

EXHIBIT "B"

FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
14 feet	12 feet	D to E	0+00 to 15+00	Outslope*

*Drainage shall be "Ditch" if the "WINTER AND WET WEATHER OPTION" is chosen.

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 "Road Brushing Specifications" in Exhibit B 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 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 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-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 2 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 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: 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
3/4:1
1/2:1
2:1

Fill Slopes
Not steeper
than 1½:1

Top of cutslope shall be rounded.

EXHIBIT "B"

ADDITIONAL LANDING CONSTRUCTION AND ROAD IMPROVEMENT INSTRUCTIONS

LANDING CONSTRUCTION

- Point B – The old end-haul material at Point B shall be cut down and spread out in order to make the landing larger. The end-haul material from Point C shall also be brought to Point B and used in the landing improvement.
- Point C – A small landing pad shall be built at this point. The landing pad shall only be large enough for a yarder to sit on. The road below the landing shall be used for landing logs.
- Point F – The boulders at this point shall be picked up and hauled to Point G.
- Point H – A short spur road and a small landing pad shall be built at this point. The landing pad shall only be large enough for a yarder to sit on. The road below the landing shall be used for landing logs.

ROAD IMPROVEMENT

- D to E – Road improvement consists of removing the cutbank slough and small slides and using the material in the road prism in order to build up and smooth out the road surface.

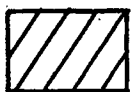
ADDITIONAL LANDING CONSTRUCTION AND ROAD IMPROVEMENT INSTRUCTIONS

WINTER AND WET WEATHER OPTION ONLY

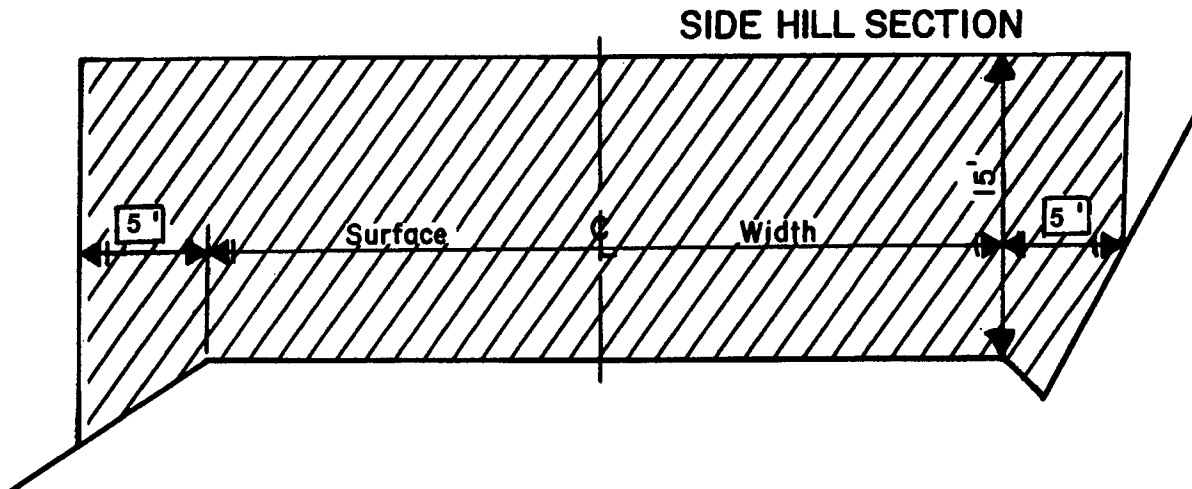
ROAD IMPROVEMENT

- D to E – Road improvement consists of removing cutbank slough and small slides. This material shall be taken to an area adjacent to Point E and treated as specified in Exhibit B, "End-Hauling Requirements." The road surface shall be prepared for rock surfacing. The subgrade shall be compacted before rocking. Rock shall be applied as required in Exhibit C, "Road Surfacing."

EXHIBIT "B"
ROAD BRUSHING SPECIFICATIONS



Clearing Limits



REQUIREMENTS

Brush and trees shall be cut to a maximum height of 6 inches above the ground surface or obstructions such as rocks or existing stumps.

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 in writing by STATE.

EXHIBIT "B"
END-HAULING REQUIREMENTS

POINT TO POINT	STA. TO STA.	WASTE AREA LOCATION	WASTE AREA TREATMENT
C	--	Point B	(1)
D to E*	0+00 to 15+00	Point E	(1, 2)
F	--	Point G	(3)
H	--	Point I	(1)

*End-haul only required if the "WINTER AND WET WEATHER OPTION" is chosen.

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.
- (3) Stockpile boulders at waste area for future use.

