

EXHIBIT "B"
 FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
14 feet	12 feet	A to B	0+00 to 111+60	Ditch
14 feet	12 feet	B to C	0+00 to 46+00	No Ditch
14 feet	--	B1 to B2	0+00 to 8+50	No Ditch
14 feet	--	B3 to B4	0+00 to 3+00	No Ditch
14 feet	--	B5 to B6	0+00 to 6+30	No Ditch
14 feet	--	B5 to B7	0+00 to 3+50	No Ditch
14 feet	12 feet	C to D	0+00 to 55+00	No Ditch
14 feet	--	C to D	55+00 to 80+80	No Ditch
14 feet	--	C1 to C2	0+00 to 6+70	No Ditch
14 feet	--	C3 to C4	0+00 to 2+40	No Ditch
14 feet	--	C4 to C5	0+00 to 11+90	No Ditch
14 feet	--	C4 to C6	0+00 to 7+90	No Ditch
14 feet	--	C4 to C7	0+00 to 4+70	No Ditch
14 feet	--	D to D1	0+00 to 30+00	No Ditch
14 feet	--	D2 to D3	0+00 to 8+50	No 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.

All clearing limits shall be marked by STATE with R/W tags and fluorescent pink flagging. 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 re-constructions - 4 feet back from the shoulder of the subgrade or ditch, whichever is widest, or as marked in the field.

CLEARING AND GRUBBING DISPOSAL. Scatter through openings in the timber outside of the cleared right-of-way, except areas where end-haul is required.

EXHIBIT "B"
FOREST ROAD SPECIFICATIONS

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 C.

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-risk site 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 "V" ditch 3 feet wide and to a depth of 1 foot below subgrade. Subgrade shall be crowned at 4 to 6 percent.

Outslope. Road subgrade shall be outsloped at 1 to 3 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: As marked in the field.

GRADING

Rock
Common - side slopes 50% and over
Common - side slopes less than 50%
Common - turnpike (level) section

Back Slopes
Vertical to 1/4:1
1/2:1
3/4:1
2:1

Fill Slopes
Not steeper
than 1½:1

Top of cutslope shall be rounded.

LANDINGS. Landings shall be constructed to the dimensions as posted in the field. Surface is to be crowned for drainage, with general grade no more than 3 percent.

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

EXHIBIT "B"
END-HAULING REQUIREMENTS

POINT TO POINT	STATION TO STATION	WASTE AREA LOCATION	WASTE AREA TREATMENT
B to B1	0+00 to 2+00	"W"	1 and 2
B3 to B4	0+00 to 3+00	"W"	1 and 2

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 as much material as possible 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.

Trees 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

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

EXHIBIT "C"
 ROAD SURFACING

POINT TO POINT	STATION TO STATION	TYPE OF ROCK	SIZE OF ROCK	COMPACTE D DEPTH	VOLUME PER STATION	APPROX. TOTAL VOLUME
B to C	0+00 to 46+00	Crushed	1½ - 0"	4"	22 CY	1012 CY
C to D	0+00 to 35+90	Crushed	1½ - 0"	4"	22 CY	790 CY
C to D	55+00 to 80+80	Crushed	2½ - 0"	4"	22 CY	568 CY
		MISCELLANEOUS:				
A to B	0+00 to 111+60	Spot Rock	1½ - 0"	--	--	216 CY
B to C	0+00 to 46+00	Curve Widening Rock	1½ - 0"	--	--	104 CY
B to C	0+00 to 46+00	Turnout Rock	2½ - 0"	--	--	108 CY
C to D	0+00 to 35+90	Curve Widening Rock	1½ - 0"	--	--	92 CY
C to D	0+00 to 35+90	Turnout Rock	2½ - 0"	--	--	90 CY
D to D1	26+80	Spot Rock	Jaw-Run	--	--	18 CY
	LOCATION	POST-HARVEST:		VOL. PER LANDING	NO. OF LANDINGS	
C to D	0+00 to 35+90	Landing Patch Rock	1½ - 0"	9 CY	2	18 CY
C to D	35+90 to 55+00	Landing Patch Rock	2½ - 0"	9 CY	3	27 CY
C to D	Point D	Turnaround Rock	2½ - 0"	--	--	26 CY
C to D	55+00 to 80+80	Curve Widening Rock	2½ - 0"	--	--	80 CY
	Haul Route	Maintenance Rock	1½ - 0"	--	--	162 CY

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

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

Rock volumes rounded to nearest 9 or 18 CY load.

