

PART III: EXHIBITS

State Timber Sale Contract
No. 341-12-37
Alder Joy

EXHIBIT B

Page 1 of 3
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.: 341-12-37

(2) Sale Name: Alder Joy

(3) Contract Expiration Date: October 31, 2014

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
OPERATIONS PLAN

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.

-  Cable landing, with numbers for sequence.
-  Tractor landing with alphabetical sequence.
-  Approximate setting boundary.
-  Spur truck roads.
-  Tractor yarding roads.
-  Temporary stream crossings.

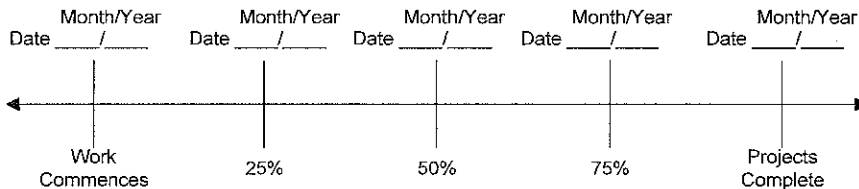
Original: Salem
cc: District File

EXHIBIT B
 OPERATIONS PLAN

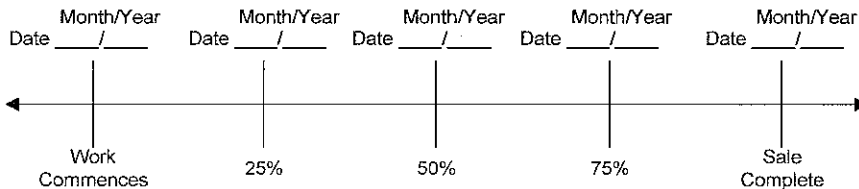
Completion Timeline

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. The STATE's approval of this plan does not certify that the PURCHASER's operation under the plan is lawful under the federal ESA. As provided in the timber sale contract, PURCHASER's 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: _____

SUBMITTED BY:
 PURCHASER

STATE OF OREGON - DEPARTMENT OF FORESTRY

Title _____

Title _____

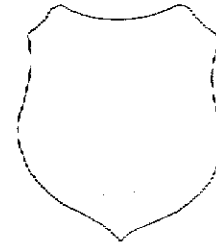
Original: Salem
 cc: District File
 Purchaser

EXHIBIT C – SAWMILL GRADE

SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

- (1) ORIGINAL REGISTRATION Date _____
 REVISION NUMBER _____ Date _____
 CANCELLATION Date _____
- (2) TO: _____
 (Third Party Scaling Organization)
- (3) FROM: Tillamook (06) Phone (503) 842-2545
 (State Forestry District)
 Address 5005 3rd Street, Tillamook, OR 97141
- (4) PURCHASER: _____
 Mailing Address: _____
 Phone Number: _____

- (13) SALE NAME: Alder Joy
 COUNTY: Tillamook
- (14) STATE CONTRACT NUMBER: 341-12-37
- (15) STATE BRAND REGISTRATION NUMBER _____
- (16) STATE BRAND INFORMATION (COMPLETE):



(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 (19).

- (6) WESTSIDE SCALE: YES NO
 Use Region 6 actual taper rule. Logs over 40'.
- (7) EASTSIDE SCALE: YES NO
 Use Region 6 actual taper rule. Logs over 40'.
- (8) Weight Scale Sample YES NO
 (6) – (8), pink log load receipts
- (9) Weight Sale YES NO
- (10) Per Load YES NO
 (9) and (10), yellow log load receipts

- (17) PAINT REQUIRED: YES
 COLOR: Orange

(18) SPECIAL REQUESTS (Check applicable)	
PEELABLE CULL (all species)	<input checked="" type="checkbox"/>
NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE	<input checked="" type="checkbox"/>
PENCIL BUCK	<input type="checkbox"/>
ADD-BACK VOLUME - Deductions due to delay	<input checked="" type="checkbox"/>
OTHER: _____	

(19) REMARKS _____

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

(11) APPROVED SCALING LOCATIONS <small>(as shown on the ODF Approved Locations web-site)</small>	Species	Yard		Truck	Weight

(20) SIGNATURES:

 Purchaser or Authorized Representative Date

 State Forester Representative Date

 State Forester Representative PRINT NAME

- (12) NOTICE OF CANCELLATION OF BRAND:
 Effective 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.

EXHIBIT C-- SAWMILL GRADE
INSTRUCTIONS FOR FORM 343-307 (rev. 01/09)

- (1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires Item (12). Complete date.
- (2) Designate Third Party Scaling Organization (TPSO).
- (3) State District office, address and phone.
- (4) Enter Purchaser's business name, address, and phone number 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 (16) thru (18)), and is required to show existence on the sale. **SUM** (lump sum material). **SUB** (sub-merchantable 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 (Per MBF) entries. Per MBF, SUM, and SUB must be indicated by checking the appropriate column. Species with the same specifications and value are combined into one entry. Per MBF 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, Per MBF and/or subspecies will always be scaled.
- (6) Westside – Region 6 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 -- Region 6 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 (Northwest Log Rules Eastside). Items with follow U.S. Forest Service Eastside rules.
- (8) Weight Scale Sample – Check box if sale is to be a Weight Scale Sample. All specifics for handling, scaling and processing will be attached or explained in the Remarks section Item (19).
- (9) Weight Sale – Check box if sale is to be sold as a weight sale. Processing procedures from approved locations to TPSO's will be explained in the Remarks section of Item (19).
- (10) Per Load – Check box if volumes on sale are per load. Specific instructions for handling and processing will be fully explained in the Remarks section of Item (19).
- (11) Show scaling locations only applicable to TPSO. Location name should appear as it does on the ODF Approved Scaling Location web site: http://www.odf.state.or.us/DIVISIONS/management/asset_management/ScalingLocation.asp Locations with scaling and processing directions specific to their location should be on a separate form. Species should be identified if not capable of receiving "all" species. Check appropriate box for either: yard, truck scale, or weight. Refer to the web site listed above for the locations approval status.
- (12) When logging and hauling is complete, recall branding hammers, date and sign where indicated, check CANCELLATION box in Item (1), and send to TPSO.
- (13) Enter sale name and county.
- (14) Enter sale Contract number.
- (15) Enter Oregon's State Brand Registry Number **(REQUIRED)**.
- (16) Show brand assigned to timber sale. One brand only. 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) in the Remarks section Item (19).
- (17) Check yes for Paint Required and designate "Orange" for color. Non required removal volumes may sometimes require blue paint.
- (18) Special Requests. These are requests that will be applied to ODF timber sales. All boxes applicable to the timber sales designated in the Exhibit C form must be "marked". If "Other" is indicated, it must contain a description and any necessary comments.
- (19) Use this space to designate any weight conversion factors, per load volumes, weight scale sample instructions or any other explanations to clarify scaling, processing and/or mailing requirements. If additional scaling locations are approved, revise original or current form showing all (old and new) locations. Check REVISION box at top of form and explain under remarks. Route as indicated.
- (20) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form.

