PART III: EXHIBITS

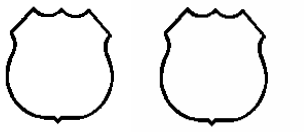
OREGON DEPARTMENT OF FORESTRY

TIMBER SALE OPERATIONS PLAN

(See Page 2 for instructions)

Date Received by STATE: _____

(5) State Brand Information (complete):



(1) Contract No.: 341-16-04

(2) Sale Name: Blazing Saddles

(3) Contract Expiration Date: October 31, 2017

Project Completion Dates: Project No. 5, September 15, 2016

(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.
X	Temporary stream crossings.

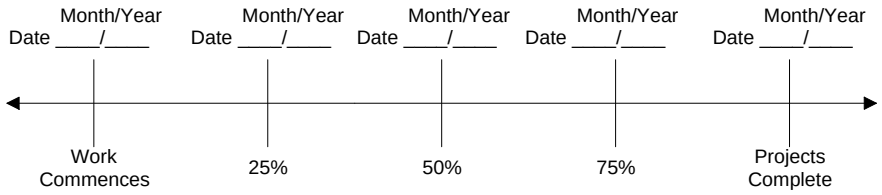
EXHIBIT B

OPERATIONS PLAN

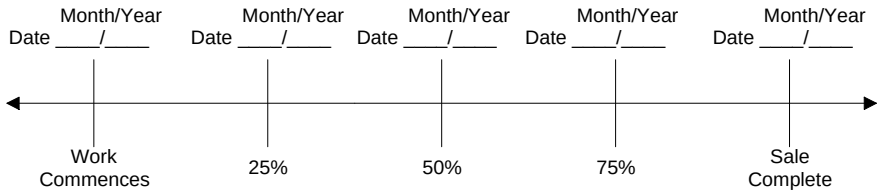
Completion Timeline

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: _____

STATE OF OREGON - DEPARTMENT OF FORESTRY

_____

Title _____

SUBMITTED BY:
PURCHASER

_____

Title _____

Original: Salem
cc: District File
Purchaser

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: _____

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

(7) Weight Scale Sample ☐ ☒

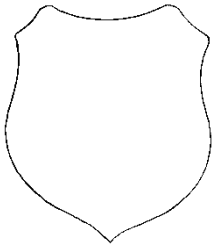
(8) **APPROVED SCALING LOCATIONS** (as shown on the ODF Approved Locations web-site)	**Species**	**Yard**	**Truck**	**Weight**

(9) SALE NAME: Blazing Saddles
COUNTY: Tillamook

(10) STATE CONTRACT NUMBER: 341-16-04

(11) STATE BRAND REGISTRATION NUMBER:
_____

(12) STATE BRAND INFORMATION (COMPLETE):



(13) PAINT REQUIRED: YES ☒
COLOR: Orange

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

(15) **REMARKS** _____

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

(16) 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@mwlsgb.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 Scalers, Inc .
5526 NE 122nd Ave, Portland, OR 97230
Phone: (503) 254-0600 Fax: (503) 408-0919
Email: info@nwlogscalers.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 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 11+00 11+00 to 14+20	Outslope Ditch
16 feet	12 feet	C to D	0+00 to 15+25	Ditch
16 feet	12 feet	E to F	0+00 to 23+40	Ditch
-	Match Existing	G to H	0+00 to 94+45 94+45 to 102+25 102+25 to 108+85	Ditch Outslope Ditch
-	Match Existing	H to I	0+00 to 23+35	Ditch
16 feet	12 feet	H to J	0+00 to 44+60	Ditch
-	Match Existing	K to C	0+00 to 4+90	Ditch
-	Match Existing	L to M	0+00 to 6+40	Ditch
-	Match Existing	N to E	0+00 to 55+35	Ditch
16 feet	12 feet	O to P	0+00 to 4+50	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.

SLOPES	Back Slopes	Fill Slopes
Solid Rock	Vertical to ¼ :1	
Fractured Rock	¼:1	
Soil - side slopes 50% and over	½ :1	1½:1
Soil - side slopes less than 50%	¾ :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 Exhibit G, and blocked from vehicular traffic prior to October 31, annually and as directed by STATE.

EROSION CONTROL. Install up to 40 bio bags for erosion control in project areas and ditch lines where sedimentation or erosion is possible, as directed by STATE. Each Bio-bag shall be installed with a minimum of two wooden stakes.

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, 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

Segment	Station	Work Description
A to B	0+00	Point A. Begin road construction; begin outslope. Install Culvert No. 1 (18" x 30').
	2+80	Install a 30' log stringer bridge according to the specifications in Exhibit K.
	3+20	Begin drifting material towards 6+50 to construct road grade and corner.
	6+50	Construct corner with minimum radius of 45 feet. Begin constructing road with a maximum grade of 15%.
	9+00	End drifting. End road grade of 15%.
	11+00	End outslope. Begin ditch.
	14+20	Point B. End road construction. Improve landing.
C to D	0+00	Point C. Begin road construction; crown road, begin ditch.
	3+00	Install Culvert No. 2 (18" x 30') as cross drain.
	9+00	Install Culvert No. 3 (18" x 30') as cross drain.
	15+25	Point D End road construction. Construct landing.
E to F	0+00	Point E. Begin road construction; crown road, begin ditch.
	4+00	Ditchout both sides of road.
	23+40	Point F. End road construction. Construct landing.
O to P	0+00	Point O. Begin road construction; crown road, begin ditch.
	0+90	Install Culvert No. 22 (18" x 24') as disconnect.
	2+25	Install bridge according to the specifications in Exhibits D, F, I, and J.
	4+50	Point P. End road construction.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

1. Culvert Replacement, Culvert Installation, and Fill Reconstruction. 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. All waste materials shall be hauled to nearby waste areas and shall be uniformly sloped and compacted for drainage. Waste materials shall be seeded and mulched in accordance with specifications in Exhibit I. 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 requires the use of crushed rock for culvert bedding. Removed culverts shall be hauled off of STATE land.

2. Drainage Ditches. Restore or construct ditchlines, including ditchouts, as directed by STATE. Clean out all culvert inlets and outlets for a 10-foot radius. Ditch debris including woody debris shall be loaded and hauled to designated waste areas, and shall be accomplished with the use of an excavator and dump truck. 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. Damaged culvert inlets and/or outlets shall be repaired by opening them with a hydraulic jack, or cutting off the culvert end to allow for free passage of water at peak flow levels. Install a culvert marker at each newly installed culvert and at each existing culvert that is missing a marker that could be reached by a grader blade.

3. Settling Ponds and Ditch Armoring. Construct settling ponds for erosion control in project areas and ditchlines where sedimentation or erosion is possible, as directed by STATE. Excavated material shall be hauled to the designated waste areas designated on Exhibit A. Waste materials shall be sloped and compacted for drainage. Settling pond dimensions shall be a finished length of 8 feet, width of 3 feet, and 3 feet in depth, or as directed by STATE. Backslopes shall be 3/4:1.

4. Energy Dissipator Construction. Where rock is used for energy dissipator, rock shall be placed below the culvert outlet and embedded for a minimum of 3 feet, in accordance with Exhibit E.

5. Subgrade Preparation and Application of Surfacing Rock.

   (a) Complete culvert installations, drainage ditches, ditchouts, settling ponds, 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) Process (grade and mix) the existing surface. Provide for a crown or outslope of 4 to 6 percent, and compact in accordance to the “Compaction and Processing Requirements” in this Exhibit.

