Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS

EXHIBIT B
TIMBER SALE OPERATIONS PLAN

(See page 2 for instructions)

Date Received by State: _____

(5) State Brand Information (Complete)

(1) Contract Number: SW-341-2023-GF7820-01

(2) Sale Name: Pickett Butte GNA

(3) Contract Expiration Date: 12/31/2025

(4) Purchaser Name: _____

(6) State Representatives:

Name	Circle One	Phone No.	Cell No.	Alt Phone
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			

(7) Purchaser Representatives:

Name	Circle One	Phone No.	Cell No.	Alt Phone
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			

(8) Name of Subcontractors and Start Dates:

Project No.	Subcontractor Name.	Start Date	Completion Date	Cell No.	Alt Phone

	Subcontractor Name.	Start Date	Cell No.	Alt Phone
FELLING				
YARDING				

(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.

Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS

EXHIBIT B
INSTRUCTION SHEET FOR OPERATIONS PLAN

SUBMIT ONE COPY OF PLAN 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.

Explanation of 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.

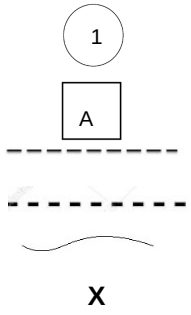
(7) The STATE representative will be designated when your plan is approved and is the person who will inspect and issue instructions regarding performance.

(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.

(9) 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 required by the timber sale contract. Provide spur road specifications
3. Locations of proposed tractor yarding roads. Show if and how marked on the ground.
4. Locations 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.

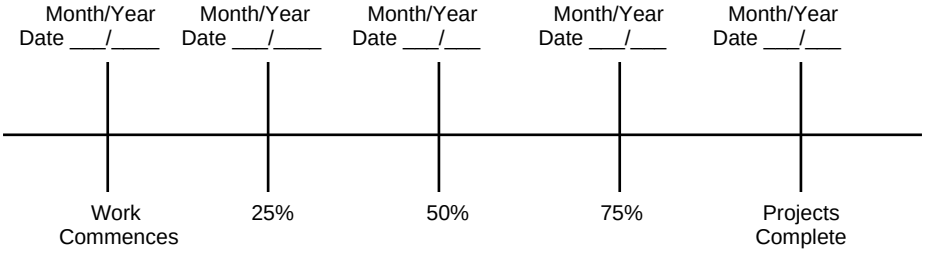
Temporary stream crossings.

Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS
EXHIBIT B
OPERATIONS PLAN

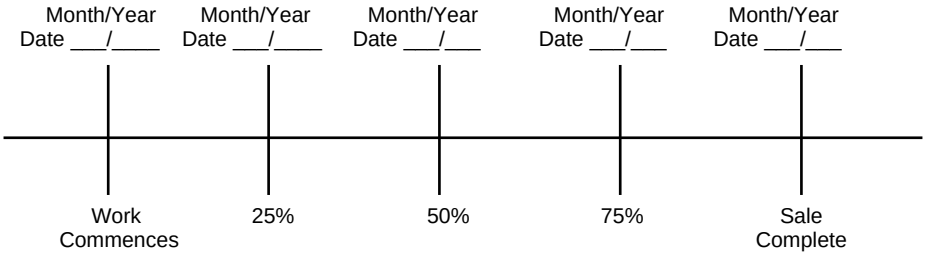
Completion Timeline

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

Projects



Harvest & Other Requirements



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

STATE OF OREGON - DEPARTMENT OF FORESTRY

_____

Title _____

SUBMITTED BY:
PURCHASER

_____

Title _____

Oregon Department of Forestry

EXHIBIT C - SAWMILL GRADE (WESTSIDE SCALE)
SCALING INSTRUCTIONS - LOCATION APPROVAL - BRAND INFORMATION
Southwest Oregon - SOA

(1) ORIGINAL REGISTRATION ☐ Date _____
REVISION NUMBER 000 ☐ Date _____
CANCELLATION ☐ Date _____

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

(3) FROM: Southwest Oregon Phone (541) 474-3152
(State Forestry District)
Address: 5375 MONUMENT DR.
GRANT PASS,OR 97526

(4) PURCHASER: _____
Mailing Address: _____

Phone Number: _____

(5) **MINIMUM SCALING SPECIFICATIONS**

SPECIES	MINIMUM NET VOLUME
Conifers	10
Hardwoods	10

*Apply minimum volume test to whole logs over 40' Westside

(6) WESTSIDE SCALE:
Use Region 6 actual taper rule. Logs over 40'.

	YES	NO
(7) Weight Scale Sample	☐	☑

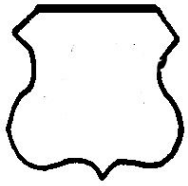
(8) **APPROVED SCALING LOCATIONS** (as shown on the ODF Approved Locations web-site)	**Species**	**Yard**	**Truck**	**Weight**

(9) **SALE NAME:** Pickett Butte GNA
COUNTY: Douglas

(10) **STATE CONTRACT NUMBER:**
SW-341-2023-GF7820-01

(11) STATE BRAND REGISTRATION NUMBER:

(12) **STATE BRAND INFORMATION:**



(13) PAINT REQUIRED: YES ☑
COLOR: Orange

(14) **SPECIAL REQUESTS** (Check applicable)

PEELABLE CULL (all species)..... ☑
NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE..... ☑
ADD-BACK VOLUME - Deductions due to delay... ☑

OTHER :

(15) **REMARKS:**

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

(16)

_____
Purchaser or Authorized Representative Date

_____
State Forester Representative Date

_____
State Forester Representative PRINT NAME

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.
General Distribution: TPSO, Approved Scaling Locations and Purchaser.

Oregon Department of Forestry
EXHIBIT C - SAWMILL GRADE
INSTRUCTIONS FOR EXHIBIT C
Southwest Oregon - SOA

(1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires logging and hauling to be complete, recall branding hammers.

(2)

Columbia River Log Scaling & Grading Bureau
P.O.Box 7002, Eugene, OR 97401
Phone: (541) 342-6007 Fax: (541) 342-2631
Email: services@crls.com

Mountain Western Log Scaling & Grading Bureau
P.O.Box 580, Roseburg, OR 97470
Phone: (541) 673-5571 Fax: (541) 672-6381
Email: info@mwlsgb.com

Northwest Log Scalers Inc.
6137 NE 63rd St, Vancouver, WA, 98661
Phone: (360) 553-7212 ext. 4 Fax:(360) 553-7213
Email: info@nwlogscalers.com

Pacific Rim Log Scaling Bureau, Inc.
8288 28th Court North East, Lacey, WA 98516
Phone: (360) 528-8710 Fax: (360) 528-8718
Email: office@prlsb.com

Yamhill Log Scaling & Grading Bureau
P.O.Box 709, Forest Grove, OR 97116
Phone: (503) 359-4474 Fax: (503) 359-4476
Email: yamhilllog@frontier.com

(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.

