National Forest Foundation

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Request for Proposals
The Cabin Creek Project
Tahoe National Forest, California

Background and Statement of Work: The National Forest Foundation (NFF) and the USDA Forest Service are working together to protect and restore the Tahoe National Forest. In the coming years, the NFF and Tahoe National Forest are collaborating on a number of projects, including the Cabin Creek Project.

The Cabin Creek Project will improve stand condition by thinning and removing conifers on up to 1,584 acres, with additional service work including mastication, hand thin and pile, thin, grapple pile, and fireline construction, and meadow restoration through conifer removal on 1,951 acres. The project may also include up to 144 acres of fuel reduction through mastication on Placer County lands surrounding the Eastern Regional Landfill.

Information Requested

If interested in submitting a bid for this project, please provide a proposal for the above statement of work by providing:

- technical approach – Including proposed treatment plan for Contractor Determination Units 8, 13c, 13d, 18, 19 and 35.
- work experience
- cost
- capacity for this project
- experience in similar projects

Specific requirements are detailed below.

I. PROJECT OVERVIEW AND REQUIREMENTS

General Specifications

1. Description of Work – This Request for Proposals is for restoration services related to hazardous fuel reduction and mechanical thinning on the Cabin Creek Project, including the following:

a. Thinning and removal of conifers up to 29.9 inches in diameter at breast height (DBH) on up to 1,584 acres in accordance with Appendix F and protection measures in Appendix E. (not a paid item)
b. Mastication treatment of specific brush and conifers up to 10 inches DBH (up to 12" DBH, as needed) on up to 1,713 acres in accordance to specifications in Appendix E.
c. Contractor Determination Unit 8 (up to 46.3 acres). Contractor will propose treatment method to meet implementation specifications in Appendix E while adhering to all stated resource protection measures. Treatments may include but are not limited to mastication, hand thin and grapple pile, hand thin and hand pile, etc. A mix of treatment types may be used within the same unit. Treatments should limit pile creation where possible. Mechanized equipment will be allowed up to 50% slope in general. Timber within unit is subject to agreement. *Please explain how you plan to treat these acres in your proposal.*
d. Contractor Determination Unit 13c (up to 28 acres). Contractor will propose treatment method to meet implementation specifications in Appendix E while adhering to all stated resource protection measures. Treatments may include but are not limited to mastication, hand thin and grapple pile, hand thin and hand pile, etc. A mix of treatment types may be used within the same unit. Treatments should limit pile creation where possible. Mechanized equipment will be allowed up to 50% slope in general. Timber within unit is subject to agreement. *Please explain how you plan to treat these acres in your proposal.*
e. Contractor Determination Unit 13d (up to 28.5 acres). Contractor will propose treatment method to meet implementation specifications in Appendix E while adhering to all stated resource protection measures. Treatments may include but are not limited to mastication, hand thin and grapple pile, hand thin and hand pile, etc. A mix of treatment types may be used within the same unit. Treatments should limit pile creation where possible. Mechanized equipment will be allowed up to 50% slope in general. Timber within unit is subject to agreement. *Please explain how you plan to treat these acres in your proposal.*
f. Contractor Determination Unit 18 (up to 30 acres). Contractor will propose treatment method to meet implementation specifications in Appendix E while adhering to all stated resource protection measures. Treatments may include but are not limited to mastication, hand thin and grapple pile, hand thin and hand pile, etc. A mix of treatment types may be used within the same unit. Treatments should limit pile creation where possible. Mechanized equipment will be allowed up to 50% slope in general. Timber within unit is subject to agreement. *Please explain how you plan to treat these acres in your proposal.*
g. Contractor Determination Unit 19 (up to 44.8 acres). Contractor will propose treatment method to meet implementation specifications in Appendix E while adhering to all stated resource protection measures. Treatments may include but are not limited to mastication, hand thin and grapple pile, hand thin and hand pile, etc. A mix of treatment types may be used within the same unit. Treatments should limit pile creation where possible. Mechanized equipment will be allowed up to 50% slope in general. Timber within unit is subject to agreement. *Please explain how you plan to treat these acres in your proposal.*
h. Contractor Determination Unit 35 (up to 45.1 acres). Contractor will propose treatment method to meet implementation specifications in Appendix E while adhering to all stated resource protection measures. Treatments may include but are not limited to mastication, hand thin and grapple pile, hand thin and hand pile, etc. A mix of treatment types may be used within the same unit. Treatments

should limit pile creation where possible. Mechanized equipment will be allowed up to 50% slope in general. Timber within unit is subject to agreement. *Please explain how you plan to treat these acres in your proposal.*

i. Meadow Restoration by Conifer Removal on up to 12.9 acres in accordance to Appendix E.

j. Mastication treatment of specific brush and conifers up to 10 inches DBH (up to 12" DBH, as needed) on up to 144 acres in accordance to specifications in Appendix E. **This item will be awarded at the discretion of NFF and Placer County.*

k. Road Maintenance on up to 26.5 miles in accordance with road maintenance specifications. (not a paid item)

l. Pre-haul Road Reconstruction up to 5 miles of road (see roads package).

Permits: The contractor will be responsible for obtaining any necessary permits for access, hauling, traffic control and other operation across state and county owned roadways. Permits will be needed to access Forest Service units as well as Placer County units.

For Placer County:
A Right-of-Entry Agreement will be required for hauling and operations across Placer County owned parcels. The Right-of-Entry will include, at a minimum, the following considerations:

- In support of the public benefits of this project, Placer County is prepared to process a Right of Entry Agreement (ROE) without a processing fee
- A request for preparation of a ROE may be submitted to: facpropmgmt@placer.ca.gov
- Requester should allow 3 weeks for a draft ROE from the time of request (request must be made following an executed contract for performance of the work)
- Topics of the ROE will include, but not be limited to:
    - Insurance and indemnification
    - Hours of operation
    - Dust and sediment control
    - Preservation of County property and infrastructure
    - Coordination with other industrial and transit uses at the site
    - Remedy for damage or breach
    - Encouragement to use existing roads and access points. If new roads or grading are needed, a separate grading permit may be required

Contractors should reach out to Casey Lyon (530.308.0423 or clyons@placer.ca.gov) or any questions regarding Placer County permits.

For questions related to permits for hauling and traffic control on state Highway 89 please contact the California Department of Transportation (Caltrans).

The Contractor shall identify what they can supply in terms of materials, labor, equipment, supplies, supervision, quality control, and incidentals required to complete the work described. The Contractor shall perform all work in a safe and conscientious manner.

2. Project Location – The Cabin Creek Project is located on the Truckee Ranger District, roughly 2 miles south of Truckee. The project runs along the west side of Highway 89 and extends from the intersection of East River St. south to Brush Creek. All on-site project work will be within Placer County. Hualing will likely span multiple counties.

3. Work Schedule – The project is expected to begin as soon as conditions permit. The normal operating season spans from May 1 to October 15; however, outside of normal operating season will be allowed at the discretion of NFF/USFS depending on conditions. The NFF and Successful Bidder will negotiate a schedule of operations upon award, with mandatory benchmarks to meet NFF's desired goals for project progress. Examples of mandatory benchmarks and desired goals may include, but are not limited to:

    - December 31, 2024, completion of at least 500 treatment acres (confer thinning and/or fuels reduction).
    - December 31, 2025, completion of at least 1,000 cumulative treatment acres (confer thinning and/or fuels reduction).
    - December 31, 2026, completion of all conifer thinning and removal of all product, completion of all other work items described in the "Description of Work" above.

Other Project Requirements and Specifications

I. Utilities – In many locations there will be no or limited sanitation, water, electrical or housing services available. The Contractor shall make its own arrangements for temporary facilities if needed.

(b) Specifications – Project work shall be accomplished in accordance with the following:

- Appendix A – Omitted
- Appendix B – Omitted
- Appendix C.1 – Forest Service Map
- Appendix C.2 – Placer County Map
- Appendix C.3 – Cabin Creek Forest Service Units Acreage Breakdown
- Appendix D – Omitted
- Appendix E – Service Work Specifications (including resource protections)
- Appendix F – Timber Removal Specifications
- Appendix G – Guidelines for Operations
- Appendix H.1 – Fire Plan (Hand Thin)
- Appendix H.2. – Fire Plan (Mechanical Thin)
- Roads Package and Cruise Data – Use this link to download the documents: https://nff.files.com/f/0ae96222a1b05e5b

Insurance Requirements

Upon selection of the winning bid, the Contractor agrees that it has and shall maintain the following insurance coverage indicated below. The effective date of all coverage shall precede the start of any work.

a. State minimum workers' compensation insurance coverage for its employees, if any.

b. Broad form general liability, property damage, and automotive liability insurance in the minimum amount of $1,000,000 for bodily injury, death, or damage to property of any person and $2,000,000 for bodily injury, death, or damage to property of more than one person. The Contractor shall name NFF an Additional Named Insured and provide NFF with a certificate of insurance evidencing such coverages, prior to the initiation of the Scope of Services.

c. If the Scope of Services includes professional services as identified herein, Contractor shall also provide professional errors and omissions liability insurance. Professional services for purposes of this section include, but are not limited to performing architecture, engineering, landscape architecture, land surveying or planning, preparation and signing or stamping of drawings, maps, surveys or construction specifications, or design and development of computer software, programs or websites by the Contractor or by subcontractors on behalf of the Contractor, for which professional liability insurance would typically be required. The minimum coverage limits required are $1,000,000 for each claim and $1,000,000 annual aggregate.

Prohibited Telecommunications Services and Equipment

The Contractor is responsible for compliance with the prohibition on certain telecommunications and video surveillance services or equipment identified in 2 CFR 200.216.

Payment/Performance Security

Contractor shall post cash, a letter of credit, bond, or other financial security that is easily convertible into cash in a form acceptable to the NFF, in its sole determination, to assure completion of the work required under any subsequent agreement and payment of all amounts lawfully due to all persons supplying or furnishing to the Contractor or Contractor's subcontractors with labor, laborers, materials, rental machinery, tools or equipment used or to perform the work. Contractor may incorporate required associated costs into mobilization costs or other approved expenses.

a. Work that is classified as construction in accordance with the Miller Act or Little Miller Act or if required per conditions of the funding source, payment and performance bonding will be required in the full amount of any Agreement. For the purposes of this Request for Proposal, construction is defined as "any contract greater than $100,000 for the construction, alteration, or repair of any public building or public work where the federal government is the owner", or

b. If Contractor is not self-performing at least 85% of the total contract value or if the cost of materials is in excess of the larger of $100,000 or 50% of the contract total, payment and performance bonding will be required in the full amount of the agreement, or

c. If the value of the agreement is in excess of $250,000, Contractor will be required to post financial security in a form acceptable to the NFF in the amount of 5% of the total agreement value up to $250,000 in total financial security.

American Made Products. The work associated with this RFP is subject to Build America, Buy America Act. P.L. 117-58, Secs 70911-70917, and as such, domestic content procurement

preference requires all iron and steel, manufactured products and construction materials used within the scope of this Agreement, be produced in the United States.

Federal Exclusion Verification

The selected Contractor will be required to affirm that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

Federal Flowdown Provisions

Flowdown Requirements: Any Agreement associated with this RFP may be subject to flowdown requirements under associated federal or state funding agreements, which are included and made part of by this reference.

II. REQUIRED COMPONENTS

Technical Proposal

Please provide a detailed technical approach to the work.

Contractor Qualifications

I. Past Experience – Please provide a brief explanation of previous work experience with land management agencies.

II. References – Please provide three professional references that can speak to past performance.

Pricing Schedule

Contractor shall price work according to the schedule below. Prevailing wages are required per conditions of funding sources.

The Cabin Creek Project – Timber Rates						
Cutting Unit Number	**Approximate Acreage**	**Species**	**Product**	**Estimated Quantity**	**Unit of Measure**	**Rate of Payment $/UOM**
All Units	1,584	PP/JP/LP/WF	Sawtimber	63,241	TON	

For timber removal specifications please see Appendix F. ***Minimum rates for Sawtimber are $3/TON***

For the Cabin Creek Project in the state of California, prevailing wages ***ARE NOT*** applicable to the following tasks:

The Cabin Creek Project – Work Items					
	Task/Item	**Unit**	**# Units**	**Unit Cost**	**Extended Cost**
(a)	Thinning and removal of conifers up to 29.9" DBH	Acres	1,584		
(b)	Mastication Treatments (excluding any mastication in units 8, 13c, 13d, 18, 19, and 35)	Acres	1,713		
(c)	Contractor Determination - Unit 8	Acres	46.3		
(d)	Contractor Determination - Unit 13c	Acres	28		
(e)	Contractor Determination - Unit 13d	Acres	28.5		
(f)	Contractor Determination - Unit 18	Acres	30		
(g)	Contractor Determination - Unit 19	Acres	44.8		
(h)	Contractor Determination - Unit 35	Acres	45.1		
(i)	Meadow Restoration by Conifer Removal – Unit 26	Acres	12.9		
(j)	Mastication Treatments – Placer County*	Acres	144		

**Optional Item: This item will be awarded at the discretion of NFF and Placer County.*

For Cabin Creek Project in the state of California, prevailing wages ***ARE*** applicable to the following tasks:

The Cabin Creek Project – Work Items					
	Task/Item	**Unit**	**# Units**	**Unit Cost**	**Extended Cost**
(k)	Road Maintenance	Miles	26.5		
(l)	Pre-haul Road Reconstruction	Miles	5		
				Total Bid	

III. SUBMISSION, EVALUATION, AND CONTACTS

Contractor Selection Process

This is a request for proposals only and bids furnished are not offers from the National Forest Foundation. This request does not commit the National Forest Foundation to pay any costs incurred in the preparation or submission of the proposal or to contract for supplies or services.

The NFF will use the Evaluation Factors below to review each submitted bid. Based on the outcomes of that selection process, the NFF will notify successful and unsuccessful bidders within 10 business days of submission deadline and will prepare a separate contract document.

Evaluation Factors and Relative Importance

The following criteria will be used in the evaluation of submitted proposals, ordered from highest weighting (level 3) to lowest weighting (level 1).

Level 3 Criteria
- Price / cost
- Equipment and contractor capability
- Timing of when contractor can begin and/or finish the project
- Past performance, references, and USFS feedback

Level 2 Criteria
- Technical proposal / proposed approach to project
- Overall strategic benefits to meeting NFF goals and grant needs, requirements, and timelines

Level 1 Criteria
- Benefits to the local community
- Relationship to local community

Point of Contact

Please submit any questions about the project in writing to the Point of Contact.

Dan Alvey
National Forest Foundation CA Program Manager – Tahoe Area
dalvey@nationalforests.org
530.247.5443

Responses will be shared with known interested parties by email or otherwise posted at https://www.nationalforests.org/rfp.

Bid Submission

Submit bids via email dalvey@nationalforests.org to by Thursday, April 4, 2024 at 5PM

Equal Opportunity Provider

In accordance with Federal law and U.S. Department of Agriculture policy, the National Forest Foundation is prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs, or disability.

APPENDIX C.1

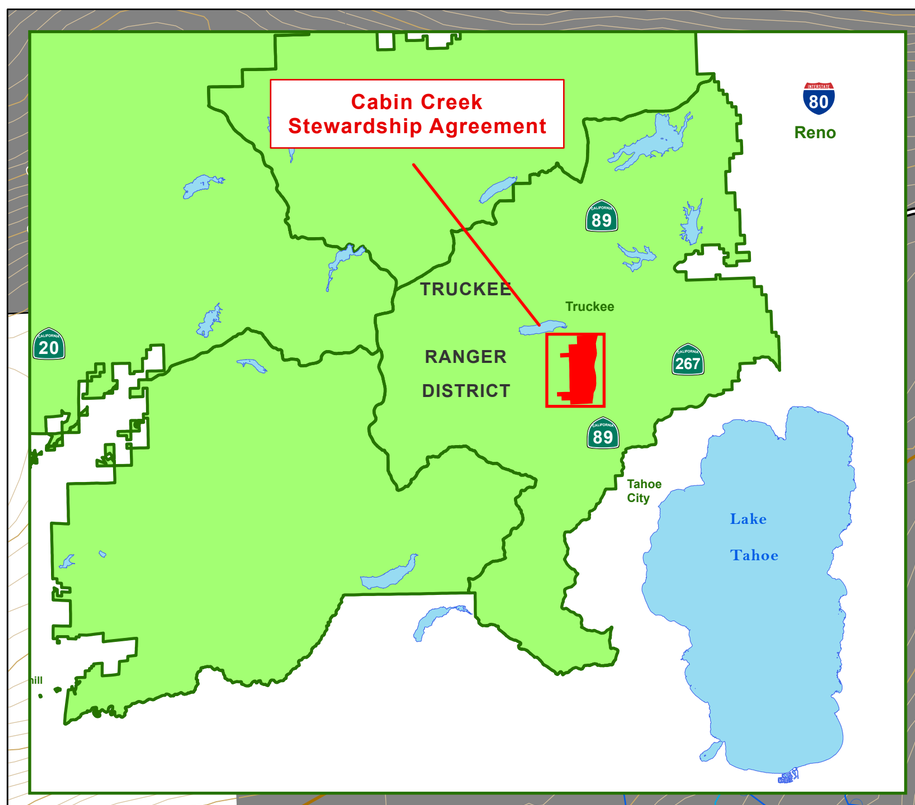
1:9,000

40 Foot Contour Interval

USDA - FOREST SERVICE
TAHOE NATIONAL FOREST
TRUCKEE RANGER DISTRICT
CABIN CREEK STEWARDSHIP AGREEMENT
Contract Map 1 of 1

0 1,000 2,000 3,000 4,000 Feet

Miles



Category	Requirements
Cutting Unit	
All	Whole, No Lop, DF, TS, Min, TRAC, SUSP, SPACE, MAX, ENDL, MH, Till, Landings
3, 10a, 11a, 11b, 11c, 13a, 13b, 14, 16, 20, 21, 22, 23, 24	ITM
1, 6, 7, 9, 10b, 12, 17, 25	DXP
All	TSA
07, 24, 25	SOS1
Landing Number	
All	MACH, TILL
Road Number	
All	KO
Haul Routes	T

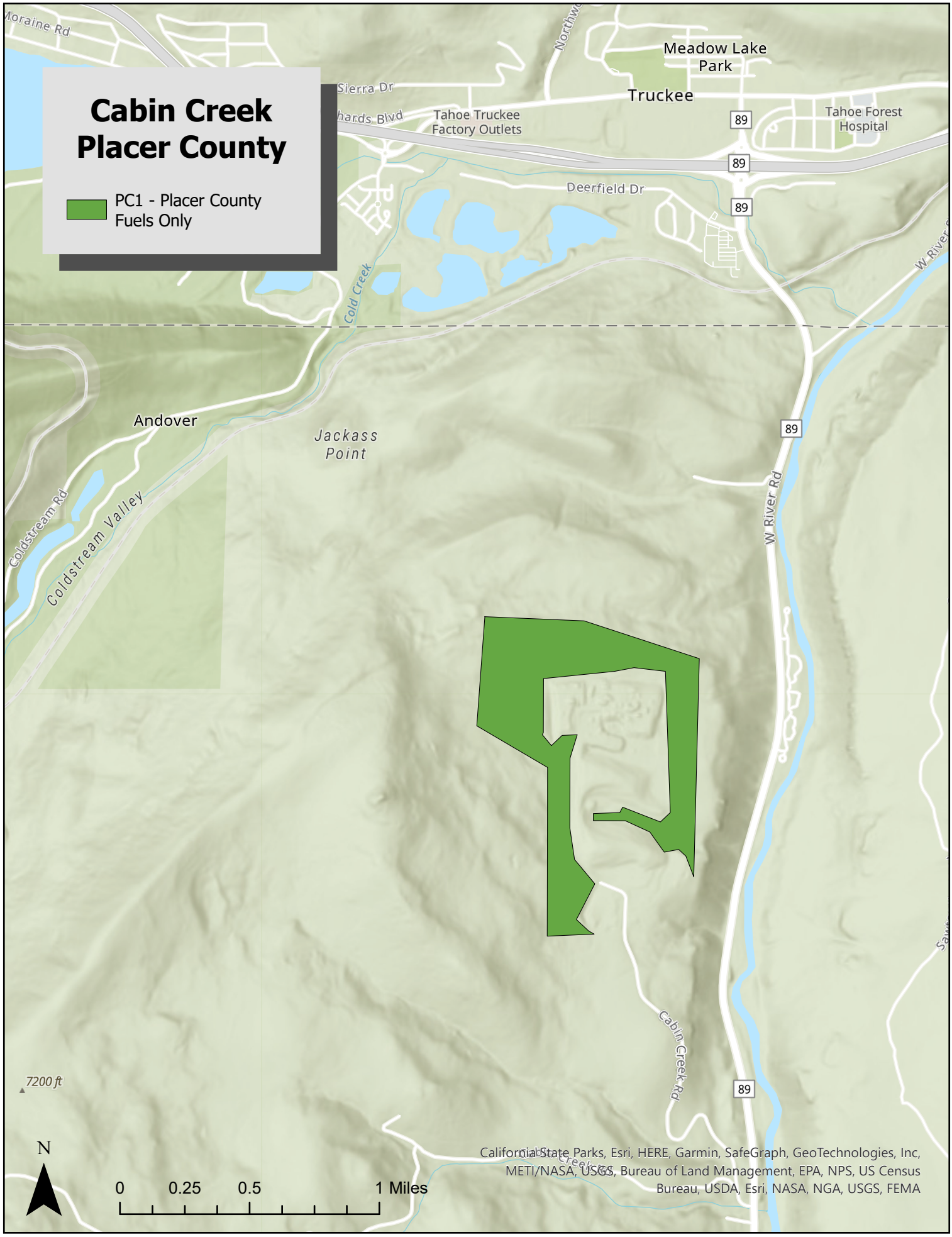
Symbol	Definition
TSA	Timber Subject to Agreement
ITM	Individual Tree Selection
DXP	Designation by Prescription
SOS1	Sale Operations Schedule, Limited Operating Sechedule, Northern Goshawk, No Operations 02/15 - 09/15
No LOP	No Lop
Whole	Whole Tree Yarding
DF	Directional Felling
TSA	Treatment of Stumps
MIN	Minimum Stump Height
TRAC	Ground Based Skidding, Skid Trail layout
SUSP	Ground Based Skidding, One End Suspension
SPACE	Ground Based Skidding, Skid Trail Spacing
ENDL	Ground Based Skidding, Endlining
MH	Ground Based Skidding, Mechanical Harvest
MAX	Ground Based Skidding, Maximum Tractor Size 144"
Till	Tillage
MACH	Slash Treatment, Machine Pile Landing
FELL	Slash Treatment, Damaged Small Trees
SCAT 18"	Slash Treatment, Scattering
KO	Keep Road Open
T	Traffic Control

Data Source: Tahoe National Forest Geospatial Corporate Database
Projection: UTM, Zone: 10, Datum: NAD83, Spheroid: GRS 80
This map is reproduced from geospatial information. Landlines are approximate.
Prepared by: USDA - Forest Service, TKRD staff Rich Steffke 09/05/2023

Map Legend

- Unit Boundary (Timber Removal and Mastication)
- Unit Boundary (Mastication/Grapple/Hand)
- Unit Boundary (Mastication Only)
- Unit Boundary (Aspen Removal)
- Unit Boundary (Meadow Enhancement)
- Treatment Polygon: Create Opening
- Treatment Polygon: Leave Area
- Project Boundary
- 50 Unit Label
- Existing Transportation Road System
- Road Reconstruction
- Trail to Protect
- Goshawk Nest Buffer Equipment Exclusion
- Goshawk Limited Operating Period: 02/15 - 09/15
- Overhead Transmission or Distribution Line
- Perennial Class I Streamcourse to Protect (75' Equipment Exclusion) *(block marks upper limit)*
- Intermittent Class II Streamcourse to Protect (50' Equipment Exclusion) *(block marks upper limit)*
- Ephemeral Class III Streamcourse to Protect (25' Equipment Exclusion) *(block marks upper limit)*
- Spring To Protect
- Riparian Buffer Zone, Limited Entry
- Temporary Road
- Preferred Landing
- Non-Preferred Landing
- Haul Route
- W Potential Water Source
-][Temporary Crossing, Haul Route
-][Temporary Crossing, Skid Trail
- Non-FS Land

APPENDIX C.2


Cabin Creek
Placer County
PC1 - Placer County Fuels Only
Meadow Lake Park
Truckee
Tahoe Truckee Factory Outlets
Tahoe Forest Hospital
Sierra Dr
Deerfield Dr
Cold Creek
Andover
Jackass Point
Coldstream Rd
Coldstream Valley
W River Rd
Cabin Creek Rd
89
7200 ft
N
0 0.25 0.5 1 Miles
California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Esri, NASA, NGA, USGS, FEMA

Appendix C.3 Cabin Creek Project - Forest Service Units

Unit	Mark Type	Acres
1	DPG	232.8
3*	ITM	16.16
6	DPG	49.9
7	DPG	163.8
8*	DxD	46.3
9	DPG	47.8
10a	ITM	79.0
10b	DPG	29.6
11a	ITM	63.9
11b	ITM	65.3
11c	ITM	28.0
12	DPG	74.5
13a	ITM	115.4
13b	ITM	62.9
13c*	DXD	28.0
13d*	DXD	28.5
14	ITM	31.6
16	ITM	52.3
17	DPG	84.0
18*	DXD	30.0
19*	DXD	44.8
20*	ITM	97.65
21	ITM	87.1
22	ITM	104.6
23	ITM	62.2
24	ITM	37.1
25	DPG	30.4
27	DXD	20.8
33*	DXD	50.42
34	DXD	18.9
26	Meadow Enhancement	12.9
35	DXD	45.1
	Total	1941.7

Treatment	Acres
Contractor Determination - Unit 8	46.3
Contractor Determination - Unit 13c	28.0
Contractor Determination - Unit 13d	28.5
Contractor Determination - Unit 18	30.0
Contractor Determination - Unit 19	44.8
Contractor Determination - Unit 35	45.1
Meadow Enhancement - Unit 26	12.9
Mastication (All Other Units)	1706.1
Total	1941.7

DPG =	Digital Presription Guide
DxD =	Designation by Description
ITM =	Individual Tree Mark
* =	Acreage Estimate

APPENDIX E
SCHEDULE OF SERVICE ITEMS
AND SPECIFICATIONS

E.1 Project Location & Description

Location: The Five Creeks Project area is in northern Placer County California, South of the Town of Truckee to the West of Highway 89 and the Truckee River. It is located in portions of: Township 16N, Range 16E: Sections 4 & 6, Township 17N, Range 16E Sections: 20, 21, 28-30, 32, 33**.**

Description: The perimeters of treatment units will be partially flagged with blue flagging and posted with orange paint (dots facing into the unit). Corners will be posted with orange placards. In some cases, roads may make up part of the boundary of the unit and these boundaries will not be indicated with flagging paint or placards in the field. The project maps are intended to show the general shape and location of the work areas. The map is not intended to be accurate as to precise location and dimension. If the map and field boundaries conflict, the field boundaries shall govern. Positions of streams and topographic features, when shown, may also be approximate.

