

PART III: EXHIBITS

State Timber Sale Contract
No. 341-18-17
Frog Holler

EXHIBIT B

Page 1 of 3
629-Form 341-203
Revised 06/97

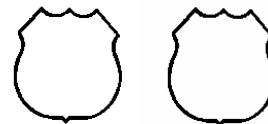
OREGON DEPARTMENT OF FORESTRY

TIMBER SALE OPERATIONS PLAN

(See Page 2 for instructions)

Date Received by STATE: _____

(5) State Brand Information (complete):



(1) Contract No.: 341-18-17

(2) Sale Name: Frog Holler

(3) Contract Expiration Date: October 31, 2020

Project Completion Dates: _____

(4) Purchaser: _____

(6) Purchaser Representatives:

Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____

(7) State Representatives:

Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____

(8) Name of Subcontractors & Starting Dates:

Projects: No(s) _____ - _____	Date: _____	Phone: _____
No(s) _____ - _____	Date: _____	Phone: _____
No(s) _____ - _____	Date: _____	Phone: _____
No(s) _____ - _____	Date: _____	Phone: _____
Logging: Felling _____	Date: _____	Phone: _____
Yarding: _____	Date: _____	Phone: _____

(9) Comments: _____

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

EXHIBIT B

INSTRUCTION SHEET FOR OPERATIONS PLAN

SUBMIT ONE COPY OF PLAN TO STATE

Operations shall be limited to the work shown in the plan until a revised plan or supplemental plan is submitted covering additional work. Compliance with this plan is not in lieu of compliance with any federal requirements related to the federal Endangered Species Act. If STATE has prepared a required Forest Practices Act (FPA) "Written Plan" for operations, PURCHASER shall comply with all provisions of the Written Plan.

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.

Show projected dates for commencement of both projects and logging. If projected dates need to be changed at a later date, notification must be given to the STATE representative by supplemental plan or otherwise, prior to commencement of such operations.

- (10) The STATE representative will furnish extra copies of Exhibit A of the contract for your use in preparing the operations map. The map shall use the following legend and show:
 1. Landing locations, approximate setting boundaries, and probable sequence of logging the settings. Number the settings in sequence.
 2. Locations of spur roads planned for construction, other than those required by the timber sale contract. Provide spur road specifications.
 3. Location of proposed tractor yarding roads. Show if and how marked on the ground.
 4. Location of temporary stream crossings.
 5. List the sequence of performing project work.
 6. Location of rock sources - attach pit development plans.



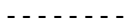
Cable Landing, with numbers for sequence.



Tractor Landing with alphabetical sequence.



Approximate setting boundary.



Spur truck roads.



Tractor yarding roads.



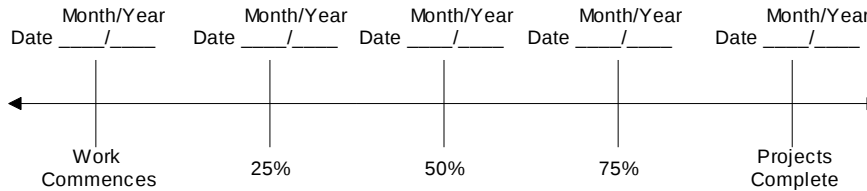
Temporary stream crossings.

EXHIBIT B
OPERATIONS PLAN

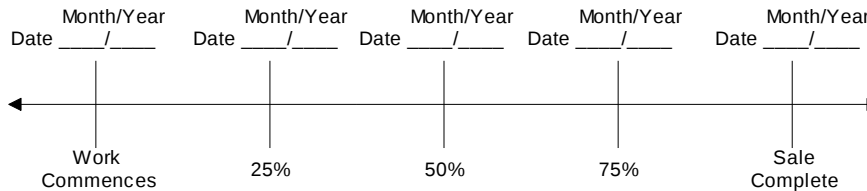
Completion Timeline

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, PURCHASERS must comply with all applicable state, federal, and local laws.

PURCHASER's compliance with this plan is not in lieu of compliance with any federal requirements related to the federal Endangered Species Act.

