

# PART III: EXHIBITS

State Timber Sale Contract  
No. 341-14-09  
Kinnikinnick

EXHIBIT B

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

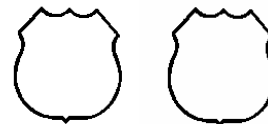
## OREGON DEPARTMENT OF FORESTRY

### TIMBER SALE OPERATIONS PLAN

(See Page 2 for instructions)

Date Received by STATE: \_\_\_\_\_

(5) State Brand Information (complete):



(1) Contract No.: 341-14-09

(2) Sale Name: Kinnikinnick

(3) Contract Expiration Date: October 31, 2016

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.



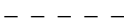
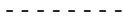


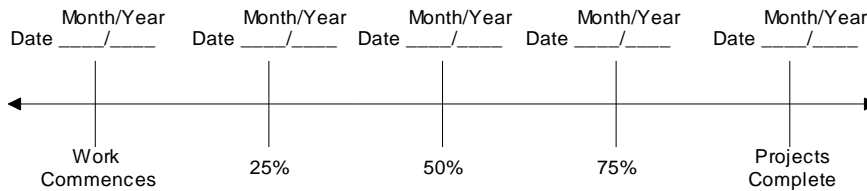
- |   |   |
|---|---|
|  | Cable Landing, with numbers for sequence.   |
|  | Tractor Landing with alphabetical sequence. |
|  | Approximate setting boundary.               |
|  | Spur truck roads.                           |
|  | Tractor yarding roads.                      |
|  | Temporary stream crossings.                 |

EXHIBIT B  
OPERATIONS PLAN

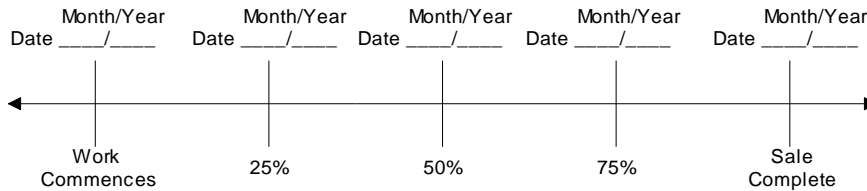
**Completion Timeline**

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  
Purchaser



**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](mailto:services@crls.com)

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

Southern Oregon Log Scaling & Grading Bureau  
P.O. Box 580, Roseburg, OR 97470  
Phone: (541) 673-5571 Fax: (541) 672-6381  
Email: [info@southernoregonlogscaling.com](mailto:info@southernoregonlogscaling.com)

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

Northwest Log Scalars, Inc  
5526 NE 122<sup>nd</sup> Ave, Portland, OR 97230  
Phone: (503) 254-0600 Fax: (503) 408-0919  
Email: [info@nwlogscalars.com](mailto:info@nwlogscalars.com)

Pacific Log Scaling & Grading Bureau, Inc.  
P.O. Box 23939, Portland, OR 97281  
Phone: (503) 684-5599 Fax: (503) 639-4880  
Email: [PacLogScale@aol.com](mailto: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](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 \\WPODFILL01\Transfer\ScalingInstructions or e-mailed directly to [scaling@odf.state.or.us](mailto:scaling@odf.state.or.us). Scaling instructions for each brand should be scanned separately, for each approved TPSO.



**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](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  
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Pacific Rim Log Scaling Bureau, Inc.  
8288 28<sup>th</sup> Court North East, Lacey, WA 98516  
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Phone: (503) 684-5599 Fax: (503) 639-4880  
Email: [PacLogScale@aol.com](mailto: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](mailto: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
-	Match Existing	A to B	0+00 to 339+70	Ditch
16 feet	12 feet	C to D	0+00 to 29+15	Ditch
14 feet	12 feet	C to D	29+15 to 34+50	Outslope
16 feet	12 feet	C to D	34+50 to 61+60	Ditch
14 feet	12 feet	C to D	61+60 to 70+25	Outslope
16 feet	12 feet	C to D	70+25 to 162+00	Ditch
14 feet	12 feet	C to D	162+00 to 166+00	Outslope
16 feet	12 feet	C to D	166+00 to 173+30	Ditch
-	Match Existing	E to F	0+00 to 16+75	Ditch
	Match Existing	G to H	0+00 to 55+15	Ditch
16 feet	12 feet	I to J	0+00 to 9+50	Ditch
-	Match Existing	K to L	0+00 to 21+80	Ditch
16 feet	12 feet	M to N	0+00 to 10+40	Ditch
16 feet	12 feet	O to P	0+00 to 14+00	Ditch
14 feet	12 feet	O to P	14+00 to 20+00	Outslope
16 feet	12 feet	Q to R	0+00 to 2+40	Outslope
16 feet	12 feet	S to T	0+00 to 5+80	Ditch
-	Match Existing	U to V	0+00 to 127+20	Ditch
-	Match Existing	W to X	0+00 to 9+00	Ditch
14 feet	-	X to Y	0+00 to 8+00	Ditch
14 feet	-	X to Z	0+00 to 16+40	Ditch
14 feet	-	AA to BB	0+00 to 4+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.

Where clearing limits have not been marked, the clearing limits shall extend 10 feet back of the top of the cutslope and 5 feet out from the toe of the fill slope, or as directed by STATE. Clearing debris shall not be placed or permitted to remain in or under any road embankment sections. Clearing debris shall not be left lodged against standing trees.



EXHIBIT D

FOREST ROAD SPECIFICATIONS

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

GRUBBING. This work shall consist of the removal or digging out of stumps and protruding objects.

All stumps shall be completely removed within the limits of required grubbing. Stumps overhanging cutslopes shall be removed. Grubbing debris shall not be placed or permitted to remain in or under any road embankment sections. Grubbing debris shall not be left lodged against standing trees.

GRUBBING CLASSIFICATION.

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 or outsloped 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 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 20 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. Excess excavated material not used for embankment shall be sidecast on slopes up to 50 percent, end hauled to waste areas as shown on Exhibit A and marked in the field.
2. Equipment. All excavation and riprap placement shall be performed using a minimum 1½ cubic-yard, track-mounted excavator.
3. 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 or outsloped 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 or outsloped at 4 to 6 percent.

