

**East Fork Stew
Integrated Resources Contract Report**

I. Location

The sale area is 1,463 acres in size and is located in sections 19, 20, 29, 30, 31, and 32 T.64N., R.2E., and Section 24, 25, and 36 T.64N., R.1E., Boise Meridian in Boundary County, Idaho. The timber stand atlas compartment number is 738, Bonners Ferry Ranger District, Idaho Panhandle National Forests. Harvest is planned on 940 acres (includes 14 acres of ROW clearing). The sale lies in the Meadow Creek drainage. The sale area is located approximately 16 miles Northeast of Bonners Ferry accessed by US Highway 95 and Camp Nine Road 397.

II. Relationship to the Environmental Document and Other Uses

This sale is prepared under the direction of the East Fork Meadow Creek Environmental Assessment and Decision Notice approved by the Forest Supervisor on December 5, 2011. The purpose of the sale is to maintain and improve the overall forest health and resilience. Reduce the risk of unwanted fires in the watershed. Reduce the risk of sediment reaching the stream systems. Alternative 2 has been chosen as the preferred alternative that best meets the purpose and needs of the project.

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

A. Private Land/Right-of-Way: There is no private land adjacent to the sale area.

B. Threatened, Endangered, (T&E) and Sensitive Species: This timber sale is not likely to adversely affect any T & E wildlife species or their habitat. If any T & E species is found during project implementation, management activities and the contract would be altered to protect the species.

There are several known sensitive plant populations adjacent to unit 3 requiring protection under the contract. All sensitive plant sites have been omitted from cutting units and the boundaries have been marked providing an adequate buffer, as approved by the district archeologist. Fell trees away from these sites and keep equipment out.

C. Wetlands/Streamside Habitats: Protected streamcourses have been identified on the contract area map. Units have been laid out with proper INFSH buffers in place and have been painted out of cutting units. Fell trees away from the streams and limited crossings with equipment shall be approved by the sale administrator.

- D. Special Uses, Mining Claims, Range Allotments:** The Beeline Water System, which is operated under a special use permit, requires protection under the contract. It has been identified on the contract area map and identified on the ground. There are no active mining claims or range allotments adjacent to cutting units.
- E. Noxious Weeds:** In order to prevent the spread of noxious weeds into the sale area, contractor shall be required to clean off-road logging and construction equipment prior to entry on to the sale area. In addition, weed-free seed will be used where seeding is necessary for erosion control. Winter logging will help prevent the spread of noxious weeds. Haul roads will be treated prehaul and posthaul with herbicides, for noxious weed control. All weed treatments will be monitored by the FS.
- F. Cultural Resources and Recreation:** There are no cultural resource sites impacted by this contract. Several sites are adjacent to units and have been buffered and marked out of the cutting units. Trees shall be felled away from these sites and keep equipment out. There is a fair amount of recreational use, therefore all logging related activities will be restricted on weekends and holidays.
- G. Wildlife:** Large woody debris shall be retained in all units to meet wildlife objectives, and soil nutrients. Snags and replacement snags will be maintained by appropriate harvest prescriptions in all units, for wildlife purposes. Slash will be pulled back from veteran or relic ponderosa pine, western larch trees and snags to protect them from the adverse effects of prescribed burning, where necessary. 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. Where units are grapple piled, leave approximately 1 pile per 5 acres unburned where consistent with fuels reduction objectives, to provide 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. A minimum of 17 and a maximum 33 tons/acre of woody material >3" diameter on moist sites would be required to be evenly distributed on each acre. For fuels reduction purposes the maximum may be limited to 20 tons/acre. Tops of sawlogs and limbs will be left for nutrient recycling in units 6, 6A, 17, 32, 33, and 61. Overwinter slash in these units to allow nutrients to return to the soil. In all other units whole trees shall be yarded to landings, to immediately reduce fuels. Skid trails and corridors will be 100 feet apart, except where converging, to reduce soil compaction. Keep excavated skid trails to a minimum and obliterate after use, by the contractor. Mechanical fellers shall only be allowed off of skid trails if they travel on snow, frozen ground, or a slash mat, as approved by the sale administrator, to avoid detrimental effects to the soil. Mechanical equipment is limited to slopes <40%, utilizing existing trails & slash mats where possible. Burn piles shall be kept small rather than large and few. Underburn when soil moisture is at least 25% by weight. These guidelines are required to meet the Regional Soil Quality Standard by limiting disturbance to <15% of the activity area.
- I. Visuals:** Units 6 and 6A are considered to be visually sensitive. Harvest treatments and skid trail placement will try to eliminate straight lines and avoid clumps of residual trees, where possible.