E.2 SERVICE ITEMS BY UNIT

Unit	Timber Extraction	Service Work Items
1	Yes	1, 6, 7
3	Yes (aspen release)	6,7
6	Yes	1, 6, 7
7	Yes	1, 6, 7
8	Subject to Agreement	1, 2, 3, 4, 7
9	Yes	1, 6, 7
10A	Yes	1, 7
10B	Yes	1, 7
11A	Yes	1, 7
11B	Yes	1, 7
11C	Yes	1, 7
12	Yes	1, 7
13A	Yes	1, 7
13B	Yes	1, 6, 7
13C	No	1, 2, 3
13D	Subject to Agreement	1, 2, 3, 4, 7

14	Yes	1, 6, 7
16	Yes	1, 7
17	Yes	1, 6, 7
18	Subject to Agreement	1, 2, 3, 4, 6, 7
19	Subject to Agreement	1, 2, 3, 4, 6, 7
20	Yes	1, 6, 7
21	Yes	1, 6, 7
22	Yes	1, 7
23	Yes	1, 6, 7
24	Yes	1, 7
25	Yes	1, 7
26	Yes* (meadow)	5, 6, 7
27	No	1
33	No	1
34	No	1
35	Subject to Agreement	1, 2, 3, 4

E.3 SPECIFICATIONS OF SERVICE ITEMS:

Item 1: Mastication. All units where applicable except 03 and 26. Mastication is the preferred treatment for Units 8, 13c, 13d, 18, 19 where suitable.

Mastication will occur in mastication only units as identified on the Contract Area Map as well as those units for which it is utilized to meet retention tree spacing. Mastication work will occur using standard mastication machinery such as a boom or drum masticator. Masticated material would include surface and ladder fuels including woody shrubs and conifers less than 10 inches DBH (12 inches DBH on a limited basis, as needed).

Description of work:

1.1 Masticated Trees/ Shrubs: All conifer trees less than 10 inches DBH (up to 12 inches DBH on a limited basis, as needed) shall be cut or retained to meet spacing requirements outlined below. Masticated trees shall be masticated to a stump height of 8 inches tall (as measured from the uphill side) and no residual live limbs are attached to the stump. Residual trees are un-damaged by contractor's operations, except for minor bark scraping which does not expose the cambium. All snags less than 12 inches DBH will be masticated. Brush shall be masticated to a height of 12 inches from the ground or 16 inches from obstacles (rocks etc.). All snowbrush (*Ceanothus velutinus*) and manzanita (*Arctostaphalos patula*) greater than 12 inches tall is to be cut to a maximum 12 inch staub height. Only hand thin bitterbrush (*Artemesia tridentata*) that is within the drip line of a leave tree. If bitterbrush (*Artemesia tridentata*) is within dripline of tree cut to a maximum 12 inch staub height.

1.2 Masticated Material: Masticated material shall be no larger than 24 inches in length and 4 inches in diameter. Depth of masticated material shall not exceed 9 inches and should average no more than 4 inches across the unit as a whole.

1.3 Residual Tree Spacing: Following mastication there should be on average 70 residual trees per acre (TPA) across the unit with an average spacing of 25 feet between boles of trees. Distances between trees shall vary from 15 – 50 feet, and residual trees should not have interlocking crowns or exist within the dripline of other residual trees. Residual trees should generally cover the entire acre but are not arranged in a grid-like fashion**.** Trees less than breast height should not be considered in spacing criteria.

1.4 Residual Tree Selection: No sugar pines should be cut. Residual trees should be vigorous, dark green and not chlorotic, with greater than 40% live crown ratio. Trees should have good form with minimal defect and free of obvious pest and pathogens (mistletoe etc.).

Tree species retention preference:

1. Sugar pine
2. Western white pine
3. Jeffrey/ ponderosa pine
4. Incense Cedar
5. Red fir
6. White fir
7. Lodgepole pine

1.5 Brush Mastication: Masticate all snowbrush, manzanita, and whitethorn within the unit.

1.6 Other Surface Fuels: Masticate all downed woody material that is greater than 3 inches in diameter and four feet in length and less than 12 inches diameter at the large end. Dead material that is within 6 inches of the ground does not need treatment.

Item 2: Hand Thin and Chip **where applicable in Units 8, 13C, 13D, 18, 19 and 35.**

2.1 Cut live trees: Conifers less than 12 inches DBH shall be cut so as to meet retention spacing requirements outlined below, within Item 2. Stump heights shall be less than 8 inches (as measured from the uphill side) with no residual live limbs attached to the stump. All snags less than 12 inches DBH will be cut and chipped. Coarse woody debris present on the forest floor will be bucked and chipped, up to a 12-inch diameter maximum size. Dead and down bole wood greater than 12 inches in diameter will be limbed with associated limbs chipped and boles left.

2.2 Cut live shrubs: All snowbrush (*Ceanothus velutinus*) and manzanita (*Arctostaphalos patula*) greater than 6 inches tall shall be cut to a maximum 6 inch staub height and included in hand piles. Only hand thin bitterbrush (*Artemesia tridentata*) that is within the drip line of a leave tree. If bitterbrush (*Artemesia tridentata*) is within dripline of a residual tree, brush shall be cut to a maximum 6-inch staub height and chipped.

2.3 Residual Tree Spacing: Following thinning there should be on average 70 residual trees per acre (TPA) across the unit with an average spacing of 25 feet between tree boles. Distances between trees should vary from 15 – 35 feet, and residual trees should not have interlocking crowns or exist within the dripline of other residual trees.

2.4 Residual Tree Selection: No sugar pines should be cut. Residual trees should be the most vigorous, dark green and not chlorotic, with greater than 40% live crown ratio. Residual trees should have good form with minimal defect and free of obvious pest and pathogens (mistletoe etc.).

Tree species retention preference:

1. Sugar pine
2. Western white pine
3. Jeffrey/ ponderosa pine
4. Incense Cedar
5. Red fir
6. White fir

2.5 Chipping Requirements: All material greater than 12 inches diameter will be chipped; see 2.1 and 2.2 above. Chip depth shall not exceed a depth of 8 inches in any location. Where chip distribution cannot meet the 8-inch minimum depth, chips will be hauled off site to an appropriate disposal location. Chipped material shall be directed away from any road or highway and shall not be deposited onto pavement or road surface unless approved by a delegated authority.

Item 3: Hand Thin and Pile **where applicable in Units 8, 13C, 13D, 18, 19, and 35.**

Hand thin trees less than 12" diameter at breast height (dbh), natural dead and downed material, and brush greater than 6" in height.

3.1 Cut live trees: All conifer trees less than 12 inches DBH shall be cut or retained to meet spacing requirements outlined below. The result of thinning is that all trees which are removed are cut to a stump height of less than 8 inches tall (as measured from the uphill side) and no residual live limbs are attached to the stump. All snags less than 12 inches DBH will be cut and piled. Coarse woody debris present on the forest floor will be bucked and added to hand piles, up to a 16 inch diameter maximum size.

3.2 Cut live shrubs: All snowbrush (*Ceanothus velutinus*) and manzanita (*Arctostaphalos patula*) greater than 6 inches tall is to be cut to a maximum 6 inch staub height and included in hand piles. Only hand thin bitterbrush (*Artemesia tridentata*) that is within the drip line of a leave tree. If bitterbrush (*Artemesia tridentata*) is within dripline of tree cut to a maximum 6 inch staub height and included in hand piles.

3.3 Residual Tree Spacing: Following thinning there should be on average 70 residual trees per acre (TPA) across the unit with an average spacing of 25 feet between tree boles. Distances between trees may vary from 15 – 50 feet to meet average spacing. Residual trees should not have interlocking crowns or exist within the dripline of other residual trees.

3.4 Residual Tree Selection: No sugar pines should be cut. Residual trees should be vigorous, dark green and not chlorotic, with greater than 40% live crown ratio. Trees should have good form with minimal defect and free of obvious pest and pathogens (mistletoe etc.).

Tree species retention preference:

1. Sugar pine
2. Western white pine
3. Jeffrey/ ponderosa pine
4. Incense Cedar
5. Red fir
6. White fir
7. Lodgepole pine

3.5 Pile locations: Piles shall not be closer than 15 feet to boles of Leave Trees, and 5 feet from and any down logs exceeding 12 inches in diameter at the small end unless approved by the inspector. If such locations are not present the contractor may cut trees less than 20 inches DBH to create an opening for piles. All material from cut tree must be added to a pile. Slash shall not be piled or placed on logs, rocks, or stumps, in roadways, trails, swales or drainage ditches, or within 10 feet of unclassified channel bottoms or within 25 feet of designated classified streams or "special hydrologic features" as identified on the contract area map and/or designated on the ground. Piles shall be set back a minimum of 50 feet from trails, roads, and powerlines.

3.6 Pile Size – Unless approved otherwise by the inspector in writing, maximum pile size shall be 10 feet in diameter by 8 feet in height, and minimum pile size shall be 7 feet in diameter by 5 feet in height at the time of final inspection.

3.7 Pile Construction – Piles shall include all cut material. Piles should be conical in shape. During construction piles should be bucked to consolidate material and ensure dense, compact piles.

3.8 Pile Covering – All constructed piles shall receive one, 4 foot wide by 4-foot-long sheet of plastic in the top third of the pile. Contractor shall pile additional material (top third) on top of the plastic to prevent paper from moving off the pile be environmental conditions.

Item 4: Thin & Grapple Pile**. Where applicable and within Units 8, 13C, 13D, 18, 19 and 35 (See below)**

Within thin and grapple pile units, thinned material along with dead/down surface fuels will be picked up by an excavator with a grapple head or a low ground pressure machine with a grapple head, carried suspended from the ground, and placed in a pile for burning.

Description of work:

4.1 Cut live trees: All conifer trees less than 12 inches DBH are evaluated to be cut or retained. The result of thinning is that all trees which are removed are cut to a stump height of less than 8 inches tall (as measured from the uphill side) and no residual live limbs are attached to the stump. All snags less than 12 inches DBH will be cut and piled. Coarse woody debris present on the forest floor will be bucked to a 12-inch diameter maximum size and added to hand piles.

4.2 Residual Tree Spacing: Following thinning there should be on average 70 residual trees per acre (TPA) across the unit with an average spacing of 25 feet between tree boles. Distances between trees should vary from 15 – 50 feet, and residual trees should not have interlocking crowns or exist within the dripline of other residual trees. Residual trees should generally cover the entire acre but are not arranged in a grid-like fashion**.** Trees less than breast height should not be considered in spacing criteria.

4.3 Residual Tree Selection: No sugar pines should be cut. Residual trees should be vigorous, dark green and not chlorotic, with greater than 40% live crown ratio. Trees should have good form with minimal defect and free of obvious pest and pathogens (mistletoe etc.).

Tree species retention preference:

1. Sugar pine
2. Western white pine

3. Jeffrey/ ponderosa pine
4. Incense Cedar
5. Red fir
6. White fir
7. Lodgepole pine

4.4 Pile locations: Piles shall be beyond the dripline and not closer than 20 feet to boles of leave trees. Piles shall be 15 feet from and any down logs exceeding 12 inches in diameter at the small end unless approved by the inspector. If such locations are not present the contractor may cut trees less than 20 inches DBH to create an opening for piles. All material from cut tree must be added to a pile. Slash shall not be piled or placed on logs, rocks, or stumps, in roadways, trails, swales or drainage ditches, or within 10 feet of unclassified channel bottoms or within 25 feet of designated classified streams as shown on the contract area map and/or designated on the ground. Piles shall be set back 50 feet from trails, roads, and powerlines.

4.5 Pile Size: Unless approved otherwise by the inspector in writing, maximum pile size shall be 20 feet in diameter by 15 feet in height, and minimum pile size shall be 10 feet in diameter by 10 feet in height at the time of final inspection. Material extending three feet or more outside the edge of a pile shall be trimmed.

4.6 Pile Construction – Piles shall include all cut material. Piles should be conical in shape. Effort shall be made to consolidate material and ensure dense, compact piles.

Optional Treatment Methods. Units 8, 13C, 13D, 18, 19, and 35

The contractor may choose the methodology as listed in items 1, 2, 3, and 4 which they believe best and most efficiently meets the desired conditions as listed below with the following stipulations:

1. Timber removal may take place in coordination with a Registered Professional Forester or Timber Sale Administrator and only if doing so meets resource protection measures outlined in section E.4 "Site Specific Protection Measures."
    1.5. Timber Subject to Agreement: All cut trees greater than 10 inches DBH which have a merchantable "log" would be cut and removed from the project area as approved by delegated authority. Logs would be cruised by a USFS qualified cruiser to establish timber volume and sold to the contractor at specified rates.
2. Slopes over 50% as shown in the CAM must be hand thinned and piled (Item 2)
3. Slopes which are sensitive to erosion and landslides as shown in the CAM must be hand thinned and piled (Item 2)

Desired Conditions

Cut/ Masticate live trees: All conifer trees less than 12 inches DBH are evaluated to be cut/ masticated or retained. The result of thinning is that all trees which are removed are cut/ masticated to a stump height of less than 8 inches tall (as measured from the uphill side) and no residual live limbs are attached to the stump. All snags less than 12 inches DBH will be cut and piled. Coarse woody debris present on the forest floor will be bucked to a 12 inch diameter maximum size and added to hand piles.

Residual Tree Spacing: Following thinning there should be on average 70 residual trees per acre (TPA) across the unit with an average spacing of 25 feet between tree boles. Distances between trees should vary from 10 – 50 feet, and residual trees should not have interlocking

crowns or exist within the dripline of other residual trees. Residual trees should generally cover the entire acre but are not arranged in a grid-like fashion**.** Trees less than breast height should not be considered in spacing criteria.

Residual Tree Selection: Retained trees should be sugar or Jeffrey pine when possible. No sugar pines should be cut. Residual trees should be vigorous, dark green and not chlorotic, with greater than 40% live crown ratio. Trees should have good form with minimal defect and free of obvious pest and pathogens (mistletoe etc.).

Tree species retention preference:

1. Sugar pine
2. Western white pine
3. Jeffrey/ ponderosa pine
4. Incense Cedar
5. Red fir
6. White fir
7. Lodgepole pine

Item 5. Meadow Restoration: Unit 26

Work within this item would be accomplished by hand tools including chainsaws, as well as mechanized equipment including chippers, masticators, and other common logging and vegetation management equipment. The CAM contains information on where specific operations may occur.

5.1. Hand Thinning Conifers: All conifer trees less than 10 inches DBH will be cut. The result of thinning is that all trees which are removed are cut to a stump height of less than 8 inches tall (as measured from the uphill side) and no residual live limbs are attached to the stump. All snags less than 10 inches DBH will be cut.

5.2. Mechanized Thinning Conifers: Where mechanized operations allow and as approved by the delegated official (see CAM), Conifers less than 30 inches DBH shall be evaluated for removal. The result of thinning is that all trees which are removed are cut to a stump height of less than 8 inches tall (as measured from the uphill side) and no residual live limbs are attached to the stump. All snags greater than 10 inches DBH will be retained where they do not pose a threat to the contractor or the public.

5.3. Mechanized Thinning Residual Tree Spacing: Following thinning operations, basal area retention should range from 20 – 50 basal area (BA) consisting of trees greater than 10 inches DBH. Generally residual trees should be denser further away from the meadow (~50) and less dense closer to the meadow (~20). ****areas inoperable by ground-based machinery would not be factored into retention metrics****

5.4. Mechanized Thinning Residual Tree Selection: No sugar pines should be cut. Residual trees should be vigorous, dark green and not chlorotic, with greater than 40% live crown ratio. Trees should have good form with minimal defect and free of obvious pest and pathogens (mistletoe etc.).

Tree species retention preference:

1. Sugar pine
2. Western white pine
3. Jeffrey/ ponderosa pine
4. Incense Cedar
5. Red fir
6. White fir
7. Lodgepole pine

5.5 Sub-Merchantable Material Disposal: All sub-merchantable material will be hauled by hand or with machinery (depending on location and operability see CAM) to an upland portion of the unit to be chipped. resulting chips should be deposited within an upland zone and spread to a depth no greater than 4 inches over less than 10 percent of any one acre. Chips shall not be spread into drainages or pre-constructed erosion control features, nor placed near water ways where potential to enter streams or lakes are likely. Chips should be spread into upland portions containing no riparian vegetation. Chips shall also not be spread to within 25 feet of any developed infrastructure (road, building, campsite, etc.) If a use for chips is found locally by the Forest Service or Contractor then chips may be deposited into a transport vehicle from removal from the site.

5.6 Timber Subject to Agreement: All cut trees greater than 10 inches DBH which have a merchantable "log" would be cut removed from the project area as approved by the delegated official. Logs would be cruised by a USFS qualified cruiser to establish timber volume and sold to the contractor at specified rates.

5.7 Exclusion zones: Within unit 26, equipment exclusion zones are delineated by black and blue striped flagging and shown on the CAM as "Equipment Exclusion Zone." No mechanical equipment shall enter the equipment exclusion zones. Within and concentric to the equipment exclusion zone are no piling zones delineated by white and orange polka-dot flagging and shown on the CAM as "No Piling Zone". No hand piles or chips shall be deposited within these zones.

Item 6: Road Reconstruction: All Units

The Contractor is/are authorized to construct and maintain roads, bridges, and other transportation facilities, as needed for conducting treatments on National Forest and other lands where Forest Service has such authority. As used in this Supplemental Project Agreement, "construct" includes "reconstruct." See Cabin Creek Road Reconstruction Plans for specific requirements.

Specified Roads.
Name and Date of Governing Road Specifications:

Project		Design Class	Approx. Length *(mi./km.)*	Sheet Numbers and Approval Date	Performance Responsibility		
Road No.	**Name**				**Survey**	**Design**	**Const. Staking**
All	All	S-5	4.7 mi	Sheet 1-27			

Item 7: Road Maintenance: All Units

9.1: Road Maintenance Requirements. The Contractor shall maintain roads in accordance with Cabin Creek Stewardship Agreement Road Maintenance Package.

9.2 Use of Roads By the Contractor. The Contractor's use of existing roads identified on Stewardship Project Area Map by the following codes is prohibited or subject to restrictive limitations, unless agreed to otherwise:

Road Maintenance Requirements (C5.31#)(B5.3)

Cabin Creek Timber Sale

				Applicable Road Maintenance Specifications																													
				Prehaul											During								Posthaul											
Road Number	From	To	Miles	T 800 1	T 800 2	T 800 3	T 800 4	T 800 5	T 800 6	T 800 7	T 800 9	T 801 0	T 801 1	T 800 1	T 800 2	T 800 3	T 800 4	T 800 5	T 800 6	T 800 7	T 800 1	T 800 2	T 800 3	T 800 4	T 800 5	T 800 6	T 800 7	T 800 8	T 800 9	T 801 0	T 801 1
01	middle of Unit 1	01	2.95		P	P		P		P					P	P		P	P	P		P	P		P		P				
01-02	North portion of Unit 1	01-02	0.17			P		P		P	P					P		P	P	P			P		P		P		P		
01-03	West portion of Unit 3	01-03	0.63			P				P	P					P			P	P			P				P		P		
01-04	middle of Unit 6	01-04	0.15			P				P	P					P			P	P			P				P		P		
01-02-02	middle of Unit 1	01	0.35			P		P		P	P	P				P		P	P	P			P		P		P		P	P	
01-02-02-02 (T1)	Northeast portion of Unit 1	01	0.55			P		P		P	P	P				P		P	P	P			P		P		P		P	P	
01-05 (T3)	middle of Unit 7	01-05 (T3)	0.13			P				P	P	P				P			P	P			P				P		P	P	
01-06	West portion of Unit 13A	01-06	5.37		P	P				P					P	P			P	P		P	P				P				
01-05-01 (T4)	middle of Unit 7	01-05-01 (T4)	0.13			P				P	P	P				P			P	P			P				P		P	P	
01-06-02	North portion of Unit 8	01-06-02	0.24			P				P		P				P			P	P			P				P			P	
01-06-03 (T5-6)	middle of Unit 11B	01-06-03 (T5-6)	0.33			P				P	P	P				P			P	P			P				P		P	P	
01-06-04	middle of Unit 10A	01-06-04	0.07			P				P	P	P				P			P	P			P				P		P	P	
01-08	West portion of Units 17 & 21	01-08	1.89		P	P		P		P					P	P		P	P	P		P	P		P		P				
01-08-02	South portion of Unit 23	01-08-02	1.16			P		P		P	P	P				P		P	P	P			P		P		P		P	P	
01-08-03	North portion of Unit 13B	01-08-03	0.41			P				P	P	P				P			P	P			P				P		P	P	
01-08-06	middle of Unit 17	01-08-06	0.08			P				P	P	P				P			P	P			P				P		P	P	
01-08-07	middle of Unit 17	01-08-07	0.10			P				P	P	P				P			P	P			P				P		P	P	
01-08-09 (T10)	West portion of Unit 17	01-08-09 (T10)	0.15			P				P	P	P				P			P	P			P				P		P	P	
01-08-10	middle of Unit 21	01-08-10	0.34			P		P		P	P	P				P		P	P	P			P		P		P		P	P	
01-08-02-01	middle of Unit 14	01-08-02-01	0.13			P				P	P	P				P			P	P			P				P		P	P	
01-08-02-02	middle of Unit 20	01-08-02-02	0.25			P				P	P	P				P			P	P			P				P		P	P	
01-08-02-04	South portion of Unit 20	01-08-02-04	0.10			P				P	P	P				P			P	P			P				P		P	P	
01-08-02-06	middle of Unit 23	01-08-02-06	0.32			P				P	P	P				P			P	P			P				P		P	P	
01-09 (T8)	South portion of Unit 12	01-09 (T8)	0.16			P				P	P	P				P			P	P			P				P		P	P	
9050-03 (T9)	South portion of Unit 16	9050-03 (T9)	0.16			P				P	P	P				P			P	P			P				P		P	P	

Road Maintenance T-Specifications

No. Specification Title

T-800 Definitions
T-801 Slide and Slump Repair
T-802 Ditch Cleaning
T-803 Surface Blading
T-804 Surfacing Repair
T-805 Drainage Structures
T-806 Dust Abatement
T-807 Roadway Vegetation
T-808 Miscellaneous Structures
T-809 Waterbars
T-810 Barriers
T-811 Surface Treatment

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

Code	Use Limitations
W	Regulation waiver

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

Restricted Road List

Road Number	Road Name	Termini		Map Legend	Description of Restrictions
		From	To		
N/A					

9.3 ROAD AND WATER SUPPLY USE. (5/2008) National Forest water supply locations, access, method of filling trucks, period of water availability and procedures designed to maintain water quality at each location shall be agreed in advance of use. Such use shall at no time reduce water supplies to the level that further use may be detrimental to aquatic resources or other established use. Waterholes and other improvements relating to said water supplies shall be put into condition, prior to expected seasonal periods of precipitation or runoff, to avoid resource damage.