(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) Weight Scale Sample - Check box if sale is to be a Weight Scale Sample. All specifies for handling, scaling and processing will be attached or explained in the Remarks section item (15).

(8) Show scaling locations only applicable to TPSO. Location name should appear as it does on the ODF Approved Scaling Location web site: https://apps.odf.oregon.gov/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.

(9) Enter sale name and county.

(10) Enter sale Contract number.

(11) Enter Oregon's State Brand Registry Number (**REQUIRED**).

(12) Show brand assigned to timber sale. One brand only. If more than one brand is assigned to the sale: (1) make a separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section item (15).

(13) Check yes for Paint Required and designate "Orange" for color. Non required removal volumes may sometimes require blue paint.

(14) 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.

(15) Use this space to designate any 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.

(16) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form. Signatures not required on revisions.

Oregon Department of Forestry
EXHIBIT C - PULP SORT
PROCESSING INSTRUCTIONS - LOCATION APPROVAL
BRAND INFORMATION

Southwest Oregon, SOA

(1) ORIGINAL REGISTRATION ☐ Date _____

REVISION NUMBER 000 ☐ Date _____

CANCELLATION

(2) **(Approved Pulp Processing Facility)**

(3) FROM: Southwest Oregon (State Forestry District) Phone (541) 474-3152

Address: 5375 MONUMENT DR.
GRANT PASS,OR 97526

(4) PURCHASER: _____

(5) Scaling Bureau **(TPSO)** Processing Weight receipts:

Mailing Address: _____

, _____

Phone Number: _____

(6) **STATE Definition of Approved Pulp Sort:**

- Top portion of the tree (tops).
- All logs with a diameter (Big End) greater than 8 inches marked with blue paint.

(7) PULP FACILITY PROCESSING INSTRUCTIONS:

- Pulp loads shall be weighed in lieu of scaling.
- One Ton = 2000 lbs (Short Ton).
- Pulp loads shall have a yellow Log Load Receipt attached.
- Gross weight and truck tare weight for each load shall be machine printed on the weight receipt.
- Weigher shall sign the weight receipt.
- Weigher shall record the Log Load Receipt number on the weight receipt.
- Weigher shall attach the Weight receipt to the Log Load Receipt and mail them weekly to the TPSO processing the Weight receipt.

(8) TPSO PROCESSING INSTRUCTIONS

- Submit data files daily (or each day of activity).
- Mail or deliver scale tickets weekly to ODF Headquarters in Salem.

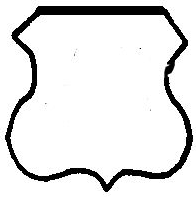
(9) **SALE NAME:** Pickett Butte GNA

COUNTY: Douglas

STATE CONTRACT NUMBER:
SW-341-2023-GF7820-01

(11) STATE BRAND REGISTRATION NUMBER: _____

(12) STATE BRAND INFORMATION:



(13) **REMARKS:**

Operator's Name (Optional inclusion by District):

(14) SIGNATURES:

Purchaser or Authorized Representative Date

State Forester Representative Date

State Forester Representative PRINT NAME

Notify the District within one hour when branding is inadequate for quick identification, the logs are marked with orange paint, the receipts are missing, not correctly or completely filled out, and/or logs do not meet the specifications of the STATE definition of Approved Pulp Sort.

General Distribution: TPSO, Approved Scaling Locations and Purchaser.

Oregon Department of Forestry
EXHIBIT C - PULP SORT
INSTRUCTIONS FOR EXHIBIT C

Southwest Oregon, SOA

(1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires logging and hauling to be complete, recall branding hammers.

(2) Approved Pulp Processing Facility. Write in as written in the Approved Log Delivery Location
https://apps.odf.oregon.gov/Divisions/management/asset_management/scalinglocation.asp

(3) State District office, address and phone.

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

(5) Third Party Scaling Organization that will be processing the weight tickets, mailing address, and phone number.

Columbia River Log Scaling & Grading Bureau
P.O.Box 7002, Eugene, OR 97401
Phone: (541) 342-6007 Fax: (541) 342-2631
Email: services@crls.com

Pacific Rim Log Scaling Bureau, Inc.
8288 28th Court North East, Lacey, WA 98516
Phone: (360) 528-8710 Fax: (360) 528-8718
Email: office@prlsb.com

Mountain Western Log Scaling & Grading Bureau
P.O.Box 580, Roseburg, OR 97470
Phone: (541) 673-5571 Fax: (541) 672-6381
Email: info@mwlsgb.com

Yamhill Log Scaling & Grading Bureau
P.O.Box 709, Forest Grove, OR 97116
Phone: (503) 359-4474 Fax: (503) 359-4476
Email: yamhilllog@frontier.com

Northwest Log Scalers Inc.
6137 NE 63rd St, Vancouver, WA, 98661
Phone: (360) 553-7212 ext. 4 Fax:(360) 553-7213
Email: info@nwlogscalers.com

Big end of log is not to exceed 2 inches greater than the minimum removal specifications in the contract. Example: Minimum removal specifications 6 inches and 20 board feet, then the Big end of log not to exceed 8 inches. When conifer and hardwood removal specifications are different, use the smaller removal diameter to determine this specification.

(9) Enter sale name and county.

(10) Enter sale Contract number.

(11) Enter Oregon's State Brand Registry Number **(REQUIRED).**

(12) Show brand assigned to timber sale. One brand only, if more than one brand is assigned to the sale: (1) make a separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section Item (13).

(13) Use this section to list any special instructions or the reason for any revisions in section item (1).

(14) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form. Signatures not required on revisions.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

(1) Roadside Brushing. Conduct roadside brushing as specified in Exhibit F.

(2) Bank Slough Removal. Excavate all bank slough. Bank slough material shall not be pulled across existing surfacing rock. Excavated material shall be hauled to the designated waste areas as marked in the field and/or designated on Exhibit A.

(3) Drainage Ditches. When cleaning ditch lines minimize disturbance to vegetation lining the ditch lines. Clean areas of ditch only where water drainage is being impeded. Restore or construct ditchlines, including ditchouts, as directed by STATE. Clean out all culvert inlets and outlets for a 10-foot radius. Re-establish or construct culvert sediment basins. Waste materials from drainage ditches and sediment basins shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas.

(4) Instream Culvert Replacement. During construction, stream water would be diverted around the work site and back into the channel. Newley installed culverts will meet 100 year flow (Q100) on perennial streams.

