



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: WO-341-2020-W00378-01

(2) Sale Name: Wolf Junction

(3) Contract Expiration Date: 10/31/2022

(4) Purchaser Name: _____

(6) State Representatives:

<u>Name</u>	<u>Circle One</u>	<u>Phone No.</u>	<u>Cell No.</u>	<u>Alt Phone</u>
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			

(7) Purchaser Representatives:

<u>Name</u>	<u>Circle One</u>	<u>Phone No.</u>	<u>Cell No.</u>	<u>Alt Phone</u>
	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:

<u>Project No.</u>	<u>Subcontractor Name.</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Cell No.</u>	<u>Alt Phone</u>

Subcontractor Name.

Start Date

Cell No.

Alt Phone

(9) Comments:

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



Oregon Department of Forestry

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PART III: EXHIBITS

EXHIBIT B

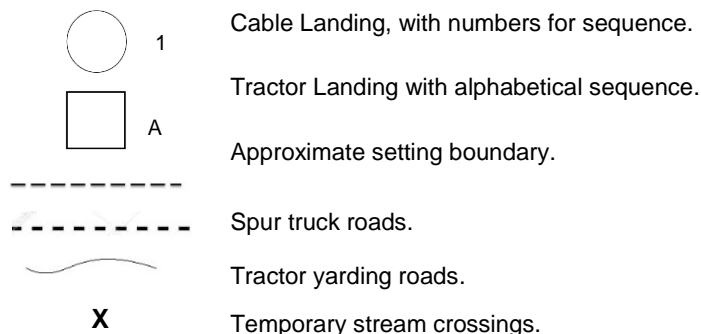
INSTRUCTION SHEET FOR OPERATIONS PLAN

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.




Oregon Department of Forestry

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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

Month/Year Date ____/____	Month/Year Date ____/____	Month/Year Date ____/____	Month/Year Date ____/____	Month/Year Date ____/____
Work Commences	25%	50%	75%	Projects Complete

Harvest & Other Requirements

Month/Year Date ____/____	Month/Year Date ____/____	Month/Year Date ____/____	Month/Year Date ____/____	Month/Year Date ____/____
Work Commences	25%	50%	75%	Sale Complete

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: _____

 SUBMITTED BY:
PURCHASER

 STATE OF OREGON - DEPARTMENT OF
FORESTRY

Title _____

Title _____



Oregon Department of Forestry
EXHIBIT C - SAWMILL GRADE (WESTSIDE SCALE)
SCALING INSTRUCTIONS - LOCATION APPROVAL - BRAND INFORMATION
West Oregon - NWOA

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

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

(3) FROM: West Oregon Phone (541) 929-3266
(State Forestry District)
Address: 24533 ALSEA HWY
PHILOMATH, OR 97370

(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'.

(7) Weight Scale Sample ☐ YES ☒ NO

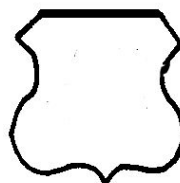
(8) APPROVED SCALING LOCATIONS (as shown on the ODF Approved Locations web-site)	Species	Yard	Truck	Weight

(9) SALE NAME: Wolf Junction
COUNTY: Lincoln

(10) STATE CONTRACT NUMBER:
WO-341-2020-W00378-01

(11) STATE BRAND REGISTRATION NUMBER:

(12) STATE BRAND INFORMATION:



(13) PAINT REQUIRED: YES ☒
COLOR: Orange

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



Oregon Department of Forestry
EXHIBIT C - SAWMILL GRADE
INSTRUCTIONS FOR FORM 343-307a (rev. 11/11)
West Oregon - NWOA

- (1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires logging and hauling to be complete, recall branding hammers, date and sign where indicated, write diagonally across page "CANCEL", and send to TPSO.

(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@southernoregonlogscaling.com

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

Pacific Log Scaling & Grading Bureau, Inc.
P.O.Box 23939, Portland, OR 97281
Phone: (503) 684-5599 Fax: (503) 639-4880
Email: PacLogScale@sol.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 specifics 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: http://www.odf.state.or.us/DIVISIONS/management/asset_management/ScalingLocation.asp Locations with scaling and processing directions specific to their location should be on a separate form. Species should be identified if not capable of receiving "all" species. Check appropriate box for either: yard, truck scale, or weight. Refer to the web site listed above for the locations approval status.
- (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 conversion factors, per load volumes, weight scale sample instructions or any other explanations to clarify scaling, processing and/or mailing requirements. If additional scaling locations are approved, revise original or current form showing all (old and new) locations. Check REVISION box at top of form and explain under remarks. Route as indicated.
- (16) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form.

Salem Distribution Instructions: Original will be mailed to Salem after it is electronically scanned and placed in the Salem transfer drive \\WPODFFILL01\\Transfer\\ScalingInstructions or e-mailed directly to scaling@odf.state.or.us. Scaling Instructions for each brand should be scanned separately, for each approved TPSO.

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(s), Purchaser, Specific distribution instructions are outlined on the last page of this report: Instructions for Form



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

West Oregon, NWOA

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

(9) **SALE NAME:** Wolf Junction
COUNTY: Lincoln
STATE CONTRACT NUMBER:
WO-341-2020-W00378-01

(2) _____
(Approved Pulp Processing Facility)

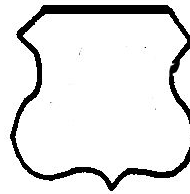
(11) **STATE BRAND REGISTRATION NUMBER:** _____

(3) **FROM:** West Oregon Phone (541) 929-3266
(State Forestry District)
Address: 24533 ALSEA HWY
PHILOMATH, OR 97370

(12) **STATE BRAND INFORMATION:** _____

(4) **PURCHASER:** _____

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



Mailing Address: _____

(13) **REMARKS:**

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.

Operator's Name (Optional inclusion by District):

(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.

(14) **SIGNATURES:**

Purchaser or Authorized Representative _____ Date _____

State Forester Representative _____ Date _____

State Forester Representative PRINT NAME _____

(8) **TPSO PROCESSING INSTRUCTIONS**

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

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.

Distribution: ORIGINAL: Salem/ COPIES: TPSO, Approved Pulp Processing Location, Purchaser, District, Mgmt. Unit



Oregon Department of Forestry
EXHIBIT C - PULP SORT
Instructions for Form 343-307b

West Oregon, NWOA

- (1) **Must Complete.** Check appropriate box. REVISION NUMBER requires comments in the Remarks Section(13). CANCELLATION requires logging and hauling to be complete, recall branding hammers, date and sign where indicated, write diagonally across page "CANCEL", and send to TPSO.
- (2) **Must Complete.** Approved Pulp Processing Facility. Write in as written in the Approved Log Delivery Location http://www.odf.state.or.us/DIVISIONS/management/asset_management/ScalingLocation.asp
- (3) **Must Complete.** State Forestry District and District Phone Number.
- (4) **Must Complete.** Purchaser's business name as it appears on the Contract.
- (5) **Must Complete.** 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@southernoregonlogscaling.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 Scalars Inc.
6137 NE 63rd St, Vancouver, WA, 98661
Phone: (360) 553-7212 ext. 4 Fax: (360) 553-7213
Email: info@nwlogscalars.com

Pacific Log Scaling & Grading Bureau, Inc.
P.O.Box 23939, Portland, OR 97281
Phone: (503) 684-5599 Fax: (503) 639-4880
Email: PacLogScale@sol.com

Must Complete. Big end log not to exceed _____ inches. 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.

- (7) **Must Complete.** Enter sale name and county. If more than one county write in all the counties that the sale is located in.
- (8) **Must Complete.** Enter sale Contract number.
- (9) **Must Complete.** Enter Oregon's State Brand Registry Number **(REQUIRED)**.
- (10) **Must Complete.** 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).
- (11) Use this section to list any special instructions or the reason for any revisions in section item(1).
- (12) **Must Complete.** Purchaser required to sign and date completed form in addition to State Forester Representative, sign and print name on the form.

Salem Distribution Instructions: Original will be mailed to Salem after it is electronically scanned and placed in the Salem transfer drive \\WPODFILL01\Transfer\ScalingInstructions or e-mailed directly to scaling@odf.state.or.us. Scaling instructions for each brand should be scanned separately, for each approved TPSO.

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

EXHIBIT D
FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
16 feet	14 feet	1 to 2	0+00 to 28+70	Crowned
14 feet	12 feet	2 to 3	0+00 to 29+80	Crowned/ Outsloped
14 feet	12 feet	3 to 4	0+00 to 22+80	Crowned/ Outsloped
14 feet	12 feet	5 to 6	0+00 to 16+70	Outsloped
14 feet	12 feet	7 to 8	0+00 to 4+70	Outsloped
14 feet	N/A	9 to 10	0+00 to 13+30	Outsloped

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.

