PART III: EXHIBITS

State Timber Sale Contract
No. 341-05-27
Sheep Shack

EXHIBIT B

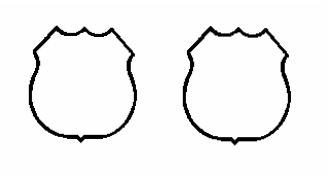
629-Form 341-203
Revised 06/97

OREGON DEPARTMENT OF FORESTRY

TIMBER SALE OPERATIONS PLAN
(See Page 2 for instructions)

Date Received by STATE: _____

(5) State Brand Information (complete):



(1) Contract No.: 341-05-27

(2) Sale Name: Sheep Shack

(3) Contract Expiration Date: October 31, 2007 Project Completion Dates: _____

(4) Purchaser: _____ _____

(6) Purchaser Representatives:

Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____

(7) State Representatives:

Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____

(8) Name of Subcontractors & Starting Dates:

Projects: No(s) _____-_____	Date: _____	Phone: _____
No(s) _____-_____	Date: _____	Phone: _____
No(s) _____-_____	Date: _____	Phone: _____
No(s) _____-_____	Date: _____	Phone: _____
Logging: Felling _____	Date: _____	Phone: _____
Yarding: _____	Date: _____	Phone: _____

(9) Comments: _____

(10) Operations Map: Attach a copy of timber sale Exhibit A or other suitable map which plainly shows the items listed on the instruction sheet.

EXHIBIT B

INSTRUCTION SHEET FOR OPERATIONS PLAN

SUBMIT ONE COPY OF PLAN TO STATE

Operations shall be limited to the work shown in the plan until a revised plan or supplemental plan is submitted covering additional work. Compliance with this plan is not in lieu of compliance with any federal requirements related to the federal Endangered Species Act. If STATE has prepared a required Forest Practices Act (FPA) "Written Plan" for operations, PURCHASER shall comply with all provisions of the Written Plan.

Item No. (from Page 1)

(5) All sales require you to use a brand furnished by STATE. If the State brand has not been assigned when the plan is submitted, it will be furnished and assigned later. Complete drawing. If more than one brand is assigned to the sale, complete both drawings.

(6) The contract requires you to have a designated representative available on the sale area or work location who is authorized to receive in your behalf any notice or instruction given by STATE and to take action in regard to performance under the contract. If logging and project work is widely separated, a representative is required for each.

(7) The STATE representative will be designated when your plan is approved and is the person who will inspect and issue instructions regarding performance.

(8) Show names of subcontractors to be used for any or all phases of the operations. If subcontractors are not known, or are changed later, give notification to the STATE representative prior to commencement of work by subcontractor.

Show projected dates for commencement of both projects and logging. If projected dates need to be changed at a later date, notification must be given to the STATE representative by supplemental plan or otherwise, prior to commencement of such operations.

(10) The STATE representative will furnish extra copies of Exhibit A of the contract for your use in preparing the operations map. The map shall use the following legend and show:

1. Landing locations, approximate setting boundaries, and probable sequence of logging the settings. Number the settings in sequence.
2. Locations of spur roads planned for construction, other than those required by the timber sale contract. Provide spur road specifications.
3. Location of proposed tractor yarding roads. Show if and how marked on the ground.
4. Location of temporary stream crossings.
5. List the sequence of performing project work.
6. Location of rock sources - attach pit development plans.

(1)	Cable landing, with numbers for sequence.
[A]	Tractor landing with alphabetical sequence.
_ _ _ _ _	Approximate setting boundary.
- - - - - - - -	Spur truck roads.
~~	Tractor yarding roads.
X	Temporary stream crossings.

Original: Salem
cc: District File
Purchaser

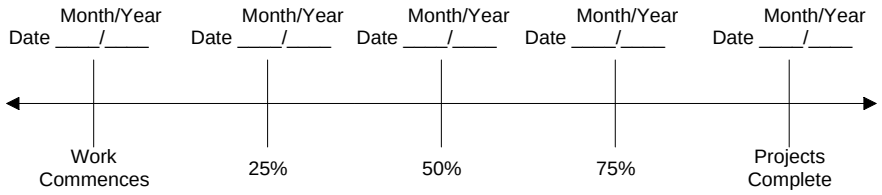
EXHIBIT B

OPERATIONS PLAN

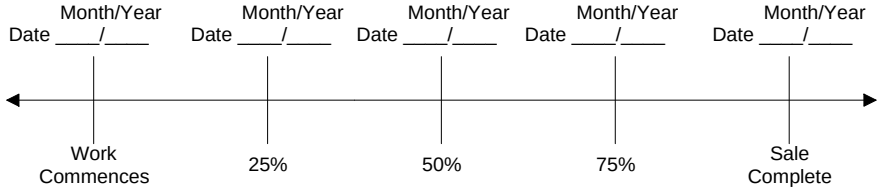
Completion Timeline

Indicate on the appropriate timeline below, the dates by which you plan to complete the work as required under this contract. The purpose of this section is to develop a plan that will ensure you complete the work as required, and meet the interim completion date(s) and contract expiration date. This plan is incorporated and made a part of the contract. When, in the opinion of STATE, operations are not commencing in a manner that meets the intent of this plan, you may be placed in violation of contract and your operations suspended until an amended plan is submitted and approved by STATE.

Projects



Harvest & Other Requirements



The Federal Endangered Species Act (ESA) prohibits a person from taking any federally listed threatened or endangered species. Taking under the federal ESA may include alteration of habitat. STATE's approval of this plan does not certify that PURCHASER's operation under the plan is lawful under the federal ESA. As provided in the timber sale contract, PURCHASERS must comply with all applicable state, federal, and local laws.

PURCHASER's compliance with this plan is not in lieu of compliance with any federal requirements related to the federal Endangered Species Act.

APPROVED: Date: _____

STATE OF OREGON - DEPARTMENT OF FORESTRY

_____

Title _____

SUBMITTED BY:
PURCHASER

_____

Title _____

EXHIBIT C

SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

(1) ORIGINAL REGISTRATION ☐ Date _____
REVISION NUMBER _____ ☐ Date _____
CANCELLATION ☐ Date _____

(2) TO: _____
(Third Party Scaling Organization)

(3) FROM: Astoria – 04 Phone (503) 325-5451
(State Forestry District)
Address 92219 Hwy. 202, Astoria, OR 97103

(4) PURCHASER: _____
Address _____

(5) MINIMUM SCALING SPECIFICATIONS			CLASS		
SPECIES	SCALING DIAMETER INCHES	*NET SCALE VOLUME	PER MBF	** SUM	SUB
Conifers	--	10	X		
Hardwoods	--	10	X		

* Apply minimum volume test to whole logs over 40' Westside; 20' Eastside.
** Sum (if indicated): see instructions and explain in Item (20).

	YES	NO
(6) WESTSIDE SCALE: Actual taper all logs over 40' scaling length	☒	☐
(7) EASTSIDE SCALE: *Actual taper butt logs over 40' scaling length	☐	☒
(8) PENCIL BUCK back to Minimum Scaling Diameter _____	☐	☒
(9) ADD-BACK VOLUME -- Deductions due to delay	☒	☐

(10) APPROVED SCALING LOCATIONS	Species	Yard	Truck

(11) NOTICE OF CANCELLATION OF BRAND:
Effective Date: _____

_____
State Forester's Representative

(12) SALE NAME Sheep Shack
COUNTY Clatsop

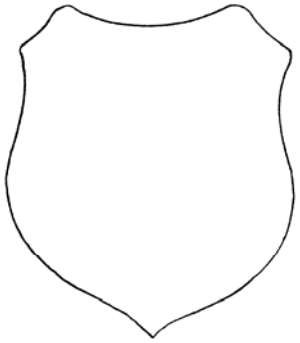
(13) STATE CONTRACT NUMBER 341-05-27

(14) SCALE: westside ☒ eastside ☐ cubic foot ☐

(15) STATE BRAND REGISTRATION NUMBER _____

(16) BUREAU BRAND CODE NUMBER _____

(17) STATE BRAND INFORMATION:
(COMPLETE)



(18) PAINT REQUIRED: YES ☒
COLOR Orange

(19) SPECIAL SCALES
PEELABLE CULL (all species)
UTILITY/PULP (all species)
NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE
OTHER: _____
OTHER: _____

(20) REMARKS: _____

Operator's Name (Optional inclusion by District): _____

(21) SIGNATURES:

_____
Purchaser or Authorized Representative Date

_____
State Forester Representative Date

Notify the District within one hour when branding or painting is inadequate for quick identification, the receipts are missing, not correctly or completely filled out, and/or when logs presented for scaling are impossible to scale accurately.

Distribution: ORIGINAL: Salem / COPIES: TPSO (4), Purchaser, Operator, District, Jewell Unit

EXHIBIT C

INSTRUCTIONS FOR FORM 343-307 (rev. 5/01)

(1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires Item (21). Complete date.