EXHIBIT "C"

CRUSHED 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.

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 ODOT TM 208
Passing No. 20 Sieve: 30% Maximum
Sediment Height: 3" Maximum

<u>For 1½"-0"</u>	Passing	2" sieve	100%
	Passing	1½" sieve	95-100%
	Passing	¾" sieve	55-75%
	Passing	¼" sieve	35-50%

Of the fraction passing ¼" sieve, 40% to 60% shall pass the No. 10 sieve.

<u>For 2½"-0"</u>	Passing	3" sieve	100%
	Passing	2½" sieve	95-100%
	Passing	1¼" sieve	55-75%
	Passing	¼" sieve	30-45%

Of the fraction passing ¼" sieve, 40% to 60% shall pass the No. 10 sieve.

<u>For Jaw-Run</u>	Passing	6" sieve	100%
	Passing	3" sieve	45-65%

Control of 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.

EXHIBIT "C"

ROCK ACCOUNTABILITY

The rock shall meet the quality and size specifications in Exhibit C. A copy of the rock test sheets shall be supplied to and approved by STATE prior to rocking. PURCHASER shall obtain subgrade approval from STATE prior to rocking. Rocking shall be limited to periods when weather conditions are acceptable to STATE and when sediments will not enter streams.

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

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

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.

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 C.

EXHIBIT "C"

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." 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 one or more of the approved equipment options listed below:

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

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
B1 to B2, B3 to B4, B5 to B6, B5 to B7, C to D (55+00 to Pt. D), C1 to C2, C3 to C4, C4 to C5, C4 to C6, C4 to C7, D to D1, D2 to D3, and "Non-Project" roads	1

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 one or more of the approved equipment options listed below:

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

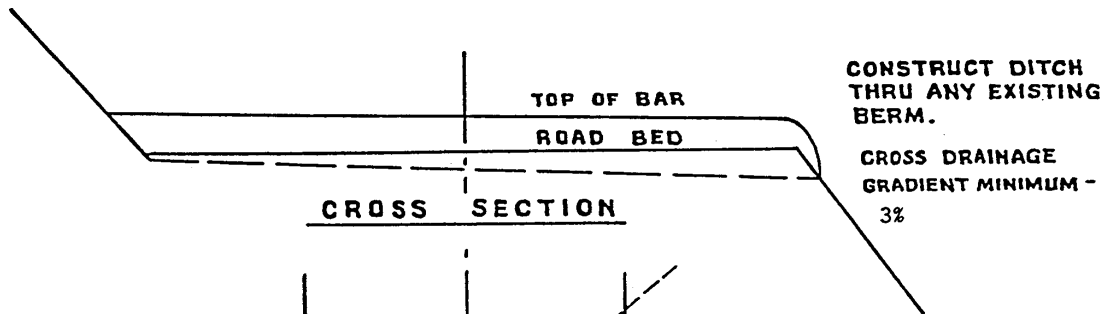
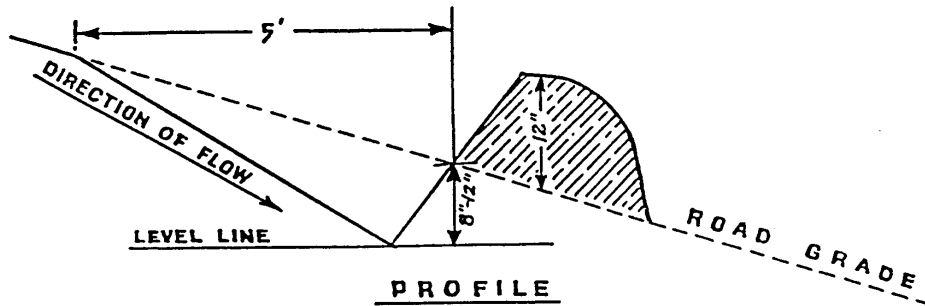
ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
B to C, C to D (0+00 to 35+90), and C to D (55+00 to Pt. D)	1
Spot, Patch, and Maintenance Rock	2