"Road Brushing Specifications" in Exhibit E shall apply. Where clearing limits have not been marked, the clearing limits shall extend 5 feet back of the top of the cutslope and 5 feet out from the toe of the fill slope, or as directed by STATE. Clearing debris shall not be placed or permitted to remain in or under any road embankment sections. Clearing debris shall not be left lodged against standing trees.

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 CLASSIFICATION.

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 in stable locations through openings in the timber outside of the cleared right-of-way, except areas where end-haul is required. In areas where end-haul is required, clearing and grubbing debris shall be fully contained and hauled to a designated waste area. Clearing and grubbing debris shall be left in a stable location, and not left lodged against standing trees.

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-specified lines, grades, dimensions, and plans when provided.

Unless road 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.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

Suitable excavated material shall be used 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.

Sidecast includes any road generated excess excavation material which is not essential as part of the road prism, is not compacted, and is below the roadway. Sidecast shall not be placed where it will enter a stream course. Leaving sidecast below the road is only permissible if specifically allowed in "Full Bench and End Haul Requirements" in this Exhibit.

All fills shall be machine compacted according to the "Compaction and Processing Requirements" in this Exhibit.

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 specified in the plans or as follows: 400 divided by the radius of the curve equals the amount of extra width.

DRAINAGE

Subgrade. Subgrade shall be crowned at 4 to 6 percent or outsloped at 3 to 4 percent as shown on the "Forest Road Specifications" table in this Exhibit.

Ditch. Construct "V" shaped ditch 3 feet wide and to a depth of 1 foot below subgrade.

Ditchouts. Construct ditchouts to drain away from subgrade at locations marked in the field or as directed by STATE.

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

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

SLOPES

Solid Rock

Fractured Rock

Soil - side slopes 50% and over

Soil - side slopes less than 50%

Back Slopes

Vertical to $\frac{1}{4}$:1

$\frac{1}{2}$:1

$\frac{3}{4}$:1

1 :1

Fill Slopes

1½:1

1½:1

Top of cutslope shall be rounded.

LANDINGS. Landings shall be constructed as posted in the field, no less than 50 feet wide and no more than 70 feet wide unless otherwise approved by STATE. Surface is to be crowned for drainage with general grade no more than 3 percent. Surface as shown in the "Road Surfacing" table in this Exhibit.

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

SEASONAL WINTERIZATION. All unsurfaced roads or unfinished subgrades shall be waterbarred in accordance with the specifications in this Exhibit, and blocked from vehicular traffic prior to October 1, annually and as directed by STATE.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

- (1) Timber Removal. Remove all trees within posted Right-of-Way as specified in Section 2210, Designated Timber.
- (2) Roadside Brushing. Conduct roadside brushing as specified in Exhibit E.
- (3) Bank Slough Removal. Dig out all bank slough. Bank slough material shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE.
- (4) Culvert Replacement, Culvert Installation, Fill Reconstruction, and Fill Removal. Existing culvert geometry shall be modified to provide for optimum drainage and culvert performance. Modifications may include, skewing the culvert and/or installing the culvert at gradients equal to or exceeding the drainage (or ditch) gradient. Where fill reconstruction or culvert replacement is specified, fills shall be excavated to natural stream course levels. All woody debris encountered during fill excavation shall be removed. Excess waste materials shall be hauled to nearby waste areas and shall be uniformly sloped and compacted for drainage. Fill reconstruction backfill shall consist of select materials and may be obtained from borrow pits, as directed by STATE. Backfill materials shall be hauled in where necessary and thoroughly compacted in accordance with this Exhibit. Crushed rock shall be used for backfilling excavation trenches less than 3 feet deep. STATE may require the use of crushed rock for culvert bedding. Removed culverts shall be hauled to an approved refuse site off of STATE land.
- (5) Drainage Ditches. Restore or construct ditchlines, including ditchouts, as directed by STATE. Clean out all culvert inlets and outlets for a 10-foot radius. Re-establish or construct culvert sediment basins. Waste materials from drainage ditches and sediment basins shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE.
- (6) Sod Removal Scrape off sod and grass from road surfacing where needed. Sod material shall be scattered in stable locations through openings in the timber outside of the cleared right-of-way.
- (7) Equipment. All excavation and riprap placement shall be performed using a minimum 1½ cubic yard, track-mounted excavator.
- (8) Waste Areas shall be uniformly sloped and compacted for drainage.
- (9) 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 at 4 to 6 percent or outslope of 3 to 4 percent, and compact in accordance to the "Compaction and Processing Requirements" in this Exhibit.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT AND BRUSHING INSTRUCTIONS (Project Nos. 1 & 2)

<u>Segment</u>	<u>Station</u>	<u>Work Description</u>
1 to 2	0+00 to 28+70	<p>Apply 80 CY of 1½" -0 rock for spot rock from Point 1 to Point 2 and process and compact with grader and vibratory roller.</p> <p>At Sta. 16+92, excavate existing culvert and remove from state lands. Install 48"x34' 14 gauge aluminized culvert as specified in this exhibit for Fish Passage Culverts. Utilize 20 CY of 1½"-0 rock as culvert bedding and backfill. Use excavated material as needed for backfill, scatter excess material in locations approved by state. Dewater stream during in-stream activities and apply straw mulch to exposed soils at completion.</p>
2 to 3	0+00 to 29+80	<p>Brush road according to Exhibit E and remove sod and brushing debris with road grader.</p> <p>Apply 200 CY of 1½" -0 spot rock from Point 2 to Point 3. Process and compact surface with grader and vibratory roller</p> <p>Repair culvert inlet using hydraulic jack.</p>
3 to 4	0+00 to 22+80	<p>Brush road according to Exhibit E and remove sod and brushing debris with road grader.</p> <p>Apply a 4" lift of 1½" -0 rock from Point 3 to Point 4 (500 CY). Process and compact surface with grader and vibratory roller.</p> <p>Re-open Landing at Pt. 4 using road grader. Apply, process and compact 20 CY of jaw-run rock to the Landing.</p>
5 to 6	0+00 to 16+70	<p>Brush road according to Exhibit E and remove sod and brushing debris with road grader.</p> <p>Apply a 4" lift of 1½" -0 rock from Point 5 to Point 6 (360 CY). Process and compact surface with grader and vibratory roller.</p> <p>Re-open Landing at Pt. 6 using road grader. Apply, process and compact 20 CY of jaw-run rock to the Landing.</p>
7 to 8	0+00 to 4+70	<p>Brush road according to Exhibit E and remove sod and brushing debris with road grader.</p> <p>Apply a 4" lift of 1½" -0 rock from Point 7 to Point 8 (100 CY). Process and compact surface with grader and vibratory roller.</p> <p>Re-open and enlarge Landing at Point 8 using dozer. Apply, process and compact 40 CY of jaw-run rock to the Landing.</p>
9 to 10	0+00 to 13+30	<p>Re-open unsurfaced road with dozer. Shape and compact subgrade from Point 9 to Point 10. Apply, process and compact 18 CY of 3"-0 junction rock at Point 9.</p> <p>Re-open unsurfaced Landing at Pt. 10 with dozer.</p>
Brush roads according to Exhibit E and remove sod and brushing debris using a road grader for the following road segments; 11 to 12, 3 to 13, 14 to 15, 16 to 17, 18 to 19, 20 to 21, 22 to 23.		