   (d) Upon completion of above required work, apply, process, and compact surfacing rock in accordance to this Exhibit.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

Segment	Station	Work Description
G to H	0+00	Point G. Beaverdam Road. Begin road improvement; crown road, clean or establish ditch.
	3+00	Existing culvert. Cross drain. Install marker.
	6+10	Live stream. Existing culvert.
	7+20	Live stream. Existing culvert.
	8+45	Install Culvert No. 4 (18” x 40’) as disconnect.
	9+45	Existing culvert. Cross drain.
	12+75	Existing culvert. Cross drain.
	17+20	Begin cutbank widening to a minimum horizontal distance of 3 feet – endhaul material to waste area.
	18+00	End cutbank widening.
	18+10	Existing culvert. Cross drain.
	22+10	Trail on left.
	23+75	Existing culvert. Cross drain.
	29+45	Existing culvert. Cross drain.
	31+25	Live stream. Existing culvert.
	32+30	Live stream. Existing culvert.
	33+05	Install Culvert No. 5 (18” x 30’) as disconnect.
	37+20	Existing culvert. Cross drain. Install marker.
	41+75	Existing culvert. Cross drain.
	45+05	Existing culvert. Cross drain.
	49+55	Existing culvert. Cross drain.
	54+00	Existing culvert. Cross drain. Install marker.
	61+20	Existing culvert. Cross drain. Install marker.
	65+20	Existing culvert. Cross drain.
	68+60	Trail on left.
	72+30	Live stream. Existing culvert.
	72+70	Existing culvert. Disconnect.
	76+65	Existing culvert. Cross drain.
	82+80	Trail on right.
	83+00	Existing culvert. Cross drain. Install marker.
	85+15	Existing culvert. Cross drain. Install marker.
	91+20	Existing culvert. Cross drain. Install marker.
	94+45	Existing culvert. Cross drain.
	98+55	Begin outsloped road. Maintain existing ditchline.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

Segment	Station	Work Description
	99+25	Remove existing culvert, backfill with local material.
	100+90	Live water. Existing culvert.
	102+25	Install Culvert No. 6 (18” x 30’) as disconnect. End outsloping, begin crowning road.
	105+30	Existing culvert. Cross drain.
	108+85	Point H. End road improvement. Waste area on left in old road grade.
H to I	0+00	Point H. Seven Cedars Road. Begin road improvement; crown road, clean or establish ditch.
	7+00	Existing culvert. Cross drain.
	15+20	Junction with road segment N to E on left.
	15+40	Remove existing culvert and install Culvert No. 7 (18" x 40') as cross drain.
	18+48	Trail on left.
	19+90	Trail on right.
	23+25	Existing culvert. Cross drain.
	23+35	Point I. End road improvement.
H to J	0+00	Point H. Upper Saddle Mountain Road. Begin road improvement; crown road, clean or establish ditch. Install Culvert No. 8 (18” x 50’) as disconnect.
	1+45	Live water. Existing culvert.
	2+50	Install Culvert No. 9 (18” x 30’) as disconnect.
	2+70	Begin clearing and grubbing.
	3+00	End clearing and grubbing.
	3+20	Live water. Remove existing culvert and install Culvert No. 10 (18" x 30').
	4+30	Existing culvert. Cross drain. Install marker.
	7+40	Construct ditchout with settling pond on left.
	7+60	Live water. Remove existing culvert and install Culvert No. 11 (60” x 50’). Reinstall existing energy dissipator rock.
	8+30	Live water. Remove existing culvert and install Culvert No. 12 (36“ x 30‘). Reinstall existing energy dissipator rock.
	11+70	Install Culvert. No. 13 (18” x 30’) as cross drain.
	11+90	Junction with road segment K to C on left.
	13+25	Live Water. Remove existing culvert and install Culvert No. 14 (24” x 30’).
	14+80	Junction with road segment L to M on right.
	17+20	Existing culvert. Disconnect. Install Marker.
	18+30	Live water. Install Culvert No. 16 (24” x 30’).
	18+50	Excavate existing culvert. Backfill with crushed rock.
	21+75	Existing culvert. Disconnect.
	22+45	Live water. Existing culvert.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

Segment	Station	Work Description
	24+45	Existing Culvert. Cross Drain.
	25+20	Begin cutbank widening on right-side only to a minimum horizontal distance of 6 feet – endhaul material to waste area.
	28+90	End road widening.
	29+00	Install Culvert No. 17 (18" x 30') as cross drain.
	36+00	Begin clearing and grubbing. Begin cutbank widening to a minimum horizontal distance of 4 feet – endhaul material to waste area.
	36+50	End clearing and grubbing. End road widening.
	37+75	Existing culvert. Cross drain.
	39+50	Live water. Existing culvert.
	39+75	Improve 50' x 50' landing.
	40+00	Trail on left.
	44+60	Existing culvert. Cross drain.
	44+60	Point J. End road improvement. Waste Area.
K to C	0+00	Point K. Begin road improvement; crown road, clean or establish ditch.
	2+00	Existing culvert. Cross drain.
	4+90	Point C. End road improvement.
L to M	0+00	Point L. Begin road improvement; crown road, clean or establish ditch. Remove existing culvert and install Culvert No. 15 (18" x 44') as cross drain.
	1+65	Live water. Existing culvert.
	2+05	Install Culvert No. 18 (18" x 30') as disconnect.
	4+90	Live water. Existing culvert.
	5+35	Install Culvert No. 19 (18" x 30') as disconnect.
	6+40	Point M. End road improvement.
N to E	0+00	Point N. Begin road improvement; crown road, clean or establish ditch.
	6+45	Live water. Existing culvert.
	9+55	Existing culvert. Cross drain.
	15+15	Live water. Existing culvert.
	16+25	Live water. Existing culvert.
	18+40	Existing culvert. Cross drain. Install marker.
	20+40	Install Culvert No. 20 (18" x 30') as disconnect.
	25+70	Existing culvert. Cross drain. Install marker.
	31+50	Trail on right.
	35+95	Existing culvert. Cross drain.
	40+55	Live water. Existing culvert.
	41+15	Install Culvert No. 21 (18" x 30') as disconnect.
	55+35	Point E. End road improvement.

EXHIBIT D

END-HAUL REQUIREMENTS

POINT TO POINT	STA. TO STA.	CONTAINMENT - SIDECAST	WASTE AREA LOCATION	WASTE AREA TREATMENT
G to H	17+20 to 18+00	1	1	1, 2, and 3
H to J	25+20 to 37+75	1	1	1, 2, and 3
O to P	0+00 to 4+50	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.

Clearing and grubbing debris shall be end-hauled.

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

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

As shown on Exhibit A and as marked in the field.

Waste Area Treatment

(1) Deposit at waste area, spread evenly, compact, and provide adequate drainage.

(2) Pile woody debris separate from other waste material.

(3) Mulch and seed all waste areas in accordance with Exhibit I.

EXHIBIT D

ROAD SURFACING

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 **Volume (CY) Per**		0+00 to 14+20 **Number of**		
Log Stringer Bridge	1 ½"-0	2+80	4"	-	-	-	-	20
Total Rock for Road Segment:			A to B					20
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 **Volume (CY) Per**		0+00 to 15+25 **Number of**		
Surfacing Rock	3"-0	C to D	12	Station	65	Stations	15.25	991
Turnaround	3"-0	Point D	12	TA	20	TA	1	20
Turnouts	3"-0		12	Turnout	22	Turnouts	2	44
Landings	3"-0	Point D	12	Landing	180	Landings	1	180
Total Rock for Road Segment:			C to D					1,235
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 **Volume (CY) Per**		0+00 to 23+40 **Number of**		
Surfacing Rock	3"-0	E to F	12	Station	65	Stations	23.4	1,521
Turnaround	3"-0	Point F	12	TA	20	TA	1	20
Turnouts	3"-0		12	Turnout	22	Turnouts	3	66
Landings	3"-0	Point F	12	Landing	180	Landings	1	180
Total Rock for Road Segment:			E to F					1,787
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 **Volume (CY) Per**		0+00 to 108+85 **Number of**		
Surfacing Rock	1 ½"-0	G to H	6	Station	31	Stations	108.85	3,919
Turnouts	1 ½"-0		6	Turnout	11	Turnouts	16	176
Junctions	1 ½"-0	Point G and H	6	Junction	20	Junctions	3	60
Culvert Bedding/Backfill	1 ½"-0	Culvert Nos. 4-6 & Sta. 99+25	Varies	Culvert	12	Culverts	3	36
Total Rock for Road Segment:			G to H					4,191
ROAD SEGMENT: H to I				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size and Type**	**Location**	**Depth of Rock (inches)**	H to I **Volume (CY) Per**		0+00 to 23+35 **Number of**		
Surfacing Rock	3"-0	H to I	10	Station	53	Stations	23.35	1,238
Turnouts	3"-0		10	Turnout	18	Turnouts	3	54
Junctions	1 ½"-0	Point H, N	Varies	Junction	20	Junctions	2	40
Culvert Bedding/Backfill	1 ½"-0	Culvert No. 7	Varies	Culvert	12	Culverts	1	12
Total Rock for Road Segment:			H to I					1,344