COMPACTION EQUIPMENT OPTIONS

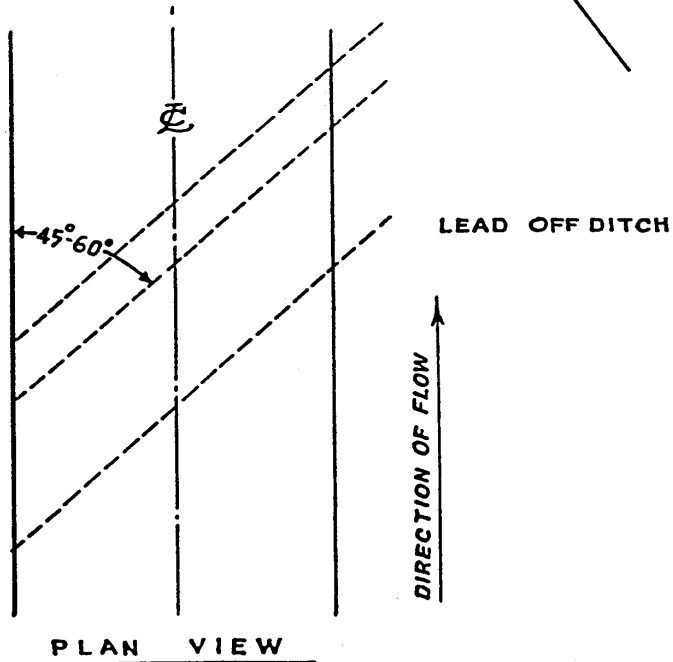
- (1) Vibratory Rollers. The drum shall have a smooth surface, a diameter not less than 48 inches, a width not less than 58 inches, and a turning radius of 15 feet or less. Vibration frequency shall be regulated in steps to 1400, 1500, and 1600 VPM, corresponding to engine speeds of 1575, 1690, and 1800 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 miles to 1.8 miles per hour, as directed by STATE.
- (2) 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.

EXHIBIT "D"

