

Lakeview Reeder Timber Sale Report

I. Location

The sale area is 1,655 acres in size and is located in sections 8, 17, 18, 19, 20, 30, T61N, R4W, and Sections 23, 24, 25, 26, T.61N. R.5W. Boise Meridian, Bonner County Idaho. The timber stand atlas compartment numbers are 840 and 835 on the Priest Lake Ranger District, Idaho Panhandle National Forests. Harvest is planned on 890 unit acres, and 10 ROW acres, for a total of 900 acres. The sale lies in the Reeder Creek drainage, near the community of Nordman, and Reeder Bay.

II. Relationship to the Environmental Document and Other Uses

This sale is prepared under the direction of the Lakeview-Reeder Fuels Reduction Project Record of Decision for the Final Supplemental EIS approved by the Forest Supervisor on May 9, 2012. The purpose of the sale is to reduce hazardous forest fuels within the project area to decrease the risk of a wildfire negatively impacting communities, and to restore, enhance, and protect forest ecosystem components to improve forest health and biological diversity. This sale lies in the Bonner County Wildland Urban Interface Fire Mitigation Plan. Alternative 2 has been chosen as the preferred alternative that best meets the purpose and needs of the project.

Most of the sale lies in Forest Plan Management Area 1 (TIMBR) – To provide for the long-term growth and production of commercially valuable wood products on those lands that are suitable for timber production.

Units 102, 104, 107, and a portion of 105 lie in Forest Plan Management Area 4 (TMEKW) - Provide winter forage to support existing and projected big game populations through scheduled timber harvest and permanent forage areas.

A. Private Land/Right-of-Way: Private land lies adjacent to most cutting units on this sale. Private property boundaries are marked with signs, and some blazed trees and are clearly visible on the ground. Fell trees away from private property boundaries and protect survey monuments. Two temporary road use permits have been obtained from Stimson Lumber Co. for roads 1356 and 1356A, to access several units on the sale (C5.113#). The permits will allow the purchaser to construct and use the private portion of these roads until the permanent easement is completed. Units 21 and 22 will be accessed by building a new temporary road off the end of the private portion of road 1356. Various units will be accessed by the new road 1356A, which goes through a corner section of private property. A copy of the permits will be included in the contract. Road 1356 and spurs will continue to be closed year round with Forest Service gates. These gates can be accessed for logging purposes, but shall be closed by the purchaser at the end of the day and during periods of non-use. Road maintenance commensurate with use shall be performed by the purchaser. Liability insurance will be required.

B. Threatened, Endangered, (T&E) and Sensitive Species: Unit 107 lies in the Lakeshore Bear Management Unit (BMU). Timber harvest activities including felling, skidding and hauling within unit 107 is only allowed from November 16 to March 31, to protect grizzly bears (C6.24#).

Sensitive plants have been found adjacent to units 5, 19, and 111, which require protection under the contract. They have all been omitted from cutting units. Fell trees away from these plant sites and equipment is prohibited (C6.24#).

C. Wetlands/Streamside Habitats: Protected streamcourses and wet areas have been identified on the sale area map. Units have been laid out with proper INFISH buffers in place and have been painted out of cutting units. Protected streamcourses are adjacent to units 5, 6, 16, 17, 19, 19a, 20, 22, 23, and 34. Wet areas have been identified adjacent to units 4, 5, 6, 17, 18, 19, 34, 102, 104 and 111. Equipment is prohibited from protected stream courses and wet areas (C6.62#).

D. Special Uses, Mining Claims, Range Allotments: There are no mining claims or range allotments in the sale area. Several private utilities and survey monuments are adjacent to cutting units that require protection. Fell trees away from these sites and keep equipment out (C6.23).

E. Noxious Weeds: In order to prevent the spread of noxious weeds into the sale area, purchaser shall be required to clean off-road logging and construction equipment prior to entry on to the sale area (C6.351#). In addition, weed-free seed will be used where seeding is necessary for erosion control. Purchaser shall treat haul roads with herbicides pre-haul and post-haul (C6.27#)

F. Cultural Resources and Recreation: Cultural resource sites have been found adjacent to units 5, 6 10, 19, 34, and affecting the road construction work on road 1356A. They have all been buffered with appropriate unit buffers of no activities to protect these sites. Care shall be given during road construction to avoid this exclusion area, and an archeologist shall be present when crossing the arch site. Avoidance means construction, machine parking, no turnaround, or material storage along the corridor in the exclusion area outside of the road itself. Fell trees away from all sites and keep equipment out. The exclusion area is marked with pink flagging. An archeologist shall review the site prior to meeting with the purchaser (C6.24#).