Salem Distribution Instructions: Original will be mailed to Salem after it is electronically scanned and e-mailed directly to the State Forests Program/Asset Management Unit to both Timber Revenue Specialists. Scaling instructions for each brand should be scanned separately, for each approved TPSO.

Distribution (See specific instructions on pg. 2): ORIGINAL: Salem / **COPIES:** TPSO, Approved Scaling Location, Purchaser, District, Mgmt. Unit

EXHIBIT C – PULP SORT

SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

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

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

(3) FROM: Tillamook (06) Phone (503 842-2545)
 (State Forestry District)
 Address 5005 3rd Street, Tillamook, OR 97141

(4) PURCHASER: _____
 Mailing Address: _____
 Phone Number: _____

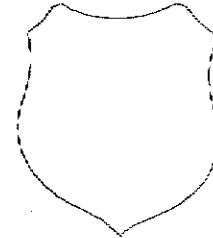
(13) SALE NAME: Alder Joy

COUNTY: Tillamook

(14) STATE CONTRACT NUMBER: 341-12-37

(15) STATE BRAND REGISTRATION NUMBER _____

(16) STATE BRAND INFORMATION: (COMPLETE BELOW)



(17) PAINT REQUIRED: YES
 COLOR: Blue

(5) MINIMUM SCALING SPECIFICATIONS			CLASS		
SPECIES	SCALING DIAMETER INCHES	NET SCALE VOLUME	PER MBF	SUM	SUB
Conifer Pulp	By Weight				X
Hardwood Pulp	By Weight				X

Apply minimum volume test to whole logs over 40' Westside; 20' Eastside.

Sum (if indicated): see instructions and explain in Item (19).

(6) WESTSIDE SCALE: YES NO
 Use Region 6 actual taper rule, Logs over 40'.

(7) EASTSIDE SCALE: YES
 Use Region 6 actual taper rule, Logs over 40'.

(8) Weight Scale Sample YES
 (6) – (8), pink log load receipts

(9) Weight Sale YES

(10) Per Load YES
 (9) and (10), yellow log load receipts

(11) APPROVED SCALING LOCATIONS (as shown on the ODF Approved Locations web-site)	Species	Yard	Truck	Weight

(18) SPECIAL REQUESTS (Check applicable)

PEELABLE CULL (all species)

NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE

PENCIL BUCK

ADD-BACK VOLUME - Deductions due to delay

OTHER: Convert weight to MBF using a factor of 10 tons per MBF

(19) SPECIAL PROCESSING INSTRUCTIONS: Pulp logs shall be weighed in lieu of scaling. Tons shall be short tons or 2,000 lbs. (1) Weigher will attach a machine printed weight ticket to the scaler receipt part of the STATE Log Load Receipt and mail them weekly to the approved Third Party Scaling Organization (TPSO). (2) The TPSO shall notify the Tillamook District immediately if the above requirement are not met.

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

(20) SIGNATURES:

Purchaser or Authorized Representative _____ Date _____

State Forester Representative _____ Date _____

State Forester Representative PRINT NAME _____

(12) NOTICE OF CANCELLATION OF BRAND:
 Effective 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.

EXHIBIT C- PULP SORT
INSTRUCTIONS FOR FORM 343-307 (rev. 01/09)

- (1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires Item (12). Complete date.
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- (3) State District office, address and phone.
- (4) Enter Purchaser's business name, address, and phone number 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 (16) thru (18)), and is required to show existence on the sale. **SUM** (lump sum material). **SUB** (sub-merchantable 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 (Per MBF) entries. Per MBF, SUM, and SUB must be indicated by checking the appropriate column. Species with the same specifications and value are combined into one entry. Per MBF 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, Per MBF and/or subspecies will always be scaled.
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- (8) Weight Scale Sample – Check box if sale is to be a Weight Scale Sample. All specifics for handling, scaling and processing will be attached or explained in the Remarks section Item (19).
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- (10) Per Load – Check box if volumes on sale are per load. Specific instructions for handling and processing will be fully explained in the Remarks section of Item (19).
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- (12) When logging and hauling is complete, recall branding hammers, date and sign where indicated, check CANCELLATION box in Item (1), and send to TPSO.
- (13) Enter sale name and county.
- (14) Enter sale Contract number.
- (15) Enter Oregon's State Brand Registry Number **(REQUIRED)**.
- (16) Show brand assigned to timber sale. One brand only. 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) in the Remarks section Item (19).
- (17) Check yes for Paint required and designate color being used. Non-required removal volumes may *sometimes* require blue paint.
- (18) Special Requests. These are requests that will be applied to ODF timber sales but are *not* applicable to non-scale materials. Special requests boxes must be "marked" if they apply to the timber sale, designated in the Exhibit C scaling instructions form. If "Other" is indicated, it must contain a description and any necessary comments.
- (19) Use this space to designate any weight conversion factors, per load volumes, weight scale sample instructions or any other explanations to clarify scaling, processing and/or mailing requirements. If additional scaling locations are approved, revise original or current form showing all (old and new) locations. Check REVISION box at top of form and explain under remarks. Route as indicated.
- (20) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form.

Salem Distribution Instructions: Original will be mailed to Salem after it is electronically scanned and e-mailed directly to the State Forests Program/Asset Management Unit to both Timber Revenue Specialists. Scaling instructions for each brand should be scanned separately, for each approved TPSO.

EXHIBIT D
 FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE	DITCH TOP WIDTH (Feet)	DITCH CONFIGURATION (U, V, TRAPAZOID)	DITCH DEPTH FROM SUBGRADE (Feet)
15 feet	12 feet	A to B	0+00 to 17+35	Outslope	--	--	--
14 feet	N/A	C to D	0+00 to 11+00	Outslope	--	--	--
15 feet	12 feet	E to F	0+00 to 9+40	Outslope	--	--	--
15 feet	12 feet	G to H	0+00 to 13+70	Outslope	--	--	--
15 feet	12 feet	I to J	0+00 to 25+00	Outslope	--	--	--
15 feet	N/A	I to J	25+00 to 32+20	Outslope	--	--	--
15 feet	12 feet	K to L	0+00 to 2+20	Outslope	--	--	--
15	As is	M to I	0+00 to 249+00	As is	3	V	1

Only ditched sections of road

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 marked, the "Road Brushing Specifications" in Exhibit D shall apply. 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.

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

GRUBBING. This work shall consist of the removal or digging out of stumps and protruding objects.

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 reconstructions - 4 feet back from the shoulder of the subgrade or the ditch, whichever is widest, or as marked in the field.

Trees outside the clearing limits shall not be felled unless approved in writing by STATE.