(2) Designate Third Party Scaling Organization (TPSO). Send 4 copies to TPSO, 1 to purchaser, 1 to Salem, and keep such copies as to district needs.

(3) State District office, address and phone.

(4) Enter Purchaser's business name and address as it appears on the Contract.

(5) Minimum Scaling Specifications. Review Section 2040 or 2045, "Log Removal," of the Contract. Species, or combined species can be separate entries. Information serves as a basis for scaling (see also Items (13) thru (17)), and is required to show existence on the sale. **PerM** (per MBF). **SUM** (lump sum material). **SUB** (submerchantable material. SUB, as used by the State, references that material containing at least 10 bf (net) but less than the lower merchantable net volume limit or grade requirements for other merchantable (PerM) entries. PerM, SUM, and Sub must be indicated by checking the appropriate column. Species with the same specifications and value are combined into one entry. PerM and Sub require scaling therefore complete specifications. SUM need not be scaled, hence no specifications. Loads containing only SUM are to be ticketed if so instructed in Item (19). Mixed loads of SUM, PERM and/or subspecies will always be scaled.

(6) Westside -- actual taper segment scale. Check Yes or No. Special Service Rules on file with TPSO. See: Segment Scaling and Grading of Long Logs -- All Species -- State Forestry Department Scaling Practices (Westside).

(7) Eastside -- actual taper/taper table segment scale. Special Service Rules on file with TPSO. See: Segment Scaling and Grading of Long Logs -- All Species -- State Forestry Department Scaling Practices (Eastside). Items with * follow U.S. Forest Service Eastside rules.

(8) Pencil Buck. Check NO if a westside sale, optional for eastside sales.

(9) Add-Back Volume. Add-Back is normally checked YES. Scaler records deductions (sap rot, weather checks, etc.) caused by an abnormal delay in removal. Enter separately on scale ticket. TPSO provides State with summaries that include this as a net volume by species. Salvage sales and certain other circumstances may require that "NO" be checked.

(10) Show scaling locations only applicable to TPSO. Not necessary to list markets. If all species are scaled at same location, enter "ALL."

(11) When logging is complete, recall branding hammers, date and sign where indicated, check CANCELLATION box at top of form, and send to TPSO.

(12) Enter sale name and county.

(13) Enter sale Contract number.

(14) Check Westside or Eastside log scale. Cubic foot refers to Northwest Log Rules Cubic Foot Scale.

(15) Oregon Forest Products Brand Registry Number (optional).

(16) DO NOT USE -- TPSO will fill in when applicable.

(17) Show one brand only. Complete drawing. If more than one brand is assigned to the sale, (1) make separate form for each brand, and (2) on each form, explain and show other brand(s) under REMARKS, Item 19.

(18) Check YES and designate orange.

(19) Special Scales. These are the Special Scales that will be applied. If "Other" is indicated, please describe. Give comments in Item (19).

(20) Use this space to designate weight conversion factors, or any other explanations to clarify scaling requirements. If additional scaling locations are approved, prepare another form showing all (old and new) locations. Check REVISION box at top of form and explain under remarks. Route as indicated.

(21) Require purchaser to sign and date completed form.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
16 feet	12 feet	1A to 1B	0+00 to 6+50	DITCH
14 feet	N/A	1A to 1B	6+50 to 11+70	OUTSLOPED
16 feet	12 feet	1C to 1D	0+00 to 17+10	DITCH
16 feet	12 feet	1E to 1F	0+00 to 3+90	DITCH
16 feet	12 feet	1G to 1H	0+00 to 1+00	DITCH
16 feet	12 feet	2A to 2B	0+00 to 9+35	DITCH
16 feet	12 feet	2C to 2D	0+00 to 1+20	DITCH
14 feet	N/A	3A to 3B	0+00 to 3+90	OUTSLOPED
16 feet	12 feet	4A to 4B	0+00 to 9+85	DITCH
16 feet	12 feet	4C to 4D	0+00 to 3+65	DITCH
16 feet	12 feet	4E to 4F	0+00 to 6+55	DITCH
16 feet	12 feet	4G to 4H	0+00 to 2+35	DITCH
16 feet	12 feet	I1 to I2	0+00 to 79+00	DITCH
16 feet	12 feet	I3 to I4	0+00 to 16+00	DITCH

CLEARING. This work shall consist of clearing, removing, and disposing of all trees, snags, down timber, brush, surface objects, and protruding obstructions within the clearing limits.

Where clearing limits have not been staked, the clearing limits shall extend 10 feet back of the top of the cutslope and 10 feet out from the toe of the fill slope, or as directed by STATE. Clearing debris shall not be placed or permitted to remain in or under any road embankment sections. Clearing debris shall not be left lodged against standing trees.

CLEARING. All danger trees, leaners, and snags outside the clearing limits which could fall and hit the road shall be felled.

All stumps shall be completely removed within the limits of required grubbing. Stumps overhanging cutslopes shall be removed. Grubbing debris shall not be placed or permitted to remain in or under any road embankment sections. Grubbing debris shall not be left lodged against standing trees.

Grubbing classifications are as follows:

New Construction: From the top of the cutslope to the toe of the fill.

Improvements and Reconstruction: 4 feet back from the shoulder of the subgrade or ditch, whichever is widest, or as marked in the field.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

CLEARING AND GRUBBING DISPOSAL. Scatter through openings in the timber outside of the cleared right-of-way, except areas where end-haul is required. In areas where end-haul is required, clearing and grubbing debris shall be fully contained and hauled to a designated waste area.

EXCAVATION. Excavation and grading shall not be done when weather and/or ground conditions are such that damage will result to existing subgrade or cause excessive erosion.

Excavation shall conform to STATE- engineered lines, grades, dimensions, and plans when provided.

All suitable excavated material shall be used where possible for the formation of fills, shoulders, and drainage structure backfill. Embankment materials shall be free of woody debris, brush, muck, sod, frozen material, and other deleterious materials. All fills and drainage structure backfill shall be machine compacted in lifts not to exceed 8 inches in depth, according to the specifications in Exhibit D.

Unless road design plans show otherwise, all roads shall be on a balanced cross section, except when the slope is over 50 percent, the road shall be on full bench for the width specified.

Excess excavation shall not be sidecast where material will enter a stream course or where material will accumulate in areas deemed a high landslide hazard location by STATE.

ROAD WIDTH LIMITATIONS. PURCHASER shall obtain advance written approval from STATE to construct the road to a greater width than specified. Extra subgrade width shall be required for:

Fill Widening. Add to each fill shoulder 1 foot for fills 3 feet to 6 feet high; 2 feet for fills over 6 feet high.

Curve Widening. Widen the inside shoulder of all curves as follows: 400 divided by the radius of the curve equals the amount of extra width.

DRAINAGE

Ditchouts. Construct ditchouts as marked in the field or as directed by STATE.

TURNOUTS. Increase roadbed width an additional 8 feet for both subgrade and surfacing. Length shall be at least 50 feet, or as staked on the ground, plus 25-foot approaches at each end.

Location: Intervisible but not greater than 750 feet, and as marked in the field.

GRADING	Back Slopes	Fill Slopes
Rock	Vertical to 1/4:1	Not steeper
Common - side slopes 50% and over	3/4:1	than 1½:1
Common - side slopes less than 50%	1:1	
Common - turnpike (level) section	2:1	

Top of cutslope shall be rounded.

LANDINGS. Landings shall be constructed no less than 50 feet wide and no more than 70 feet wide. Surface is to be crowned for drainage, with general grade no more than 3 percent. Surface as shown on Exhibit D.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

TURNAROUNDS. Increase subgrade width an additional 20 feet for a length of 20 feet at locations marked in the field.

SEASONAL WINTERIZATION. All unrocked roads (1A to 1B Sta. 6+50 to 11+70 and 3A to 3B) or unfinished subgrades shall be waterbarred in accordance with Specifications in Exhibit J, and blocked from vehicular traffic prior to November 1, annually and as directed by STATE.

GENERAL ROAD CONSTRUCTION INSTRUCTIONS

Excavated Materials. Excavated materials shall be utilized for road and fill construction and hauled in where necessary. Surplus excavation materials shall be hauled to the waste areas as marked in the field and/or designated on Exhibit A. Waste materials shall be sloped and compacted for drainage. Fills shall be thoroughly compacted in accordance with Exhibit D.