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT: H to J				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size and Type**	**Location**	**Depth of Rock (inches)**	H to J		0+00 to 44+60		
				Volume (CY) Per		**Number of**		
Surfacing Rock	3”-0	H to J	10	Station	53	Stations	44.6	2,364
Turnouts	3”-0		10	Turnout	18	Turnouts	7	126
Landing	3”-0	39+75	10	Landing	80	Landings	1	80
Culvert Bedding/Backfill	1 ½”-0	Culvert Nos. 8-17 & Sta. 18+50	10	Culvert	12	Culverts	11	120
Total Rock for Road Segment:			H to J					2,690
ROAD SEGMENT: L to M				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size and Type**	**Location**	**Depth of Rock (inches)**	L to M		0+00 to 6+40		
				Volume (CY) Per		**Number of**		
Culvert Bedding/Backfill	1 ½”-0	Culvert Nos. 15, 18 & 19	Varies	Culvert	12	Culverts	3	36
Surfacing over Culverts	1 ½”-0	Culvert Nos. 15, 18 & 19	8”	Culvert	12	Culverts	3	36
Total Rock for Road Segment:			L to M					72
ROAD SEGMENT: N to E				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size and Type**	**Location**	**Depth of Rock (inches)**	N to E		0+00 to 55+35		
				Volume (CY) Per		**Number of**		
Surfacing Rock	3”-0	Culvert Nos. 20 & 21	-	Culvert	12	Culverts	2	24
Spot Rock	3”-0		Varies					120
Spot Rock	1 ½”-0		Varies					48
Culvert Bedding/Backfill	1 ½”-0	Culvert Nos. 20 & 21	Varies	Culvert	12	Culverts	2	24
Total Rock for Road Segment:			N to E					216
ROAD SEGMENT: O to P				**POINT TO POINT**		**Sta. to Sta.**		**TOTAL VOLUME (CY)**
Application	**Rock Size and Type**	**Location**	**Depth of Rock (inches)**	O to P		0+00 to 4+50		
				Volume (CY) Per		**Number of**		
Sill Footings	3”-0	Bridge		Sill	5	Sills	2	10
Sill Footings	1 ½”-0	Bridge		Sill	1	Sills	2	2
Bridge Surfacing	1 ½”-0	Bridge	4”	Bridge	48	Bridges	1	48
Riprap	36”-24”	Bridge	Varies					50
Base Rock	3”-0	O to P	6”	Station	31	Stations	4.5	140
Surfacing Rock	1 ½”-0	O to P	4”	Station	20	Stations	4.5	90
Total Rock for Road Segment:			O to P					340

Stockpile	**Location**	**Approximate Dimensions**	**Volume (Stockpile Measurement, CY)**
1 ½”-0 Crushed	Beaverdam 6.25 Mile Stockpile Site	80ft x 80ft x 15ft	2,000

ROCK TOTALS (CY)	**1½"-0”**	**3"-0”**	**36” – 24”**
	6,967	7,198	50

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.

Stockpile Measurement. Purchaser shall construct stockpiles according to the dimensions determined by STATE and included in the Quarry development plan required by Exhibit F. Dimensions will consist of the length and width of the base, length and width of the top, and height of all four corners. The finished stockpile surface shall be smooth, uniform, and all corners filled in. All stakes and reference points shall be protected until stockpile measurements are accepted 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 or outsloped 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 3

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 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 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 or outsloped at 4 to 6 percent as specified in the "Forest Roads Specifications" table in Exhibit D.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
All road segments requiring crushed rock	1

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 Dozer. A dozer/track-type tractor weighing a minimum of 82,000 pounds shall be operated 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.

Aluminized (Type 2) steel culverts shall meet the requirements of AASHTO M-36-03[1].

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.

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 water culverts and all culverts on improvement segments.

Backfill shall consist of crushed rock on improvement segments and 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” and 18” for culverts 42” to 96”. Minimum vertical cover for other designs shall be as specified by STATE.

Lengths of individual culvert sections shall be not less than 10 feet, unless otherwise provided for in special instructions.

The 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 and all culverts on improvement segments.

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.

Energy Dissipators, Settling Ponds, and Bio Bags shall be installed within 72 hours of culvert installation, unless otherwise approved in writing by STATE. Steel posts used with half round installation shall be painted with rust preventative paint.

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

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

	Steel Culvert	Thickness			Band Widths (")	
Dia.	Gauge	Uncoated	Coated	Band Gauges	Annular	Helical
60	12	0.1046"	0.109”	16	24	24

EXHIBIT E

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	MATERIAL TYPE	ROAD SEGMENT POINT TO POINT	STATION
1	18	30	CPP	A to B	0+00
2	18	30	CPP	C to D	3+00
3	18	30	CPP	C to D	9+00
4	18	40	CPP	G to H	8+45
5	18	30	CPP	G to H	33+05
6	18	30	CPP	G to H	102+25
7	18	40	CPP	H to I	15+40
8	18	50	CPP	H to J	0+00
9	18	30	CPP	H to J	2+50
10	36	30	CPP	H to J	3+20
11	60	50	ACSP	H to J	7+60
12	36	30	CPP	H to J	8+30
13	18	30	CPP	H to J	11+70
14	24	30	CPP	H to J	13+25
15	18	44	CPP	L to M	0+00
16	24	30	CPP	H to J	18+30
17	18	30	CPP	H to J	29+00
18	18	30	CPP	L to M	2+05
19	18	30	CPP	L to M	5+35
20	18	30	CPP	N to E	20+40
21	18	30	CPP	N to E	41+15
22	18	24	CPP	O to P	0+90

ACSP = Aluminized, CPP = Polyethylene

EXHIBIT E

TYPICAL EMBEDDED ENERGY DISSIPATOR

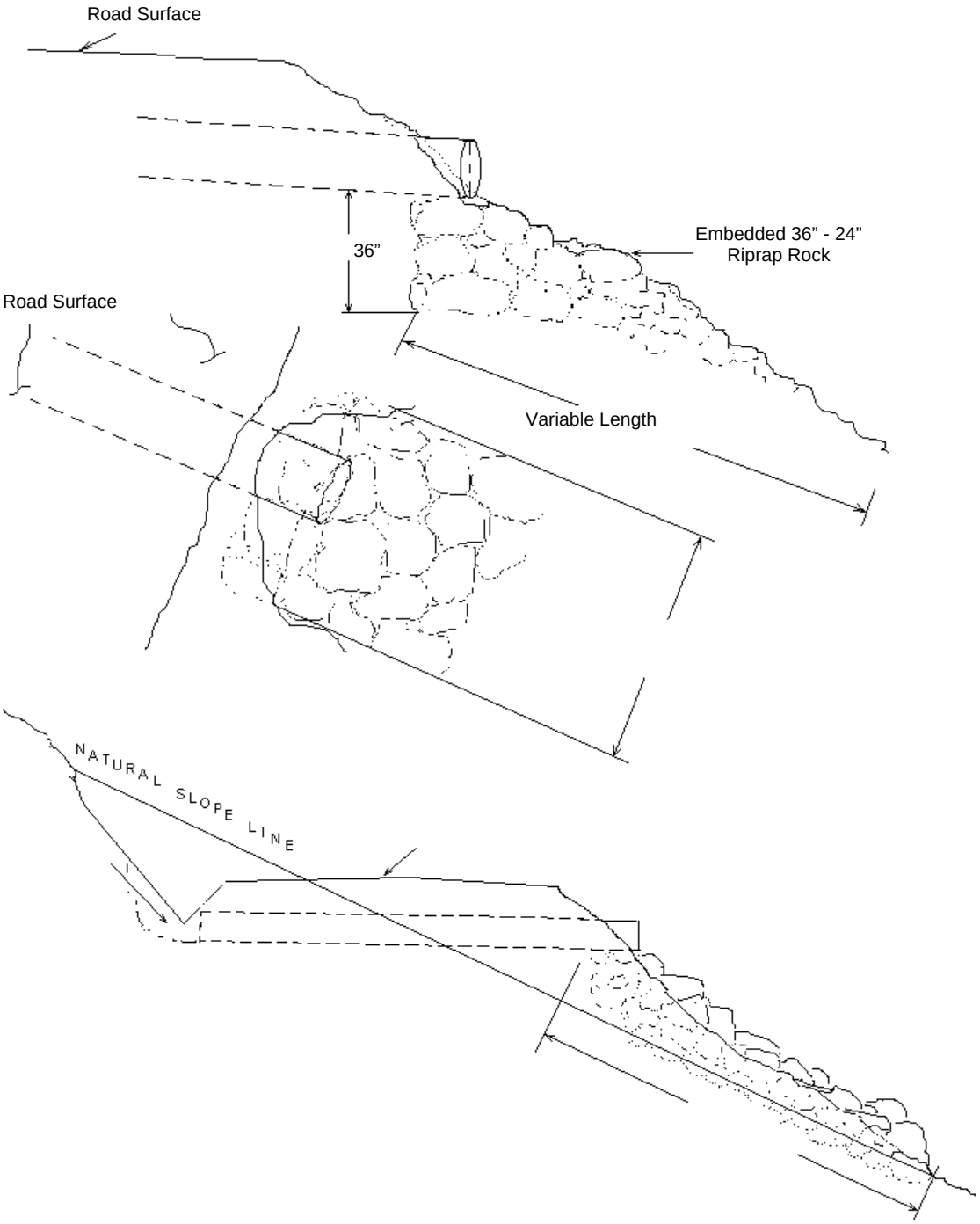


EXHIBIT F

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 shall be hauled to the designated waste area as directed by STATE.