(5) Relief Culvert locations will be approved by ODF before installation to ensure that water is routed only onto stable soil/vegetation. Ditch relief culverts will be placed between 100 and 200 feet from crossing in a location that maximizes the sediment filtering and infiltration capacity of the forest floor.

(6) Waste areas shall be uniformly sloped and compacted for drainage. During construction, reconstruction or maintenance activities, soil and vegetative material shall be placed in ODF approved sites.

(7) All disturbed sites related to reconstruction and or maintenance such as waste area sites and culvert replacements will require erosion control methods such as straw bales, erosion control fences, waterbarring, grass seeding or hydromulching. Applied erosion control measures associated with road work will be inspected for functionality and maintained during operations as determined by the Sale Administer.

(6) Temporary roads still needed to complete project implementation would be winterized with all erosion control measures in place and barricaded or blocked. Erosion control, at a minimum, would include water bars and ground cover using slash, weed free straw or wood chips (greater than 80% coverage).

(7) Landing and temporary roads shall be designed and used to minimize impacts to soil, streams, and riparian areas.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS- BLADING: Derived from USFS T-811 Blading instructions.

(1) Timing - Perform surface blading during the contract period as often as needed to provide conditions stated for the maintenance level of the road.

(2) Ditches - Do not pull ditches. When cleaning ditch lines minimize disturbance to vegetation lining the ditch lines. Clean areas of ditch only where water drainage is being impeded.

(3) Blade and shape (before, during, and after sale) the existing traveled way and shoulders, including turnouts, to produce a surface which is uniform, consistent to grade, and crowned or cross-sloped as indicated by the character of the existing surface, unless otherwise shown to at least ½ inch per 1 foot of width, but not more than ¾ inch per 1 foot of width. Thoroughly loosen surfacing material to no less than 2 inches depth or the depth of potholes or corrugations. Scarification to facilitate cutting to the full depth of potholes or corrugations may be elected, but will be considered incidental to blading. Do not scarify to a depth that will cause contamination of the surfacing.

(4) Apply water during blading when sufficient moisture is not present to prevent segregation. Supply, haul, and apply water. Pumping of water for use in road maintenance must allow for the retention of at least 90% of the original stream flow below the pumping site.

(5) Establish a blading pattern which provides a uniform driving surface, retains the surfacing on the roadbed, and provides a thorough mixing of the materials within the completed surface width. Upon final blading, no disturbed rock shall protrude more than 2 inches above the adjacent surface unless otherwise provided in the contract. Remove and place outside the roadbed, material not meeting this dimension so as not to obstruct drainage ways or structures. This material may be scattered off the roadbed if there is free drainage.

(6) Undercutting - Undercutting roadway back slope is not permitted.

(7) At intersections, blade the roadbeds of side roads which are not closed or restricted from vehicular use to ensure smooth transitions.

(8) Berms - Maintain existing berms to the condition of adjacent segments. Do not create new berms.

(9) Smooth Blading - Smooth blading may be used as an interim measure to remove loose surfacing material from the wheel paths, and store removed materials in a recoverable windrow, until blade processing as described in this section is feasible.

(10) Watering will not be required for smooth blading. Accomplish smooth blading without distorting the existing cross-slope or crown of the traveled way.

(11) Move and store loose surfacing materials on the high side of super-elevated curves and sections with uniform inslope or outslope. In crowned sections, store the material on either or both sides as elected. Windrow and place stored materials to provide not less than 12 feet of smooth traveled way on one-lane segments, or 20 feet of smooth traveled way on two-lane segments, or segments with turnouts. Cut holes through windrows, which may collect water on the road, for drainage at least every 500 feet.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

(12) Subgrade Preparation and Application of Surfacing Rock.

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

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

(c) Apply required patching and leveling rock, as directed by STATE.

(d) Process (grade and mix) the existing surface and added base rock. Provide for a crown, outslope, or inslope of 4 to 6 percent, and compact in accordance to the "Compaction and Processing Requirements" in this Exhibit D.

(e) Upon completion of above required work, apply, process, and compact surfacing rock in accordance to this Exhibit D at the specific locations listed below.

Road Points Map for reference:

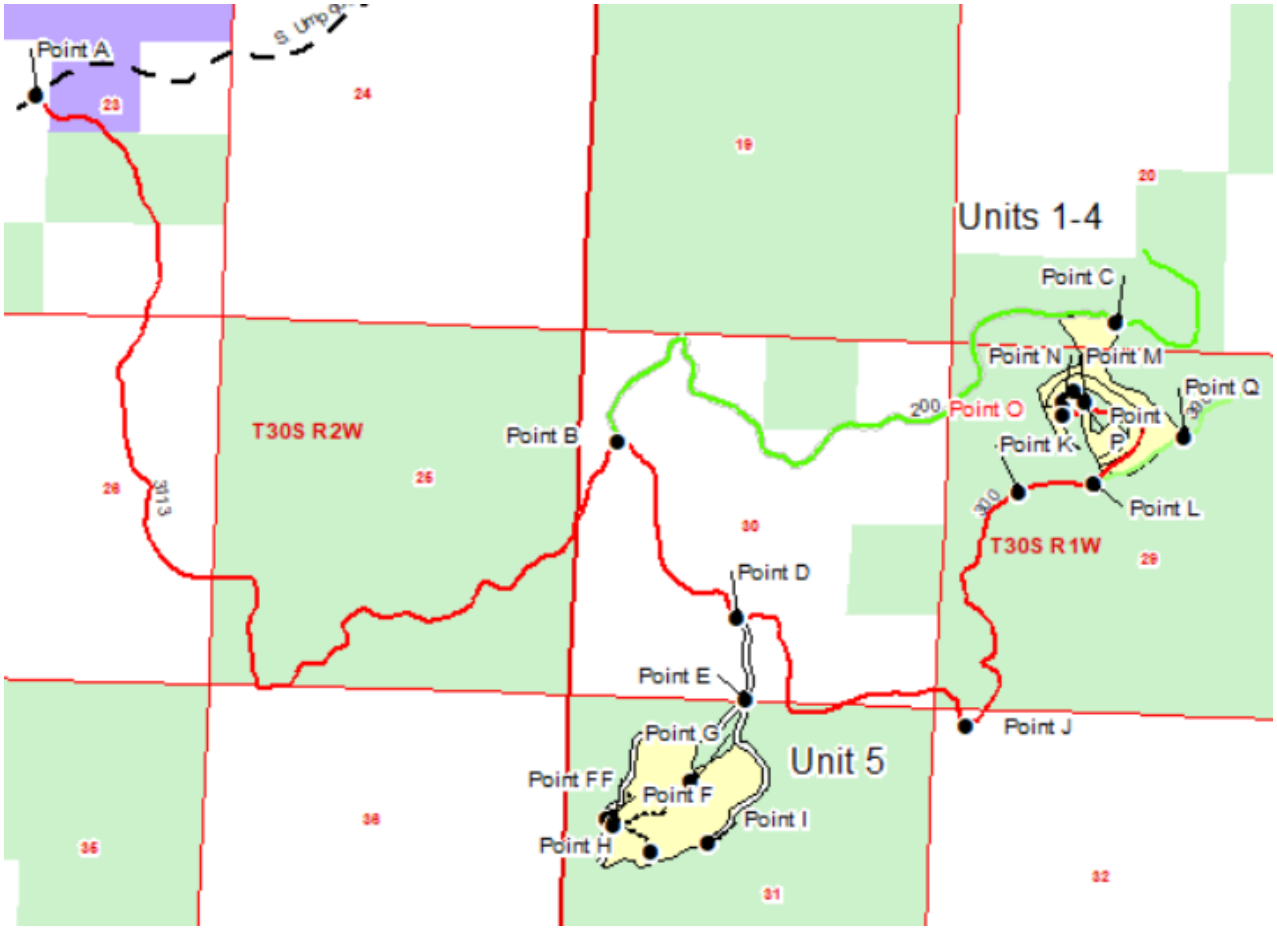


EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

Road	Station	Work Description –
200, 280, 300, 281	Various	Prep Roads for rocking as described in 12 (a-e) above. When cleaning ditch lines minimize disturbance to vegetation lining the ditch lines. Clean areas of ditch only where water drainage is being impeded. Water and place rock on roads.
A-B	3.5 Miles.	Grade road as necessary before, during and after logging as described in road maintenance Section 2130 of contract in coordination with other operators.
300 (J-M)	0+0 to 78+50	Grade and spot rock (50 yards of rock 1”- 0).
300 (J-K)	30+50 to 45+35	Clean ditch to the left.
Gate	45+35	Add boulders or 2 cull logs to gate fence to prevent ATV’s from going around the gate.
300 (J-L)	37+00 to 47+75	Brush road ROW 4’ below fillslope and 4’ from center of ditch up cutslope. Limb branches for 15’ high clearance to allow log truck hauling. See Exhibit F diagram.
300 (K-M)	45+35 to 71+23	After the completion of log hauling, add 2” lift of surface rock (192 yards of 1”-0) from point K below the gate to the loop at “M” approximately 2,588 feet.
200 (B-C)	0+0 to 19+00	Grading and Spot rock (30 yards of 1”-0)
200 (B-C)	40+57 to 107+14	Road Grading
200 (B-C)	66+00 to 107+14	Brush road ROW 4’ below fillslope and 4’ from center of ditch up cutslope. Limb branches for 15’ high clearance to allow log truck hauling. See Exhibit F diagram.
280 "D-I"	0+0 to 12+00	Grading and Spot rock (30 yards of 1”-0)
280 "D-I"	12+00 to 50+21	Grading
280 "D-I"	18+23	Install 18" x 34' cross drain pipe according to Exhibit E.
280 "D-I"	27+21	Large Pothole. Rip and grade out large pothole. Add 3 yards of surface rock.
281 "E-F"	0+0 to 38+23	Brush and cut trees on edge of road prism within 4’ of ditch and 4’ of fillslope as shown on the Exhibit D diagram. Grub stumps that encroach on the 12 foot road prism. Reestablish proper drainage by reshaping and removing berm on outside of road. Blade or grade road for haul.
281 "E-F"	8+28 and 34+26	Install (two) 18” x 30’ cross drain pipes according to Exhibit E.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD INSTRUCTIONS

Segment	Station	Work Description
Unit 3 M-N, N-P, N-O		Build temporary road by clearing and grubbing trees in ROW. Follow flagline for center of road ensuring a road grade less than 12%. Blade natural surface to 12' running surface. Close Road upon completion. Subsoil roads and Waterbar for drainage. Cover road surface with slash for approximately 75% coverage.
M-N	1+00	Road grade should be below historic can dump at front of road. Take caution to leave a sufficient buffer to retain the dump site of approximately 25 feet.
P, O, N, G, H		Clear landings as necessary at P, O, G, H, and as necessary between FF-G, FF-H. Landings should be large enough for safe operations but kept to a minimum size.
Unit 5 F-G, FF-H		Build temporary road by clearing and grubbing trees in ROW. Follow flagline and utilize existing skidtrails as much as possible. Blade natural surface to 12' running surface. Close Road upon completion. Subsoil roads and waterbar for drainage. Cover road surface with slash for approximately 75% coverage.

EXHIBIT D

ROAD SURFACING

TYPE OF ROCK	SIZE OF ROCK	COMPACTED DEPTH	Road	Road Length for Rock	APPROX. TOTAL TRUCK MEASURE (VOLUME)
Gray	1" - 0	2“	**Point K – L** 3113-200	2,588’	192 (CY)

Rock may be obtained at Brown Quarry on the 2820-360 Rd, a USFS approved site. Rock will be measured by 2” compacted depth for the 2,588 foot section and approved by ODF. The Budd Quarry on the 2827-300 road has pitrun rock available. The Big Stump Quarry in Jackson Creek has larger stone for barriers.

EXHIBIT D

ROCK ACCOUNTABILITY

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 sediment will not enter streams. Additional surfacing needed because of construction season or construction practice is not included in the preceding ROAD SURFACING table, and shall be furnished at PURCHASER expense.

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 D. Truck measure volumes are given, but shall not limit the amount of rock spread.

Depth shall be determined in the most compacted area of the surface cross section. The depth of compacted aggregates shall not vary more than 1 inch from the depth specified in the "Road Surfacing" table in Exhibit D. The average depth for each road segment shall be the specified depth or greater. If additional rock is required because of insufficient depth, the locations, and volumes to be added shall be determined by STATE.

Load Records. Notify STATE before spreading the rock and maintain a record of all rock delivered for spreading. Make the record available for STATE inspection. A report listing the amount of rock delivered the prior month must be submitted weekly.

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

Moisture Content: Compaction must take place when moisture content of the materials being compacted is favorable for effective compaction as determined by STATE.

Compaction Pass: A pass is defined as traveling a road section forward and then backward over that same section.

Crushed Rock. The rock shall be uniformly mixed and spread on the approved roadbed. 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 until the surface is smooth and hard and visible deformation ceases. 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.

Rock shall be crowned, outsloped, or insloped at 4 to 6 percent as specified in the “Forest Roads Specifications” table in Exhibit D.