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS

Segment	Station	Work Description
2A to 2B	0+00	Construct road junction. Maintain integrity of existing road by utilizing excavation material to fill on the outside edge of the new road construction.
	2+90	Begin full bench construction. Utilize suitable excavation material for fill construction between Stations 0+00 and 1+00 and between Stations 4+50 and 5+90.
	4+10	End full bench construction.
	4+50	Construct ditch out right.
	7+00	Construct ditch out right.
	7+65	Begin 60’ radius curves. Construct one 60’ radius curve to the left and one 60’ radius curve to the right to construct a two-way junction with the existing road.
	9+30	Install an 18” x 30’ culvert. Install culvert at the junction across the existing road. Utilize 20 cubic yards of ¾”-0” crushed rock for trench backfill.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS

(1) Drainage Ditches. Restore or construct ditchlines, including ditchouts, as directed by STATE. Clean out all culvert inlets and outlets for a 10-foot radius. Re-establish or construct culvert sediment basins. Waste materials from drainage ditches and sediment basins shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE. Damaged culvert inlets and/or outlets shall be repaired by opening them with a hydraulic jack, or cutting off the culvert end to allow for free passage of water at peak flow levels. Install a culvert marker at each newly installed culvert and at each existing culvert that is missing a marker that could be reached by a grader blade.

(2) Subgrade Preparation and Application of Surfacing Rock.

(a) Complete drainage ditches, and other specified work prior to the application of new surfacing rock.

(b) Cut out all potholes and/or washboard sections from the existing surfacing.

(c) Apply required 1½”-0” base patching and leveling rock, as directed by STATE.

(d) Process (grade and mix) the existing surfacing and added base rock. Provide for a crown of 4 to 6 percent (½ inch per foot), and compact in accordance with Exhibit D. Subgrade shall be crowned at 4 to 6 percent. Subgrade shall be crowned at 4 to 6 percent.

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT: 1A to 1B				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size and Type**	**Location**	**Depth of Rock (inches)**	1A to 1B		0+00 to 11+70		
				Volume (CY) per		**Number of**		
Base Rock	4"-0" Crushed	0 to 6+50	8	Station	50	Stations	6.5	325
Traction Rock	¾" -0" Crushed	0 to 6+50	2	Station	13	Stations	6.5	85
Curve Widening	4"-0" Crushed			N/A		N/A		30
Curve Widening	¾" -0" Crushed			N/A		N/A		10
Junctions	¾" -0" Crushed		2	Junction	10	Junctions	1	10
Junctions	4"-0" Crushed		8	Junction	24	Junctions	1	24
Total Rock for Road Segment:		1A to 1B						484
ROAD SEGMENT: 1C to 1D				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size and Type**	**Location**	**Depth of Rock (inches)**	1C to 1D		0+00 to 17+10		
				Volume (CY) per		**Number of**		
Base Rock	4"-0" Crushed		8	Station	50	Stations	17.10	855
Turn Outs	4"-0" Crushed		8	Turnout	22	Turnouts	2	44
Landings	6"-0" Pit-run	1D	N/A	Landing	80	Landings	1	80
Turnaround	4"-0" Crushed		N/A	TA	24	TA's	1	24
Traction Turnouts	¾"-0" Crushed	0 to 9+10	2	Turnout	10	Turnouts	2	20
Traction Rock	¾"-0" Crushed	0 to 9+10	2	Station	13	Stations	9.1	118
Junctions	¾" -0" Crushed		2	Junction	10	Junctions	1	10
Junctions	4"-0" Crushed		8	Junction	24	Junctions	1	24
Total Rock for Road Segment:		1C-1D						1175
ROAD SEGMENT: 1E to 1F				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size and Type**	**Location**	**Depth of Rock (inches)**	1E to 1F		0+00 to 3+90		
				Volume (CY) per		**Number of**		
Base Rock	4"-0" Crushed		8	station	50	stations	3.9	195
Turn Outs	4"-0" Crushed		8	Turnout	22	Turnouts	1	22
Landings	6"-0" Pit-run	1F	N/A	Landing	80	Landings	1	80
Turnaround	4"-0" Crushed		N/A	TA	24	TA's	1	24
Curve Widening	4"-0" Crushed			N/A		N/A		80
Junctions	¾" -0" Crushed		2	Junction	10	Junctions	1	10
Junctions	4"-0" Crushed		8	Junction	24	Junctions	1	24
Total Rock for Road Segment:		1E to 1F						435
ROAD SEGMENT: 1G to 1H				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size and Type**	**Location**	**Depth of Rock (inches)**	1G to 1H		0+00 to 1+00		
				Volume (CY) per		**Number of**		
Base Rock	4"-0" Crushed		8	station	50	stations	1.0	50
Landings	6"-0" Pit-run	1H	N/A	Landing	80	Landings	1	80
Junctions	4"-0" Crushed		8	Junction	24	Junctions	1	24
Total Rock for Road Segment:		1G to 1H						154

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT: 2A to 2B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	2A to 2B Volume (CY) per		0+00 to 9+35 Number of		
Base Rock	4"-0" Crushed		10	Station	63	Stations	9.35	589
Traction Rock	¾" -0" Crushed		4	Station	23	Stations	9.35	215
Junctions	4"-0" Crushed			Junction	30	Junctions	3	90
Junctions	¾" -0" Crushed			Junction	10	Junctions	3	30
Bedding/Backfill	¾" -0" Crushed	9+30		Culvert	20	Culvert	1	20
Curve Widening	4"-0" Crushed			N/A		N/A		80
Curve Widening	¾" -0" Crushed			N/A		N/A		30
Total Rock for Road Segment:		2A to 2B						1,054
ROAD SEGMENT: 2C to 2D				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size And Type**	**Location**	**Depth of Rock (inches)**	2C to 2D **Volume (CY) per**		0+00 to 1+20 **Number of**		
Base Rock	4"-0" Crushed		8	station	50	stations	1.2	60
Landings	6"-0" Pit-run	2D	N/A	Landing	80	landings	1	80
Junctions	¾" -0" Crushed		2	Junction	10	Junctions	1	10
Junctions	4"-0" Crushed		8	Junction	24	Junctions	1	24
Total Rock for Road Segment:		2C to 2D						174
ROAD SEGMENT: 3A to 3B				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size And Type**	**Location**	**Depth of Rock (inches)**	3A to 3B **Volume (CY) per**		0+00 to 3+90 **Number of**		
Junctions	4"-0" Crushed		8	Junction	24	Junctions	1	24
Total Rock for Road Segment:		3A to 3B						24
				POINT TO POINT		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size And Type**	**Location**	**Depth of Rock (inches)**	4A to 4B **Volume (CY) per**		0+00 to 9+85 **Number of**		
Base Rock	4"-0" Crushed		8	Station	50	Stations	9.85	493
Turn Outs	4"-0" Crushed		8	Turnout	22	Turnouts	1	22
Turnaround	4"-0" Crushed		N/A	TA	24	TA	1	24
Curve Widening	4"-0" Crushed			N/A		N/A		30
Junctions	¾" -0" Crushed		2	Junction	10	Junctions	1	10
Junctions	4"-0" Crushed		8	Junction	24	Junctions	1	24
Landings	6"-0" Pit-run	4B	N/A	Landing	80	Landings	1	80
Total Rock for Road Segment:		4A-4B						683

EXHIBIT D

ROAD SURFACING

				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	4C-4D		0+00 to 3+65		
				Volume (CY) Per		Number of		
Base Rock	4"-0" Crushed		8	Station	50	Stations	3.65	183
Junctions	4"-0" Crushed		8	Junction	24	Junctions	1	24
Curve Widening	4"-0" Crushed			N/A		N/A		30
Junctions	¾" -0" Crushed		2	Junction	10	Junctions	1	10
Landings	6"-0" Pit-run	4D	N/A	Landing	80	Landings	1	80
Total Rock for Road Segment:		4C-4D						327
				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	4E-4F		0+00 to 6+55		
				Volume (CY) Per		Number of		
Base Rock	4"-0" Crushed		8	Station	50	Stations	6.55	328
Junctions	4"-0" Crushed		8	Junction	24	Junctions	1	24
Landings	6"-0" Pit-run	4F	N/A	Landing	80	Landings	1	80
Total Rock for Road Segment:		4E-4F						432
				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	4G-4H		0+00 to 2+35		
				Volume (CY) per		Number of		
Base Rock	4"-0" Crushed		8	Station	50	Stations	2.35	118
Junctions	4"-0" Crushed		8	Junction	24	Junctions	1	24
Landings	6"-0" Pit-run	6H	N/A	Landing	80	Landings	1	80
Total Rock for Road Segment:		4G-4H						222
				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	I1-I2		0+00 to 79+00		
				Volume (CY) per		Number of		
Subgrade Leveling	1½"-0" Crushed		N/A				N/A	400
Total Rock for Road Segment:		I1-I2						400
				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	I3-I4		0+00 to 16+00		
				Volume (CY) per		Number of		
Subgrade Leveling	1½"-0" Crushed		N/A				N/A	70
Total Rock for Road Segment:		I3-I4						70

Total Rock Project No. 1

	24"-6"	6"-0"	4"-0"	1 1/2"-0"	3/4"-0"	TOTAL
	0	640	3,936	470	588	5,634

Roads shall be uniformly graded and approved by STATE prior to rocking. For typical cross section, see Forestry Department Drawing Nos. 351-C and 351-D at the Forestry Department District Office.