Sidecast pullback - From top of pullback to toe of pullback.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

CLEARING AND GRUBBING DISPOSAL Clearing and grubbing debris shall not be left lodged against standing trees and can be scattered through openings in the timber outside of the cleared right-of-way, except in the following areas:

- Where end-haul is required.
- On side slopes exceeding 60 percent or unstable areas.
- Any stream channel (Type F, N, or D) or where they may enter the stream channel.
- Clearing and grubbing debris shall be fully contained and hauled to a designated waste area within these areas.

Clearing and Grubbing disposal shall be completed prior to subgrade approval.

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 backfills. Embankment materials shall be free of woody debris, brush, muck, sod, frozen material, and other deleterious materials. All fills and drainage structure backfills shall be machine compacted according to the specifications in Exhibit E.

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

Ditch. Construct ditch as specified in Exhibit D. Subgrade shall be crowned at 4 to 6 percent. Construct ditchouts away from subgrade at locations marked in the field.

Outslope. Road subgrade shall be outsloped at 4 to 6 percent.

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

Location: Intervisible but not greater than 750 feet.

GRADING

	<u>Back Slopes</u>	<u>Fill Slopes</u>
Rock	Vertical to 1/4:1	Not steeper than 1 1/2:1
Common -	3/4:1	
Common - turnpike (level) section	2:1	

Top of cutslope shall be rounded.

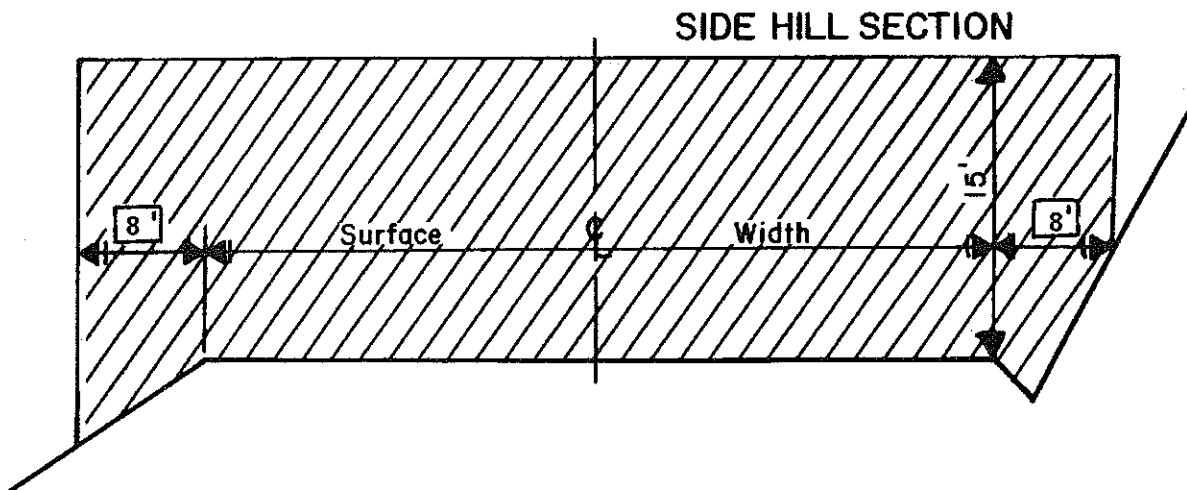
LANDINGS. Landings shall be constructed as posted in the field, no less than (50) feet wide and no more than 70 feet wide. Surface shall be crowned for drainage.

TURNAROUNDS. Increase subgrade width an additional 30 feet for a length of 16 feet with 20' radius returns at locations marked in the field.

EXHIBIT D
ROAD BRUSHING SPECIFICATIONS



Clearing Limits



REQUIREMENTS

Unless otherwise approved in writing by STATE, brush and trees less than 6 inches DBH shall be cut to a height of 6 inches or less above the ground surface or obstructions such as rocks or existing stumps. Brushing on project road segments shall be completed prior to subgrade approval. Trees shall not be felled unless a portion of the bole is within the clearing limits.

Debris resulting from the brushing operation shall be removed from the roadway, cutslope, ditches, and water courses within 72 hours and may be scattered downslope from the road or placed in other stable locations, unless otherwise approved by STATE.

Trees outside the clearing limits shall not be felled unless approved in writing by STATE.

EXHIBIT D

END-HAULING REQUIREMENTS

POINT TO POINT	STA. TO STA.
A to B	0+00 to 17+35
C to D	0+75 to 3+15
C to D	6+40 to 9+00
M to I	42+30 to 246+00

Ditch line material, bank slough and woody debris removal

End-Haul Areas General Requirements

Material shall not be intentionally side cast.

Clearing and grubbing debris shall be end-hauled.

When blasting is required, it shall be accomplished using timing devices, delayed charges, low intensity shots, or other suitable means to contain all material within the road prism.

Containment

Full containment: The amount of material lost over the outside edge of the road shall not exceed 6 inches in depth measured perpendicular to the natural ground slope. Pioneer excavation shall be removed by digging, loading, and hauling rather than by pushing or scraping methods.

Tree bases and stumps may have up to 12 inches of material directly above them. Any amount of material exceeding the containment requirements shall be removed by whatever means necessary and end-hauled to a designated waste area.

Waste Area Location

As shown on Exhibit A and as marked in the field.

Waste Area Treatment

Deposit at waste area, spread evenly, compact, and provide adequate drainage. Pile woody debris separate from other waste material.

EXHIBIT E
 ROAD SURFACING

ROAD SEGMENT: A to B			STATIONS: 0+00 to 17+50						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per		Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 4"-0"	0+00 to 17+50	9 "	station	47.429	17.50	40	870	
Turnouts	Crushed 4"-0"	A to B	9 "	TO	20	3		60	
Turnarounds	Crushed 4"-0"	17+00	9 "	TA	30	1		30	
Application	Rock Size and Type	Location	Approx. Total (CY)						
Landing Rock	Crushed 4"-0"	17+50	100						
ROAD SEGMENT: E to F			STATIONS: 0+00 to 9+40						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per		Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 4"-0"	0+00 to 9+40	9 "	station	47.872	9.40	30	480	
Turnouts	Crushed 4"-0"	E to F	9 "	TO	20	2		40	
Turnarounds	Crushed 4"-0"	8+00	9 "	TA	30	1		30	
Application	Rock Size and Type	Location	Approx. Total (CY)						
Landing Rock	Crushed 4"-0"	9+40	100						
ROAD SEGMENT: G to H			STATIONS: 0+00 to 13+70						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per		Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 4"-0"	0+00 to 13+70	9 "	station	47.445	13.70	30	680	
Turnouts	Crushed 4"-0"	G to H	9 "	TO	20	2		40	
Turnarounds	Crushed 4"-0"	13+50	9 "	TA	30	1		30	
Application	Rock Size and Type	Location	Approx. Total (CY)						
Landing Rock	Crushed 4"-0"	13+70	100						
ROAD SEGMENT: I to J			STATIONS: 0+00 to 25+00						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per		Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 4"-0"	0+00 to 25+00	9 "	station	47.600	25.00	60	1,250	
Turnouts	Crushed 4"-0"	I to J	9 "	TO	20	4		80	
Turnarounds	Crushed 4"-0"	25+00	9 "	TA	30	1		30	