EXHIBIT D

COMPACTION EQUIPMENT OPTIONS

Any of the methods described below may be used to compact rock. A dump truck may require more than three passes to obtain the proper compaction. Compaction must be approved by State.

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

(3) Loaded Dump Trucks. Dump trucks shall be routed over the entire cross section of the road surface. Loaded trucks shall cover all of the subgrade with a minimum of three passes.

EXHIBIT E

CULVERT SPECIFICATIONS

All culvert materials shall be furnished and installed by PURCHASER, unless otherwise specified in the Contract.

"Culverts 24 inches in diameter and smaller shall be constructed of corrugated polyethylene. Culverts larger than 24 inches in diameter shall be constructed of corrugated aluminized Type 2 steel. Polyethylene culverts shall be double-walled and meet the requirements of AASHTO M-294-11, Type S, or ASTM F2648. Aluminized (Type 2) steel culverts shall meet the requirements of AASHTO M-36-03[1]."

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

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 specified in special instructions.

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

Culverts in live streams shall be installed with the inlet and outlet on grade with the stream bottom, unless otherwise specified in writing.

Cross Drain Culverts

Cross drain culverts on road grades in excess of 3 percent shall be skewed at least 30 degrees from perpendicular to the road centerline, except that cross drain culverts at the low point of dips in roads shall not be skewed. Cross drains shall be skewed to fit the required culvert length to the road prism.

Cross drain culverts shall be installed at a slope steeper than the incoming ditch grade, but not less than 3 percent or greater than 10 percent.

Disconnect Culverts

The culvert inlet shall be located as close to the channel that it is disconnecting, while the culvert outlet shall be located as far from the channel as possible; discharge culvert outflow on the forest floor, allowing for filtration before the water enters the disconnected channel.

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 culvert. The culvert trench shall be excavated 3 culvert diameters wide to permit compaction and working on each side of the culvert. Tamping shall be done in 6-inch lifts, 1 culvert diameter each side of the culvert. Bedrock shall be excavated as required to provide a uniform foundation for the full length of the culvert.

A bedding of crushed rock or sand 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 culvert for all culverts.

Backfill shall consist of crushed rock on improvement segments and crushed rock or job-excavated soil free of stumps, limbs, rocks, or other objects which would damage the culvert on new construction segments.

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

EXHIBIT E

CULVERT SPECIFICATIONS

Minimum height of cover over top of culvert to subgrade when road is to be rocked shall be as follows: 18" for culverts 18” to 36” and 24” for culverts 42” to 96”. 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.

Culverts 24 inches in diameter or larger shall have 1:1 step beveled inlets.

Compaction by tamping utilizing a Vibratory Hand-Operated or Backhoe-Mounted Tamper is required for all culverts.

Damaged culvert inlets and/or outlets shall be repaired by opening them with a hydraulic jack, or cutting off the culvert end to allow for free passage of water at peak flow levels. Install a culvert marker at each newly installed culvert and at each existing culvert that is missing a marker that could be reached by a grader blade.

The intake ends of culverts in fills less than 3 feet to the top of the culvert shall be marked by driving white fiberglass posts within 6 inches of the downgrade side. Posts shall be a minimum of 6 feet long and 2½ inches wide, with the spade driven 2 feet into the ground.

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

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

	Steel Culvert	Thickness			Band Widths (")	
Dia.	Gauge	Uncoated	Coated	Band Gauges	Annular	Helical
18-36	16	(0.0598")	(0.064”)	16	12	12

EXHIBIT E

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	MATERIAL TYPE	GAUGE	ROAD SEGMENT POINT TO POINT	STATION
1*	18	34	Polyethylene	Double Wall	18+23	D-I
2*	18	30	Polyethylene	Double Wall	8+28	E-F
3*	18	30	Polyethylene	Double Wall	34+26	E-F

TOTAL LENGTHS BY DIAMETER		
18 INCH	24 INCH	* INCH
94		

ACSP = Aluminized, CPP = Polyethylene

(* = Ditch Disconnect Culvert)
(T = Temporary Culvert, upon completion of road use, remove this culvert as required in Section 2365. Progressive Operations.)

EXHIBIT E

SPECIFICATIONS FOR BRUSH AND SLASH SHOVEL PILING – LANDINGS

Description of Work to be Done

(1) Within 14 days after completion of each Setting, pile all Slash within reach of the Landings by a log loader in the center of the Landing. Material suitable for firewood four inches and greater in diameter and up to twenty feet in length shall be separated into individual piles accessible for firewood cutting. Other Slash shall be piled to facilitate pile burning as directed by STATE.

(2) Piles must be free of noncombustible material and soil and as compact as possible. Pile all slash over 3" diameter. Piles shall be no larger than twenty (20) feet by twenty (20) feet by twenty (20) feet. No piece in the pile should exceed fifteen (15) feet in length. Protruding pieces shall be trimmed to allow covering in a manner that permits the piles to shed water.

(3) All piles shall be covered with polyethylene plastic (6 mil) thick or its equivalent as approved by ODF. Covering shall be placed on top of pile in a method that results in at least 80% of the pile being covered and such that the covering is secure so that the core will remain dry.

(4) Firewood decks shall be no larger than twenty (20) feet by twenty (20) feet by six (6) feet tall. Piles must be free of noncombustible material and as stable as possible.

(5) Location of Landing Piles and Decks. Piles shall be located and sized in a manner that is practicable to burn with minimum damage to Forest values and any improvements designated for protection. Outside edge of grapple/loader pile and/or decks shall be at least twenty-five (25) feet from base of any trees or adjacent timber. Piles shall be located on soil surfaces that have already been impacted by disturbance skid trails, landing, temporary roads. Piles shall not be located on road surfaces and ditch lines or interfere with functioning of drainage structures, ditches, or stream channels. Piles located within fifty (50) feet from live streams must be approved in writing by State.

Machine piles at landings will be built by grapple attachment to keep dirt and rock debris out. No cat piling or pushing of piles.

EXHIBIT E

SPECIFICATIONS FOR BRUSH AND SLASH SHOVEL PILING - IN UNIT 5
MULCHING AND GROUND COVER, RISIDUAL LOGS – IN UNITS 1, 2, 3 AND 5

Description of Work to be Done

The area designated for slash piling is shown on the logging plan exhibit, approximately 50 acres in Unit 5. It shall be treated according to the specifications given below. Protective measures such as residual logs, mulch and ground cover and skid trails discussed below apply to units 1, 2, 3 and 5.