EXHIBIT D
ROAD SURFACING

				Point to Point		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	1 to 2		0+00 to 28+70			
				Volume (CY) per		Number of			
Spot rock	1 1/2"-0	n/a	n/a	10	load	8	loads	80	108
Culvert bedding and backfill rock	1 1/2"-0	16+92	n/a	20	culvert	1	culvert	20	27

				Point to Point		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	2 to 3		0+00 to 29+80			
				Volume (CY) per		Number of			
Spot rock	1 1/2"-0	n/a	n/a	10	load	20	loads	200	270

				Point to Point		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	3 to 4		0+00 to 22+80			
				Volume (CY) per		Number of			
Surface rock	1 1/2"-0	0+00 to 22+80	4	22	station	22.8	stations	500	675
Landing rock	jaw-run	22+80	n/a	10	load	2	loads	20	27

				Point to Point		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	5 to 6		0+00 to 16+70			
				Volume (CY) per		Number of			
Surface rock	1 1/2"-0	0+00 to 16+70	4	22	station	16.7	stations	360	486
Landing rock	jaw-run	16+70	n/a	10	load	2	loads	20	27

EXHIBIT D

ROAD SURFACING

				Point to Point		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	7 to 8		0+00 to 4+70			
				Volume (CY) per		Number of			
Surface rock	1 1/2"-0	0+00 to 4+70	4	22	station	4.7	stations	100	135
Landing rock	jaw-run	4+70	n/a	10	load	4	loads	40	54

				Point to Point		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	9 to 10		0+00 to 13+30			
				Volume (CY) per		Number of			
Junction rock	3"-0	0+00 to 0+50	n/a	40	station	0.5	stations	18	24

Total Rock Volumes For Project No. 1				
Rock Size	1 1/2"-0"	3"-0	Jaw-Run	Boulders 24"+
Rock Totals CY	1258	18	80	
Rock Totals TONS	1698	24	108	

Total Rock Volumes For Project No. 4				
Rock Size	1 1/2"-0"	3"-0	Jaw-Run	Boulders 24"+
Rock Totals CY	1000			20
Rock Totals TONS	1350			27

Maintenance Rock Volumes				
Rock Size	1 1/2"-0	3"-0	Jaw-Run	Boulders 24"+
Rock Totals CY	410			
Rock Totals TONS	554			

CY to TONS conversion factors				
Size	1 1/2"-0	3"-0	Jaw-Run	boulders
Tons/CY	1.35	1.35	1.35	1.35

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

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 no later than the 15th of each month.

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.

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 the surface is smooth and hard and visible deformation ceases. At least 3 passes shall be made over the entire width and length of the road. 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 or outsloped or insloped at 3 to 4 percent as specified in the "Forest Roads Specifications" table in Exhibit D.

ROAD SEGMENT	SUBGRADE COMPACTION OPTIONS
All road segments.	1

Fills. Embankments and fills shall be placed in (approximately) horizontal layers not more than 8 inches in depth. Each layer shall be separately, and thoroughly, compacted. Compaction equipment shall be operated over the entire width of each layer until visible deformation of the layers ceases. At least 3 passes shall be made over the entire width and length of each layer.

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

ROAD SEGMENT	FILLS COMPACTION OPTIONS
All road segments.	1 and 2

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 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, compacted, and approved by STATE 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 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 at 4 to 6 percent or outsloped at 3 to 4 percent as specified in the "Forest Roads Specifications" table in Exhibit D.

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

ROAD SEGMENT	CRUSHED COMPACTION OPTIONS
All road segments requiring crushed rock.	1

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

EXHIBIT D

DURABLE CRUSHED ROCK SPECIFICATIONS

Grading Requirements

<u>For ¾"-0"</u>	Passing	1" sieve	100%
	Passing	¾" sieve	90-100%
	Passing	⅜" sieve	55-75%
	Passing	¼" sieve	40-60%
	Passing	No. 10 sieve	20-40%
	Passing	No. 40 sieve	8-16%
<u>For 1½"-0"</u>	Passing	2" sieve	100%
	Passing	1½" sieve	90-100%
	Passing	¾" sieve	60-90%
	Passing	¼" sieve	30-50%
	Passing	No. 10 sieve	15-30%
	Passing	No. 40 sieve	7-15%
<u>For 3"-0"</u>	Passing	4" sieve	100%
	Passing	3" sieve	90-100%
	Passing	1½" sieve	60-90%
	Passing	¾" sieve	40-60%
	Passing	¼" sieve	20-40%
	Passing	No. 10 sieve	5-20%
<u>For Jaw-Run</u>	Passing	6" sieve	100%
	Passing	3" sieve	45-65%
<u>For Pit-Run</u>	Passing	10" sieve	100%
	Passing	6" sieve	60-85%

Control of gradation shall be by visual inspection by STATE.

EXHIBIT D
CULVERT SPECIFICATIONS

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

Culverts 36 inches in diameter and smaller shall be constructed of corrugated polyethylene. Polyethylene culverts shall be double-walled and meet the requirements of AASHTO M-294-11, Type S, or ASTM F2648.

Culverts greater than 36 inches in diameter or used as fish passages shall be constructed of corrugated aluminized (Type 2) steel. Aluminized (Type 2) steel culverts shall meet the requirements of AASHTO M-36-03.

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.

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.

In-stream Culverts

De-watering of the work site shall be accomplished according to PURCHASER's STATE approved plan and prior to the removal of any additional fill material for the development of the culvert bed and stream channel. De-watering of the work site may be accomplished by use of cofferdams, pumps, temporary diversion ditches and/or drainage structures. Work shall be done only during the in-stream work period, unless otherwise approved by STATE.

Fish Passage Culverts

Type-F stream fill reconstruction must allow free passage of fish as provided in the Oregon Forest Practice Rules. The gradient of the culvert shall match the average gradient of the stream 300 feet above and below site of installation. The excavated culvert trench must allow for 40% of the culvert height to be buried after completion of the project to allow a natural stream bed within the culvert.

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.

EXHIBIT D

CULVERT SPECIFICATIONS

A bedding of crushed rock as specified shall be placed to provide a wide band of support and to transmit the load from above evenly over the entire length of the culvert for all culverts.

Backfill shall consist of excavated material free from woody debris and capped with 1½"-0 crushed rock on improvement segments

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

Minimum height of cover over top of culvert to subgrade when road is to be rocked shall be as follows: 12" for culverts 18" to 36" and 18" for culverts 42" to 96". Minimum vertical cover for other designs shall be as specified by STATE. The finished subgrade shall match the subgrade of the road before construction.

Lengths of individual culvert sections shall be not less than 10 feet, unless otherwise provided for in special instructions. The shortest culvert section length shall be placed at the inlet end.

The ends of each culvert shall be free of logs and debris which would restrict the free flow of water.

The outlet end of any culvert which would allow water to erode embankment soil shall be provided with an energy dissipator, half round, or other approved slope protection device. Construct lead-off ditches away from culvert outlets where the slope gradients restrict the free flow of water.

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

All culverts scheduled for replacement shall become property of the PURCHASER and be removed from STATE land and hauled to an approved refuse site in the same project period in which replacement occurred. 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.

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.

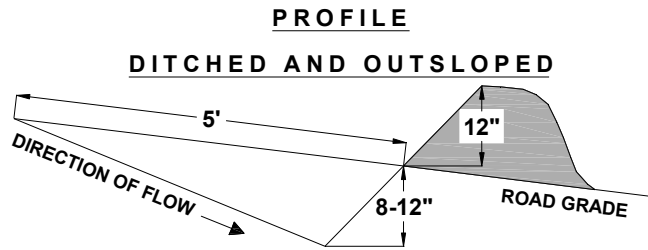
<u>Dia.</u>	<u>Steel Culvert</u>	<u>Thickness</u>		<u>Band Gauges</u>		<u>Band Widths (")</u>	
	<u>Gauge</u>	<u>Uncoated</u>	<u>Coated</u>			<u>Annular</u>	<u>Helical</u>
48	14	(0.0747")	(0.079")	16	24	24	24

CULVERT LIST

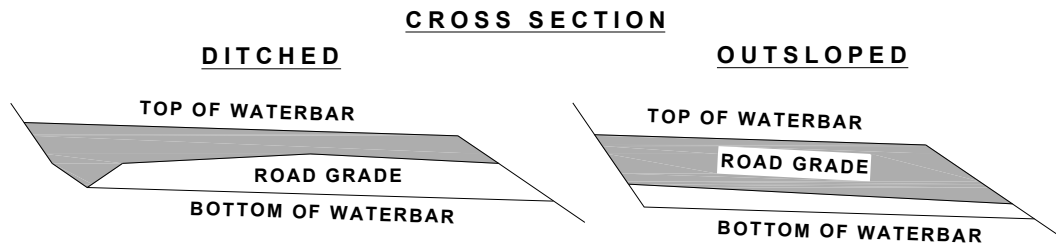
CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	MATERIAL TYPE	GAUGE	ROAD SEGMENT POINT TO POINT	STATION
1	48	34	ACSP	14	1 to 2	16+92