III. Timber Volumes

This sale was cruised in the summer and fall of 2010, using sample tree cruising on units 18, 21, 32, 33, 6, 6A, 61, and the ROW units 99A, 99B. Variable plot cruising with a 20 BAF was used on units 1, 2, 3, 4, 17, 31, 34, 35, 37, and 69. Cutting unit acreages were determined using GPS. Non-sawlog volume was determined by taking 1/50th acre fixed plots in all units except in the ROW (designated by units 99A, 99B).

This is a weight scale sale with a designed sale error of 20%. Refer to Cruise Processing Report (version 04.12.2011), East Fork Stew cruise number 71201, run on 03-28-2012. The INGY 2 point volume equations were used with a **5.0” top diameter for sawtimber**. The sale-as-a-whole error was 7.86% 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 sawtimber volume. Table R101 was used for appraisal group statistics. **Non-sawtimber consists of all material not meeting sawlog specifications from trees over 5” dbh to a 3” top that is 12 feet in length and at least 50% pulpable, and are mandatory products in all units.** The sale conversion factor is 0.5210 mbf/ccf. **This sale will include split pricing under K-G.8.4.8.** The average weight conversion factor is 3.214 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	PP	S	WP	Sawlog Total	Non-Saw	Sale Total
1	88	Tractor	0	53	11	5	9	140	1,106	64	33	14	1,435	436	1,871
2	139	Tractor	58	143	84	0	78	1,074	192	0	148	0	1,777	745	2,522
3	242	Tractor	101	249	146	0	135	1,869	335	0	258	0	3,093	1,297	4,390
4	148	Tractor	13	90	70	0	30	430	236	0	28	0	897	661	1,558
6	13	Skyline	0	4	0	0	0	0	139	0	0	0	143	59	202
6A	12	Tractor	0	3	0	0	0	0	129	0	0	0	132	54	186
17	39	Tractor	0	24	5	2	4	62	490	28	15	6	636	193	829
18	6	Tractor	3	6	0	0	15	13	3	0	19	0	59	26	85
21	20	Tractor	0	9	0	0	0	28	30	0	12	0	79	75	154
31	81	Tractor	7	49	38	0	17	235	130	0	15	0	491	362	853
32	19	Tractor	0	54	42	0	12	99	0	41	12	0	260	88	348
33	18	Tractor	0	34	27	0	8	63	0	26	8	0	166	75	241
34	5	Tractor	2	5	3	0	3	39	7	0	5	0	64	27	91
35	2	Tractor	1	2	1	0	1	16	3	0	2	0	26	11	37
37	50	Tractor	21	52	30	0	28	386	69	0	53	0	639	268	907
61	6	Skyline	0	1	1	0	0	0	126	0	0	0	128	31	159
69	38	Tractor	0	23	5	2	4	60	478	28	14	6	620	188	808
Unit Total	926		206	801	463	9	344	4,514	3,473	187	622	26	10,645	4,596	15,241
99A	4	Tractor	0	25	16	0	4	83	4	0	3	4	139	0	139
99B	10	Tractor	0	41	27	0	6	138	6	0	5	7	230	0	230
ROW Total	14		0	66	43	0	10	221	10	0	8	11	369	0	369
Total	940		206	867	506	9	354	4,735	3,483	187	630	37	11,014	4596	15,610
MBF			101	424	258	4	173	2,529	1,770	95	307	19	5,680	2,459	8,139
Tons			651	2,737	1,598	29	1,118	14,948	10,996	590	1,989	117	34,773	15,392	50,165

IV. Marking Plan

A. Unit Boundaries: This sale was marked with the old paint scheme (blue leave trees) to avoid confusion between old marking paint and the current national paint color code, with a letter of approval from Region 1 on May 31, 2011. All cutting unit boundaries have been marked on three sides of cutting unit boundary trees with streaks of blue paint extending from near ground level to a height of 6 feet or more and blue 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.