EXHIBIT D

ROCK ACCOUNTABILITY

Subgrades must be approved by STATE prior to rocking. Rocking must be done only when weather conditions are acceptable to STATE, and must be suspended when muddy water could enter streams from runoff.

Rock accountability shall be determined by the following methods, as directed by STATE. STATE shall be given 24 hours' notice prior to rocking.

Rock Checking. All rock spreading shall be done only when a STATE representative is present. STATE shall issue a receipt for each load delivered, and rock shall be measured without allowance for shrinkage or shakedown during hauling. Total truck measure volume for each road segment shall be as shown on Exhibit D. Deliver at least 600 cubic yards per 8-hour shift, unless otherwise approved by STATE. A penalty of $10 for each 10 cubic yards which are not delivered during a single shift shall be billed, and payment shall be required prior to final acceptance of the project by STATE.

Depth Measurement. Rock shall be spread and compacted according to the depths specified in Exhibit D. Truck measure volumes are given, but shall not limit the amount of rock spread.

Depth shall be determined in the most compacted area of the surface cross section. If additional rock is required because of insufficient depth, it shall be added by truck measure to those areas that were slighted. The conversion from compacted yardage to truck yardage is 1.3 multiplied by the compacted yardage equals truck yardage.

The depth of compacted aggregates shall not vary more than 1 inch from the depth specified in Exhibit D. The average depth for each road segment shall be the specified depth or greater. Surfacing areas shall be staked by STATE.

Load Records. Notify STATE before spreading the rock and maintain a record of all rock delivered for spreading. Make the record available for STATE inspection. A report listing the amount of rock delivered the prior month must be submitted no later than the 15th of each month.

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

Subgrade. Subgrade surfaces of the road segments listed below shall be graded and compacted prior to rocking. Compaction shall be accomplished by traveling all surfaces from shoulder to shoulder until visible deformation ceases, or in the case of a sheepsfoot roller, the roller "walks out." A minimum of 3 passes shall be made over the entire width and length of the road. A pass is defined as traveling a road section in one direction and then back over that same section again. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
All road segments that require rock surfacing.	1
Project No. 2 Stockpile Site Construction	1 or 5

Fills. Embankments and fills shall be placed in (approximately) horizontal layers not more than 8 inches in depth. Each layer shall be separately, and thoroughly, compacted. Compaction equipment shall be operated over the entire width of each layer until visible deformation of the layers ceases or, in the case of a sheepsfoot roller, the roller "walks out." At least of 3 passes shall be made over the entire width and length of each layer. A pass is defined as traveling a fill layer in one direction and then back over that same layer again.

Placing individual rocks or boulders with more depth than the allowed layer thickness shall be permitted, provided the embankment will accommodate them. Such rocks and boulders shall be at least 6 inches below the subgrade. They shall be carefully distributed and the voids filled with finer material, forming a dense and compacted mass. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
Project No. 2 Stockpile Site Construction	1 or 5
All road segments	1, 2, or 3 and 4

Crushed Rock. The rock shall be uniformly mixed and spread in layers on the approved roadbed. Each layer of crushed rock shall be moistened or dried to a uniform moisture content suitable for maximum compaction and compacted in layers not to exceed 8 inches in depth. When more than 1 layer is required, each shall be shaped and compacted before the succeeding layer is placed. Any irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and adding or removing material until the surface is smooth and uniform. Each layer shall be compacted with a minimum of 3 passes over the entire width and length of the road. A pass is defined as traveling a road section in one direction and then back over that same section again. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
All road segments requiring crushed rock	1

EXHIBIT D

COMPACTION EQUIPMENT OPTIONS

(1) Vibratory Rollers. The drum shall have a smooth surface, a diameter not less than 48 inches, a width not less than 58 inches, and a turning radius of 15 feet or less. Vibration frequency shall be regulated in steps to 1400, 1500, and 1600 VPM, corresponding to engine speeds of 1575, 1690, and 1800 RPM. The centrifugal force developed shall be 7 tons at 1600 VPM. It shall be activated by a power unit of not less than 25 horsepower. The vibratory roller shall be self-propelled and operated at speeds ranging from 0.9 mile to 1.8 miles per hour, as directed by STATE.

(2) Rubber-Tired Skidders. A rubber-tired skidder weighing a minimum of 20,000 pounds shall be operated over the fill layers so that the entire layered surface comes in contact with the tires. Skidders with oversized tires (high flotation) are not acceptable for compaction.

(3) Tampingfoot Compactors. Tampingfoot or sheepsfoot compactors shall exert a minimum pressure of 250 pounds per square inch on the ground area in contact with the tamping feet. The compactor shall cover a minimum width of 60 inches per pass and weigh a minimum of 16,000 pounds.

(4) Vibratory Hand-Operated or Backhoe-Mounted Tamper. Vibratory hand-held or hydraulic tampers shall be used for compaction of backfill materials around culverts (and/or bridge approach embankment materials around abutments). The tamper shoe dimensions shall be a minimum of 10” X 13” and capable of a centrifugal force of 2,250 pounds.

(5) Vibratory Grid Compactors. The roller shall have a grid surface and have an operating weight of 32,000 pounds or more. The rock shall be worked with a grader weighing at least 20,000 pounds during the grid rolling process. All rock shall come in contact with the vibratory grid compactor.

EXHIBIT E

CULVERT SPECIFICATIONS

All culvert materials shall be furnished and installed by PURCHASER, unless otherwise specified in the Contract. Culverts shall be constructed of corrugated polyethylene or aluminized steel. All culverts shall conform to the material and fabricating requirements of the "Standard Specifications for Highway Construction" prepared by the Highway Division of the Oregon State Department of Transportation. Corrugation types and shapes other than those meeting the above minimum Highway requirements, shall be approved in writing by STATE.

Culverts shall be located according to the alignment and grade as shown on the Plan and Profile, and/or as staked in the field, or as stipulated in special instructions.

The STATE Representative shall determine final culvert locations and stake the locations in the field prior to installation.

Culvert grade shall slope away from ditch grade at least 2 percent unless otherwise specified.

The foundation and trench walls for all culverts shall be free from logs, stumps, limbs, stones, and other objects which would dent or damage the pipe. The culvert trench shall be excavated 3 pipe diameters wide to permit compaction and working on each side of the pipe. Tamping shall be done in 6-inch lifts, 1 pipe diameter each side of the pipe to 95 percent density or over. Bedrock shall be excavated as required to provide a uniform foundation for the full length of the culvert.

A bedding of granulated material or crushed rock as specified shall be placed to provide a wide band of support and to transmit the load from above evenly over the entire length of the pipe.

Backfill shall consist of granulated material, crushed rock, or job-excavated soil free of stumps, limbs, rocks, or other objects which would damage the pipe.

Transporting of the pipe shall be done carefully. Dragging or allowing free fall from trucks or into trenches shall not be permitted.

Joining shall be done with bands of like material and corrugations. Manufacturers' instructions shall be followed for prefabricated pipe assembly.

Polyethylene joints shall be made with split couplings, corrugated to engage the pipe corrugations, and shall engage a minimum of 4 corrugations, 2 on each side of the pipe joint.

A manufacturer's certification that the product was manufactured, tested, and supplied in accordance with this specification shall be furnished to the Project Engineer upon request.

EXHIBIT E

CULVERT SPECIFICATIONS

Minimum height of cover over top of culvert to subgrade when road is to be rocked shall be as follows: 12" for culverts 18” to 36” and 18” for culverts 42” to 96” (add 6" for roads which will not be rocked). Minimum vertical cover for other designs shall be as specified by STATE.

Lengths of individual culvert sections shall be not less than 10 feet, unless otherwise provided for in special instructions.

The ends of each culvert shall be free of logs and debris which would restrict the free flow of water. The intake end of relief culverts shall be provided with a sediment catching basin 3 feet in diameter at the bottom. The outlet end of any culvert which would allow water to erode embankment soil shall be provided with a half round or other approved slope protection device. Construct lead-off ditches away from culvert outlets where the slope gradients restrict the free flow of water.

Following are the minimum standard gauges for pipe and coupling bands. Some culverts may require different gauges and may be found in the culvert listing.

Dia.	Aluminized Steel Pipe Gauge	Band Gauges	Band Widths (")			Hugger Band Widths (")	
			Annular	Helical	Dimpled	Annular	Helical
12-15	16	16	7	12	12	13 1/8	10 1/2
18-24	16	16	12	12	12	13 1/8	10 1/2
30-36	16	16	12	12	12	13 1/8	10 1/2
42	14	16	12	12	NA	13 1/8	10 1/2
48	14	16	24	24	NA	13 1/8	10 1/2
54	14	16	24	24	NA	13 1/8	10 1/2
60	12	16	24	24	NA	13 1/8	10 1/2
66-72	12	16	24	24	NA	13 1/8	10 1/2
78	12	16	24	24	NA	13 1/8	10 1/2
84	12	16	24	24	NA	14 3/4	10 1/2
90-120	12	16	26	26	NA	NA	NA

Culverts larger than 60” in diameter shall have 3” x 1” corrugations.