A recreation trail runs adjacent to units 21, 24 and 34. The purchaser shall clean off any debris after logging, restoring the trail to its pre-logging condition, if necessary. In addition, keep slash piles off of the trail. Coordinate with the Bonner County Groomer Advisory Board for any activities that may disrupt the use of groomed snowmobile routes, in order to provide alternate routes if needed. Road 1044 will be restricted to no hauling on weekends and holidays, due to conflicts with residential and recreational traffic.

G. Wildlife: Large woody debris shall be retained in all units to meet wildlife objectives. Snags and replacement snags will be maintained by appropriate harvest prescriptions in all units, for wildlife purposes. Slash would be pulled back from veteran or relic ponderosa pine and western larch live trees and snags to protect them from the adverse effects of prescribed burning in unit 4. Leave dead trees >14.0" dbh standing, except for safety reasons. Any of these large

diameter snags felled for safety reasons shall remain on the site, for large woody debris and long-term site productivity (C2.303#).

If a Flammulated Owl nest, Goshawk nest or Gray Wolf den or site is found in the sale area it will be protected under the contract with adequate buffers and timing restrictions. Presently there are no known nests or dens in the sale area. Where units are grapple piled, keep them small (average 6-8 ft diameter), and leave 1 slash pile/acre unburned for small animal habitat.

H. Soils: Specific soil and water conservation BMPs for units, roads, and landings are designed to meet or surpass the level of Idaho State Best Management Practices for Watershed Protection. Trees would be limbed, lopped and scattered in the woods. The purpose of the measure is to avoid removing important soil nutrients from the harvested site. Existing skid trails and landings would be used when possible. Harvester trips off of main skid trails will be limited to three passes, preferably on a slash mat. Strive to maintain narrow trails 10 feet wide or less. Harvester, forwarders, and tractors are limited to slopes of 35% except for short pitches (<200 ft). Logging shall only be allowed when the soil is either dry, frozen, or snow packed. Slash piling machines should operate on existing trails, a slash mat, and slopes <35%. (C6.4#, C6.41#)

A minimum 17 and a maximum 33 tons per acre of woody material at least 6" diameter or greater would be required to be evenly distributed on each acre. If excavated trails are constructed, they would be kept to a minimum and must be obliterated by the contractor following completion of the logging activities. Optimally, the slash (except for landing slash) would be allowed to cure for at least six months or over winter, prior to any mechanical disposal activities, to allow enough time for the bulk of nutrients to leach from the foliage into the soil, except in high fire risk areas. To protect soil quality, broadcast burning would be conducted when soil moisture exceed 25%. Grapple piling would be limited to the dry season July 1 to November 1.

All cutting units meet Region 1 soil standards, except units 15, 24, and 111. Skid trails utilized shall be decompacted and scarified to a depth of approximately 6-20 inches to meet the standards. Winter logging is required in Units 1, 3, 4, 10, 15, 16, 17, 18, 19, 19a, 24, 104, 107, and 111 to protect soils (C6.4#).

I. Visuals: In visually sensitive areas adjacent to residences, Reeder Bay county road, and Highway 57, stand treatments have been designed to protect the scenery. Stump heights shall be a maximum of 6" adjacent to Highway 57, Reeder Bay Rd, and residences for a distance of about 50 feet in units 1, 3, 24, 107, 111, and in all of unit 102 (A9). Skid/forwarder trails would parallel the travel route where feasible. Landings and slash piles shall be placed to use natural and vegetative screens, and to limit damage to residual trees while burning piles, where possible. Slash piles shall be 8-10 feet in height and width, and non-merchantable trees shall not be cut in these visually sensitive areas. Fell trees away from roads and private property. Leave some small trees for visual diversity.

III. Timber Volumes

This sale was cruised in the fall of 2008 and 2009, and finished up in the early spring of 2010

using sample tree, variable plot and fixed plot cruising methods. Most sawlogs were cruised with variable plots using a 20 BAF, except for units 1, 3, 4, 5, 6, 10, 15, 16, 17, 18, 19, 19a, 20, 34, 111, and the ROW where 1/50th acre fixed plots were used to determine sawlog volume. Additional trees were later marked using sample tree cruising with a 1:200 frequencies for all species in units 1, 3, 4, 15, and 34. Non-sawlog volume was determined by taking 1/50th acre fixed plots in all units. Cutting unit acreage was determined with GPS.

