478) - Mouth to 300 feet upstream	Site Specific Timing Required
Boulder Creek (04.2478) - 300 feet upstream of mouth to headwaters	October 1 - February 28
Friday Creek (04.2549) - Mouth to 300 feet upstream	Site Specific Timing Required
Friday Creek (04.2549) - 300 feet upstream of mouth to headwaters	October 1 - February 28
Holmes Creek (04.2473) - Mouth to 300 feet upstream	Site Specific Timing Required
Holmes Creek (04.2473) - 300 feet upstream of mouth to headwaters	October 1 - February 28
Mill Creek (04.2504) - Mouth to 300 feet upstream	Site Specific Timing Required

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Mill Creek (04.2504) - 300 feet upstream of mouth to headwaters	October 1 - February 28
Nickol Creek (04.2476) - Mouth to 300 feet upstream	Site Specific Timing Required
Nickol Creek (04.2476) - 300 feet upstream of mouth to headwaters	October 1 - February 28
North Fork Canyon Creek (04.2583) - Mouth to Elk Creek	Site Specific Timing Required
Cascade Creek (05.2584)	October 1 - February 28
North Fork Canyon Creek (04.2583) - Upstream of Elk Creek	October 1 - February 28
Slate Creek (04.2557) - Mouth to falls at River Mile 0.6	Site Specific Timing Required
Slate Creek (04.2557) - Upstream of falls at River Mile 0.6	October 1 - February 28
Granite Creek (04.2313) - Mouth to East Creek	Site Specific Timing Required
Granite Creek (04.2313) - Upstream of East Creek and tributaries	October 1 - February 28
Saar Creek (00.0003)	August 1 - September 30
Silesia Creek (00.0042) - Canadian Border to Middle Fork	July 16 - August 15
Silesia Creek (00.0042) - Middle Fork to national park boundary	July 16 - February 28
Rapid Creek (00.0048)	July 16 - February 28
West Fork Silesia Creek (00.0044)	July 16 - February 28
Winchester Creek (00.0045)	July 16 - February 28
Whitman County	July 16 - December 15
Snake River (35.0002)	See below
Alkali Flats Creek (35.0570)	July 16 - December 15
Almota Creek (35.1017)	July 16 - December 15

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Little Almota Creek (35.1018)	July 16 - December 15
Palouse River (34.0003) - Mouth to Palouse Falls	July 16 - September 30
Palouse River (34.0003) - Upstream of Palouse Falls	July 16 - February 28
Penewawa Creek (35.0916)	July 16 - December 15
Wawawi Canyon Creek (35.1165)	July 16 - December 15
Yakima County	June 1 - September 15
Glade Creek (31.0851)	August 1 - September 30
Klickitat River (30.0002)	Site Specific Timing Required
Yakima River (37.0002/38.0002/39.0002) - Mouth to Roza Dam	June 1 - September 15
Ahtanum Creek (37.1382)	June 16 - September 30
North Fork Ahtanum Creek (37.1382)	Site Specific Timing Required
South Fork Ahtanum Creek (37.1382)	Site Specific Timing Required
Naches River (38.0003) - Mouth to Tieton River	July 1 - October 15
Naches River (38.0003) - Upstream of mouth of Tieton River to Bumping River	July 1 - August 15
Bumping River (38.0998)	July 16 - August 15
American River (38.1000)	Site Specific Timing Required
Gold Creek (38.MISC)	July 16 - February 28
Kettle Creek (38.1033)	Site Specific Timing Required
Miner Creek (38.1027)	July 16 - February 28
Morse Creek (38.1072) - Mouth to SR410 Crossing	August 1 - August 15
Morse Creek (38.1072) - Upstream of SR410 Crossing	August 1 - February 28

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Table 1. ALLOWABLE FRESHWATER WORK TIMES FOR RIVERS AND STREAMS

Check the listing for the county in which you propose to work to determine the work time for that stream.

Washington Counties and State Waters including tributaries unless otherwise indicated[1] **Water Resource Inventory Area (WRIA) is given in parentheses**	**Work Is Allowed Only Between These Dates** **"Site Specific Timing Required" means: consultation with WDFW required to determine timing**
Rock Creek (38.MISC)	July 16 - February 28
Timber Creek (38.1062)	August 1 - August 15
Union Creek (38.1045) - Upstream of 500' above falls	August 1 - February 28
Union Creek (38.1045) - Mouth to 500' above falls	Site Specific Timing Required
Other American River tributaries not listed	August 1 - February 28
Deep Creek (38.MISC)	Site Specific Timing Required
Copper Creek (38.MISC)	August 1 - August 15
Cowiche Creek (38.0005) - Mouth to South Fork Cowiche Creek	July 1 - September 30
North Fork Cowiche Creek (38.0008)	July 1 - February 28
South Fork Cowiche Creek (38.0031) - Mouth to Reynolds Creek	July 1 - September 30
South Fork Cowiche Creek (38.0031) - Upstream of Reynolds Creek	July 16 - October 31
Granite Creek (38.MISC)	August 1 - August 15
Little Naches River (38.0852) - Mouth to Matthews Creek	July 16 - August 15
Little Naches River (38.0852) - Upstream of Matthews Creek	July 16 - August 15
Crow Creek (38.0858)	July 16 - August 15
Nile Creek (38.0692)	July 16 - October 15
Rattlesnake Creek (38.0518)	July 16 - August 15
Tieton River (38.0166) - Mouth to Rimrock Dam	July 1 - August 31
North Fork Tieton River (38.0291) - Below Clear Lake Dam	Site Specific Timing Required
North Fork Tieton River (38.0291) - Upstream of Clear Lake	July 1 - August 15

1. The general work time for a county applies to all streams within that county, unless a specific work time is given for a listed stream in that county. The work time for a listed stream applies to all its tributaries, unless a tributary of that stream is also listed. Please note that these work times do not apply to lakes or marine waters.

Table 1. ALLOWABLE FRESHWATER WORK TIMES FOR RIVERS AND STREAMS

Check the listing for the county in which you propose to work to determine the work time for that stream.

Washington Counties and State Waters including tributaries unless otherwise indicated[1] **Water Resource Inventory Area (WRIA) is given in parentheses**	**Work Is Allowed Only Between These Dates** **"Site Specific Timing Required" means: consultation with WDFW required to determine timing**
Clear Creek (38.0317)	July 16 - February 28
South Fork Tieton River (38.0374) - Below South Fork Falls	Site Specific Timing Required
South Fork Tieton River (38.0374) - Upstream of South Fork Falls	July 16 - February 28
Indian Creek (38.0302)	Site Specific Timing Required
Tributaries of Tieton River below Rimrock Dam	July 16 - February 28
Umtanum Creek (39.0553)	July 16 - September 30
Wenas Creek (39.0032)	July 16 - October 15
Other Yakima River tributaries	July 16 - August 31
Columbia River	–
Mouth to the I-205 Bridge	August 1 - March 31
I-205 Bridge to Bonneville Dam	July 16 - September 15
Bonneville Dam to Snake River	July 16 - February 28
Snake River to Priest Rapids Dam	July 16 - September 30
Priest Rapids Dam to Mouth of Crab Creek	July 16 - February 28
Mouth of Crab Creek to Wanapum Dam	July 16 - September 30
Wanapum Dam to the SR 285 bridge in South Wenatchee	July 16 - February 28
SR 285 bridge in South Wenatchee to the SR 2 bridge	July 16 - September 30
SR 2 bridge to one mile downstream of the Chelan River	July 16 - February 28
From one mile downstream of the Chelan River to the SR 97 bridge	July 16 - September 30
From SR 97 bridge to Chief Joseph Dam	July 16 - February 28
Chief Joseph Dam to Grand Coulee Dam	June 16 - March 31

1. The general work time for a county applies to all streams within that county, unless a specific work time is given for a listed stream in that county. The work time for a listed stream applies to all its tributaries, unless a tributary of that stream is also listed. Please note that these work times do not apply to lakes or marine waters.

Table 1. ALLOWABLE FRESHWATER WORK TIMES FOR RIVERS AND STREAMS

Check the listing for the county in which you propose to work to determine the work time for that stream.

Washington Counties and State Waters including tributaries unless otherwise indicated[1] **Water Resource Inventory Area (WRIA) is given in parentheses**	**Work Is Allowed Only Between These Dates** **"Site Specific Timing Required" means: consultation with WDFW required to determine timing**
Grand Coulee Dam to Canadian border	Site Specific Timing Required
All Columbia River tributaries	See county listings
Snake River	–
Mouth to Ice Harbor Dam	July 16 - September 30
Ice Harbor Dam to Mouth of Clearwater River	July 16 - March 31
Mouth of Clearwater River to State Line	August 1 - August 31
All Snake River tributaries	See county listings
Lakes: Columbia and Snake River reservoirs are not considered lakes. Lake is defined in WAC 220-110-020(47) as any natural or impounded body of standing freshwater, except impoundments of the Columbia and Snake Rivers.	Site Specific Timing Required
Salt water	Site Specific Timing Required

1. The general work time for a county applies to all streams within that county, unless a specific work time is given for a listed stream in that county. The work time for a listed stream applies to all its tributaries, unless a tributary of that stream is also listed. Please note that these work times do not apply to lakes or marine waters.

108 - Prosecution and Progress

108.00_nat_us_02_16_2005

108 Delete.

Delete Section 108 in its entirety.

109 - Measurement and Payment

109.00_nat_us_02_17_2005

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

109.02_nat_us_06_16_2006

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Add the following:

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

Change the following:

"(b) Cubic yard" to "(c) Cubic yard".

Add the following definition:

(p) Thousand Board Feet (Mbf). 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

152 - Construction Survey and Staking

152.00_nat_us_08_05_2005

Description

152.01(c) Material.

Add the following:

Use required stake dimensions and materials. Pre-paint the top 2 inches of all stakes and lath, or mark them with plastic flagging. Use designated colors for paint or flagging. Mark all stakes with a stake pencil that leaves a legible imprint, or with waterproof ink.

Do not use aerosol spray paints.

Use moisture-resistant paper for survey notes. Keep notes in books with covers that will protect the contents and retain the pages in numerical sequence.

Construction Requirements

152.02 General.

Delete the first two sentences.

Add the following:

When indicated on the plans, a preliminary survey line has been established on the ground. The project location line is established by offsets from this preliminary line.

Delete second sentence in second paragraph and replace with the following:

Reestablish missing reference, control lines, or stakes as necessary to control subsequent construction staking operations

152.03 Survey and Staking Requirements.

(b) Roadway cross-sections.

Replace the first two sentences with the following:

Take roadway cross-sections normal to centerline. When the centerline curve radius is less than or equal to 200 feet, take cross-sections at a maximum centerline spacing of 25 feet. When the centerline curve radius is greater that 200 feet take cross-sections at a maximum centerline spacing of 80 feet.

c) Slope Stakes & References:

Replace section with the following:

Slope stakes and references. When required, locate slope stakes on designated portions of the road. Locate the slope stake catch points and use them to establish clearing limits and slope stake references.

Mark slope stakes with the station, the amount of cut or fill, the horizontal distance to centerline, and the slope ratios.

Place slope reference stakes at least 10 feet outside the clearing limit and mark with the offset distance to the slope stake. Place sight stakes when required.

Prior to clearing and grubbing operations, move the slope stake outside the clearing limit to the slope reference stake. After clearing and grubbing and before excavation, reset the slope stakes in their original position.

Use the designated method to establish the slope stake catchpoint.

- **Method I**—Computed Method. Use the template information shown in the plans or other Government-provided data to calculate the actual location of the catchpoint. The slope stake "catchpoint distance" provided may be used as a trial location to initiate slope staking. Recatch slope stakes on any section that does not match the staking report within the tolerances established in Table 152-2.
- **Method II**—Catchpoint Measurement Method. Determine the location of slope stake catchpoints by measuring the catchpoint distances shown in the plans or other Government-provided data.

(d) Clearing and grubbing limits.

Add the following:

Establish clearing limits on each side of the location line by measuring the required horizontal or slope distances shown in the stake notes. Mark the clearing limits with flagging or tags on trees to be left standing, or on lath. Make markings intervisible, and no more than 90 feet apart.

After establishing clearing limits, move the location line stake outside the clearing limits for station identification purposes, and mark it with horizontal distance to location line

(e) Centerline reestablishment.

Replace with the following:

Reestablish centerline from instrument control points. The maximum spacing between centerline points is 25 feet when the centerline curve radius is less than or equal to 200 feet. When the centerline curve radius is greater than 200 feet, the maximum distance between centerline points is 80 feet.

(g) Culverts.

Replace subsection with the following:

Set culvert reference stakes at all culvert locations. Set a culvert reference stake on the centerline of the culvert 10 feet from each end or beyond the clearing limit, whichever is greater. Record the following on culvert reference stakes:

(1) Diameter, actual field measured length, and type of culvert.

(2) The vertical and horizontal distance from the reference stake to the invert at the ends of the culvert.

(3) Station of actual point where culvert intersects centerline.

When required, stake headwall for culverts by setting a hub with a guard stake on each side of the culvert on line with the face of the headwall. Perform this work after clearing is completed.

152.03 (l) Miscellaneous Survey and Staking.

Add the following:

(11) Cattleguards

(12) Drain Dips

(13) Erosion Control Measures

Replace Table 152-1 with the following two tables:

Table 152-1 Tolerances for reestablishing P-line, traverse, and elevations.

Precision Class	Minimum Position Closure	Angular Accuracy (±)	L-Line Tangent Control Points[a] (±)	Vertical Closure[b] (±)
A (Bridges)	1/10,000	2 sets, direct/reverse 10 second rejection limit	N/A	0.02 ft or 0.02ft/1000ft[c]
B	1/5,000	2 sets, direct/reverse 20 second rejection limit	0.1 ft	0.02 ft or 0.02ft/1000ft[c]
C	1/1,000	1 set, direct/reverse 1 minute rejection limit	0.2 ft	0.5ft/1000ft[c]
D	1/300	Foresight and backsight; 15 minute rejection limit[c]	0.4 ft	1.0ft/1000ft[c]
E	1/100	Foresight and backsight; 30 minute rejection limit[c]	0.8 ft	1.0ft/1000ft[c]

a. Accuracy of offset measurement.

b. Determine vertical closures at intervals not to exceed 2000 ft as measured along centerline.

c. Use greater value.

Table 152-2 Cross section and slope stake tolerances.