EXHIBIT E
 ROAD SURFACING

ROAD SEGMENT:		K to L		STATIONS:		0+00 to 2+20			
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per	Number of Units	Curve Widening (CY)	Approx. Total (CY)		
Road Rock	Crushed 4"-0"	0+00 to 2+20	9 "	station 50,000	2.20	10	120		
Application	Rock Size and Type	Location	Approx. Total (CY)						
Landing Rock	Crushed 4"-0"	2+20	70						
Junction Rock	Crushed 4"-0"	0+00	30						
ROAD SEGMENT:		M to I		STATIONS:		0+00 to 249+00			
Application	Rock Size and Type	Location	Approx. Total (CY)						
Spot Rock	Crushed 2 1/2"-0"		90						
ROAD SEGMENT:		M to N		STATIONS:					
Application	Rock Size and Type	Location	Approx. Total (CY)						
Blocking	Riprap 48"-24"		60						

Rock Totals (CY):	
4"-0"	4,140
2 1/2"-0"	90
Rip Rap	60

Roads shall be uniformly graded and approved by STATE prior to rocking.

Additional rock for curve widening is required and has been included in the volume estimates.

Turnouts, turnarounds, landings and junctions shall be rocked concurrently with the road.

End-dumping of riprap shall not be allowed, unless otherwise approved in writing by STATE.

Any additional turnarounds or turnouts created during any operation associated with this timber sale shall be rocked at PURCHASER's expense and as instructed by STATE.

Roads shall be uniformly graded and approved by STATE prior to rocking. For typical cross section, turnout and turnaround see Forestry Department Drawing Nos. 351-C, 351-D and TOTA-1 at the Forestry Department district office.

EXHIBIT E

CRUSHED ROCK SPECIFICATIONS

Materials. The material shall be well graded and consistent.

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

If material is specified as durable, it must meet the following test requirements:

Hardness - Test Method AASHTO T 96: 30% Maximum.

Durability - Test Method ODOT TM 208.
Passing No. 20 Sieve: 30% Maximum.

CRUSHED ROCK SPECIFICATIONS

For the purpose of crushing rock specified under the projects in Section 2610, "Project Work," PURCHASER shall utilize a single stage rock crusher, or equivalent, unless otherwise approved by STATE.

The rock crusher shall be calibrated to produce rock as specified in Exhibit E. Prior to the commencement of production crushing, PURCHASER shall sample, test, and provide rock test results meeting STATE specifications. STATE may then sample and test crushed rock for approval to proceed. PURCHASER shall take one sample of each 1,000 cubic yards of crushed rock material produced thereafter, using approved AASHTO sampling procedures. PURCHASER shall submit samples to a certified laboratory or shall perform testing for gradation requirements using AASHTO T 11 and AASHTO T 27 testing procedures. Prior to testing, each sample shall be split, making one-half of the sample, with proper identification, available for testing by STATE. Each sample and the results of PURCHASER testing shall be made available to STATE within 24 hours of sampling. Any rock crushed prior to STATE approval to proceed shall not be credited to the required rock quantity. Any subsequent rock tests not meeting STATE specifications shall be reason for rejection of that portion of crushed rock produced after that test and shall not be credited to the required rock quantity. STATE may sample the crushed rock at any time during the operation. Results of STATE's tests shall prevail over all other test results.

EXHIBIT E

CRUSHED ROCK SPECIFICATIONS

Sieve size	Percent Passing
	4 inch
4	95-100
2	70-90
1	50-70
1/4 or #4	15-50
#10	0-30
#40	0-10

48" -- 36" Riprap

50% or more of the rock shall be at 48 inches in one dimension. 100% of the rock shall be at least 36 inches in one dimension.

Control of riprap gradation shall be by visual inspection by STATE.

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.

ROCK ACCOUNTABILITY

PURCHASER shall obtain STATE approval for subgrades 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.

Rock accountability shall be determined by depth measurement. STATE shall be given 24 hours' notice prior to rocking.

Depth Measurement. Road rock shall be spread and compacted according to the depths specified in Exhibit E. 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 E. The average depth for each road segment shall be the specified depth or greater.

Junctions shall have a surfaced area as marked in the field at the compacted depths specified in Exhibit E.

Turnouts shall have a surfaced area of at least 44 square yards each at the depths shown in Exhibit E.

Turnarounds shall have a surfaced area of at least 73 square yards each at the depths shown in Exhibit E.

Landings shall have a minimum surfaced area of at least 314 square yards each at the depths shown in Exhibit E.

Curve Surfacing. Extra surface width shall be required for the inside of all curves as follows: 400 divided by the radius of the curve equals the amount of extra width to be surfaced at the depths shown in Exhibit E.

EXHIBIT E

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 sheepfoot roller, the roller "walks out." At least 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 the approved equipment listed below or others approved by STATE.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
A to B, C to D, E to F, G to H, I to J and K to L	Vibratory Roller

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 sheepfoot roller, the roller "walks out." At least 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 the approved equipment listed below or others approved by STATE:

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
I to J	Crawler Tractor

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 6 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 the approved equipment listed below or others approved by STATE:

Rock shall be compacted and processed during the same project period it is spread, unless otherwise approved in writing by STATE.

Rock shall be crowned at 4 to 6 percent unless otherwise specified.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
A to B, E to F, G to H, I to J and K to L	Vibratory Roller

EXHIBIT E

COMPACTION EQUIPMENT OPTIONS

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 miles to 1.8 miles per hour, as directed by STATE.

Vibratory Compactors. Vibratory compactors shall consist of multiple or gang type compacting units or pads with a minimum variable width of 2 feet. It shall be self-contained and capable of compacting material as required.

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.

Rock Trucks. Rock spreading shall begin at the nearest point to the rock source and progress toward the end of the project. Rock trucks shall be routed over the entire cross section of rock layers.

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.

Grid Rollers. Pit-run rock shall be processed by grid rolling with a Hyster Grid Roller Model D or equivalent, fully equipped with 32,000 pounds or more of ballast weights. Twenty passes shall be made with a grid roller over the entire length and width of the road, unless STATE requires fewer passes. A grader weighing at least 20,000 pounds shall work the pit-run surface during grid rolling so that all pit-run rock comes in contact with the grid roller. Grid rolling shall be performed when the subgrade is dry and firm. Road surface shall be uniformly shaped and graded prior to and during grid rolling.

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. A minimum of 10 passes shall be made with the grader and vibratory grid compactor over the entire length of the road, unless STATE requires fewer passes.

Crawler Tractors. D-7 Caterpillar or equivalent or larger.

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.