(1) Pile Size and Spacing – Piles should be compact approximately 10 foot square. Piles shall be placed, in openings, outside the dripline and as far from residual trees and other piles as possible. Piles shall be placed on temporary roads or designated equipment trails when possible. Roadway piles shall be placed on outside shoulder of road. Piles shall not be placed on or in close proximity to stumps or down logs, which may allow fire to spread. Piles shall not be located on recreational trails or road surfaces (other than temporary/equipment roads as stated above), cutbanks, ditch lines, or other Forest improvements. Piles shall not be located within twenty-five (25) feet from subdivision boundary or powerlines and paved road surfaces, or within fifty (50) feet of live streams, unless approved in writing by STATE

(2) Residual Logs – Retain large cull logs and blow down 10” in diameter or more for down wood. Slash piles should be made from tops and branches 3” in diameter or more not needed mulch described below.

(3) Mulch and Ground Cover (All units) - Cover disturbed areas with slash or mulch to achieve minimum ground cover requirements. This includes skid trails, cable corridors, and landings. Leave branches and tops in the unit where possible. Lop and scatter to distribute woody material throughout the unit. Pile woody material only when needed to meet fuels objectives. For site productivity and erosion control standards and guidelines maintain 70% or greater effective ground cover. Maximum depth of activity fuels slash on temporary roads and landings is 12 inches

(4) Skid Trails - Equipment used to machine pile slash would use legacy skid trails, and temporary and permanent roads on slopes less than 30%, as much as possible.

(5) Excavator Piling - Piles shall be made by an excavator or Loader as described below. No cat piling or pushing of piles.

(6) Protective Measures - shall comply with Oregon Forest Practice Rules issued per ORS 527.610 to 527.992. Examples of protective measures are: (1) waterbarring tractor trails where necessary to prevent runoff toward streams; (2) not windrowing in streams or streamways; and (3) leaving Stream Buffers along designated streams.

(7) Work specifications may be modified or waived only upon written notice from STATE.

EXHIBIT E

SPECIFICATIONS FOR BRUSH AND SLASH SHOVEL PILING – IN UNIT WORK

Equipment Type, Equipment Operation, and Conduct of Work

The specifications given below are requirements for equipment type, equipment operation, and conduct of work under the contract.

Shovel - shall be a track-mounted machine with a ground-pressure rating of not more than 6.8 PSI and a net horsepower of 85 or more. The machine shall be capable of a minimum horizontal reach of 26 feet and a minimum vertical reach of 16 feet.

- Excavator-shovel: Bucket shall be a hydraulically controlled, 4- to 5-foot wide, "clamshell-style bucket or with rake arms," with a 360-degree continuous rotation, and tooth length on rake arm shall be greater than 14 inches long, unless otherwise approved in writing by STATE. “Clamshell-style bucket with rake arms” shall be hydraulically controlled to operate bucket in a horizontal position (**fixed position: positive control**) for piling Slash.

- Log Loader – shovel: Bucket shall be a hydraulically controlled, 4- to 5-foot wide, “clamshell-style bucket or with rake arms,” with a 360-degree continuous rotation, and tooth length on rake arm shall be greater than 14 inches long, unless otherwise approved in writing by STATE. “Clamshell-style bucket with rake arms” shall be hydraulically controlled to operate bucket in a vertical position (**free swinging**) for piling Slash.

Operator - must be experienced in operating similar equipment on land clearing operations, be able to operate the equipment proficiently, and pile the debris on the area 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 contract terms.

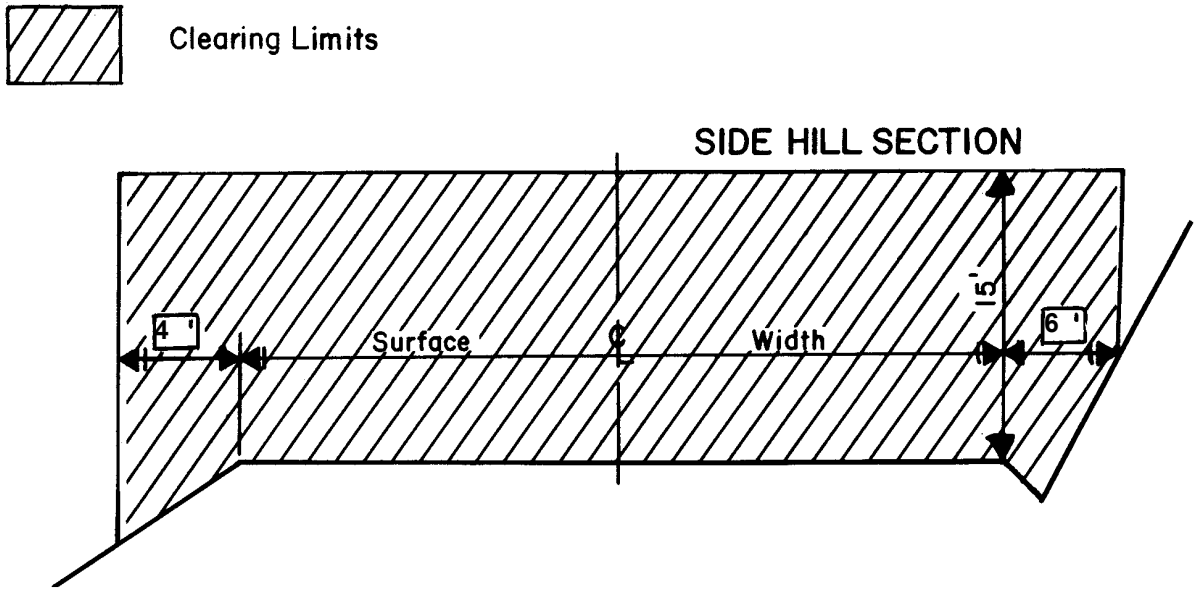
Work Scheduling - work shall be accomplished only during dry weather conditions, and started within 14 calendar days after completion of yarding activities on Areas 1. Operations shall provide for continual operation until contract work is completed, unless interrupted by poor weather, fire closures, 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. Piling operation shall not be allowed when operations might damage sites or affect stream flows. Any exception to these instructions must be authorized in writing by STATE.

STATE Representative - shall provide directions for the conduct of work according to specifications.

EXHIBIT F

[Height 20' for Mainline]
[Height 15' for Collectors/Spurs]

ROAD BRUSHING SPECIFICATIONS



[This drawing may be replaced with a District specific drawing]

EXHIBIT G

SKID ROAD and TEMPORARY ROAD VACATING SPECIFICATIONS

SUBSOILING, WOODY DEBRIS, WATERBARS AND BLOCKING ROADS

(1) Equipment. A Cat or a track mounted excavator shall be used for all road blocking, and waterbarring, unless otherwise approved in writing by STATE. A winged ripper shank and excavator are recommended for all subsoiling and covering the surface with slash in a single operational pass.