Item	Tolerances				
	A	B	C	D	E
Allowable deviation of cross-section line projection from a true perpendicular to tangents, a true bisector of angle points, or a true radius of curves	(±)2°	(±)3°	(±)3°	(±)5°	(±)5°
Take cross-sections topography measurements so that variations in ground from a straight line connecting the cross-section points will not exceed	0.5 ft	1.0 ft	2.0 ft	2.0 ft	3.0 ft
Horizontal and vertical accuracy for cross-sections, in feet or percentage of horizontal distance measured from traverse line, whichever is greater.	0.1 ft or 0.4%	0.15 ft or 0.6%	0.2 ft or 1.0%	0.2 ft or 1.0%	0.3 ft or 1.0%
Horizontal and vertical accuracy for slope stake, slope stake references, and clearing limits. In feet or percentage of horizontal distance measured from centerline or reference stake, whichever is greater.					
Slope reference stakes and slope stakes.	0.1 ft or 0.4%	0.15 ft or 0.6%	0.2 ft or 1.0%	0.2 ft or 1.0%	0.3 ft or 1.0%
Clearing limits	1.0 ft	1.0 ft	1.0 ft	1.5 ft	2.5 ft

155 - Schedules for Construction Contracts

155.00_nat_us_05_11_2004

155 Delete.

Delete Section 155 in its entirety.

204 - Excavation and Embankment

204.00_nat_us_03_26_2009

Replace Section 204 in its entirety with the following:

Description

204.01 This work consists of excavating material and constructing embankments. This 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. All material excavated from within the right-of-way or easement areas, except subexcavation covered in (2) below 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 groundline in embankment sections. Subexcavation does not include the work required by Subsections 204.05, 204.06(b), and 204.06(c).

(3) Borrow excavation. Material used for embankment construction that is obtained from outside the roadway prism. Borrow excavation includes unclassified borrow, select borrow, and select 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:

Backfill material	704.03
Select borrow	704.07
Select topping	704.08
Topping	704.05
Unclassified borrow	704.06
Water	725.01

Construction Requirements

204.04 Preparation for Roadway Excavation and Embankment Construction. Clear the area of vegetation and obstructions according to Sections 201 and 203.

204.05 Reserved.

204.06 Roadway Excavation. Excavate as follows:

(a) General. Do not disturb material and vegetation outside the construction limits. Incorporate only suitable material into embankments. Replace any shortage of suitable material caused by premature disposal of roadway excavation. Dispose of unsuitable or excess excavation material according to Subsection 204.14.

At the end of each day's operations, shape to drain and compact the work area to a uniform cross-section. Eliminate all ruts and low spots that could hold water.

Retrieve material deposited outside of the clearing limits as directed by the CO. Place unsuitable material in designated areas.

(b) Rock cuts. Blast rock according to Section 205. Excavate rock cuts to 6 inches below subgrade within the roadbed limits. Backfill to subgrade with topping or with other suitable material. Compact the material according to Subsection 204.11

(c) Earth cuts. Scarify earth cuts to 6 inches below subgrade within the roadbed limits. Compact the scarified material according to Subsection 204.11.

(d) Pioneer Roads. Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation. 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.

204.07 Subexcavation. Excavate material to the limits designated by the CO. Take cross-sections according to Section 152. Prevent unsuitable material from becoming mixed with the backfill. Dispose of unsuitable material according to Subsection 204.14. Backfill the subexcavation with topping, or other suitable material. Compact the material according to Subsection 204.11.

204.08 Borrow Excavation. Use all suitable roadway excavation in embankment construction. Do not use borrow excavation when it results in excess roadway excavation. Deduct excess borrow excavation from the appropriate borrow excavation quantity.

Obtain borrow source acceptance according to Subsection 105.02. Develop and restore borrow sources according to Subsection 105.03. 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 less than 4 feet high over natural ground. When designated, remove topsoil and break up the ground surface to a minimum depth of 6 inches 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. Scarify or pulverize asphalt and concrete roads to 6 inches below the pavement. Reduce all particles to a maximum size of 6 inches 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 benches in the existing slope to a sufficient width to accommodate placement and compaction operations and equipment. Bench the slope as the embankment is placed and compacted in layers. Begin each bench at the intersection of the original ground and the vertical cut of the previous bench.

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 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 all 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 flatter than 1V:1.75H with a tamping type roller or by walking with a dozer. For slopes 1V:1.75H or steeper, compact the slopes as construction of the embankment progresses.

Where placing embankment on one side of abutments, wing walls, piers, or culvert headwalls, compact the material using methods that prevent excessive pressure against the structure.

Where placing embankment material on both sides of a concrete wall or box structure, conduct operations so compacted embankment material is at the same elevation on both sides of the structure.

Where structural pilings are placed in embankment locations, limit the maximum particle size to 4 inches.

(b) Embankment within the roadway prism. Place embankment material in horizontal layers not exceeding 12 inches in compacted thickness. Incorporate oversize boulders or rock fragments into the 12-inch layers by reducing them in size or placing them individually as required by (c) 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 layers may be placed in layers up to 24 inches thick. Incorporate oversize boulders or rock fragments into the 24-inch layer by reducing them in size or placing them individually according to (c) below. Place sufficient earth and smaller rocks to fill the voids. Compact each layer according to Subsection 204.11 before placing the next layer.

(c) Individual rock fragments and boulders. Place individual rock fragments and boulders greater than 24 inches in diameter as follows:

(1) Reduce rock to less than 48 inches 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 by (b) above. Fill all the voids between rocks.
(4) Compact each layer according to Subsection 204.11 before placing the next layer.

(d) Embankment outside of roadway prism. Where placing embankment outside the staked roadway prism, place material in horizontal layers not exceeding 24 inches 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) <u>Compaction A.</u> Use AASHTO T 27 to determine the amount of material retained on a Number 4 sieve. If there is more than 80 percent retained on the No. 4 sieve use procedure (1).

If there is 50 to 80 percent retained on the No. 4 sieve use procedure (2). If there is less than 50 percent retained on the No. 4 sieve use procedure (3).

(1) 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 6feet per second and vibratory rollers at speeds less than 3 feet 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 impact per vibration and a minimum frequency of 1000 vibrations per minute.
(b) Eight roller passes of a 20-ton compression-type roller.
(c) Eight roller passes of a vibratory roller having a minimum dynamic force of 30,000 pounds impact per vibration and a minimum frequency of 1000 vibrations per minute.

Increase the compactive effort for layers deeper than 12 inches as follows:

- For each additional 6 inches or fraction thereof, increase the number of roller passes in (a) above by four passes.
- For each additional 6 inches or fraction thereof, increase the number of roller passes in (b) and (c) above, by eight passes.

(2) Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 sieve. Multiply this number by the percentage of material passing a No. 4 sieve, and add 2 percent to determine the optimum moisture content of the material. 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 rollers at speeds less than 6 feet per second and vibratory rollers at speeds less than 3 feet per second. Compact each layer of material full width according to (1) above.

(3) 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 180, method D. For other material classifications, determine the optimum moisture content and 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 B. Place material by end dumping to the minimum depth needed for operation of spreading equipment. Adjust the moisture content of the material to obtain a mass that will not visibly deflect under the load of the hauling and spreading equipment. Operate 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.

(c) Compaction C. Place material by end dumping to the minimum depth needed for operation of spreading equipment. Level and smooth each embankment layer before placing the next layers. Operate hauling and spreading equipment uniformly over the full width of each layer. Construct a solid embankment with adequate compaction by working smaller rock and fines in with the larger rocks to fill the voids, and by operating hauling and spreading equipment uniformly over the full width of each layer as the embankment is constructed.

204.12 Ditches. Slope, grade, and shape ditches. Remove all projecting roots, stumps, rock, or similar matter. Maintain all ditches in an open condition and free from leaves, sticks, and other debris.

Form furrow ditches by plowing or using other acceptable methods to produce a continuous furrow. Place all excavated material on the downhill side so the bottom of the ditch is approximately 18 inches below the crest of the loose material. Clean the ditch using a hand shovel, ditcher, or other suitable method. Shape to provide drainage without overflow.

204.13 Sloping, Shaping, and Finishing. Complete slopes, ditches, culverts, riprap, and other underground minor structures before placing aggregate courses. Slope, shape, and finish as follows:

(a) Sloping. Leave all earth slopes with uniform roughened surfaces, except as described in (b) below, with no noticeable break as viewed from the road. Except in solid rock, round tops and bottoms of all slopes including the slopes of drainage ditches. Round material overlaying solid rock to the extent practical. Scale all rock slopes. Slope rounding is not required on tolerance class D though M roads.

If a slide or slipout occurs on a cut or embankment slope, remove or replace the material, and repair or restore all 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 by the contract, construct steps on slopes of 1⅓V:1H to 1V:2H. Construct the steps approximately 18 inches high. Blend the steps into natural ground at the end of the cut. If the slope contains nonrippable 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. Finish the roadbed to be smooth and uniform, and shaped to conform to the typical sections. Remove unsuitable material from the roadbed and replace it with suitable material. Finish roadbeds to the tolerance class shown in table 204-2.Ensure that the subgrade is visibly moist during shaping and dressing. Scarify to 6 inches below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material. Maintain proper ditch drainage.

For surfaced roads, remove all material larger than 6 inches from the top 6 inches of the roadbed.

For unsurfaced roads, use one of the following methods to finish the roadbed:

(1) Method A. Remove all material larger than 6 inches from the top 6 inches of the roadbed and replace with suitable material.
(2) Method B. Use a vibratory grid roller or approved equal with a minimum weight of 10 tons. Roll at least 5 full-width passes or until there is no visible evidence of further consolidation.
(3) Method C. For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate rock berms.

204.14 Disposal of Unsuitable or Excess Material. Dispose of unsuitable or excess material at designated sites or legally off of the project.

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 and testing 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.

Clearing and removal of obstructions will be evaluated under Sections 201 and 203.

Measurement

204.16 Measure the Section 204 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 shown in the bid schedule;
(d) Ditches, except furrow ditches measured under a separate bid item;
*(e*Topsoil;
(f) Borrow material used in the work when a pay item for borrow is not shown in the bid schedule;
(g) Loose scattered rocks removed and placed as required within the roadway;
(h) Conserved material taken from stockpiles and used in Section 204 work; 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; and
(l) Material excavated outside the established slope limits.

(3) When both roadway excavation and embankment construction pay items are shown in the bid schedule, measure the following as roadway excavation only:
(a) Unsuitable material below subgrade in cuts and unsuitable material beneath embankment areas when a pay item for subexcavation is not shown 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, select borrow, and select topping. When measuring by the cubic yard measure in its original position. If borrow excavation is measured by the cubic yard 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 used in place of excess roadway excavation.

(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. Measure rounding cut slopes horizontally along the centerline of the roadway if a pay item for slope rounding is included in the bid schedule. If a pay item for slope rounding is not included in the bid schedule slope rounding will be considered subsidiary to excavation.

(e) Waste. Measure waste by the cubic yard 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 in the hauling vehicle.

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 and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Topping (704.05) & unclassified borrow (704.06)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type	Processed material before incorporating in work	Yes, when requested	Before using in work
		Moisture-density	—	AASHTO T 180, method D[(1)] or T 99, method C[(1)]	1 per soil type but not less than 1 per	“	“	“
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 6000 yd^2 but not less than 1 per layer	In-place	—	Before placing next layer
Select borrow (704.07 & Select topping (704.08)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type but not less than 1 for each day of production	Processed material before incorporating	Yes, when requested	Before using in work
		Gradation	—	AASHTO T 27	“	“	“	“
		Liquid limit	—	AASHTO T 89	“	“	“	“
		Moisture-density	—	AASHTO T 180, method D[(1)] or T 99, method C[(1)]	1 per soil type but not less than 1 per	“	“	“
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 6000 yd^2 but not less than 1 per layer	In-place	—	Before placing next layer

(1) Minimum of 5 points per proctor

Table 204-1 (continued)
Sampling and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Earth embankment (204.11, Compaction A)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type	Source of Material	Yes, when requested	Before using in work
		Moisture-density	—	AASHTO T 180, method D(1) or T 99, method C(1)	1 per soil type but not less than 1 per 13,000 yd^3	"	"	"
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 3500 yd^2 but not less than 1 per layer	In-place	—	Before placing next layer
Top of subgrade (204.11 Compaction A)	Measured and tested for conformance (106.04)	Compaction	—	AASHTO T 310 or other approved procedures	1 per 2500 yd^2	In-place	—	Before placing next layer

(1) Minimum of 5 points per proctor.

Table 204-2
Construction Tolerances

	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.

208 - Structure Excavation and Backfill for Selected Major Structures

208.04_nat_us_08_05_2009

Construction Requirements

208.04 General.

Add the following to the end of the second sentence of the third paragraph:

"... to the CO a minimum of 5 days prior to beginning excavation work."

Add the following to the end of the third sentence of the third paragraph:

"...to the CO a minimum of 15 days prior to installation."

208.09 Foundation Preparation.

Add the following after the first paragraph:

The foundation elevation is defined as the bottom of footings, for spread footing placement; the bottom of the pile cap, for construction of pile foundations; and the toe of the wall, for construction of retaining walls, except wingwalls at bridges.

Replace all material from any over-excavation below the designated footing elevation with concrete, compacted gravel, or foundation fill at the direction of the CO.

When boulders or irregular, fractured, or seamed bedrock precludes excavation to the designated footing elevation without further loosening of previously solid material, the CO may order removal of such loose material and allow payment for concrete, gravel, or structural backfill that is required to restore foundation material to the designated elevation

208.13 Measurement.

Add the following to the second paragraph:

(f) Material excavated to construct end walls or wing walls which lie outside the excavation limits specified above.

Add the following paragraph:

Foundation over-excavation and the resulting replacement material will not be measured for payment unless the CO determines the over-excavation was unavoidable because of the nature of the material.

324 - Minor Aggregate, Commercial Source

324.00_nat_us_08_28_2008

Section 324. – MINOR AGGREGATE COURSES – COMMERCIAL SOURCE

Description

324.01 This work consists of constructing one or more courses of aggregate on a prepared surface. Work includes producing aggregate by crushing methods.

Material

324.02 Conform to the following Subsections:

Aggregate	703.06
Water	725.01

Construction Requirements

324.03 General. Prepare the surface on which the aggregate course is placed according to Section 204 or 303 as applicable.

Request approval of the roadbed in writing before placing aggregate.

Develop, haul, and apply water in accordance to Section 170.

Submit aggregate gradations for approval by the CO.

After processing on the road, remove all oversize material from the road and dispose of it as directed by the CO.

If the aggregate is produced and stockpiled before placement, handle and stockpiled according to Section 320. Establish stockpile sites at approved locations.

324.04 Mixing and Spreading. Mix the aggregate and adjust the moisture content to obtain a uniform mixture with moisture content suitable for the specified compaction method. Spread and shape the mixture on the prepared surface in a uniform layer with no segregation of size, and to a loose depth that will provide the required compacted thickness. Place the mixture in a maximum compacted layer thickness of 6 inches.

When more than one layer is necessary, compact each layer according to Subsection 324.05 before placing the next layer. Route hauling and leveling equipment uniformly over the full width.

When placing aggregate over geotextile, place aggregate in a single lift to the full depth specified.

324.05 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 one of the following methods as specified:

Compaction A. Operating spreading and hauling equipment over the full width of the travelway.