B. Prescriptions: Units 6 and 6A are Two-aged Seed Tree Seed and Removal Cuts with Reserves. Units 32 and 33 are Two-aged Shelterwood Establishment and Removal Cuts with Reserves. All other units are Commercial Thins.

Unit	Species Designation (SD) - (K-C.3.8#)
1	Cut all LP meeting utilization standards. Cut all L, <8" dbh (11" stump dia) meeting utilization standards. Cut all C, DF and PP < 9" dbh (12" stump dia) meeting utilization standards. Cut all AF, S, GF, H < 9" dbh (11" stump dia) meeting utilization standards.
2, 3	Cut all LP meeting utilization standards. Cut all C, L, DF and PP <10" dbh (14" stump dia) meeting utilization standards. Cut all AF, S, GF, H < 10" dbh (13" stump dia) meeting utilization standards.
4, 31	Cut all LP meeting utilization standards. Cut all C, L, DF and PP < 9" dbh (12" stump dia) meeting utilization standards. Cut all AF, S, GF, H < 9" dbh (11" stump dia) meeting utilization standards.
6, 6A	Cut all LP, AF and C meeting utilization standards. Cut all L, DF, PP, GF, S and H < 7" dbh (9" stump dia) meeting utilization standards. In addition cut all trees marked with orange paint.
17	Cut all LP, GF, AF, H and S meeting utilization standards. Cut all DF, C and PP <14" dbh (18" stump dia) meeting utilization standards. Cut all L, <12" dbh (16" stump dia) meeting utilization standards.
18	Cut all LP meeting utilization standards. Cut all AF, S, GF and H <17" dbh (21" stump dia). Cut all C < 14" dbh (18" stump diameter), meeting utilization standards. In addition cut all trees marked with orange paint.
21	Cut all LP, S, GF and H meeting utilization standards. Cut all L,DF,PP,C,AF < 7" dbh (9" stump dia) meeting utilization standards. In addition cut all trees marked with orange paint.
32, 33	Cut all LP, AF, C, H, S and GF meeting utilization standards. Cut all DF and PP < 16" dbh (20" stump dia) meeting utilization standards. Cut all L<11" dbh (15" stump dia) meeting utilization standards. In addition cut all trees marked with orange paint.
34	Cut all LP and GF meeting utilization standards. Cut all C, L, DF and PP <14" dbh (18" stump dia) meeting utilization standards. Cut all AF, S, H <14" dbh (17" stump dia) meeting utilization standards.
35	Cut all LP and GF meeting utilization standards. Cut all C, L, DF and PP <10" dbh (14" stump dia) meeting utilization standards. Cut all AF, S, H, and WP <10" dbh (13" stump dia) meeting utilization standards.
37	Cut all LP and GF meeting utilization standards. Cut all C, L, DF and PP <11" dbh (15" stump dia) meeting utilization standards. Cut all AF, S, H <11" dbh (14" stump dia) meeting utilization standards.

Unit	Species Designation (SD) - (K-C.3.8#)
61	Cut all LP, AF and C meeting utilization standards. Cut all L, DF, PP, GF, S and H < 7" dbh (9" stump dia) meeting utilization standards. In addition cut all trees marked with orange paint.
69	Cut all LP, H, AF and GF meeting utilization standards. Cut all DF and C < 12" dbh (16" stump dia) meeting utilization standards. Cut all L, PP, S < 7" dbh (9" stump dia) meeting utilization standards. In addition cut all trees marked with orange paint.

Trees to be left standing are marked with blue paint. In addition to species listed above, individual trees to be cut are marked with orange paint.

V. Logging Plan – see unit details in attached

A. General:

Tractor skidding is suitable for all units except 6 and 61 where skyline yarding is required. Keep skid trails at least 100 ft apart except where converging and use existing landings, whenever possible. Any excavated skid trails shall be obliterated after use by the contractor. Mechanical felling shall be approved in advance and shall only be allowed off of skid trails if they travel on snow, frozen ground, or a slash mat.

All units except 6 and 61 shall be logged in the winter over 18" of settled snow, to help control the spread of noxious weeds.

Fell trees away from all cutting unit boundaries, to facilitate slash treatment, and protect other resources or improvements.