(2) Dry Conditions. Prior to October 31st of the first year following sale completion, all opened temporary roads that are not further needed for project implementation would be obliterated and erosion control measures in place. All work shall be performed during dry conditions acceptable to STATE. All subsoiling shall be done when soil moisture is less than 50%.

(3) All sections of new temporary roads on slopes above 25% shall be identified during the planning process to receive special consideration for restoration, including surface soil pull-back and erosion control.

(4) All compacted skid trials, temporary roads and landings that fall outside of the prisms of roads identified on the Forest transportation inventory as permanent, not further needed for project implementation shall be subsoiled and covered, or water barred (where approved) and made self-maintaining at the end of each operating season (by September 30th) in which they occur.

(5) Subsoiling operations shall lift and fracture the soil between rips to a minimum depth of 20 inches (as measure after subsoiling). To further prevent the potential for runoff to be carried down the treated road surface the majority of subsoiling rips shall occur across (i.e., herringbone pattern) the road alignment. Where the soil is too rocky for subsoiling (pulling rock >5 inches in size to the surface). This requirement may be waived by a soil scientist or sale administrator where the ground is less than 20 inches to bedrock or top skeletal (>35% cobbles).

(6) Temporary roads and skid trails still needed to complete project implementation would be winterized with all erosion control measures in place, and barricaded or blocked. Erosion control, at a minimum, would include water bars and ground cover at 25% plus coverage of slash. All compacted temporary roads and skid trails not further needed for project implementation shall be subsoiled and ground cover applied (straw, slash, wood chips) at the above mentioned application rate with a minimum 80% effective ground cover.

(7) Landings that have been used shall be sloped and ditched to allow water to drain or spread.

(8) Water barring to an adequate depth and length and spacing to effectively disperse surface water runoff without maintenance. See specification below for spacing intervals. Water bars should be skewed 30 to 45 degrees to the skid trail alignment and excavated at least 20 inches below the road grade. Runoff outlets will be constructed to prevent ponding behind water bars. Whenever possible, locate the outlets to drain onto vegetated, undisturbed soil areas.

(9) Use certified weed free straw and mulch for all erosion control and revegetation activities in the project area.

SPECIFIC INSTRUCTIONS/SPECIFICATIONS:

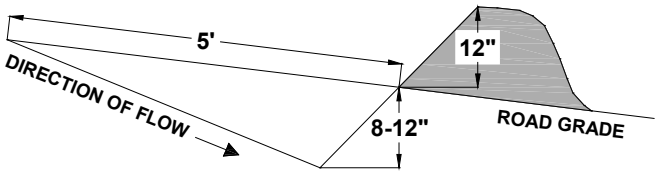
Segment	Work Description
Unit 5 Ground Based Units	Subsoiling: After logging, all compacted skid roads and landings shall be subsoiled or ripped. Shape roadbed to the original slope. Pull slash back across the subsoiled roadbed, for 70% effective ground cover over exposed mineral soil. If large tree roots, bedrock or subsurface boulders prevent subsoiling, purchaser shall work around them so as to avoid pulling these to the surface or ripping through them. Compacted portions of Skid Trails and landings - shall be ripped to a depth of 20 inches.
Skidroads	Woody Debris Pull slash back across the subsoiled roadbed, for 70% effective ground cover over exposed mineral soil.
Skidroads and Corridors	Construct Waterbars as directed by STATE. Construct waterbars according to the specifications in Exhibit D.
Unit 5	Block Roads. All skid roads shall be closed at the end of logging season to prevent off highway vehicle use. Use excavated material and cull logs to block temporary roads and skid roads from vehicle access, as directed by STATE. See Exhibit G.
Unit 5	Skid trails not needed for operations would be winterized by closing and waterbarring prior to October 31 each year.
Timber Sale Area	Slope and ditch landings to drain water when closing out the sale.

EXHIBIT G

WATERBAR SPECIFICATIONS

PROFILE

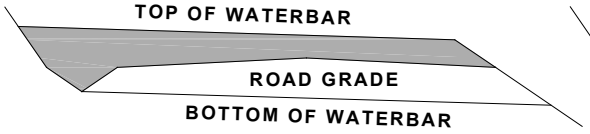
DITCHED AND OUTSLOPED



SPACING OF WATERBARS	
ROAD GRADE	DISTANCE
< 6 %	400'
6 - 10 %	200'
11 - 15 %	150'
> 15 %	100'

CROSS SECTION

DITCHED



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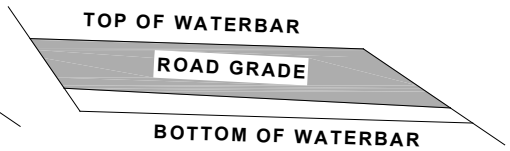
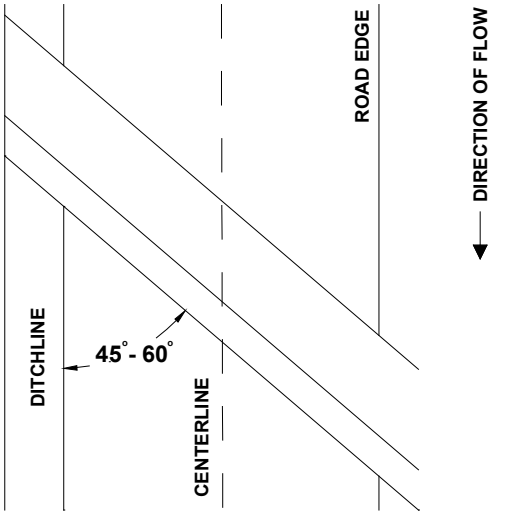


CONSTRUCT DITCHOUT THRU ANY EXISTING BERM.
CROSS DRAINAGE GRADIENT MINIMUM 3%.