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS

<u>Segment</u>	<u>Station</u>	<u>Work Description</u>
I to J	0+00	Point I. Begin road construction; crown road, begin ditch.
	4+00	Install Culvert No. 17(18" x 40').
	5+00	Begin full bench construction, drift material ahead to maintain grade.
	8+00	End full bench construction, continue to drift material to Landing.
	9+50	Point J. End road construction, construct Landing.
M to N	0+00	Point M. Begin road construction; crown road, begin ditch.
	5+00	Construct ditchout to right.
	10+40	Point N. End road construction, construct Landing.
O to P	0+00	Point O. Begin road construction; crown road, begin ditch.
	2+00	Begin drifting local material ahead to maintain grade.
	5+00	Install Culvert No. 20 (18" x 30'). Begin full bench construction, continue to drift material forward to maintain grade.
	7+00	End full bench construction and drift, begin balanced construction.
	9+50	Construct ditchout to left.
	10+50	Waste Area on right.
	11+50	Construct ditchout to right.
	14+00	Point Q. Junction with Q to R. Construct junction. End ditch, begin outlope.
20+00	Point P. End road construction, construct Landing.	
Q to R	0+00	Point Q. Begin road construction; outslope road.
	2+40	Point R. End road construction, construct Landing.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS

<u>Segment</u>	<u>Station</u>	<u>Work Description</u>
S to T	0+00 5+80	Point S. Begin road construction; crown road, begin ditch. Point T. End road construction, construct Landing.
X to Y	0+00 3+30 5+75 8+00	Point X. Begin road construction; crown road, begin ditch. Road follows old grade. Existing culvert. Road leaves existing grade. Point Y. End road construction, construct Landing.
X to Z	0+00 5+00 10+00 16+40	Point X. Begin road construction; crown road, begin ditch. Install Culvert No. 27 (18" x 30'). Install Culvert No 28 (18" x 30'). Junction with AA to BB, Construct junction. Point Z. End road construction, construct Landing.
AA to BB	0+00 4+40	Point AA. Begin road construction; crown road, begin ditch. Point BB. End road construction, construct Landing.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

1. Roadside Brushing. Conduct roadside brushing as specified in this Exhibit.
2. Excavated Materials. Excavated materials shall be utilized for road and fill 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. Waste materials shall be sloped and compacted for drainage. Fills shall be thoroughly compacted in accordance with Exhibit D.
3. Bank Slough Removal. Dig out all bank slough. Bank slough material shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE. Waste materials shall be seeded and mulched in accordance with specifications in Exhibit H.
4. Culvert Replacement, Culvert Installation, Fill Reconstruction, and Fill Removal. Existing culvert geometry shall be modified to provide for optimum drainage and culvert performance. Modifications may include, skewing the culvert and/or installing the culvert at gradients equal to or exceeding the drainage (or ditch) gradient. Where fill reconstruction or culvert replacement is specified, fills shall be excavated to natural stream course levels. All woody debris encountered during fill excavation shall be removed. 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 H. Fill reconstruction backfill shall consist of select materials and may be obtained from borrow pits, as directed by STATE. Backfill materials shall be hauled in where necessary and thoroughly compacted in accordance with this Exhibit. Crushed rock shall be used for backfilling excavation trenches less than 3 feet deep. STATE may require the use of crushed rock for culvert bedding. Removed culverts shall be hauled to an approved refuse site off of STATE land.
5. Drainage Ditches. Restore or construct ditchlines, including ditchouts, as directed by STATE. Sections of road in thru cuts shall have ditches constructed to specification on both sides of the road. Clean out all culvert inlets and outlets for a 10-foot radius. Re-establish or construct culvert sediment basins. Waste materials from drainage ditches and sediment basins shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE. 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.
6. Equipment. All excavation and riprap placement shall be performed using a minimum 1½ cubic yard, track-mounted excavator.
7. Subgrade Preparation and Application of Surfacing Rock.
  - (a) Complete culvert installations, drainage ditches, fill reconstruction, ditchouts, and other specified work prior to the application of new surfacing rock.
  - (b) Cut out all potholes and/or washboard sections from the existing surfacing.
  - (c) Apply required patching and leveling rock, as directed by STATE.
  - (d) Process (grade and mix) the existing surface. Provide for a crown or outslope of 4 to 6 percent, and compact in accordance to the "Compaction and Processing Requirements" in this Exhibit.
  - (e) 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

<u>Segment</u>	<u>Station</u>	<u>Work Description:</u>
A to B	0+00	Point A. "Storey Burn Road". Junction with Highway 6; edge of pavement. Begin road improvement; crown road, clean and/or construct ditches. Clean inlet and outlet of culverts. Existing culvert, install culvert marker.
	3+00	Existing culvert, install culvert marker. Remove existing metal culvert from old road grade above the road.
	4+50	Existing culvert, install culvert marker.
	10+00	Install Culvert No. 1 (18" x 30').
	12+00	Begin ditch cleaning and cutbank excavation. Endhaul material to waste area.
	13+00	End cutbank excavation.
	14+50	Live stream. Remove existing culvert and install Culvert No. 2 (18" x 50'). Install at a steeper grade than existing culvert to minimize the drop at the outlet. Install 10 cy riprap at the outlet as energy dissipator.
	15+00	Install Culvert No. 3 (18" x 40').
	20+60	Begin ditch cleaning.
	23+90	Remove existing culvert and install Culvert No. 4 (18" x 34').
	26+40	Live Stream. Install 10 cy riprap at the outlet as energy dissipator.
	27+00	Install Culvert No. 5 (18" x 34').
	36+60	Clean inlet of existing culvert. End ditch cleaning.
	41+40	Access to Waste Area on right.
	44+40	Begin ditch cleaning, begin curve widening.
	45+00	Clean inlet of existing culvert, install culvert marker.
	46+80	End curve widening.
	47+90	End ditch cleaning, begin curve widening.
	49+30	End curve widening, begin ditch cleaning.
	53+45	Existing culvert, install culvert marker.
	56+75	Existing culvert.
	62+50	Existing culvert.
	66+20	Existing culvert, install culvert marker.
	74+80	Existing culvert. Block access to pickup traffic by hauling and placing 20 cy 36"-24" boulders. Construct ditch to drain water to culvert, construct tank trap along edge of road.
	77+70	Install Culvert No. 6 (18" x 36').
	78+20	Live stream. Existing culvert, install culvert marker.
	80+70	Existing culvert.
	83+80	Remove existing culvert and install Culvert No. 7(18" x 30').
	88+00	End ditch cleaning.
	88+40	Reduce fill height by 3' and install Culvert No. 8 (18" x 50') at 3%. Install 10cy of riprap at outlet as energy dissipator.
	91+70	Existing culvert, install culvert marker. Begin ditch cleaning.
	95+20	Remove existing culvert and install Culvert No. 9 (18" x 30').
	98+00	End ditch cleaning.
	99+20	Existing culvert.
	101+00	Existing culvert.
	103+30	Hiking trail crossing. Begin ditch cleaning.
	108+00	End ditch cleaning.
	125+95	Existing culvert, install culvert marker.
	128+00	Install Culvert No. 10 (18" x 30').