APPROVED: Date: _____

SUBMITTED BY:
PURCHASER

STATE OF OREGON - DEPARTMENT OF FORESTRY

Title _____

Title _____

Original: Salem
cc: District File
Unit
Purchaser
Operator
(Purchaser Representative) _____

EXHIBIT C – SAWMILL GRADE (WESTSIDE SCALE)

SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

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

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

(3) FROM: Forest Grove (05) Phone (503) 357-2191
(State Forestry District)
Address 801 Gales Creek Road
Forest Grove, OR, 97116

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

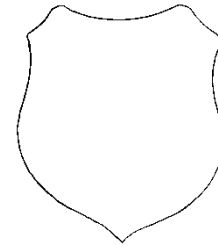
(9) SALE NAME: Frog Holler

COUNTY: Tillamook

(10) STATE CONTRACT NUMBER: 341-18-17

(11) STATE BRAND REGISTRATION NUMBER: _____

(12) STATE BRAND INFORMATION (COMPLETE):



(5) MINIMUM SCALING SPECIFICATIONS	
SPECIES	MINIMUM NET VOLUME
Conifers	10
Hardwoods	10

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

(13) PAINT REQUIRED: YES ☒
COLOR: Orange

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

(7) Weight Scale Sample ☐ ☒

(14) SPECIAL REQUESTS (Check applicable)	
PEELABLE CULL (all species)	☒
NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE	☒
ADD-BACK VOLUME - Deductions due to delay	☒
OTHER: _____	

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

(15) REMARKS _____

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

(16) SIGNATURES:

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.

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

EXHIBIT C – SAWMILL GRADE
INSTRUCTIONS FOR FORM 343-307a (rev. 11/11)

- (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) Designate Third Party Scaling Organization (TPSO).

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@mwlsqb.com

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

Northwest Log Scalpers, Inc.
5526 NE 122nd Ave, Portland, OR 97230
Phone: (503) 254-0600 Fax: (503) 408-0919
Email: info@nwlogscalpers.com

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

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

EXHIBIT C – PULP SORT

PROCESSING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

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

(2) TO: _____
(Approved Pulp Processing Facility)

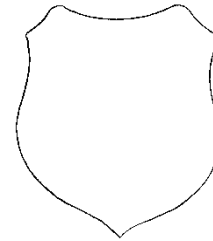
(3) FROM: Forest Grove (05) Phone (503) 357-2191
(State Forestry District)

(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.

(9) SALE NAME: Frog Holler

COUNTY: Tillamook

(10) STATE CONTRACT NUMBER: 341-18-17

(11) STATE BRAND REGISTRATION NUMBER _____

(12) STATE BRAND INFORMATION: (COMPLETE BELOW)

(13) REMARKS: _____

(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.

Operator's Name (Optional inclusion by District):

(14) SIGNATURES:

Purchaser or Authorized Representative Date

State Forester Representative Date

State Forester Representative PRINT NAME

(8) **TPSO PROCESSING INSTRUCTIONS**

- Mail to ODF weekly.
- Convert to mbf using 10 tons per mbf.

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

EXHIBIT C – PULP SORT
INSTRUCTIONS FOR FORM 343-307b (rev. 11/11)

- (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
8718
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-
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
4476
Email: info@mwlsqb.com

Yamhill Log Scaling & Grading Bureau
P.O. Box 709, Forest Grove, OR 97116
Phone: (503) 359-4474 Fax: (503) 359-
Email: yamhill@attglobal.net

Northwest Log Scalers, Inc.
5526 NE 122nd Ave, Portland, OR 97230
Phone: (503) 254-0600 Fax: (503) 408-0919
4880
Email: info@nwlogscalers.com

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

- (6) **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.
- (9) **Must Complete.** Enter sale name and county. If more than one county write in all the counties that the sale is located in.
- (10) **Must Complete.** Enter sale Contract number.
- (11) **Must Complete.** Enter Oregon's State Brand Registry Number **(REQUIRED)**.
- (12) **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).
- (13) Use this section to list any special instructions or the reason for any revisions in section item (1).
- (14) **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.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
16 feet	12 feet	A to B	0+00 to 9+60	Ditch
16 feet	12 feet	C to D	0+00 to 18+00	Ditch
16 feet	12 feet	E to F	0+00 to 11+20	Ditch
16 feet	12 feet	G to H	0+00 to 9+40	Ditch

CLEARING. This work shall consist of clearing, removing, and disposing of all trees, Snags, Down Timber, brush, surface objects, and protruding obstructions within the clearing limits. Clearing debris shall not be placed or permitted to remain in or under any road embankment sections.