Leave dead trees > 14.0" dbh standing, except for safety reasons, for wildlife habitat. Any of these large diameter snags or large aspen and birch trees felled for safety reasons shall remain on the site, for wildlife habitat and long-term site productivity.

No logging activities including hauling from the sale area on weekends or holidays, to avoid conflicts with recreationists and hunters.

Protect all streamcourses, heritage sites, leave islands, and sensitive plant populations.

B. Sawtimber Characteristics: Ponderosa Pine and White Pine have been grouped with Lodgepole pine in this market area.

	Tractor	Skyline	Total/Ave.
Net Volume (CCF)	10,743	271	11,014
Net Cut Vol/Ac (CCF)	11.7	14.2	11.7
Total Acres	921	19	940
Total Trees	118,275	2,640	120,915
Percentage by Volume	98	2	100
Ave. External Yard Distance	1000 ft	200 ft	1000 ft
Ave. DBH	8.7	8.7	8.7

VI. Transportation System

A. Average haul route to sale center:

Road Name	Road Number	Mileage
Silver Crescent A	2499A	2.3
Silver Crescent	2499	0.3
Camp Nine Road	397	5.6
US Highway 95	US Hwy 95	9.0
Moyie Mill	City 83	0.5
Total		17.7

B. Road construction or reconstruction:

Road Number	Road Name	Type of Work	Road Mileage
2499	Silver Crescent	Reconstruction	1.57
2499A	Silver Crescent A	Reconstruction	1.21
2499A	Silver Crescent A	Construction	1.12
Total			3.90

C. Road Reconditioning: The contractor shall recondition road 397 from the pavement to the junction with 397J (5.2 mi). Reconditioning shall consist of blading and shaping, cleaning ditchlines and culverts where necessary.

D. Temporary roads: No work planned.

E. Road maintenance: A deposit will be collected for surface replacement and vegetative brushing for all Forest Service roads in the haul route. The contractor shall be responsible for recurrent maintenance, including dust abatement. An allowance will be made for dust abatement (CaCl) for summer logging, and snowplowing for winter logging.

1. Dust Abatement. One application of Calcium Chloride (CaCl) flakes is planned on road 397 prior to hauling. Price quote from Tom Oxford, Moyie Springs, ID for one application of 94% CaCl pellets watered and applied is \$500/ton at 7.71 ton/mile:

Road Number	M.P. to M.P.	Mileage
397	From junction with rd 397J to the pavement.	5.2

$\$500/\text{ton} \times 7.71 \text{ ton/mile} \times 5.2 \text{ miles} = \$20,046$ **Cost/ccf = \$ 1.82/ccf**

2. Snowplowing. Contractor will need to snowplow all haul roads to gain access to cutting units in the winter. Estimate 2 plowings/month & 1 winging/month for 3 months/season and 2 seasons. Estimate 10.4 miles on the following roads:

Road Number	M.P. to M.P.	Mileage
2499A	From end to the jct. with road 2499.	2.33
2499B	From end to the jct. with road 2499A.	2.90
2499	From end to the jct. with road 397	1.57
397	From jct with rd 2499 to the county portion.	3.60
Total		10.40

12 plowings x \$127.04 /hr (grader & operator) x 10.4 mi / 3 mi/hr = \$ 5,285

6 wingings x \$ 139.32 /hr (dozer & operator) x 10.4 mi x 1 mi/hr = \$ 8,694

Total Cost = \$ 13,979 **Cost/ccf = \$ 1.27/ccf**

F. Noxious Weed Treatment: All roads for timber hauling would be chemically treated by spraying herbicides prior to and after use by the contractor. Estimate 10.4 miles of roads (approximately 20 acres) to be treated post haul and 8 miles prehaul (excludes construction & closed portion 2499).

Herbicides will not be applied where no weeds are present. Areas sprayed on National Forest lands will have “Weed Control Area” signs posted, identifying herbicide used and date of treatment. Picloram will not be used in wet areas, existing conifer plantations, or in areas with coarse sandy soils.