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

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

9.4 SPECIFICATIONS PURSUANT TO - REQUIREMENTS OF Road and Water Supply Use

Load Limitations	Contractor shall notify NFF in writing of the planned size and load distribution for equipment which exceeds the State of California Vehicle Code legal size and weight, and the National Forest System roads to be used. Such notice may be part of plan of operation under B6.311. Within l5 days after receipt of the written notice Forest Service shall notify Partner in writing of any regulations or restrictions that may be needed to protect National Forest Transportation Facilities. A written permit shall be required for moving any vehicle which is in excess of the established legal size and weight which is not listed in the above plan, except as may be authorized in prior written agreements.
Existing Non-National Forest System Roads	Roads not shown on Sale Area Map may be used as Temporary Roads if there is agreement before use is started.
Snow Removal	If Contractor removes snow from roads, such work shall be done with Forest Service approval and in a manner that will protect roads and adjacent resources. Snow berms shall be removed or placed to avoid accumulation of melt water on the road and prevent water concentration on erosive slopes or soils. Snow must not be removed to the road surface. A minimum **3** inch snow depth must be left to protect the roadway. If the road surface is damaged, Contractor shall replace lost surface material and repair structures damaged in blading operations prior to hauling, unless climatic conditions prevent necessary work from being accomplished or as otherwise agreed in writing. Single lane roads shall be plowed full width including turnouts. In event double lane roads are not plowed to full width, warning signs shall be required and plowing shall be no less than single lane (12 feet) with intervisible turnouts.

<table>
<tr><td>Water Supply Deposits</td><td>If Contractor utilizes the water site located N/A, for any listed activity, Contractor shall make deposit with Forest Service for that activity at the time and in the amount shown in the Water Supply Deposit Schedule table below.

WATER SUPPLY DEPOSIT SCHEDULE

<table>
<tr><td>Activity</td><td>Unit of Payment</td><td>Unit Cost</td><td>Total Cost</td><td>Time of Payment</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="5">N/A</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>Surface Replacement Deposits</td><td>Contractor shall make Required Deposits for deferred surface replacement (16 U.S.C. 537) for use of existing surfaced roads. If applicable, such deposits shall be based upon the volume and distance hauled on the roads and at the applicable rates listed in the table below titled Surface Replacement Deposit Schedule. If Contractor uses surfaced roads under jurisdiction of Forest Service other than those listed, Forest Service may establish applicable rates for such surfaced roads.

SURFACE REPLACEMENT DEPOSIT SCHEDULE

<table>
<tr><td>Road No.</td><td>From</td><td>To</td><td>Miles</td><td>Rate</td></tr>
<tr><td>N/A</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>
Sale Area Average Rate: $_____/MBF, CCF or Ton</td></tr>
</table>

E.4: Protection Measures and other concerns

Contractor *Responsibility:* The Contractor shall provide everything--including, but not limited to, all equipment, supplies, transportation, labor, and supervision--necessary to complete the project, except for that which the Agreement clearly states is to be furnished by the Government. Equipment shall be furnished on a fully operational basis, of modern design, and

in good operating condition, with a competent, fully qualified operator.

E.4-A: General Description and Process

The project Management Requirements are considered to be the erosion control plan. They are to be incorporated into the Stewardship Agreement or Timber Sale Contract as they are the means for meeting State, Federal and local Laws and are used to meet the conditions of the Forest Plan and Land Management Direction. As a follow up these requirements are used to check for implementation of the plan and are incorporated into monitoring as based on the Timber Waiver Monitoring Requirements and FS National BMP Monitoring. The BMPs originate from regional requirements and are now primarily referenced related to National BMPs.

Monitoring

The project Management Requirements are considered to be the erosion control plan. They are used to check for implementation requirements and are incorporated into the monitoring according to the FS National BMP Monitoring.

E.4-B: Stream Protection Zones and other limits of operations.

This section covers requirements to meet the National BMPs for Aquatic and Hydrologic Systems and incorporates Aquatic Eco: 1-4, Veg-1-6 and Fire2.

Units with RCAs (Riparian Conservation Areas) having known areas with restricted operations regarding sensitive sites will be identified for review with contract administrators and operators. Contract maps will be reviewed prior to bid to ensure sensitive areas are adequately represented on the map or on the ground. Agreements with external contractors will identify parties responsible for actions to be conducted. **The GIS map limits may not match the ground at every location; note that flagging on the ground supersedes any GIS mapping technology. All mapping technology should be used as a tool to look for flagging or ground features that indicate equipment exclusion areas**.

RCA Management Area widths are referred to for management objectives. These widths are designated under the Sierra Nevada Plan Amendment and are incorporated for reference. These areas require additional care when checking for applicable mulching requirements and limiting disturbance.

Table 1: **Sierra Nevada Forest Plan Amendment (SNFPA) Record of Decision Land Allocations**

RCA Designation Type	*Width of the Riparian Conservation Area*
Perennial Streams	300 feet measured from bank full edge
Seasonal Flowing Streams	150 feet measured from bank full edge
Streams In Inner Gorge	Top of inner gorge if beyond 300 feet
Special Aquatic Features: lakes, wet meadows, bogs,	300 feet from edge of feature or riparian vegetation, whichever is greater (Includes Perennial Streams

fens, wetlands, vernal pools, and springs:	with Riparian Conditions extending more than 150 feet from edge of stream bank or Seasonally Flowing streams with riparian conditions extending more than 50 feet from edge of stream bank)
Other Hydrologic or Topographic Depressions	RCA width and protection measures determined through project level analysis.

Equipment Limitations and Markers (EKO)

Stream Course Protection Limits (equipment keep out - EKO): Stream Courses and their protection limits are on the Stewardship Agreement or Contract Area Map and/or are flagged/posted on the ground. In general, these EKO areas are designated to be a minimum of 25 feet from a riparian feature as identified by presence of a wet soil type (associated with floodplain, springs or meadows), scour, riparian vegetation, slope break to channel. The EKO boundary is based on the greatest distance from a feature including: channel bank, wet soil type associated with a floodplain, spring or meadow, riparian vegetation, and steepened slope break adjacent to channel. Widths may be increased along incised channels and where the slope directly adjacent to the channel increases. Within any stream course EKO pre-approved crossings may utilized.

Controlled Access Signs: In complex areas EKOs will be increased where hydrologic features merge and may be signed with a special designation called "controlled access" areas. Areas with this designation will be posted on the ground and/or map and will follow requirements, such as entering perpendicular to the drainages within the control area and minimizing entries within or through the control areas. These areas need coordination with the TSA and planned skidding operations.

See the GIS map limits for more information; note that ground conditions, flagging or signs supersede any GIS mapping technology. Exclusion Zones on the Agreement Map should be used as a tool to indicate ground features requiring equipment exclusion.

Draws and Minor Flow Paths: Minor flow paths and draws may be mapped. Where identified as such through mapping or a single flag line the primary protection is to cross perpendicular to the flow path minimize the number of crossings and minimize tracking through swales.

Hydrologic Features and Special Aquatic Features

Springs/Fens: The EKO limits will be increased where hydrologic features merge or drainage becomes complex, where wet soils are present, or as needed to protect spring/fen hydrology at the head of the spring.

Meadows: Tractor operations will be excluded from meadows according to the EKO identified in the field and as identified on the sale area maps. To be clear, stringer meadow/dry meadows and low gradient grasses that flow water in high flow conditions adjacent to a channel are likely to be considered a riparian feature.

Other Sensitive Features: The limits of exclusion may incorporate other hydrologic features that have sensitive soils, or seasonally hold or transport water.

Within some hydrologic features pre-approved crossings may be utilized. The Contract Administrator will review these crossing with a soils or hydrologic specialist prior to agreeing to their use with the Operator.

Equipment Operations within RCAs

All equipment operations should be limited to slopes ≤ 30% where the slope is directly above and runs continuously down to a drainage feature. Keep equipment tracks from moving directly up and down drainage pathways and minimize all equipment movement through swales (typically mapped as ephemeral drainages and having only a single flag line or is a mapped feature). Equipment will avoid seasonally wet areas but will be allowed to reach into the EKO of these locations to meet site objectives. When equipment is operating inside RCAs near the hydrologic feature, minimize ground disturbance with short perpendicular entries into the RCA.

Equipment will not cross seasonal streams except at pre-approved designated crossings. Within RCAs all bare ground resulting from equipment operations will be mulched to standards.

Standard Logging Equipment in RCAs

- **Skid Trail and Other Equipment over Approved Stream Crossings**: Areas identified for stream crossings with skid trails on dry Class III streams and dry Class II intermittent streams will retain the original stream channel configuration. Crossings should be pre-identified during planning. Crossings should be perpendicular to flow and avoid locations near joining tributaries. These skid trail crossings will be constructed with logs, bows, or other pre-approved materials (Humboldt crossings, clean rock, and culverts) and will adequately pass all expected flows. Filter cloth or brow logs designed to prevent discharge of earthen materials to surface waters will be designed to allow for clean removal of installed crossing materials.

- **Low Ground Pressure Equipment over Approved Stream Crossing Locations**. Where low ground pressure equipment can be used to cross channels without disturbance they may be walked across seasonal drainages when no water is present and soils are operable. Crossings must be agreed to by the forest contract administrator and the Operator prior to use. Crossings will be perpendicular to flow and avoid locations near joining tributaries. Crossings should be designed to prevent or minimize the discharge of sediment into water bodies (BMP 4.7).

- **Removal of Crossing Materials.** Crossing materials will be removed as soon as possible following treatment and will be implemented by October 15th of that year. All crossing materials on seasonal channels that consist of additional fill will be removed immediately after use when operating after October 15th of that year. Excess materials must be hauled off site. existing roads and equipment crossings need to protect and maintain the configuration of bed or banks of the stream channel during operable soil conditions.

- **All Approved Drainage Crossings:** Drainage crossings should meet the terms and requirements of the CVWQCB.

Target Vegetation

All fuels prescriptions and vegetation management operations will be planned to protect riparian vegetation along hydrologic features and in identified meadows and sensitive areas.

E.4-C: Erosion Control

This section covers requirements to meet the National BMPs for Vegetation Management and incorporates Veg: 2, and Fire-2.

Ground Cover Requirements- All Activities:

To protect against accelerated erosion and hydrophobicity and to maintain long-term soil productivity, the following guidelines should be applied during the planning and implementation of fuels treatments and vegetation management. All necessary erosion control measures for logging operations/vegetation management will be implemented as soon as possible after logging operations/vegetation management cease or vegetation management in the area and prior to runoff-producing rainfall. All erosion prevention measures will be implemented by October 15th. For harvest activities approved to continue beyond October 15th, erosion control work shall be kept current immediately preceding expected seasonal periods of precipitation or runoff.

General Vegetation Management

All areas disturbed must be stabilized as defined in the waiver (Attachment A) means: ”exposed soils and unstable areas have been treated in such a manner that there is low risk of such soils discharging to a waterbody via runoff, slumping, or wind erosion.”

Ground Cover Requirements within RCAs Post-Implementation

Mulching will occur over bare ground created by management activities within RCAs with particular attention paid near the hydrologic features. Upland areas of the RCA will meet the General Ground Cover requirements within the RCAs.

- On soils with low to moderate erosion hazard ratings (0-25% slope), maintain 70% ground cover.
- On soils with very high erosion hazard ratings (greater than 25% slope), maintain 75% ground cover.
- Near stream zones for perennial streams and intermittent streams or seasonally wet areas with riparian and meadow features, approximately 75% ground cover will be required. Large patches of bare ground will be mulched. Within EKOs, ground cover should meet an average of 2 inches in depth and a maximum of 4 inches with 85% ground cover.
- Mulch will be required on endline drag channels that exceed 4 inches depth on greater than 5% slopes in RCAs and 10% slopes on adjacent uplands where endlining is required.
- All areas disturbed from project implementation will be stabilized before the winter period or at conclusion of operations whichever is sooner.

Mulch

Any bare ground resulting from operations will be mulched as needed to maintain ground cover requirements. Native mulch from adjacent areas is preferred (pine needles, slash or wood chips).

Certified weed-free mulch could be used if no native materials are available. Mulch depth will be 2 inches and no greater than 4 inches on average across the area.

Roads and Mechanical Equipment

- Follow requirements for Refueling and Servicing of Equipment, follow Wet Weather Period requirements.
- If a local water source is used for fire control or dust control see Section H: Drafting Sites
- Refer to Section I: Hazardous Waste, Spills and Pesticides as needed/

Follow maintenance requirements for roads as necessary.

E.4-D: Soils: All Mechanical Actions and Prescription Burns-Uplands

This section covers requirements to meet the National BMPs for Vegetation Management and incorporates Veg: 1-6, and 10 and Fire-2.

Downed Large Wood Requirements

Maintain downed wood retention adequate to contribute to organic matter while attaining desired conditions. Retain large downed wood while meeting fuels objectives (small areas of moderately heavier concentrations that are not continuous on the landscape).

All down logs greater than 15 inches diameter and 10 feet long will be retained. Crushing of logs with equipment will be avoided. Target down log levels post fuels treatments would be approximately 5 of the largest logs available per acre.

Soil Dryness Criteria in RCAs

Specific harvesting equipment restrictions relating to dry soils are as follows:

- Mechanical equipment would only be operated when soil moisture is less than 20 percent by weight, or when soils are considered operable. The ball method can be used to test for operability. This protocol includes digging a small pit and sampling 4 to 6 inches below the mineral soil surface (i.e., below the surface litter), collecting enough soil to form a 1- to 2-inch ball with hand pressure, picking out excessive rock fragments, and squeezing the ball with 6 directional squeezes. If the ball that is formed holds together under repeated tosses 1 to 2 feet into the air, then the soil would be too wet for equipment operation.

Sensitive Soils in RCAs

All equipment operations will be excluded from Aquoll and Boroll soil or Cryumbrepts-wet soils. These sites are primarily covered within Hydrologically Sensitive areas and provided in a GIS layer. See section B.

E.4-E: Mechanical Operations Uplands

This section covers requirements to meet the National BMPs for Vegetation Management and

incorporates Veg: 1-6, and 10.

Other Equipment Operations (Mastication or Other)

Equipment used for fuels and slash treatment will minimize turning which results in ground disturbance. Equipment will be used on slopes no greater than 30% with short pitches up to 200 feet on up to 35% slope to minimize displacement.

Endlining

Trees within the EKO that are marked may be removed by reaching in or Directionally Felled and end lined out of the EKO. Endline furrows created by activities should be disrupted by pulling back the berm or waterbar along the length. Raw ground within the RCA should be mulched. Measures should be effective enough to minimize runoff furrows and prevent erosion or capture of water flows.

Soil Dryness Criteria All Equipment: Mechanical equipment would only be operated when soil moisture is less than 20 percent by weight, or when soils are considered. The ball method can be used to test for operability. This protocol includes digging a small pit and sampling 4 to 6 inches below the mineral soil surface (i.e., below the surface litter), collecting enough soil to form a 1- to 2-inch ball with hand pressure, picking out excessive rock fragments, and squeezing the ball with 6 directional squeezes. If the ball that is formed holds together under repeated tosses 1 to 2 feet into the air, then the soil would be too wet for equipment operation.

E.4-F: Prescribed Fire General Uplands

This section covers requirements to meet the National BMPs for Fire-2 and Plan-3.

Equipment Piling

- Equipment used to pile fuels must be low ground pressure equipment. Materials piled must be free of dirt and debris. Equipment keep out (EKO) limits apply as described in Section B unless specified as an exception for the area.
- Equipment should minimize turning which results in ground disturbance. Ground based equipment will be used on slopes no greater than 30% with short pitches up to 200 feet on up to 35% slope. Specialized equipment designed for steeper slopes may need additional erosion control measures after operation to smooth out furrows or add cover to meet Forest Plan Standards for soil.
- Equipment piles must not be located within a 100-year floodplain, and must be 25 feet from a Water Body and special hydrologic features, avoid placement in swales and road drainage ways.

Hand Piling

Burn piles in EKO must not be in a 100-year floodplain, must be 25 feet from a WB, be limited to 10 feet in diameter, and cover no more than 10 % of a treatment acre in a EKO (applies to

ephemeral drainages where slope exceeds 50 %). Otherwise, maintain piles 25 feet away from drainage scour, or the burn pile activity will follow Attachment Q of Board Order R6T-2014-0030.

E.4-G: Roads

This section covers requirements to meet the National BMPs for Roads and incorporates Roads: 1-6, and 10.

Road Management:

Use of Low Water Crossings on Class I and II drainages on existing roads will incorporate additional measures during haul if needed and where water is flowing in order to prevent sediment transport from increased travel through drainages. This may include additional rock and culvert installations based on site conditions. A 1 foot covering of weed-free straw mulch will be placed between the natural channel and imported fill so no additional fill remains in the existing channel. Fill will be removed to the previous existing dip configuration by October 15th or the first opportunity if conditions allow operations to continue past this date as described below. If such measures are needed the treatments associated with access routes needing these measures will require inclusion as Category 6 Timber Waiver.

Crossings proposed in association with temporary roads will be designed to provide measures to pass flows, and may include extra protection measures, such as gravel, culverts or drainage controls when needed. Typically, the flow volume through these crossings is low and there is a low risk of significant precipitation during the operating period.

Maintain roads to the pre-existing standards for all roads used to provide access. This work includes grading, clearing, ditch and culvert cleaning and repair. The repair work associated with these projects is the maintenance work to repair and restore the road to accommodate the planned traffic and be consistent with the existing traffic service level, water quality objectives, and Road Management Objectives.

Road Management Objectives for roads that are classified as ML-1 or ML-2 closure would provide measures that discourage OHV use. ML-1 road closure will restore the road bed to hydrologically neutral and may include removal of culverts, dips and blocking. ML-2 closure would provide measures that discourage OHV use and restore the surface features to existing road standards.

Closure can include implementing heavy slash (recommend 200 feet distance, unless unnecessary), rock or tank traps in areas with nearby OHV use, or can include felling, high stump cutting, tank traps and boulder placement to aid in blocking access to closed roads.

Road Dust Abatement: Water will be used on major transportation routes for dust abatement. Water will be preferred except on roads where distance limits practical application of water. Alternative palliatives would be used in accordance with T Spec 806, and cannot be applied within a 25 foot buffer from any flowing water; this includes culverts or bridges that are currently flowing water.

Refueling and Servicing: Refueling will be conducted on areas located away from drainages, wetlands and other waterbodies so that threat of a spill entering a body would not occur through runoff or soil contamination and infiltration of fuels to ground waters. Also refer to Section I below for controlling accidental spills and spill plan and preparedness requirements.

Wet weather clauses are included to limit operations in inclement weather when soils deform or compact so road rutting and deformation do not become significant. Temporary crossings will be removed the same season they are installed, and removal will occur no later than October 15th of the season of installation, or upon the first opportunity where conditions allow operations to continue past this date. No new permanent roads were identified within the proposed action.

E.4-H: Drafting Sites

Water Sources: National BMP Water Uses-3

- Use an approved water source for obtaining water. Water drafting sites in the project area will be established on permanently flowing streams that have sufficient flow to avoid depletion of pool habitat.
- Install screens on water intake lines to prevent entrainment of biota.
- Do not overfill tanks when collecting water as this can lead to increased sedimentation to the stream channel.
- Do not back water trucks beyond the established access developed to access the water source.
- If use of a water source creates sediment movement on access route, apply clean crushed gravel or other means to control sediment, and maintain water quality.
- If a water drafting source within the 100-year floodplain is not currently rocked and added controls are needed to prevent sediment from washing into the water source, use straw bales, staked waddles or other methods to filter sediment.
- Ensure that prohibited discharges to 100-year floodplains do not occur from the maintenance or repair of an existing waterhole within the original footprint. See: Timber Waiver Waste Discharge Prohibition Exemption Information Page 9 of 10 (Attachment N).

For fish-bearing streams:

- The water drafting rate should not exceed 350 gallons per minute for streamflow greater than or equal to 4.0 cubic feet per second (cfs);
- Below 4.0 cfs, drafting rates should not exceed 20% of surface flows;
- Water drafting should cease when bypass surface flows drop below 1.5 cfs.

For non-fish-bearing streams:

- The water drafting rate should not exceed 350 gallons per minute for streamflow greater than or equal to 2.0 cfs;
- Drafting rates should not exceed 50% of surface flows;

- Water drafting should cease when bypass surfaced flows drop below 10 gallons per minute.

E.4- I: Hazardous Waste, Spills and Pesticides

This section covers requirements to meet the National BMPs for Chem 3, Chem 5, and Chem6.

Application of Sporax®

Apply a borate compound (trade name Cellu-Treat®) by hand to cut stumps of all conifer species ≥ 14 inches stump diameter to reduce the spread of Annosus root disease caused by the fungus *Heterobasidion annosum*. Applications of the borate compound would follow all State and Federal rules and regulations as they apply to pesticides.

- The borate compound would not be applied within 25 feet distance of surface water.
- The borate compound would be applied to all conifer stumps within 4 hours of felling, at a rate of approximately 1 pound/acre on average, though up to 2 pounds/acre could occur.
- The borate compound would not be applied during periods of sustained rain.

Spill Prevention Control and Countermeasure Plan

Have an approved Spill Prevention Control and Countermeasure plan.

- Ensure that contractors and permit holders provide documentation of proper training in handling hazardous materials.
- Fuels and other toxic materials will be stored outside of RCAs and critical aquatic refuges.
- Plan for appropriate equipment refueling and servicing sites during project planning and design.
- Allow temporary refueling and servicing only at approved locations, which are well away from water or riparian resources, outside of RCAs.
- Develop or use existing fuel and chemical management plans (for example, spill prevention control and countermeasures (SPCC), spill response plan, emergency response plan) when developing the management prescription for refueling and servicing sites.
- Provide training for all personnel handling fuels and chemicals in their proper use, handling, storage, and disposal.
- Avoid spilling fuels, lubricants, cleaners, and other chemicals during handling and transporting.
- All equipment used must be monitored for leaks. Spills must be immediately contained and spilled materials and/or contaminated soils must be properly disposed. An emergency spill kit adequate to contain spills that could result from onsite equipment must be at the project site at all times of equipment use.

E.4-J: Other Resource Considerations (all units)

1. All eligible prehistorical and historical properties would be protected from ground disturbing equipment. Site boundaries would be flagged and equipment and crews would remain outside of that boundary. Hand removal of vegetation would be required in selected sites with slash piled outside of the site boundary for later disposal.

2. The district archaeologist would work closely with operators during implementation to ensure that ground disturbing activities do not occur within designated archaeological site. Eligible sites would be monitored during and after mechanical treatments.

3. Cultural Resource Sites: Any cultural resource sites not evaluated prior to mechanical operations will be considered as being eligible for the National Register and will be protected. Archaeologist will be consulted during layout of units that have been identified during project reconnaissance. The areas of concern identified during project reconnaissance will be flagged. These areas will be avoided during operations. Coordinate with archaeological specialist to ensure measures are in place to avoid, flag and avoid, and/or monitor cultural resource sites.

4. During implementation, project level noise and disturbance from treatment activities have the potential to disturb and disrupt nesting northern goshawks within the project area. In order to minimize direct effects to potentially nesting northern goshawks, an LOP from February 15 to September 15 would be established for units adjacent to PAC boundaries or newly discovered nests if they are determined to be occupied and active in the year(s) of treatment implementation.