This is a weight scale sale with a designed sale error of 20%. Refer to Lakeview cruise number 81205, run on 6- 8 -2012. The INGY 2 point volume equations were used with a 5.6” top diameter for sawtimber and a 4.0” top for non-sawtimber. The sale-as-a-whole error was 12.93% at the 95% confidence level, based on net volume, and can be found in Table DS1. Strata errors < 50% were attained for all strata. Table UC5 was used for volumes. Table R101 was used for appraisal group statistics. Table UC11 was used to determine the number of trees. Non-sawtimber (topwood or small trees) requires mandatory removal in all units C2.2#). The sale conversion factor is .5440 mbf/ccf. The average weight conversion factor is 3.196 ton/ccf. The following table summarizes sale acreage and estimated timber volumes by species, logging system, and unit:

Volumes (CCF)

Unit	Acre	Logging System	AF	C	DF	GF	H	L	LP	S	WP	Sawlog Total	Non Saw	Sale Total
1	5	Log Forwarder	1	6	4	8	6	18	22	3	1	69	26	95
3	6	Log Forwarder	0	4	3	5	5	7	25	1	1	51	29	80
4	32	Skyline	0	10	10	31	48	48	196	0	13	356	192	548
5	123	Log Forwarder	0	71	64	81	89	94	520	13	0	932	582	1,514
6	67	Log Forwarder	0	39	35	44	49	51	283	7	0	508	317	825
10	10	Log Forwarder	0	6	5	7	7	8	42	1	0	76	47	123
15	32	Log Forwarder	5	36	24	48	32	92	140	18	1	396	161	557
16	10	Skyline	0	6	5	6	7	8	42	1	0	75	47	122
17	16	Log Forwarder	0	9	8	10	12	12	68	2	0	121	76	197
18	7	Log Forwarder	0	4	4	5	5	5	29	1	0	53	33	86
19	157	Log Forwarder	0	49	46	152	232	223	962	0	0	1,664	936	2,600
19a	13	Skyline	0	8	7	9	9	10	55	1	0	99	62	161
20	68	Log Forwarder	0	93	128	133	382	95	599	0	0	1,430	356	1,786
21	79	Log Forwarder	0	497	46	184	107	98	506	0	117	1,555	396	1,951
22	27	Skyline	0	59	20	18	51	10	64	0	19	241	122	363
23	65	Log Forwarder	0	141	48	44	122	23	154	0	47	579	294	873
24	11	Log Forwarder	0	69	7	26	15	14	70	0	16	217	55	272
34	42	Log Forwarder	2	59	81	91	238	72	372	4	4	923	221	1,144
102	5	Tractor	0	11	4	3	10	2	13	0	4	47	20	67
104	13	Tractor	0	28	10	9	24	5	31	0	9	116	51	167
105	28	Tractor	0	61	21	19	53	10	66	0	20	250	111	361
106	19	Skyline	0	0	0	310	86	11	0	0	0	407	75	482
107	16	Tractor	0	0	0	261	73	10	0	0	0	344	64	408
111	39	Log Forwarder	0	23	20	26	28	30	165	4	0	296	184	480
Unit Total	890		8	1,289	600	1,530	1,690	956	4,424	56	252	10,805	4,457	15,262
ROW	10	Tractor	0	6	5	7	7	8	42	1	0	76	47	123
Total CCF	900		8	1,295	605	1,537	1,697	964	4,466	57	252	10,881	4,504	15,385
MBF			4	581	309	793	815	513	2,213	27	140	5,395	2,974	8,369
Tons												34,653	14,513	49,166

IV. Marking Plan

A. Boundaries: All cutting unit boundaries have been marked on three sides of cutting unit boundary trees with streaks of orange paint extending from near ground level to a height of 6 feet or more and orange stump marks. The middle streak faces the cutting unit. Where a cutting unit is adjacent to a system road, the road is the boundary and no paint was used. Portions of units 1, 3, 102, 111 boundaries seen from the Hwy 57 corridor and adjacent to county roads (within about 50-100 feet) have been marked with pink flashers and orange stump marks, for visual concerns.