WATERBAR SPECIFICATIONS



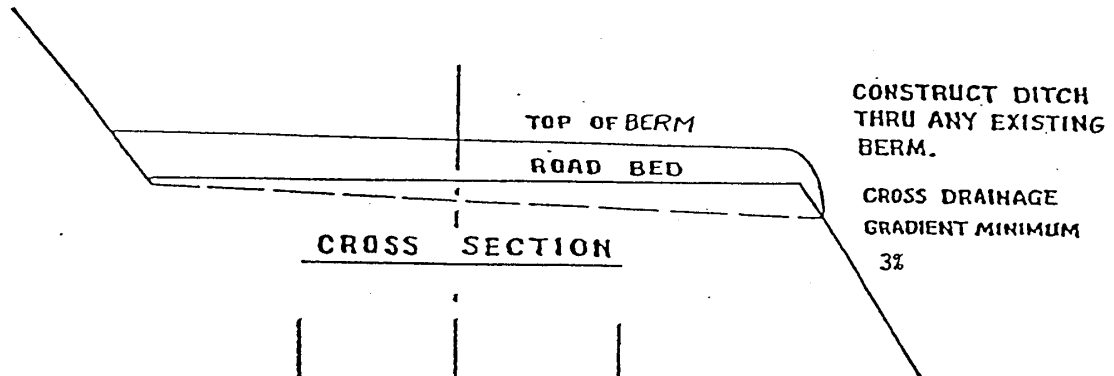
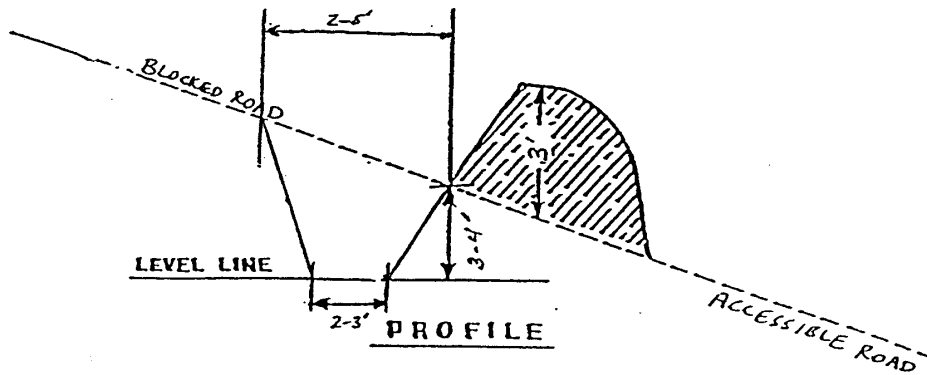
SPACING OF WATERBARS	
ROAD GRADE	DISTANCE
≤ 5%	600'
6-10%	300'
11-15%	150'
16-20% or greater	100'



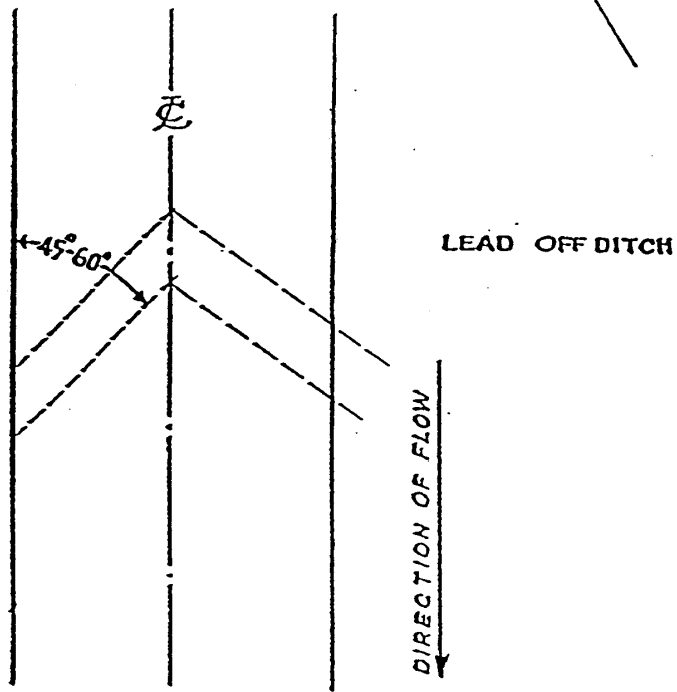
WATERBAR SPECIFICATIONS
 FOR CROSS DITCHING #298

EXHIBIT "D"

TANK TRAP SPECIFICATIONS



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.



PLAN VIEW

TANK TRAP SPECIFICATIONS

State Timber Sale Contract
No. 341-05-33
Norton Hill Thin

EXHIBIT "E"

SPECIFICATIONS FOR SLASH TREATMENT

Description of Work To Be Done

Operation Area: Patch cuts in Areas I, II, and III as indicated on Exhibit A; approximately 10 hours of machine time.

Slash Piling: In areas designated for slash piling, clear all logging slash measuring greater than 2 inches in diameter but less than 10 inches in diameter at the largest end and all brush as designated by STATE, and stack in compact, dirt-free piles. All woody vegetation is defined as brush in this contract.