5. Construct a reject material stockpile site at the location shown on Exhibit A. All reject material shall be hauled to the designated site as directed by STATE.

6. 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.

7. 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.

8. Quarry face shall be developed in a uniform manner. All quarry backslopes shall be left in a stable condition.

9. Oversized material that is produced shall be piled in a designated area adjacent to the pit. It shall not be wasted.

10. 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.

11. 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.

12. Apply seed and mulch to the waste area, as specified in Exhibit I.

EXHIBIT F

CRUSHED ROCK SPECIFICATIONS

Materials. The material shall be fragments of rock crushed to the required size. The material shall be free from vegetation and lumps of clay.

STATE requires screening and/or rejecting of materials utilized for production of crushed rock for the purpose of removing excess fine material. Excess fines are present, when greater than 5 percent of a total rock sample weight, passes a #200 sieve.

Rock crushing shall be limited to periods when weather conditions are acceptable to STATE.

Quality and Grading Requirements. The base material shall be rock. River gravel shall not be used. Crushed rock shall meet the grading requirements that follow:

Rock strength: for rock not produced from STATE quarries, the material from which base material is produced or manufactured shall meet the following test requirement for Aggregate Hardness - Test Method AASHTO T 96 30 percent Maximum.

For the purpose of crushing rock specified under the projects in Section 2610, “Project Work,” PURCHASER shall utilize a three-stage rock crusher, or equivalent, unless otherwise approved by STATE.

The rock crusher shall be calibrated to produce rock as specified in this exhibit. Prior to the commencement of production crushing, PURCHASER shall sample, test, and provide rock test results meeting STATE specifications. STATE may then sample and test crushed rock for approval to proceed. PURCHASER shall take one sample of each 2,000 cubic yards of crushed rock material produced thereafter, using approved AASHTO sampling procedures. PURCHASER shall submit samples to a certified laboratory or shall perform testing for gradation requirements using AASHTO T 11 and AASHTO T 27 testing procedures. Prior to testing, each sample shall be split, making one-half of the sample, with proper identification, available for testing by STATE. Each sample and the results of PURCHASER testing shall be made available to STATE within 24 hours of sampling. Any rock crushed prior to STATE approval to proceed shall not be credited to the required rock quantity. Any subsequent rock tests not meeting STATE specifications shall be reason for rejection of that portion of crushed rock produced after that test and shall not be credited to the required rock quantity. STATE may sample the crushed rock at any time during the operation. Results of STATE’s tests shall prevail over all other test results.

EXHIBIT F

DURABLE CRUSHED ROCK SPECIFICATIONS

Grading Requirements

For 1½"-0"	Passing	2" sieve	100%
	Passing	1½" sieve	90-100%
	Passing	3/4" sieve	60-90%
	Passing	1/4" sieve	30-50%
	Passing	No. 10 sieve	15-30%
	Passing	No. 40 sieve	7-15%
For 3"-0"	Passing	4" sieve	100%
	Passing	3" sieve	90-100%
	Passing	1½" sieve	60-90%
	Passing	3/4" sieve	40-60%
	Passing	1/4" sieve	20-40%
	Passing	No. 10 sieve	5-20%

EXHIBIT F

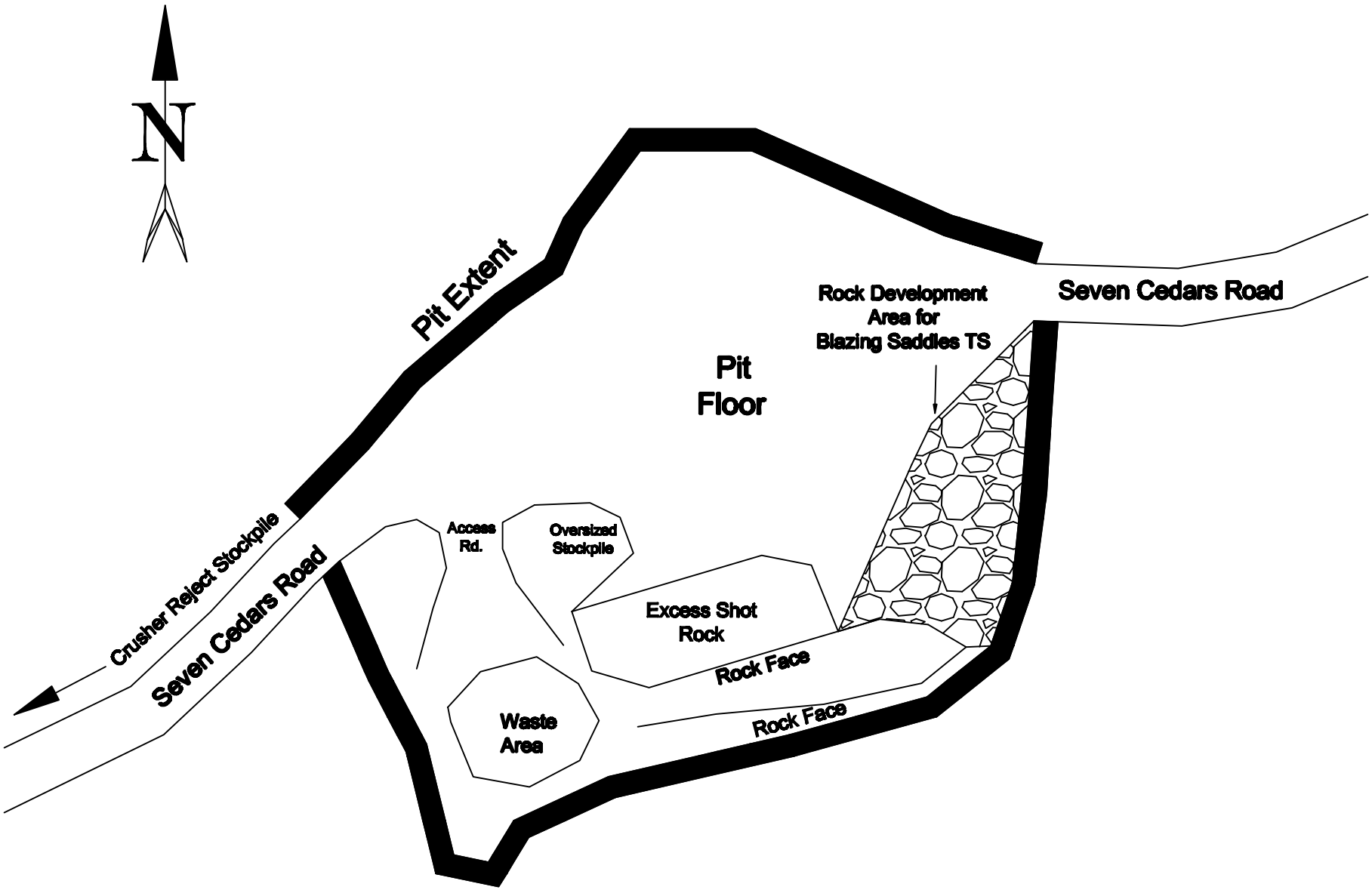
RIPRAP ROCK SPECIFICATIONS

For 36”-24” Riprap A minimum of 50 percent of the material shall measure a minimum of 36 inches, measured in one dimension. Material shall be clean, well graded, and free of 2"-0" fines.

Control of gradation shall be by visual inspection by STATE.