ACSP = Aluminized

EXHIBIT D
WATERBAR SPECIFICATIONS



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



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

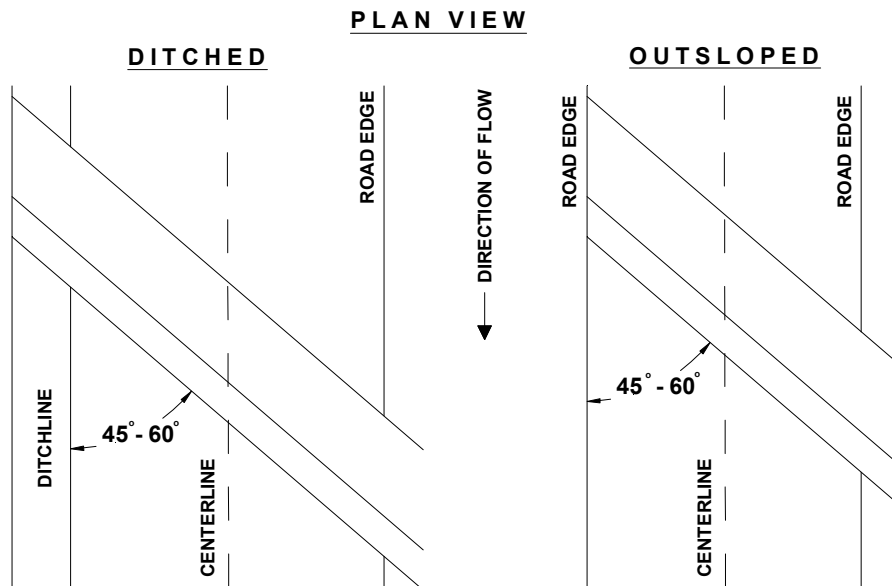
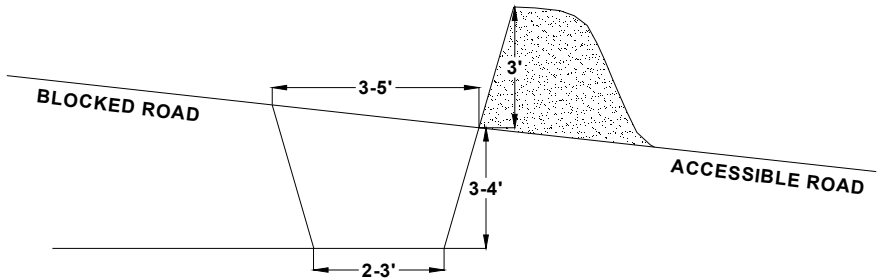
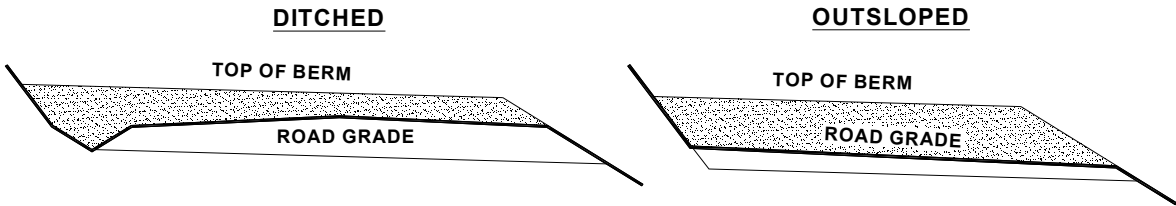


EXHIBIT D TANK TRAP SPECIFICATIONS

PROFILE DITCHED AND OUTSLOPED

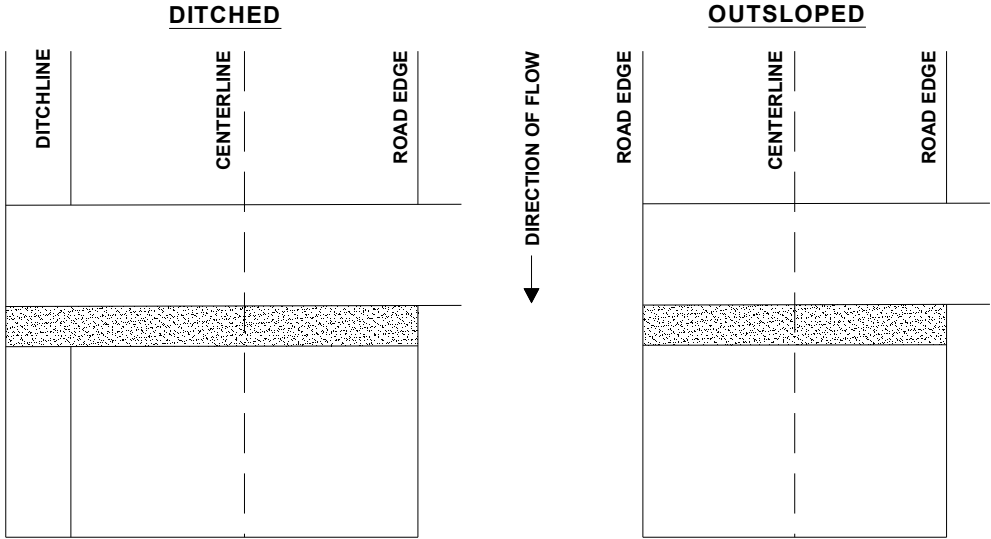


CROSS SECTION



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

PLAN VIEW



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.

EXHIBIT E
ROAD BRUSHING SPECIFICATIONS

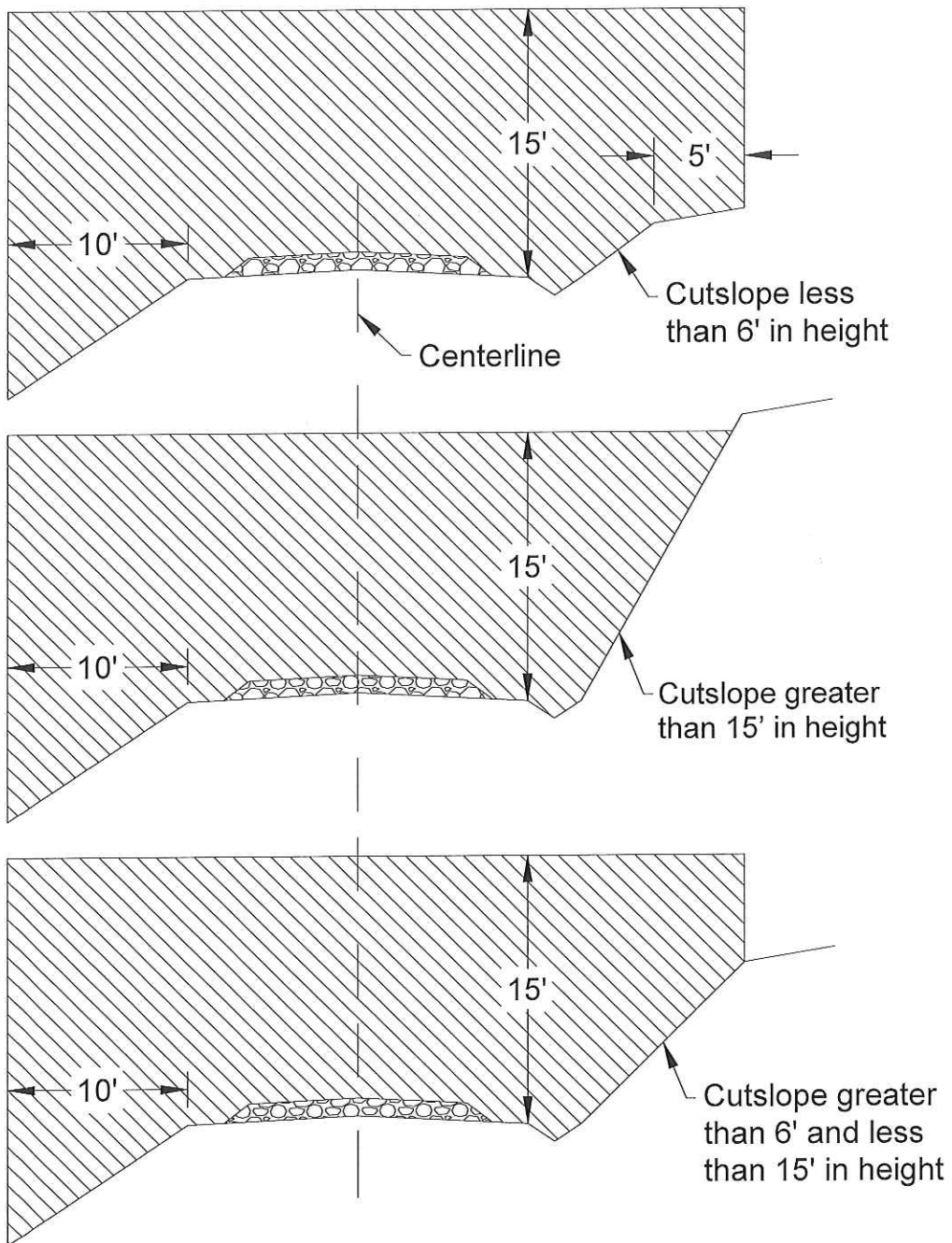


EXHIBIT E

ROAD BRUSHING SPECIFICATIONS

REQUIREMENTS

Purchaser shall conduct roadside brushing on the roads shown on page 3 of this Exhibit. The minimum height of clearing shall be 15 feet from the road surface, and the minimum width of brushing on the cutslope side of the road shall be dictated by the height of the cutslope as indicated in the drawing above. In situations where site distance is an issue brushing heights on the cutslope may vary from the drawing, as directed by STATE.