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

CLEARING CLASSIFICATION.

New Construction - 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.

Improvement - Where clearing limits have not been marked, the clearing limits shall extend 5 feet back of the top of the cutslope and 10 feet out from the toe of the fill slope, or as directed by STATE.)

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 CLASSIFICATION.

New construction - from the top of the cutslope to the toe of the fill.

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

CLEARING AND GRUBBING DISPOSAL. Scatter 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.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

EXCAVATION. Excavation and grading shall not be done when weather and/or ground conditions are such that damage will result to existing subgrade or cause excessive erosion.

Excavation shall conform to STATE-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.

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 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 25 feet, or as staked on the ground, plus 25-foot approaches at each end.

Location: Intervisible but not greater than 750 feet apart.

<u>SLOPES</u>	<u>Back Slopes</u>	<u>Fill Slopes</u>
Solid Rock	Vertical to $\frac{1}{4}$:1	
Fractured Rock	$\frac{1}{4}$:1	
Soil - side slopes 50% and over	$\frac{1}{2}$:1	$1\frac{1}{2}$:1
Soil - side slopes less than 50%	$\frac{3}{4}$:1	$1\frac{1}{2}$:1

Top of cutslope shall be rounded.

LANDINGS. Landings shall be constructed as posted in the field, no less than 50 feet wide and no more than 70 feet wide 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 Exhibit G, and blocked from vehicular traffic prior to October 31, annually and as directed by STATE.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD CONSTRUCTION INSTRUCTIONS:

- (1) Excavated Materials. Excavated materials shall be utilized for road construction and hauled in where necessary. Surplus excavation materials shall be hauled to the waste areas as marked in the field and/or designated on Exhibit A. Surplus excavated materials and waste materials shall be sloped and compacted for drainage. Fills shall be thoroughly compacted in accordance with this Exhibit.
- (2) Subgrade Preparation and Application of Surfacing Rock.
 - (a) Complete culvert installations, drainage ditches, ditchouts, fill construction and other specified work prior to the application of surfacing rock.
 - (b) Subgrade shall be crowned at 4 to 6 percent.
 - (c) Upon completion of above required work, apply, process, and compact surfacing rock in accordance with specifications in the "Compaction and Processing Requirements" in this Exhibit. Final road surface shall be crowned at 4 to 6 percent.

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS

<u>Segment</u>	<u>Station</u>	<u>Work Description</u>
A to B	0+00	Point A. Begin road construction; crown road, construct ditchline. Install Culvert No. 1 (18" x 40') as cross drain.
	1+80	Live water. Install Culvert No. 2 (24" x 30').
	2+60	Live water. Excavate puncheon. End haul unsuitable material to waste area. Install Culvert No. 3 (24" x 60'). Use material drifted from segment C to D to construct fill.
	2+90	Junction with road segment C to D on right. Begin drifting material forward to widen thru cut.
	3+80	End drift.
	4+80	Install Culvert No. 4 (18" x 30') as cross drain.
	9+60	Point B. End road construction. Construct landing.
C to D	0+00	Point C. Begin road construction; crown road, construct ditchline. Continue ditchline around corner. Begin drifting material to construct fill for Culvert No. 3 and to construct consistent grade less than 18%.
	3+50	Begin ditch on both sides.
	4+00	End drifting back.
	4+20	End ditch on right.
	6+50	Construct 100-ft spur with landing on left.
	14+50	Construct 50' roadside landing on left.
	18+00	Point D. End road construction. Junction with Idiot Creek Road.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS (Cont.)

<u>Segment</u>	<u>Station</u>	<u>Work Description</u>
E to F	0+00	Point E. Begin road construction; crown road, construct ditchline.
	2+20	Junction with road segment G to H on right. Install Culvert No. 5 (18" x 60') as disconnect.
	3+00	Live water. Install Culvert No. 6 (30" x 60').
	3+80	Begin road widening. Begin drifting material back to construct fill for Culvert No. 6,
	8+00	End road widening drift.
	11+20	Point F. End road construction. Construct landing.
G to H	0+00	Point G. Begin road construction; crown road, construct ditchline.
	1+35	Live water. Excavate puncheon. End haul unsuitable material to waste area. Install Culvert No. 7 (30" x 40').
	2+05	Install Culvert No. 8 (18" x 30') as disconnect.
	3+15	Live water. Install Culvert No. 9 (24" x 40').
	9+40	Point H. End road construction. Construct landing.