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

<u>Segment</u>	<u>Station</u>	<u>Work Description:</u>
A to B	133+80	Existing culvert.
	138+50	Existing culvert, install culvert marker.
	142+50	Existing culvert, install culvert marker.
	154+00	Existing culvert, install culvert marker.
	154+90	Existing culvert, install culvert marker.
	161+60	Remove existing culvert and install Culvert No. 11 (18" x 34').
	167+80	Existing culvert.
	171+45	Existing culvert, install culvert marker.
	181+60	Existing culvert, install culvert marker.
	189+45	Existing culvert, install culvert marker.
	193+00	Existing landing on left. Waste area on right side / uphill side of landing.
	194+05	Existing culvert, install culvert marker. Begin ditch cleaning.
	201+90	Clean inlet of existing culvert, install culvert marker. End ditch cleaning.
	203+00	Begin cutbank excavation. Endhaul material to waste area.
	204+20	End cutbank excavation.
	205+00	Existing culvert, install culvert marker.
	213+80	Clean inlet of existing culvert, install culvert marker.
	225+60	Remove existing culvert and install Culvert No.12 (18" x 36').
	267+30	Property Line.286+20 Gate.
	339+70	Point B. End road improvement.
C to D	0+00	Point C. "Kinney Creek Road". Gate. Begin road improvement; clean and/or construct ditches. Clean inlet and outlet of culverts. Begin roadside brushing.
	4+25	Existing culvert, install marker.
	10+15	Construct ditchout on left.
	16+30	Existing culvert. End brushing, begin cutbank excavation. Endhaul material to waste area.
	20+65	Existing culvert, repair inlet. End cutbank excavation.
	24+35	Existing culvert.
	28+90	Existing culvert, install marker.
	29+15	Point E. Junction with E to F. End ditch, begin outslope.
	32+40	Preserve "Roll On" on left. Do not excavate cutbank.
	34+50	End outslope, begin ditch.
	39+50	Existing culvert.
	41+00	Begin road brushing.
	48+00	Existing culvert.
	54+90	Existing culvert.
	58+80	Property line. End road brushing.
	61+60	Construct ditchouts on both right and left. End ditch, begin outslope.
	66+80	Point U. Junction with U to V "Wolf Creek Grade".
	67+00	Construct ditchout to right.
	70+25	End outslope, begin ditch. Begin road widening, excavate cutbanks as needed and remove stumps within road prism. Remove berm on right as needed to maintain drainage and construct ditchouts every 100'. End-haul excess waste to Waste Area.
	83+00	Install Culvert No. 13 (18" x 30').
84+00	End road widening and ditchouts.	
89+40	Install Culvert No. 14 (18" x 30').	

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

<u>Segment</u>	<u>Station</u>	<u>Work Description:</u>
C to D	94+80	Install Culvert No. 29 (18" x 30').
	100+20	Construct ditchout to left.
	105+80	Existing culvert, repair inlet and install marker.
	108+80	Existing culvert, install marker.
	114+90	Point G. Junction with G to H.
	115+30	Existing culvert, install marker.
	122+00	Existing culvert, install marker.
	129+00	Existing culvert, install marker.
	136+10	Point O. Junction with O to P, construct junction.
	133+75	Existing culvert, install marker.
	136+10	Point S. Junction with S to T, construct junction.
	136+90	Construct log truck turnaround using spur on right and existing material on left.
	137+40	Existing culvert.
	143+80	Existing culvert.
	148+50	Existing culvert.
	153+80	Remove existing culvert. Backfill with pitrun rock.
	154+30	Install Culvert No. 15 (18" x 30').
	159+10	Install Culvert No. 16 (18" x 30').
	160+80	Live stream. Existing culvert.
	161+70	Live stream. Existing culvert, install marker. Install 12cy of riprap at the outlet as energy dissipator.
162+00	End ditch, begin outslope.	
166+00	Existing culvert, install marker. End outslope, begin ditch.	
172+10	Existing culvert. Improve ditch to 2' deep to 172+50	
172+50	End ditch improvement.	
173+30	Point D. End road improvement. Kinney Creek Rock Pit.	
E to F	0+00	Point E. Begin road improvement; clean and/or construct ditches. Clean inlet and outlet of culverts. Begin roadside brushing.
	3+60	Construct ditchout to right.
	4+90	Existing culvert, install marker.
	16+75	Point F. End road improvement.
G to H	0+00	Begin road improvement; clean and/or construct ditches. Clean inlet and outlet of culverts. Begin roadside brushing.
	5+00	Existing culvert.
	5+30	Point K. Junction with K to L.
	11+00	Existing culvert.
	18+30	Existing culvert, install marker.
	25+20	Existing culvert, install marker.
	48+20	Existing culvert, install marker.
	49+25	Point I. Junction with I to J.
55+15	Point H. End road improvement, construct turnaround.	



EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

<u>Segment</u>	<u>Station</u>	<u>Work Description:</u>
K to L	0+00	Point K. Begin road improvement; clean and/or construct ditches. Clean inlet and outlet of culverts. Begin roadside brushing.
	4+25	Point M. Junction with M to N, construct junction.
	6+40	Existing culvert.
	12+00	Install Culvert No. 18 (18" x 30').
	12+90	Live Stream. Remove existing culvert. Install Culvert No. 19 (30" x 30').
	15+10	Existing culvert, install marker.
	19+40	Existing culvert, install marker.
	21+80	Point L. Continue ditch past landing. End road improvement, improve landing.
U to V	0+00	Point U. "Wolf Creek Grade". Begin road improvement; clean and/or construct ditches. Clean inlet and outlet of culverts.
	5+00	Existing culvert, reinstall marker.
	10+80	Install Culvert No. 21 (18" x 30').
	14+65	Existing Culvert.
	18+00	Install Culvert No 22 (18" x 30').
	20+00	Live Stream. Existing culvert.
	25+75	Existing culvert.
	31+50	Existing culvert.
	34+70	Existing culvert. Install marker.
	41+70	Install Culvert No. 23 (18" x 50') across junction. Construct ditchout at outlet of culvert.
	42+25	Remove pile of scrap culverts from State Lands.
	48+60	Install Culvert No. 24 (18" x 30').
	49+00	Point W. Junction with W to X.
	51+00	Existing culvert, install marker.
	51+65	Remove scrap cable from State Lands.
	53+00	Waste Area.
	57+00	Existing culvert, install marker.
	59+00	Rock Source.
	62+30	Existing culvert, repair inlet.
	65+90	Existing culvert, install marker.
73+70	Existing culvert, install marker.	
81+30	Existing culvert, Install marker.	
87+10	Existing culvert, install marker.	
91+50	Existing culvert, install marker.	
98+90	Existing culvert, install marker and repair inlet. Install Culvert No. 25 (20' of ½ round).	
103+90	Existing culvert.	
113+20	Existing culvert.	
127+20	Point V. End road improvement.	
W to X	0+00	Point W. Begin road improvement; clean and/or construct ditches.
	5+15	Remove existing culvert and install Culvert No. 26 (18" x 30').
	9+00	Point X. End road improvement.

EXHIBIT D

FULL BENCH AND END-HAUL REQUIREMENTS

POINT TO POINT	STA. TO STA.	CONTAINMENT - SIDECAST	WASTE AREA LOCATION	WASTE AREA TREATMENT
A to B	0+00 to 339+70	2	1	1, 2 & 3
C to D	16+30 to 20+65, 70+25 to 80+25	1	1	1, 2 & 3
O to P	5+00 to 7+00	1	1	1, 2 & 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

- (1) Full: No excavated material remains below the road.
- (2) Normal/Incidental: The amount of excavated material lost over the outside edge of the road shall not exceed 1 foot in depth.

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

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 339+70		
				Volume (CY) Per		Number of		
Surface Rock	1½"-0"	A to B	3	Station Average	16	Stations	339.7	5398
Curve Widening	1½"-0"	44+40 to 46+80	3	Curve Widening	20	Curve Widening	2	40
Turnouts	1½"-0"	-	3	Turnout	6	Turnouts	23	138
Junction	1½"-0"	Point A & B	3	Junction	20	Junctions	2	40
Culvert Bedding/Backfill	1½"-0"	All Culverts	Varies	Culvert Bedding	20	Culvert Bedding	12	240
Energy Dissipator	24"-6"	Culverts Nos. 2, 4 & 8	36 - 0	Energy Dissipator	10	Energy Dissipators	3	30
Vehicle Blocking	36"-24"	74+80	-	Vehicle Blocking	20	Vehicle Blocking	1	20
Total Rock for Road Segment:				A to B				5,906
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 173+30		
				Volume (CY) Per		Number of		
Log Truck Turnaround	6"-0" Pit-run	136+90	10	Station	53	Stations	1	53
Junctions	6"-0" Pit-run	Point O & Point S	10	Junction	20	Junctions	2	40
Culvert Removal/Backfill	6"-0" Pit-run	153+80	-	Culvert	12	Culverts	1	12
Energy Dissipator	24"-6"	161+70	36 - 0	Energy Dissipator	12	Energy Dissipators	1	12
Total Rock for Road Segment:				C to D				117
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 55+15		
				Volume (CY) Per		Number of		
Junctions	6"-0" Pit-run	Point I	10	Junction	20	Junctions	1	20
Turnarounds	6"-0" Pit-run	Point H	10	TA	20	TAs	1	20
Total Rock for Road Segment:				G to H				40
ROAD SEGMENT: I to J				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	I to J		0+00 to 9+50		
				Volume (CY) Per		Number Of		
Surface Rock	6"-0" Pit-run	I to J	10	Station	53	Stations	9.5	504
Turnarounds	6"-0" Pit-run	-	10	TA	16	TAs	1	16
Landings	6"-0" Pit-run	Point J	10	Landing	150	Landings	1	150
Total Rock for Road Segment:				I to J				670

EXHIBIT D  
 ROAD SURFACING

ROAD SEGMENT: M to N				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	M to N		0+00 to 10+40		
				Volume (CY) Per		Number of		
Surface Rock	6"-0" Pit-run	M to N	10	Station	53	Stations	10.4	551
Turnouts	6"-0" Pit-run	-	10	Turnout	18	Turnouts	1	18
Turnarounds	6"-0" Pit-run	-	10	TA	16	TAs	1	16
Junctions	6"-0" Pit-run	Point M	10	Junction	20	Junctions	1	20
Landings	6"-0" Pit-run	Point N	10	Landing	150	Landings	1	150
Total Rock for Road Segment:				M to N				755
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 20+00		
				Volume (CY) Per		Number of		
Surface Rock	6"-0" Pit-run	O to P	10	Station	53	Stations	20	1,060
Turnouts	6"-0" Pit-run	-	10	Turnout	18	Turnouts	1	18
Turnarounds	6"-0" Pit-run	-	10	TA	16	TAs	1	16
Junctions	6"-0" Pit-run	Point Q	10	Junction	20	Junctions	1	20
Landings	6"-0" Pit-run	Point P	10	Landing	150	Landings	1	150
Total Rock for Road Segment:				O to P				1,264
ROAD SEGMENT: Q to R				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	Q to R		0+00 to 2+40		
				Volume (CY) Per		Number of		
Surface Rock	6"-0" Pit-run	Q to R	10	Station	53	Stations	2.4	127
Landings	6"-0" Pit-run	Point R	10	Landing	150	Landings	1	150
Total Rock for Road Segment:				Q to R				277
ROAD SEGMENT: S to T				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	S to T		0+00 to 5+80		
				Volume (CY) Per		Number of		
Surface Rock	6"-0" Pit-run	S to T	10	Station	53	Stations	5.8	307
Turnarounds	6"-0" Pit-run	-	10	TA	16	TAs	1	16
Landings	6"-0" Pit-run	Point T	10	Landing	150	Landings	1	150
Total Rock for Road Segment:				S to T				473