Road No.	Termini	Prehaul	Posthaul
2499A	From end to the jct. with road 2499.	1.13	2.33
2499B	From end to the jct. with road 2499A.	2.90	2.90
2499	From end to the jct. with road 397	0.37	1.57
397	From jct with rd 2499 to the county portion.	3.60	3.60
Total		8.00	10.40

VII. Erosion Control

A. General:

Application shall be during the period from May 1 to June 15, and/or September 1 to September 30. Seed shall be applied evenly at the rate of 18 pounds per acre (Moist site mix) and 200 pounds per acre of fertilizer (16-16-16-4 or 18-18-14-6). Erosion control measures should be done by the end of the normal operating season to prepare for overwintering.

Landings, skid trails/corridors, and temporary roads shall be seeded, fertilized, and if needed waterbarred:

Area to Seed	Acres
Landing	15
Skid trail/corridor	9
Total	24

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
Hard fescue "Durar" (<i>Festuca brevipila</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 = 4800 lbs x \$0.37/lb	= \$1,776
Labor: 24 ac x 1/3 manday/ac x \$ 218/manday	= \$1,744
Transportation: 35 mi/trip x \$0.50/mile x 3 trips	= \$ 53
Total Erosion control needs	= \$4,294
Cost/CCF	= \$ 0.39

VIII. Sale Area Improvement – see unit details report in attached FACTS report.

Planting, a preplant exam, and 3 stocking surveys each is planned for 46 acres in units 6, 6A, 17, 32, 33, and 61. Larch and White pine trees will be planted in areas where natural regeneration may not be adequate.

Underburning to prepare sites for planting is planned for units 6, 6A, and 61.

IX. Hazard Reduction and Site Preparation – see unit details report in attached FACTS report.

A. Contractor requirements: narrative under K-G.7#

- Whole tree yarding in units 1, 2, 3, 4, 18, 21, 31, 34, 35, 37, and 69.
- Limb and lop tops in units 6, 6A, 17, 32, 33, and 61.
- Grapple pile all landings.

B. Forest Service (BD) requirements:

- Burn all grapple piles.
- Burn all landing piles.

C. Stewardship Projects: Much of the slash treatment of activity fuels will be accomplished as stewardship projects under K-G.9#. Grapple piling, preferably shall occur in the first season following logging, in the fall to reduce noxious weed spread. Slash piling equipment shall stay on existing skid trails, operate on slash mats where possible, and stay on slopes less than 40%.

Slash and grapple pile all of units 17, 18, 32, 33, 34, and 35. Grapple pile and slash portions of units 1, 2, 3, 4, 21, 31, 37, and 69 as shown on the Stewardship Project Map. Units 6, 6A and 61 will have slashing on all acres but grapple piling on portions of the perimeter, to prepare for underburning. An estimate number of acres to pile are included but actual acres will be determined after logging, for payment purposes. In areas where appropriate, let slash overwinter to allow nutrients to leach into soils.

Construct firelines on all or portions of units 6, 6A, and 61 perimeters to facilitate burning. Unit perimeters requiring fireline construction are identified on the Stewardship Projects Map and listed below. Waterbar firelines as needed to minimize the potential for erosion.

Protect leave trees in units to be underburned by removing slash around residual trees after logging, to prepare for underburning.

The intent of the trail decommissioning project is to provide for long-term improvements by reducing erosion and sediment delivery to Meadow Creek. Contractor shall decommission part of existing FS Trail 32, beginning from the northernmost switchback of FSR 2499B (approx. milepost 1.85), as shown on the map.

Part of existing FS Road 2499 will be stored, beginning just past the jct. with Regal Mine Road, and continue for 1.3 miles. This storage should commence after activities in units 6, 6A, 61, and 4 (including slash treatments and prescribed burns) are completed. To avoid conflict between storing Road 2499 and burning, these units will be required to be logged by October 31, 2015.

An alternative slash disposal method will be to remove and utilize slash in excess to down woody requirements following at least one wetting season, in lieu of slashing and grapple piling. This option will be considered as an evaluation factor in bid proposals.