Polyethylene culverts shall be double walled and meet the requirements of AASHTO M-294-901, Type S.

The intake ends of culverts in fills less than 3 feet shall be marked by driving white fiberglass posts within 6 inches of the downgrade side. Posts shall be a minimum of 6 feet long and 2 ½ inches wide, with the spade driven 2 feet into the ground.

Tamping is required.

All removed culverts shall be hauled to an approved refuse site off of STATE land.

EXHIBIT E

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	MATERIAL TYPE	ROAD SEGMENT POINT TO POINT	STATION
1	18	40	CPP	1A to 1B	0+00
2	18	30	CPP	1C to 1D	0+00
3	18	40	CPP	1C to 1D	3+95
4	18	30	CPP	1C to 1D	7+55
5	18	30	CPP	1C to1D	11+25
6	24	34	CPP	1K to 1L	3+80
7	18	30	CPP	2A to 2B	9+30
8	18	40	CPP	4A to 4B	1+60
9	18	34	CPP	4A to 4B	9+50
10	18	30	CPP	4E to 4F	4+90
11	18	40	CPP	4G to 4H	1+90

EXHIBIT F

ROCK PIT DEVELOPMENT AND USE

(1) PURCHASER shall schedule and coordinate Sterling Ridge Quarry and stockpile use with other existing STATE contracts and planned STATE contracts requiring quarry and stockpile use.

(2) PURCHASER shall prepare a written development plan for the pit area. The plan shall be submitted to STATE for approval prior to conducting any operation in the pit area. The plan shall include, but not be limited to:

- (a) Location of benches and roads to benches.
- (b) Disposal site for debris and overburden.
- (c) Time lines for rock quarry use.
- (d) Erosion Control measures.

(3) PURCHASER shall conduct the operations relative to the disposal of waste material in such manner that silt, rock, debris, dirt, or clay shall not be washed, conveyed, or otherwise deposited in any stream.

(4) PURCHASER shall notify STATE 5 days prior to the start of quarry development activities.

(5) Clear and grub the rock source area. Strip overburden from the rock source area. All overburden shall be moved to the designated waste areas shown in Exhibit F, and as directed by STATE. Waste material shall be spread evenly on the site, sloped and compacted for drainage.

(6) Controlled blasting techniques shall be utilized for any blasting operations, and shall be accomplished using timing devices, delayed charges, low intensity shots, or other suitable means to contain as much material as possible within the quarry development area. PURCHASER shall maintain a comprehensive blasting log that contains all pertinent data for all blasting operations. The blasting log shall be submitted to the STATE after the completion of all blasting activity. The blasting log is intended for STATE record keeping purposes only.

(7) Benches shall be constructed at intervals of 40 feet or less in height and shall be a minimum of 20 feet in width. Any gravel or talus slopes shall be left with a working face at an angle of 60 degrees or less. Said bench shall be easily accessible with tractors.

(8) Pit face shall be developed in a uniform manner.

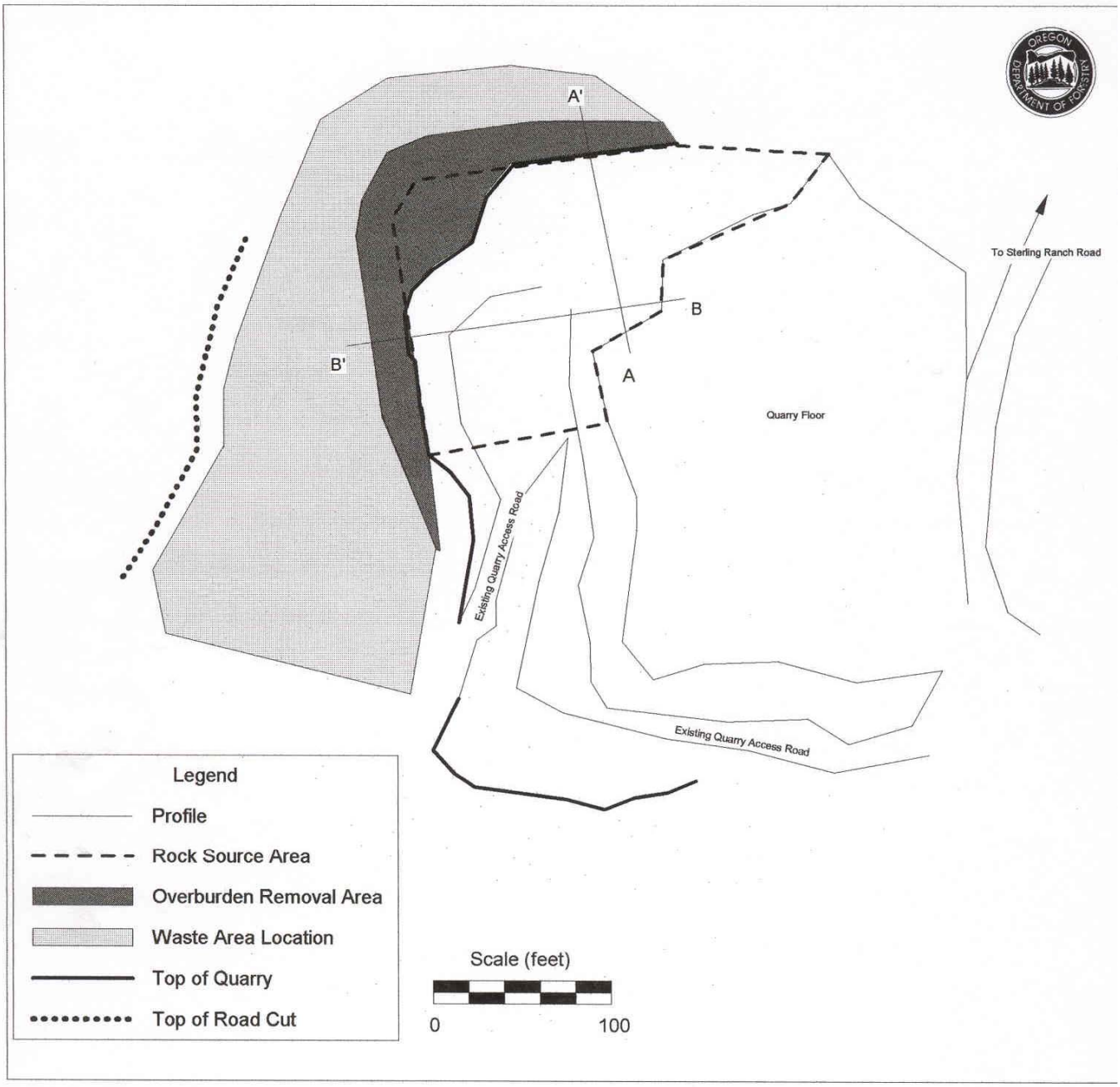
(9) Oversized material that is produced or encountered during development shall be broken down and utilized for crushing.

(10) The pit site shall be left in a condition free from overburden and debris. Access roads to the pit, and the pit floor, shall be cleared at the termination of use. Overburden shall be removed for a distance of 20 feet beyond the developed rock source.

(11) The quarry floor shall be developed to provide for drainage away from the quarry. All quarry and stockpile site drainage ditches shall be maintained. Quarry access roads shall be cleared and blocked upon completion of quarry use as directed by STATE.

(12) Proper winterization and storm-water control measures such as waterbarring, drainage, utilization of filter bales, mulching and/or blocking access shall be constructed and maintained to protect the watershed and project work, as directed by STATE.