Piles shall be located within the project area designated for piling. Piles shall be spaced at least 30 feet apart; and at least 30 feet from standing timber, snags, and wildlife trees; and at least 50 feet from any property line. Piles shall be 8 to 10 feet tall with steep sides and shall cover the smallest amount of ground possible at their base.

Each pile shall be covered with at least 200 square feet of 6 mil. thick, black plastic sheeting. The cover shall be placed over a portion of each pile and secured in place.

PURCHASER shall supply the materials for covering.

Burning of Piles: Piles shall be burned in accordance with the section titled, "Slash Disposal."

Reserved Material: All trees, snags, logs, and other down wood designated in the section titled, "Reserved Timber."

Protective Measures: PURCHASER shall comply with all applicable Forest Practice Rules and with the terms of this contract including, but not limited to, the sections titled, "Ground-Based Operations," and "Protection of Watershed."

Equipment Type, Equipment Operation, and Conduct of Work

The specifications given below are requirements for complying with the terms of this contract:

Equipment: Shall be a track-mounted machine with a ground-pressure rating of less than 10 PSI.

The bucket shall be a hydraulically controlled, 3- to 5-foot wide, "clamshell-style" bucket with rake arms, with a 360-degree continuous rotation, and tooth length on rake arm shall be greater than 6 inches long, unless otherwise approved in writing by STATE.

Operator: Must be experienced in operating similar equipment on forest site preparation operations, be able to operate the equipment proficiently, and be willing and able to perform the operations as directed by STATE.

Support: Including transport, other equipment, replacements, supplies, maintenance, and repairs shall be furnished as required to complete work and shall be furnished without cost to STATE, other than as agreed under the terms of this contract.

Work Scheduling: Work shall be accomplished only during dry weather conditions and started within 14 calendar days after completion of yarding activities on Areas I, II, and III. Operations shall provide for continual operation until contract work is completed, unless interrupted by poor weather, fire closures, or other uncontrollable circumstances. Equipment breakdowns shall be repaired without undue delay, and provision shall be made for replacement of equipment to prevent prolonged delays. Operations shall not be allowed as described in Section 39 (Seasonal Restrictions) of the contract, or during any other period when operations might damage sites or affect stream flows. Any exception to these instructions must be authorized in writing by STATE.

STATE Representative: Designated to provide directions for the conduct of work and to inspect work to determine when contract requirements have been satisfied.

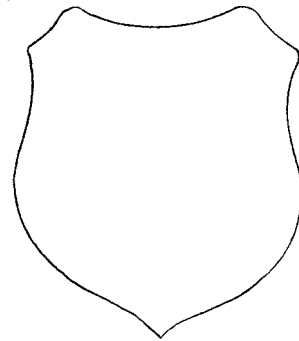
EXHIBIT "F"
OREGON DEPARTMENT OF FORESTRY

SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

- (1) ORIGINAL REGISTRATION Date _____
 REVISION NUMBER _____ Date _____
 CANCELLATION Date _____
- (2) TO: _____
 (Third Party Scaling Organization)
- (3) FROM: West Oregon - 01 Phone (541) 929-3266
 (State Forestry District)
 Address 24533 Alsea Hwy., Philomath, OR 97370
- (4) PURCHASER: _____
 Address _____

- (12) SALE NAME Norton Hill Thin
 COUNTY Lincoln
- (13) STATE CONTRACT NUMBER 341-05-33
- (14) SCALE: westside eastside cubic foot
- (15) STATE BRAND REGISTRATION NUMBER _____
- (16) BUREAU BRAND CODE NUMBER _____
- (17) 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 (20).

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

- (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: _____

(10) APPROVED SCALING LOCATIONS	Species	Yard	Truck

(20) REMARKS: _____

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

(21) SIGNATURES:

 Purchaser or Authorized Representative Date

 State Forester Representative Date

 State Forester's Representative

EXHIBIT "F"

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 45, "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 SUB species 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.