B. Prescriptions: Units 5, 6, 16, 17, 19, 19a, 20, 34, 106 and 107 are Shelterwood Cuts with Reserve Trees. Unit 4 is a Seed Tree Cut with Reserves. Units 1, 3, 10, 18, 21, 22, 23, 24, 102, 104 and 105 are Commercial Thinnings. Unit 111 is a Liberation Cut. Unit 15 is an Improvement Cut.

C. Designations:

Unit	Species Designation (SD) C2.38#
1	Cut all LP and AF meeting utilization standards. Cut all H, C, L, GF, S <8" dbh (H, GF and L, S <10" & C <11" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint.
3	Cut all H, C, GF, AF and LP <10" dbh (H, GF, AF and LP <12" & C <13" stump dia) meeting utilization standards. Cut all L <7" dbh (L <9" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint.
4	Cut all LP, H, GF and AF meeting utilization standards. Cut all L, S and WP <9" dbh (S and WP <11" & L <12" stump dia) meeting utilization standards. Cut all C <12" dbh (C <15" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint. Leave all trees marked with orange paint.
5	Cut all LP and AF meeting utilization standards. Cut all H, C, DF, GF and S <10" dbh (H, DF, GF and S <12" & C <13" stump dia) meeting utilization standards. Cut all L <8" dbh (<10" stump dia) meeting utilization standards.
6	Cut all LP, AF and S meeting utilization standards. Cut all L, DF, GF, PP, H and C <9" dbh (DF, GF, PP and H <11" & L and C <12" stump dia) meeting utilization standards.
10	Cut all LP and AF meeting utilization standards. Cut all L, C, GF, H and S <9" dbh (GF, H, S <11" & L and C <12" stump dia) meeting utilization standards.
15	Cut all LP meeting utilization standards. Cut all DF, GF, H, L, S AF and PP <9" dbh (DF, GF, H, S AF and PP <11" & L <12" stump dia) meeting utilization standards. Cut all C <8" dbh (C <11" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint.
16	Cut all LP, AF, S, GF and H meeting utilization standards. Cut all L and PP <10" dbh (PP <12" & L <13" stump dia) meeting utilization standards. Cut all DF and C <12" dbh (DF <14" & C <16" stump dia) meeting utilization standards.
17	Cut all LP, PP and AF meeting utilization standards. Cut all L, DF, GF, H, C and S <9" dbh (DF, GF, H, and S <11" & L and C <12" stump dia) meeting utilization standards.
18	Cut all LP, AF, S and PP meeting utilization standards. Cut all DF, H and GF <8" dbh (DF, H and GF <10" stump dia) meeting utilization standards. Cut all L and C <9" dbh (L and C <12" stump dia) meeting utilization standards.
19 and	Cut all LP, PP and AF meeting utilization standards. Cut all DF, GF, H, C and S

Unit	Species Designation (SD) C2.38#
19a	<10" dbh (DF, GF, H, and S <12" & C<13" stump dia) meeting utilization standards. Cut all L <9" dbh (L <12" stump dia) meeting utilization standards.
20	Cut all LP, AF, S, PP, H and GF meeting utilization standards. Cut all C, L and DF <10" dbh (DF <12" & C and L < 13" stump dia) meeting utilization standards.
21, 22 and 23	Cut all LP and AF meeting utilization standards. Cut all DF, H, C and S <10" dbh (DF, H and S <12" & C <13" stump dia) meeting utilization standards. Cut all GF <12" dbh (GF <14" stump dia). In addition cut all trees marked with blue paint.
24	Cut all LP and AF meeting utilization standards. Cut all H, L, GF, DF and S <9" dbh (H, GF, DF and S <11" & L <12" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint.
34	Cut all LP and S meeting utilization standards. Cut all DF <16" dbh (DF <20" stump dia) meeting utilization standards. Cut all C <14" dbh (C <19" stump dia) meeting utilization standards. Cut all H and GF <20" dbh (H and GF <25" stump dia) meeting utilization standards. In addition cut all trees marked with blue paint. Leave all trees marked with orange paint.
111	Cut all LP and AF meeting utilization standards.
102	Cut all LP and AF meeting utilization standards. In addition cut all trees marked with blue paint.
104	Cut all LP and AF meeting utilization standards. Cut all DF, GF, L and H <9" dbh (DF, GF and H <11" & L <12" stump dia) meeting utilization standards. In addition cut all trees marked with yellow paint.
105	Cut all LP and AF meeting utilization standards. Cut all DF, GF, L and H <9" dbh (DF, GF and H <11" & L <12" stump dia) meeting utilization standards.
106	Cut all LP, AF and GF meeting utilization standards. Cut all DF, L and C <10" dbh (DF <12" & C and L <13" stump dia) meeting utilization standards. Cut all H <16" dbh (H <19" stump dia) meeting utilization standards.
107	Cut all LP, GF and AF meeting utilization standards. In addition cut all trees marked with blue paint.