EXHIBIT D
FULL BENCH AND END-HAUL REQUIREMENTS

POINT TO POINT	LOCATION	CONTAINMENT - SIDECAST	WASTE AREA LOCATION	WASTE AREA TREATMENT
A to B	Culvert No. 3	1	1	1, 2 and 3
G to H	Culvert No. 7	1	1	1, 2 and 3

Full Bench and End-Haul Areas General Requirements

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. Material shall not be sidecast unless specified above.

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

Containment/Sidecast

- (1) Full: No excavated material remains below the road.

Any amount of material exceeding the containment requirements shall be removed by whatever means necessary and end-hauled to a designated waste area.

Waste Area Location

- (1) As shown on Exhibit A.

Waste Area Treatment

- (1) Deposit at waste area, spread evenly, compact, and provide adequate drainage.
- (2) Pile woody debris separate from other waste material.
- (3) Mulch and seed all waste areas in accordance with Exhibit H.

EXHIBIT D

ROAD SURFACING [VOLUME MEASUREMENT]

ROAD SEGMENT: A to B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	A to B		0+00 to 9+60		
				Volume (CY) Per		Number of		
Surfacing Rock	Pit-Run	A to B	12	Station	65	Stations	9.6	624
Turnouts	Pit-Run	A to B	12	Turnout	30	Turnouts	1	30
Turnarounds	Pit-Run	Point B	12	TA	20	TA's	1	20
Junctions	Pit-Run	Point A	12	Junction	30	Junctions	1	30
Landings	Pit-Run	Point B	12	Landing	180	Landings	1	180
Culvert Bedding	1 ½" - 0	Culvert Nos. 2 & 3	Varies	Culvert	20	Culverts	2	40
Total Rock for Road Segment:			A to B					924
ROAD SEGMENT: C to D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	C to D		0+00 to 18+00		
				Volume (CY) Per		Number Of		
Surfacing Rock	Pit-Run	C to D	12	Station	65	Stations	18.0	1,170
Turnout	Pit-Run	C to D	12	Turnout	30	Turnouts	1	30
Junctions	Pit-Run	Point C & D	12	Junction	30	Junctions	2	60
Roadside Landing	Pit-Run	14+50	12	RS Landing	95	RS Landings	1	95
Landing	Pit-Run	6+50	12	Landing	180	Landings	1	180
Approach to Landing	Pit-Run	6+50	12	Approach	65	Approaches	1	65
Total Rock for Road Segment:			C to D					1,600
ROAD SEGMENT: E to F				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	E to F		0+00 to 11+20		
				Volume (CY) Per		Number of		
Surfacing Rock	Pit-Run	E to F	12	Station	65	Stations	11.2	728
Turnouts	Pit-Run	E to F	12	Turnout	30	Turnouts	1	30
Turnarounds	Pit-Run	Point F	12	TA	20	TAs	1	20
Junctions	Pit-Run	Point E	12	Junction	30	Junctions	1	30
Landings	Pit-Run	Point F	12	Landing	180	Landings	1	180
Culvert Bedding	1 ½" - 0	Culvert No. 6	Varies	Culvert	20	Culverts	1	20
Total Rock for Road Segment:			E to F					1,008
ROAD SEGMENT: G to H				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	G to H		0+00 to 9+40		
				Volume (CY) Per		Number Of		
Surfacing Rock	Pit-Run	G to H	12	Station	65	Stations	9.4	611
Turnouts	Pit-Run	G to H	12	Turnout	30	Turnouts	1	30
Turnarounds	Pit-Run	Point H	12	TA	20	TAs	1	20
Junctions	Pit-Run	Point G	12	Junction	30	Junctions	1	30
Landings	Pit-Run	Point H	12	Landing	180	Landings	1	180
Culvert Bedding	1 ½" - 0	Culvert Nos. 7 & 9	Varies	Culvert	20	Culverts	2	40
Total Rock for Road Segment:			G to H					911

ROCK TOTALS (CY)	1½"-0"	Pit-Run
	100	4,343

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.

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 as specified in the "Forest Roads Specifications" table in Exhibit D.