EXHIBIT F

ROCK PIT DEVELOPMENT AND USE

- (1) 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. All waste shall be deposited at an approved "waste disposal site."
- (2) Where overburden removal limits have not been marked, they shall extend for a distance of at least 20 feet beyond the developed rock source. Overburden removal limits, when marked, are designated by orange right-of-way boundary tags. Overburden and woody debris shall be hauled to a designated waste area. All merchantable timber shall be felled and decked. Overburden shall be spread evenly, grass seeded, and compacted at the waste area and woody debris stacked separately. Prior to drilling or rock removal, completion of overburden removal shall be approved in writing by STATE.
- (3) The rock pit floor shall be developed to provide drainage away from the rock pit. Rock pit drainage ditches shall be developed and maintained. 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. There shall be a minimum of 1 bench with an access road to it. All benches shall have an access road to them. Said benches shall be easily accessible with tractors. All accesses and benches shall be left free and clear of unused shot rock material and dirt. Unused shot rock material shall be piled in pit area designated by STATE. Dirt (overburden) shall be hauled to designated waste area.
- (4) The STATE shall be notified two working days prior to the beginning of drilling operations. Working days shall be defined as Monday through Friday, 6:00 a.m. to 2:30 p.m.
- (5) 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 all material in the rock pit prism (full containment). Each low intensity shot shall be shot into the previous shots' void in order to contain all the material in the rock pit prism. Each shot shall also have a "tattle-tale" end cap so that it is known if all charges were detonated. The purchaser shall detonate or remove all non-detonated explosives from STATE LANDS. PURCHASER shall maintain a comprehensive 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.
- (6) Pit face shall be developed in a uniform manner.
- (7) Oversized material that is produced shall be piled in the vicinity of the pit. It shall not be wasted.
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.
 - (e) Oversized material location.
- (9) PURCHASER shall schedule and coordinate quarry and stockpile usage with other existing or planned STATE contracts requiring quarry and stockpile usage.
- (10) PURCHASER shall notify STATE 5 days prior to the start of quarry development activities.
- (11) Upon completion of use, the pit site and access roads shall be left in a condition free from overburden and debris. Rock pit roads shall be waterbarred to provide drainage as specified in Exhibit H and blocked as directed by STATE.

EXHIBIT G
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. 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. Polyethylene culverts shall also be double walled and meet the requirements of AASHTO M-294-901, Type S. 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 5 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. Minimum bedding depth shall be 6 inches.

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.

When joints are employed, the longest length of pipe shall be placed at the outlet end.

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

EXHIBIT G
CULVERT SPECIFICATIONS

Minimum height of cover over top of culvert to subgrade when road is to be rocked shall be 12". 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 shortest culvert section length shall be placed at the inlet end.

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 an approved slope protection device. Construct lead-off ditches away from culvert outlets where the slope gradients restrict the free flow of water.

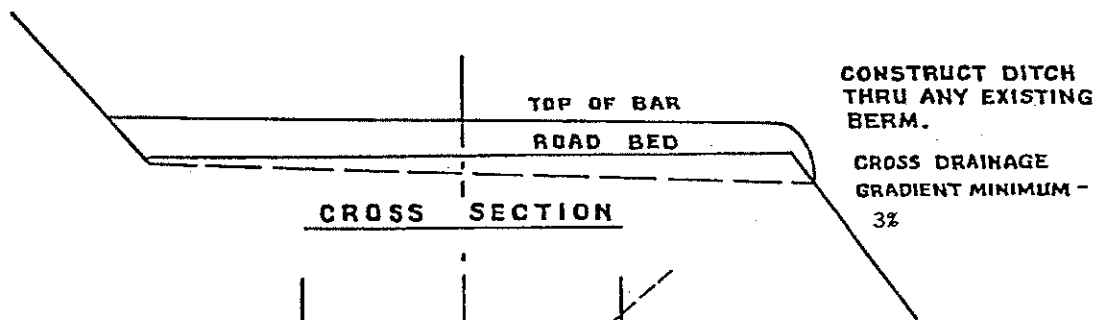
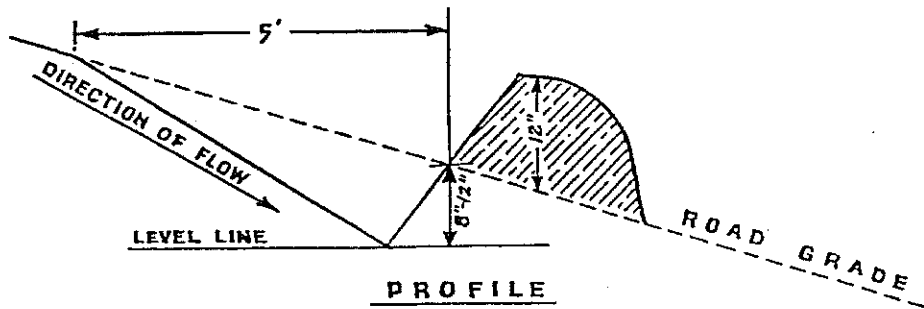
CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	ROAD SEGMENT POINT TO POINT	STATION
1	18	30	I to J	4+90
2	18	30	I to J	17+80

The intake end of culverts shall be marked by installing a 5 foot long, painted steel fence post two feet into the ground, within 6 inches of the inlet on the downgrade side.

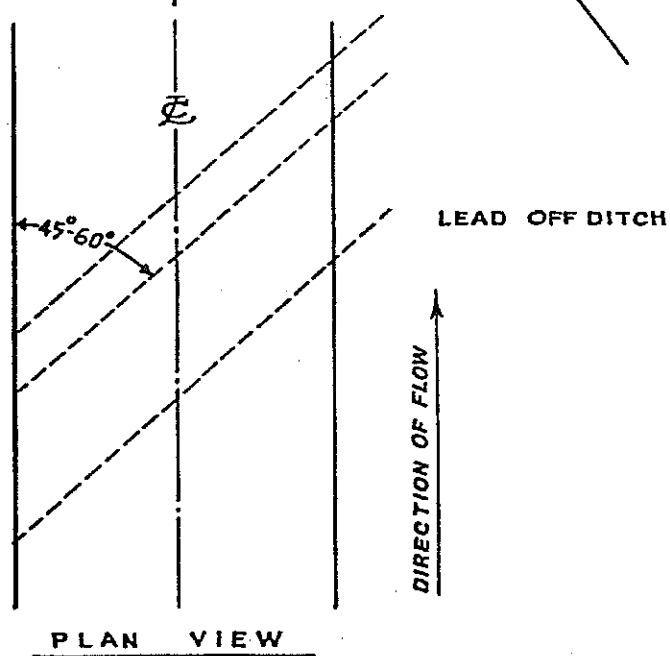
Tamping is required on all culverts. Backfills on culverts shall be compacted with a vibratory hand-operated or Backhoe mounted tamper.