EXHIBIT "C"
 ROAD SURFACING

TYPE OF ROCK	SIZE OF ROCK	MEASURED AMOUNT	APPLICATION	LOCATION	APPROX. TOTAL TRUCK MEASURE VOLUME
Hard Crushed Quarry	1½"-0"	1000 CY	Stockpile	Bickford Creek	1200 Yards
Hard Crushed Quarry	1½"-0"	1000 CY	Stockpile	Eleven Ridge	1200 Yards

ROAD SURFACING
 WINTER AND WET WEATHER OPTION ONLY

TYPE OF ROCK	SIZE OF ROCK	COMPACTED DEPTH	YDS/ STA	POINT TO POINT	STATION TO STATION	APPROX. TOTAL TRUCK MEASURE VOLUME
Hard Crushed Quarry	2½"-0"	8"	48	D to E	0+00 to 15+00	770 Yards
LANDINGS/ TURNOUTS:			YDS/LND/ T.O	NO. OF LNDGS./T.O	POINT	
Hard Crushed Quarry	2½"-0"	8"	25	2	--	50 Yards
Hard Crushed Quarry	6" Jaw-Run	8"	70	1	E	70 Yards
MISCELLANEOUS:		MEASURED AMOUNT	APPLICATION		LOCATION	
Hard Crushed Quarry	1½"-0"	300 CY	Intermittent Haul Route		7100 Rd	300 Yards

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. For typical cross section, see Forestry Department Drawing Nos. 351-C and 351-D at the Forestry Department district office.

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: 6" 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.

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.

CRUSHED ROCK SPECIFICATIONS

WINTER AND WET WEATHER OPTION ONLY

Grading Requirements

<u>For 2½"-0"</u>	Passing	3" sieve	100%
	Passing	2½" sieve	95-100%
	Passing	1½" sieve	55-75%
	Passing	¾" 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%

EXHIBIT "C"

ROCK ACCOUNTABILITY

The rock shall meet the quality and size specifications in Exhibit C. A sample of the rock shall be supplied to STATE for testing and approval 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.

Stockpile Measurement. Volume determination for rock stockpiles will be based on measurement by the STATE. Stockpiles shall be shaped for accurate measurement as directed by STATE.

ROCK ACCOUNTABILITY

WINTER AND WET WEATHER OPTION ONLY

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.

Turnouts shall have a surfaced area of at least 17 square yards each at the depths shown in Exhibit C.

Landings shall have a surfaced area of at least 50 square yards each at the depths shown in Exhibit C.

EXHIBIT "D"

COMPACTION AND PROCESSING REQUIREMENTS

WINTER AND WET WEATHER OPTION ONLY

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.

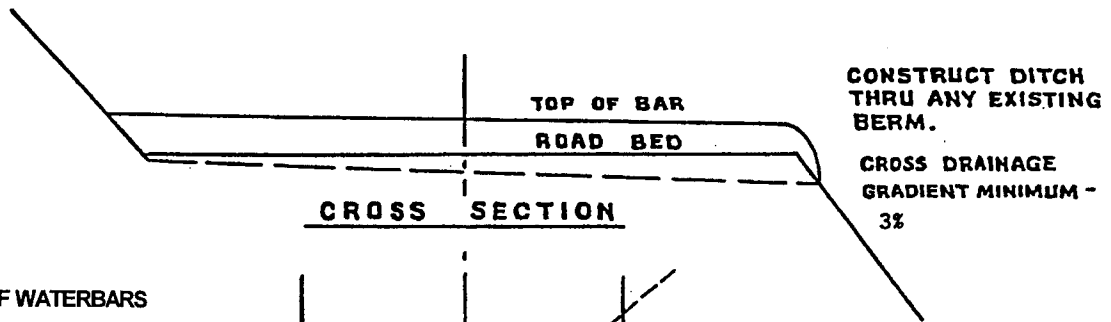
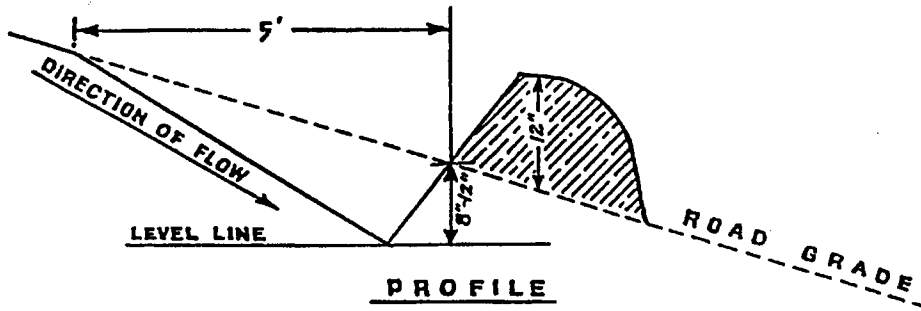
Rock shall be crowned at 4 to 6 percent unless otherwise specified.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
D to E	Vibratory Roller