V. Logging Plan

General: See attached Logging Plan for more details.

- A.** Skyline yarding is required on units 4, 16, 19a, 22, and 106. Designated corridors and directional felling are required in all skyline units. Leading ends of logs shall be suspended during yarding. Intermediate supports will be necessary to log units 4 and 22.

Log Forwarding is required in units 1, 3, 5, 6, 10, 15, 17, 18, 19, 20, 21, 23, 24, 34 and 111. Tractors with cable are required for units 102, 104, 105 and 107. Flaggers will be needed when logging units 1, 3, 102, 107, and 111 along the highway and county roads for safety reasons. Relative state and county safety requirements apply.

Winter logging conditions are required in units 1, 3, 4, 10, 15, 16, 17, 18, 19, 19a, 24, 104, 107 and 111 (C6.4#). Winter logging conditions include:

- 0 inches of frozen soil with 10 inches of machine-packed snow (24-inches of unsettled snow or 18 inches of settled snow)

- 2 inches of frozen soil with 6 inches of machine-packed snow (24-inches of unsettled snow or 18 inches of settled snow)
- 4 inches of frozen soil; no snow cover necessary.

Unless the soil is dry during the operating season, the above winter conditions shall be met for these units.

Timber harvest activities, including felling, skidding and hauling within unit 107, are only allowed from November 16 to March 31 to protect grizzly bears (C6.24#).

Protect all sensitive plants, cultural resources, wet areas, streamcourses, survey monuments, utilities, other private improvements, gates, county roads and the highway. Keep roads open that access private residences.

B. Sawtimber Characteristics:

	Tractor	Skyline	Log Forwarder	Total/Ave.
Net Volume (CCF)	755	1,180	8,946	10,881
Net Cut Vol/Ac (CCF)	12.2	11.7	12.1	12.1
Total Acres	62	101	737	900
Total Trees	6,593	12,205	90,303	109,101
Percentage by Volume	7%	11%	82%	100%
Ave. External Yard Distance	550 ft	600 ft	1,200 ft	
Ave. DBH	9.5	8.1	8.5	9.0

VI. Transportation System

A. Average haul route to sale center:

Road Name	Road Number	Mileage
North Lakeview A	1356A	2.37
North Lakeview	1356	0.06
Highway 57	State Hwy	35.70
Total		38.13

B. Road construction or reconstruction:

Road Number	Road Name	Type of Work	Road Mileage
1356	North Lakeview	Reconstruction	2.02
1356A	North Lakeview A	Construction	2.37
		Reconstruction	0.94
1356B	North Lakeview B	Reconstruction	0.09
1044	Diamond-Reeder	Reconstruction	1.09
Total			6.51

C. Temporary roads: A temporary road will be built off the end of the private portion of road 1356, to provide access for logging units 21, 22, and 23. The location can be identified as cutting unit boundaries marked with orange paint as follows: upper boundary of unit 22 and then the lower boundary of unit 21. This temp road shall be utilized and obliterated in the same season after use, by the purchaser (C5.102#). Obliteration includes CMP removal, recontouring, revegetating, and noxious weed spraying, as appropriate.

VII. Erosion Control

A. General: Application shall be during the period May 1 to June 15, and/or September 1 to September 30 (C6.601#). Seed shall be applied evenly at the rate of 18 pounds per acre (dry site mix) and 200 pounds of fertilizer (16N-16P-16K or 10N-16P-10K) per acre. Erosion control measures should be done by the end of the normal operating season to prepare for overwintering. Landings (10 ac), temporary road (2 ac), and skid trails (12 ac) shall be seeded, fertilized, and if needed waterbarred.

B. IPNF Standard Moist Site Seed Mix - appropriate for roadside application on low to middle elevation sites that have moderate moisture.