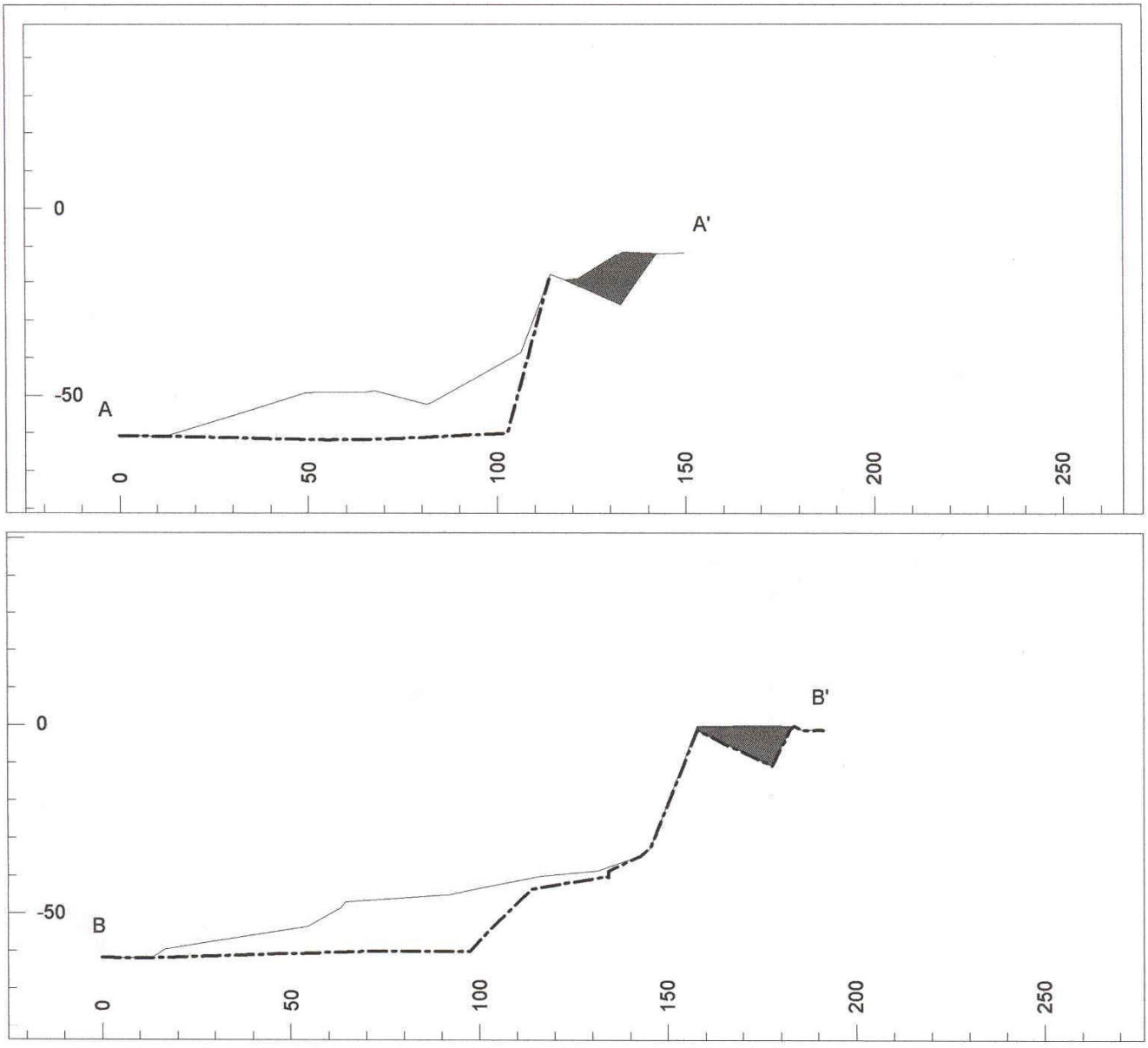
EXHIBIT "F"
ROCK PIT DEVELOPMENT AND USE



Oregon Department of Forestry
Astoria District
Engineering Unit

Sterling Ridge Quarry
SW1/4, Section 23, T4N, R7W, W. M.
Clatsop County, Oregon

EXHIBIT "F"
ROCK PIT DEVELOPMENT AND USE



Legend
Original Ground
Planned Development
Overburden Removal

Oregon Department of Forestry
Astoria District
Engineering Unit

Sterling Ridge Quarry
SW1/4, Section 23, T4N, R7W, W. M.
Clatsop County, Oregon

EXHIBIT G

ROCK SPECIFICATIONS

Materials. The material shall be fragments of rock or other hard, durable particles crushed to the required size and a filler of finely crushed stone, sand, or other finely divided mineral matter. The material shall be free from vegetation and lumps of clay. STATE may require screening and/or rejecting of materials utilized for production of ¾"-0" and 2"-1" crushed rock for the purpose of removing excess dirt.

Quality and Grading Requirements. The stone base materials shall be crushed rock, including sand. River gravel shall not be used.

The material from which base material is produced or manufactured shall conform to the general requirements of Section 2630 of the "Standard Specifications for Highway Construction" prepared by the Highway Division, Oregon Department of Transportation, and shall meet the following test requirements:

Hardness - Test Method AASHTO T 96 35% Maximum

Durability - Test Method OSHD Standard
Passing No. 20 Sieve: 30% Maximum
Sediment Height: 3" Maximum

For 3/4"-0"	Passing	1" sieve	100%
	Passing	3/4" sieve	90-100%
	Passing	3/8" sieve	55-75%
	Passing	1/4" sieve	40-60%

Of the fraction passing 1/4" sieve, 40% to 60% shall pass the No. 10 sieve.

For 2"-1"	Passing	2½" sieve	100%
	Passing	2" sieve	90-100%
	Passing	1½" sieve	35-70%
	Passing	1" sieve	0-15%
For 4"-0"	Passing	5" sieve	100%
	Passing	4" sieve	90-100%
	Passing	2" sieve	60-90%
	Passing	1/4" sieve	15-35%

The referenced sieve shall have square openings as set forth in AASHTO M 92, Woven Cloth Series. The determinations of size and gradings shall be as set forth in AASHTO T 27.

PIT-RUN ROCK SPECIFICATIONS

For 6"-0" Pit-Run	Passing	10" sieve	100%
	Passing	6" sieve	65%

Control of gradation shall be by visual inspection by STATE.

EXHIBIT H

ROAD VACATING AND FILL REMOVAL SPECIFICATIONS FOR POINT V1

PROJECT REQUIREMENTS AND GENERAL SPECIFICATIONS

(1) Tree Removal. Cut or remove all trees necessary to access the project area and to facilitate vacating operations, as directed by STATE. Timber shall NOT be removed as designated timber, unless located within posted timber sale boundaries or right-of-way boundaries.

(2) Fill Removal and Stream Channel Development. Remove fills to the natural stream course level(s). Stream channel(s) shall be excavated/developed to specified widths. Developed stream banks shall be sloped at natural contours or no steeper than 1 ½:1, as directed by STATE.

(3) Culvert Removal. Remove drainage structures and culverts. Removed culverts shall be hauled to an approved refuse site off of STATE Land.

(4) Use of Excavated Materials.

(a) Fill Excavation and Sidecast Pullback. Excavated materials shall be placed on the interior (cut) side of the road, and utilized to restore the cutslope to natural contours, or to a minimum 10% outsloped surface for drainage. Excavated materials shall be placed and compacted a minimum of 10 feet from the top of the developed stream bank. Any excess material will be hauled to a designated waste area, as directed by STATE.

(b) Woody Debris may be incorporated in embankment material.

(c) Block Roads. Use excavated material from fill removals to block roads from vehicle access, as directed by STATE.

(5) Erosion Control. All excavated material and bare soil shall utilize grass seed and straw mulch approved by STATE and in accordance with the specifications in Exhibit K. Applied mulch shall be a minimum of 2 inches deep and provide a uniform cover.

(6) Construct Waterbars as directed by STATE. Construct waterbars according to the specifications in Exhibit J.

(7) Equipment. A minimum 1 ½ cubic-yard, track mounted excavator shall be used for all excavation, culvert removal, streambed preparation, road blocking, and waterbarring, unless otherwise approved in writing by STATE. Oil spill response materials shall be on site before work begins.

(8) Dry Conditions. All work shall be performed during dry conditions acceptable to STATE.

(9) De-Watering. A de-watering plan must be developed, submitted, and approved prior to beginning work.

FPA Written Plan. STATE has prepared the required FPA Written Plan for this work and the Plan is on file at the Astoria District, Oregon Department of Forestry. Fill removal, stream channel development, and/or in-stream work shall be conducted between July 1 and August 31, annually.

SPECIFIC INSTRUCTIONS/SPECIFICATIONS

Point	Work Description
V1	Point V1. Type F stream fill/culvert removal. Develop a minimum 20-foot wide stream channel. Excavated fill material shall be placed on the interior (cut) side of the existing road on both sides of the fill, as directed by STATE.

EXHIBIT I

STREAM ENHANCEMENT INSTRUCTIONS

GENERAL INSTRUCTIONS

(a) Work shall be conducted only during periods of low water flows and between July 1 and August 31, annually, unless otherwise approved in writing by STATE. STATE shall be notified a minimum of 48 hours prior to beginning work.

(b) Stream crossings will be limited to those necessary to access the sites and whenever possible equipment will operate from the banks to minimize stream disturbance. Turbidity shall not exceed 10% above natural stream turbidities as a result of work. The turbidity may be exceeded for a limited duration (per OAR 340-41), provided all practicable erosion control measures have been implemented. Oil spill response materials will be on site before work begins.

(c) Trees required for stream enhancement work shall be obtained from locations along the road, as marked in the field, or at other locations acceptable to STATE. Trees are marked with an orange painted "S."