ROAD SEGMENT	COMPACTION EQUIPMENT 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	COMPACTION EQUIPMENT OPTIONS
All road segments	1, 2 and 4

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

Pit-Run Rock. The rock shall be uniformly mixed and spread in layers on the approved roadbed. Each layer of pit-run rock shall be moistened or dried to uniform moisture content suitable for maximum compaction and compacted in layers not to exceed 8 inches in depth. When more than 1 layer is required, each shall be shaped and compacted before the succeeding layer is placed. Any irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and adding or removing material until the surface is smooth and uniform. Each layer shall be compacted with a minimum of 3 passes over the entire width and length of the road. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

Rock shall be crowned at 4 to 6 percent as specified in the "Forest Roads Specifications" table in Exhibit D.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
Segments requiring pit-run rock	3 or a combination of 1 & 4

EXHIBIT D

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.
- 3 Vibratory Grid Compactors. The roller shall have a grid surface and have an operating weight of 32,000 pounds or more. The rock shall be worked with a grader weighing at least 20,000 pounds during the grid rolling process. All rock shall come in contact with the vibratory grid compactor.
- 4 Dozer. A dozer/track-type tractor weighing a minimum of 82,000 pounds shall be operated over the pit-run so that the entire surface comes in contact with the tracks.

EXHIBIT E
CULVERT SPECIFICATIONS

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

Culverts shall be constructed of corrugated double-walled polyethylene and meet the requirements of AASHTO M-294-06, Type S Culvert.

Polyethylene culverts shall not be used where required culvert diameter is over 36 inches.

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.

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 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 live streams.

Backfill shall consist of 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: 12" for culverts 18" to 36". 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 ends of each culvert shall be free of logs and debris which would restrict the free flow of water.

The intake end of relief culverts shall be provided with a sediment catching basin 3 feet in diameter at the bottom. The outlet end of any culvert which would allow water to erode embankment soil shall be provided with an 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.

Culverts 36 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 live water culverts.

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

The intake ends of culverts in fills less than 3 feet to the top of the culvert shall be marked by driving steel posts within 6 inches of the downgrade side. Posts shall be painted with a rust-resistant paint and be a minimum of 5 feet long, 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.

EXHIBIT E
 CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	MATERIAL TYPE	ROAD SEGMENT POINT TO POINT	STATION
1	18	40	CPP	A to B	0+00
2	24	30	CPP	A to B	1+80
3	24	60	CPP	A to B	2+60
4	18	30	CPP	A to B	4+80
5	18	60	CPP	E to F	2+20
6	30	60	CPP	E to F	3+00
7	30	40	CPP	G to H	1+35
8	18	30	CPP	G to H	2+05
9	24	40	CPP	G to H	3+15

TOTAL LENGTHS BY DIAMETER		
18 INCH	24 INCH	30 INCH
160	130	100

CPP = Polyethylene

EXHIBIT F

ROCK QUARRY DEVELOPMENT AND USE

1. PURCHASER shall prepare a written development plan for the quarry area. The plan shall be submitted to STATE for approval prior to conducting any operation in quarry area. The plan shall include, but not be limited to:
 - (a) Location of benches and roads to benches.
 - (b) Disposal site for woody debris, overburden and reject material.
 - (c) Time lines for rock quarry use.
 - (d) Erosion Control measures.
2. PURCHASER shall schedule and coordinate quarry and stockpile usage with other existing or planned activity requiring quarry or stockpile usage. PURCHASER shall notify STATE 5 days prior to the start of quarry development activities.
3. The quarry site shall be left in a condition free from overburden and debris. Access roads to the quarry, and the quarry floor, shall be cleared at the termination of use. Overburden shall be removed for a distance of 20 feet beyond the developed rock source.
4. All overburden and reject material shall be hauled to the designated waste area as directed by STATE.
5. PURCHASER shall conduct the operations relative to the disposal of waste material in such manner that sediment, rock, or debris shall not be washed, conveyed, or otherwise deposited in any stream.
6. Benches shall be maintained/constructed at intervals of 40 feet or less in height and shall be a minimum of 20 feet in width. Any gravel or talus slopes shall be left with a working face at an angle of 60 percent or less. There shall be a minimum of one bench with an access road to it. Said bench shall be easily accessible with tractors.
7. Quarry face shall be developed in a uniform manner. All quarry backslopes shall be left in a stable condition.
8. Oversized material that is produced shall be piled in a designated area adjacent to the pit. It shall not be wasted.
9. The quarry floor shall be developed to provide for drainage away from the quarry. All quarry and stockpile site drainage ditches shall be maintained. Quarry access roads shall be cleared and blocked upon completion of quarry use as directed by STATE.
10. Proper winterization and storm-water control measures such as waterbarring, drainage, utilization of filter bales, mulching and/or blocking access shall be constructed and maintained to protect the watershed and Project Work, as directed by STATE.
11. Apply seed and mulch to the waste area, as specified in Exhibit H.