EXHIBIT H
 WATERBAR SPECIFICATIONS



SPACING OF WATERBARS

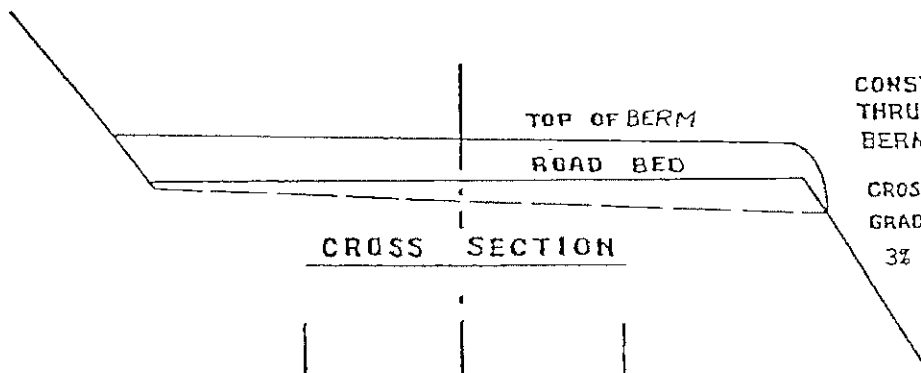
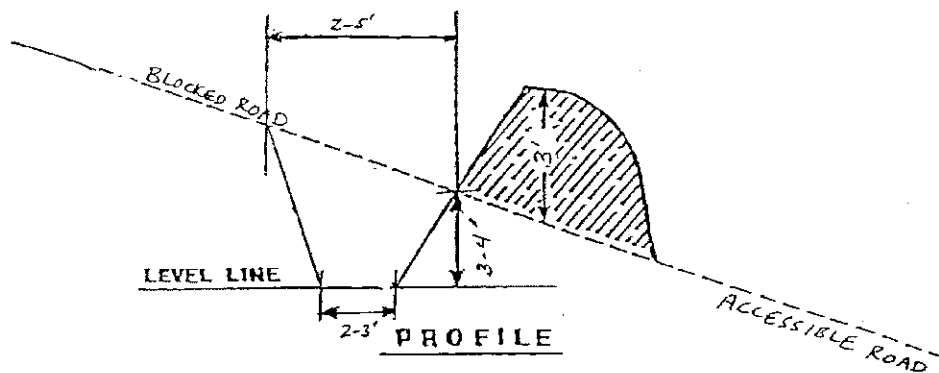
ROAD GRADE	DISTANCE
≤ 5%	600'
6-10%	300'
11-15%	150'
16-20% or greater	100'



**WATERBAR SPECIFICATIONS
 FOR CROSS DITCHING #298**

EXHIBIT I

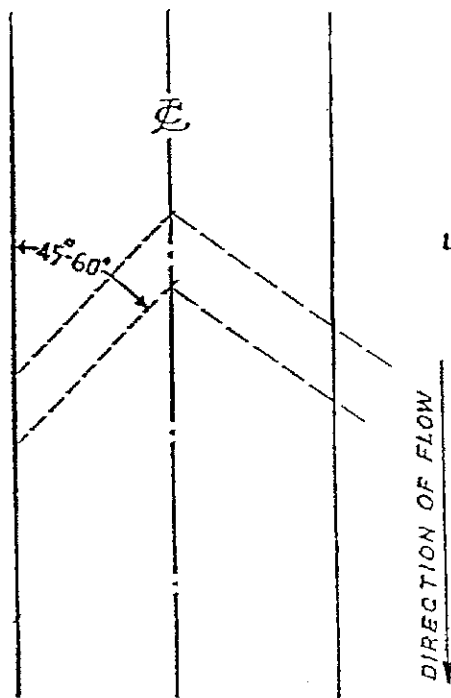
TANK TRAP SPECIFICATIONS



CONSTRUCT DITCH
THRU ANY EXISTING
BERM.

CROSS DRAINAGE
GRADIENT MINIMUM
3%

Tank trap shall be installed in a "V" shape. It should be sloped to drain with a relief ditch through the down slope edge of the road. The trench shall be behind the berm for approaching traffic.



LEAD OFF DITCH

TANK TRAP
SPECIFICATIONS

EXHIBIT J

SEEDING AND FERTILIZING

This work shall consist of preparing seedbeds and furnishing and placing required seed and fertilizer.

Seeding Seasons. Seeding shall be performed only from March 1 through June 15 and August 15 through October 15. Seeding materials shall not be applied during windy weather or when the ground is excessively wet or frozen. Areas of disturbed soil shall be seeded by the end of the project period in which work was started. (PURCHASER shall notify STATE 24 hours prior to seeding.)

Soil Preparation. Areas to be seeded that have been damaged by erosion or other causes shall be restored prior to seeding. All areas to be seeded shall be finished and then cultivated to provide a reasonably firm, but friable seedbed. A minimum of 1/2 inch of surface soil shall be in a loose condition.

Application Methods for Seed and Fertilizer

Dry Method. Mechanical seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders or other approved mechanical seeding equipment shall be used to apply the seed and fertilizer in the amounts and mixtures specified. Hand-operated seeding devices may be used when seed and fertilizer are applied in dry form.

Application Rates for Seed and Fertilizer

Seed listed below shall be applied at the following rates per acre:

<u>Species</u>	<u>Lb./Acre</u>	<u>Mixture</u>	<u>Pure Live Seed</u>	<u>Poison and/or Repellent</u>
Fine Fescue	12	40%	98%	0
Annual Ryegrass	6	20%	98%	0
Perennial Ryegrass	9	30%	98%	0
White Dutch Clover	3	10%	98%	0

Fertilizer: Chemical analysis shall be 16-20-0 and shall be applied at the rate of 300 pounds per acre.

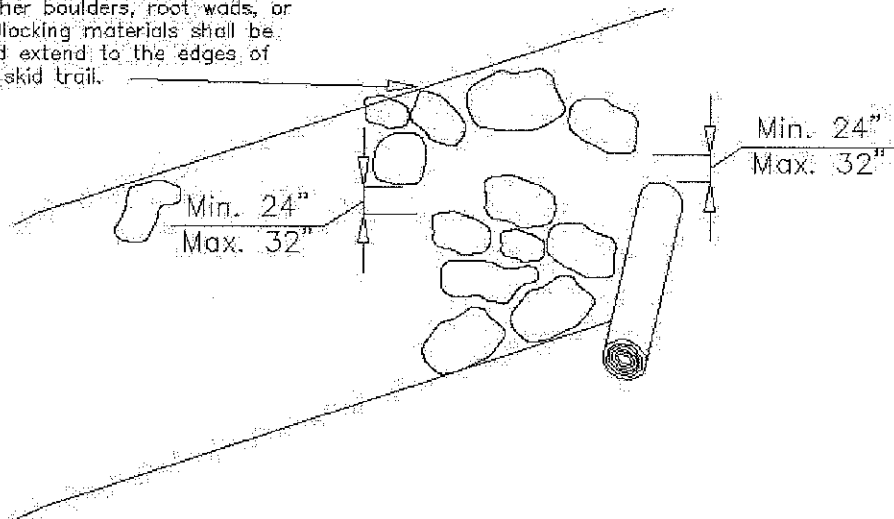
Seeding will be considered acceptable when all other specified requirements in Exhibit J have been completed and a healthy, uniform, close stand of grass has been established, unless otherwise approved in writing by STATE.