Blazing Saddles No. 341-16-04

Exhibit F
Pit Development Plan



Oregon Department Forestry	No Scale
Forest Grove District	T1N, R6W, Sec. 27, Washington County

EXHIBIT G

WATERBAR SPECIFICATIONS

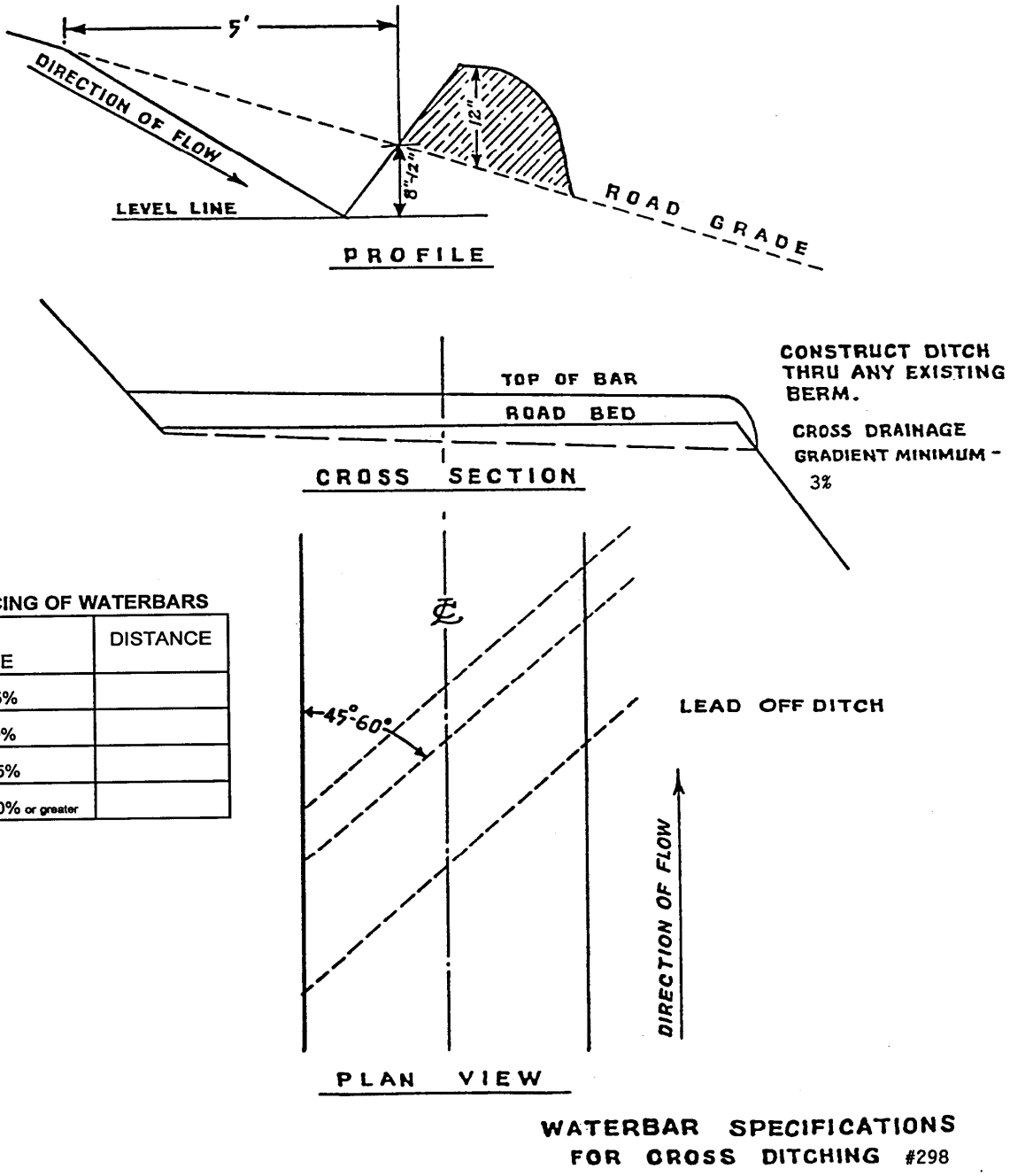
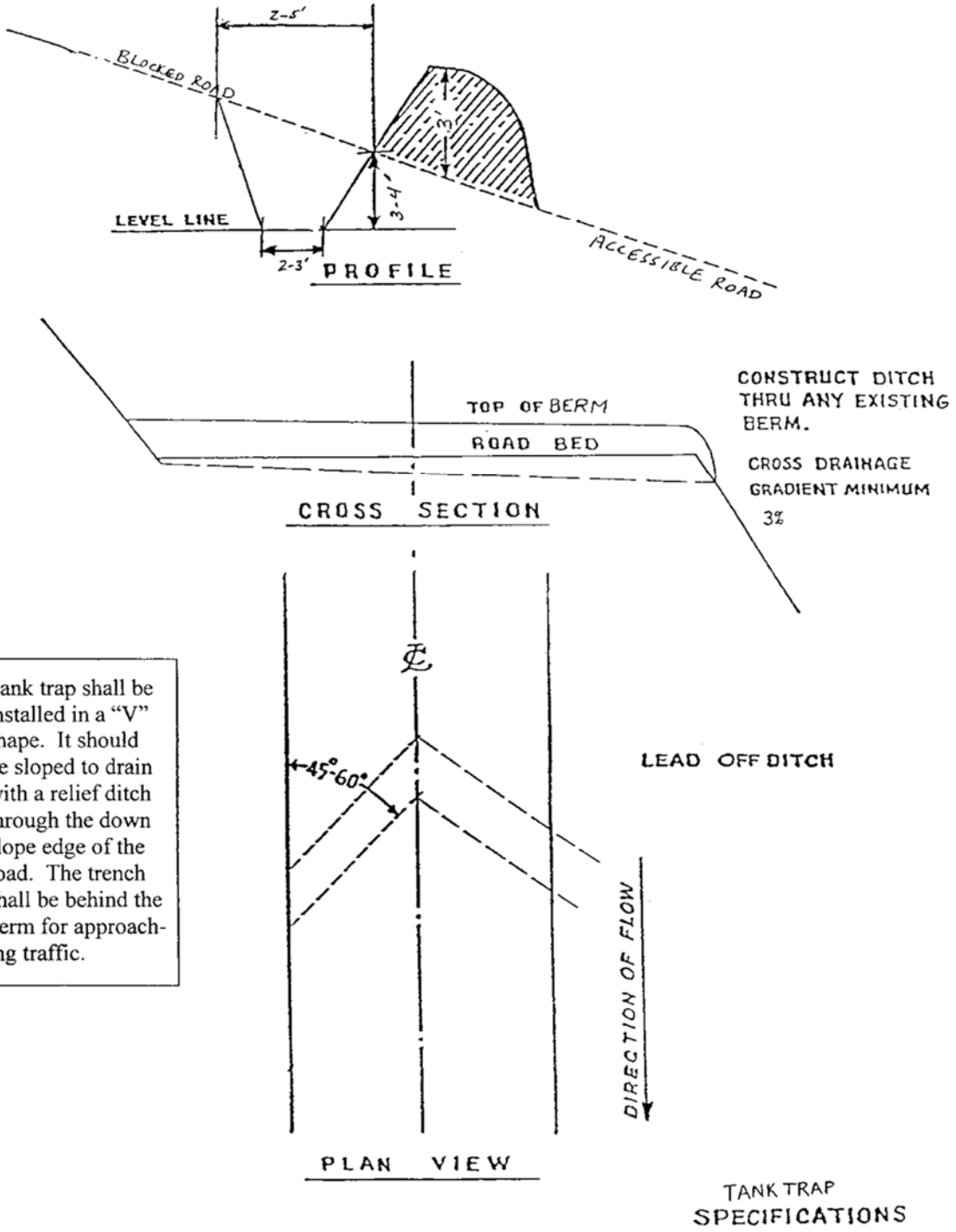


EXHIBIT G

TANK TRAP SPECIFICATIONS



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

EXHIBIT H

ROAD VACATING SPECIFICATIONS

PURCHASER shall vacate at the following points: A to B.

(1) Fill Removal and Stream Channel Development. Remove fills to the natural stream course level(s). Stream channel(s) shall be excavated/developed to specified widths. Developed stream banks shall be sloped at natural contours or no steeper than 1 ½:1, as directed by STATE.

(2) Culvert Removal. Remove drainage structures and culverts. Culverts shall be salvaged and delivered to the Forest Grove District Office.

(3) Rip Road Surface. Rip road surface to a minimum depth of 10 inches.

(4) Outslope Road. Outslope road to restore natural contours or establish a minimum of 10 percent slope for drainage at designated locations. If the road grade exceeds 10 percent, outslope of the road shall be 2 percent greater than the road grade.