EXHIBIT F

PIT-RUN ROCK SPECIFICATIONS

<u>For 6"-0" Pit-Run</u>	Passing	10" sieve	100%
	Passing	6" sieve	60-85%
	Passing	3" sieve	30-50%
	Passing	1/4" sieve	0-20%

Material shall be well graded, free of organic material and shall not have excessive fine materials.

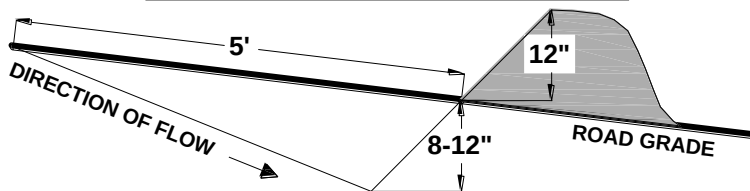
Control of gradation shall be by visual inspection by STATE.

EXHIBIT G

WATERBAR SPECIFICATIONS

PROFILE

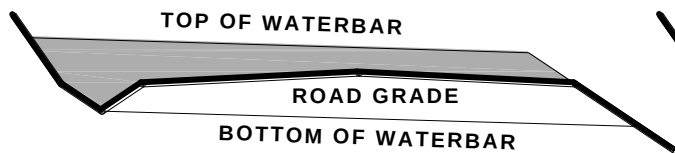
DITCHED AND OUTSLOPED



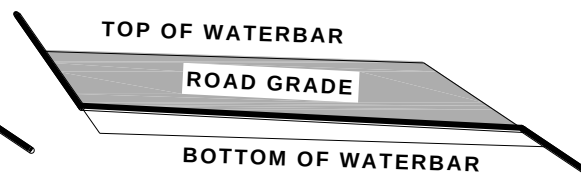
SPACING OF WATERBARS	
ROAD GRADE	DISTANCE
< 6 %	400'
6 - 10 %	200'
11 - 15 %	150'
> 15 %	100'