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, water courses, culvert inlets and outlets and sediment catching basins. Debris shall be mulched or scattered downslope from the road or placed in other stable locations. Large debris, 6 inches or larger in diameter, shall be mulched or cut into lengths 6 feet or less to facilitate rapid decay, unless otherwise approved by STATE.

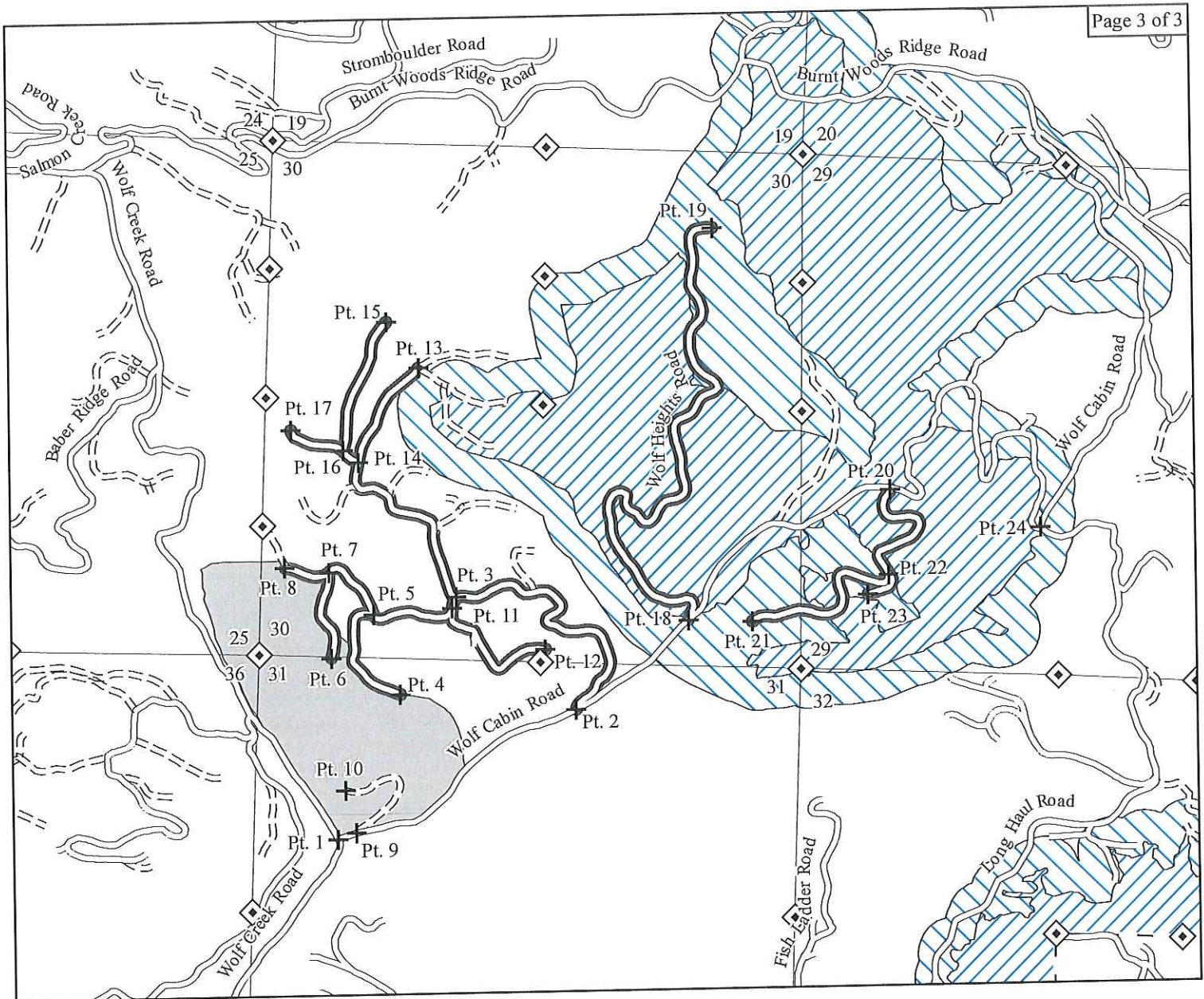
Trees larger than 6 inches in diameter at stump height, located within clearing limits but outside of the ditchline or shoulder, shall not be cut down, but shall be limbed for road visibility.

Existing debris on the roadway, cutslope, ditchline, or catch basin shall be removed and treated. Debris shall be mulched or scattered downslope from the road or placed in other stable locations. Large non-merchantable debris, 6 inches or larger in diameter, shall be mulched or cut into lengths 6 feet or less to facilitate rapid decay, unless otherwise approved by STATE.

Merchantable blown down trees encountered shall be bucked in lengths as directed by STATE, and placed in locations acceptable to STATE, or pushed out of the road prism.

When spur roads to be brushed end with a Landing, the Landing is to be brushed as directed by STATE.

CULVERT AND ROAD MARKER DAMAGES. Culvert and road markers damaged, or any portion of a marker damaged from PURCHASER activities shall be replaced.



Legend

Timber Sale Area

Roadside Brushing

Marbled Murrelet Management Area

Occupied Habitat

Non-Habitat Buffer

Roads

Surfaced Road

Unsurfaced Road

Project Point

Land Survey Monument

EXHIBIT "E" ROADSIDE BRUSHING MAP

OF TIMBER SALE CONTRACT NO. WO-341-2020-W00378-01
WOLF JUNCTION
PORTIONS OF SECTIONS 29, 30 & 31, T11S, R08W, W.M.,
LINCOLN COUNTY, OREGON.

This product is for informational use and may not have been prepared for or be suitable for legal, engineering or survey purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of this information.

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Date: 11/25/2019

EXHIBIT F

ROADSIDE SPRAYING SPECIFICATIONS

REQUIREMENTS

PURCHASER shall conduct a roadside spray application on the roads shown on page 4 of this Exhibit, for an estimated 6.8 miles (18.1 acres) to be treated. As directed by STATE, PURCHASER shall apply the prescribed herbicide mix to all foliage/vegetation on the road surface and within ten (10) horizontal feet from the road edge, vehicle turnouts, and Landings. The minimum height of spraying shall be ten (10) vertical feet from the road surface. The application shall be made to wet all the foliage, but not to the point of significant runoff. Target vegetation includes woody species such as salal, red alder, salmonberry, thimbleberry, scotch broom and blackberry, as well as fern and grass species.

PURCHASER shall provide one (1) Application Truck with a licensed applicator/driver; required herbicides and carrier; and all facilitating equipment for roadside spray application on forest roads. Additional equipment and support personnel may be utilized with written approval from STATE.

WORK PERIOD. Spraying is to be conducted between July 15 and September 30 of the year following completion of Roadside Brushing. Work must occur during dry weather periods, unless otherwise approved by STATE.

SPRAY EQUIPMENT. PURCHASER shall furnish one application truck with a metered injection sprayer. The sprayer must have at minimum two injection units and a water supply tank that has a minimum 50 gallon capacity. The application truck shall have at least one spray gun or wand connected to a minimum of 50 feet of hose. All vehicles shall have the power to negotiate roads in the contract area with a full load. PURCHASER shall furnish all equipment necessary to prepare the specified chemical mixtures. Quantities shall be measured as accurately as possible using calibrated dip sticks or other approved means of measuring liquids. The application truck shall be equipped with an agitation system capable of keeping the herbicide evenly distributed in the tank. Each application truck shall be equipped with a pump capable of rapid filling and mixing. Any deviation from the above specifications must be approved by STATE in writing.