5. Raptor nest: If any active raptor nest is identified within the boundaries of the project area or directly adjacent to the project area (within 0.25 miles) a buffer would be placed around the active nest and at the discretion of the District Biologist a species specific Limited Operating Period (LOP) may be put into place for the buffer zone**. LOP Exists for Units 07, 08, 24, 25, and 33 from 02-15-09/15 for protection of Northern Goshawk nest sites.**

6. Wildlife TES species: If any Federally threatened, endangered, proposed, or Forest Service sensitive species previously unknown in the project area are detected or found nesting or present within 0.25 miles of project activities, appropriate mitigation measures would be implemented based on input from the aquatics biologist, botanist, and/or wildlife biologist. Measures can include, but are not limited to, flagging and avoiding a plant site, implementing a species specific LOP, or designating a protected activity center.

7. All occurrences of sensitive plants, including all found at a later time, should be flagged and no ground-disturbing activities should be implemented within the

flagged areas. Monitoring should take place during project activities and directly after project activities culminate in the vicinity of sensitive plant occurrences to ensure protective measures are sufficient. If impacts to a sensitive plant occurrence are detected, monitoring should take place to determine whether or not the occurrence is still extant (has not been extirpated) and to determine whether impacts will have lasting adverse effects.

8. Botanical Resources**:** Undetected botanical resources: Any additional TES or TNF Watch list botanical species or other botanical resources discovered prior to or during implementation should be flagged with and avoided completely until it can be assessed for impacts by botanist.

9. Invasive Plant Avoidance areas—
    a. During all project activities (including prescribed fire), avoid any invasive plant infestation that has not been treated prior to implementation and a 50-foot buffer. Avoidance areas will be flagged in the field, identified on project maps and provided to contractors. Flagging in the field trumps mapped avoidance areas. Invasive plant flagging is orange with "noxious weeds" or "invasive species" lettering.
    b. Coordinate with botanist at least 60 days before implementation to plan treatment and/or avoidance flagging.

10. Invasive Plant Prevention**:** Equipment Cleaning—All equipment and vehicles (Forest Service and contracted) operating off-road must be free of invasive plant material before moving into the project area. Equipment will be considered clean when visual inspection does not reveal soil, seeds, plant material or other such debris. Cleaning shall occur at a vehicle washing station or steam-cleaning facility before the equipment and vehicles enter treatment units.

11. Invasive Plant Prevention: Weed-free construction materials—All gravel, aggregate, fill, mulch, topsoil, erosion control materials and other construction materials are required to be weed-free. When possible, use onsite materials, unless contaminated with invasive species. Otherwise, obtain weed-free materials from sources that have been certified as weed-free.

12. Invasive Plant Prevention: Early Detection—Any additional infestations discovered prior to or during project implementation should be flagged and avoided. Report new infestations.

13. 30-inch dbh Trees: Live conifer trees 30 inches dbh and larger would be retained. Exceptions to this standard would be allowed for equipment operability and trees that pose a hazard as defined by Hazard Tree Guidelines for Forest Service Facilities and Roads in the Pacific Southwest Region.

14. **Down Woody Material:** Retain the largest available down logs (larger than 15 inches diameter and ten feet long). Crushing of large down logs with machinery should be avoided.

15. All specified roads and recreational trails shown on Agreement maps shall be left in the original condition existing prior to the commencement of work on this Agreement. Any water bars on skid trails disturbed by the Contractor's operations shall be restored to the condition prior to damage at the Contractor's expense. Excessive slash and chips cannot be left in the roadways and recreational trails after end of each work day. **All cut vegetation shall be kept within unit boundaries. If slash is felled onto the roadways or recreational trails, it must be removed by the end of each workday.**

16. Protection of Improvements: Contractor shall protect improvements from damage and shall be responsible for their timely restoration if damaged by Contractor's Operations. There are two water diversion improvements located within the project area that will identified and shall need to be protected from any disturbance. If relocation or removal of said improvements is necessary to avoid foreseeable damage by Contractor's Operations, work and cost shall be borne by the contractor. Improvements shall be returned to their original locations following Contractor's Operations.

17. **Servicing and refueling equipment**: Areas shall be located at a minimum of 300 feet from streams and other wet areas. In case of a HAZMAT spill, the material shall be immediately contained and the Forest Service shall be immediately notified.

Restrictions on Work

Work may be performed at any time during the period of the Agreement, except as outlined here. Nothing in this part shall be construed to take away any of the Government's rights under the Suspension of Work Clause (52.242-14). Restrictions are as follows:

1. In accordance with the fire plan.
2. When the Agreement Officer (or designated representative) determines that adverse weather has made access too dangerous or that continued vehicular travel would cause unacceptable road damage.
3. When the Agreement Officer (or designated representative) determines that continued operation may be injurious to leave trees.
4. If any Sierra Nevada yellow-legged frog is found at any time during implementation of this Project, cease operations in the vicinity of the frog, vacate the immediate area and leave the frog alone. If possible, take a photograph of the frog as follows: top looking down, and side view. No activity will occur in that area until such time as the frog has vacated the area on its own volition. With the exception of a U. S. Fish and Wildlife Service approved biologist, do not handle Sierra Nevada yellow-legged frogs. Report the occurrence as soon as possible to the COR or Designated Representative. Project activities would be halted and USFWS would be contacted to start consultation as required by law.

Public Safety

The Contractor shall provide for public safety when operating equipment within 200 feet of open roadways and designated trails by posting cautionary signs warning of hazardous work ahead. Warning signs (at least two, one for each direction) shall be posted on roads. These shall be located 200' from the intersection of the road and unit boundary at each edge of the unit. Signs shall be posted whenever working to alert oncoming traffic of the safety hazards associated with the operation. Trails must also be signed unless administratively closed by the Government. Signs shall include phrases similar to "Caution, tree falling stay back 200 feet" and be no less than 3 feet X 3 feet in size. Lettering shall be at least 6 inches in height. **High use trails may require personnel posted on trail to guard public entrance into 200 foot equipment operating area. Where haul route coincides with high recreational use along system roads, an area closure should be considered.**

Accessibility: Most areas are accessible with a 2-wheel drive vehicle after snowmelt. The Government assumes no liability to perform special road maintenance to keep roads open to the project area.

Maps: Maps showing the general vicinity and/or specific work areas are included in *Appendix C*. Maps are general in nature and are not to be considered as definitively identifying locations.

Any prospective Contractor desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing from the party responsible for the agreement soon enough to allow a reply to reach all prospective contractors before the solicitation closing date. Oral explanations or instructions given before award of the agreement will not be binding.

A Public Information Plan will be developed prior to project implementation as a joint effort between the NFF and USFS. The intent of shared public information would be to inform interested parties and residents regarding trail or road closures, the foreseeable schedule for project implementation.

Flagging Identification:

- Boundary: pink flagging and black-white checkered flagging
- Cultural Sites: Blue & Black Striped and/or White with Orange Poke-a-dots
- Riparian Buffers: Blue & White Striped
- Botany (Sensitive Plants): Orange & White with the letters, "ESA"
- Botany (Noxious Weed): Orange with the words,"Noxious Weeds
- Wildlife (Aquatic/Wildlife Sensitive Area): White with Red Dots

E.5 INSPECTION AND ACCEPTANCE PROCEDURES

Specific Inspection Procedures

The contractor will be required to submit self-inspection forms to be reviewed and subsampled prior to payment or acceptance of work. Plot centers will be marked with flagging so that plot centers can be relocated for spot checking purposes. Government representatives and NFF may inspect all or none of the inspection plot locations to verify accuracy. Inspection forms must be submitted to government representatives in a timely manner and should allow up to 10 days for review prior to acceptance of work. Each plot center will include the plot number, unit number, date and inspector's initials written on the flagging. A plot inspection form will be used to record the findings and will be submitted to the government. Inspection forms will record the following information on each plot:

Performance measures for sub merchantable tree and shrub mastication (Items 1, 2, 3, 5)

1. Number of residual trees remaining on a per acre basis
2. Status of residual tree health (greater than 40% live crown, free of obvious signs of pests and pathogens)
3. Location of residual trees (no interlocking crowns or present within dripline of other trees)
4. No snags less than 12 inches DBH present
5. Height of stumps (<8 inches)
6. Presence of live target shrub species (green leaf manzanita, snowbrush, white thorn)
7. Height of stems of shrubs

Performance measures for surface fuels removal (items 1, 2, 3)

1. presence of coarse woody debris within stipulated ranges (>4 feet in length and 3 inch diameter and < 12 inches diameter)

Performance measure for mastication (Item 1)

1. Size of masticated material (<24 inches length, 4 inch diameter)
2. Depth of chips < 9 inches on average

Performance measure for chipping (Item 5)

1. Chip depth
2. Location of chips (outside of drainages, adjacent to infrastructure etc.)

Performance measure for pile creation (Item 2, 3)

1. Location of piles
2. Height of piles
3. Diameter of piles
4. Form of pile (conical)
5. Presence of proper sized covering in proper location

A series of 1/50th acre plots (16.7 foot plot radius) per every 5 acres, with a minimum of three plots per unit, will be sampled by a fixed series of plots evenly distributed over the entire treatment area. The plot size will be a fixed radius measured in horizontal distance with the exception of basal area plots within Item 5 “merchantable material” will be completed using a 10 BAF plot.

On each plot the designated inspectors will record the plot number, whether the plot is satisfactory or unsatisfactory and the reason if unsatisfactory. Each plot will be examined to record findings on individual items as listed below. To be considered satisfactory these items must meet the following criteria:

Table xx: Inspection standards and metrics for Cabin Creek. All metrics are on a plot level unless otherwise noted and solely encompass material within the parameters of the contract specifications unless otherwise noted (see footnote).

Task	Inspection Item	Inspection Metric	Pass	Fail
Sub Merchantable Tree Thinning	Number of trees remaining[1]	Trees per Acre	50 - 90 TPA[1,2]	<50, >90 TPA[1,2]
	Status of residual trees	> 40% Live Crown Ratio, presence of Pests/ Pathogens	≤2 trees per plot fail	>2 trees per plot fail
	Leave Tree Location	leave trees in dripline / interlocking crowns	0 trees present	>0 trees present
	Snags < 12 inch DBH	presence of snags < 12 inches DBH	0 trees present	>0 trees present
	height of stumps	stumps less than 8 inches tall on the uphill side	≤2 trees per plot fail	>2 trees per plot fail
	Presence of Target Shrubs	Larger shrubs present >8 inches in height	≤3 are present	> 3 are present
	height of shrub stems	8-inch tall stem height on shrubs	≤5 stems are >8 inches tall	>5stems
Merchantable Tree Thinning	Basal Area of tree remaining	Basal area of trees >10 inches DBH	20-50 BA (if greater than 50 still passes if all leave trees are >30 inches DBH)[2]	<20, or >50 BA[2]
	Status of residual trees	> 40% Live Crown Ratio, presence of Pests/ Pathogens	≤2 trees per plot fail	>2 trees per plot fail
	height of stumps	stumps less than 8 inches tall on the uphill side	≤2 trees per plot fail	>2 trees per plot fail
Surface Fuels Removal	Coarse Woody Debris	presence of Coarse Woody Debris > 4 inches in diameter and 4 feet long and less than 12 inches in diameter	≤ 10 pieces present	> 10 pieces present
Mastication	Size of masticated material	presence of pieces greater than 24 inches in length and 4 inches diameter	≤3 pieces present	> 3 pieces present

[1] All trees regardless of DBH
[2] Plots averaged across the unit as a whole

	Chip Depth	average depth of chip	< 9 inches average depth	> 9 inches average depth
Chipping	Chip Depth	average depth of chip	< 4 inches average depth	> 4 inches average depth
Task	**Inspection Item**	**Inspection Metric**	**Pass**	**Fail**
Piles	Location	distance from neighboring trees	≥ 15 feet from bole of tree	< 15 feet from bole of tree
	Height	feet	5-8 feet tall	<5 feet tall
	Diameter	feet	7-10 feet in diameter	<6 feet, > 11 feet in diameter
	Form	shape	conical	flat/ amorphous
	covering	presence, size, location	4x4', top 1/3 of pile, and present	undersized, wrong location, not present
Herbicide	Herbicide application	coverage of target foliage	80-100% of target species foliage covered	<80% target species foliage covered
Planting	Seedlings	TPA of seedlings	170-210 TPA	<170, >210 TPA
	Species Composition	Composition	at least 40% of species present	<40% species present
	Proper Planting	seedling location	<3 trees have J-roots, root collars exposed, or are angled	>3 trees have J-roots, exposed root collars, or are angled

Acceptance

Work on this Agreement will be deemed acceptable when a score of 90 percent or more is achieved. For a score of 80 percent or more but less than 90 percent, 2 percent of the unit price pay will be deducted for that unit for each percentage point below 90%. If the inspection score is less than 80 percent then there is no pay. The unit may be reworked ONCE and then re-inspected. This re-inspection score will be the final result for payment on that unit, (see re-inspection after rework below).

Government Inspections

Government inspections are for the purpose of satisfying the Government that the services are acceptable and do not relieve the Contractor of the responsibility for maintaining quality control.

The Agreement Officer's Representative or designated inspector will conduct all inspections. The Contractor (or designated representative) is encouraged to be present to observe inspections. Summary results will be made available on request.

Compliance Inspections. Visual compliance inspections will be made on a periodic basis. Such inspections are not final and do not constitute acceptance by the Government.

Final Inspections. Final (formal) inspections for payment will be made on completed sub-items only. The Contractor shall request final inspections in writing and give the Forest Service at least two working days advanced notice. Inspection forms will be provided to the Forest Service at the time of final inspection request. Inspections will be completed within ten working days after the notice is received. If the work is not ready for inspection at the time specified by the Contractor, the cost associated with the inspection attempt may be charged to the Contractor.

Disputed Inspection.

The Contractor may request re-inspection without rework if the results are unacceptable. Re-inspection must be requested in writing within 48 hours after receiving written notice of the inspection results. Re-inspection will be accomplished within five working days after receipt of the Contractor’s written request.

The same sampling and inspection procedures will be used, but new samples will be taken. The inspection pattern will be shifted so that new samples will not overlap previously inspected samples. Results will be rounded to the nearest whole percent.

If re-inspection results are within five percentage points of the first inspection, the original inspection result will be used in determining acceptability and payment. If re-inspection results are greater than five percentage points above or below the first inspection, the re-inspection results will be used.

If the re-inspection results are within five percentage points of the first inspection, the Contractor shall pay the actual costs of the re-inspection.

Re-inspection after Rework. Where rework after a failed inspection may improve the inspection results, the Contractor may rework the area and request (in writing) a second inspection. The Government will charge to the Contractor the cost of this additional inspection. Re-inspection will be accomplished within five working days after the notice is received. The results of the second inspection will be final, and no

further rework will be permitted. Areas not ready for re-inspection at the time specified by the Contractor will not be re-inspected, and the results of the first inspection will be final.

E.6 Definitions:

Conifer – Typically an evergreen tree, which usually has a single well-defined trunk and/or attains a height greater than 20 feet (i.e. pine, spruce, and fir species)

Control Area (Cultural and/or Threatened and Endangered (T&E) Sites) - Areas delineated by orange and white candy cane flagging for the purpose of protecting resources of concern. Locations where special protection is required to preserve and protect cultural values and species of plants or animals listed on the T&E list.

Crown Ratio – The portion of the total vertical tree height that is occupied by the vertical length of the tree crown.

Damaged/Diseased Tree – Any tree with one or more of the following:

1. Broken or dead top, regardless of cause.
2. Vertical orientation of bole is lost.
3. Visible disruption of roots.
4. Dead or dying limbs/foliage within the upper three-fourths of the live crown

DBH – Diameter of trees measured at breast height (4.5 feet above ground, upslope side of tree).

Diameter - Other vegetation (not trees) is measured 1 foot above ground

Dominant/Co-dominant Tree – Trees generally of good vigor due to being the larger trees in the stand and their crowns receiving full sunlight from above and on much of the sides.

Excess Tree(s) – A tree or group of trees that is left, but should have been cut to meet spacing or trees-per-acre requirements.

Existing Down Woody Material – All logs, stems, limbs and tops of trees and brush, which are dead and lying on the ground prior to Contractor beginning operations.

Hardwood - A broad-leaved tree, which usually has a single well-defined trunk and/or attains a height greater than 20 feet. (i.e. aspen and oak species). Sprouting hardwood species may be in the form of multi-stemmed clumps.

Jackpot - Concentration of slash or natural fuels, heavier than the surrounding areas.

Ladder Fuels - Fuels that provide vertical continuity between the ground and the tree crowns thus are creating a pathway for surface fire to move into the overstory tree crowns.

Leave Tree – A Dominant or Co-dominant tree, which is free from Damage/Disease, or a tree less than the desired DBH specified, and is left uncut (or should have been left uncut) by the Contractor to meet desired spacing or trees per acre requirements. Any live tree greater than 20 inches dbh are automatically considered to be Leave Trees.

Leave Tree Clump – A group of 3 to 12 Dominant and Co-dominant trees in close proximity to one another, which is left (or should have been left) by the contractor to increase stand diversity.

Mobilization - The act of delivering all ordered personnel and equipment to the project area. The price for mobilization shall be included in the proposed unit prices.

Percent Cover – Portion of the project area beneath the drip line of vegetation to be cut or left untreated. Percent cover and treatment will be specified in C.8-2 Specifications.

Reserved Trees or Reserved Areas - Individual species of trees or certain areas within a treatment unit that the contract or COR designates are reserved from treatment.

Residual Tree: See "Leave Tree"

Shrub (or brush) - Vegetation consisting of woody perennial plant smaller than a tree, usually having permanent single or multiple stems originating at or near the ground level not normally reaching 20 feet in height (i.e. bitter brush, manzanita, ceanothus, mountain mahogany, rhododendron, serviceberry, sagebrush, etc.).

Slash – Any cut vegetation and/or existing naturally (dead and down) woody debris. This includes stems, limbs, down logs, and brush that existed from previous activities or was generated by the contractor during current activities. Diameter to be piled, chipped, or removed will be specified. Limbs less than 1 inch in diameter and 2 feet in length are not defined as slash and may be left scattered on the forest floor.

Snag – A dead or living tree that has 10 percent or less live crown.

Superior Vigor Trees – Trees which exhibit healthy, dark green needle color. Needle length is longer, and reaches further back on branches. Needle length on inferior vigor trees is shorter and often tufted nearer branch tips. Recent height growth is also greater on Superior Vigor Trees. May not always be the largest/tallest tree.

Supervisor (foreman) - A working (English speaking) supervisor, who is knowledgeable and experienced in the required work and supervision, shall be provided for each crew and is required to stay with the crew while work is in progress. If crew is non-English speaking, the supervisor must be bilingual in English and the language of the crew members.

Suppressed/Intermediate Tree – Trees generally of poor vigor due to being overtopped or crowded by larger trees. The crowns of these trees usually receive little or no direct sunlight.

Undesirable Vegetation – Conifer trees less than 20.0 inches dbh with one or more of the following attributes:

1. Damaged/Diseased Trees.
2. Trees with Suppressed and/or Intermediate crown position classification.
3. Excess trees not selected as Leave Trees.

Water Body Buffer Zone (WBZ) - A 25 to 300 foot area extending upslope on each side of a stream channel or as described in C.8.2 Specifications.

Wildlife Clumps – An area usually between 1/100 acre and 1/4 acre in size, where no trees have been cut or no trees should have been cut. Wildlife clumps are ideally somewhat denser than the surrounding forest area, and are usually dominated by smaller trees, with fuller crowns. These clumps of trees tend to break up horizontal visibility through the stand, and offer various wildlife species a greater degree of cover and nesting possibilities

APPENDIX F
Timber Removal Specifications: Cabin Creek Stewardship Agreement

F.1 - Location and Area

This Stewardship Project Area of:	*1583 acres*	Acres more or less are located in:	T16N, R16E: Sections 4 & 6, T17N, R16E Sections: 20, 21, 28-30, 32, 33

F.2 -Volume Estimate and Utilization Standards

				Minimum Specifications				
				Merchantable Tree		Piece Required to be Removed		
Species	**Product**	**Estimated Quantity**	**Unit of Measure**	**Diameter Breast High (dbh) *(inches)***	**Number of Minimum Pieces per Tree**	**Length *(feet)***	**Diameter Inside Bark at Small End *(inches)***	**Net Merch. Factor***
CS	Sawtimber	63,240.69	TON	10	1	10	6	12
OS	Non-Saw	Un-estimated	TON	3	1	6	1	16

Timber Subject to Agreement

CS	Sawtimber	Un-estimated	TON	10	1	10	6	12
OS	Non-Saw	Un-estimated	TON	3	1	6	1	16
Total Quantity		63,240.69	TON					

F.3 – Stump Height

Species	Product	Maximum Stump Height (inches)
All, Tractor	Sawtimber	12.0

F.4 - Timber Rates *(Scaled)*

Cutting Unit Number	**Approx. Acres**	**Species**	**Product**	**Quantity**	**Unit of Measure**	**Rate of Payment $/UOM**	**Required Deposit per unit of measure**
All	1584	CS	Sawtimber	63,240.69	TON	-	-
All	1924	OS	Non-Sawtimber	Un-estimated	TON	-	-

Na

F.6 - Timber Designations. Timber designated for cutting shall be confined to the Stewardship

Project Area. No undesignated timber shall be cut without prior notification to and approval of the Forest Service. Prescriptions/timber designations are included later in this subsection.

Timber Designation Method	Acres
Individual Tree Selection (Sawlog)	896
Designation by Prescription	688

F.7 - Cutting Unit Boundary Designation. The boundaries of cutting units are designated as shown in the following table. **The trees used for boundary designation are not to be cut.**

Cutting Unit/ Subdivision/Area/ Payment Unit	Tree Paint Color	Designation or Specification
All	Green/ Blue	Hazard Tree. Notwithstanding B2.32 all dead and unstable live trees which are leaning towards a road or are otherwise hazardous to a road and are sufficiently tall to reach Partner's landings or the roadbed of National Forest System roads within Sale Area, shall be felled by Partner when Marked in the specified paint color above and below stump height by Forest Service in advance of felling any other timber in the vicinity. Pieces meeting Utilization Standards from such dead and unstable live trees shall be removed unless Partner is notified in writing that removal would cause unacceptable damage to areas requiring special protection such as residual timber, roads, administrative sites, streamside management zones, and areas identified on Agreement Map or on the ground.
3, 10a, 11a, 11b, 11c, 13a, 13b, 14, 16, 20, 21, 22, 23, 24	Blue/ Green	Individual Tree Mark. Individual trees are designated for cutting only if Marked above and below stump height with the specified paint color.
N/A		Leave Tree Mark. All live **Conifers** are designated for cutting unless Marked as leave trees. Leave trees are Marked above and below stump height with the specified paint color. Agreement Map indicates areas plainly identified on the ground where leave trees are Marked to be left uncut.
N/A	Orange	Wildlife Trees. Notwithstanding the designation for cutting under B2.3l, B2.33, B2.34, or B2.35, trees which are identified by standard Forest Service metal wildlife tree sign or painted with the specified paint color on the uphill and downhill side, shall be left uncut. In event such trees are destroyed in Partner's Operations, Forest Service may designate alternate trees to be saved.

All	Black	Marked Out Trees. When it is necessary to delete previously marked trees, a unique tree marking paint color will be Marked over or adjacent to the original mark but will not obscure the original marking. Trees Marked with the original marking paint color and the unique tree marking paint color are not Included Timber.
N/A		Designation by Spacing C2.351#
N/A		Designation by Species and Diameter, C2.352#
N/A		Designation by Damage Class, C2.353#
N/A		Designation by Row Spacing, C2.354#

Subdivision/Payment Unit	Boundary Paint Color	Boundary Designation
N/A		
Cutting Unit	Boundary Paint Color	Boundary Designation
N/A	Orange	Boundaries are marked with 2 **ORANGE** vertical spots facing into the subdivision and/or a single spot facing along the subdivision line and **ORANGE** paint below stump height. Where existing roads are used as subdivision boundaries, these are not painted.

F.8 Tree Designation/Prescriptions

DESIGNATION BY PRESCRIPTION. (05/15)

Within Subdivision(s) or cutting unit(s) ___**1, 6, 7, 9, 10b, 12, 17, 25** ___, as shown on Agreement Map, the following criteria shall be used by Purchaser to designate trees and other products for cutting and removal.