(d) Trees shall be uprooted, cut to length, and delivered to the project site, as directed by STATE. Trees will be transported by log truck, or other means so that roads are not damaged (i.e. trees cannot be dragged on road surface).

(e) Access routes will be selected to minimize disturbance to the riparian area, and equipment transporting trees to the sites will take care to avoid damage to existing in-stream logs, riparian or other trees**.** Trees that are cleared to gain access will be placed in the creek or used to block access trails.

(f) A minimum 1½ cubic-yard, track-mounted excavator shall be used for all placement.

(g) All areas of bare or disturbed soils shall be seeded with an approved grass seed mix. Fertilizer shall not be used. All access trails will be thoroughly blocked to prevent access using large woody debris or boulders, water barred, de-compacted, and mulched upon completion, as directed by STATE.

SPECIFIC INSTRUCTIONS

Location	Work Description
Site No. 1	Materials: Three trees with a DBH of at least 18 inches and at least 40 foot long with attached root wads, and two logs with a diameter of at least 16 inches and 40 feet long. The largest diameter portion of five tree tops at least 30 feet long. Work: Immediately upstream from where the culvert is removed place the root wad end of three trees into the stream channel with the tops extending onto the banks. Place the two logs upstream of these trees, with the five tree tops between and around the five previously placed trees.
Site No. 2	Materials: Three trees with a DBH of at least 18 inches and at least 40 foot long with attached root wads, and two logs with a diameter of at least 16 inches and 40 feet long. The largest diameter portion of five tree tops at least 30 feet long. Work: Immediately downstream from where the culvert is removed place the root wad end of three trees into the stream channel with the tops extending onto the banks. Place the two logs upstream of these trees, with the five tree tops between and around the five previously placed trees.

EXHIBIT I

STREAM ENHANCEMENT INSTRUCTIONS

Site No. 3 Materials: Five logs with a diameter of at least 18 inches and at least 45 feet long. The largest diameter portion of five tree tops at least 30 feet long.

Work: Approximately 100 feet downstream of Site No. 2 construct an in-stream log structure using the prescribed materials at site 3, similar to that shown in the attached diagram. Where possible wedge the top of the trees into riparian trees to increase stability. Place the five tree tops between and around the five previously placed trees.

Site No. 4 Materials: Five logs with a diameter of at least 18 inches and at least 45 feet long. The largest diameter portion of five tree tops at least 30 feet long.

Work: Approximately 100 feet downstream of Site No. 3 construct an in-stream log structure using the prescribed materials at site 4, similar to that shown in the attached diagram. Where possible wedge the top of the trees into riparian trees to increase stability. Place the five tree tops between and around the five previously placed trees.

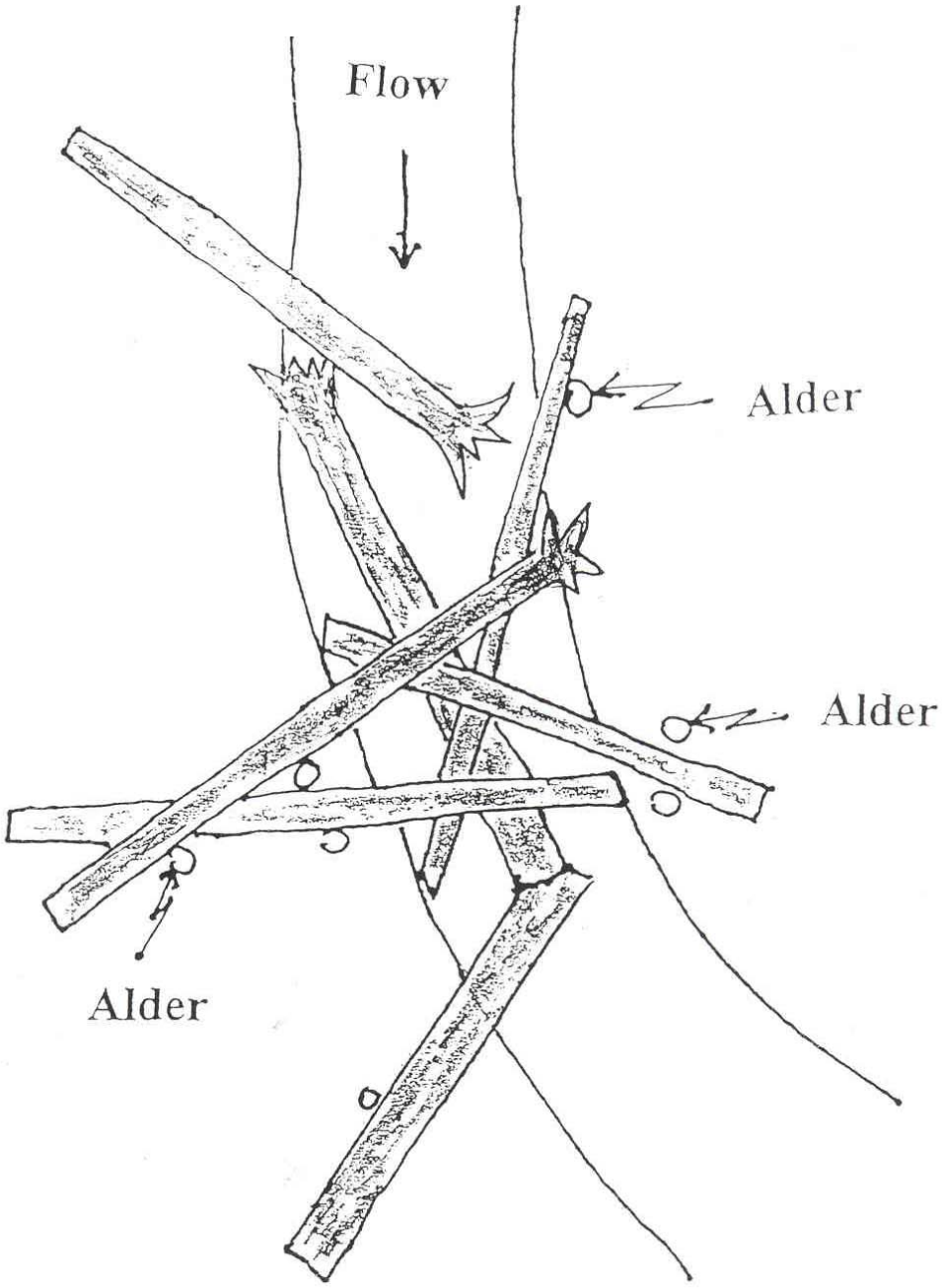
Site No. 5 Materials: Five logs with a diameter of at least 18 inches and at least 45 feet long. The largest diameter portion of five tree tops at least 30 feet long.

Work: Approximately 100 feet downstream of Site No. 4 construct an in-stream log structure using the prescribed materials at site 5 similar to that shown in the attached diagram. Where possible wedge the top of the trees into riparian trees to increase stability. Place the five tree tops between and around the five previously placed trees.

EXHIBIT I

STREAM ENHANCEMENT INSTRUCTIONS

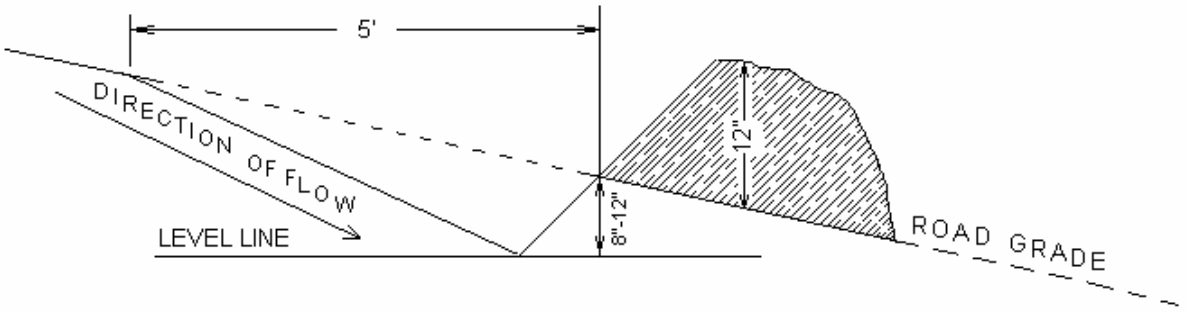
Example Of Placement For Typical In-stream Structure



State Timber Sale Contract
No. 341-05-27
Sheep Shack

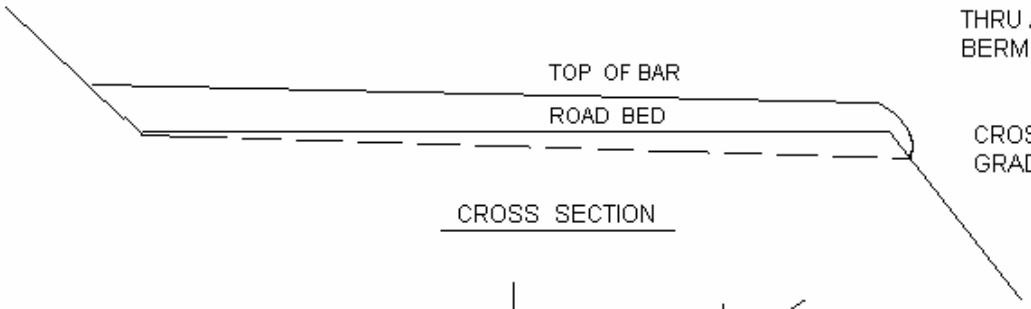
EXHIBIT J

WATERBAR SPECIFICATIONS



PROFILE

CONSTRUCT DITCH THRU ANY EXISTING BERM.