Compaction B. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction C. Moisten or dry the aggregate to a uniform moisture content between 5 and 7 percent based on total dry weight of the mixture. Operate rollers and compact as specified in Subsection 204.11(a)(1).

Compaction D. Compact to a density of at least 95 percent of the maximum density, as determined by AASHTO T 99, method C or D.

Compaction E. Compact to a density of at least 96 percent of the maximum density, as determined by the Modified Marshall Hammer Compaction Method (available upon request from USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

Compaction F. Compact to a density of at least 95 percent of the maximum density, as determined by AASHTO T 180, method C or D.

Compaction G. Compact to a density of at least 100 percent of the maximum density as determined by the Modified Marshall Hammer Compaction Method (available upon request from USDA Forest Service, Regional Materials Engineering Center, P.O. Box 7669, Missoula, MT 59807).

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.

324.06 Construction Tolerance. If grade finishing stakes are required, finish the surface to within ±0.10 feet from staked line and grade elevation.

If grade finishing stakes are not required, shape the surface to the required template and check the surface with a 10-foot straightedge. Defective areas are surface deviations in excess of 1/2 inch in 10 feet between any two contacts of the straightedge with the surface.

Correct all defective areas by loosening the material, adding or removing material, reshaping, and compacting.

Ensure that the compacted thickness is not consistently above or below the specified thickness. The maximum variation from the compacted specified thickness is ½ inch.

Ensure that the compacted width is not consistently above the specified width. The maximum variation from the specified width will not exceed +12 inches at any point.

324.07 Maintenance. Maintain the aggregate course to the correct line, grade, and cross-section by blading, watering, rolling, or any combination thereof until placement of the next course. Correct all defects according to Subsection 324.06.

324.08 Acceptance. See Table 324-1 for sampling and testing requirements.

Aggregate gradation and surface course plasticity index will be evaluated under Subsection 106.03 and 106.04. Other aggregate quality properties will be evaluated under Subsections 106.02 and 106.03. Placement of aggregate courses will be evaluated under Subsections 106.02 and 106.04.

Preparation of the surface on which the aggregate course is placed will be evaluated under Section 204 or 303 as applicable.

Measurement

324.09 Measure the Section 324 items listed in the bid schedule according to Subsection 109.02 and the following as applicable.

Measure square yard width horizontally to include the top of aggregate width including designed widening. Measure the square yard length horizontally along the centerline of the roadway.

If the measurement for aggregate is by cubic yard using contract quantities then measure aggregate by the cubic yard in-place once compacted, otherwise measurement for aggregate by the cubic yard is measured by the cubic yard in the hauling vehicle.

Measure thickness perpendicular to the grade of the travelway.

Measure width perpendicular to the centerline.

Payment

324.10 The accepted quantities will be paid at the contract price per unit of measurement for the Section 324 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Table 324-1
Sampling and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Aggregate source quality 703.06	Measured and tested for conformance (106.03 & 105)	LA abrasion (coarse)	—	AASHTO T 96	1 per type & source of material	Source of material	Yes, when requested	Before using in work
		Sodium sulfate soundness loss (coarse & fine)	—	AASHTO T 104	"	"	"	"
		Durability index (coarse & fine)	—	AASHTO T 210	"	"	"	"
		Fractured faces	—	ASTM D 5821	"	"	"	"
Subbase, Base, and Surface courses	Measured and tested for conformance (106.04)	Sample	—	AASHTO T 2	2 per day	From windrow or roadbed after processing or from approved crusher sampling device	Yes	48 hours

Table 324-1 (continued)
Sampling and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Subbase, Base, and Surface	Measured and tested for conformance (106.04)	Moisture-density Method D	—	AASHTO T 99 (1)	1 per type and source of material	Source of material	Yes, when requested	Before using in work
		Moisture-density Method E	—	R-1 Marshall	"	"	"	"
		Moisture-density Method F	—	AASHTO T 180 (1)	"	"	"	"
		Moisture-density Method G	—	R-1 Marshall	"	"	"	"
		In-place density & moisture content	—	AASHTO T 310 or other approved procedures	3 per day	In-place	—	Before placing next layer

552 - Structural Concrete

552.02_nat_us_06_20_2007

Material

552.02 Add the following:

Anchor bolts	717.01
Dowels	717.17
Epoxy resin adhesives	725.21
High strength non-shrink grout	701.02
Mortar	701.02
Portland cement	701.01
Sealants, fillers, seal, and sleeves	712.01

Construction Requirements

552.03 Composition (Concrete Mix Design).

Delete Tables 552-1, 2, and 3 and replace with the following:

Table 552-1
Composition of Concrete

Class of Concrete	Minimum Cement Content (pound per cubic yard)	Maximum W/C Ratio	Slump [1] (inches)	Maximum Nominal Coarse Aggregate Size [5] (inches)
A	611	0.49	2 to 4	1½
A(AE)	611	0.44	1 to 4	1½
B	517	0.58	2 to 4	2½
B(AE)	517	0.58	2 to 4	2½
C	658	0.49	2 to 4	¾
C(AE)	658	0.44	1 to 3	¾
D(AE)[2]	611	0.40	1 to 3	1½
E(AE)[3]	611	0.40	4 to 6 [4]	¾
P (Prestressed)	658	0.44	0 to 4	1
P(AE)	658	0.44	0 to 4	1
Seal	658	0.54	4 to 8	1½

[1] Maximum slump is 8 inches if approved mix design includes a high-range water reducer.
[2] Concrete with a water reducing and retarding admixture conforming to AASHTO M 194, type D.

(3) A latex modified concrete with 0.037 gallons of modifier per pound of cement.
(4) Measure the slump 4 to 5 minutes after the concrete is discharged from the mixer.
(5) Meeting the processing requirements of AASHTO M43, Table 1 – Standard Sizes of Processed Aggregate.
(6) Use Class P (AE) concrete in the entire depth of the top flange of all multi-beam bridge girders. In lieu of this, Class P (AE) concrete may be used for fabrication of the entire girder, and throughout the entire depth of prestressed slabs. In all cases, furnish concrete meeting the 28 day specified minimum concrete strength requirements for the prestressed members as shown on the plans, unless otherwise specified.

Table 552-2
Minimum Air Content for Air Entrained Concrete

Nominal Maximum Aggregate Size (1)	As Delivered Minimum Air Content (2) (3) (%)
2½ inch	3.5
2 inch	3.5
1½ inch	4.0
1 inch	4.5
¾ inch	4.5
½ inch	5.5

(1) Meeting the processing requirements of AASHTO M 43, Table 1 – Standard Sizes of Processed Aggregate.
(2) These air contents apply to the total mix. When testing these concretes, aggregates larger than 1½ inches are removed by handpicking or sieving, and air content is determined on the minus 1½-inch fraction of the mix. Air content of the total mix is computed from the value determined on the minus 1½-inch fraction.
(3) For P(AE) concrete, the as delivered minimum air contents may be reduced 1.0 % and the maximum air content is 6.0 %

Table 552-3
Required Average Compressive Strength (1)

Specified Compressive Strength (f'c) (psi)	Required Average Compressive Strength (f'cr) (psi)
Less than 3000	f'c + 1000
3000 to 5000	f'c + 1200

Over 5000	1.10f'c + 700

(1) Use this table when there is not enough data available to establish a standard deviation

Delete the first paragraph after Table 552-2 and replace with the following:

Submit written concrete mix designs for approval at least 30 calendar days before production.

Add the following under the list of items to be included in the mix design submittal:

(y) Evaluation of potential aggregate reactivity

552.08 Delivery.

(a) Truck mixer/agitator.

Add the following:

Do not exceed 130 total revolutions at mixing speed, including both initial mixing and remixing. Do not exceed 300 total revolutions, including both mixing and agitating speed.

552.09 Quality Control of Mix.

Add the following after the first paragraph:

At least 2 weeks prior to the start of concrete placement operations, arrange a pre-concrete placement conference. Coordinate attendance with the CO and any applicable subcontractors. Be prepared to discuss and/or submit the following:

(1) Proposed concrete placement schedule.

(2) Review approved concrete mix design and determination of batch weights.

(3) Discuss Section 153, Contractor Quality Control, minimum frequency schedule for process control sampling and testing (to be performed by the Contractor).

(4) Discuss batching, mixing, placing, and curing requirements.

(5) Discuss Subsections 106.03, Certification, and 106.05, Statistical Evaluation of Material for Acceptance.

552.11 Handling and Placing Concrete.

Add the following after the forth paragraph:

Use an approved form release agent to produce a minimum of staining, air holes, and hydration discoloration.

552.12 Construction Joints.

Add the following at the end of the first paragraph:

Provide form cleanout ports at construction joints.

552.18 Loads on New Concrete Structures.

Add the following paragraph:

Do not allow public traffic on the bridge until approaches, curbs, and bridge rail are completed and in-place. Erect barricades at each end of bridge spans when road approaches allow vehicles to drive directly onto the structure.

718 - Traffic Signing and Marking Material

718.05_nat_us_08_05_2009

718.05 Aluminum Panels

Delete the third paragraph and replace with the following:

Clean, degrease and properly prepare the panels according to methods recommended by the sheeting manufacturer. Conversion coatings will conform to ASTM B-921 or ASTM B-449.

GIFFORD PINCHOT NATIONAL FOREST
MOUNT ADAMS RANGER DISTRICT
DRAWINGS FOR PROPOSED
CAVE THIN TIMBER SALE
8620 RD AQUATIC ORGANISM PASSAGE

1 SITE MAP
NO SCALE

SHEET INDEX

DESIGNED BY:
DESIGNER, ADAM DAILEY 11/17/14 DATE

RECOMMENDED BY:
DISTRICT ENGINEER, ADAM DAILEY 11/17/14 DATE

RECOMMENDED BY:
DISTRICT RANGER, MOSE JONES-YELLIN 11/24/14 DATE

RECOMMENDED BY:
TRANSPORTATION ENGINEER, ELWOOD STARR 12/8/14 DATE

APPROVED:
FOREST ENGINEER, BOB VARNER 12/9/14 DATE

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

8620 RD AQUATIC ORGANISM PASSAGE

COVER

SHEET 1 of 5

DO NOT SCALE DRAWING

Forest: GIFFORD PINCHOT
Location: GIFFORD PINCHOT NATIONAL FOREST
Designed: A DAILEY Drawn: A DAILEY
Checked: R VARNER Date: 11/17/2014

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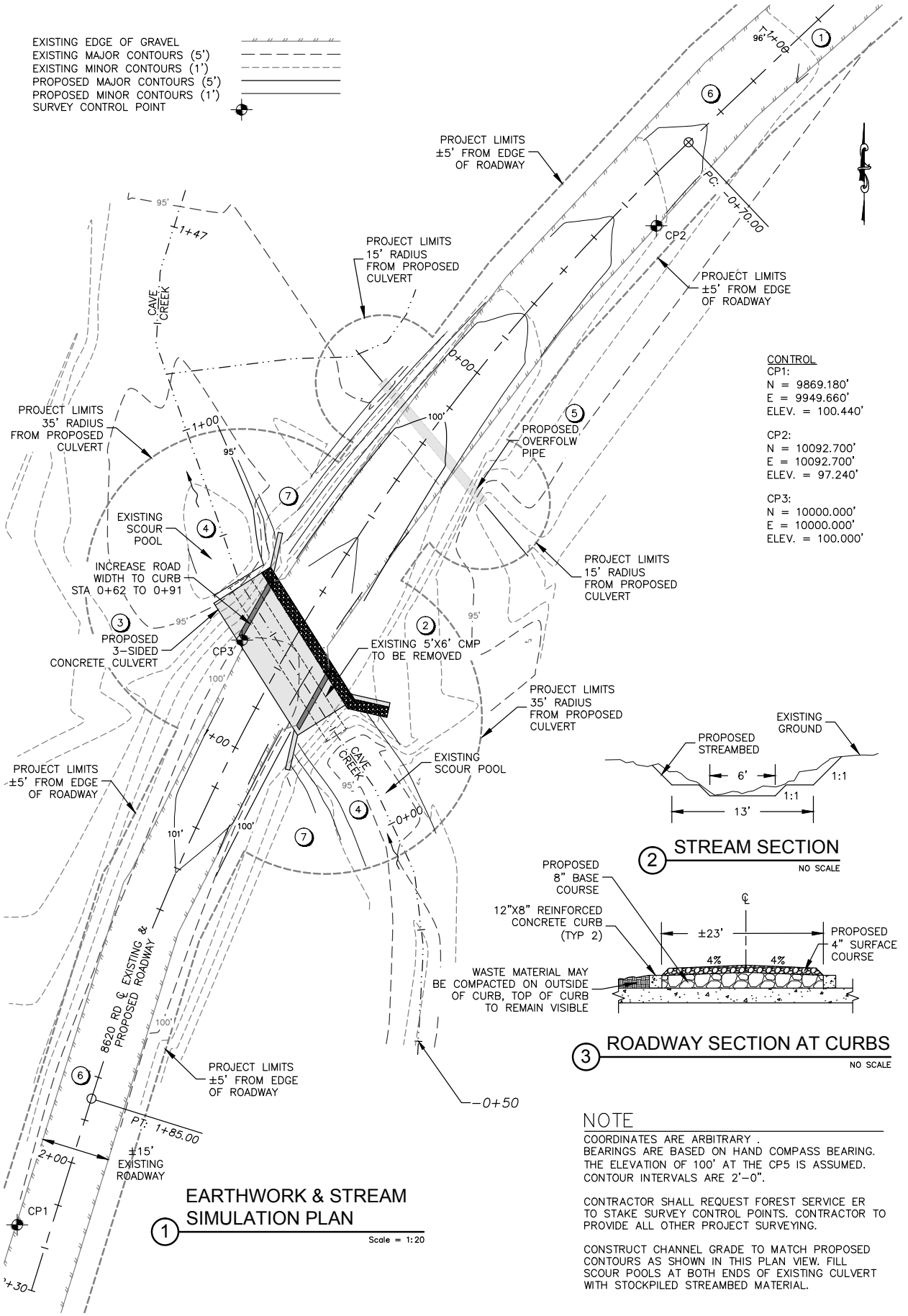


1 EARTHWORK & STREAM SIMULATION PLAN

Scale = 1:20

2 STREAM SECTION

NO SCALE

3 ROADWAY SECTION AT CURBS

NO SCALE

NOTE

COORDINATES ARE ARBITRARY .
BEARINGS ARE BASED ON HAND COMPASS BEARING.
THE ELEVATION OF 100' AT THE CP5 IS ASSUMED.
CONTOUR INTERVALS ARE 2'-0".

CONTRACTOR SHALL REQUEST FOREST SERVICE ER TO STAKE SURVEY CONTROL POINTS. CONTRACTOR TO PROVIDE ALL OTHER PROJECT SURVEYING.