(a) Designation by prescription shall be the same for all units with the exception of basal area retention targets. Basal area retention targets are as follows:

a. Units 1 & 12 BA retention is 60 ± 10 square feet/acre
b. Units 6, 7, 9, 10b, 17 BA retention is 90 ±10 square feet/acre
c. Unit 25 BA retention is 150 ±10 square feet/acre

General Conifer Thinning, Density and Structure

- Thin to the appropriate basal area as directed above, averaged across the unit
- Heterogeneity should be encouraged by thinning portions of the unit up to 50 BA below and above target BA for the unit while still maintaing average BA across the unit.
  - Small areas <1/4 acre in size with desirable species which are healthy and vigorous or greater than 30 inches DBH may be left at higher densities
  - Small areas <1/2 acre in size with undesirable species, fading/ unhealthy trees, signs of pests or pathogens may be left at lower densities
- Generally areas on North facing slopes and toward drainage bottoms should be left at higher densities and South facing aspects and ridgelines should be left at lower densities

General Conifer Thinning, Tree characteristics

- No trees greater than 29.9 inches DBH (stumps > 35 inches DOB) will be cut
- Generally, retain healthy dominant and co-dominant pine trees and remove intermediate, and suppressed pines, and co-dominant, intermediate, and suppressed fir trees
- Residual pine trees should have live crown ratios greater than 20% and full green crowns, residual fir trees should have live crown ratios greater than 40% and full green crowns which are not fading or dying. If no trees meet this criteria then retain the healthiest pine (not including lodgepole) available.
- Residual trees should be free of obvious signs of pests and pathogens such as pitch tubes from bark beetles or mistletoe infection.
- Residual trees should generally be free of defect such as forks, dead tops, broken tops and rot, however 3-5 wildlife trees which contain one or more of these features should be retained per acre.
- Tree retention preference from highest to lowest preference is as follows:
    1. Sugar pine
    2. Western white pine
    3. Jeffrey pine
    4. Incense cedar
    5. Red fir
    6. Mountain hemlock
    7. White fir
    8. Lodgepole

- Thin all trees less than 30 inches DBH within 30 feet of the bole of any Jeffrey, sugar, western white pine, or incense Cedar greater than 30 inches DBH

Openings

- Within designated openings, all conifers from 10 – 29.9 inches DBH will be cut and removed. Openings are designate on the ground with orange tags and spatially on the Agreement Map.

Leave Areas

- Within Designated leave areas, no conifers will be cut. Leave areas are designated on the ground with white tags and spatially on the Agreement Map.

Hardwoods

- All conifers less than 30 inches DBH within 50 feet of aspen (at least 3 individuals greater than 10 feet tall) will be removed
- From 50 – 100 feet away from aspen, conifers will be thinned to 0-40 BA (4-8 TPA) or to the density of trees greater than 30 inches DBH if higher than 40 BA.

(b) Additional trees to be cut, if any, are Marked by Forest Service with 2/___**Blue**___ tracer paint.

(c) Cutting unit boundaries and other trees that shall be left uncut are Marked by Forest Service with 2/__**Orange**__ tracer paint.

Purchaser may select cut trees in cutting units 3/___**1, 6, 7, 9, 10b, 12, 17, 25** ___without pre-harvest marking in accordance with the criteria in (a). If specified in (a) Purchaser shall Mark leave trees in cutting units 4/___**N/A**___with Purchaser's non-tracer 2/___**N/A**___ paint for inspection and approval by Forest Service prior to cutting.

F.8a ACCEPTANCE OF WORK. (5/2015)

Upon Purchaser's written request and assurance that Designation by Prescription (DxP) end results has been completed in a unit in accordance with C2.355# - DESIGNATION BY PRESCRIPTION (5/15/15), the Forest Service shall perform an inspection within 5 days, excluding weekends and federal holidays, so as not to delay unnecessarily the progress of purchaser's operations. Such a request will be for acceptance of end results of Purchaser's operations. Within 2 days of inspection, excluding weekends and Federal holidays, Forest Service will furnish Purchaser with written notice of either of acceptance or of work remaining to be done. If Purchaser fails, Purchaser will be required to mark leave trees in advance of cutting on the remaining units at Purchaser's expense. Forest Service may perform such inspections without request from Purchaser. Unless otherwise agreed in writing, procedures for inspecting Purchaser marking under C2.355# are as follows:

In DxP Units: **1, 6, 7, 9, 10b, 12, 17, 25**

The method of inspecting Purchaser marking of Designation by Prescription by the Forest Service shall be done by variable radius plot sampling and fixed plot sampling.
Metrics will be recorded using one of two different plot types. A 10, 20, or 40 BAF plot will be used to record forest density (Basal Area) measurements while a 1/10 acre fixed radius plot will be used to take measurements and record observations on cut and retained trees to asses compliance with tree selection.

1) Inspections will be based on the amount of area that can be completed in a 30-day period by the Contractor. Inspection units are combined treatment units that will be considered as one unit for inspection purposes and documented on R5 2400-181.

2) Each inspection unit will be evaluated and approved separately. In addition to inspecting the requirement of leave trees, the inspection will also evaluate compliance with prescription requirements pertaining to selection of species, quality of leave trees, and spacing. The Contractor's painting of leave trees (if applicable) shall also be inspected as part of the acceptance of work to meet the designation by prescription.

3) Each plot shall include a variable plot and an imbedded fixed plot.
   a) For Variable Plot sampling, 80% of inspection plots measured will be within the specified basal area range based on unit prescriptions and the average unit basal area will be within 10 square feet of the target basal (see details below)
   b) For Fixed Plot sampling, 80% of all plots taken on a unit must pass inspection.

4) A minimum of 10 plots per inspection unit will be measured. A random starting point will be selected for the first plot location and plots will be spaced to achieve at least 1 plot per 10 acres.

5) Placement of plots shall be in a systematic random distribution within a uniform grid which will be distributed evenly across the unit. Plots will be displayed on a map and plot locations may be delineated by GPS coordinates.

6) Verify plot location by recording GPS coordinates and establish firm plot center as described in FSH 2409.12 Chapter 30. Plot centers will be marked on the ground and at eye level with a Pink Flag with the plot number written on the flagging. The same plot center will be used for both the variable and fixed plots. Fixed plots will be circular.

Use a 10 BAF plot for the following metric in units: 1, 12

Basal area of all live conifers. Using a basal area factor of 10 count and record all "in" live conifers. For individual plots the basal area must fall within 20 -100 ft^2 for the plot to pass. To determine the unit average basal area, multiply the average tree count per plot for the inspection unit by 10. The average basal area over the whole inspection unit must be within 60 ±10 square feet of the target BA for the unit to pass. If a plot lands in a clearing such as a landing, brush field void of trees, designated opening, designated retention area, within a dense area of trees greater than 30 inches DBH resulting in high BA due to no fault of the Contractor, the plot will be recorded as a null plot. Null plots will not be included in the average BA calculation for the inspection unit, but each will be noted along with a brief explanation in the inspection record. Null plots will not be factored into the final inspection calculations. Use a 20 BAF plot for the following metric in units: 6, 7, 9, 10b, 17

I. Basal area of all live conifers. Using a basal area factor of 20 count and record all "in" live conifers. For individual plots the basal area must fall within 40 -140 ft^2 for the plot to pass. To determine the unit average basal area, multiply the average tree count per plot for the inspection unit by 20. The average basal area over the whole inspection unit must be within 90 ±10 square feet of the target BA for the unit to pass. If a plot lands in a clearing such as a landing, brush field void of trees, designated opening, designated retention area, within a dense area of trees greater than 30 inches DBH resulting in high BA due to no fault of the Contractor, the plot will be recorded as a null plot. Null plots will not be included in the average BA calculation for the inspection unit, but each will be noted along with a brief explanation in the inspection record. Null plots will not be factored into the final inspection calculations.

Use a 40 BAF plot for the following metrics in unit: 25

II. Basal area of all live conifers. Using a basal area factor of 40 count and record all "in" live conifers. For individual plots the basal area must fall within 80 -200 ft^2 for the plot to pass. To determine the unit average basal area, multiply the average tree count per plot for the inspection unit by 40. The average basal area over the whole inspection unit must be within 150 ±10 square feet of the target BA for the unit to pass. If a plot lands in a clearing such as a landing, brush field void of trees, designated opening, designated retention area, within a dense area of trees greater than 30 inches DBH resulting in high BA due to no fault of the Contractor, the plot will be recorded as a null plot. Null plots will not be included in the average BA calculation for the inspection unit, but each will be noted along with a brief explanation in the inspection record. Null plots will not be factored into the final inspection calculations.

Use a 1/10th acre fixed plot (37.2-foot radius) for the following items. These are pass/fail and at least 80 percent of the plots within an inspection (treatment) unit must pass for each item to be acceptable:

I. Retain conifers greater than 29.9 inches DBH (35 inches stump diameter DOB): Determine if any conifer stumps greater than 35" stump diameter (dob (12 inches above ground surface on the high side of the stump) are in the plot with no apparent justification for the associated tree removal. When a stump not meeting the above criteria is found within the plot, the plot fails

II. Species Preference: (Priority #1) are pines and cedar retained over fir species? Examine the cut stumps to identify genus if possible (fir, pine, cedar). Are the majority of retained live trees pine? If not are the majority of cut stumps fir species? If not plot fails.

III. Residual trees are healthy and vigorous: (Priority #2) Live fir trees within the plot from 10 – 29.9 inches DBH should be healthy and vigorous with greater than 40% live crown and not chlorotic, while pine species (except lodgepole) should have greater than 20% live crown and not be

chlorotic If two or more trees do not meet this criteria the plot fails.

IV. Residual trees should be dominant or co-dominate: (Priority #3) Live trees within the plot from 10-29.9 inches DBH should be in a dominant or co-dominant position within their strata, if trees are in the mid or understory they should have open growing space above them (crowns should not be within the dripline of neighboring overtopping trees) if two or more trees do not meet the above criteria the plot fails.

V. Form and defect: (Priority #4) 30% or less of live trees from 10-29.9 inches DBH should exhibit obvious significant seen defect (dead tops, cat faces, obvious rots, cankers). This metric should be averaged across all plots within a treatment unit to determine pass or fail

VI. Radial / Emergent Tree Thin: If a Jeffrey, western white, sugar pine, or incense cedar greater than 30 inches DBH is present: are all trees less than 30 inches DBH within 30 feet of the bole present? If so the plot fails.

VII. Aspen release: Outside of identified aspen units If three or more aspen greater than 10 feet tall are present within 100 feet of the plot: Measure distance from plot to nearest aspen, if plot is within 50 feet of aspen are all conifers from 10 – 29.9 inches DBH within the plot cut? If not plot fails. If plot is within 50 – 100 feet of aspen, is the residual conifer BA less than 40 (where the presence of trees >30 inches DBH allows). If not plot fails.

F.9 - Control of Operations

Under this agreement, "the Contractor's operations" shall include activities of or use of equipment of the Contractor, the 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 any 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 the Contractor.

The following are special provisions to be applicable to this agreement:

ROAD AND WATER SUPPLY USE. (5/2008) National Forest water supply locations, access, method of filling trucks, period of water availability and procedures designed to maintain water quality at each location shall be agreed in advance of use. Such use shall at no time reduce water supplies to the level that further use may be detrimental to aquatic resources or other established use. Waterholes and other improvements relating to said water supplies shall be put into condition, prior to expected seasonal periods of precipitation or runoff, to avoid resource damage.
Damage to resources at such locations caused by Partner's Operations, other than fire suppression activities, shall be repaired by Partner in a timely and agreed manner to the extent practicable to restore and prevent further resource damage.

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

SPECIFICATIONS PURSUANT TO - REQUIREMENTS OF Road and Water Supply Use

Load Limitations	Partner shall notify Forest Service in writing of the planned size and load distribution for equipment which exceeds the State of California Vehicle Code legal size and weight, and the National Forest System roads to be used. Such notice may be part of plan of operation under B6.311. Within l5 days after receipt of the written notice Forest Service shall notify Partner in writing of any regulations or restrictions that may be needed to protect National Forest Transportation Facilities. A written permit shall be required for moving any vehicle which is in excess of the established legal size and weight which is not listed in the above plan, except as may be authorized in prior written agreements.
Existing Non-National Forest System Roads	Roads not shown on Agreement Area Map may be used as Temporary Roads if there is agreement before use is started.
Snow Removal	If Partner removes snow from roads, such work shall be done with Forest Service approval and in a manner that will protect roads and adjacent resources. Snow berms shall be removed or placed to avoid accumulation of melt water on the road and prevent water concentration on erosive slopes or soils. Snow must not be removed to the road surface. A minimum **3** inch snow depth must be left to protect the roadway. If the road surface is damaged, Partner shall replace lost surface material and repair structures damaged in blading operations prior to hauling, unless climatic conditions prevent necessary work from being accomplished or as otherwise agreed in writing. Single lane roads shall be plowed full width including turnouts. In event double lane roads are not plowed to full width, warning signs shall be required and plowing shall be no less than single lane (12 feet) with intervisible turnouts.

<table>
<tr><td>Water Supply Deposits</td><td>If Partner utilizes the water site located N/A, for any listed activity, Partner shall make deposit with Forest Service for that activity at the time and in the amount shown in the Water Supply Deposit Schedule table below.

WATER SUPPLY DEPOSIT SCHEDULE

<table>
<tr><td>Activity</td><td>Unit of Payment</td><td>Unit Cost</td><td>Total Cost</td><td>Time of Payment</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="5">N/A</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Surface Replacement Deposits</td><td>Partner shall make Required Deposits for deferred surface replacement (16 U.S.C. 537) for use of existing surfaced roads. If applicable, such deposits shall be based upon the volume and distance hauled on the roads and at the applicable rates listed in the table below titled Surface Replacement Deposit Schedule. If Partner uses surfaced roads under jurisdiction of Forest Service other than those listed, Forest Service may establish applicable rates for such surfaced roads.
SURFACE REPLACEMENT DEPOSIT SCHEDULE

<table>
<tr><td>Road No.</td><td>From</td><td>To</td><td>Miles</td><td>Rate</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>
Sale Area Average Rate: $_____/MBF, CCF or Ton</td></tr>
</table>

PROTECTION OF IMPROVEMENTS. (5/2008) Partner shall notify Forest Service at least <**10**> days prior to any operations in the vicinity of improvements identified on Agreement Map. Partner shall protect such improvements from damage and shall be responsible for their timely restoration if damaged by Partner's Operations. If relocation or removal of said improvements is necessary to avoid foreseeable damage by Partner's Operations, work and cost shall be borne by the party listed in the table below. If Partner is required to move or relocate the improvements, they shall move or relocate the improvements listed in the following table to locations and in a manner as specified in drawings or in specifications attached hereto. Improvements shall be returned to their original locations following Partner's Operations.
See table below for improvements to be protected.

SPECIFICATIONS PURSUANT TO – PROTECTION OF IMPROVEMENTS.

Improvement	Owner's or Permittee's Name	Timing	Specifications	Work and Cost of Removal or Relocation Borne by
Gates	USFS	10 Days	Move, Remove, and Replace	Partner

SITE SPECIFIC SPECIAL PROTECTION MEASURES. (4/04) Special protection measures needed to protect known areas identified on Agreement Map or on the ground include:

Cultural Resource Protection Measures: No timber removal or equipment is permitted within areas identified as requiring standard resource protection measures. These areas are flagged with black and blue diagonally striped flagging. Unless agreed upon by a Forest Service (FS) heritage professional in writing, no equipment will be allowed within cultural resource boundaries. Activities within cultural resource boundaries will be prohibited except for using developed Forest Service transportation roads after a qualified heritage professional has reviewed and approved that use.
Linear sites can be crossed or breached by equipment where their features or characteristics lack integrity. Crossings and/or breaches will be identified and clearly marked by a FS heritage professional.
Trees will be directionally felled away from cultural resource flagged boundaries. Felling and removal of hazard, salvage, and other trees within cultural resource boundaries may occur using rubber-tired loaders, crane/self-loader, helicopter, or other non-disturbing methods after review and approval by a FS heritage professional.
Road maintenance and reconstruction of developed FS transportation roads that bisect a cultural resource must be approved by a FS heritage professional.
Cultural resource location and boundary marking information will be conveyed to Forest Service employees responsible for project administration and/or implementation. This information may be conveyed to contractors outside of the FS who are responsible for project administration and/or implementation after a confidentiality agreement has been signed by contractors, partners, and a FS heritage professional.

Wildlife and Botanical Protection Measures: As shown on the Agreement Map - B No operations permitted within zone flagged with Orange/White candy stripped flagging with "Special Treatment Zone" or Orange with "Noxious Weeds" in Black letters. Trees to be felled away from flagged zone. No equipment will be allowed within the boundaries. Slash will not be deposited within the Controlled Area.

For the protection of aquatic species; at any water drafting site, the use of a FGM 5161 or other similar foot valve with openings less than 2mm will be required. Additionally the foot valve shall be placed in the deepest section of the water source on a shovel or a plastic/canvas bucket, after

the site has been inspected for frogs or their eggs.

Cave Resource Protection Measures: N/A

SALE OPERATIONS SCHEDULE. (8/2006) Unless otherwise agreed in writing, Partner's Operations shall be performed in accordance with the following schedule:

SCHEDULE PURSUANT TO - SALE OPERATIONS SCHEDULE (8/2006)

Subdivision/ Area/Unit	Conditions of Operation	Purpose
07, 08, 24, 25, 33	SOS1: No operations from 2/15 to 9/15	To protect Northern Goshawk Nest Sites
All	Skidding operations will only be permitted when soil moisture conditions are such that compaction, gullying, and/or rutting will be minimal. Equipment may operate on designated skid trails when soils are dry to a minimum of 4 inches. Low-ground pressure equipment may operate off of designated skid trails when soils are dry to a depth of 4 inches. High-ground pressure equipment may operate off of designated skid trails when soils are dry to a depth of 8 inches. Off of designated skid trails, limit all equipment passes over the same piece of ground to reduce the potential for adverse soil compaction. Outside Normal Operating Season (NOS) or during wet periods within the NOS, utilize the TNF Wet Weather Operations Guidelines.	To protect soil from compaction, gullying, and/or rutting.

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

SPECIFICATIONS AND TREATMENTS PURSUANT TO - FELLING, BUCKING AND LIMBING
(8/2007)

Treatment Method and Applicable Map Symbol	Felling, Bucking and Limbing Specifications
Limbing	Outside of construction clearings, Clearcutting Units and regeneration units, unless otherwise provided by B6.414, Partner shall, prior to skidding/yarding operations, cut exposed limbs from products which are to be skidded/yarded. Such limbing of stems shall be done to a top diameter of approximately 3 inches, at which point the top shall be cut from the remainder of the stem.

No Lop "No Lop"	Within units or subdivisions designated NO LOP on Sale Area Map, trees shall be skidded/yarded to agreed landing locations prior to lopping.
Whole Tree Yarding "Whole"	Notwithstanding the requirements above, within units or subdivisions designated "Whole" on Agreement Map, trees smaller than **27** inches DBH shall be skidded/yarded to agreed landing locations prior to limbing, bucking, and lopping. Trees larger than or equal to **27** inches DBH shall be bucked into two or more pieces with the butt portion being no longer than **41** feet prior to skidding/yarding. The butt log shall not be limbed prior to skidding/yarding.
Directional Felling "DF"	Within areas designated DF on Agreement Map, Included Timber shall be directionally felled away from stream courses, structures, survey monuments, and private property, and controlled areas with the use of specialized equipment. Such directional felling shall not be required when in the faller's judgment it is unsafe to do so, and shall be left standing.
Treatment of Stumps "TS"	Within areas shown on Agreement Map, Partner shall treat stumps of all live conifer trees equal to or greater than **14** inches stump diameter, (measured inside bark) unless otherwise agreed in writing. Treatment shall be with a borate compound registered by EPA in the State of California for prevention of annosus root disease. Treatment shall consist of removal of sawdust and other loose debris from the cut surface of the stump and application of a thin layer of the borate compound uniformly over the entire cut surface, including exposed wood surfaces on the stump sides, at the rate specified on the product label. Any surface irregularities on the stump preventing application of a uniform layer of borate compound shall be cut level prior to treatment. Unless waived in writing, Partner shall also apply an approved colorant mixed with the borax to insure complete coverage. Treatment should be done as soon as possible but shall be completed no later than 4 hours after felling, otherwise stumps shall be re-cut and treated. Partner shall not apply borate compound during heavy rain fall or when such precipitation rate is predicted within 24 hours of application to cause borate compound to be flushed off the stump and become ineffective, in that case treatment shall be reapplied. Application shall be completed within 24 hours of the precipitation having ceased. Borate compound also shall not be applied to stumps located within 300 feet of live stream courses and meadows/wetlands shown on Agreement Map and/or 10 feet of sensitive plant location boundaries as flagged on the ground.

Partner shall provide the borate compound and colorant and apply it in compliance with the State of California laws and regulations pertaining to pesticides and pest control operations. Borate compound storage shall be located such that any spillage will not contaminate water. All spills shall be promptly cleaned up and spilled material disposed of according to the product label. All spills occurring in water or over 1/2 pound shall be reported to Forest Service within 3 hours. Partner shall submit at the end of each month a "Monthly

Summary of Pesticide Use Reports" to the appropriate County Agricultural Commissioner with a copy to the District Ranger.

Maximum Log Length

Cut trees shall be bucked prior to skidding so that resulting logs shall not exceed the maximum log length including trim allowance shown in following table:

Unit Number	Maximum Log Length
All	41'

Minimum Stump Height

Unit/Subdivision	Minimum Stump Height (inches)	Purpose or Reason
N/A	3 inches	Facilitate timber accountability

GROUND BASED SKIDDING. (8/2006) Unless otherwise agreed in writing, the method of skidding Included Timber shall be as shown on the Agreement Map, by areas, with symbols defined in the following table:

GROUND-BASED SKIDDING TABLE
(8/2006)

Map Symbol	Requirements
TRAC	Skid road pattern shall be agreed in advance of felling and main skid roads shall be flagged on the ground in advance of felling. Partner shall stage-log by felling and skidding Included Timber in two or more separate operations when necessary to prevent undue damage to the resources or residual stand. Needed tractor trails shall be constructed in advance of skidding. Products shall be end-lined as needed to protect resources or residual timber from unnecessary damage. The number of chokers shall be limited as necessary to avoid unnecessary damage to resources or residual timber. By agreement, tractors may be used to separate products to prevent stain
SUSP	Products shall be skidded with leading end clear of ground.
SPACE	Skid roads will average 75 feet from center to center, except where converging.
ENDL	Endlining shall not be required for distances in excess of **75** feet uphill, and **100** feet downhill.
MAX	Tractors used for skidding outside Clearcutting Units, regeneration units or other authorized clearings, shall be of the type (rubber-tired or track-laying) shown on the Agreement Map

	and shall not exceed the overall width designated on Agreement Map.
MH	Partner shall cut Included Timber and move it to designated skid trails using equipment with a boom having an operating radius of at least **20** feet for bunching trees, capable of severing, lowering and placing trees up to **24** inches diameter at stump height on the ground prior to skidding. Such equipment must be capable of operating on slopes up to **30%**. Notwithstanding above, hand felling using chainsaws may be required in or adjacent to sensitive areas to protect resources from unnecessary damage. Trees which exceed capability of specified equipment may be felled, bucked and skidded in a manner consistent with the requirements of B6.41 - Felling and Bucking, C6.41# - Felling, Bucking, and Limbing Requirements and the above "TRAC", "SUSP", "SPACE", "ENDL", and "MAX" requirements.
CTL	N/A
PB	N/A
HCTL	N/A

CABLE AND SKYLINE YARDING. (8/2007) Unless otherwise agreed in writing, requirements for cable and skyline yarding equipment are shown on Agreement Map, by areas, with the following symbols:

CS - Cable yarding specified.

CR - Be capable of yarding from roadway with additional landing excavation to accommodate the yarder held to a minimum consistent with safe yarding operations.

CW - Meet all of above requirements using a swing-boom type yarder.

SY - All yarding except lateral yarding, shall be accomplished by a skyline system, which supports products clear of the ground across Buffer Strips and in other areas yard with one product end suspended.

SL - Meet all of above requirements, have lateral yarding capability to hold skyline carriage stationary until products are yarded to skyline corridor.