PLAN VIEW

DITCHED



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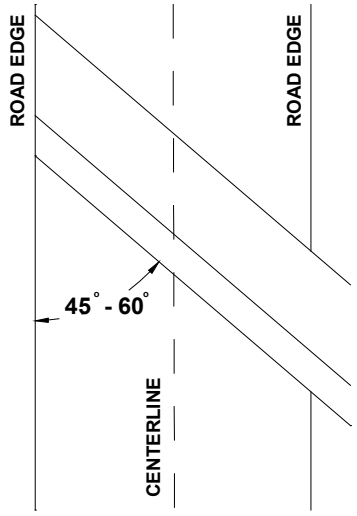
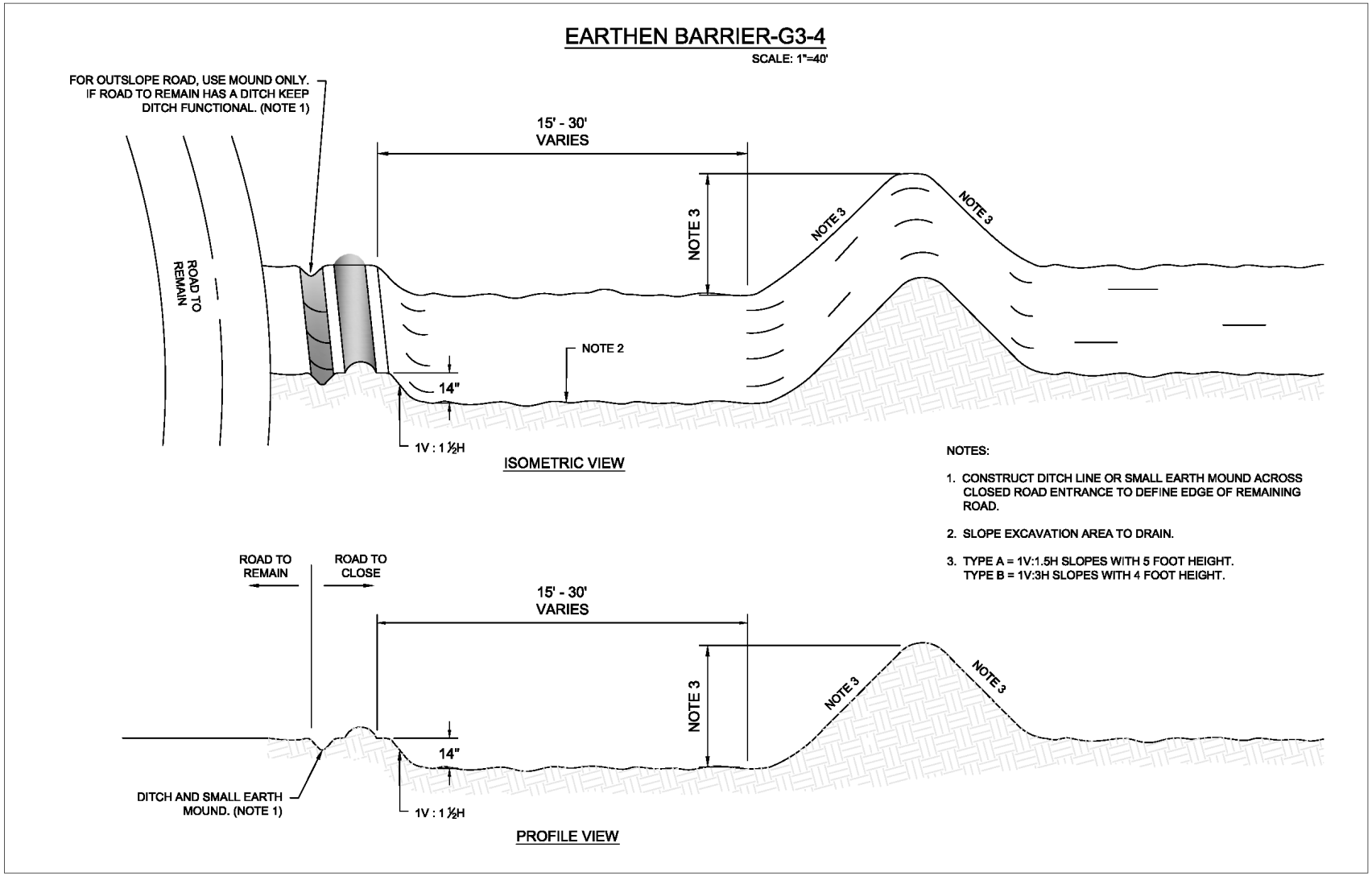


EXHIBIT G - EARTHEN BARRIER – ROAD CLOSURE



OREGON DEPARTMENT of FISH and WILDLIFE

FISH SCREENING PROGRAM

SMALL PUMP SCREEN SELF CERTIFICATION

The Oregon Water Resources Department in coordination and cooperation with the Oregon Department of Fish and Wildlife includes screen requirements on pumps to protect fish as a condition of many surface water and/or reservoir water right permits. This is done in accordance with ORS 537.153.

The Oregon Department of Fish and Wildlife does not usually inspect small pump screens at **pumped diversions less than 225 gpm** (gallons per minute), but furnishes the following fish screening criteria information to the water right permit holder:

Screen material open area must be at least 27% of the total wetted screen area.

Perforated plate: Openings shall not exceed 3/32 or 0.0938 inches (2.38 mm).

Mesh/Woven wire screen: Square openings shall not exceed 3/32 or 0.0938 inches (2.38 mm) in the narrow direction, e.g., 3/32 inch x 3/32 inch open mesh.

Profile bar screen/Wedge wire: Openings shall not exceed 0.0689 inches (1.75 mm) in the narrow direction.

Screen area must be large enough not to cause fish impact. Wetted screen area depends on the water flow rate and the water approach velocity. **Approach velocity** is the water velocity perpendicular to and approximately three inches in front of any part of the screen face.

An Active pump screen is a self-cleaning screen that has a proven cleaning system. The **screen approach velocity for active pump screens** shall not exceed 0.4 fps (feet per second) or 0.12 mps (meters per second). The wetted screen area in square feet is calculated by dividing the maximum water flow rate in cubic feet per second (1 cfs = 449 gpm) by 0.4 fps.

A Passive pump screen is a screen that has no cleaning system other than periodic manual cleaning. **Screen approach velocity for passive pump screens** shall not exceed 0.2 fps or 0.06 mps. The wetted screen area in square feet is calculated by dividing the maximum water flow rate by 0.2 fps.

For further information on fish screening please contact:

Oregon Department of Fish and Wildlife, Statewide Fish Screening Coordinator: 503.947.6229
Oregon Department of Fish and Wildlife, Screening Program Administrative Specialist: 503.947.6224

As evidence of having met fish screen installation requirements, please sign the certification and send to: **Oregon Water Resources Department, Water Rights Section, 725 Summer Street NE, Suite A, Salem, OR 97301-1271.**

Certification: I certify that my small pumped diversion of less than 225 gpm meets fish screening criteria, and that I will maintain it to comply with regulatory criteria. I also understand that should fish screening standards change, I may be required to modify my installation to meet applicable standards.

Applicant Signature: _____ Date: __/__/__ WRD File #: _____

Printed Name and Address: _____

Phone: (___)_____ Fax: (___) _____

Addendum to Fish Screening Exhibit:

Pumping of water for use in road maintenance must allow for the retention of at least 90% of the original stream flow below the pumping site. Water sources will require preapproval before use.