CONSTRUCT CHANNEL GRADE TO MATCH PROPOSED CONTOURS AS SHOWN IN THIS PLAN VIEW. FILL SCOUR POOLS AT BOTH ENDS OF EXISTING CULVERT WITH STOCKPILED STREAMBED MATERIAL.

DO NOT SCALE DRAWING Forest: GIFFORD PINCHOT Location: GIFFORD PINCHOT NATIONAL FOREST Designed: A DAILEY Drawn: A DAILEY Checked: B VARNER Date: 11/17/2014	8620 RD AQUATIC ORGANISM PASSAGE EARTHWORK AND STREAM PLAN	U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE THE PACIFIC NORTHWEST REGION (R-6) GIFFORD PINCHOT NATIONAL FOREST	APPROVED: FOREST ENGINEER, BOB VARNER DATE SHEET 2 of 5

NOTE

1. PROVIDE TRAFFIC CONTROL PLAN TO CO FOR APPROVAL. PLAN SHALL INCLUDE, BUT NOT BE LIMITED TO, SIGNS CONFORMING TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AT THE 86 RD/HWY 141 INTERSECTIONS FOR ROAD MACHINERY AHEAD, AND SIGNING AT THE 86 RD/8620 RD INTERSECTIONS FOR ROAD CLOSURE AHEAD AND ROAD MACHINERY AHEAD, INCIDENTAL TO MOBILIZATION.

2. EXCAVATE EXISTING 5'X6'X40' CMP CULVERT AND REMOVE FROM THE FOREST. CONSERVE SUITABLE MATERIAL FOR UNCLASSIFIED FILL MATERIAL FOR 3-SIDED CULVERT INSTALLATION. STOCKPILE AT 8620024 RD AS DIRECTED BY CO. DISPERSE UNSUITABLE MATERIAL ONSITE ACCORDING TO CO. INCIDENTAL TO STRUCTURE EXCAVATION ITEM.

3. DESIGN, FURNISH, AND INSTALL CONCRETE 3-SIDED CULVERT, CURB, FOUNDATION, WINGWALLS, RIPRAP, AND APPURTENANCES. SEE SHEET 4. DEWATERING AND COMMERCIAL SOURCED RIPRAP IS INCIDENTAL TO THIS ITEM.

   - 3-SIDED CULVERT AND WINGWALL STRUCTURES TO BE PRECAST REINFORCED CONCRETE.
   - FOUNDATION AND CURB TO BE CAST IN PLACE REINFORCED CONCRETE.
   - STEEL REINFORCING AND STEEL CONNECTIONS BETWEEN PRECAST AND CAST IN PLACE MEMBERS TO BE CAST IN PRECAST MEMBERS.

4. RESHAPE CAVE CREEK STREAMBED STA −0+15 TO 1+05 USING EXISTING STREAMBED MATERIALS INCLUDING ONSITE ROCK AND WOODY DEBRIS, GENERALLY SHAPED TO SECTION 2 SHEET 2. ENSURE CONSISTENT CHANNEL SLOPE TO DRAIN. COORDINATE RESHAPING WITH CO AND FOREST SERVICE SPECIALISTS. DEWATERING IS INCIDENTAL TO THIS ITEM.

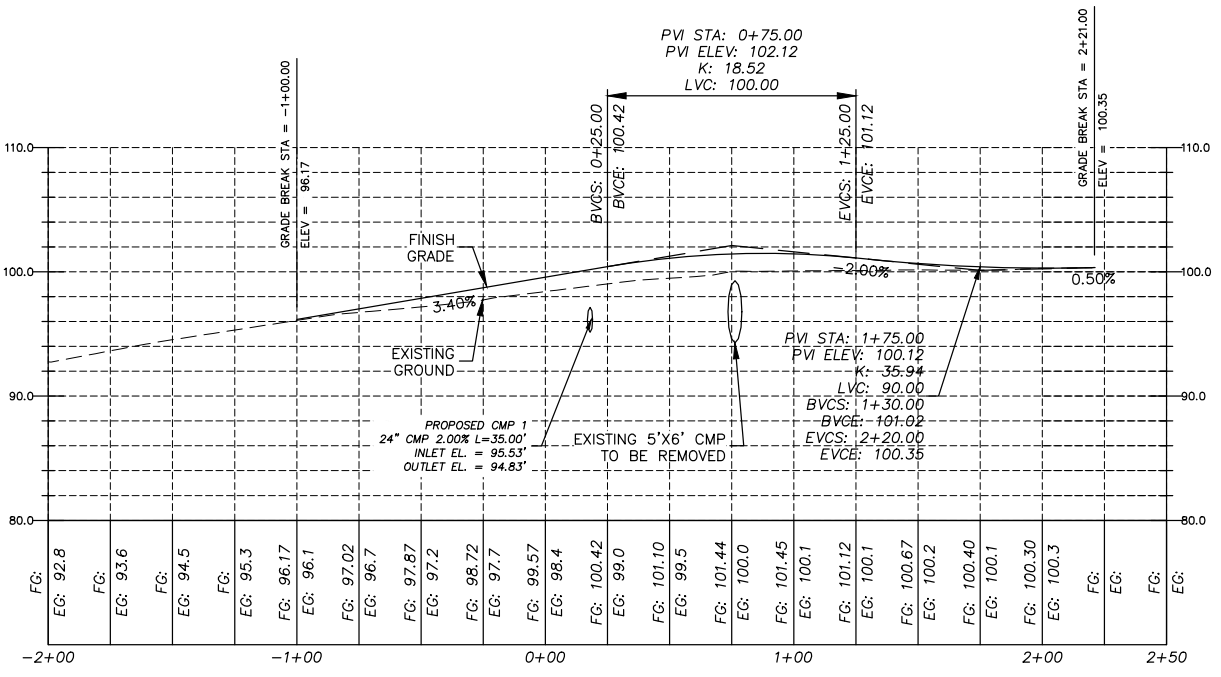
5. INSTALL 24"X35' CMP CULVERT STA 0+18.

   - INSTALL TO MANUFACTURERS SPECIFICATIONS.
   - UNLESS DETERMINED UNSUITABLE BY CO, EXCAVATED ROAD PRISM MATERIAL SHALL BE SUBSTITUTED FOR PROPOSED PIPE BEDDING, HAUNCH, AND INITIAL BACKFILL MATERIAL UP TO 12" BELOW FINISH GRADE SHOWN IN PROFILE 1 SHEET 3
   - PIPE FILL MATERIALS TO BE COMPACTED IN MAX 4" LOOSE LAYERS WITH VIBRATORY COMPACTOR UNTIL NO VISIBLE DISPLACEMENT IS OBSERVED.
   - PLACE CLASS 3 RIPRAP INLET ARMOR MATERIAL (COMMERCIAL SOURCE). SEE DETAIL 3 SHEET 5, INCIDENTAL TO THIS BID ITEM.
   - PLACE CLASS 3 RIPRAP OUTLET APRON MATERIAL (COMMERCIAL SOURCE). PIPE END SHALL BE FLUSH WITH BEGINNING OF RIPRAP APRON, DO NOT SHOTGUN PIPE. SEE DETAIL 4 SHEET 5, INCIDENTAL TO THIS BID ITEM.
   - CLEAR ALL VEGETATION WITHIN 15' OF INLET AND OUTLET, INCIDENTAL TO THIS BID ITEM.
   - DEWATERING AND WATER TO ACHIEVE COMPACTION IS INCIDENTAL TO THIS BID ITEM.

6. SCARIFY EXISTING ROADWAY 3" DEEP FROM STA 1+00 TO 21+00. PLACE AND COMPACT 8" OF AGGREGATE BASE AND 4" OF SURFACE MATERIALS (COMMERCIAL SOURCE), TO PROPOSED WIDTH, TO FINISH GRADE SHOWN IN PROFILE 1 SHEET 3.

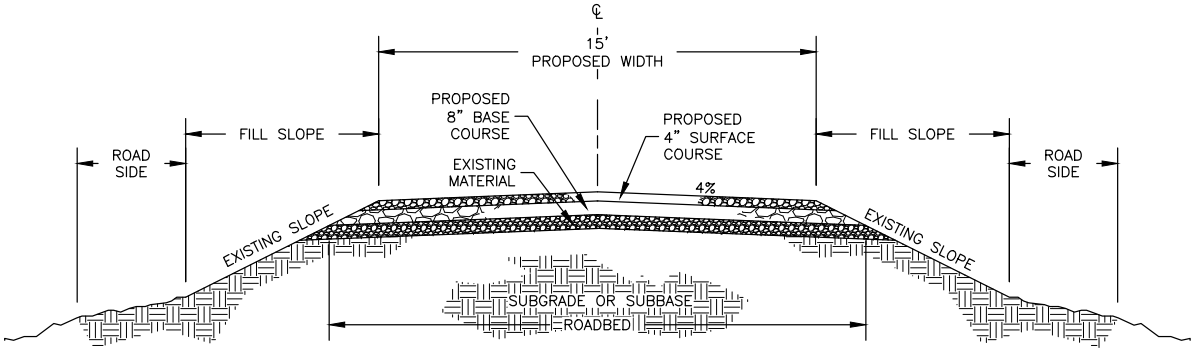
   - OVEREXCAVATE EXISTING MATERIAL AND INCORPORATE INTO PROPOSED MATERIAL AT 1+00 AND 21+00 TO TAPER TO EXISTING GRADE.
   - COMPACT BASE LAYER INCLUDING SHOULDER WIDTH, COMPACTION METHOD A, IN HORIZONTAL LAYERS NOT EXCEEDING 4 INCHES IN COMPACTED THICKNESS UNTIL NO VISIBLE DISPLACEMENT IS OBSERVED.
   - COMPACT SURFACE LAYER INCLUDING SHOULDER WIDTH USING VIBRATORY COMPACTOR, OR ROLLER, IN HORIZONTAL LAYERS NOT EXCEEDING 4 INCHES IN COMPACTED THICKNESS UNTIL NO VISIBLE DISPLACEMENT IS OBSERVED.
   - PROVIDE WATER TO ACHIEVE COMPACTION.

7. SEED AND MULCH ALL DISTURBED SOIL OUTSIDE TRAVELED WAY INCLUDING WASTE PILES. FOREST SERVICE TO PROVIDE SEED. CONTRACTOR TO PROVIDE CERTIFIED WEED FREE STRAW MULCH 2 INCHES THICK. INCIDENTAL TO MOBILIZATION.



1 **8620 RD PROFILE**

Scale = H=1:50, V =1:10



2 **ROADWAY SECTION AND TERMS**

NO SCALE

APPROVED:

FOREST ENGINEER, BOB VARNER — DATE

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

8620 RD AQUATIC ORGANISM PASSAGE

8620 RD PROFILE AND NOTES

SHEET 3of 5

DO NOT SCALE DRAWING

Forest: GIFFORD PINCHOT
Location: GIFFORD PINCHOT NATIONAL FOREST
Designed: A DALEY Drawn: A DALEY
Checked: R VARNER Date: 11/17/2014

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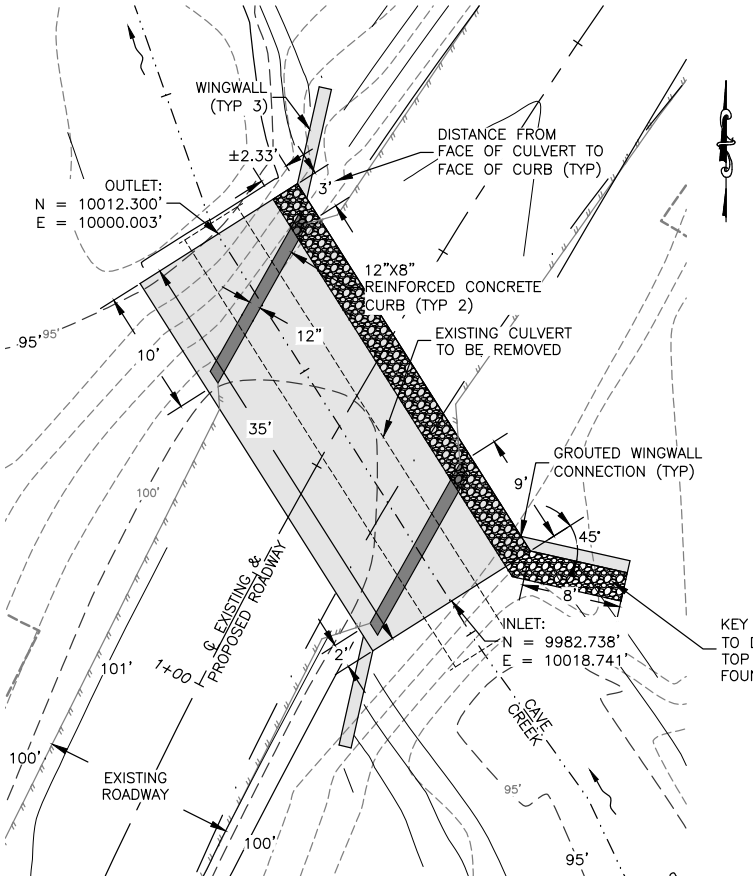
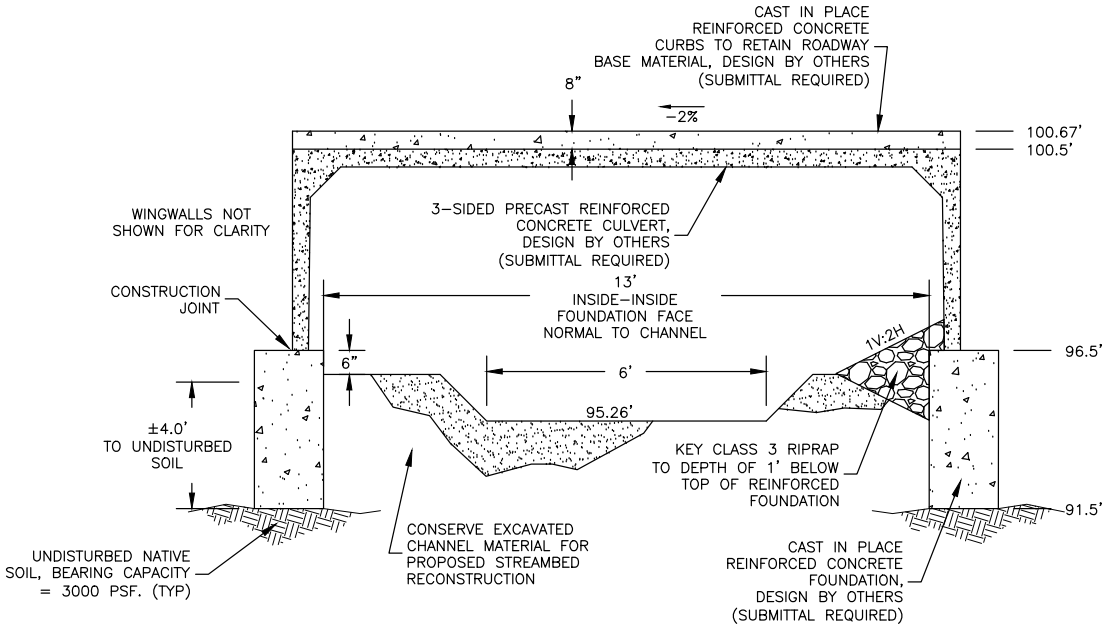


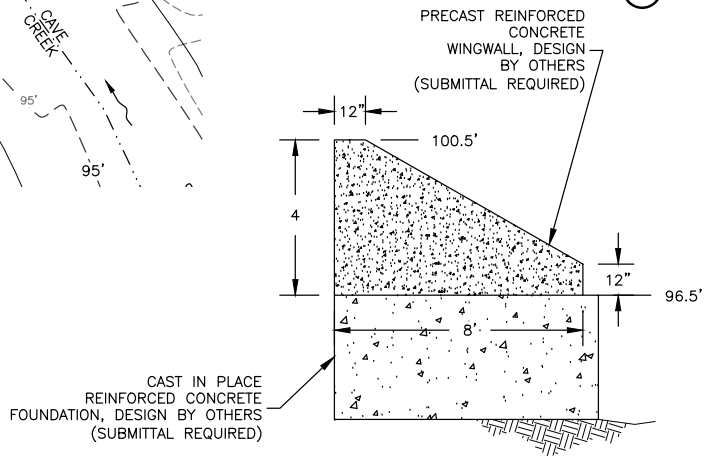
1 PROPOSED 3-SIDED CONCRETE CULVERT PLAN

Scale = 1:10



2 PROPOSED 3-SIDED CONCRETE CULVERT ELEVATION ON CENTERLINE AT MIDSPAN

NO SCALE



3 WINGWALL ELEVATION

NO SCALE

NOTE

CONTRACTOR TO PROVIDE ALL DESIGN SUBMITTALS TO CO FOR APPROVAL, ALLOW 21 DAYS FOR REVIEW.