ROCK TOTALS (CY)	36"-24"	24"-6"	6"-0" Pit Run	1½"-0"
	20	42	3,584	5,856

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 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 & 4

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

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
A to B	1

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 or outsloped 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

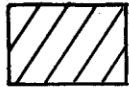
COMPACTION EQUIPMENT OPTIONS

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. Tampingfoot Compactors. Tampingfoot compactors shall exert a minimum pressure of 250 pounds per square inch on the ground area in contact with the tamping feet. The compactor shall cover a minimum width of 60 inches per pass and weigh a minimum of 16,000 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. Crawler Tractors. D-7 Caterpillar or equivalent or larger.

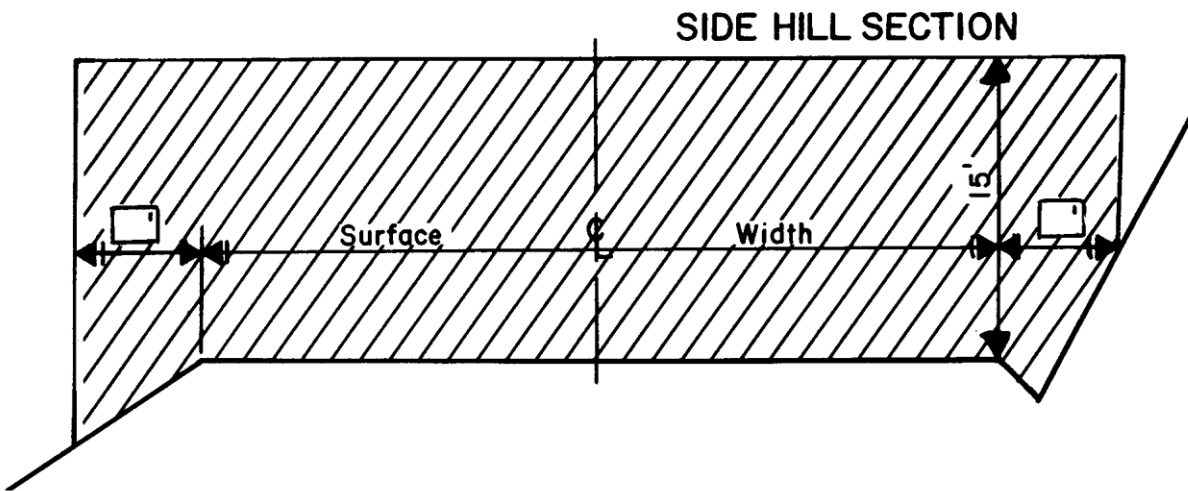
EXHIBIT D

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

ROAD BRUSHING SPECIFICATIONS



Clearing Limits



REQUIREMENTS

The minimum height of clearing shall be 15 feet from the road surface, and the minimum width of clearing on the cutslope sides of the road shall be 15 feet horizontal distance from the shoulder of the road and 10 feet horizontal on the down slope side from the road shoulder. The minimum width of brushing on the cutslope side of the road shall be dictated by the height of the cutslope as indicated in the drawing above. In situations where site distance is an issue brushing heights on the cutslope may vary from the drawing, as directed by STATE. For cutslopes less than 6 feet in height, brushing shall extend 5 feet beyond the top of cutslope. For cutslopes greater than 6 feet in height, brushing shall extend 15 feet horizontal distance from the road shoulder.

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

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

Trees larger than 6 inches in diameter at stump height, located within clearing limits but outside of the ditchline or shoulder, shall not be cut down, but shall be limbed for road visibility. Planted or established conifers, located within brushing limits but outside of the ditchline or shoulder, shall not be cut down, but shall be limbed for road visibility unless otherwise directed by STATE.



EXHIBIT D

ROAD BRUSHING SPECIFICATIONS

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

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

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

CULVERT AND ROAD MARKER DAMAGES. Culvert and road markers damaged, or any portion of a marker damaged from PURCHASER activities shall be assessed a damage fee of \$25 per marker.

## 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 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 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.

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 stream crossing culverts.

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

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", add 6" for roads which will not be rocked. 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.

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

All culverts scheduled for replacement shall become property of the PURCHASER and be removed from STATE land 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.

Half rounds 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.