COMPACTION EQUIPMENT

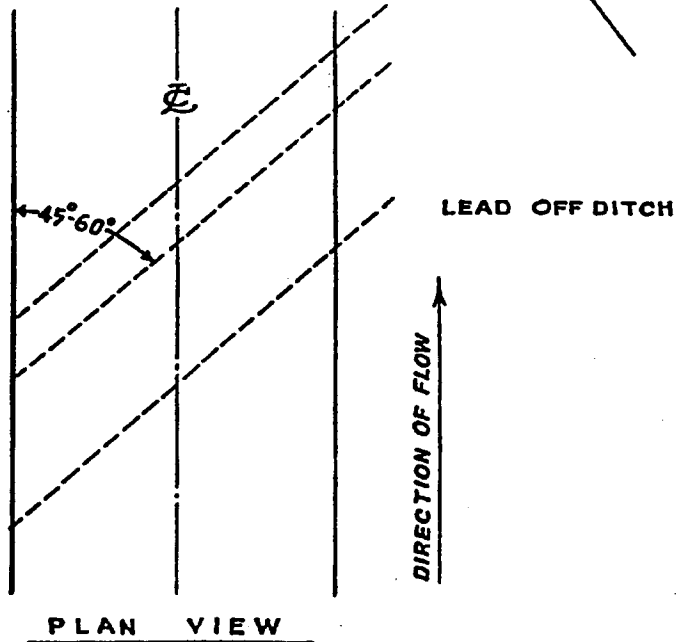
Vibratory Rollers. The drum shall have a smooth surface, a diameter not less than 48 inches, a width not less than 58 inches, and a turning radius of 15 feet or less. Vibration frequency shall be regulated in steps to 1400, 1500, and 1600 VPM, corresponding to engine speeds of 1575, 1690, and 1800 RPM. 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.

EXHIBIT "E"
 WATERBAR SPECIFICATIONS



SPACING OF WATERBARS

ROAD GRADE	DISTANCE
≤ 5%	300'
6-10%	200'
11-15%	100'
16-20% or greater	50'



WATERBAR SPECIFICATIONS
 FOR CROSS DITCHING #298

State Timber Sale Contract
No. 341-04-40
Knife Ridge No. 5

EXHIBIT "F"

SPECIFICATIONS FOR FISH LOG STOCKPILE

Tree Selection Criteria. PURCHASER may select trees as source for fish logs. Trees shall be obtained from within the posted boundaries of Area 4 and shall be felled, bucked, and yarded concurrent with normal felling and yarding operations. Trees shall not be obtained from stream buffers or Green Tree Retention Areas. Fish log volume has been removed from the cruise. Logs must meet the size specifications below.

Log Size Specifications

Thirty-six (36) logs meeting the following specifications shall be yarded and transported:

<u>Length</u>	<u>Small End Diameter</u>	<u>Number of Logs</u>
70 feet	24 inches	12
70 feet	22 inches	12
70 feet	20 inches	12

PURCHASER may select low quality or deformed standing live trees as source for fish logs. Existing down wood or snags shall not be used as source for fish logs. Logs are to be painted with suitable markings to distinguish them from merchantable logs and decked separately on landings.

Stockpile Specifications. The stockpile site is located at Point J on the 7108 Road. Logs are to be ground skidded to the stockpile site and stacked with a log loader. PURCHASER shall enact measures to protect against logs from rolling off the road into young plantations during skidding. PURCHASER shall grade or blade the 7108 Road at the completion of log skidding.

EXHIBIT "G"

SPECIFICATIONS FOR LANDING SLASH PILING

Piling Slash/Covering Piles. All piles shall be as compact as possible. The diameter of the pile shall be a minimum of 10 feet. During pile construction, place a sheet of plastic that is 20 feet by 20 feet wide and 6 mil. thick, 1 foot from the top of the pile on the southwest side. The plastic sheet shall then be weighed down by piling additional slash materials on top of the pile to a height of no more than 15 feet.

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) Away from stumps or logs, stream channels, drainage structures, or ditches.
- (c) 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.

EXHIBIT "H"
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: Coos Bay Phone (541) 267-4136
 (State Forestry District)
 Address 63612 Fifth Rd., Coos Bay, OR 97420

(4) PURCHASER: _____
 Address _____

(12) SALE NAME Knife Ridge No. 5

COUNTY Douglas/Coos

(13) STATE CONTRACT NUMBER 341-04-40

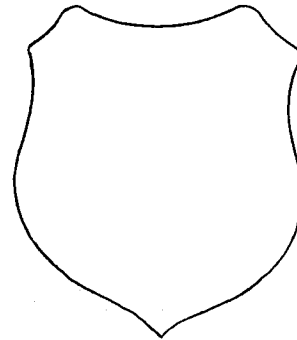
(14) SCALE: westside eastside cubic foot

(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: STATE may approve accounting of hardwoods by the load in lieu of scaling.

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

(21) SIGNATURES:

 Purchaser or Authorized Representative Date

 State Forester Representative Date

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

 State Forester's Representative

EXHIBIT "H"

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.