3-SIDED PRECAST CONCRETE CULVERT TO BE DESIGNED PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. 6TH EDITION WITH AASHTO HL-93 LIVE LOADING, IMPACT FACTOR OF 1.33. CONCRETE CLASS A(AE).

REINFORCED AND PRECAST CONCRETE SHALL BE AIR ENTRAINED WITH A 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.

FINISH ROADWAY AND TOPS OF CURBS WITH A FLOAT FINISH WITH THE TYPES OF SURFACE TEXTURES CALLED FOR IN THE SPECIFICATIONS. FINISH OUTSIDE VERTICAL FACES OF SLABS AND BOTH VERTICAL FACES OF CURBS WITH A CLASS 2, RUBBED FINISH. APPLY A CLASS 1, ORDINARY SURFACE FINISH TO ALL OTHER SURFACES. CHAMFER ALL EXPOSED EDGES AND FILLET ALL RE-ENTRANT ANGLES, 3/4 INCH OR AS SHOWN OR APPROVED.

STRUCTURAL STEEL SHAPES AND PLATES IN ACCORDANCE WITH AASHTO M183 (ASTM A36). HOT DIP GALVANIZE STEEL AFTER FABRICATION (AASHTO M1111).

REINFORCING STEEL SHALL CONFORM TO AASHTO M31, GRADE 60.

CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A SET OF AS-BUILT DRAWINGS DURING CONSTRUCTION. FURNISH A HARD COPY SET OF AS-BUILT DRAWINGS AT COMPLETION OF THE PROJECT.

CONTRACTOR SHALL COORDINATE WITH CO 14 DAYS BEFORE INSTREAM WORK TO ALLOW THE FOREST SERVICE TO REMOVE FISH FROM STREAM.

APPROVED:

FOREST ENGINEER, BOB VARNER — DATE

SHEET 4 of 5

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

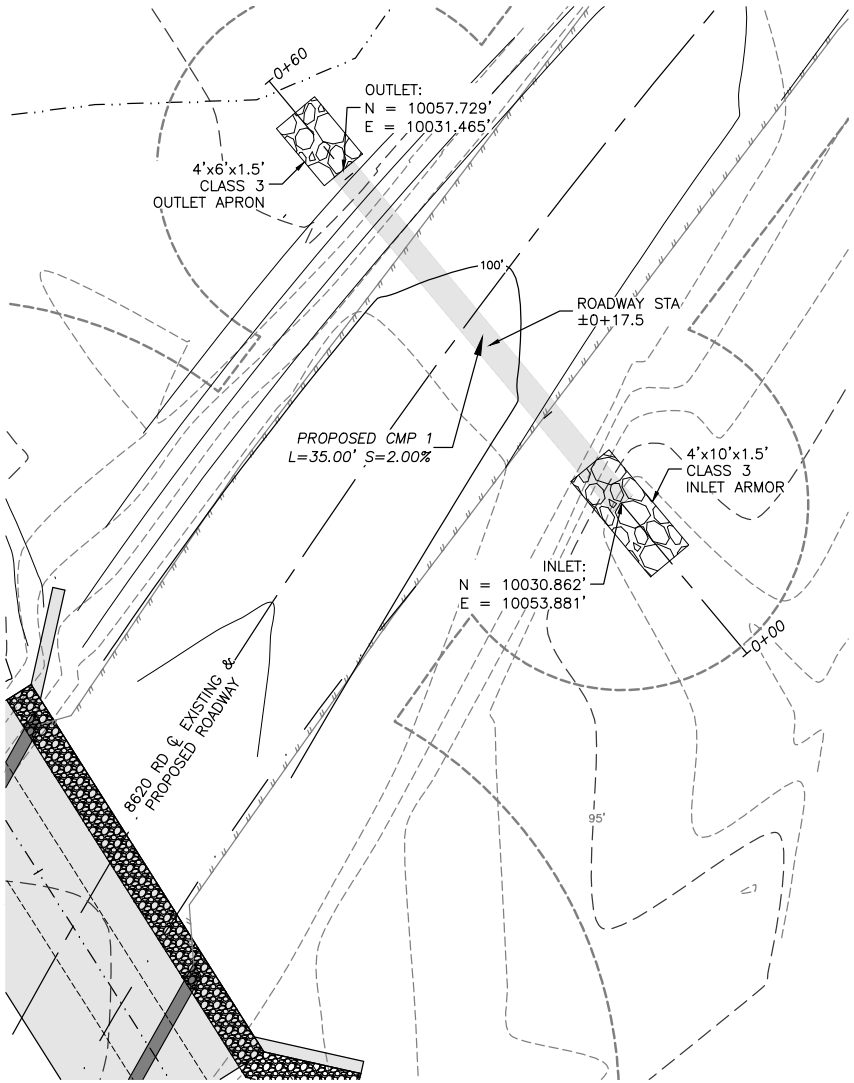
8620 RD AQUATIC ORGANISM PASSAGE

CONCRETE CULVERT PLAN

DO NOT SCALE DRAWING

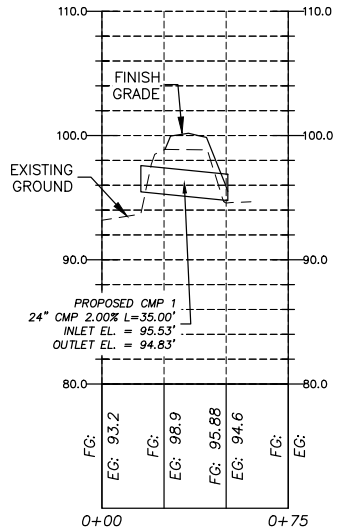
Forest: GIFFORD PINCHOT
Location: GIFFORD PINCHOT NATIONAL FOREST
Designed: A DAILEY Drawn: A DAILEY
Checked: R VARNER Date: 11/17/2014

C:\Users\oddailey\Documents\MTA\Projects\8620 AOP\Dwg\8620 AOP.dwg Plotted: Dec 10, 2014 - 1:29pm By: oddailey



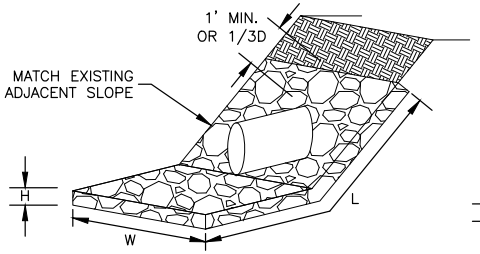
1 PROPOSED OVERFLOW CMP PLAN

Scale = 1:10



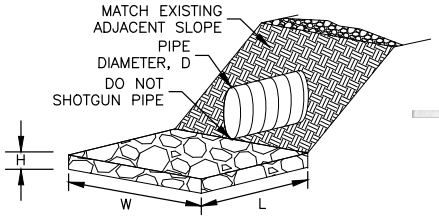
2 PROPOSED OVERFLOW CMP PROFILE

Scale = H=1:50, V =1:10



3 INLET ARMOR DETAIL

NO SCALE



4 OUTLET APRON DETAIL

NO SCALE

DO NOT SCALE DRAWING

Forest: GIFFORD PINCHOT
Location: GIFFORD PINCHOT NATIONAL FOREST
Designed: A DALEY Drawn: A DALEY
Checked: R VARNER Date: 11/17/2014

8620 RD AQUATIC ORGANISM PASSAGE

OVERFLOW CULVERT PLAN

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

APPROVED:

FOREST ENGINEER, BOB VARNER DATE

SHEET 5of 5

C:\Users\addaley\Documents\MFA\Projects\8620 AOP\Dwg\8620 AOP.dwg Plotted: Dec 10, 2014 - 1:29pm By: addaley

KT-GT.9# - STEWARDSHIP PROJECTS

Project Number 4: Road Decommissioning

End Results

Close and stabilize 12 roads to prevent soil erosion and control pollution in stream channels by completing work at designated locations shown in the following maps. All work shall conform to the specifications.

Description of Work

Refer to attached Schedule of Items.

Work must be done in the dry season (July 1 – September 30).

Contractor Obligations

The Contractor shall furnish all labor, materials, equipment, tools, transportation and supplies, and perform all work required according to the drawings and specifications of the contract.

SCHEDULE OF ITEMS

Cave Thin Stewardship
Project 4: Road Decommissioning
Mount Adams Ranger District
Gifford Pinchot National Forest

Sub-Item	Description	Quantity	Unit
15101	Mobilization	1	LS
	2420041 RD		
21101	Roadway Obliteration, Method 3	0.35	Mi
62501	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.6	AC
	2420705 RD		
21102	Roadway Obliteration, Method 3	0.04	Mi
62502	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.1	AC
	2420710 RD		
21103	Roadway Obliteration, Method 3	0.04	Mi
62503	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.1	AC
	2400715 RD		
21104	Roadway Obliteration, Method 3	0.04	Mi
62504	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.1	AC
	2400728 RD		
21105	Roadway Obliteration, Method 3	0.07	Mi
62505	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.2	AC
	2400050 RD		
21106	Roadway Obliteration, Method 3	0.11	Mi
62506	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.2	AC
	2400733 RD		
21107	Roadway Obliteration, Method 3	0.02	Mi
62507	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.1	AC

SCHEDULE OF ITEMS CONT.

Cave Thin Stewardship Project 4: Road Decommissioning

Mount Adams Ranger District
Gifford Pinchot National Forest

Sub-Item	Description	Quantity	Unit
	2400736 RD		
21108	Roadway Obliteration, Method 3	0.11	Mi
62508	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.2	AC
	2400060 RD		
21109	Roadway Obliteration, Method 3	0.04	Mi
62509	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.1	AC
	2400737 RD		
21110	Roadway Obliteration, Method 3	0.04	Mi
62510	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.1	AC
	8600736 RD		
21111	Roadway Obliteration, Method 3	0.36	Mi
62511	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.6	AC
	8620723 RD		
21112	Roadway Obliteration, Method 3	0.02	Mi
62512	Seeding and Mulching, Dry Method, (Government Provided Seed)	0.1	AC

Table of Contents

Preface

Preface_wo_03_15_2004_m

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-03 for construction of National Forest System Roads.

101 - Terms, Format, and Definitions

101.00_nat_us_07_25_2005

101.01_nat_us_01_22_2009

101.01 Meaning of Terms

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03_nat_us_06_16_2006

101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	National Institute of Standards and Technology
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

.

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04_nat_us_03_29_2007

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

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--No definition.

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.

Add the following:

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.

Design Quantity--"Design quantity" is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges*. Under these FP specifications this term is replaced by the term "Contract Quantities".

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 sale area map that requires designated mitigation measures.

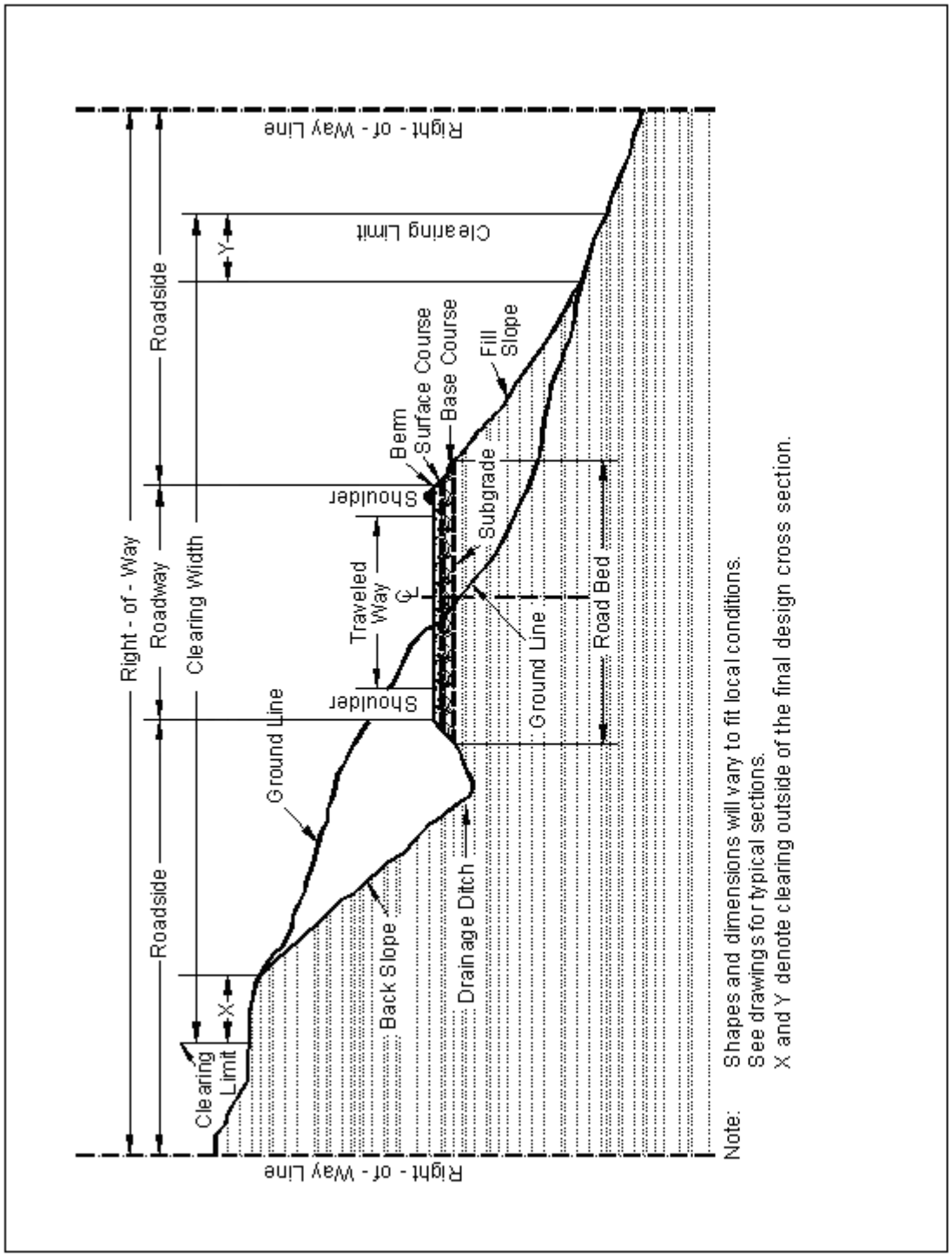
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

Schedule of Items--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

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_nat_us_02_16_2005

102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

103 - Scope of Work

103.00_nat_us_02_16_2005

Deletions

Delete all but subsection 103.01 Intent of Contract.