- a. The spraying equipment shall be capable of disseminating the liquid herbicide mixture at a measured rate.
- b. Handgun, wand type, or any other spray systems shall be designed to receive spray nozzles with changeable orifices and shall operate under controllable pressure to the spray nozzle. The system must be leak proof with the nozzles equipped with diaphragm check valves or equivalent to assure positive shutoff.
- c. Nozzles shall be maintained free of plugs to assure a uniform application of sprayed mixture. Replacement nozzles and diaphragms shall be kept with each application truck for use whenever a nozzle is determined to be leaking.
- d. The spraying equipment shall be capable of operating at an even nozzle pressure. The lowest nozzle pressure recommended by the nozzle manufacturer shall be used to reduce the potential of off-target drift.
- e. Equipment shall be maintained to operate efficiently and to prevent leakage of chemicals, carriers, or spray mixture.
- f. PURCHASER shall furnish portable pumps with necessary suction hose and feed hoses to supply the application truck with water from streams. This unit will be used for water only. An air gap separation or suitable back-flow preventer shall be provided where mixing water is obtained by direct connection to a domestic water supply or where water is taken from streams or ponds. Portable pumps shall be equipped with a fish screen that complies with the Oregon Department of Fish and Wildlife Small Pump Screen Self-Certification Form.

EXHIBIT F

ROADSIDE SPRAYING SPECIFICATIONS

OPERATOR. Operator shall have a valid Oregon Commercial Applicator's License with the forest and Right-of-Way Category endorsements.

PROTECTION MEASURES

Buffer Zones. As directed by ODF representative, Contractor shall mark each water-road crossing within the project area using a combination of green-glo and red flagging no less than two (2) feet long. The flagging shall be placed in four locations, on both sides of the road and both sides of the water feature (stream), at a point no less than ten (10) feet from the water's edge and at eye height or a location visible to the spray operator when operating the spray vehicle. The Contractor shall inform the ODF representative when marking is complete. The ODF representative will field verify that the marking has been performed to the above specifications within five (5) working days. The ODF representative will contact the Contractor to correct any deficiencies and/or to begin the spraying operation. No spraying will occur until the marking has been completed and checked and approved by the ODF representative.

Weather Conditions. The spray material shall be applied under weather conditions which will protect non-target forest resources and comply with the product label requirements and the Forest Practices Act. Permission to commence or suspend operations with respect to this item will rest with STATE representative and that decision will be final.

Loss of Chemicals. In the event of loss of chemicals or mixtures from leakage, spills, or dumps, PURCHASER's applicator shall carry out procedures to contain and neutralize such losses and shall immediately notify STATE of any such incident. PURCHASER shall be responsible for all costs of containment, neutralization and other measures as may be required. PURCHASER's applicator shall have available a shovel, bucket and absorbent to clean up minor spills, should they occur.

NOTIFICATION. PURCHASER's applicator shall notify STATE 24 hours prior to commencement of operations and shall again notify STATE upon completion of operations.

INSPECTION. Satisfactory work shall be determined from visual reconnaissance by STATE, once die-off has begun. If greater than 10 untreated plants per mile of road side are identified then the work is deemed unsatisfactory. PURCHASER shall be required, without cost to STATE, to re-treat areas that are not treated according to specifications in this Exhibit.

WEATHER RECORDS. PURCHASER is required to maintain hourly weather records when spraying. PURCHASER's applicator must have equipment available to accurately determine wind speed, direction, temperature and relative humidity. Documentation of hourly weather condition will be on a form provided by STATE. Weather records shall be readily available for inspection by STATE's representative.

TRACKING RECORDS.

- a. PURCHASER is required to record start and stop points/coordinates using the aid of a GPS (Global Positioning System) on the areas of herbicide application. The points/coordinates shall be recorded in longitude and latitude expressed in decimal degrees and decimal places shall be carried out to achieve at least 35 feet accuracy. NAD 83 shall be the datum used for the coordinates. The data shall be submitted in the form of a layer compatible to ArcGIS10 or other format as specified by STATE.
- b. PURCHASER is required to record on an ODF map, areas of herbicide application.

EXHIBIT F

ROADSIDE SPRAYING SPECIFICATIONS

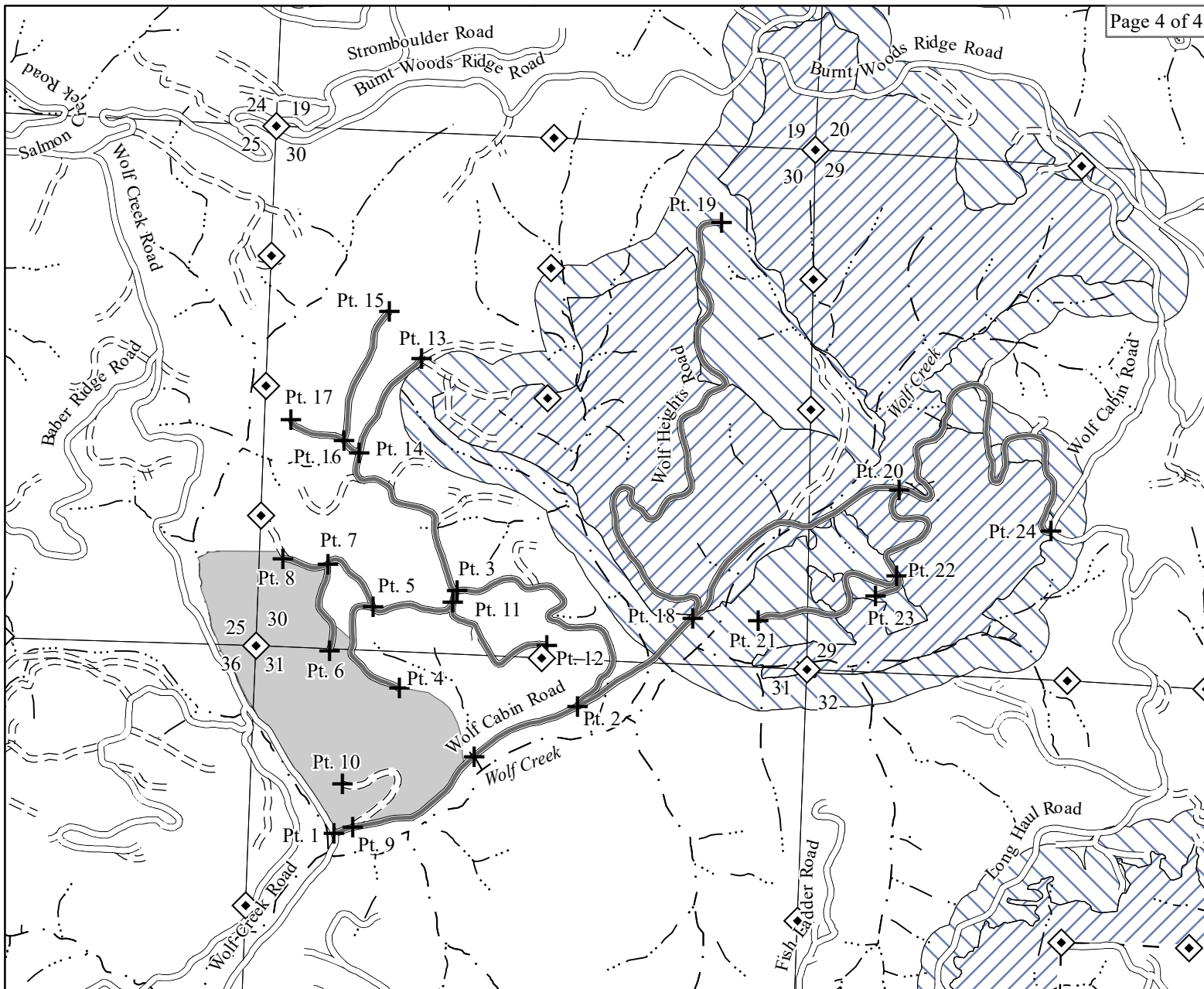
HERBICIDES.

- a. PURCHASER shall furnish the herbicides and surfactant listed in the Spray Mixture Table. All herbicides shall be registered and applicable for forest and Right-of-Way uses.
- b. Water shall be the basic carrier and may be obtained at the district headquarters.
- c. All herbicides, surfactants and carriers shall be transported to mixing or project sites by PURCHASER.
- d. PURCHASER shall be responsible for chemical storage, decontamination treatment, and transportation of empty herbicide containers to an authorized disposal site.
- e. Spray Mixtures are listed in the Spray Mixture Table below.

SPRAY MIXTURE TABLE

Area	Herbicide	Herbicide Application Rate/Acre	Mix Application Rate/Acre (with carrier)
Roads and Roadsides shown on attached map; approximately 6.8 miles or 18.1 acres*	Garlon 4 Ultra (or equivalent)	50 oz./acre	35 gallons/acre
	Escort XP (or equivalent)	1 oz./acre	
	Glyphosate	48 oz./acre	
	Metholated Seed Oil	32 oz./acre	

(*5,280 feet/mi x 6.8 miles x 22 feet wide = 789,888 sq. ft. / 43,560 sq. ft./1 acre = 18.1 acres)



Legend

- Timber Sale Area
- Herbicide Application
- Marbled Murrelet Management Area**
- Occupied Habitat
- Non-Habitat Buffer

Roads

- Surfaced Road
- Unsurfaced Road

Streams

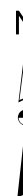
- Type F Stream
- Type N Stream
- Project Point
- Land Survey Monument

EXHIBIT "F" ROADSIDE SPRAYING MAP

OF TIMBER SALE CONTRACT NO. WO-341-2020-W00378-01
WOLF JUNCTION
PORTIONS OF SECTIONS 29, 30 & 31, T11S, R08W, W.M.,
LINCOLN COUNTY, OREGON.