SPECIES	PLS LBS/AC
Slender wheatgrass "Pryor" or "Revenue" (<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>)	3.0
Sheep fescue "Durar" (<i>Festuca ovina</i>)	5.0
Mountain brome "Bromar" (<i>Bromus marginatus</i>)	5.0
Annual rye (<i>Lolium multiflorum</i>)	4.0
Streambank wheatgrass "Sodar"	1.0
TOTAL	18.0

Acceptable substitutes:

Blue wildrye "Arlington" or "Elkton" (*Elymus glaucus*) @ 3 PLS LBS/AC for slender wheatgrass.

Use of Alsike clover has been removed since it would conflict with other resource values (e.g. grizzly bear habitat).

C. Costs:

Seed: 18 lbs/ac x 24 acres x \$1.67/lb = \$ 721
 Fertilizer: 200 lbs/ac x 24 acres = 4,800 lbs x \$.37/lb = \$1,776
 Labor: 24 ac x 1/3 man-day/ac x \$ 218/man-day = \$1,744
 Transportation: 76 mi/trip x \$.50 /mile x 3 trips = \$ 114
 Total Erosion control needs = \$4,355
Cost/CCF = \$0.40/CCF

VIII. Sale Area Improvement

A. Reforestation Base rates KV: Slashing and underburning to prepare sites for planting are planned for units 4, 16, 19a, and 106. Leave tree protection is planned for unit 4. A preplant exam and 3 stocking surveys is planned for each unit to be planted. 176.9 acres of planting is funded with base rates in all of units 4, 19a, 20, 34, 107 and a portion of unit 17.

B. Reforestation KV Unfunded: Additional planting is planned for units 5, 6, 16, 17, 19a, 20, 34, and 107 (383.4 acres). Although, these stands will regenerate well after cutting, control of species composition is critical in order to meet the desired stands conditions. This would require the planting of WL and WP due to the lack of an adequate or reliable seed source for either and an over-abundant seed source for undesirable, highly competitive shade tolerant species. These activities may be funded with KV, if money becomes available. See KV plan and map.

IX. Hazard Reduction and Site Preparation

Slash treatments shall occur within 30 days of yarding, unless otherwise agreed by the Sale Administrator.

A. Purchaser requirements (C6.7#):

Limb and Lop (all units) sawlogs and buck (all units, except 4, 16, 19a, and 106 which will be underburned) into 12 ft lengths to facilitate grapple piling. An allowance will be made for skyline units only.

Slashing the advanced regeneration will facilitate the grapple piling and prepare units for planting. Slashing is planned in units 5, 6, 17, 19, 20, 34, and 107.

Treat slash by Grapple Piling in most units, in proportion to the amount of activity fuels to be created. Units 5, 6, 10, 17, 18, 19, 20, 21, 22, 23, 34, 102, 104, 105, and 107 are planned to be piled. Most partial cut units will be piled on a portion of the unit, in proportion to the amount of activity fuels created. Slash piling equipment shall stay on existing skid trails, operate on slash mats where possible, and stay on slopes less than 35%.

Fireline Construction around a portion of the perimeters of units 4, 16, 19a, 106 will facilitate burning. Unit perimeters requiring fireline construction (handline on units 4, 106 & excavator line on units 16, 19a) are identified on the Hazard Reduction Map. Waterbar firelines as needed, to minimize the potential for erosion.

Grapple Pile all landing slash.

B. Forest Service requirements: See BD plan and map.

Burn all grapple piles. Leave approximately 1 pile per acre unburned for wildlife habitat.

Burn all landing slash.

X. Other Provisions

A. Period of contract:

1. Normal operating season:

-December 15 thru February 15 for units 1, 3, 4, 10, 15, 16, 17, 18, 19, 19a, 24, 104, 107, and 111.

- July 1 thru October 31 units 5, 6, 20, 21, 22, 23, 34, 102, 105, 106, and for all grapple piling and road work.

2. Termination date: December 31, 2018.

3. Road Completion Date: October 31, 2013.

B. Purchaser fire liability:

Total number of personnel/crew	12
Number of hours/day	12
Total hours/crew day	144
Hourly rate AD-C firefighter	\$17.40
Average daily cost	2,506
Average fire length	5 days
Purchaser obligation for fire operation	12,530
Rounded up to the nearest \$100	12,600

XI. Sale Objective Code

Purpose	Activity	Percentage
TC -- Timber Commodity Purpose	01 -- Timber Purpose	10
FS -- Forest Stewardship Purpose	10 -- Forest and Ecosystem Health	90

VALID PURPOSE CODES:

TC -- Timber Commodity Purpose
FS -- Forest Stewardship Purpose
PP -- Personal Use