EXHIBIT E  
 CULVERT LIST

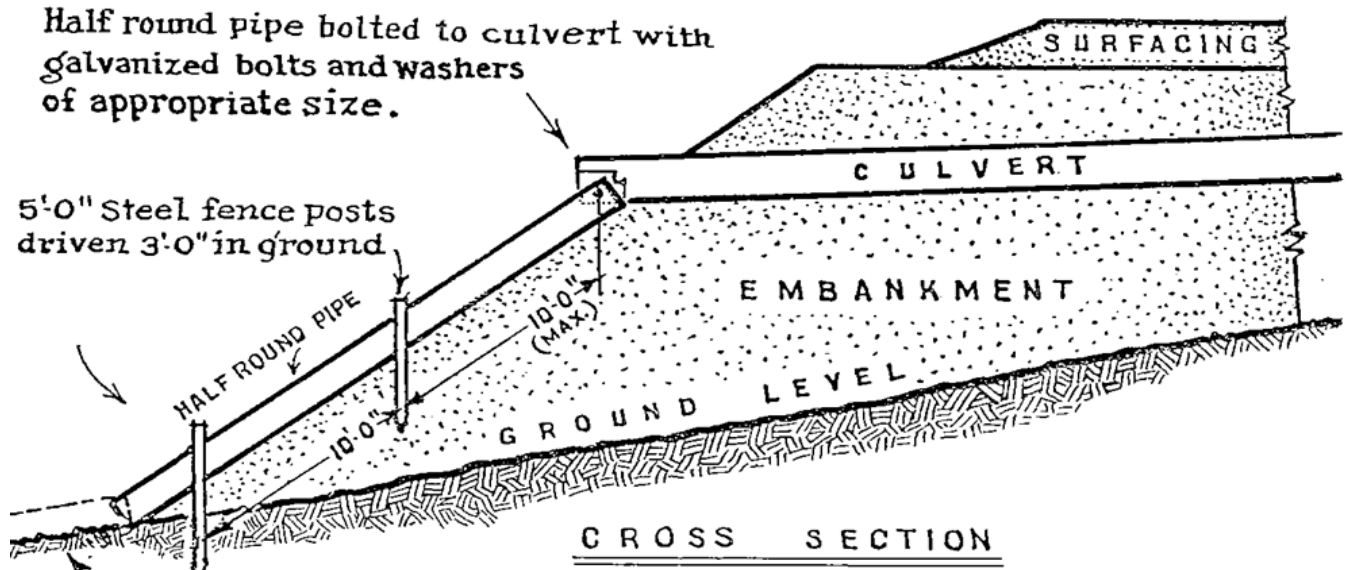
CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	MATERIAL TYPE	ROAD SEGMENT POINT TO POINT	STATION
1	18	30	CPP	A to B	10+00
2	18	50	CPP	A to B	14+50
3	18	40	CPP	A to B	15+00
4	18	34	CPP	A to B	23+90
5	18	34	CPP	A to B	27+00
6	18	36	CPP	A to B	77+70
7	18	30	CPP	A to B	83+80
8	18	50	CPP	A to B	88+40
9	18	30	CPP	A to B	95+20
10	18	30	CPP	A to B	128+00
11	18	34	CPP	A to B	161+60
12	18	36	CPP	A to B	225+60
13	18	30	CPP	C to D	83+00
14	18	30	CPP	C to D	89+40
15	18	30	CPP	C to D	154+30
16	18	30	CPP	C to D	159+10
17	18	40	CPP	I to J	4+00
18	18	30	CPP	K to L	12+00
19	30	30	CPP	K to L	12+90
20	18	30	CPP	O to P	5+00
21	18	30	CPP	U to V	10+80
22	18	30	CPP	U to V	18+00
23	18	50	CPP	U to V	41+70
24	18	30	CPP	U to V	48+60
25	½ round	20	CPP	U to V	98+90
26	18	30	CPP	W to X	5+15
27	18	30	CPP	X to Z	5+00
28	18	30	CPP	X to Z	10+00
29	18	30	CPP	C to D	94+80

CPP = Polyethylene

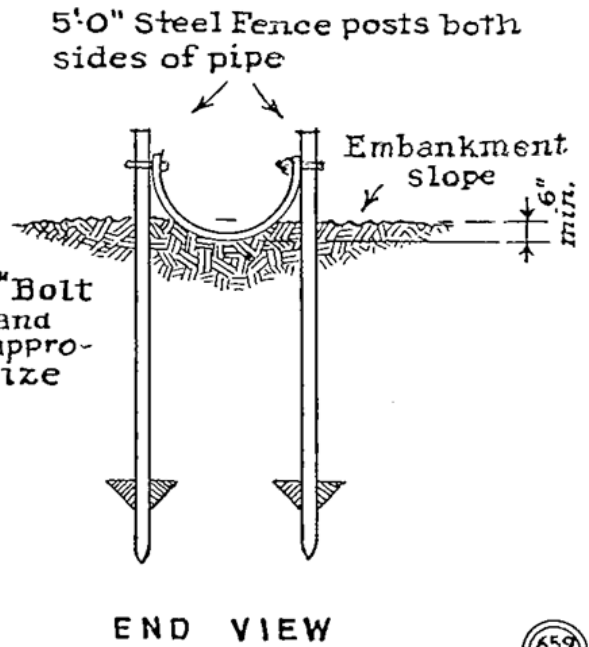
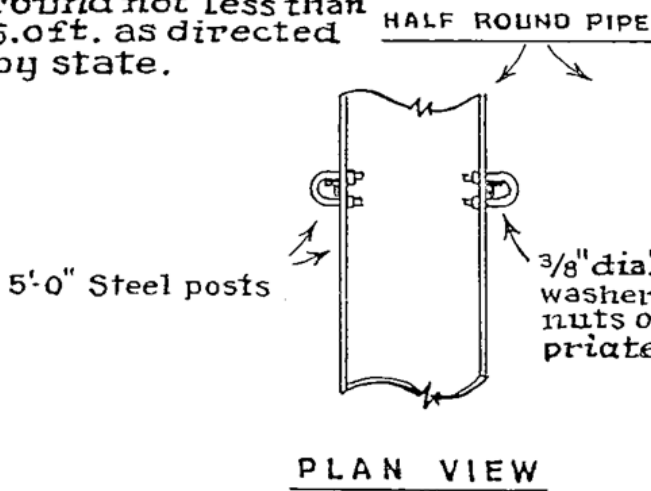
EXHIBIT E

TYPICAL HALF ROUND CULVERT INSTALLATION

(no scale)



Solid rock, boulders etc.  
If erodable, install half round not less than 5.0ft. as directed by state.