(5) Sidecast Pullback. Excavate/pullback previously sidecast materials below the road at designated locations. Developed slopes shall be pulled back to a 1½:1 slope or to natural ground contours. The beginning position for sidecast pullback shall be no greater than 20 feet vertical distance from the existing road surface, in accordance with Exhibit D.

(6) Use of Excavated Materials.

(a) Fill Excavation and Sidecast Pullback. Excavated materials shall be placed on the interior (cut) side of the road, and utilized to restore the cutslope to natural contours, or to a minimum 10 percent outsloped surface for drainage. Any excess material will be hauled to a designated waste area, as directed by STATE.

(b) Woody Debris. Shall be placed on the surface of pullback/fill material.

(7) Block Access. Block access to all vehicles at Point A. Access shall be blocked by constructing a tank trap and using local boulders or stumps.

(8) Erosion Control. Erosion control shall be completed in a progressive manner. Grass seed and straw mulch shall be applied for every 500 feet of road vacated, prior to continuing work.

All excavated material and bare soil shall utilize grass seed and straw mulch approved by STATE and in accordance with the specifications in Exhibit I.

(9) Construct Waterbars as directed by STATE. Construct waterbars according to the specifications in Exhibit G.

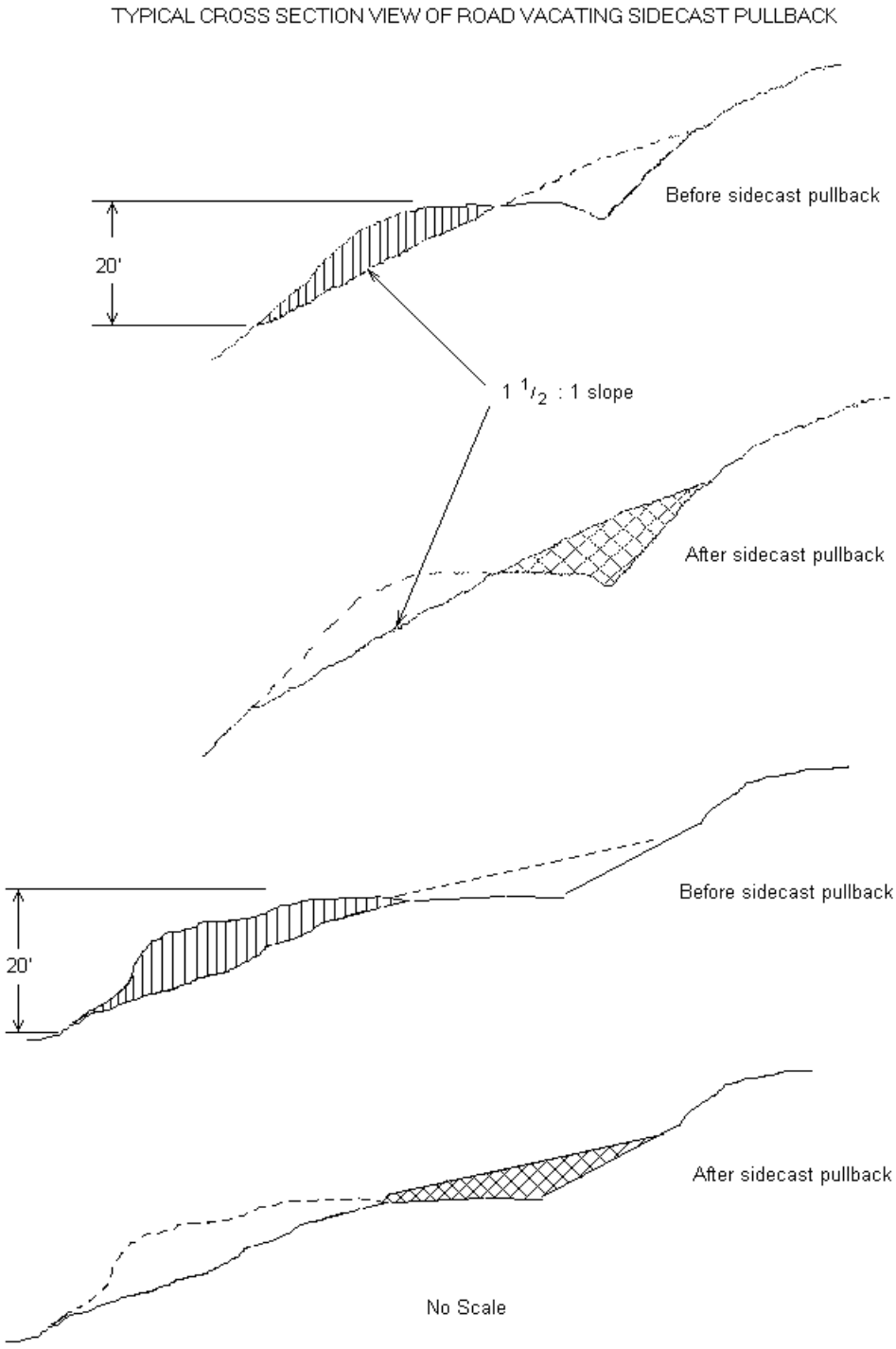
(10) Dry Conditions. All work shall be performed during dry conditions acceptable to STATE.

SPECIFIC INSTRUCTIONS/SPECIFICATIONS:

Segment	Station	Work Description
A to B	0+00	Point A. Begin road vacating; construct tank trap to block vehicle access. Remove culvert.
	2+80	Live stream. Remove log stringer bridge and bridge approach material. Reestablish stream channel. All excavated material shall be placed in a stable location on site.
	14+20	Point B. End road vacating.

EXHIBIT H

TYPICAL CROSS SECTION VIEW OF ROAD VACATING SIDECAST PULLBACK



State Timber Sale Contract
No. 341-16-04
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EXHIBIT I

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 Nos. 1, 2, 3, 5, and 6. Apply straw mulch to all bare soils within 100' of streams resulting from Project Nos. 1, 2, 5, and 6, 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.

Application Locations:

Road Segment	Location
A to B	Bridge Location & Waste Area
G to H	17+20 to 18+00 & Waste Area @ Point H.
H to J	Culvert Nos. 10, 11, 12, 14, 16, 25+20 to 28+90, 36+00 to 36+50, & Waste Area @ Point J.
O to P	Bridge Location & Waste Area

EXHIBIT J

BRIDGE CONSTRUCTION SPECIFICATIONS

BRIDGE DESIGN. PURCHASER shall design and construct a U80 loading, L/500 load deflection, prefabricated steel bridge superstructure, complete with thrie beam galvanized guardrail system. The bridge shall have a span of 50 feet to preserve a minimum stream channel width of 15 feet and a minimum height from bottom of stream channel to lowest point of bridge structure of 6 feet. The bridge shall be delivered in 2 modules with bolt-up connections.

36"-24" riprap rock armor shall be used to protect stream banks, retain road approach embankments and prevent scour of the bridge and roadway. The bridge superstructure shall be designed in accordance with AASHTO Standard Specifications for Highway Bridges, 17th Edition – 2002. Backwalls shall be placed and have a positive connection joining the backwalls to the modular bridge sections, to retain roadway embankment(s). Backwalls shall be made of galvanized steel.

Steel deck system shall be 9 gauge galvanized 4-1/4" deep with a ¼" by 6" side dam. The bridge deck running surface width shall be 14 feet between the guardrails. The steel decking shall be galvanized corrugated steel and shall be placed perpendicular to the direction of travel. The deck shall have a positive connection joining the deck panels to the modular bridge sections. Full width 1 ½" -0" crushed rock to the top of the side dams and 4" thick at centerline shall be applied as a running surface.

All structural steel shall be of cosmetic (USA) manufacture and shall conform to the requirements of ASTM Specification A588 Weathering Steel with exterior surfaces of girders being wipe cleaned prior to shipment to assure uniform weathering.

Bridge shall be set on precast concrete sills. Construct stable foundation bases for the precast concrete sills by utilizing 3"-0 crushed rock base and a 1 1/2"-0 crushed rock leveling course. Any spread footings used for bridge construction shall be constructed of reinforced Class 4,000 concrete and pre-cast off site. Reinforcing steel shall conform to ASTM A706, No. 6 Grade 40 minimum and utilized in accordance with industry standards. The bridge shall utilize bearing plates, elastomeric pads and assembly bolts. The bridge footing elevation shall be equal.

PURCHASER is responsible for performing all necessary Site Investigation(s). Site Investigation(s) shall be made prior to any project design and shall include, but not be limited to:

(1) Sub-surface exploration.