CROSS SECTION

DITCHED



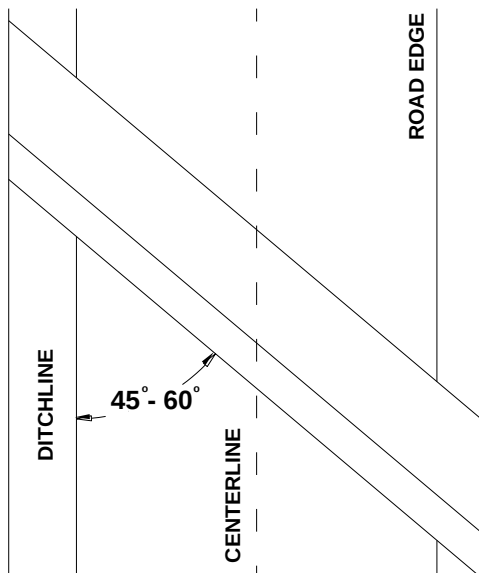
OUTSLOPED



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

PLAN VIEW

DITCHED



OUTSLOPED

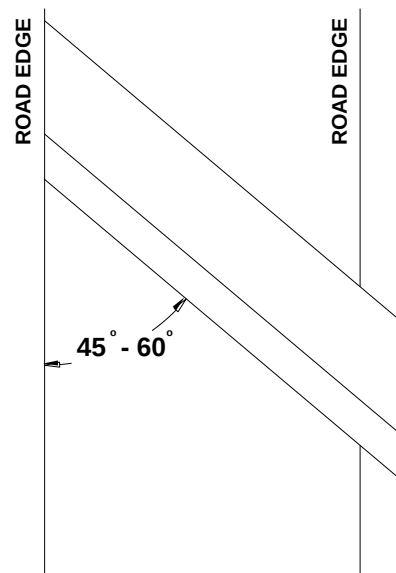
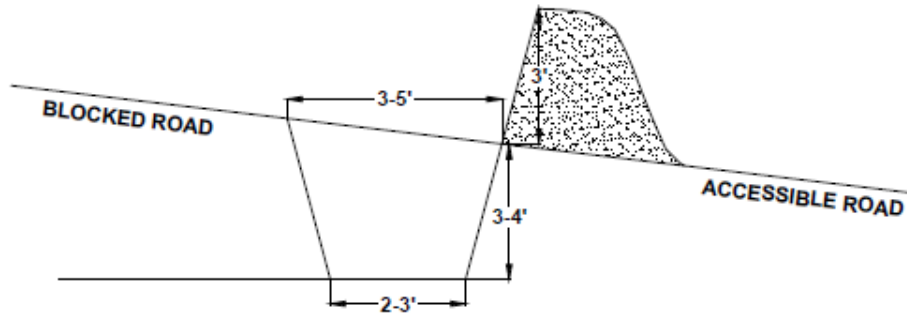


EXHIBIT G

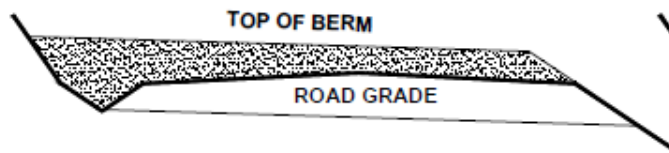
TANK TRAP SPECIFICATIONS

PROFILE
DITCHED AND OUTSLOPED

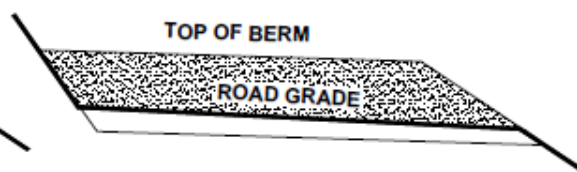


CROSS SECTION

DITCHED



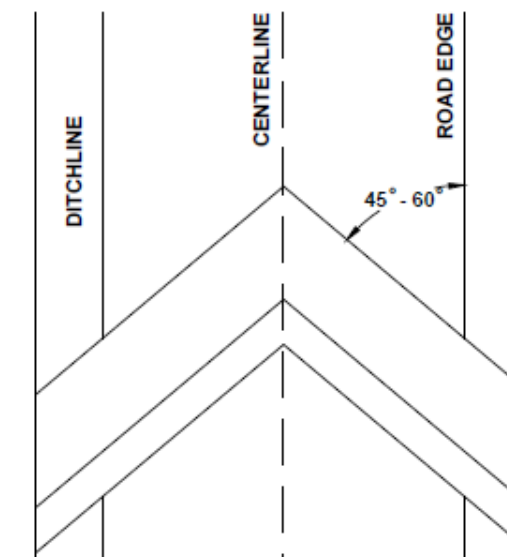
OUTSLOPED



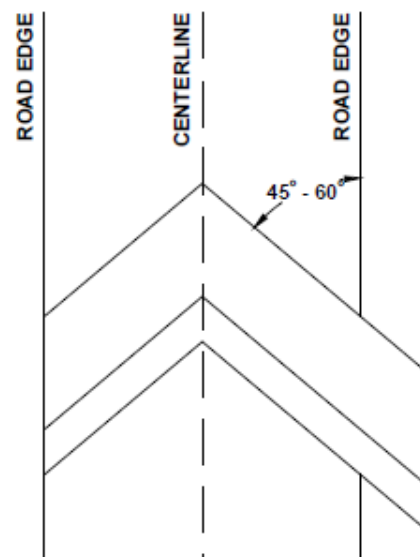
CONSTRUCT DITCHOUT THRU ANY EXISTING BERM.
CROSS DRAINAGE GRADIENT MINIMUM 3%

PLAN VIEW

DITCHED



OUTSLOPED



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

EXHIBIT H

SEEDING AND MULCHING

This work shall consist of preparing seedbeds and furnishing and placing required seed, fertilizer, and straw mulch. Straw mulch shall consist of straw that is free of noxious weeds. Apply seed and fertilizer to all waste areas, and bare soils resulting from Project No. 1. Apply straw mulch to all bare soils within 100' of streams resulting from Project No. 1 and to all waste areas.