Exhibit K

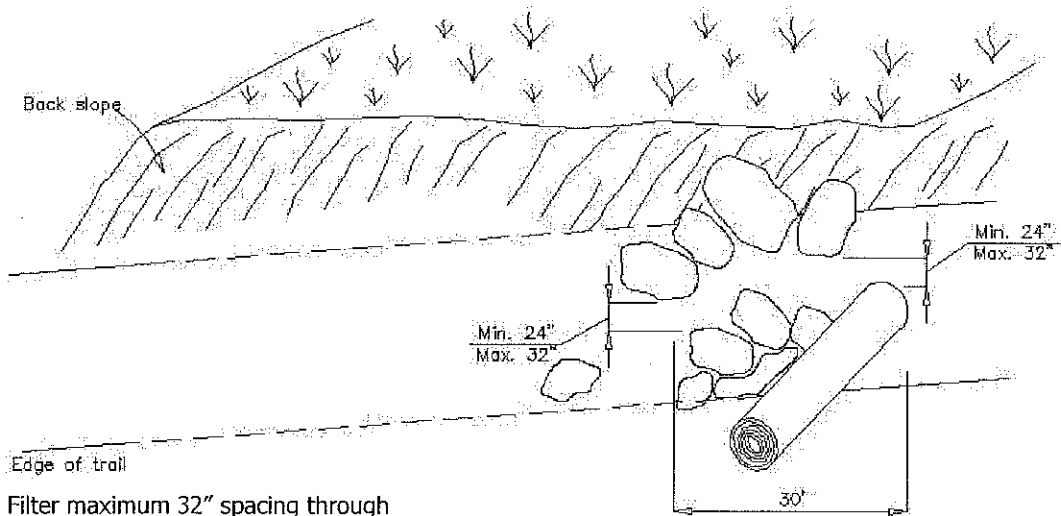
OHV TRAIL FILTER FOR MC TRAIL

NOT TO SCALE

Blocking materials minimum size should be 3'x3', either boulders, root wads, or cull logs. Blocking materials shall be touching and extend to the edges of roadway, or skid trail.



PLAN VIEW



Filter maximum 32" spacing through path entrance and exit. 6'-8' curve radius through filter. Overall length of filter should be 30'. Boulders used as blocking material should be buried 1/3 of original height.

PROFILE

EXHIBIT L

SPECIFICATIONS FOR LANDING SLASH PILING

Piling Slash/Covering Piles: All piles shall be as compact as possible. Piles shall be built to minimum height of 3 to 4 feet and then covered to prevent water from reaching the Slash. PURCHASER shall supply the materials for covering. Additional woody debris shall be piled on top of the covered piles as directed by STATE.

Placement of Piles: Piles shall be placed in a location to minimize damage from burning to standing green trees and Snags. Piles shall be placed as follows:

- (a) No less than 30 feet from any Snags or green trees, unless otherwise approved by STATE.
- (b) Cull log segments suitable for firewood shall be piled separately from Slash at a distance of no closer than 20 feet from the Slash piles.

PART IV: OTHER INFORMATION

State Timber Sale Contract
No. 341-12-37
Alder Joy

WRITTEN PLAN

SALE NAME: Alder Joy

PROTECTED WATERS: South Fork Trask River and Joyce Creek, Large Type F Stream.

Definitions: Stream buffer: at least 100 feet horizontal distance from the high water mark on each side of the stream.

LOCATIONS: Portions of Sections 13, 14, 22, 23, and 24, T2S, R8W, W. M., Tillamook County, Oregon.

ACTIVITIES: 1. Activity: Cable logging lines hanging over Type F stream.

Protection measures:

- All trees in the RMA are reserved from cutting.
- Cable yarding lines will be pulled out of the RMA prior to rigging the next yarding road.
- If trees or logs fall or slide into a stream channel they will not be limbed, bucked, or removed without prior approval from ODF.
- Cable lines will be an average of at least 150 feet apart where they extend over or through the Type F stream and buffer.

2. Activity: Alternate Vegetation Treatment Plan for operations within 100 feet of Type F Stream.

Protection measures: See attached Alternative Vegetation Treatment Plan.

ACTIVITIES: 3. Activity: Quarry development and rock crushing within 100' of Type F Stream.

Protection Measures:

- Rock crushing shall occur during dry weather periods between May 1 and November 1 unless otherwise approved by STATE.

PREPARED BY: David Wells, Tillamook Contracts Unit
August 22, 2011
&
Gary Baker, Road Unit Coordinator
August 16, 2011

State Forests Alternative Vegetation Treatment Plan

Alder Joy-Area 1, Tillamook District 2012 AOP

Background

An objective for riparian areas along fish bearing streams is to maintain or restore mature forest conditions within 100 feet of type F streams. Where the native stand would have been dominated by conifers this is described as having a basal area 220 ft²/acre and a substantial number of large diameter conifer trees. In addition our intent is to retain tree species diversity, promote the development of downed wood and snags, and a range of understory species (shrubs and saplings). This riparian area is currently dominated by aging alder and has a road within 50 feet of the Trask River. Our intent is to restart the stand towards a conifer dominated stand while retaining sub-species diversity and portions of the hardwood stand in areas that have wet soils. Precaution will be taken to prevent sediment and slash delivery to the Trask River.

Watershed Analysis

Three documents are available that describe riparian and stream conditions in the Trask Watershed: The Trask Watershed Analysis was completed in 2003 (ODF 2003), a riparian assessment and analysis of the Trask River Watershed (PSU 2002), and a Trask Watershed Assessment by the Tillamook Bay National Estuary Project (TBNEP 1998). These analyses consistently concluded:

- Riparian areas are dominated by Mixed (36%), Hardwood (31%), or Conifer (23%) medium sized dense stands.
- 91% of inner zones are "adequate" with regard to large wood recruitment benchmarks at the time
- 100% of outer zones are below large wood recruitment benchmarks
- Most of the watershed has high levels of shade (94% with >70%). Areas with lower shade levels are along mainstem reaches which tend to be more open simply due to stream width.
- Available stream temperature data established that temperatures were all below DEQ numeric criteria and tended to warm in a downstream direction.
- Recommendations:
 - Management actions should focus on enhancing large wood recruitment
 - Focus on riparian areas that are likely to support conifers.
 - Favor sites with stands that are at the end of their successional stages and without sufficient understory are not likely to provide shade or future large wood recruitment.
- Current large wood loading in streams is poor throughout most of the watershed with exception in Elkhorn and upper reaches.