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Date: 01/07/2020

EXHIBIT G

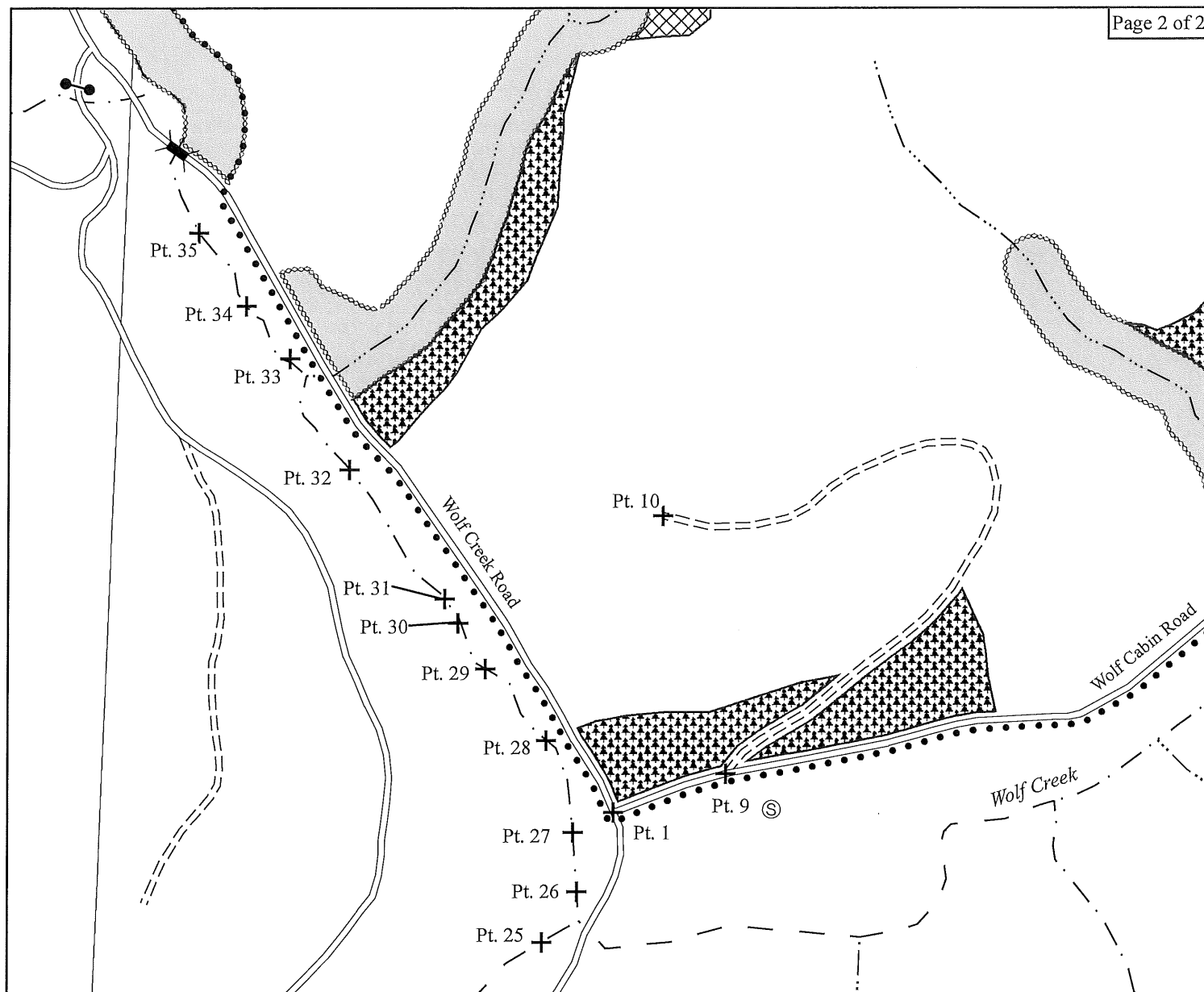
STREAM ENHANCEMENT INSTRUCTIONS

GENERAL INSTRUCTIONS:

- (a) Log placement in streams shall be conducted only during the in-stream working period of July 1 through September 15. STATE shall be notified a minimum of 48 hours prior to beginning of log placement. An ODF and/or ODFW representative will be onsite to direct log placement. STATE has prepared a "Plan For Alternative Practices" for operations within the Riparian Management Area (RMA) of the stream.
- (b) Project Locations (Points 25 through 35) are marked in the field with aluminum flashers and lime green flagging. Access trails will be marked with blue flagging.
- (c) Equipment shall operate from the stream bank to minimize stream disturbance and will not enter stream channel. Turbidity shall not exceed 10 percent above natural stream turbidities as a result of work. Turbidity may be exceeded for a limited duration (per OAR 340-41), provided all practicable erosion control measures have been implemented. Oil spill response materials shall be on site before work begins.
- (d) Logs required for stream enhancement work shall be conifers obtained from the Timber Sale Area. Logs can have defects such as double tops, crooked trunks, heart rot etc. as long as they are at least 18 inches in diameter on the small end, at least 40 feet in length and are sound (decay class 1 or 2).
- (e) Trees shall be felled, yarded, cut to length, and delivered to the project site by PURCHASER, as directed by STATE. Logs shall be transported by log truck, or other means so that roads are not damaged (i.e. trees cannot be dragged on road surface). Pre-staging of logs may be allowed outside of the in-stream work period in areas approved by STATE.
- (f) Access trails shall be approved by STATE, prior to their use, to minimize disturbance to the RMA. Equipment transporting logs to the sites shall take care to avoid damage to existing in-stream logs, riparian or other trees. Trees that are cleared to gain access shall be placed in the stream or used to block access trails.
- (g) A shovel capable of handling logs that meet the size requirement with ease will be used for log placement.
- (h) All access trails shall be thoroughly ripped or blocked to prevent access using large woody debris, slash or boulders, as directed by STATE.

SPECIFIC INSTRUCTIONS:

<u>Location</u>	<u>Work Description</u>
Pt. 25 Wolf Creek	Place logs below the confluence of Wolf Creek and the tributary along Wolf Creek Road. Source logs from trees cut for access and from tree on top of half-pipe culvert (marked with a "C" in orange paint) just south of the junction of Wolf Cabin Rd. and Wolf Creek Rd.
Pts. 26-31 Wolf Creek Trib.	Place 5 logs at each Project Point, as directed by STATE, sourcing logs from the Timber Sale Area. Utilize low quality logs whenever possible.
Pts. 32-35 Wolf Creek Trib.	Place 4 logs at each Project Point, as directed by STATE, sourcing logs from the Timber Sale Area. Utilize low quality logs whenever possible.



Legend

Boundaries

- Timber Sale Boundary
- Green Tree Retention Area
- Stream Buffer
- Slope Buffer

Roads

- Surfaced Road
- Unsurfaced Road
- Project Point
- Stockpile
- Bridge
- Gate

EXHIBIT "G" STREAM ENHANCEMENT

OF TIMBER SALE CONTRACT NO. WO-341-2020-W00378-01
WOLF JUNCTION
PORTIONS OF SECTION 31, T11S, R08W, W.M.,
LINCOLN COUNTY, OREGON.

This product is for informational use and may not have been prepared for or be suitable for legal, engineering or survey purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of this information.

Scale
1:3,000



Date: 11/25/2019

FPA WRITTEN PLAN for Yarding Corridors through Type F RMA's

Wolf Junction Timber Sale

Location: Portions of Sections 30 & 31, T11S, R08W, and Sections 25 & 36, T11S, R09W, W.M, Lincoln County Oregon

Landowner: Oregon Department of Forestry
24533 Alsea Hwy
Philomath OR, 97370
(541) 929-3226

Protected Resources: Unnamed Type F Tributaries to Wolf Creek, a large Type F stream.

Situation: The Timber Sale Area extends down to the Type F RMA's. To achieve one-end suspension, cable corridors may need to tailhold on the other side of the Type F streams, however no logs will be yarded through the RMA's.