(2) Determination of the depth and orientation of stream bedload, erodible rock (soft, decomposed or fractured) and scour resistant bedrock foundation materials.

(3) Determination of the scour potential and bearing capacity of bedrock/soil foundation materials.

BRIDGE PLANS. PURCHASER shall submit bridge plans to STATE for approval, prior to commencement of any work on the project. Finished road grades shall slope away from the top of the bridge deck at a slope of 2% for a distance of at least 25 feet. The plans shall include design calculations, scaled drawings, elevations and section drawings for the structure, including sizes and dimensions of bridge components. The plans shall indicate matching the existing road to the new road construction and the new road construction to the bridge surfacing. Horizontal and vertical centerline alignments shall be mathematically continuous (*K* values for both crest and sag vertical curves shall not be less than 13, horizontal curve radii shall not be less than 60 feet). Angle points in horizontal and vertical alignments shall not be used. The plans shall also include a description of special tools, equipment, the required lifting capacity and the general process to install and connect the bridge components. Plans must contain all information necessary for the administration and inspection of the project by STATE. All plans and design calculations shall be stamped and signed by a professional engineer licensed in the state of Oregon.

EXHIBIT J

BRIDGE CONSTRUCTION SPECIFICATIONS

BRIDGE CONSTRUCTION

(1) In Stream work shall be conducted only between July 1 and September 15, annually. **STATE shall be notified a minimum of two working days (Monday-Thursday, 7:00 am – 3:30 pm) prior to beginning work**. STATE has prepared the required FPA "Written Plan" for this work. Oil Spill response materials shall be on site before the work begins.

(2) PURCHASER shall submit a site specific de-watering plan which provides for 24 hour de-watering during the time of preparing and armoring the banks, and setting the footings. De-watering of the work site shall be accomplished according to PURCHASER'S STATE approved plan and prior to the removal of any excavated material for the development of the footing pad, and stream channel. Salvage of existing riprap may be accomplished prior to de-watering. The work site shall be dewatered by the use of cofferdams, pumps, temporary diversion ditches and/or drainage structures.

(3) PURCHASER shall develop and submit for STATE approval an Erosion Control Plan that addresses the prevention of sediment entering the tributary to the South Fork Wilson River and the South Fork Wilson River during construction.

(4) All woody debris encountered during excavation shall be removed. Cleared debris and materials unsuitable for embankment construction shall be endhauled to the designated waste area.

(5) Waste materials shall be sloped for drainage and stability, as directed by STATE. Prior to hauling waste materials, the waste area shall be cleared of large woody debris. The debris shall be piled adjacent to the waste area. All exposed excavation areas and waste materials shall be seeded and mulched in accordance with specifications in Exhibit I. Large woody debris shall be redistributed over the waste area after all waste materials have been hauled.

(6) Construct the bridge and the bridge approach embankments in accordance with approved bridge plans and as specified in Exhibits D and F. Bridge approach embankments shall consist of select materials, hauled in where necessary, and shall be thoroughly compacted in accordance with Exhibit D. **The PURCHASER's Engineer shall witness, inspect, and approve the excavation and the placement of granular materials in preparation for placement of the bridge footings before such footings are placed. The PURCHASER'S Engineer shall also provide written certification and signed as-built plans after completion of project.**

(7) Utilize 36"-24" riprap rock as specified in Exhibits D and F for road approach embankment protection and for upstream bank protection. Riprap shall be placed at a minimum thickness of 3 feet. Riprap rock shall be placed and tamped at a 1:1 slope, beginning at the toe(s).

(8) A minimum 1.8 cubic yards, track-mounted large class excavator shall be used for all excavation, stream channel development, and riprap placement.

(9) Upon completion of the above required work, apply, process, and compact surfacing rock in accordance with Exhibits D and F. Utilize 3"-0 crushed rock for bridge approach surfacing base rock and 1 ½"-0 crushed rock for road surfacing, to provide for a smooth and uniform transition from the new construction road surfacing. Compact crushed rock in accordance with Exhibit D.

(10) PURCHASER is responsible for scheduling, supervision and certification of the bridge construction work, including, but not limited to:

(a) Coordination of the site investigation(s), bridge design and bridge construction work.
(b) Performing any necessary field surveys and staking.
(c) Scheduling and supervision of construction work.

(11) Upon completion of the project, the engineer shall issue written certification that construction work was completed in accordance with the approved Bridge Plan.

EXHIBIT K

LOG STRINGER BRIDGE SPECIFICATIONS

PURCHASER shall provide and install a bridge that will provide an adequate crossing for all rock and log hauling activities associated with the timber sale contract. The bridge shall be at least 30 feet in length and provide a natural stream channel of at least 10 feet wide. Unsuitable material shall be excavated and end-hauled to an approved waste area.

BRIDGE REQUIREMENTS

(a) The bridge materials and installation shall comply with all applicable OR-OSHA, Division 7 requirements.
(b) The bridge shall be a minimum of 30 feet in length, and shall provide a running surface of 14 feet in width.
(c) The running surface shall consist of crushed rock.
(d) The bridge shall be installed to provide for:
- A minimum open stream channel at least 10 feet wide, measured parallel with the bridge axis
- Provide a minimum clearance of five feet between the bottom of the superstructure and the elevation of the stream bottom in the low flow channel measured on the upstream side of the bridge.
- Developed slopes shall be no steeper than 1:1.

BRIDGE MATERIALS. Logs shall be selected from trees within the right-of-way between Points Q and A shown on Exhibit A.

(a) SILL LOGS
Sill logs shall be Douglas-fir and shall be a minimum of 36 inches in diameter on the small end. Sill logs shall be slabbed on the sides contacting the soil to provide a flat bearing surface at least 2 feet wide. Additional logs shall be placed as wing logs if necessary to contain backfill.

(b) STRINGERS
Stringers shall be Douglas-fir and shall be a minimum of 20 inches in diameter on the small end. The number of stringers shall be sufficient to provide a 14-foot surfaced road width when the brow logs are placed. Small logs shall be placed as necessary to shim between the stingers and provide a smooth surface for placing crushed rock.

(c) BROW LOGS
Brow logs shall be Douglas-fir and shall be of a diameter sufficient to provide a rub guard height of 10 inches above the finished road surface.

BRIDGE INSTALLATION

(a) “In-Stream” work shall be conducted only during periods of low water flows between July 1 and September 15, annually. STATE shall be notified a minimum of 48 hours prior to beginning work. STATE has prepared the required Forest Practices Act “Written Plan” for this work. PURCHASER shall pump water around the construction site or divert as necessary to prevent sedimentation in the stream below during all phases of excavation and installation of the bridge.

(b) Remove embankment as necessary to accommodate the work area for bridge construction. Excavated debris shall be end-hauled to a disposal site approved by STATE. Purchaser shall excavate as necessary to prepare a firm footing for the placement of sill logs. Native soil shall be machine compacted prior to the placement of sill logs. Borrow sites for bridge embankment material must be in locations approved by STATE.

EXHIBIT K

LOG STRINGER BRIDGE SPECIFICATIONS

(c) Stringers and brow logs shall be secured by wrapping with 5/8-inch (minimum wire) rope as shown on Bridge Detail drawing in this exhibit. A minimum of three wraps shall be taken at each cabling point. Cable shall be new and shall be fastened using appropriate cable clamps.

(d) Backfill shall be clean, well graded granular material excavated on site. Backfill shall be uniformly placed in machine-compacted lifts on both sides of the bridge. Lifts shall not exceed eight inches in depth before compaction.

(e) Bridge shall be surfaced according the specifications in Exhibit D. Prior to placement of surfacing, geotextile fabric shall be placed over the stringers and small logs. Geotextile fabric shall meet the requirements in this Exhibit. Rock shall be walked in with machinery and shall not be compacted with a vibratory roller.

EROSION CONTROL
All areas of bare soil shall be grass seeded and mulched according to the specifications in Exhibit I. Straw mulch shall be spread over all seeded areas to a depth of 4 inches.