These studies confirm that streams lack large pieces of wood and riparian areas are commonly dominated by hardwoods. Hardwood dominated riparian areas are less likely to provide future sources of large wood to streams. This is because hardwoods get as large (diameter and height) as conifers and hardwoods don't last as long once they fall in the stream. High shade levels and low stream temperatures minimizes temperature related concerns that can be associated with riparian management.

Alternative Vegetation Treatment Plan

Part of the Alder Joy sale borders the Trask River Road which in turn runs parallel to the Trask River. There are places where the center of the road is 25 feet from the average annual high waters mark. The riparian area is dominated by approximately 50 year old alder with scattered maple closer to the road and stream. There are patches of overstocked, Douglas fir with low crown ratios and Swiss needle cast. Current stand conditions are not good for large wood recruitment goals or meeting mature forest desired future condition. The road location coupled with the dominance of hardwoods and the poor stand conditions of existing conifer patches- severely limits current riparian function and prohibits meeting long term goals for mature conifer riparian forest. If trees were retained along the upland side of the road, they would primarily be comprised of alders leaning over the road creating road hazards. ODF also tends to remove such trees to "daylight" roads, help them dry out, and prevent sediment delivery to streams. We can retain conifers in the first 50 feet in one or two small patches. We recognize this will only serve to maintain currently impaired functions in these small patches-but will also provide some leave trees in the RMA.

The proposed prescription better achieves the desired future condition for mature conifer riparian area, the functional goals in a timelier manner, and is supported by findings from 3 watershed analyses (ODF 2003, TBNEP 2002, PSU 1998). The proposed prescription is consistent with OAR 640-0100 (13) which allows harvest down to roads within riparian areas. The proposed prescription won't meet OAR 6c (below) or FMP standard riparian prescriptions. However both the FMP (Aquatic Strategy 2) and FPA (OAR 629-640-0400) encourage the use alternative vegetation plans (FMP) or site specific plans (FPA) to better achieve riparian and aquatic goals.

Prescription

The management approach is to harvest Area 1 will be a modified clear-cut prescription. Most Douglas-fir and all alder located on the upland side of the South Fork Trask Road will be removed. To maintain diversity all Douglas-fir trees within 50' of the average annual high water mark will be reserved (painted with a yellow "W") and all other tree species (cedar, hemlock, spruce and big leaf maple) will be reserved throughout the Area. About 1/5th of an acre to the south of the area planned for harvest will be left un-harvested because the soils appear wet and perhaps not conducive to growing conifers. Falling is restricted to the period between May 1 and October 31 to assure the best chance of success of keeping sedimentation and logging debris out of the South Fork Trask River. Any logging debris that does enter the river will be removed as an ongoing process in accordance with FPA rules.

This document will serve as both the FMP Alternative Vegetation Treatment Plan and an FPA Site Specific Prescription to be approved by State Forests FPA administrator and the District Forester.

Multidisciplinary Approach

This project was planned with collective input from foresters, reforestation foresters, and the aquatic/riparian specialist. ODFW fish biologist also reviewed the plans and supports the approach. Key considerations included:

- Meeting FPA restrictions (see list in references below) and FMP obligations with regard to riparian roads, alternative vegetation treatment plans, leave tree requirements under FPA.
- Ability to successfully reforest
- Retaining sub-species such as maple and cedar
- Long-term vision for the area as it is along the Trask River Road and will continue to be managed for road maintenance (right of way/day light harvesting)
- Preventing sediment input to the Trask river during operations
- Converting the alder dominated stand to a conifer dominated stand to promote large wood recruitment
- Functions of a riparian area with a road in the inner zone (within 50 feet of the stream)

Monitoring

This project will be monitored to assure successful reforestation.

Approval

The final alternative vegetation treatment plan will be approved, signed and dated by the District Forester and placed in the sale folder.

District Forester

Date

References

PSU 2002. *Riparian assessment and analysis of the Trask river watershed*. Prepared by Portland State University. December 23, 2002

TBNEP 1998. *Trask Watershed Assessment*. Tillamook Bay National Estuary Project. November 1998.

ODF 2003. *Trask Watershed Analysis*. Oregon Department of Forestry and US Department of Interior, BLM. Prepared by E&S Environmental Chemistry, Inc. P.O. Box 609, Corvallis, OR 97339

Applicable Forest Practices Act Rules:

- OAR 629-640-0100(6)(c): If less than ½ of the FPA BA retention standard is available, this rule requires retention of all conifers in the RMA and all hardwoods within 50 feet of the high water level. The requirements in OAR 629-640-00100(2) would also apply (retain all trees within 20 feet of the high water level, and all RMA trees leaning over the channel).
- OAR 629-640-0100(13): Allows a plan for alternate practice to remove trees from the portion an RMA that is on the other side of a road from the stream.
- OAR 629-640-0400 provides an option to write a site-specific vegetation prescription for streams and riparian areas (ideally this FMP approved alternative vegetation treatment plan will also serve this purpose)

NOTICE OF TRANSFER OF STATE TIMBER

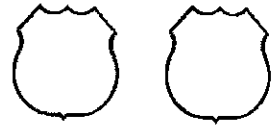
Instructions

629:-Form-301-010

Complete Section 1. Mark the box which applies to you/your company in Section 2. Complete Section 3 and obtain signatures.

SECTION 1

On _____, state timber sale purchaser (Transferor)
_____, sold, exchanged or otherwise transferred to
_____, (Transferee) state timber originating from State
Timber Sale Contract No. _____.



Transferee hereby certifies that they:

- (a) Will not export the unprocessed state timber which is the subject of this transaction;
- (b) Will not sell, transfer, exchange or otherwise convey the unprocessed timber which is the subject of this transaction to any other person without first obtaining a like certification from that person; and
- (c) Are not prohibited by OAR's 629-31-005 through 045 from purchasing state timber or logs directly from the State Forester, or this is a sale of Western Red Cedar for domestic processing.

SECTION 2

- Have not exported unprocessed timber originating from private lands in Oregon in the last 24 months.
- This is a sale of hardwood logs for domestic processing.
- This is a sale of Western Red Cedar for domestic processing.
- This is a sale of pulp logs or cull logs processed at domestic pulp mills, domestic chip plants or other domestic operations for the purpose of conversion of the logs into chips.

SECTION 3

The parties understand that falsely entering into this certification, or failure to comply with the terms of this certification is a violation of the Forest Conservation and Shortage Relief Act of 1990 and OAR Chapter 629, Division 31, and is subject to any and all penalties contained therein.

Transferor:

Transferee:

Signed

Signed

Title

Title

Dated

Dated

[Note: For the purpose of this form, the definition of unprocessed timber is the same as in OAR 629-31-005]

Mail To: State Forester
2600 State Street
Salem, OR 97310