Item	Work Activity Description	Mandatory	Optional
1	Decommission a portion of trail 32 by recontouring/ripping.	X	
2A 2B	Fireline Construction by hand for portions of units 6, 6A and 61. Fireline Construction by excavator for portions of units 6, 6A, 61.	X	
3	Slashing in all of units 6, 6A, 17, 18, 32, 33, 34, 35, 61, and a portion of units 1, 2, 3, 4, 21, 31, 37, 69, bucking in areas to be grapple piled.	X	
4A	Grapple Piling slash in all of units 17, 18, 32, 33, 34, 35, and a portion of units 1, 2, 3, 4, 21, 31, 37, 69. Grapple pile perimeters in units 6, 6A, and 61.	X	
5	Leave Tree Protection in units 6, 6A, and 61.	X	
6	Store a portion of existing road 2499, upon completion of logging activities.	X	

X. Other Provisions

A. Period of contract:

1. Normal operating season:
 - June 15 thru October 31 for units 6, 61, and all road work.
 - December 15 thru February 15 for units 1, 2, 3, 4, 6A, 17, 18, 21, 31, 32, 33, 34, 35, 37, and 69.
2. Termination date: October 31, 2017.
3. Road Completion Date: October 31, 2013.

B. Contractor fire liability:

Total number of personnel/crew	15
Number of hours/day	12
Total hours/crew day	180
Hourly rate AD-3 firefighter	\$17.40
Average daily cost	3,132
Average fire length	5 days
Contractor obligation for fire operation	15,660
Rounded up to the nearest \$100	15,700

XI. Sale Objective Code

Purpose	Activity	Percentage
TC -- Timber Commodity Purpose	01 -- Timber Purpose	10
FS -- Forest Stewardship Purpose	10 -- Forest and Ecosystem Health	80
FS -- Forest Stewardship Purpose	40 -- Fisheries Habitat Management and Watershed Improvement	10

Logging Plan

A. General:

Skyline yarding is required on units 6 and 61. Designated corridors and directional felling are required in all skyline units. Leading ends of logs shall be suspended during yarding.

Tractor skidding is required in units 1, 2, 3, 4, 6A, 17, 18, 21, 31, 32, 33, 34, 35, 37 and 69.

The average external yarding distance for skyline units is 200'.

The average external skidding distance for tractor units is 1000'.

Winter logging conditions are required in units 1, 2, 3, 4, 6A, 17, 18, 21, 31, 32, 33, 34, 35, 37 and 69. 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.

B. Detailed Logging Plan for Specific Units:

Volume in units 1 and 17 was designed to be favorably skidded to an existing trail located at the bottom of the units and out to a main landing located at the southernmost point of unit 17.

Volume in units 2, 18, 21 and 69 was designed to be favorably skidded to landings located along the new construction portion of Road 2499A.

Volume in the upper half of unit 3 was designed to be favorably skidded to landings located along the new construction portion of Road 2499B. Volume in the lower half of unit 3 was designed to be skidded landings located at the bottom of the unit. These landings would be accessed by truck from the reconstructed portion of Road 2499B using designated snow roads packed with logs or slash and snow to cross a seasonal creek.

Volume in unit 4 was designed to be favorably skidded to landings located along the reconstruction portion of Road 2499.

Volume in unit 6 was designed to be yarded to an existing old road at the top of the unit and skidded back to a landing located on Road 2499. No mechanical felling in summer. Volume in unit 6A was designed to be favorably skidded to the same road at the bottom of the unit and skidded back to the same landing on Road 2499.

Volume in unit 31 was designed to be favorably skidded to landings located along the new construction portion of Road 2499B.

Volume in unit 35 was designed to be skidded to a landing located on the new construction portion of Road 2499B.

Volume in unit 34 was designed to be favorably skidded to a landing located on the reconstruction portion of Road 2499B.

Volume in units 32 and 33 was designed to be favorably skidded to a main trail located at the bottom of the units and out to a landing located along the new construction portion of Road 2499B in unit 31. Two seasonal creek crossing would be skidded over using logs or packed slash and snow.

Volume in the upper half of unit 37 was designed to be favorably skidded to landings located on the new construction portion of Road 2499B. Volume in the lower half of unit 37 was designed to be favorably skidded to landings located on the reconstruction portion of Road 2499B.

Volume in unit 61 was designed to be yarded to an existing old road at the top of the unit and skidded back to a landing located on Road 2499. No mechanical felling in summer.

All landings sites will be preapproved by the sale administrator. Due to whole tree yarding in the commercial thinning units, the landing piles are expected to be large.

Where access by chip vans / stinger trailers is feasible, landings piles can have the material stacked in a parallel manner, so chipping equipment can grab the material easily and dispose of the pile, as appropriate.