REV. 6-10-95 LH



EXHIBIT E  
TYPICAL EMBEDDED ENERGY DISSIPATOR

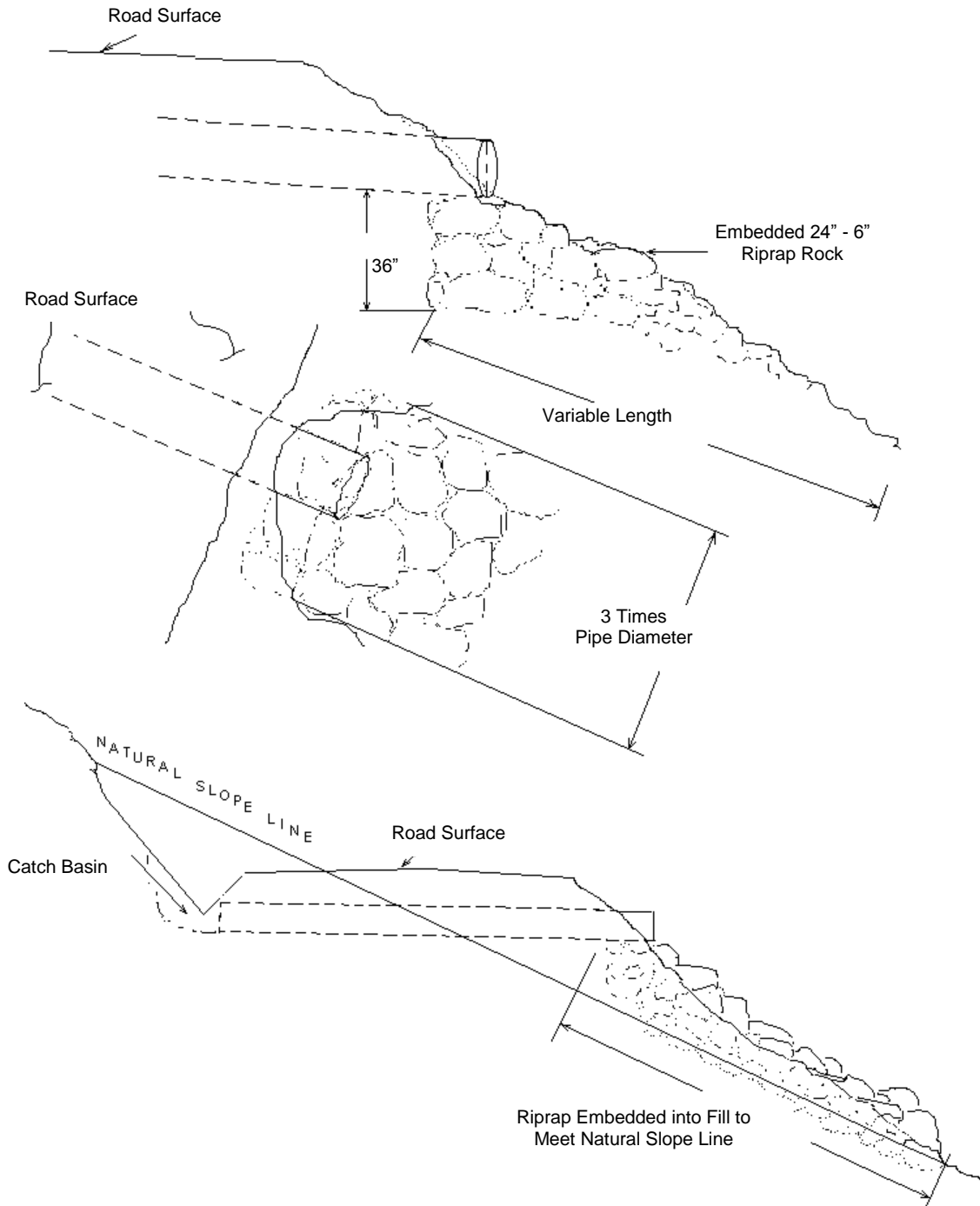


EXHIBIT F

ROCK QUARRY DEVELOPMENT AND USE

1. PURCHASER shall prepare a written development plan for each 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. Controlled blasting techniques shall be utilized for any blasting operations, and shall be accomplished using timing devices, delayed charges, low intensity shots, or other suitable means to contain as much material as possible within the quarry development area. PURCHASER shall maintain a comprehensive blasting log that contains all pertinent data for all blasting operations. The blasting log shall be submitted to the STATE after the completion of all blasting activity. The blasting log is intended for STATE record keeping purposes only.
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 H.

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 may require 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.

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

<u>For 1½"-0"</u>	Passing	2" sieve	100%
	Passing	1½" sieve	90-100%
	Passing	¾" sieve	60-90%
	Passing	¼" sieve	30-50%
	Passing	No. 10 sieve	15-30%
	Passing	No. 40 sieve	7-15%

PIT-RUN & RIPRAP ROCK SPECIFICATIONS

<u>For 6"-0" Pit-Run</u>	Passing	10" sieve	100%
	Passing	6" sieve	60-85%
	Passing	3" sieve	30-50%
	Passing	¼" sieve	0-20%

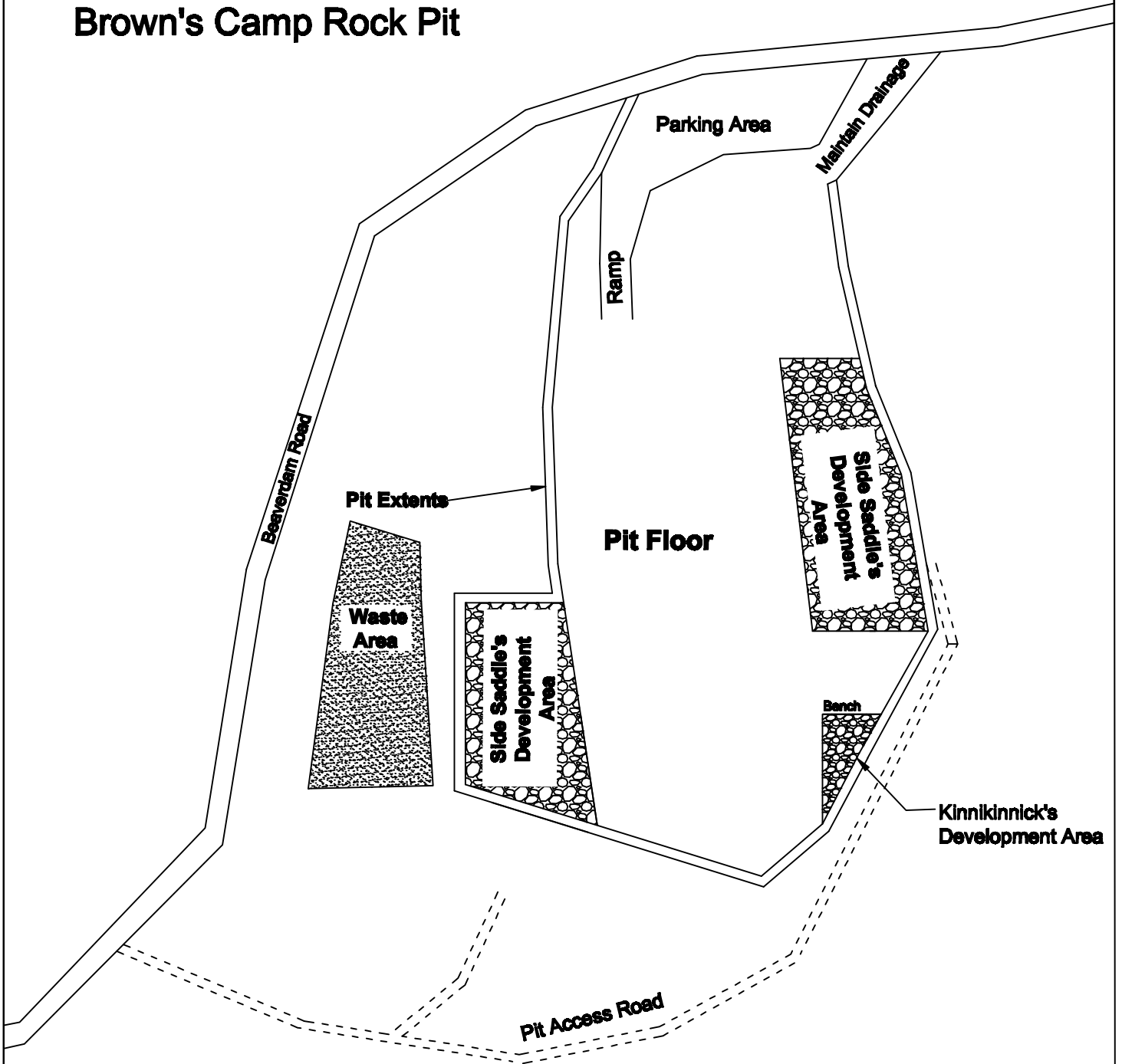
Material shall be well graded, free of organic material and shall not have excessive fine materials.