Resource Protection Practices:

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

- No trees will be felled within stream buffers (RMA's), except as necessary in cable corridors.
- Trees that fall or slide into Type F RMA's shall not be removed without prior approval from STATE.
- Trees adjacent to the stream buffers (RMA's) will be felled away from or parallel to the streams to prevent trees from entering the aquatic areas.
- When cable logging is conducted nearby the RMA's, logging lines may cross, but will not be lowered into the RMA's during yarding, except during rigging. During rigging the lines must be pulled out of the RMA's when changing corridors.
- Logs shall be fully suspended when yarding across all stream buffers (RMA's).
- Cable corridors must be at least 100 feet apart where they cross the RMA's.

I, the undersigned, submit this written plan in compliance with the requirements in the Forest Practices Act regarding the use of cable corridors across Type F RMA's. I agree to the protection measures listed on this plan:

Purchaser/Operator Contract Representative

Date: _____

State Representative

Date: _____

FPA WRITTEN PLAN for Culvert Replacement in a Type F Stream

Wolf Junction Timber Sale

Location: Portions of Section 31 of T11S, R8W, W.M., Lincoln County, Oregon

Landowner: Oregon Department of Forestry
24533 Alsea Hwy
Philomath OR, 97370
(541) 929-3226

Protected Resources: A small unnamed Type F Tributary to Wolf Creek, a large Type F stream.

Situation: A culvert on the timber sale haul route, Wolf Cabin Road, needs replacement and fish surveys of the stream above the culvert have determined that a section of the stream is suitable habitat for fish. The current culvert will be replaced with a larger culvert that will be partially buried to facilitate a natural stream bed allowing for unobstructed fish passage.

Resource Protection Practices:

Along the above mentioned stream, as well as any other streams, the following practices are required under the timber sale contract to protect the streams and streamside areas:

- Culvert replacement work will only occur during the allowed in-stream work period of July 1st through September 15th.
- Equipment will not cross the open channel during construction
- De-watering of the stream will be required during in-stream work.
- Bare soil created from the project will be mulched with straw and left in a stable condition.
- Oil spill containment materials shall be onsite during the work period.

I, the undersigned, submit this written plan in compliance with the requirements in the Forest Practices Act, regarding operations conducted in a Type F stream. I agree to the protection measures listed on this plan.

Purchaser/Operator Contract Representative

Date: _____

State Representative

Date: _____

**FPA WRITTEN PLAN
for Roadside Spraying within 300 feet of a Sensitive Wildlife Site**

Wolf Junction Timber Sale

Location: Portions of Section 29 & 30, T11S, R8W, W.M., Lincoln County, Oregon

Landowner: Oregon Department of Forestry
24533 Alsea Hwy
Philomath OR, 97370
(541) 929-3226

Protected Resources: The Wolf Creek Marbled Murrelet Management Area (MMMA).

Situation: Roadside spray treatment of foliage will be performed on approximately 3.4 miles of forest road within the MMMA. The treatment shall be applied to all foliage/vegetation on the road surface and within ten (10) horizontal and vertical feet from the road edge, vehicle turnouts, and landings. The roads to be treated are commonly used roads.

Resource Protection Practices:

The following are practices that are required under the timber sale contract that will serve to protect Marbled Murrelets and the MMMA habitat:

- The application will be made to wet foliage surfaces, but avoid significant runoff.
- The application will be made with one or two passes of equipment and will be completed in one day.
- The application will be made during dry weather periods, and where weather conditions will minimize risk of drift.
- Weather conditions will be monitored hourly.
- All water drafting and chemical mixing will be performed at a location outside of the MMMA, unless this activity occurs outside of the nesting season (April 1 to August 15).
- All equipment will be kept in a leak proof condition.
- The application will be made by a licensed commercial applicator.

I, the undersigned, submit this written plan in compliance with the requirements in the Forest Practices Act regarding the application of chemicals within 300 feet of a Sensitive Wildlife Site. I agree to the protection measures listed on this plan:

Purchaser/Operator Contract Representative

Date: _____

State Representative

Date: _____

**FPA WRITTEN PLAN
for Roadside Spraying within 100 feet of a Type F Stream**

Wolf Junction Timber Sale

Location: Portions of Section 29, 30 & 31, T11S, R8W, W.M., Lincoln County, Oregon

Landowner: Oregon Department of Forestry
24533 Alsea Hwy
Philomath OR, 97370
(541) 929-3226

Protected Resources: Unnamed Type F tributaries to Wolf Creek and Wolf Creek, a large Type F stream.

Situation: Roadside spray treatment of foliage will be performed on approximately 6.8 miles of forest road in the area listed above. The treatment shall be applied to all foliage/vegetation on the road surface and within ten (10) horizontal feet from the road edge, vehicle turnouts, and landings. Portions of the road lie within 100 feet of Type F streams.

Resource Protection Practices:

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

- The application will be made to wet foliage surfaces, but avoid significant runoff.
- The application will be made during dry weather periods, and where weather conditions will minimize risk of drift.
- Weather conditions will be monitored hourly.
- No spraying will occur within ten (10) feet of any live streams or open water.
- All chemical mixing will be performed on a road or landing at least 100 feet away from open water.
- All equipment will be kept in a leak proof condition.
- Equipment will be cleaned in a location that will protect all streams and other open water.
- A separate portable pump with filler and suction hose will be used to withdraw water from streams and other open water. This pump will be used for water only. An air gap or suitable back-flow preventer will be used where mixing water is obtained from streams or other open water.
- The application will be made by a licensed commercial applicator.

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

Purchaser/Operator Contract Representative

Date: _____

State Representative

Date: _____

FPA Plan for Alternate Practice for Timber Harvest inside Type F RMA

Wolf Junction Timber Sale

Portions of the NW 1/4 of Section 31, T10S, R08W, W.M., Lincoln County, Oregon.

Protected Resources: A Medium Type F tributary to Wolf Creek, a large Type F stream.

Situation: Wolf Creek Road is commonly used as a cutover between Highway 20 and the town of Harlan. To decrease potential closures and hazards from fallen trees on Wolf Creek Road, the boundary of a planned timber sale has been extended into the Riparian Management Area (RMA) along the Wolf Creek Road. OAR 629-640-0100 (13) states that the State Forester may approve a plan for an alternate practice to modify the live tree retention requirements along a Type F stream, where leaving trees in a RMA on the upland side of a road may cause a safety hazard. By moving the sale boundary down to the road, the medium fish stream will have approximately a 1,120 foot segment along Wolf Creek Road with a buffer ranging from 55 to 100 feet in width and averaging 79 feet in width. The remaining length of the medium fish stream and all other fish streams adjacent to the sale area are protected with over 100 feet of buffer width on average.

The RMA in question is dominated by red alder. Removal of trees above the road (in the Timber Sale Area) will decrease the conifer basal area for this buffer to below the Active Management Target. Upon inspection of the medium fish stream, it was discovered that there are few woody debris structures within the stream bed and that bedrock was common for the stream substrate. In recent years, stream enhancement has occurred on the main stretch of Wolf Creek. Approximately 20 years ago, stream enhancement work was conducted on the medium Type F tributary to Wolf Creek. Additional placement of logs in this stream will act as a supplement for large woody debris recruitment from the riparian area.

Stream Enhancement: This harvest operation is an opportunity to expand the area that has received enhancement and further improve the aquatic ecosystem within the Wolf Creek aquatic anchor. After timber sale harvest operations, logs will be placed in strategic locations to slow stream current, capture gravel and create pools. Approximately 50 logs of lengths up to and exceeding 40 feet with small end diameters greater than 18 inches will be placed in approximately 11 locations inside the stream channel on the same stretch that has less than 100 feet of buffer width. Logs will be sourced from the Wolf Junction timber sale and will be placed using machinery under the supervision of an Oregon Department of Forestry employee. The plan for stream enhancement has been developed by an ODF biologist in consultation with ODF's hydrologist and an ODFW fish biologist.

Resource Protection Measures:

1. Timber adjacent to the stream buffer shall be felled so that it does not enter into the buffer.
2. No trees will be cut within the stream buffer on the downslope side of Wolf Creek Road, unless needed for access for machinery placing stream structures.
3. Ground-based equipment, used to place in-stream logs, will operate within 15 feet of the stream but will use one access trail per structure location, which will be perpendicular to the stream.
4. All trails within the stream buffer will be pre designated by ODF and will be limited to less than 10% of the buffer area.
5. Stream enhancement operations will only occur during the instream work period of July 1st through September 15th.
6. Oil spill containment materials shall be onsite during the work period.

Approval

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

District Forester

Date