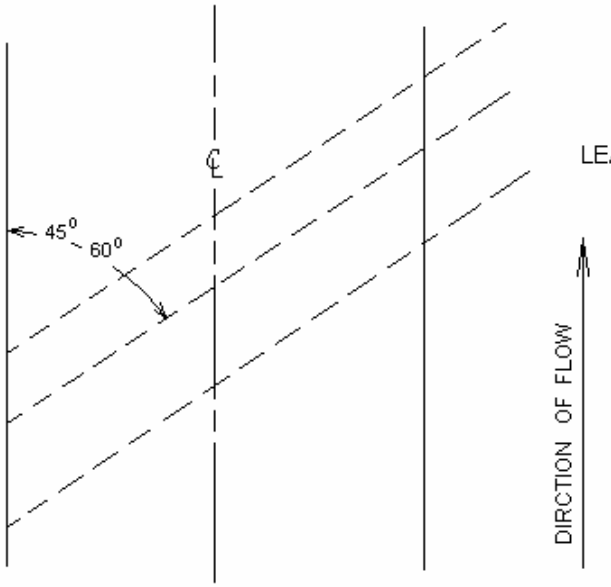


CROSS DRAINAGE GRADIENT MINIMUM 3%

CROSS SECTION

SPACING OF WATERBARS:

AS DIRECTED BY STATE.



PLAN VIEW

WATERBAR SPECIFICATIONS
FOR CROSS DITCHING #298

State Timber Sale Contract
No. 341-05-27
Sheep Shack

EXHIBIT K

GRASS SEEDING AND MULCHING

This work shall consist of furnishing and placing required grass seed, and straw mulch.

Seeding Seasons. Seeding shall be performed only from March 1 through June 15 and August 15 through October 31. Seeding materials shall not be applied during windy weather or when the ground is excessively wet or frozen. Work shall be performed during each specified seeding season on all completed and previously untreated sections. PURCHASER shall notify STATE 24 hours prior to seeding.

Application Methods for Grass Seed

Dry Method. Hand-operated seeding devices may be used when seed is applied in dry form.

Application Rates for Seed

Seed listed below shall be applied at the following rate per acre: 100 lbs.

SPECIES	MIXTURE	PURE LIVE SEED	POISON AND/OR REPELLENT	GERMINATION
Annual Rye	26%	95%	0	>90%
Orchard Grass	25%	95%	0	>90%
New Zealand White Clover	17%	95%	0	>90%
Perennial Rye	15%	95%	0	>90%
Birdsfoot Trifoil	07%	95%	0	>90%
Red Clover	06%	95%	0	>90%
Alsike Clover	04%	95%	0	>90%

Seeding. Apply grass seed to all waste areas and bare soils resulting from Project Nos. 1, 3, and 4.

Mulching. Apply mulch to all waste areas and bare soil resulting from Project Nos. 3 and 4. Straw mulch shall be a minimum of 2 inches deep and provide a uniform cover.

PART IV: OTHER INFORMATION

WRITTEN PLAN

Harvesting

Landowner:
Oregon Department of Forestry
92219 Hwy 202
Astoria, OR 97103
(503) 325-5451

Protected Resources:
The following streams are located in Section 25 of T4N, R7W, and Section 30 of T4N, R6W, W.M., Clatsop County, Oregon.

Area 1 An unnamed Tributary to Rock Creek, is designated as a medium, Type F stream 5 to 10 feet wide, where it runs parallel along the southwestern sale boundary of Area 1 for approximately 665 feet.

Area 2 A small, Type F stream, 2 to 5 feet wide, which is the continuation of the stream in Area 1. It parallels the southern boundary along Area 2 for 2,480 feet.

Area 3 An unnamed Tributary to Rock Creek, is designated as a small, Type F Stream and runs parallel along the northern sale boundary of Area 3 for 2560 feet.

Area 4 A small, Type F stream, 2 to 5 feet wide, which is the upper reaches of the stream that parallels the boundaries of Area 1 and Area 2, runs North for 650 from the southern boundary of Area 4.

Specific Site Characteristics:
Unnamed Tributary to Rock Creek (Area 1, 2, 4): The streambed is approximately 5 to 10 feet wide where it parallels Area 1 and approximately 2 to 5 feet wide thereafter. The stream has a meandering pattern with a relatively low stream gradient. A broad flood plain accompanies the streams active channel. The stream banks are relatively gentle and riparian vegetation is dominantly conifer with intermixed shrubs and grasses.

Unnamed Tributary to Rock Creek (Area 3): A relatively low gradient stream that is approximately 3-10 feet wide with a broad valley flood plain. The stream banks are relatively gentle and riparian vegetation is predominantly red alder with swordfern, shrubs and grasses present.

Tree and Vegetation Retention:
FPA defines the RMA width of a Medium Type F stream as 70 feet and a Small Type F as 50 feet. The timber sale boundary for Areas 1, 2, 3 (partial cuts) are posted at least 100 feet from the Type F streams. The Type F buffer zone in Area 4 is posted with buffer zone tags at a distance of 100 feet. There are several Type N streams throughout the sale area that are tributaries to these streams. These Type N streams have 25 feet unposted stream buffers.

Practices:
Along all of the above mentioned streams, as well as any live streams, the following practices are required, under the timber sale contract, to protect the streams and streamside areas:

- No trees will be felled within stream buffers (RMA's).
- Trees adjacent to the stream buffers (RMA's) will be felled away from or parallel to the streams to prevent trees from entering the aquatic areas.
- No ground based logging equipment will be permitted within the RMA's nor within 50 feet of any stream.

WRITTEN PLAN

Harvesting

- When cable logging is conducted nearby the RMA's, logging lines may cross, but will not be lowered into the RMA's during yarding, except during rigging.
- During rigging the lines must be pulled out of the RMA's when changing corridors.

I, the undersigned, submit this written plan in compliance with the requirements in the Forest Practices Act regarding the operations conducted within 100 feet of Type F streams. I agree to the protection measures listed on this plan:

Submitted: _____ Date: _____
Purchaser/Operator Contract Representative

Attachment: Logging Plan Map

State Timber Sale Contract
No. 341-05-27
Sheep Shack

WRITTEN PLAN

Fill Vacating

Landowner:
Oregon Department of Forestry
92219 Hwy 202
Astoria, OR 97103
(503) 325-5451

Protected Resources:
An unnamed Rock Creek tributary, which is designated as a Medium Type F stream, is located within 100 feet of the road vacating project, Point V1, in Section 30, T4N, R6W, W.M., Clatsop County, Oregon. A written plan is required for activities within 100 feet of a Type F stream.

Situation:
Transportation planning has identified an opportunity to relocate a portion of the existing road. The Type F Stream Crossing will be vacated and put to bed. Road fill, approximately 9 feet deep, will be removed and the stream channel restored. Removal of trees and vegetation will be minimized in order to protect riparian resources. Further detailed work specifications for this project are included as Project No. 3 of the Sheep Shack Thinning Timber Sale Contract shown/described in Exhibits A, H, and K.

Practices:
- Work will be performed only during dry weather periods, low water stream flows, and between May 1 and August 31, 2005. In addition, in-stream work will be conducted between July 1 and August 31, annually.
- Machine activity in stream channels will be minimized. All excavation and fill removal will be performed using a minimum 1 ½ cubic-yard track-mounted excavator.
- Disturbance to existing vegetation will be minimized. Trees removed within the RMA will not be removed as designated timber and will be left on-site, in stable locations.
- Excavated fill materials will be used for recontouring slopes or placed in approved waste areas and left in a stable condition.
- Bare soils shall be grass seeded and/or mulched with a straw mulch approved by State. Applied mulch shall be a minimum of 2 inches deep and provide a uniform cover.
- De-watering of existing fills and development of the stream channel will be accomplished by use of coffer dams, temporary diversion ditches, or drainage structures and/or damming and pumping.

I, the undersigned, submit this written plan in compliance with the requirements in the Forest Practices Act regarding the operations conducted within 100 feet of Type F streams. I agree to the protection measures listed on this plan.

Submitted: _____ Date: _____
Purchaser/Operator Contract Representative

Attachment: Project Map