104 - Control of Work

104.00_nat_us_06_16_2006

Deletions

Delete Sections 104.01, 104.02, and 104.04.

104.06_nat_us_02_17_2005

Add the following subsection:

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_nat_us_01_18_2007

105.02 Material Sources.

105.02(a) Government-provided sources.

Add the following:

Comply with the requirements of 30 CFR 56, subparts B and H. Use all suitable material for aggregate regardless of size unless otherwise designated. When required, re-establish vegetation in disturbed areas according to section 625.

105.05_nat_us_05_12_2004

105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. The Government is not obligated to make reimbursement for the cost of producing these materials.

106 - Acceptance of Work

106.07_nat_us_05_11_2004

106.07 Delete

Delete subsection 106.07.

107 - Legal Relations and Responsibility to the Public

107.05_nat_us_05_11_2004

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06_nat_us_06_16_2006

107.06 Contractor's Responsibility for Work.

Delete the following from the first paragraph.

"except as provided in Subsection 106.07".

107.09_nat_us_06_16_2006

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10_nat_us_06_16_2006

107.10 Environmental Protection.

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Before beginning any work, submit a Hazardous Spill Plan. List actions to be taken in the event of a spill. Incorporate preventive measures to be taken, such as the location of mobile refueling facilities, storage and handling of hazardous materials, and similar information. Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.
- Exact time and location of spill including a description of the area involved.
- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

108 - Prosecution and Progress

108.00_nat_us_02_16_2005

108 Delete.

Delete Section 108 in its entirety.

109 - Measurement and Payment

109.00_nat_us_02_17_2005

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

109.02_nat_us_06_16_2006

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Add the following:

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

Change the following:

"(b) Cubic yard" to "(c) Cubic yard".

Add the following definition:

(p) Thousand Board Feet (Mbf). 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

155 - Schedules for Construction Contracts

155.00_nat_us_05_11_2004

155 Delete.

Delete Section 155 in its entirety.

203 - Removal of Structures and Obstructions

203.05 Disposing of Material.

Add the following:

(e): Scattering. Scatter pieces of wood debris within the clearing limits as directed. Do not place construction slash in lakes, meadows, streams, or streambeds. Immediately remove construction slash that interferes with drainage structures.

211 - Roadway Obliteration

211.01_nat_us_08_05_2009

211.01. Description.

Add the following to the first sentence:

~~and revegetate all disturbed areas.~~

~~Delete the definition for **(b) Method 2** and replace with the following:~~

~~Obliterate the first 150 feet of the roadway by restoring to approximate original ground contours. Keep excavated material within the original construction limits. Loosen the roadbed by ripping to a minimum of 18 inches. Remove all existing culverts and drainage structures. Remove and slope embankment material at localized drainages to restore natural drainage patterns. Construct driveable waterbars at designated locations. Scatter any available slash on obliterated roadway.~~

Add the following roadway obliteration methods:

(c) Method 3. Loosen the roadbed by scarifying to a maximum depth of 3 inches. Construct driveable waterbars at designated locations. Scatter any available slash on obliterated roadway. Eliminate all ruts and low spots that could hold water. Effectively close the road by installing or maintaining a gate, constructing a rock/earthen barrier ~~or obliterating the first 150 feet of roadway to approximate ground contour~~.

~~**(d) Method 4.** Grade the roadbed to eliminate all ruts and low spots that could hold water. Close the road by installing or maintaining a gate.~~

625 - Turf Establishment

625.03_nat_us_07_02_2007

625.03 General.

~~Delete this subsection and replace with the following:~~

~~Apply turf establishment to prepared ground or any disturbed area between ***(Date1)*** and ***(Date2)***. Apply turf establishment to the areas shown on the plans or worklists within ***XX*** days after completion of ground disturbing activities. Unless otherwise specified in writing by the CO apply turf establishment after each ***XXXX*** foot section of road has been constructed to template lines. Seeded areas damaged by construction activities shall be reseeded within 10 days of the damage. Do not seed during windy weather or when the ground is excessively wet, frozen, or snow covered.~~

Assure that all seed and mulch used in the work conforms to the weed free requirements of Section 713.

625.04 Preparing Seedbed.

Delete entire subsection and replace with the following:

Ensure that the surface soil is in a roughened condition favorable for germination and growth.

625.05 Watering

Delete entire subsection.

~~625.06 Fertilizing.~~

~~Delete entire subsection and replace with the following:~~

~~Apply fertilizer having a chemical analysis as listed below by the following methods.~~

~~**(a) Dry Method.** Apply the fertilizer with approved mechanical equipment. Hand operated methods are satisfactory on areas inaccessible to mechanical equipment.~~

(b) Hydraulic method. Use hydraulic-type equipment capable of providing a uniform application using water as the carrying agent. Add fertilizer to the slurry and mix before adding seed. Add the tracer material when designated by the CO.

Fertilizer. Apply fertilizer at the rate of ***XXXX*** pounds per acre. Insure that the fertilizer meets the following chemical analysis:

Nutrient	Percent
Nitrogen, N	***XXXXXX***
Phosphorus, $P_2 0_5$	***XXXXXX***
Potassium, K	***XXXXXX***

625.07 Seeding.

Delete the first sentence and add the following.

Apply seed mix by the following methods**:**

(a) Dry method. Delete the third sentence.

Add the following after subsection (b).

Seed Mix. Furnish and apply the following kinds and amounts of pure live seed:

	Type of Seed	Quantity of Pure Live Seed (Lbs/Acre)
1.		
2.		
3.		
4.		
5.		
6.		

~~7. _____ _____~~

~~Total _____~~

~~Determine the pounds of seed to be furnished per acre by dividing the pounds of pure live seed required per acre by the product of the percent purity and percent germination.~~

625.08 Mulching.

Delete the entire subsection and replace with the following:

Apply Mulch within ***8*** hours after seeding by the following methods.

(a) Dry Method. Apply mulch with a hand spreader or a spreader utilizing forced air at a rate of ***4000*** pounds per acre. ~~Anchor the mulch with an approved stabilizing emulsion tackifier at a rate of ***XX*** gallons per acre. Do not mark or deface structure, pavements, utilities, or plant growth with tackifier.~~

~~**(b) Hydraulic Method.** Apply mulch in a separate application from the seed using hydraulic-type equipment according to Subsection 625.07(b).~~

~~Apply wood fiber or grass straw cellulose fiber mulch at a rate of ***XXXX*** pounds per acre.~~

~~Apply bonded fiber matrix hydraulic mulch at a minimum rate of ***XXXX*** pounds per acre. Apply so no hole in the matrix is greater than 0.04 inches. Apply so that no gaps exist between the matrix and the soil.~~

~~Inaccessible areas may be mulched by hand. Apply mulch uniformly over the entire disturbed area.~~

625.09 Protecting and Caring for Seeded Areas

Delete the first sentence and add the following:

Protect and care for seeded areas until final acceptance.

625.11 Measurement.

Delete the entire Subsection and replace with the following:

Measure the Section 625 items listed in the bid schedule according to Subsection 109.02.

625.05_nat_us_03_30_2005

625.05 Watering.

Delete the entire subsection

625.07_nat_us_02_25_2005

625.07 Seeding. (a) Dry method.

Remove the last sentence “Lightly compact the seedbed within 24 hours after seeding.”

~~625.07 Seeding. (b) Hydraulic method.~~

~~Add the following:~~

~~Apply fertilizer conforming to Subsection 713.03 at the rates shown in Table 625-1. Fertilize areas inaccessible to hydro-type equipment by hand.~~

~~Table 625-1. Fertilizer Application Rate.~~

~~Type~~	~~Quantity per Slurry Unit~~
~~:~~	~~__lbs~~
~~:~~	~~__lbs~~

~~Apply the seed mixture at the rate of _____ kilograms of live seed per _____ (hectare/slurry unit). Include a tracer material consisting of either wood fiber mulch or grass cellulose fiber mulch to provide visible evidence of uniform application. Add the tracer to the slurry at a rate of _____ (400 pound per acre or 100 pound per slurry unit). Seed areas inaccessible to hydro-type equipment by hand.~~

718 - Traffic Signing and Marking Material

718.05_nat_us_08_05_2009

718.05 Aluminum Panels

Delete the third paragraph and replace with the following:

Clean, degrease and properly prepare the panels according to methods recommended by the sheeting manufacturer. Conversion coatings will conform to ASTM B-921 or ASTM B-449.

GIFFORD PINCHOT NATIONAL FOREST
MOUNT ADAMS RANGER DISTRICT
DRAWINGS FOR PROPOSED
CAVE THIN DECOMMISSION

SHEET INDEX

DESIGNED BY:
DESIGNER, ADAM DAILEY 11/17/14 DATE

RECOMMENDED BY:
DISTRICT ENGINEER, ADAM DAILEY 11/17/14 DATE

RECOMMENDED BY:
DISTRICT RANGER, JOSE JONES-YELLIN 11/24/14 DATE

RECOMMENDED BY:
Elwood Starr PE 12/8/14
TRANSPORTATION ENGINEER, ELWOOD STARR DATE

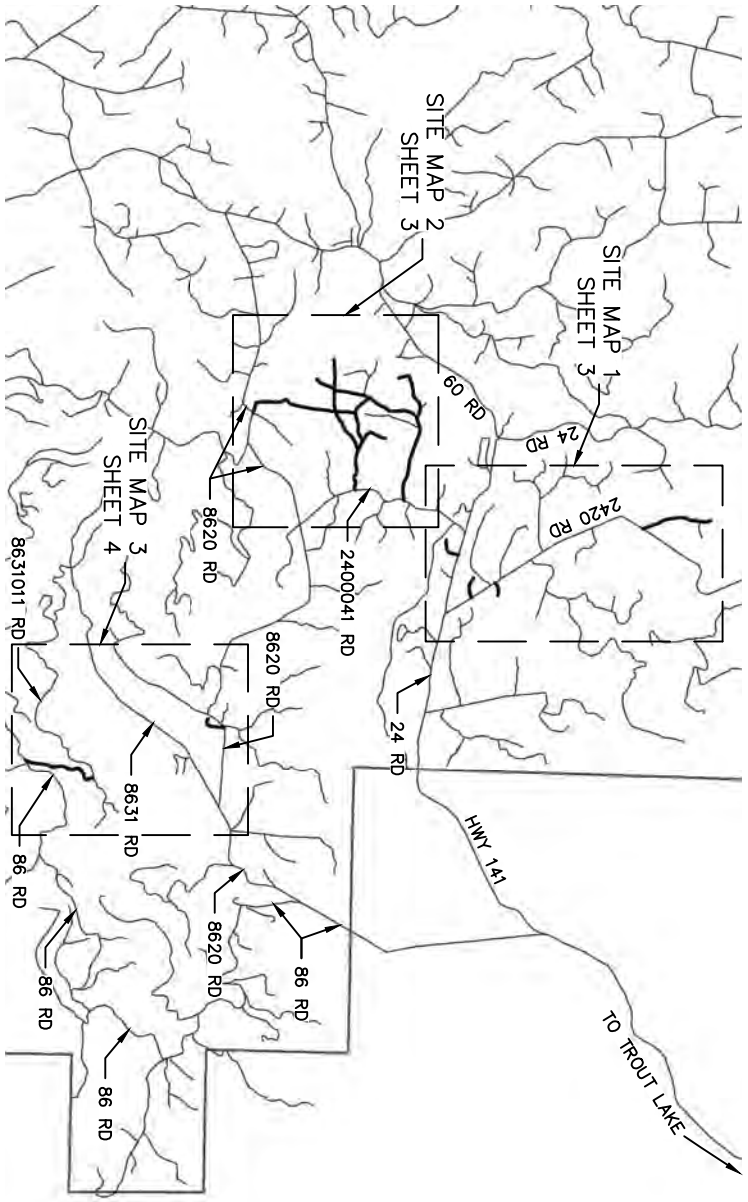
DO NOT SCALE DRAWING

Forest: GIFFORD-PINCHOT
Location: MOUNT ADAMS RANGER DISTRICT
Designed: A DAILEY Drawn: A DAILEY
Checked: R VARNER Date: 11/13/2014