SR - Meet all of above requirements and be capable of yarding from roadway with additional landing excavation to accommodate the yarder held to a minimum consistent with safe yarding operations.

SW - Meet all of above requirements using a swing-boom type yarder.

For SL, SR, and SW areas, locations of all skyline corridors shall be by agreement and designated on the ground. Such agreement shall be prior to felling unless ground and timber conditions otherwise justify. Width of said skyline corridors shall be kept to a practicable minimum consistent with the related silvicultural prescription.

For all yarding methods, if rigging must be slung on undesignated live trees, these trees shall be protected from damage by special steel plates, nylon tail-hold slings or similar effective protective devices.

Swing Yarding. In areas designated with the following labels on the Agreement Map, the following requirements are included, unless otherwise agreed in writing:

"Tractor Swing" – all Included Timber shall be tractor skidded from yarder landing to loading areas shown on Agreement Map or other agreed locations.

"Skyline Swing" – all Included Timber shall be skyline yarded from tractor skidded area to a skyline yarding landing. Location of tractor and skyline landings shall be agreed upon prior to skidding and yarding operations.

EROSION PREVENTION AND CONTROL. (5/2008) Erosion prevention and control work, including Streamcourse protection, required by C6.5 and B6.6 shall be completed within l5 calendar days after skidding operations related to each landing are substantially completed or after Forest Service designation on the ground of work where such designation is required hereunder. Said time limit shall be exclusive of full days lost in Partner's Operations due to causes beyond Partner'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 Partner's Operations due to failure to perform required work shall be repaired by Partner.
Notwithstanding other provisions in this contract and unless otherwise agreed in writing, any hay, straw, or mulch used in this contract shall be State of California certified weed free.
Additional erosion control requirements of this contract are listed in the following table.

SPECIFICATIONS PURSUANT TO - EROSION PREVENTION AND

CONTROL.
(5/2008)

Vegetative Soil Stabilization: N/A

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

Soil Scarification: N/A

Backblading: Within recreation development sites and public use areas designated on Agreement Map, Partner shall, at Forest Service request, backblade skid trails in lieu of cross ditching.

Tillage: In addition to meeting the requirements of B6.64, unless otherwise agreed in writing, tillage shall be required on the areas listed in the following table.

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

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

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

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

SLASH TREATMENT. (8/2006) Partner shall pile, scatter, yard, construct firelines or otherwise treat slash defined in specifications below, within designated areas. Work required of Partner shall be in accordance with the following slash plan and specifications, and the Agreement Map.

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

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

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

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

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

See the slash treatment specification table below.

SPECIFICATIONS PURSUANT TO - SLASH TREATMENT (8/2006)

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

Slash Treatment Methods

Symbol	Method	Definition
Buck-L	"Bucking Large Logging Slash"	Tops and limbs over 4 inches diameter outside bark (d.o.b.), not to be otherwise treated, shall be bucked into lengths not to exceed 6 feet, unless agreed otherwise.
Buck-P	"Bucking and Piling"	Logging Slash smaller than **<N/A>** inches and larger than 4 inches in large end d.o.b. shall be bucked into lengths not to exceed **<N/A>** feet and left in place. Logging Slash 4 inches and smaller in large end d.o.b. shall be hand Piled within Required Disposal Strip for Forest Service disposal.
Bury	"Burying"	Logging Slash shall be buried where agreed in borrow areas, pits, trenches, or other locations reasonably near the area of origin. Logging Slash shall be matted down in layers and shall be covered with at least 2 feet of rock and soil so that the final surface is sloped to drain and relatively smooth.
Chip	"Chipping"	Chippable Logging Slash up to 4 inches in d.o.b. shall be

		processed through a chipping machine. Chips shall be scattered to a loose depth not exceeding 6 inches.
Deck	"Decking" Large material	Logging Slash 10 inches or larger in large end d.o.b. and 10 feet or more in length shall be Decked for disposal by Forest Service by piling pieces parallel to each other.
Mach	"Machine Piling"	Concentrations of Logging Slash, excluding scattered individual pieces, shall be Machine Piled by tractor equipped with brush rake for disposal by Forest Service.
Pile	"Piling" Small material	Logging Slash smaller than 10 inches in large end d.o.b. and 10 feet long shall be grapple Piled for disposal by Forest Service.
Remove	"Removing"	Logging Slash shall be moved or hauled to locations shown on Agreement Map and designated on the ground where it shall be piled for disposal by Forest Service.
Scat 18" Scat 30"	"Scattering"	Logging Slash shall be scattered to reduce slash concentrations with slash being generally left within 18 or 30 inches of the ground as shown on Agreement Map. Logging Slash shall be scattered into openings away from and without unnecessary damage to residual trees. All scattered logs shall be limbed, placed away from trees and positioned so they will not roll. When Scattering is specified, another method may be used by agreement.
Stack	"Stacking" Small material	Logging Slash 10 inches or smaller in large end d.o.b. and 8 feet or more in length shall be stacked for disposal by Forest Service by piling pieces parallel to each other.
Fell	"Damaged Small Trees"	Unless treated under other provisions, all trees smaller than the minimum d.b.h. in A2, over 5 feet in height, and damaged beyond recovery by Partner's Operations shall be felled. Such trees shall be limbed to a stem diameter outside bark of approximately 3 inches, at which point the top shall be cut from the remainder of the stem, and shall be bucked into lengths not exceeding 20 feet.

Fire-L	"Firelines"	Shown on Agreement Map and to be flagged on ground after logging by Forest Service are firelines to be constructed by Partner unless otherwise agreed in writing. Partner shall construct not more than **<N/A>** chains of fireline by hand and not more than **<N/A>** chains of fireline by tractor. Firelines constructed by hand shall be cleared of all vegetative debris larger than one inch in d.o.b. and three feet long. The width of firelines shall be at least **<N/A>** feet, except across the top of cutting units where the width shall be at least **<N/A>** feet. At least **<N/A>** feet shall be scraped to mineral soil. In areas where there is potential for burning material to roll, the fireline shall be constructed in a trenched manner on the downhill side. Tractor lines shall be cleared of all vegetative debris, larger than one inch in diameter and three feet long, to a width of at least **<N/A>** feet, with at least **<N/A>** feet to mineral soil. No slash, brush, or other vegetative debris shall be buried in or under berms created in the construction of firelines.

All limbs overhanging into the fireline, shall be removed to a minimum height of 8 feet.

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

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

Fuel-B	"Fuelbreaks"	Shown on Agreement Map, with boundaries designated on the ground, are "Fuelbreaks" of varying width. Within such Fuelbreaks all Logging slash and Construction slash

shall be treated by Partner. Primary treatment shall be by Removing, Chipping, Piling, Machine Piling, or a combination of these methods unless a method is specified or prohibited on Agreement Map. Slash larger than treatment size requirements of selected or specified methods shall be scattered outside Fuelbreak, or treated as agreed.

PILING SPECIFICATIONS. All piles shall be reasonably compact and free of soil to facilitate burning and shall be constructed of such size and at such distance from trees so that burning shall not result in unnecessary damage to residual timber. Such Logging Slash shall be bucked into lengths not exceeding ten feet prior to piling. Maximum width of tractor, with brush rake attached, shall not exceed 72 inches. Machine Piling is not required on areas where use of tractors would cause undue damage to residual timber or where slopes exceed 30 percent. Piles shall be located a distance of at least twice their height in feet from the outer edge of tree crowns or snags. Piles shall be no less than four feet in height or greater than **20** feet in height. Material extending three feet or more outside the edge of a pile shall be trimmed. An eight foot fuelbreak shall be cleared of all but fine material around each Machine Pile and an 18 inch wide fireline shall be cleared to mineral soil around the outer ring of the fuelbreak. For hand piles, Partner shall construct a fireline cleared to mineral soil and at least 3 feet wide around each pile. In areas where there is a potential for burning material to roll, firelines, including those for Machine Piles, shall be trenched on the downhill side of each pile to adequately prevent material from crossing firelines. Trenches shall be constructed by hand unless otherwise agreed.

UNIT AND SUBDIVISION SLASH TREATMENT SPECIFICATIONS

	SLASH TREATMENT	
Subdivision or Unit No	Specified Method	Prohibited Method
All	MACH,Fell, SCAT-18”	All other

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

		SLASH TREATMENT	
	Subdivision or	Specified Method	Maximum Height

	Unit No.		of Decks
Landings	ALL	Cover, Deck, Mach	10
Disposal Sites	N/A		

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

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

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

TREATMENT ALONG TEMPORARY ROADS. Outside of Clearcutting Units or regeneration units, all trees felled or pushed over and trees damaged beyond recovery by Temporary Road construction shall be felled, limbed to a stem d.o.b. of approximately 3 inches, at which point the top shall be cut from the remainder of the stem, and stem shall be bucked into lengths not exceeding <6> feet. Such slash shall be Scattered free of soil to reduce concentrations unless treatment is required by another specified method.

ADDITIONAL SLASH TREATMENT REQUIREMENTS. Within areas shown on Agreement Map, Partner shall perform work according

to the specifications in the attached Table, unless otherwise agreed in writing.

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

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

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

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

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

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

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

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

YUML "Yarding Unutilized Material-Landing" All unutilized material developed by Partner's Operations shall be treated by the d.o.b. and length specifications as shown in the unit specification table. All unutilized shall be yarded to locations within 100 feet slope distance of landing. Where this is impractical, or other reasons, other locations shall be agreed upon.

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

YUMR "Yarding Unutilized Material-Removal" All unutilized material developed by Partner's Operations shall be treated by the d.o.b. and length specifications as shown in the unit specification table. All unutilized shall be removed to locations shown on Agreement Map and designated on the ground, or other agreed locations, and Decked.

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

Cover "Covering Piles" All piles shall be covered with a durable waterproof covering as approved by Forest Service. The material shall be at least six feet in width. Piles shall not be less than fifty percent covered, with the covering extending not less than half way down all sides. Pieces of burnable material shall be placed on top of the durable waterproof covering to keep the covering from blowing off the pile.

THIRD PARTY SCALING SERVICES. (4/04) Notwithstanding the requirement for Forest Service or parties under contract to Forest Service to provide Scaling services under B6.81, Scaling designated in A10 shall be conducted by a third party Scaling organization approved by Forest Service. Scaling shall be done in accordance with A9 and Partner shall bear costs for Scaling service.

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

When an approved alternate Scaling location pursuant to B6.811 does not have an approved third party scaling organization as a commonly used Scaling services provider, Forest Service or parties under contract to Forest Service shall provide Scaling services at the approved alternate location. In such an event, the cost of waived third party Scaling listed in A10 shall be charged to Timber Sale Account.

If Forest Service and Partner agree in writing that another party under contract to Forest Service will perform Scaling, the contract will be modified to include C6.816 and Timber Sale Account will be charged for such Scaling.

F.11– Scaling Instructions and Specifications.

Name and Date of Governing Instructions:	FSH 2409.11a, National Forest Cubic Log Scaling Handbook, as amended and supplemented. Governing instructions for products contained in E.2.

F.12– Scaling Services.

Species	Product	Unit of Measure	Site and Geographic Location	Method	Standard Estimated Cost per Unit $
ALL	ALL	TON		100% Weight	0.00

F.13 - Advance Deposits. The Contractor agrees to make advanced deposits in advance of cutting. These deposits may be in the form of cash, acceptable payment bond, earned stewardship credit or any combination thereof. Advanced deposits will be in such amounts as to maintain an unobligated balance sufficient enough to cover the value of timber to be cut. The Contractor and NFF will agree on a systematic approach to provide sufficient advanced deposits.

If the credit balance in the IRSA is less than the amount due for timber, the NFF will suspend all or any part of the Contractor's operations until payment or acceptable payment guarantee is received.

F.14- Title Passage.

Scaled. All right, title, and interest in and to any included timber shall remain with the Forest Service until it has been cut, scaled, and removed from the Stewardship Project Area or other authorized cutting area, and paid for, at which time title shall then vest with the Contractor. Timber cut under cash deposit or acceptable payment guarantee shall be considered to have been paid for. Title to any included timber that has been cut, scaled and paid for, but not removed from the Stewardship Project Area or other authorized cutting area by the the Contractor on or prior to the termination date, shall remain with the Forest Service.

F.15– Liability.

Liability for Loss. If Included Timber is destroyed or damaged by an unexpected event that significantly changes the nature of Included Timber, such as fire, wind, flood, insects, disease, or similar cause, the party holding title shall bear the timber value loss resulting from such destruction or damage; except that such losses after removal of timber from the Stewardship Project Area, but before scaling, shall be borne by the Contractor at current Agreement rates and Required Deposits. Deterioration or loss of value of salvage timber is not an unexpected event.

In the event Included Timber to which Forest Service holds title is destroyed, the 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, the Forest Service 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 SPA 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 the Forest Service to supply, or for the ContractorForest 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.

Limited Liability for Operations Fires.

Maximum Amount of the Contractor's Obligation per Operation's Fire. Entry should be determined as follows and rounded up to the nearest $100. The minimum amount will be $1,000.00. If State statute or law defines limited liability, use that determination (e.g. Oregon), otherwise calculate the amount using the following formula:

[(1) x (2) + (3) x (4)] x (5) = Maximum Amount of Cooperator's Obligation per Operations Fire. Round up to the next $100.

(1) Equals the number of workers normally required to operate the size of proposed project.

4 Workers

(2) Equals the daily (12 hour) wage rate for semi-skilled (AD-1) firefighter.

$16.08/Hr. x 12 hours = $192.96

(3) Equals the number of pieces of equipment normally required to operate the size of proposed project that can effectively cut and clear fire lines.

3 Pieces of equipment

(4) Average daily rate for each piece of equipment, including cost of operator, from current local engineering cost guide.

$350.00/Hr. x 12 hours = $4,200.00/12hr.

(5) Equals the number of days normally required to control and mop up such fires to a point where control lines can reasonably be expected to hold under foreseeable conditions. Minimum is one day and maximum is 10.

5 days

Cooperator's Obligation per Operations Fire, Maximum Amount: $ 67,000

APPENDIX G
GUIDELINES FOR OPERATIONS

The following Guidelines for Operations apply to activities under this SPA, when relevant to the project. These guidelines are intended to clarify the expectations of the parties related to these specific areas of operations.

1. **Stewardship Project Area Map (Map).** This is the boundary of the Stewardship Project Area as shown in Appendix C and designated on the ground by the Forest Service to meet the anticipated needs of the parties. The following are identified on the Map:

    a) Identified patented claims.
    b) Boundaries of all harvest and stewardship treatment units.
    c) Diameter limits for overstory and understory removal units.
    d) Areas where leave trees are marked to be left uncut.
    e) Specified roads.
    f) Sources of base course, surface rock, and rock riprap listed in the Schedule of Items;
    g) Roads where log hauling or use is prohibited or restricted.
    h) Roads and trails to be kept open.
    i) Improvements to be protected.
    j) Locations of known wildlife or plant habitat and cave resources to be protected.
    k) Locations of areas known to be infested with specific invasive species of concern.
    l) Maximum stump heights when more than one height is listed by areas.
    m) Skidding or yarding methods.
    n) Streamcourses to be protected.
    o) Locations of meadows requiring protection.
    p) Locations of wetlands requiring protection.
    q) Locations of temporary roads to be kept open.
    r) Payment units, if required

2. **Use of Roads by the Contractor.** THE CONTRACTOR is/are authorized to use existing National Forest system roads and specified roads. The Parties will determine that such use will not cause damage to the roads or National Forest resources.

3. **Plan of Operations for Roads.** Annually, prior to start of operations, THE CONTRACTOR will prepare a supplement to the Technical Proposal that shall include a schedule of proposed maintenance and construction 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. THE CONTRACTOR shall submit a revised schedule when they propose a significant deviation from the progress schedule. Prior to beginning construction on any portion of specified roads identified as sensitive on plans, the parties shall agree on the proposed method of construction and maintenance.

4. **Protection of Residual Trees.** THE CONTRACTOR's operations shall not unnecessarily damage young growth or other trees to be reserved.

5. **Safety.** THE CONTRACTOR's operations shall facilitate the Forest Service's safe and practical inspection of THE CONTRACTOR's operations and conduct of other official duties on the Stewardship Project Area. THE CONTRACTOR has/have all responsibility for compliance with safety requirements for THE CONTRACTOR's employees.

   When operations are in progress adjacent or on Forest Service controlled roads and trails open to public travel, THE CONTRACTOR shall furnish, install, and maintain all temporary traffic controls that provide the user with adequate warming of hazardous or potentially hazardous conditions associated with operations occurring in the area. The parties shall agree to a specific traffic control plan prior to commencement of work. Devices shall be appropriate to current conditions and shall be covered or removed when not needed.

   During periods of general recreation activity within Stewardship Project Area or vicinity, the Forest Service may restrict road construction, timber cutting, yarding, and other harvesting operations to days other than Saturdays, Sundays, and holidays.

LOGGING AND MAINTENANCE OPERATIONS SIGNING STANDARDS

All signs must be manufactured & installed as specified in the FHWA "**Manual on Uniform Traffic Control Devices**" (MUTCD) & FS publication "**Standards for Forest Service Signs & Posters**"(EM 7100-15).

SIGN STANDARDS

SHAPE & COLOR: Generally, signs for logging and maintenance operations are either diamond-shaped or rectangular. All signs are ***reflective orange background with black legend and border*** unless shown otherwise. Handpainted, homemade signs are not legal. Fluorescent paint is not reflectorized.

SUBSTRATE: Sign substrate material may be High Density Overlay (HDO) Plywood, Aluminum, Fiberglass Reinforced Plastic, Corrugated Plastic or Roll-up Fabrics.

SIGN SIZE: Sign size is a factor of speed and MUTCD & FS standards. Where conditions of speed, volume, or special hazard require greater visibility or emphasis, larger signs should be used. Minimum sizes for the most common signs can be found in Figure 4. Refer to the EM-7100-15 for additional sign sizes.

LEGEND: All lettering shall be Series "C" alphabet, conforming to Standard Alphabets for Highway Signs. Letter size is also a function of speed - use letter size and word messages as specified in MUTCD and EM-7100-15.

SIGN PLACEMENT

Signs are to be installed in locations as agreed to in the traffic control plan. All signs are to be removed, covered, or folded when operations are not in progress or the sign message is not

applicable. Signs should generally be located on the right-hand side of the roadway. When special emphasis is needed, signs may be placed on both the left and right sides of the road. Sign message shall be clearly visible to road users, mounted on posts or portable sign stands.

LATERAL CLEARANCE

From the edge of the road - 2 foot minimum, where slope limits to less than 6 feet. 6-12 foot preferred.

HEIGHT

Minimum of 7 feet, measured from the bottom of the sign to the near edge of the travelway. The height to the bottom of a supplemental sign mounted below the primary sign will be 6 feet.

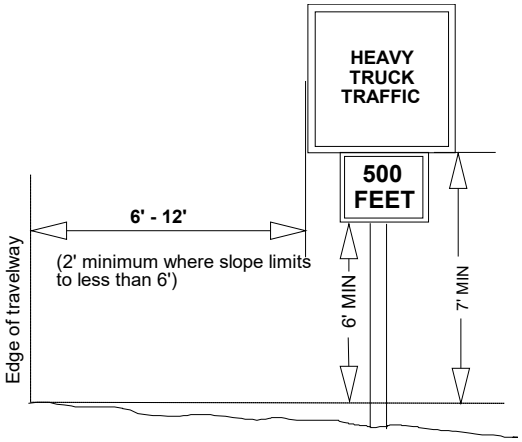


Figure 1: Sign Placement

Dimensions

PLACEMENT DISTANCE

Signs must be located 100-500 feet prior to the activity, (both ends if a through road) and maintained at that distance. This distance is based on speed. Refer to Figure 2 , Table II-1, MUTCD, a portion of which is reproduced here, to determine correct placement distance.

Posted or 85 percentile speed MPH	Decelaration to listed advisory speed MPH				
	10	**20**	**30**	**40**	**50**
20	NA				
25	100				
30	150	100			
35	200	175			
40	275	250	175		
45	350	300	250		
50	425	400	325	225	
55	500	475	400	300	
60	575	550	500	400	300
65	650	625	575	500	375

Figure 2: A Portion of MUTCD TABLE II-1

SIGN SUPPORTS

POSTS: Signs are to be mounted on separate posts. Supplemental signs such as Speed Advisory plates are to be mounted on the same post as the primary sign. ***Do not mount signs on trees or other signs.*** Posts may be wood, metal, carsonite or similar material. Where sign supports cannot be sufficiently offset from the road edge, supports will meet breakaway standards. Single wood posts with less than 24 square inches do not require breakaway design.

TEMPORARY/PORTABLE SUPPORTS: Portable supports may be used for short-term, short-duration, and mobile conditions. MUTCD defines this time period as one work shift, 12 hours or less. All portable supports must meet MUTCD standards, including breakaway. These must be a minimum of 1 foot above the road surface or more if visibility requires it.

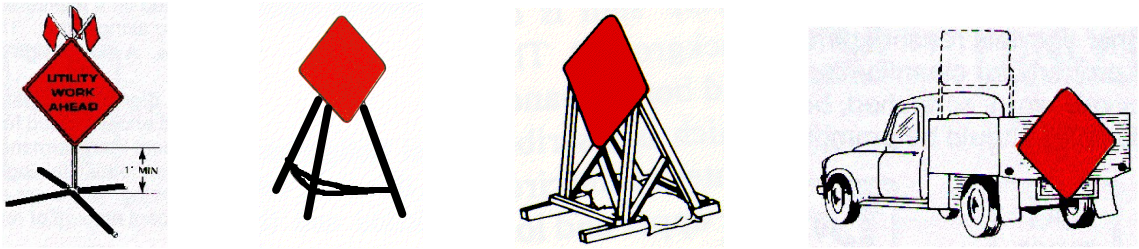


Figure 3: Examples of Temporary/Portable Supports

SIGNS

The following signs meet the intent of the Safety standard. ***This is not a complete listing of signs that may be needed.***

FG20-1-48*

FG20-2-48

FG20-3-42*

FG20-3a-42

FW22-3-30

FW20-1-30*

W21-3-30*

FW21-4a-30

FW11-7-24

W22-1-36*

FW8-6-24

FW11-9a-24

W7-3a-24*

W13-1-18**

W20-7aP-24*

* Specify Distance

** Specify Speed

BM-L-O

BM-R-O

Barricade Markers (See MUTCD for length and stripe size)

6. **Safety (Timber Hauling*).*** THE CONTRACTOR shall secure all products transported by truck with at least two chain or cable wrappers over the load, such wrappers being securely fastened to effectively contain every bolt or log in at least two places.

7. **Accident and Injury Notification.** THE CONTRACTOR shall notify Forest Service of any lost time personal injury accident or any accident or vandalism resulting in personal property damage over $400 in value that occurs as a result of or is associated with THE CONTRACTOR's Operations.

   THE CONTRACTOR shall notify Forest Service within 8 hours of any personal injury accident. For vandalism and personal property accidents, THE CONTRACTOR shall notify Forest Service at the same time notification is given to the state and local law enforcement authorities.

   THE CONTRACTOR shall take all reasonable measures after an accident or vandalism event to preserve the scene of the incident and provide information to facilitate a Forest Service investigation.

8. **Sanitation and Servicing.** THE CONTRACTOR shall take all reasonable precautions to prevent pollution of air, soil, and water by THE CONTRACTOR's operations. Precautions shall include if facilities for employees are established on the Stewardship Project Area, they shall be operated in a sanitary manner. The parties shall agree to the cleanup and restoration of a polluted site. THE CONTRACTOR shall maintain all equipment operating on Stewardship Project Area in good repair and free of abnormal leakage of lubricants, fuel, coolants, and hydraulic fluid. THE 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. THE CONTRACTORshall 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. THE 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.

9. **Prevention of Oil Spills.** If THE CONTRACTOR maintain(s) storage facilities for oil or oil products on the Stewardship Project Area, THE 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, THE 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. THE CONTRACTOR shall notify the Forest Service and appropriate agencies of all reportable (40 CFR 110) spills of oil or oil products on or in the vicinity of the Stewardship Project Area that are caused by THE CONTRACTOR's employees, agents, sub-contractors or their employees or agents, directly or indirectly, as a result of THE CONTRACTOR's operations. THE CONTRACTOR will take whatever initial action may be safely accomplished to contain all spills.