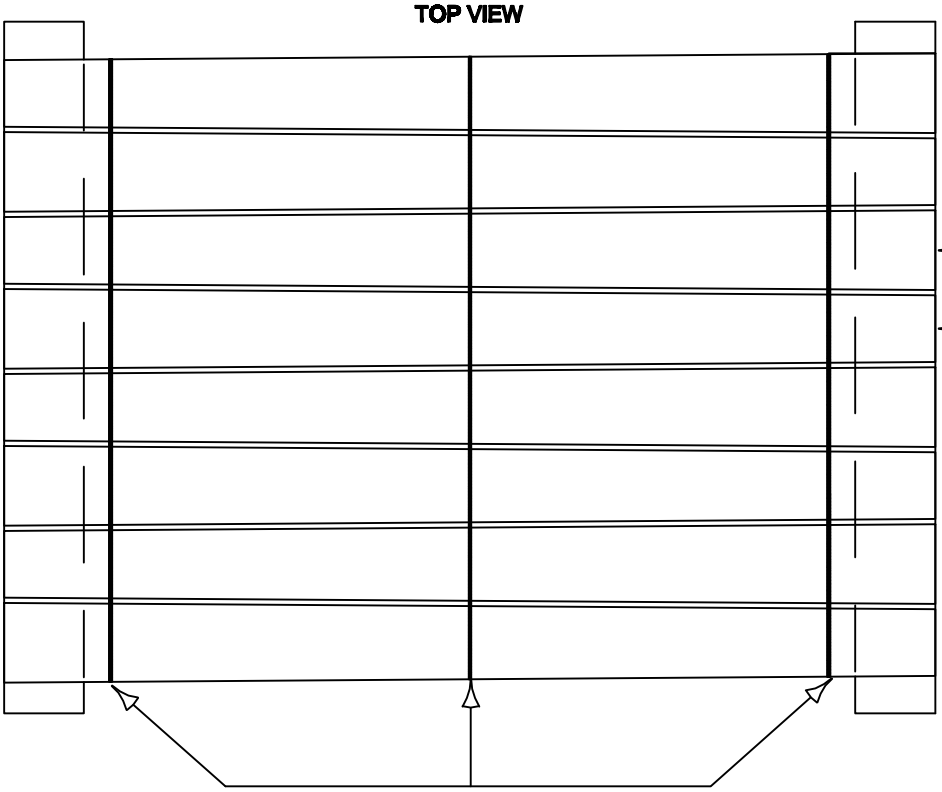
GEOTEXTILE SPECIFICATIONS - shall be woven geotextile fabric designed for forest road subgrade surfacing purposes and shall meet or exceed the following requirements, unless otherwise approved in writing by STATE:

1.	Grab Tensile	300 lbs.	ASTM D4623;
2.	Puncture strength	110 lbs.	ASTM D4833;
3.	Mullen Burst	600 lbs.	ASTM D3786; and
4.	Width – 12.5 feet.		

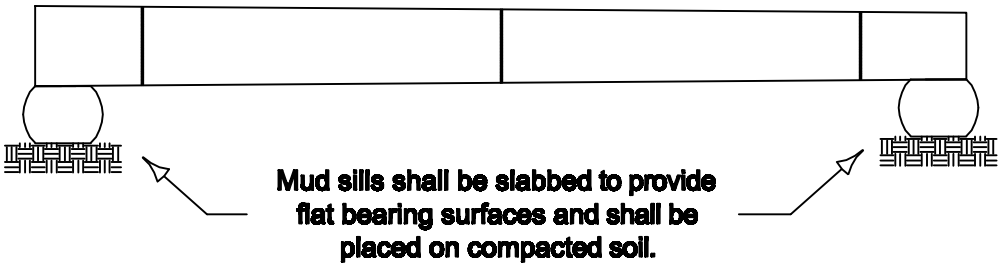
Blazing Saddles No. 341-16-04

Exhibit K
Log Stringer Bridge Details

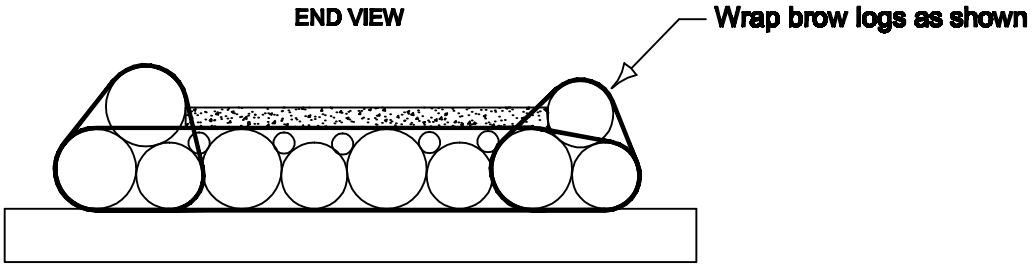
TOP VIEW



SIDE VIEW



END VIEW



	No Scale
Oregon Department of Forestry	T1N, R6W, Sec. 14, SE SE, WM
Forest Grove District	Tillamook County

State Timber Sale Contract
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Blazing Saddles

EXHIBIT L

SPECIFICATIONS FOR BRUSH AND SLASH TREATMENT

Operation Area: The Timber Sale Area shown on Exhibit A

Equipment Type, Equipment Operation, and Conduct of Work

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 and capable of 360-degree continuous rotation. The tooth length on the rake teeth shall be at least 14 inches 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 debris on the area as directed by STATE.

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

Work Scheduling

Work shall 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. Once begun, operations shall be continuous until contract work is completed, unless interrupted by poor weather, fire closures, or other uncontrollable circumstances. Equipment breakdowns shall be repaired without undue delay, and provision shall be made for replacement of equipment to prevent prolonged delays. Brush and slash treatment operation 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.

Description of Work to be Done

Move brush and/or woody slash to create openings as planting spots in the slash and brush. Planting spots shall be a minimum of 1 foot by 1 foot in size and shall be on a 10 foot spacing. Care shall be taken to avoid creating a depression in the soil of the planting spot. Spacing may be varied to accommodate stumps, large woody material, rocky areas, etc., but 435 planting spots per acre are still required.

Piling should be avoided but may be done only as needed to create the required planting spots. If piling is necessary, piles should not exceed 10 feet in width or length. Each pile whose length and width dimensions are larger than 10 feet shall be covered with 100 square feet of polyethylene plastic sheeting. The plastic sheeting shall be no more than 4 mil gauge. 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. Work specifications may be modified or waived only upon written notice from STATE.

PART IV: OTHER INFORMATION

State Timber Sale Contract
No. 341-16-04
Blazing Saddles

WRITTEN PLAN FOR IN-STREAM ACTIVITIES

BLAZING SADDLES TIMBER SALE
SALE NO. 341-16-04

BRIDGE INSTALLATION ON O TO P

PROJECT DESCRIPTION:
This project consists of a bridge installation over the unnamed tributary of South Fork Wilson River that runs thru the South Fork Prison Camp. The installation will include installing the bridge and building 450' of new road to access it.

Road Segment O to P

NW 1/4, NW 1/4, Section 8, T1N, R6W, W.M.

The Oregon Forest Practices Act requires a written plan for operations within 100 feet of a Type F stream. This Written Plan addresses protection measures that will be applied to minimize impact to the stream and the associated riparian area.

PROTECTED RESOURCES:
The bridge to be installed under this Written Plan will replace a nonfish passable culvert in a failing fill. This will provide fish passage for an unnamed, small type F stream, which is a tributary to the South Fork Wilson River, a large type F stream. The nonfish passable culvert and failing fill will be removed with a different project and written plan after the bridge installation is complete due to complications with utility lines buried in the fill. This project site is within the Forest Practices Coast Range Region.

DESCRIPTION OF THE AREA:
The stream's drainage area is 150 acres, or 0.24 square miles, with a mean elevation of 1560 feet. The predicted 100-year peak flow, based on Campbell's equations, is 71.1 cubic feet per second. A waterway area of 14.7 square feet is required to pass this flow. Average active channel width at normal high water is estimated to be approximately 14 feet.

PROJECT DESCRIPTION:
The project will construct 450' of new road to access the bridge site and install a bridge with a minimum length of 50 feet. The bridge will also provide a minimum of 6 feet between the bottom of the bridge structure and the stream level at peak flow. The bridge installation will provide an open stream channel of at least 15 feet wide. Developed stream banks shall be sloped at natural contours or no steeper than 1:1.

PROTECTION MEASURES:
All in stream work associated with this plan will be accomplished from July 1 to September 15, annually, and during periods of dry conditions. In-water work will be limited to the minimum necessary to place fill armoring riprap rock and adequately prepare the site for installation of the structure. To minimize impact to the resource during all in water work, the stream will be pumped or diverted around the project site. The exposed slopes around the structure will be armored with riprap rock to protect the fill from erosion and embankment failure. Upon completion of installation of the structure all areas of disturbed soil will be seeded and mulched to minimize surface erosion. Cutting of trees within the riparian area adjacent to the site will be limited to those necessary to facilitate bridge installation activities.