MOUNT ADAMS RANGER DISTRICT
CAVE AND LIPO DECOMMISSION/CS
COVER

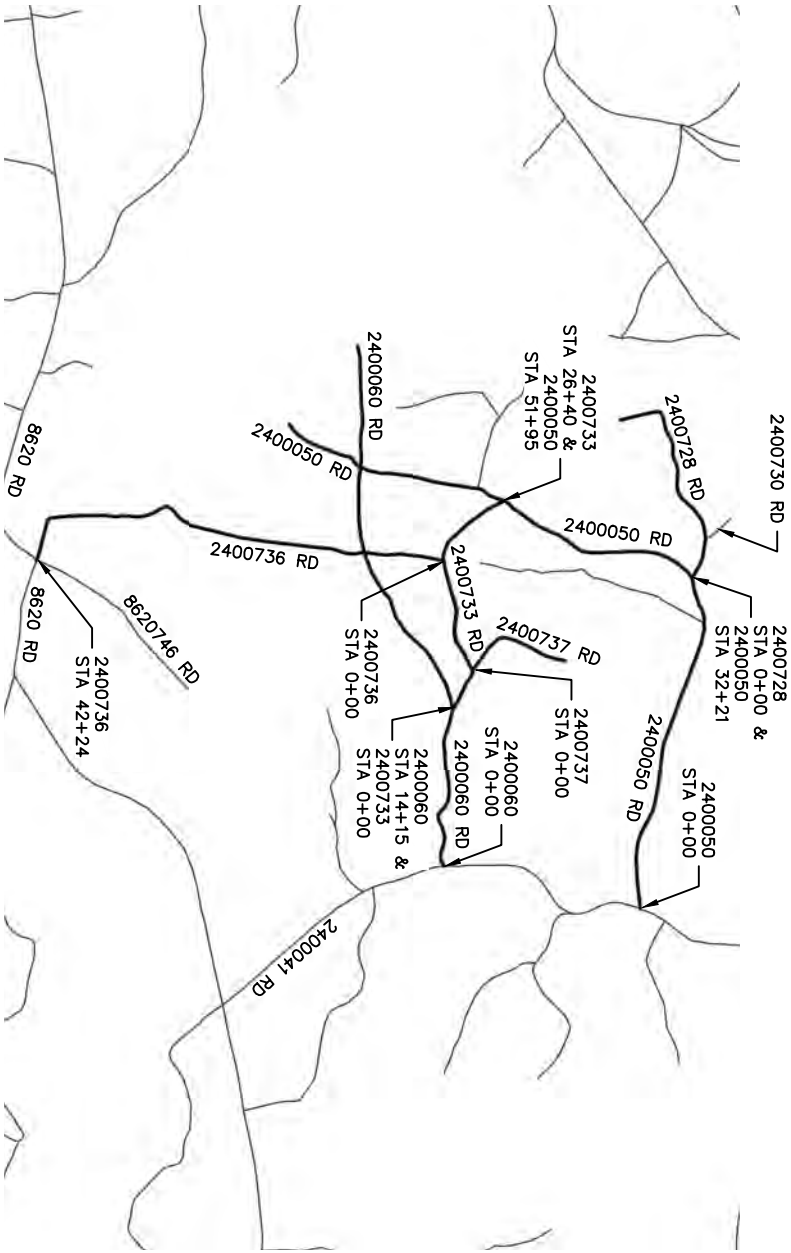
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

APPROVED:
FOREST ENGINEER, BOB VARNER 12/8/14 DATE

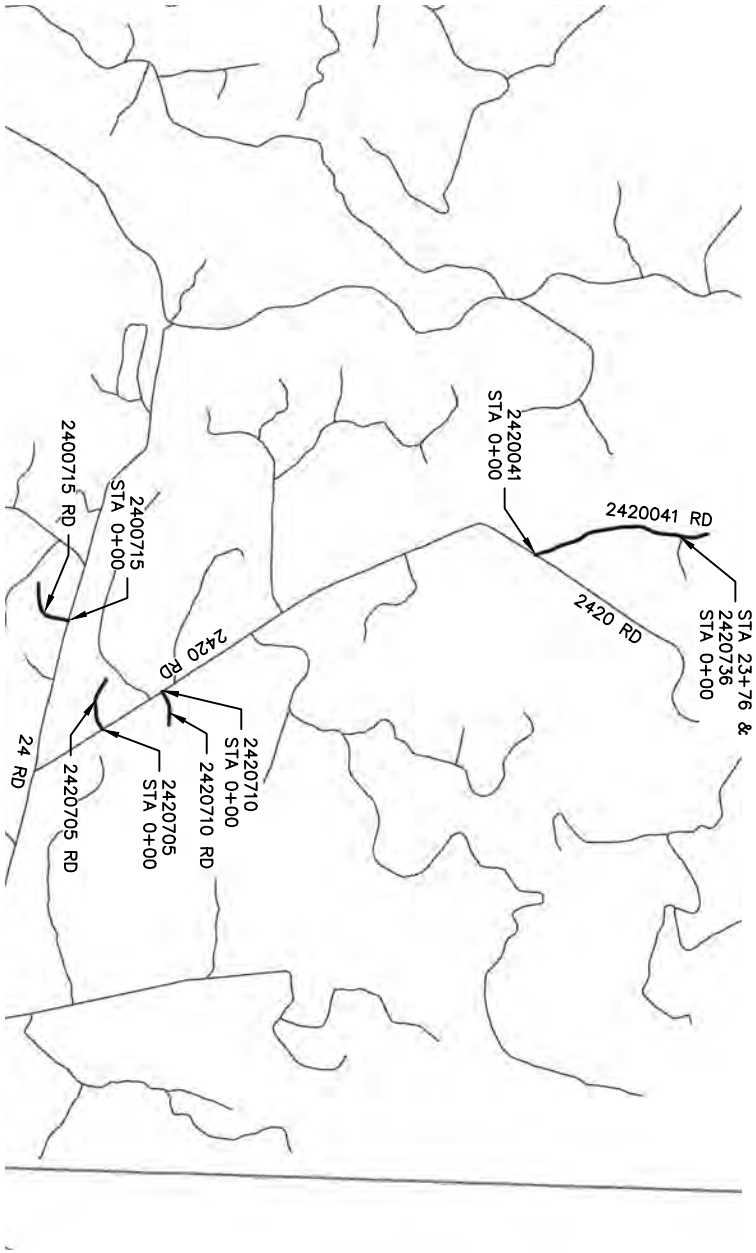


1 VICINITY MAP 1
NO SCALE

DO NOT SCALE DRAWING	MOUNT ADAMS RANGER DISTRICT	U.S. DEPARTMENT OF AGRICULTURE	APPROVED:
Forest: GIFFORD-PINCHOT	CAVE THIN DECOMMISSION	FOREST SERVICE	
Location: MOUNT ADAMS RANGER DISTRICT		THE PACIFIC NORTHWEST REGION (R-6)	FOREST ENGINEER, BOB VARNER DATE
Designed: A DAILEY Drawn: A DAILEY	VICINITY MAPS	GIFFORD PINCHOT NATIONAL FOREST	
Checked: B VARNER Date: 11/13/2014			SHEET 2 of 9



2 SITE MAP 2
NO SCALE



1 SITE MAP 1
NO SCALE

DO NOT SCALE DRAWING			
Forest:	GIFFORD-PINCHOT		
Location:	MOUNT ADAMS RANGER DISTRICT		
Designed:	A DAILEY	Drawn:	A DAILEY
Checked:	B VARNER	Date:	11/13/2014

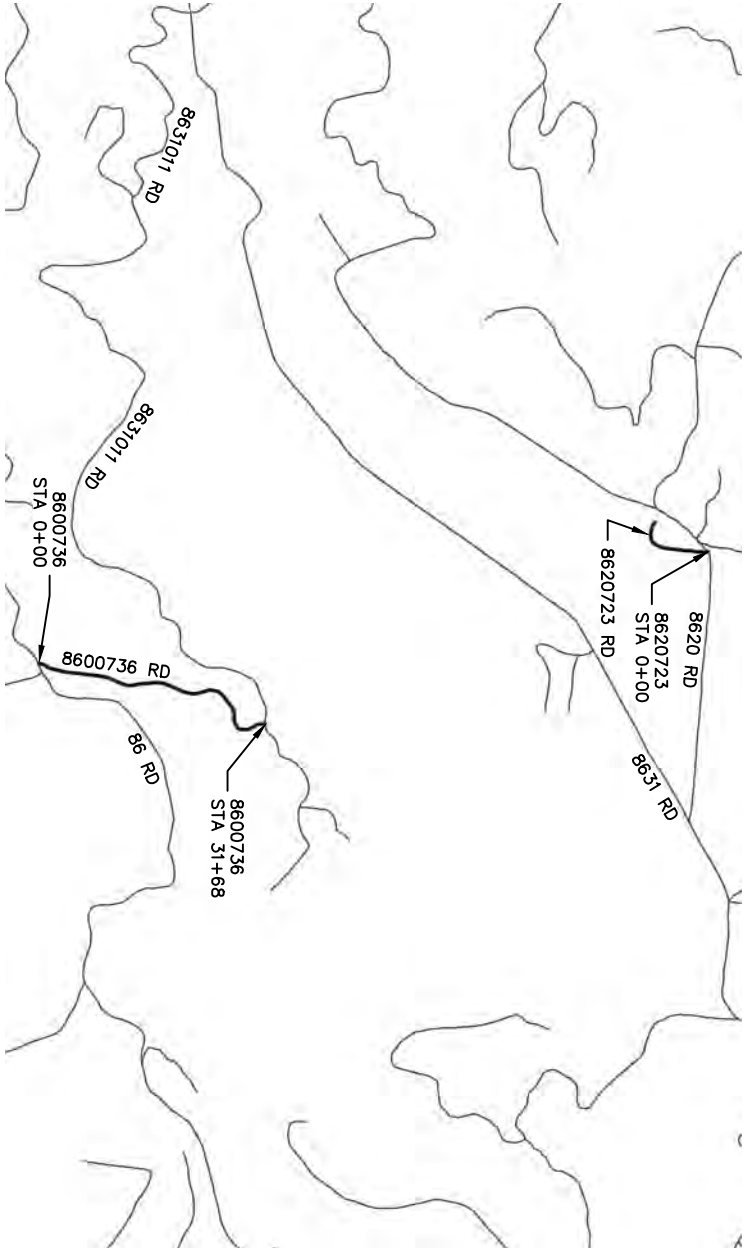
MOUNT ADAMS RANGER DISTRICT
CAVE THIN DECOMMISSION

SITE MAPS 1

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

APPROVED:

FOREST ENGINEER, BOB VARNER DATE



1 SITE MAP 3
NO SCALE

DO NOT SCALE DRAWING	MOUNT ADAMS RANGER DISTRICT	U.S. DEPARTMENT OF AGRICULTURE	APPROVED:
Forest: GIFFORD-PINCHOT	CAVE THIN DECOMMISSION	FOREST SERVICE	
Location: MOUNT ADAMS RANGER DISTRICT		THE PACIFIC NORTHWEST REGION (R-6)	FOREST ENGINEER, BOB VARNER DATE
Designed: A DAILEY Drawn: A DAILEY	SITE MAPS 2	GIFFORD PINCHOT NATIONAL FOREST	SHEET 4 of 9
Checked: B VARNER Date: 11/13/2014			

2420041 RD DECOMMISSION		
STATION	DESCRIPTION	SCHEDULE NOTE
0+00	INTERSECTION WITH 2420 RD	
±0+15	CONSTRUCT BERM, INCLUDE PREVIOUSLY PLACED BOULDERS	1
5+28	BEGIN SCARIFICATION	3
23+76	INTERSECTION WITH 2420736 RD, END SCARIFICATION	

2420705 RD DECOMMISSION		
STATION	DESCRIPTION	SCHEDULE NOTE
0+00	INTERSECTION WITH 2420 RD, BEGIN SCARIFICATION	3
±0+15	INSTALL ROAD CLOSURE BERM	1
2+00	END SCARIFICATION	

2420710 RD DECOMMISSION		
STATION	DESCRIPTION	SCHEDULE NOTE
0+00	INTERSECTION WITH 2420 RD, BEGIN SCARIFICATION	3
±0+15	INSTALL ROAD CLOSURE BERM	1
2+00	END SCARIFICATION	

2400715 RD DECOMMISSION		
STATION	DESCRIPTION	SCHEDULE NOTE
0+00	INTERSECTION WITH 24 RD, BEGIN SCARIFICATION	3
2+00	END SCARIFICATION	

APPROVED:

FOREST ENGINEER, BOB VARNER DATE

SHEET 5 of 9

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

MOUNT ADAMS RANGER DISTRICT
CAVE THIN DECOMMISSION

ROADS SCHEDULE 1

DO NOT SCALE DRAWING

Forest: GIFFORD-PINCHOT
Location: MOUNT ADAMS RANGER DISTRICT
Designed: A DAILEY Drawn: A DAILEY
Checked: B VARNER Date: 11/13/2014

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2400728 RD DECOMMISSION		
STATION	DESCRIPTION	SCHEDULE NOTE
0+00	INTERSECTION WITH 2400050 RD, BEGIN SCARIFICATION	3
±1+00	INSTALL ROAD CLOSURE BERM	1
3+50	INTERSECTION WITH 2400730 RD, END SCARIFICATION	

2400050 RD DECOMMISSION		
STATION	DESCRIPTION	SCHEDULE NOTE
0+00	INTERSECTION WITH 2400041 RD	
32+21	INTERSECTION WITH 2400728 RD, BEGIN SCARIFICATION	3
±32+36	INSTALL ROAD CLOSURE BERM	1
34+21	END SCARIFICATION	
49+95	BEGIN SCARIFICATION	3
51+95	INTERSECTION WITH 2400733 RD	
53+95	END SCARIFICATION	

2400733 RD DECOMMISSION		
STATION	DESCRIPTION	SCHEDULE NOTE
26+40	INTERSECTION WITH 2400050 RD, BEGIN SCARIFICATION	3
±26+25	CONSTRUCT BERM	1
25+40	END SCARIFICATION	

2400736 RD DECOMMISSION		
STATION	DESCRIPTION	SCHEDULE NOTE
0+00	INTERSECTION WITH 2400733 RD, BEGIN SCARIFICATION	3
±0+15	CONSTRUCT BERM	1
2+50	END SCARIFICATION	
38+74	BEGIN SCARIFICATION	3
±42+09	CONSTRUCT BERM	1
42+24	INTERSECTION WITH 8620 RD, END SCARIFICATION	

2400060 RD DECOMMISSION		
STATION	DESCRIPTION	SCHEDULE NOTE
14+15	INTERSECTION WITH 2400733 RD, BEGIN SCARIFICATION	3
±14+30	CONSTRUCT BERM	1
16+15	END SCARIFICATION	

2400737 RD DECOMMISSION		
STATION	DESCRIPTION	SCHEDULE NOTE
0+00	INTERSECTION WITH 2400733 RD, BEGIN SCARIFICATION	3
±0+15	CONSTRUCT BERM	1
2+00	END SCARIFICATION	

APPROVED:

FOREST ENGINEER, BOB VARNER DATE

SHEET 6 of 9

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

MOUNT ADAMS RANGER DISTRICT
CAVE THIN DECOMMISSION

ROADS SCHEDULE 2

DO NOT SCALE DRAWING

Forest: GIFFORD-PINCHOT
Location: MOUNT ADAMS RANGER DISTRICT
Designed: A DAILEY Drawn: A DAILEY
Checked: B VARNER Date: 11/13/2014

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8600736 RD DECOMMISSION

STATION	DESCRIPTION	SCHEDULE NOTE
0+00	INTERSECTION WITH 86 RD, BEGIN SCARIFICATION	3
±0+15	CONSTRUCT BERM	1
2+00	END SCARIFICATION	
5+28	BEGIN CONSTRUCTING 6 WATERBARS AT 100 FT. SPACING	2
10+28	END CONSTRUCTING 6 WATERBARS AT 100 FT. SPACING	
16+68	BEGIN CONSTRUCTING 11 WATERBARS AT 100 FT. SPACING	2
26+68	END CONSTRUCTING 11 WATERBARS AT 100 FT. SPACING	
29+68	BEGIN SCARIFICATION	3
±31+53	CONSTRUCT BERM	1
31+68	INTERSECTION WITH 8631011 RD, END SCARIFICATION	

8620723 RD DECOMMISSION

STATION	DESCRIPTION	SCHEDULE NOTE
0+00	INTERSECTION WITH 8620 RD, BEGIN SCARIFICATION	3
±0+15	CONSTRUCT BERM	1
1+00	END SCARIFICATION	

ROADS SCHEDULE NOTES

1. SEE ROAD CLOSURE BERM DETAIL 1 SHEET 9. ENSURE BERM TIES INTO EXISTING TREELINE, CUT/FILL SLOPES, OR AS DIRECTED BY THE CO TO PREVENT PASSAGE. ENSURE DRAINAGE CONTINUITY AROUND BERM TO PREVENT PONDING. EXACT STATION LOCATIONS SHALL NOT DEVIATE MORE THAN 20' FROM THE SCHEDULE UNLESS COORDINATED WITH THE CO. EXCAVATE AND SCARIFY BERM MATERIAL FROM BEHIND PROPOSED BERM LOCATION, EXCAVATION MAX DEPTH IS 2 FEET, ENSURE EXCAVATION DRAINAGE, SEED AND MULCH.
2. SEE WATERBAR DETAIL 1 SHEET 8.
3. SCARIFY 3"PER FSSS 211, METHOD 3, SEED AND MULCH ALL DISTURBED AREAS.
4. SEE CULVERT REMOVAL DETAIL 2 SHEET 9.