10. **Hazardous Substances.** THE CONTRACTOR shall notify the National Response Center and Forest Service principal contact of all releases of reportable quantities of hazardous substances on or in the vicinity of the Stewardship Project Area that are caused by THE CONTRACTOR's employees, agents, sub-contractors or their employees or agents, directly or indirectly, as a result of THE CONTRACTOR's operations, in accordance with 40 CFR 302.

11. **Cleaning Equipment**. In order to prevent the spread of noxious weeds into the Stewardship Project Area, THE CONTRACTOR shall be required to clean all off-road logging and construction equipment **prior** to entry on to the Stewardship Project Area. This cleaning shall remove all soil, plant parts, seeds, vegetative matter, or other debris that could contain or hold seeds. Only logging and construction equipment so cleaned and inspected by the THE CONTRACTOR will be allowed to operate within the Stewardship Project Area. All subsequent move-ins of equipment to the Stewardship Project Area shall be treated in the same manner as the initial move in. "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.

    THE CONTRACTOR shall employ whatever cleaning methods are necessary to ensure that off-road equipment is free of noxious weeds. Equipment shall be considered free of soil, seed, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools is not required.

    As agreed upon, THE CONTRACTOR shall inspect equipment at cleaning location, and provide documentation of inspection to the Forest Service.

    New infestations of noxious weeds, of concern to Forest Service and identified by either THE CONTRACTOR or Forest Service, on the Stewardship Project Area or on the haul route, shall be promptly reported to the other party. THE CONTRACTOR THE CONTRACTOR and Forest Service shall agree on treatment methods to reduce or stop the spread of noxious weeds when new infestations are found. A current list of noxious weeds of concern to Forest Service is available at each Forest Service office.

12. **Conduct of Logging.** Unless otherwise specifically provided herein, THE CONTRACTOR shall fell trees designated for cutting and shall remove the portions that meet Utilization Standards, prior to acceptance of work for completion of logging and stewardship projects. 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.

13. **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. THE CONTRACTOR may buck out cull material when necessary to produce pieces meeting utilization standards. If necessary to assess extent of defect, THE CONTRACTOR shall make sample saw cuts or wedges.

14. **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.

15. **Stump Heights.** Stumps shall not exceed, on the side adjacent to the highest ground, the maximum heights set forth in Appendix F except that occasional stumps of greater heights are acceptable when THE CONTRACTOR determine(s) that they are necessary for safe and efficient conduct of logging. Unless otherwise agreed, THE CONTRACTOR shall re-cut high stumps so they will not exceed heights specified in F-14 and shall dispose of severed portions in the same manner as other logging debris. The stump heights shown in Appendix F were selected with the objective of maximum reasonable utilization of the timber, unless the Map shows special areas where stump heights are lower for aesthetic, land treatment, or silvicultural reasons.

16. **Bucking Lengths.** Trees shall be bucked in various lengths to obtain the greatest utilization of material meeting utilization standards.

17. **Limbing.** THE CONTRACTOR shall cut exposed limbs from products prior to skidding, as necessary to minimize damage to the residual stand during skidding. THE CONTRACTOR may leave uncut those limbs that cannot be cut with reasonable safety.

18. **Skidding and Yarding.** Methods of skidding or yarding specified for particular areas, if any, are indicated on the 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.

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

20. **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.

21. **Arches and Dozer Blades.** 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.

22. **Protection of Streamcourses.** THE CONTRACTOR's Operations shall be conducted to prevent debris from entering streamcourses, except as may be authorized under paragraph (d). In event THE CONTRACTOR cause(s) debris to enter streamcourses in amounts that may adversely affect the natural flow of the stream, water quality, or fishery resource, THE 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.

    a) 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.
    b) Wheeled or track-laying equipment shall not be operated in streamcourses, except at crossings agreed to by THE CONTRACTOR and the Forest Service or as essential to construction or removal of culverts and bridges.
    c) Flow in streamcourses may be temporarily diverted only if such diversion is necessary for THE 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.

23. **Erosion Prevention and Control.** THE 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. THE CONTRACTOR shall adjust the kinds and intensity of erosion control work done, to ground conditions 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.

    Prior to periods of accelerated water runoff, especially during the spring runoff and periods of heavy rainfall, commensurate with its use, THE CONTRACTOR shall inspect and open culverts and drainage structures, construct special cross ditches for road runoff, and take other reasonable measures needed to prevent soil erosion and siltation of streams.

    Unless otherwise agreed in writing, after September 15 of each operating season, erosion control work must be kept current. THE CONTRACTOR shall complete erosion prevention and control work, including streamcourse protection, within 15 calendar days after completion of skidding and/or yarding operations for each landing.

    Designation of on the ground work 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.

    During periods of accelerated water runoff, especially during the spring runoff and periods of heavy rainfall, commensurate with its use, THE CONTRACTOR shall inspect and open culverts and drainage structures, construct special cross ditches for road runoff, and take

other reasonable measures needed to prevent soil erosion and siltation of streams.

When operations are active, erosion control work will be kept current and will be completed as soon as practicable. Additioanlly, FS may require special erosion prevention measures which may include, but not limited to; use of certified weed free straw, wood chips, slash, mulch, etc. on areas of bare soil with high erosion hazard potential.

24. **Protection of Improvements.** So far as practicable, THE 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 the Map.

    THE CONTRACTOR shall keep roads and trails needed for fire protection or other purposes and designated on the Map reasonably free of equipment and products, slash, and debris resulting from THE CONTRACTOR's operations. THE CONTRACTOR shall make timely restoration of any such improvements damaged by THE CONTRACTOR's operations and, when necessary because of such operations, shall move such improvements.

25. **Meadow Protection.** Reasonable care shall be taken to avoid damage to the cover, soil, and water in meadows shown on the Map. Vehicular or skidding equipment shall not be used on meadows, except where roads, landings, and tractor roads are approved. 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.

26. **Wetlands Protection.** Wetlands requiring protection under Executive Order 11990 are shown on the Map. Vehicular or skidding equipment shall not be used in such wetlands, except where roads, landings, and tractor roads are approved.

27. **Temporary Roads.** As necessary to attain stabilization of roadbed and fill slopes of temporary roads, THE CONTRACTOR shall employ such measures as outsloping, drainage dips, and water-spreading ditches. After a temporary road has served THE CONTRACTOR's purpose, THE CONTRACTOR shall give notice to the 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 agreed to. When bridges and culverts are removed, associated fills shall also be removed to the extent necessary to permit normal maximum flow of water.

28. **Temporary Roads to Remain Open.** All bridges and culverts shall remain in place and ditches shall not be eliminated on Temporary Roads, shown as "Remained Open on the Map. All drainage structures shall be left in functional condition.

29. **Landings.** After landings have served THE CONTRACTOR's purpose, THE CONTRACTOR shall ditch and slope them to permit water to drain or spread. Unless agreed

to otherwise, cut and fill banks around landings shall be sloped to remove overhangs and otherwise minimize erosion.

30. **Skid Trails and Fire Lines.** THE CONTRACTOR shall construct cross ditches and water-spreading ditches on tractor roads and skid trails, where needed to prevent erosion. By agreement, THE CONTRACTOR may use other comparable erosion control measures, such as backblading skid trails, in lieu of cross ditching.

31. **Current Operating Areas.** Where stewardship project work is in progress but not completed, unless agreed to otherwise, THE 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, 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, THE CONTRACTOR shall keep such work on any additional disturbed areas as up to date as practicable.

32. **Erosion Control Structure Maintenance.** During the period of this SPA, THE CONTRACTOR shall provide maintenance of soil erosion control structures constructed by THE CONTRACTOR until they become stabilized, but not for more than one year after their construction. **No tightly woven fiber mesh or plastic monofilament netting shall be used for soil stabilization.**

33. **Slash Disposal.** THE CONTRACTOR's timing of product removal and preparatory work shall not unnecessarily delay slash disposal. Specific slash disposal measures to be employed by THE CONTRACTOR are stated in Appendix E.

34. **Scaling.** Scaling includes:
    a) Various volume determination methods, such as log rule, sampling, measuring, linear measuring, counting, weighing, or another method or combination of methods;
    b) Various sites, such as truck Scaling stations, rollways, weighing stations, woods landings, water Scaling stations, or other sites.
    c) Various geographic locations.

35. **Scaling Services.** Scaling services shall be performed by Forest Service personnel or parties under contract to Forest Service, except that weighing services may be performed by personnel or parties approved by the Forest Service. Scaling shall be provided in accordance with the instructions and specifications in Appendix F. Scalers shall be currently certified to perform accurate Scaling services. The scaling services provided shall be selected exclusively by the Forest Service. Scaling services may be continuous, intermittent, or extended.
    a) Continuous scaling services is scaling at one site five (5) 8-hour shifts a week, exclusive of Sundays and Federal holidays.
    b) Intermittent scaling services are non-continuous scaling services.
    c) Extended scaling services are scaling services exceeding continuous scaling services and may include Sundays and designated Federal holidays.

As mutually agreed to by the parties, the Forest Service may provide other services, such as but not limited to grading, tagging, or marking of Scaled logs.

36. **Scaling Location.** The Forest Service shall provide scaling services at the scaling site(s) shown in Appendix F. The Scaling site(s) shown in Appendix F normally will be a non-exclusive site where more than one National Forest may be served. The Contractor may request, in writing, an alternate scaling site, such as at a private mill yard, private truck ramp, or a privately operated log transfer facility. The Forest Service may approve an alternate scaling site, when the Forest Service determines that scaling conditions at an alternate site are acceptable. Such conditions shall include at a minimum:

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

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

37. **Scaling Adjustments.** The Forest Service shall check the accuracy of the scaling performed on National Forest logs. Scaling will be satisfactory if performed within the accuracy standards in governing instructions identified in Appendix F. In the event the Forest Service check scale(s) shows a variance in net scale in excess of the allowable variance, an adjustment to volume reported scaled may be made by the Forest Service. Such adjustment will be based on the difference between Forest Service check Scale(s) and original Scale for SPA volume Scaled within the adjustment period. The volume to which this difference will be applied will be:
    a) One-half of the volume Scaled between the last satisfactory check Scale and the first unsatisfactory check Scale or, if a period of 120 days or more occurs without Scaling National Forest timber for stumpage, the adjustment will be applied to 100 percent of the volume Scaled after this period and
    b) 100 percent of the volume Scaled between unsatisfactory check Scales and
    c) One-half of the volume Scaled between the last unsatisfactory check Scale and the next satisfactory check Scale, or if no satisfactory check Scale is completed and a period of 120 days or more occurs without Scaling of National Forest timber for stumpage, the adjustment will be applied to 100 percent of the volume Scaled since the last unsatisfactory check Scale.

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

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

    Scales used to weigh National Forest products for payment purposes must be a currently certified scale in accordance with State law and be capable of weighing the entire load of logs in a single operation. The weighing of less than the entire load or weighing two loads at once is prohibited. Unless otherwise agreed, the minimum sized weighing facility shall be a 60-ton capacity scale with a 10 foot by 70 foot platform or larger. The weighmaster must work in a position where it is possible to verify that the truck wheels are on or off the scales.Weighing facilities shall meet the following minimum requirements:
    a) Be an electronic design,
    b) Use electronic load cells or have a fully enclosed and sealed weigh-beam,
    c) Have digital weight meters sealed with a seal approved by the State,
    d) Have a zero interlocking device on the printer,
    e) Have an automatic zero-setting mechanism,
    f) Have an automatic motion-detecting device,
    g) Be shielded against radio or electromagnetic interference, and
    h) Have a date and time stamp and gross and tare weights that print electronically with each weighing. The Forest Service may waive electronic printing for public or third party weighing facilities. The Contractorshall bear all charges or fees for weighing services.

39. **Presentation for Scaling.** The contractor shall present products so that they may be Scaled in an eco-nomical and safe manner.

40. **Accountability.** When Scaling is performed away from Stewardship Project Area, products shall be accounted for in accordance with Forest Service written instructions, as follows:
    a) The Contractor shall plainly mark or otherwise identify products prior to hauling;
    b) Forest Service shall issue removal receipts to the Contractor;
    c) The Contractor shall assign a competent individual at the landing to complete removal receipts and attach them to each load of products removed from Stewardship Project Area;
    d) Removal receipts shall be returned to Forest Service at periodic intervals;
    e) When products are in transit, the truck driver shall possess or display removal receipt and show it upon request as evidence of authority to move products;
    f) The scaler's portion of removal receipt shall be surrendered at point of Scaling, the unloading point, or as requested by Forest Service; and
    g) The Contractor shall notify Forest Service of lost or off-loaded logs and their location within 12 hours of such loss. The Contractor shall not place products in storage for deferred Scaling until an accountability system has been agreed to in writing for a stated period.

41. **Route of Haul.** As part of the annual Operating Schedule, THE CONTRACTOR shall furnish a map showing the route of haul over which unscaled products will be transported

from the Stewardship Project Area to the approved Scaling location. Such route of haul shall be the shortest, most economical haul route available between the points.

Upon advance written agreement, other routes may be approved. All unscaled products removed from Stewardship Project Area shall be transported over the designated routes of haul. THE CONTRACTOR shall notify Forest Service when a load of products, after leaving Stewardship Project Area, will be delayed for more than 12 hours in reaching Scaling location.
THE CONTRACTOR shall require truck drivers to stop, if requested by Forest Service, for the following reasons:

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

THE CONTRACTOR and Forest Service shall agree to locations for accountability checks and remote check Scales in advance of haul. Such locations shall be established only in areas where it is safe to stop trucks. The Forest Service shall notify THE CONTRACTOR of the methods to be used to alert truck drivers of an impending stop.

42. **Product Identification.** Before removal from the Stewardship Project Area, unless the Forest Service determines that circumstances warrant a written waiver or adjustment, THE 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.

    The Forest Service shall assign brands and, if the Stewardship Project Area is within a State that maintains a log brand register, brands shall be registered with the State. THE CONTRACTOR shall use assigned brand exclusively on logs under this SPA until Forest Service releases brand. THE 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. THE CONTRACTOR shall replace identifying marks if they are lost, removed, or become unreadable. THE CONTRACTOR may remanufacture products into different log lengths. Except for logs remanufactured as part of the mill infeed process immediately before processing, remanufactured products must be rebranded with the assigned SPA brand and repainted with highway-yellow paint, unless otherwise agreed to in writing by the Forest Service Representative. For such remanufactured products, Forest Service may approve use of a brand to be used exclusively as a catch brand, in lieu of the assigned SPA brand.

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

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

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

46. **Fire Precautions and Control**
    a) **Plans.** Prior to initiating THE CONTRACTOR's operations during Fire Precautionary Period, THE CONTRACTOR shall file with Forest Service a Fire Prevention and Control Plan providing for the prevention and control of fires on the Stewardship Project Area and other areas of THE CONTRACTOR's Operations. Such plan shall include a detailed list of personnel and equipment at THE CONTRACTOR disposal for implementing the plan. This requirement may be met by preparing a single plan for more than one SPA.

    b) **Fire Precautions.** Specific fire precautionary measures listed in this Appendix shall be applicable during THE CONTRACTOR's Operations in "Fire Precautionary Period" described. The dates of Fire Precautionary Period may be changed by agreement, 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 THE CONTRACTOR's operations in Fire Precautionary Period.

    c) **Substitute Precautions.** The 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.

    d) **Emergency Precautions.** The Forest Service may require the necessary shutting down of equipment on portions of THE CONTRACTOR's Operations, as specified by the

emergency fire precautions schedule. Under such conditions, after THE CONTRACTOR cease(s) active operations, THE CONTRACTOR shall release for hire by Forest Service, if needed, THE CONTRACTOR's shutdown equipment for fire standby on the Stewardship Project Area or other areas of THE CONTRACTOR's Operations and personnel for fire standby or fire patrol, when such personnel and equipment are not needed by THE 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 THE CONTRACTOR request(s), shall be operated only by personnel approved by the THE 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.

e) **Fire Precautionary Period and Fire Precautions.** Specific fire precautionary measures are set forth below. Upon request of Forest Service, THE CONTRACTOR shall permit and provide an individual to assist in periodic testing and inspection of required fire equipment. THE CONTRACTOR shall promptly remedy deficiencies found through such inspecting and testing.

1. The following requirements shall apply during the period April 1- December 1 and during other such periods as specified by Forest Service.

2. *See fire plan*

47. **Fire Control.** THE CONTRACTOR shall, both independently and in cooperation with Forest Service, take all reasonable and practicable action to prevent and suppress fires resulting from THE CONTRACTOR's Operations and to suppress any forest fire on Stewardship Project Area. THE 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 THE CONTRACTOR's disposal on Stewardship Project Area or within the distance of Stewardship Project Area: ***(Initial fire suppression within 25 road miles, and fire suppression re-inforcement within 100 miles).***

a) **The Partner's Reinforcement Obligations.** Whenever an Operations Fire or Negligent Fire, whether on or off Stewardship Project Area or any other forest fire on Stewardship Project Area, has not been suppressed by initial action and appreciable reinforcement strength is required, Forest Service may require further actions by THE 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:

b) **Suspend Operations.** To suspend any or all of THE CONTRACTOR's Operations.

c) **Personnel.** To release for employment by Forest Service any or all of THE CONTRACTOR's personnel engaged in THE CONTRACTOR's Operations or timber processing within the distance of Stewardship Project Area: ***(25 Road miles).*** Any organized crew so hired shall include THE CONTRACTOR's supervisor, if any.

Personnel so employed shall be paid at Forest Service standard emergency fire fighting rates.

d) **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 THE CONTRACTOR's equipment suitable for fire fighting and currently engaged in THE CONTRACTOR's Operations within the distance of Stewardship Project Area: ***(100 Road miles)***. Equipment shall be operated only by personnel approved by THE CONTRACTOR, if so requested by THE CONTRACTOR.

Limited Liability for Operations Fires.

Maximum Amount of THE CONTRACTOR's Obligation per Operation's Fire. Entry should be determined as follows and rounded up to the nearest $100. The minimum amount will be $1,000.00. If State statute or law defines limited liability, use that determination (e.g. Oregon), otherwise calculate the amount using the following formula:

[(1) x (2) + (3) x (4)] x (5) = Maximum Amount of Cooperator's Obligation per Operations Fire. Round up to the next $100.

(1) Equals the number of workers normally required to operate the size of proposed project.

_____4____ Workers

(2) Equals the daily (12 hour) wage rate for semi-skilled (AD-1) firefighter.

$___15.50_____/Hr. x 12 hours = $____186_____

(3) Equals the number of pieces of equipment normally required to operate the size of proposed project that can effectively cut and clear fire lines.

_____4____ Pieces of equipment

(4) Average daily rate for each piece of equipment, including cost of operator, from current local engineering cost guide.

$_____120___/Hr. x 12 hours = $_____1440_____/12hr.

(5) Equals the number of days normally required to control and mop up such fires to a point where control lines can reasonably be expected to hold under foreseeable conditions. Minimum is one day and maximum is 10.

_____5_____days

THE CONTRACTOR's Obligation per Operations Fire,

Maximum Amount: 51,389 $ _____

48. **Temporary Roads and Skid Trails**. THE CONTRACTOR shall locate Temporary Roads and Skid Trails on locations approved by the Forest Service. Such location shall include the marking of road centerline or grade-line and the setting of such construction stakes as are necessary to provide a suitable basis for economical construction and the protection of National Forest lands.

    Temporary road surface width shall be limited to truck bunk width plus four (4) feet, except for needed turnouts which shall not exceed two (2) times the bunk width plus four (4) feet. If shovels or cranes with revolving carriage are used to skid or load, temporary road surface width equal to track width plus tail swing shall be permitted.

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

49. **USE OF TIMBER (Option 1)**. (a) This agreement is subject to the Forest Resources Conservation and Shortage Relief Act of 1990, as amended (16 USC 620, *et seq.*).

(b) Except for 1/ NA 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 export- ed 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.

For breach of this Subsection, Forest Service may terminate this agreement 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.

APPENDIX H.1
FIRE PLAN FOR CONSTRUCTION AND SERVICE CONTRACTS
08/02/2012

1. **SCOPE:**

The provisions set forth below outline the responsibility for fire prevention and suppression activities and establish a suppression plan for fires within the contract area. The contract area is delineated by map in the contract. The provisions set forth below also specify conditions under which contract activities will be curtailed or shut down.

2. **RESPONSIBILITIES:**

A. Contractor

(1) Shall abide by the requirements of this Fire Plan.

(2) Shall take all steps necessary to prevent his/her employees, subcontractors and their employees from setting fires not required in completion of the contract, shall be responsible for preventing the escape of fires set directly or indirectly as a result of contract operations, and shall extinguish all such fires which may escape.

(3) Shall permit and assist in periodic testing and inspection of required fire equipment. Contractor shall certify compliance with specific fire precautionary measures in the fire plan, before beginning operations during Fire Precautionary Period and shall update such certification when operations change.

(4) Shall designate in the Fire Plan and furnish on Contract Area, during operating hours, a qualified fire supervisor authorized to act on behalf of Contractor in fire prevention and suppression matters.

B. Forest Service

The Forest Service may conduct one or more inspections for compliance with the Fire Plan. The number, timing, and scope of such inspections will be at the discretion of agency employees responsible for contract administration. Such inspections do not relieve the Contractor of responsibility for correcting violations of the fire plan or for fire safety in general, as outlined in paragraph 2.A above.

3. **DEFINITIONS:**

The following definitions shall apply:

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

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

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

4. **TOOLS AND EQUIPMENT:**

The Contractor shall comply with the following requirements during the fire precautionary period, as defined by unit administering contracts:

The Fire Precautionary Period is set by the State of California which is April 1 through December 1 of any year.

- **This contract ☒ requires, ☐ does not require, a Fire Box and associated Fire Tools according to CPRC Section 4428.**

A. Fire Tools and Equipment: Contractor shall meet minimum requirements of Section 4428 of the California Public Resources Code (C.P.R.C.). Fire tools kept at each operating landing shall be sufficient to equip all employees in the felling, yarding, loading, chipping, and material processing operations associated with each landing. Fire equipment shall include two tractor headlights for each tractor dozer used in Contractor's Operations. Tractor headlights shall be attachable to each tractor and served by an adequate power source. All required fire tools shall be maintained in suitable and serviceable condition for firefighting purposes.

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

Where cable yarding is used, Contractor shall provide a size 0 or larger shovel with an overall length of not less than 46 inches and a filled backpack can (4 or 5 gallon) with hand pump within 25 feet of each tail and corner block.

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

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

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

Contractor shall equip each mechanized harvesting machine with hydraulic systems, powered by an internal combustion engine (chipper, feller/buncher, harvester, forwarder, hot saws, stroke delimber, etc), except tractors and skidders, with at least two 4-A:60-B:C fire extinguishers or equivalent.

C. Spark Arresters and Mufflers: Contractor shall equip each operating tractor and any other internal combustion engine with a spark arrester, except for motor vehicles equipped with a maintained muffler as defined in C.P.R.C. Section 4442 or tractors with exhaust-operated turbochargers. Spark Arresters shall be a model tested and approved under Forest Service Standard 5100-1a as shown in the. National Wildlife Coordinating Group Spark Arrester Guide, Volumes 1 and 2, and shall be maintained in good operating condition. Every motor vehicle subject to registration shall at all times be equipped with an adequate exhaust system meeting the requirements of the California Vehicle Code.

D. Power Saws: Each power saw shall be equipped with a spark arrester approved according to C.P.R.C. Section 4442 or 4443 and shall be maintained in effective working order. An Underwriters Laboratories (UL) approved fire extinguisher containing a minimum 14 ounces of fire retardant shall be kept with each operating power saw. In addition, a size 0 or larger shovel with an overall length of not less than 38 inches shall be kept with each gas can but not more than 300 feet from each power saw when used off cleared landing areas.

- **This contract ☐ requires, ☒ does not require, Section 4E of the Fire Plan.**

E. Tank Truck or Trailer: Contractor shall provide a **water tank truck or trailer** on or in proximity to Contract Area during Contractor's Operations hereunder during Fire Precautionary Period. When Project Activity Level B or higher is in effect, a tank truck or trailer shall be on or immediately adjacent to each active landing, unless otherwise excepted when Hot Saws or Masticators are being used. See Section 6 for specific contract requirements.