Seeding Seasons. Seeding shall be performed only from March 1 through June 15 and August 15 through October 31. Seeding materials shall not be applied during windy weather or when the ground is excessively wet or frozen. Areas of disturbed soil shall be seeded by the end of the project period in which work was started.

APPLICATION METHODS FOR SEED AND FERTILIZER

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

APPLICATION RATES FOR SEED AND FERTILIZER

The seed mixture listed below shall be applied at 100 lbs. per acre. The seed mixture shall be comprised of the following:

SPECIES	MIXTURE	PURE LIVE SEED	GERMINATION
Annual Rye	33%	95%	>90%
Orchard Grass	33%	95%	>90%
Perennial Rye	34%	95%	>90%

Fertilizer: Chemical analysis shall be 16-20-0 and shall be applied at the rate of 200 pounds per acre. Fertilizer shall not be applied within 100 feet of streams.

Mulching Period. Straw mulch shall be applied within 24 hours of spreading grass seed and fertilizer.

APPLICATION RATES FOR MULCH

Place straw mulch to a reasonably uniform thickness of 1½ to 2½ inches. This rate requires between 2 and 3 tons of dry mulch per acre.

SPECIFICATIONS FOR BRUSH AND SLASH DISPOSAL

Operation Area

Timber Sale Area shown on Exhibit A

Description of Work

Develop planting spots in the following manner and as directed by STATE:

Pile brush and/or Slash sufficient to create conditions suitable for economical planting of conifer species as directed by STATE.

- (a) Piles may be of any size with the following exceptions:
 - (1) Piles within 50 feet of ODF Property Boundary or Reforested Areas shown on Exhibit A shall not have horizontal dimensions that exceed 100 square feet.
 - (2) Piles within 25 feet of any Reserved Tree shall not have horizontal dimensions that exceed 100 square feet.
- (b) Piles shall be free of mineral soil nor shall they contain anything other than brush and Slash, except as otherwise required by this Exhibit.
- (c) Piles shall not contain Slash that exceeds 8" in diameter.
- (d) Piles with horizontal dimensions that exceed 100 square feet shall be covered with 100 square feet of 4 mil polyethylene plastic sheeting. Additional woody debris shall be piled on top of the plastic sheeting to complete the piling, as directed by STATE. PURCHASER shall supply the materials used for covering the piles.

Capacities

Equipment 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

The bucket shall be of a hydraulically controlled "clamshell" style equipped with rake teeth at least 14 inches in length, and capable of 360-degree continuous rotation unless otherwise approved in writing by STATE.

Operator must be experienced in operating similar equipment on land clearing operations, be able to operate the equipment proficiently, and pile the Slash 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 without cost to STATE.

Work Scheduling

Work shall not begin until PURCHASER has arranged to have the equipment operators meet with STATE to review the requirements specified in Section 2365, "Progressive Operations", Section 2560, "Slash Disposal", and this Exhibit. Slash piling may be done concurrent with yarding operations provided the work is acceptable to STATE. Any Slash piling done subsequent to yarding operations shall be continuous until the work is completed and accepted by STATE, 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. Slash piling shall be accomplished only during dry weather conditions and 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.

PART IV: OTHER INFORMATION

State Timber Sale Contract
No. 341-18-17
Frog Holler

Page 1 of 1

WRITTEN PLAN Frog Holler Timber Sale #341-18-17

LEGAL DESCRIPTION: Portions of Sections 27, 28, 33 & 34, T2N, R6W, W.M., Tillamook County, Oregon.

PROTECTED RESOURCE: Idiot Creek, a Type F stream flowing along the western boundary of Timber Sale Area.

DESCRIPTION OF THE AREA: Slopes adjacent to these Creeks range from 10% in the flood plane to over 80% immediately upslope. Streamside vegetation along these type F streams include mature Douglas-fir and red alder.

PROTECTION MEASURES: The Timber Sale Boundary was posted a minimum horizontal distance of 100 feet from the protected resource. However, skyline cables may hang over this stream on the opposite slope or ridge to facilitate logging. When cables pass through or over the stream buffers, all necessary precautions shall be taken to protect all stream buffer components including locating corridors at least 100 feet apart and pulling cables out of the buffer prior to rigging the next yarding road. Trees felled within the buffer for cable corridors shall not be yarded.

Prepared by: Kenton Burns 02/14/2018

Reviewed by: _____
Erik Marcy; Unit Forester Date