VALID ACTIVITY CODES:

TC 01 -- Timber Purpose
FS 10 -- Forest and Ecosystem Health
FS 20 -- Recreation/Visual/Cultural Resource Enhancements
FS 30 -- Wildlife Habitat Management
FS 40 -- Fisheries Habitat Management and Watershed Improvement

Lakeview Logging Plan

B. General:

Skyline yarding is required on units 4, 16, 19A, 22, and 106. Designated corridors and directional felling are required in all skyline units. Leading ends of logs shall be suspended during yarding. Profiles were analyzed using Logger PC. Units 4 and 22 require intermediate supports. The skyline units can be mechanically felled if done in winter.

Log Forwarding is required in units 1, 3, 5, 6, 10, 15, 17, 18, 19, 20, 21, 23, 24, 34 and 111.

Tractors with cable are required for units 102, 104, 105 and 107.

Winter logging conditions are required in units 1, 3, 4, 10, 15, 16, 17, 18, 19, 19A, 24, 104, 107 and 111. Winter logging conditions include:

- 0 inches of frozen soil with 10 inches of machine-packed snow (24-inches of unsettled snow or 18 inches of settled snow)
- 2 inches of frozen soil with 6 inches of machine-packed snow (24-inches of unsettled snow or 18 inches of settled snow)
- 4 inches of frozen soil no snow cover necessary.

Unit 107 is within a designated grizzly bear management unit. Timber harvest activities including felling, skidding and hauling within this unit is restricted to the timeframe when grizzly bears are denning between November 15 and April 1.

Hauling on road 1044 will be restricted on Holidays and weekends due to conflicts with recreation users.

Use existing skid trails when possible, and limit harvest trails off of main skid trails to 3 passes.

C. Detailed Logging Plan for Specific Units:

Units 1 and 3 are adjacent to Highway 57. These units were designed to have the skidding direction parallel to the highway. Volume removed in units 1 and 3 was designed to be skidded to Road 1356.

In unit 5, volume in the upper portion of the unit was designed to be skidded to Road 1356 while volume in the lower portion of the unit was designed to be skidded to the reconstructed portion of Road 1356A.

In unit 6, volume was designed to be skidded to the reconstructed portion of Road 1356A.

In unit 10, volume was designed to be adverse skidded to the reconstructed portion of Road 1356A.

Volume in units 15, 17, 18 and 20 was designed to be favorably skidded to the newly constructed portion of Road 1356A.

The small, west portion of unit 19 was designed to be adverse skidded to the reconstructed portion of Road 1356A. Two portions of unit 19 are designed to be adverse skidded to the newly constructed portion of Road 1356A. The majority of the volume is designed to be a favorable long distance skid to the newly constructed portion of Road 1356A.

Volume in unit 21 was designed to be skidded to a temporary road while volume in unit 22 was designed to be skyline yarded to the same temporary road.

The volume in the upper portion of unit 23 was designed to be favorably skidded to the newly constructed portion of Road 1356A. Volume in the lower portion of unit 23 was designed to be adverse skidded to the newly constructed portion of Road 1356A.

The volume in unit 24 was designed to be both favorable and adverse skidded to the reconditioned portion of Road 1356A with some additional high banking above the newly constructed portion of Road 1356A.

Unit 34 has two old skid roads that connect each part of the unit together. Volume was designed to be skidded out these skid roads to the reconstructed portion of Road 1356B. Limit crossings through protected streamcourses.

The small unit 102 which is adjacent to main travel corridors, require directional felling and has limited landing locations. This unit was designed to have volume either decked near the road and removed by a self-loader or transported by a forwarder without chains to a larger landing location.

The volume in the upper part of unit 104 was designed to be skidded down to the power line access road and out to a deck near the main road. The volume in the lower portion of the unit was designed to be skidded out to the main road.

The volume in the small, west portion of unit 105 was designed to be directional felled to the main road. Volume in the larger, main part of the unit was designed to be skidded to a landing on the main road. Volume in the far eastern portion of the unit was designed to be skidded out to the main road using an old access road outside the unit.

The north half of unit 107 has several benches which are divided by rocky slopes that are greater than 35 percent. Benches can be accessed from designated skid trails and directional felling to the skid trails is required. A deep ditch along Road 2512 can be filled with logging debris to access the skid trails. Volume may be decked along the road but one lane must remain accessible for snowmobiles.