The tank shall contain at least 300 gallons of water available for fire suppression. Ample power and hitch shall be readily available for promptly and safely moving tank over roads serving Contract Area. Tank truck or trailer shall be equipped with the following:

(1) Pump, which at sea level, can deliver 23 gallons per minute at 175 pounds per square inch measured at the pump outlet. Pumps shall be tested on Contract Area using a 5/16 inch orifice in the Forester One Inch In-Line Gauge test kit. Pump shall meet or exceed the pressure value in the following table for nearest temperature and elevation:

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

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

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

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

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

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

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

This equipment and accessories shall be deliverable to a fire in the area of operations and is subject to the requirements for each specific activity level identified in Section 6.

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

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

Fire extinguishers required for Hot Saws, Masticators and similar equipment identified in Section 4 B. above may be substituted with a 3 gallon CAFS.

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

This equipment and accessories shall also be deliverable to a fire in the area of operations and subject to the requirements for each specific activity level identified in Section 6.

5. **GENERAL**

A. **State Law**: In addition to the requirements in this Fire Plan, the Contractor shall comply with all applicable laws of the State of California. In particular, see California Public Resource Codes.

B. **Permits Required**: The Contractor must secure a special written permit from the District Ranger or designated representative before burning, welding or cutting metal or starting any warming fires. If contract requires Blasting and Storing of Explosives and Detonators, an Explosives Permit may be required pursuant to the California Health and Safety Code, Section 12101.

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

D. **Smoking**: Smoking shall not be permitted during fire season, except in a barren area or in an area cleared to mineral soil at least three feet in diameter. In areas closed to smoking, the CO may approve special areas to be used for smoking. The Contractor shall sign designated smoking areas. Contractor shall post signs regarding smoking and fire rules in conspicuous places for all employees to see. Contractor's supervisory personnel shall require compliance with these rules. Under no circumstances shall smoking be permitted during fire season while employees are operating light or heavy equipment, or walking or working in grass and woodlands.

E. **Storage and Parking Areas**. Equipment service areas, parking areas, and gas and oil storage areas shall be cleared of all flammable material for a radius of at least 10 feet unless otherwise specified by local administrative unit. Small mobile or stationary internal combustion engine sites shall be cleared of flammable material for a slope distance of at least 10 feet from such engine. The COR shall approve such sites in writing.

F. **Reporting Fires**: As soon as feasible but no later than 15 minutes after initial discovery, Contractor shall notify Forest Service of any fires on Contract Area or along roads used by Contractor. Contractor's employees shall report all fires as soon as possible to any of the following Forest Service facilities and/or personnel listed below, but not necessarily in the order shown:

	Name	Office Address	Office telephone
Dispatch Center	**Call First**	10811 Stockrest Springs Rd Truckee, CA 96161	**530-478-6111**
Nearest FS Station	Sierraville RD	317 So. Lincoln St Sierraville, CA 96126	530-994-3401
Inspector	Frank Bojorquez or designee	317 So. Lincoln St Sierraville, CA 96126	530-562-7832
COR	Dan Patterson or designee	317 So. Lincoln St Sierraville, CA 96126	530-927-7312
District Ranger	Rachel Hutchinson	317 So. Lincoln St Sierraville, CA 96126	530-994-3401

When reporting a fire, provide the following information:

- Your Name
- Call back telephone number
- Project Name

- Location: Legal description (Township, Range, Section); and Descriptive location (Reference point)
- Fire Information: Including Acres, Rate of Spread and Wind Conditions.

- **This contract ☒ requires, ☐ does not require, Section 5G of the Fire Plan.**

G. **Communications**: Contractor shall furnish a serviceable telephone, radio-telephone or radio system connecting each operating side with Contractor's headquarters. When such headquarters is at a location which makes communication to it clearly impractical, Forest Service may accept a reasonable alternative location. The communication system shall provide prompt and reliable communications between Contractor's headquarters (or agreed to alternative) and Forest Service via commercial or Forest Service telephone.

- **This contract ☒ requires, ☐ does not require, Section 5H of the Fire Plan.**

H. **Fire Patrolperson**: Contractor shall furnish a qualified fire patrolperson each operating day when Project Activity Level C or higher is in effect. When on duty, sole responsibility of patrolperson shall be to patrol the operation for prevention and detection of fires, take suppression action where necessary and notify the Forest Service as required. This Fire patrol is required on foot, unless otherwise agreed. By agreement, one patrolperson may provide patrol on this and adjacent projects. No patrolperson shall be required on Specified Road construction jobs except during clearing operations unless otherwise specified.

The Contractor shall, prior to commencing work, furnish the following information relating to key personnel:

Title	Name	Telephone Number
Fire Supervisor		
Fire Patrolperson		

I. **Clearing of Fuels:** Contractor shall clear away, and keep clear, fuels and logging debris as follows:

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

6. **EMERGENCY PRECAUTIONS**

Contractor's Operations shall conform to the limitations or requirements in the Project Activity Level (PAL) table below. Project Activity Levels applicable to this project shall be the predicted activity levels for the Fire Danger Rating Area(s), or fire weather station(s) stated in the Contract Area Map Legend on Integrated Resource Service Contracts (IRSC's), and other contracts where applicable.

Fire Danger Rating Area/Fire Weather Station for Project Rice Canyon

The Forest Service, in its sole discretion, may change the predicted activity level if the current fire suppression situation, weather and vegetation conditions warrant an adjustment. If practicable, Forest Service will determine the following day's activity level by 6:00 PM. Contractor shall obtain the predicted Project Activity Level from the appropriate Ranger District Office before starting work each day.

Phone Number or Website to obtain Predicted Activity Levels: East Side PALS 530-478-6176

Forest Service may change the Project Activity Level Table to other values upon revision of the National Fire Danger Rating System. When Contractor is notified, the revised Project Activity Levels will supersede the levels in the Project Activity Level Table below.

PROJECT ACTIVITY LEVEL

Level	*Project Activity Minimum Requirements and Restrictions. Restrictions at each level are cumulative.*
A	Minimum requirements noted above in Sections 4 and 5.
B	1. Tank truck, trailer, or approved CAFS substitute shall be on or adjacent to the Active Landing.
C	1. When Hot Saws or Masticators are operating, a tank truck, trailer, or approved CAFS substitute shall be within ¼ mile of these operations. Effective communications shall exist between the operator and the Active Landing. 2. Immediately after Mechanical Operations cease, Fire patrol is required for two hours.
D	1. Immediately after Hot Saw or Masticator operations cease, Fire patrol is required for three hours. 2. No Dead Tree felling after 1:00 PM, except recently dead. 3 No burning, blasting, welding or cutting of metal after 1:00 PM, except by special permit.
Ev	1. The following activities may operate all day: a) Loading and hauling logs decked at approved landings. b) Loading and hauling chips stockpiled at approved landings. c) Servicing equipment at approved sites. d) Dust abatement, road maintenance (Chainsaw use prohibited), culvert installation within cleared area, chip sealing, paving, earth moving or rock aggregate stock pile loading and installation (does not include pit or quarry development). e) Chainsaw and log processing operations associated with loading logs or other forest products at approved landings. 2. Hot Saws or Masticators may operate until 1:00 PM; provided that: a) A tractor with a blade or other equipment capable of constructing fireline is on or adjacent to the active landing or within ¼ mile of the operating equipment. This piece of equipment shall have effective communication with the Hot Saw or Masticator. b) Any additional restrictions specified by the Forest. 3. All other conventional Mechanical Operations are permitted until 1:00 PM. 4. Some operations may be permitted after 1:00 PM, on a case-by-case basis, under the terms of a PAL Ev Variance Agreement. Activities for which a Variance may be issued are: • Rubber Tire Skidding • Chipping on Landings • Helicopter Yarding • Fire Salvage When approved by a Line Officer, a Variance Agreement can be implemented when the criteria specified in the agreement are met and mitigation measures are in place. This approval is good for ten (10) days unless cancelled sooner or extended by the Contracting Officer for an additional ten (10) days. Variance approval can be withdrawn at the sole discretion of the Forest Service. Variance approval is contingent on the 7-day fire weather forecast, fuel conditions, site characteristics, current fire situation, state of Contractor's equipment for prevention and suppression readiness, type of operation and social and community considerations etc. (See attached Project Activity Level Variance Agreement).

Level	***Project Activity Minimum Requirements and Restrictions. Restrictions at each level are cumulative.***
E	The following activities may operate all day: 1. Loading and hauling logs decked at approved landings. 2. Loading and hauling chips stockpiled at approved landings. 3. Servicing Equipment at approved sites. 4. Dust abatement, road maintenance (chainsaw use prohibited) or loading stock piles and rock aggregate installation (does not include pit or quarry development). 5. Chainsaw operation associated with loading at approved landings. All other activities are prohibited.

This Project utilizes "The Project Activity Level" (PAL), an industrial operation's fire precaution system. The following Climatology Chart indicates the Historic Activity Levels for the Project Fire Danger Rating Area or Fire Weather Station utilized on this Project. This is only a historical average of the Activity Levels for the identified Fire Danger Rating Area or Weather Station.

Project Activity Level Climatology

Fire Danger Rating Area/Weather Station	Stampede/Dog Valley				Years Analyzed		2001-2011	
	A	**B**	**C**	**D**	**Ev**	**E**	Days	
Month	Expected Days per Month at Each PAL Value						Analyzed	
May	6.3	8.6	11.8	3.2	1.0	0.0	31	
June	3.7	6.6	13.0	5.2	1.5	0.0	30	
July	0.6	2.0	12.4	9.0	6.5	0.5	31	
August	0.9	1.9	9.4	9.0	8.7	1.1	31	
September	2.1	3.2	11.4	6.8	5.9	0.6	30	
October	4.6	5.9	12.1	6.1	2.3	0.0	31	
November	10.3	8.9	9.4	1.2	0.2	0.0	30	

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

Project Name: _____
Contract Number: _____
Contractor Name: _____
Request #__, for period: _____
Units/Subdivisions Affected: _____

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

Proposed Actions:

Description of Mitigation Measures:

Remarks:

Fire Management Officer Concurrence — Date

Line Officer Approval — Date

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

Contracting Officer — Date

Contractor Representative — Date

APPENDIX H.2
FIRE PLAN FOR CONSTRUCTION AND SERVICE CONTRACTS
08/02/2012

1. **SCOPE:**

The provisions set forth below outline the responsibility for fire prevention and suppression activities and establish a suppression plan for fires within the contract area. The contract area is delineated by map in the contract. The provisions set forth below also specify conditions under which contract activities will be curtailed or shut down.

2. **RESPONSIBILITIES:**

A. Contractor

(1) Shall abide by the requirements of this Fire Plan.

(2) Shall take all steps necessary to prevent his/her employees, subcontractors and their employees from setting fires not required in completion of the contract, shall be responsible for preventing the escape of fires set directly or indirectly as a result of contract operations, and shall extinguish all such fires which may escape.

(3) Shall permit and assist in periodic testing and inspection of required fire equipment. Contractor shall certify compliance with specific fire precautionary measures in the fire plan, before beginning operations during Fire Precautionary Period and shall update such certification when operations change.

(4) Shall designate in the Fire Plan and furnish on Contract Area, during operating hours, a qualified fire supervisor authorized to act on behalf of contractor in fire prevention and suppression matters.

B. Forest Service

The Forest Service may conduct one or more inspections for compliance with the Fire Plan. The number, timing, and scope of such inspections will be at the discretion of agency employees responsible for contract administration. Such inspections do not relieve the Contractor of responsibility for correcting violations of the fire plan or for fire safety in general, as outlined in paragraph 2.A above.

3. **DEFINITIONS:**

The following definitions shall apply:

Active Landing: A location the contractor may be skidding logs into, or performing other operations such as delimbing, log manufacturing, and chipping logs. Except for EV and E days, loading logs or stockpiling chips only, on a cleared landing, does not constitute an Active Landing.

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

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

4. **TOOLS AND EQUIPMENT:**

The contractor shall comply with the following requirements during the fire precautionary period, as defined by unit administering contracts:

The Fire Precautionary Period is set by the State of California which is April 1 through December 1 of any year.

- **This contract ☒ requires, ☐ does not require, a Fire Box and associated Fire Tools according to CPRC Section 4428.**

A. Fire Tools and Equipment: Contractor shall meet minimum requirements of Section 4428 of the California Public Resources Code (C.P.R.C.). Fire tools kept at each operating landing shall be sufficient to equip all employees in the felling, yarding, loading, chipping, and material processing operations associated with each landing. Fire equipment shall include two tractor headlights for each tractor dozer used in contractor's operations. Tractor headlights shall be attachable to each tractor and served by an adequate power source. All required fire tools shall be maintained in suitable and serviceable condition for fire fighting purposes.

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

Where cable yarding is used, contractor shall provide a size 0 or larger shovel with an overall length of not less than 46 inches and a filled backpack can (4 or 5 gallon) with hand pump within 25 feet of each tail and corner block.

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

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

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

Contractor shall equip each mechanized harvesting machine with hydraulic systems, powered by an internal combustion engine (chipper, feller/buncher, harvester, forwarder, hot saws, stroke delimber, etc), except tractors and skidders, with at least two 4-A:60-B:C fire extinguishers or equivalent.

C. Spark Arresters and Mufflers: Contractor shall equip each operating tractor and any other internal combustion engine with a spark arrester, except for motor vehicles equipped with a maintained muffler as defined in C.P.R.C. Section 4442 or tractors with exhaust-operated turbochargers. Spark Arresters shall be a model tested and approved under Forest Service Standard 5100-1a as shown in the. National Wildlife Coordinating Group Spark Arrester Guide, Volumes 1 and 2, and shall be maintained in good operating condition. Every motor vehicle subject to registration shall at all times be equipped with an adequate exhaust system meeting the requirements of the California Vehicle Code.

D. Power Saws: Each power saw shall be equipped with a spark arrester approved according to C.P.R.C. Section 4442 or 4443 and shall be maintained in effective working order. An Underwriters Laboratories (UL) approved fire extinguisher containing a minimum 14 ounces of fire retardant shall be kept with each operating power saw. In addition, a size 0 or larger shovel with an overall length of not less than 38 inches shall be kept with each gas can but not more than 300 feet from each power saw when used off cleared landing areas.

- **This contract ☒ requires, ☐ does not require, Section 4E of the Fire Plan.**

E. Tank Truck or Trailer: Contractor shall provide a **water tank truck or trailer** on or in proximity to Contract Area during contractor's operations hereunder during Fire Precautionary Period. When Project Activity Level B or higher is in effect, a tank truck or trailer shall be on or immediately adjacent to each active landing, unless otherwise excepted when Hot Saws or Masticators are being used. See Section 6 for specific contract requirements.

The tank shall contain at least 300 gallons of water available for fire suppression. Ample power and hitch shall be readily available for promptly and safely moving tank over roads serving Contract Area. Tank truck or trailer shall be equipped with the following:

(1) Pump, which at sea level, can deliver 23 gallons per minute at 175 pounds per square inch measured at the pump outlet. Pumps shall be tested on Contract Area using a 5/16 inch orifice in the Forester One Inch In-Line Gauge test kit. Pump shall meet or exceed the pressure value in the following table for nearest temperature and elevation:

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

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

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

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

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

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

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

This equipment and accessories shall be deliverable to a fire in the area of operations and is subject to the requirements for each specific activity level identified in Section 6.

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

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

Fire extinguishers required for Hot Saws, Masticators and similar equipment identified in Section 4 B. above may be substituted with a 3 gallon CAFS.

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

This equipment and accessories shall also be deliverable to a fire in the area of operations and subject to the requirements for each specific activity level identified in Section 6.

5. **GENERAL**

A. **State Law**: In addition to the requirements in this Fire Plan, the contractor shall comply with all applicable laws of the State of California. In particular, see California Public Resource Codes.

B. **Permits Required**: The contractor must secure a special written permit from the District Ranger or designated representative before burning, welding or cutting metal or starting any warming fires. If contract requires Blasting and Storing of Explosives and Detonators, an Explosives Permit may be required pursuant to the California Health and Safety Code, Section 12101.

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

D. **Smoking**: Smoking shall not be permitted during fire season, except in a barren area or in an area cleared to mineral soil at least three feet in diameter. In areas closed to smoking, the CO may approve special areas to be used for smoking. The contractor shall sign designated smoking areas. Contractor shall post signs regarding smoking and fire rules in conspicuous places for all employees to see. Contractor's supervisory personnel shall require compliance with these rules. Under no circumstances shall smoking be permitted during fire season while employees are operating light or heavy equipment, or walking or working in grass and woodlands.

E. **Storage and Parking Areas**. Equipment service areas, parking areas, and gas and oil storage areas shall be cleared of all flammable material for a radius of at least 10 feet unless otherwise specified by local administrative unit. Small mobile or stationary internal combustion engine sites shall be cleared of flammable material for a slope distance of at least 10 feet from such engine. The COR shall approve such sites in writing.

F. **Reporting Fires**: As soon as feasible but no later than 15 minutes after initial discovery, the contractor shall notify Forest Service of any fires on Contract Area or along roads used by the contractor. Contractor's employees shall report all fires as soon as possible to any of the following Forest Service facilities and/or personnel listed below, but not necessarily in the order shown:

	Name	Office Address	Office telephone
Dispatch Center	**Call First**	10811 Stockrest Springs Rd Truckee, CA 96161	**530-478-6111**
Nearest FS Station	Sierraville RD	317 So. Lincoln St Sierraville, CA 96126	530-994-3401
Inspector	Frank Bojorquez or designee	317 So. Lincoln St Sierraville, CA 96126	530-562-7832
COR	Dan Patterson or designee	317 So. Lincoln St Sierraville, CA 96126	530-927-7312
District Ranger	Rachel Hutchinson	317 So. Lincoln St Sierraville, CA 96126	530-994-3401

When reporting a fire, provide the following information:

- Your Name
- Call back telephone number
- Project Name designee

- Location: Legal description (Township, Range, Section); and Descriptive location (Reference point)
- Fire Information: Including Acres, Rate of Spread and Wind Conditions.

- **This contract ☒ requires, ☐ does not require, Section 5G of the Fire Plan.**

G. **Communications**: Contractor shall furnish a serviceable telephone, radio-telephone or radio system connecting each operating side with contractor's headquarters. When such headquarters is at a location which makes communication to it clearly impractical, Forest Service may accept a reasonable alternative location. The communication system shall provide prompt and reliable communications between contractor's headquarters (or agreed to alternative) and Forest Service via commercial or Forest Service telephone.

- **This contract ☒ requires, ☐ does not require, Section 5H of the Fire Plan.**

H. **Fire Patrolperson**: Contractor shall furnish a qualified fire patrolperson each operating day when Project Activity Level C or higher is in effect. When on duty, sole responsibility of patrolperson shall be to patrol the operation for prevention and detection of fires, take suppression action where necessary and notify the Forest Service as required. This Fire patrol is required on foot, unless otherwise agreed. By agreement, one patrolperson may provide patrol on this and adjacent projects. No patrolperson shall be required on Specified Road construction jobs except during clearing operations unless otherwise specified.

The Contractor shall, prior to commencing work, furnish the following information relating to key personnel:

Title	Name	Telephone Number
Fire Supervisor		
Fire Patrolperson		

I. **Clearing of Fuels:** Contractor shall clear away, and keep clear, fuels and logging debris as follows:

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

6. **EMERGENCY PRECAUTIONS**

Contractor's Operations shall conform to the limitations or requirements in the Project Activity Level (PAL) table below. Project Activity Levels applicable to this project shall be the predicted activity levels for the Fire Danger Rating Area(s), or fire weather station(s) stated in the Contract Area Map Legend on Integrated Resource Service Contracts (IRSC's), and other contracts where applicable.

Fire Danger Rating Area/Fire Weather Station for Project Rice Canyon

The Forest Service, in its sole discretion, may change the predicted activity level if the current fire suppression situation, weather and vegetation conditions warrant an adjustment. If practicable, Forest Service will determine the following day's activity level by 6:00 PM. Contractor shall obtain the predicted Project Activity Level from the appropriate Ranger District Office before starting work each day.

Phone Number or Website to obtain Predicted Activity Levels: East Side PALS 530-478-6176

Forest Service may change the Project Activity Level Table to other values upon revision of the National Fire Danger Rating System. When Contractor is notified, the revised Project Activity Levels will supersede the levels in the Project Activity Level Table below.

PROJECT ACTIVITY LEVEL

Level	*Project Activity Minimum Requirements and Restrictions. Restrictions at each level are cumulative.*
A	Minimum requirements noted above in Sections 4 and 5.
B	1. Tank truck, trailer, or approved CAFS substitute shall be on or adjacent to the Active Landing.
C	1. When Hot Saws or Masticators are operating, a tank truck, trailer, or approved CAFS substitute shall be within ¼ mile of these operations. Effective communications shall exist between the operator and the Active Landing. 2. Immediately after Mechanical Operations cease, Fire patrol is required for two hours.
D	1. Immediately after Hot Saw or Masticator operations cease, Fire patrol is required for three hours. 2. No Dead Tree felling after 1:00 PM, except recently dead. 3 No burning, blasting, welding or cutting of metal after 1:00 PM, except by special permit.
Ev	1. The following activities may operate all day: a) Loading and hauling logs decked at approved landings. b) Loading and hauling chips stockpiled at approved landings. c) Servicing equipment at approved sites. d) Dust abatement, road maintenance (Chainsaw use prohibited), culvert installation within cleared area, chip sealing, paving, earth moving or rock aggregate stock pile loading and installation (does not include pit or quarry development). e) Chainsaw and log processing operations associated with loading logs or other forest products at approved landings. 2. Hot Saws or Masticators may operate until 1:00 PM; provided that: a) A tractor with a blade or other equipment capable of constructing fireline is on or adjacent to the active landing or within ¼ mile of the operating equipment. This piece of equipment shall have effective communication with the Hot Saw or Masticator. b) Any additional restrictions specified by the Forest. 3. All other conventional Mechanical Operations are permitted until 1:00 PM. 4. Some operations may be permitted after 1:00 PM, on a case-by-case basis, under the terms of a PAL Ev Variance Agreement. Activities for which a Variance may be issued are: • Rubber Tire Skidding • Chipping on Landings • Helicopter Yarding • Fire Salvage When approved by a Line Officer, a Variance Agreement can be implemented when the criteria specified in the agreement are met and mitigation measures are in place. This approval is good for ten (10) days unless cancelled sooner or extended by the Contracting Officer for an additional ten (10) days. Variance approval can be withdrawn at the sole discretion of the Forest Service. Variance approval is contingent on the 7-day fire weather forecast, fuel conditions, site characteristics, current fire situation, state of contractor's equipment for prevention and suppression readiness, type of operation and social and community considerations etc. (See attached Project Activity Level Variance Agreement).

Level	***Project Activity Minimum Requirements and Restrictions. Restrictions at each level are cumulative.***
E	The following activities may operate all day: 1. Loading and hauling logs decked at approved landings. 2. Loading and hauling chips stockpiled at approved landings. 3. Servicing Equipment at approved sites. 4. Dust abatement, road maintenance (chainsaw use prohibited) or loading stock piles and rock aggregate installation (does not include pit or quarry development). 5. Chainsaw operation associated with loading at approved landings. All other activities are prohibited.

This Project utilizes "The Project Activity Level" (PAL), an industrial operation's fire precaution system. The following Climatology Chart indicates the Historic Activity Levels for the Project Fire Danger Rating Area or Fire Weather Station utilized on this Project. This is only a historical average of the Activity Levels for the identified Fire Danger Rating Area or Weather Station.

Project Activity Level Climatology

Fire Danger Rating Area/Weather Station	Stampede/Dog Valley				Years Analyzed		2001-2011	
	A	**B**	**C**	**D**	**Ev**	**E**	Days	
Month	Expected Days per Month at Each PAL Value						Analyzed	
May	6.3	8.6	11.8	3.2	1.0	0.0	31	
June	3.7	6.6	13.0	5.2	1.5	0.0	30	
July	0.6	2.0	12.4	9.0	6.5	0.5	31	
August	0.9	1.9	9.4	9.0	8.7	1.1	31	
September	2.1	3.2	11.4	6.8	5.9	0.6	30	
October	4.6	5.9	12.1	6.1	2.3	0.0	31	
November	10.3	8.9	9.4	1.2	0.2	0.0	30	

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

Project Name: _____
Contract Number: _____
Contractor Name: _____
Request #__, for period: _____
Units/Subdivisions Affected: _____

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

Proposed Actions:

Description of Mitigation Measures:

Remarks:

Fire Management Officer Concurrence — Date

Line Officer Approval — Date

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

Contracting Officer — Date

Contractor Representative — Date