APPROVED:

FOREST ENGINEER, BOB VARNER DATE

SHEET 7 of 9

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

MOUNT ADAMS RANGER DISTRICT
CAVE THIN DECOMMISSION

ROADS SCHEDULE 3

DO NOT SCALE DRAWING

Forest: GIFFORD-PINCHOT
Location: MOUNT ADAMS RANGER DISTRICT
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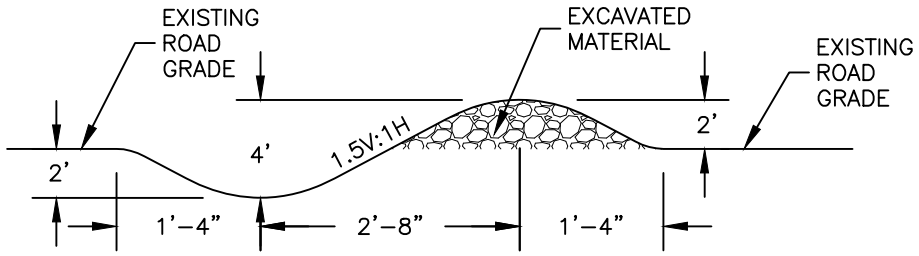
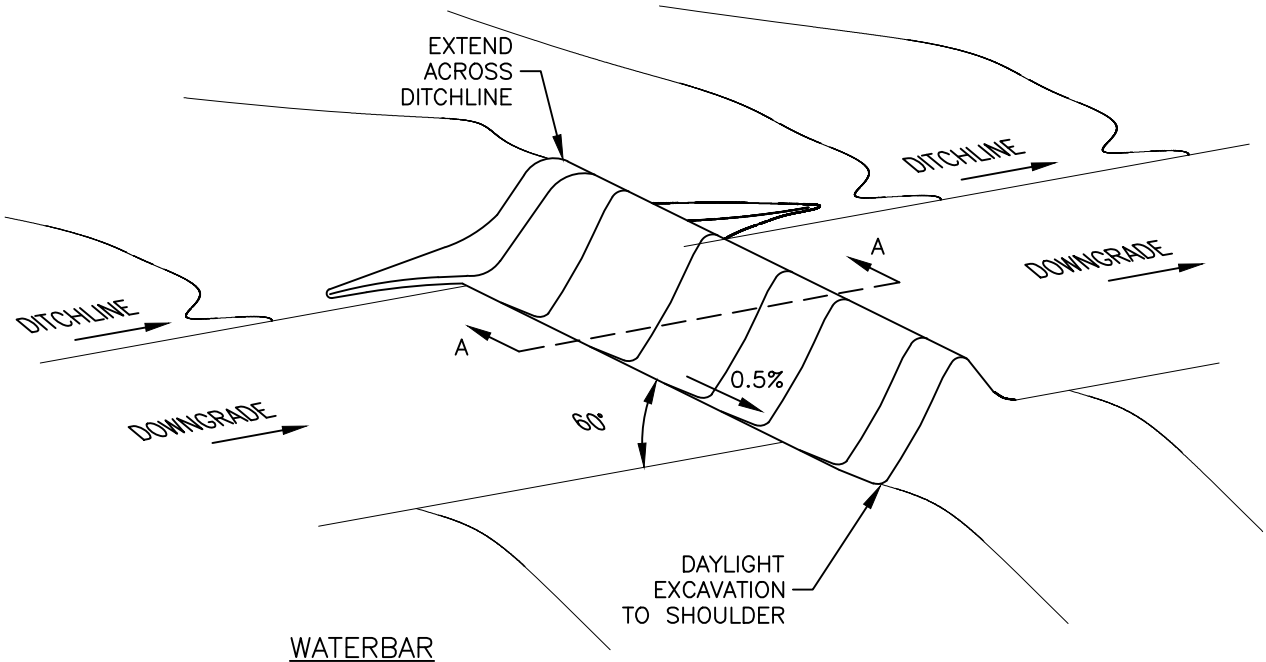
WATERBAR NOTES:

1. EXCAVATION DEPTH SHALL BE 2' AT THE INLET OF THE WATERBAR AND SHALL SLOPE 0.5% TO FACILITATE DRAINAGE TO THE OUTLET.
2. THE BARRIER MOUND SHALL EXTEND ACROSS THE ENTIRE WIDTH OF THE ROAD AND DITCHLINE.
3. INSLOPE OR OUTSLOPE IN THROUGH CUT CONDITION.
4. RIPRAP APRONS MAY BE EXCLUDED AT THE DIRECTION OF THE CO.



SECTION A–A



WATERBAR

1 WATERBAR DETAIL

NO SCALE

DO NOT SCALE DRAWING

Forest: GIFFORD-PINCHOT
Location: MOUNT ADAMS RANGER DISTRICT
Designed: A DAILEY Drawn: A DAILEY
Checked: B VARNER Date: 11/13/2014

MOUNT ADAMS RANGER DISTRICT
CAVE THIN DECOMMISSION

DETAILS 1

APPROVED:

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U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

SHEET 8 of 9

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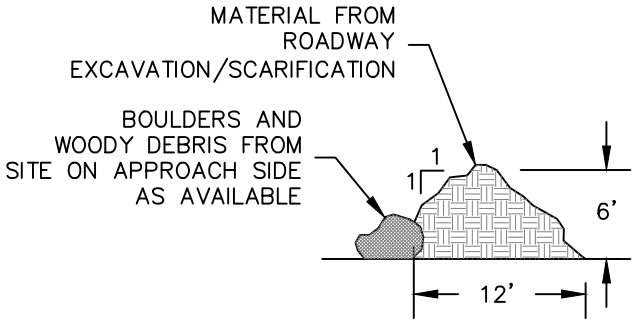
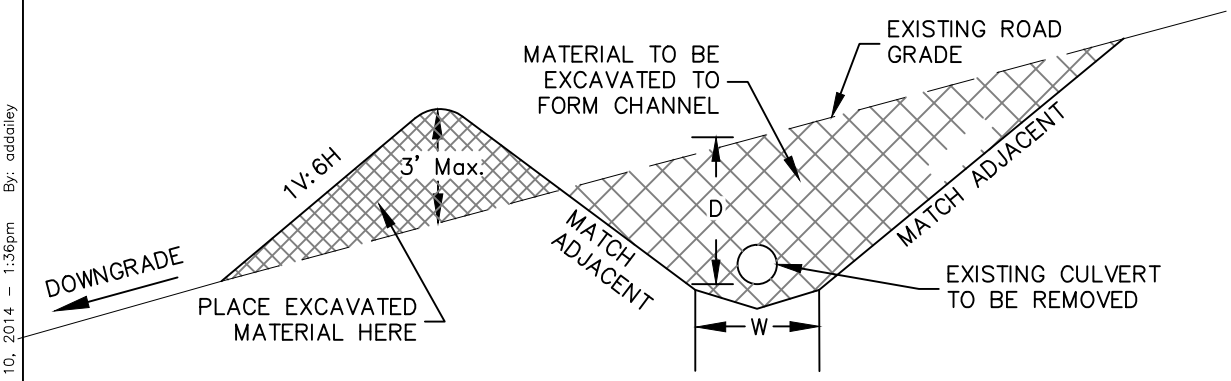


1 ROAD CLOSURE BERM DETAIL

NO SCALE



2 CULVERT REMOVAL DETAIL

NO SCALE

CULVERT REMOVAL NOTES:

1. CONTRACTOR WILL EXCAVATE DRAINAGE BOTTOM WIDTH TO TIE INTO THE UPSTREAM AND DOWNSTREAM CONDITIONS.
2. EXCAVATE TO BOTTOM OF CULVERT; REMOVE AND DISPOSE OF CULVERT OFF THE FOREST.
3. USE EXCAVATED MATERIAL TO CONSTRUCT BARRIER MOUND WHICH CROSSES ENTIRE ROADBED AND DITCHLINE.
4. STREAMBANKS SHALL BE SHAPED TO MIMIC THE NATURAL STREAM CHANNEL AND BANKS AND RESTORE THE NATURAL VALLEY CONFIGURATION.
5. STREAMBED SUBSTRATES SHALL MIMIC THE NATURAL STREAMBED CHARACTERISTICS UPSTREAM AND DOWNSTREAM OF THE CROSSING REMOVAL AS AVAILABLE.
6. LARGE WOODY MATERIAL AND/OR LARGE ROCKS MAY NEED TO BE PLACED WITHIN THE CROSSING REMOVAL SITE TO ACCOMPLISH THIS OBJECTIVE.
7. THE TOE OF THE EXCAVATION SHALL BE STABILIZED WITH LARGE WOOD, APPROPRIATELY SIZED ROCK, AND/OR VEGETATION AS NECESSARY TO PREVENT EXCESSIVE EROSION OF THE NEW STREAMBANKS.
8. CONDUCT EQUIPMENT OPERATIONS TO PREVENT DELIVERY OF SEDIMENT TO WATERCOURSES. CONTRACTOR IS REQUIRED TO PROVIDE A DEWATERING PLAN FOR ACTIVE WATERWAYS TO PREVENT DELIVERY OF SEDIMENT TO THE WATERCOURSES.

APPROVED:

FOREST ENGINEER, BOB VARNER DATE

SHEET 9 of 9

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
THE PACIFIC NORTHWEST REGION (R-6)
GIFFORD PINCHOT NATIONAL FOREST

MOUNT ADAMS RANGER DISTRICT
CAVE THIN DECOMMISSION

DETAILS 2

DO NOT SCALE DRAWING

Forest: GIFFORD-PINCHOT
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KT-GT.9# - STEWARDSHIP PROJECTS

Project Number 5: Snag and Down Log Creation

End Results

The objective is to create snags and increase cover of large down wood.

Description of Work and Technical Specifications

Stand 301785

Create snags and increase cover of large down wood while also enhancing growth on selected dominate trees in the stand (defined here as being at least 19 inches dbh). DBH is measured at four and one half feet above the ground, on the uphill side of the tree.

Procedure – The contractor will select three dominate trees per acre (fifteen total) that are at least 100 feet away from FR 8831, and reasonably well distributed through the stand. Select the four subdominate trees that are closest to each dominate tree (subdominate trees are between 15 and 19 inches). Top three of the subdominate trees to create snags, and fell the fourth to leave for down wood.

A total of 45 trees will be topped and 15 will be felled across about five acres. The trees will be topped at least 40 feet above the ground, and live branches below the cut must be removed. The work will need to be done in the fall after August to minimize potential infestation of the dominate trees by bark beetles.

Stand 301573B

Create 30 snags (about 3 per acre) by topping or girdling trees outside of the harvested gaps.

Trees to be girdled or topped are selected by the contractor and should all be Douglas fir. Selected trees shall have diameters between 15 and 19 inches, diameter at breast height (DBH). DBH is measured at four and one half feet above the ground, on the uphill side of the tree. Selected trees to top or girdle should be in clumps of 3 to 4 trees.

Only live trees can be selected and no live trees with dead or broken tops will be selected. A tree with multiple tops is counted as one tree. Trees and will be girdled or topped at a 40 to 50 foot height or 6 inch top diameter whichever occurs first. Multi-leadered trees do not count as two trees.

All live branches below the girdled bole can be removed. Height measurement is taken from the ground level on the uphill side of the tree.

If used, girdling shall be accomplished by cutting and removing a circular band around the entire bole of the tree. The band shall be at least six inches (6″) wide at all points and the cut shall remove the bark and cambium layer, and the underlying sapwood to a depth of at least one half inch (1/2″) to one inch (1″). Girdles may be created using hand tools or power tools.

Unit 1 south half (301781 and 304818); Unit 4; Unit 23; Units 31, 32, 33
Create 2 snags per acre in these units by topping or girdling (total 242)

- Unit 1 - 82
- Unit 4 - 36
- Unit 23 – 36
- Unit 31 – 6
- Unit 32 – 6
- Unit 33 – 76

Trees to be girdled or topped are selected by the contractor and should all be Douglas fir. Selected trees shall have diameters between 14 and 18 inches, diameter at breast height (DBH). DBH is measured at four and one half feet above the ground, on the uphill side of the tree. Selected trees to top or girdle should be in clumps of 3 to 4 trees.

KT-GT.9# - STEWARDSHIP PROJECTS

Project Number 5: Snag and Down Log Creation (Continued)

Only live trees can be selected and no live trees with dead or broken tops will be selected. A tree with multiple tops is counted as one tree. Trees and will be girdled or topped at a 40 to 50 foot height or 6 inch top diameter whichever occurs first. Multi-leadered trees do not count as two trees.

All live branches below the girdled bole can be removed. Height measurement is taken from the ground level on the uphill side of the tree.

If used, girdling shall be accomplished by cutting and removing a circular band around the entire bole of the tree. The band shall be at least six inches (6″) wide at all points and the cut shall remove the bark and cambium layer, and the underlying sapwood to a depth of at least one half inch (1/2″) to one inch (1″). Girdles may be created using hand tools or power tools.

All Treatment Locations

A GPS point datum will be collected at each treatment location. An ESRI shapefile(s) containing all data will be submitted to the Forest Service. Individual shapefiles will, at a minimum, contain all points within a treatment unit. Multiple units may be included in one shapefile. Shapefile names will indicate the unit(s) from which the data was collected.