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

For 24"-6" Riprap A minimum of 50 percent of the material shall measure a minimum of 6 inches, measured in one dimension. Material shall be clean, well graded, and free of 2"-0" fines.

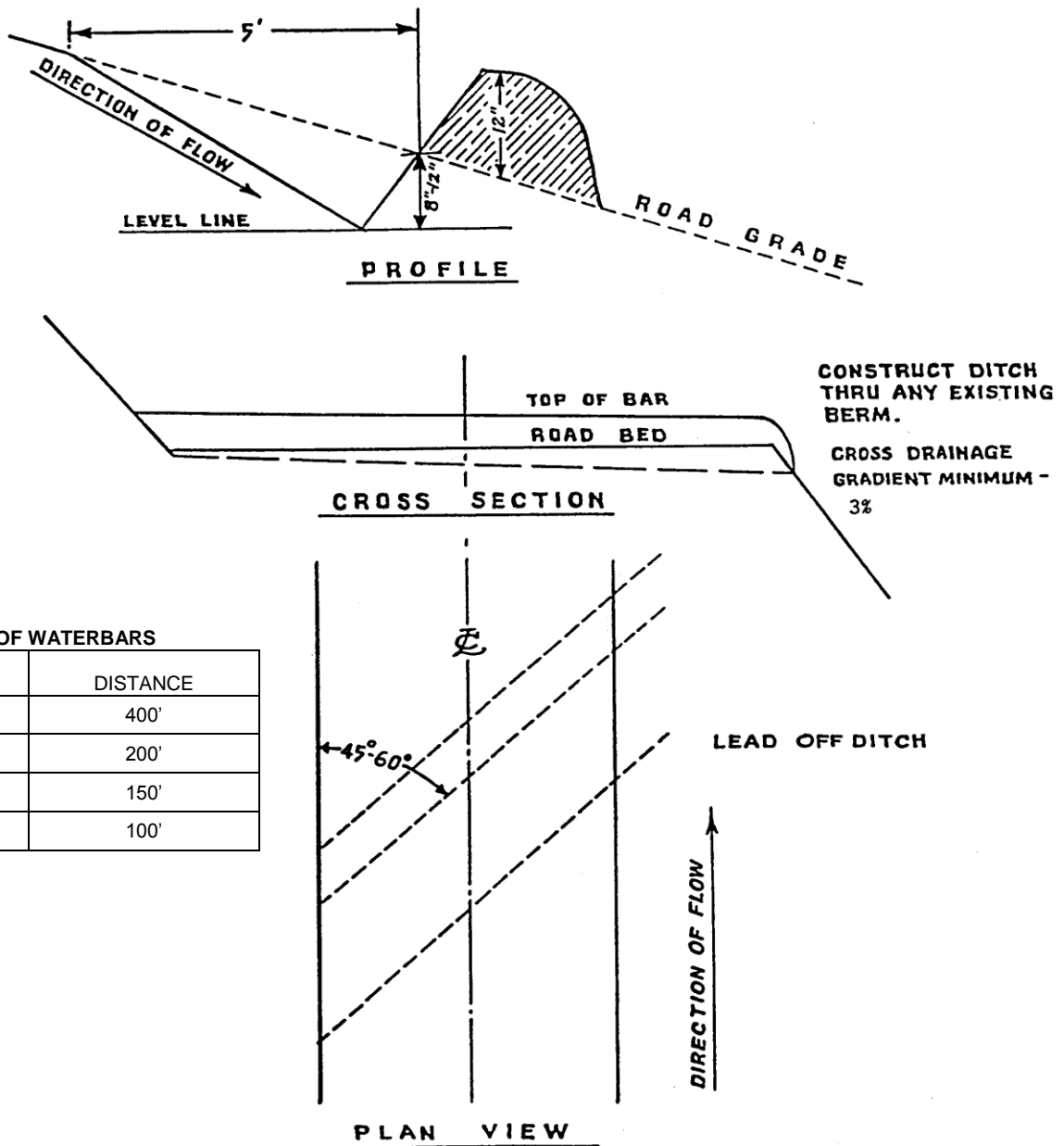
Control of gradation shall be by visual inspection by STATE.

**Brown's Camp Rock Pit**



**No Scale**

EXHIBIT G  
 WATERBAR SPECIFICATIONS

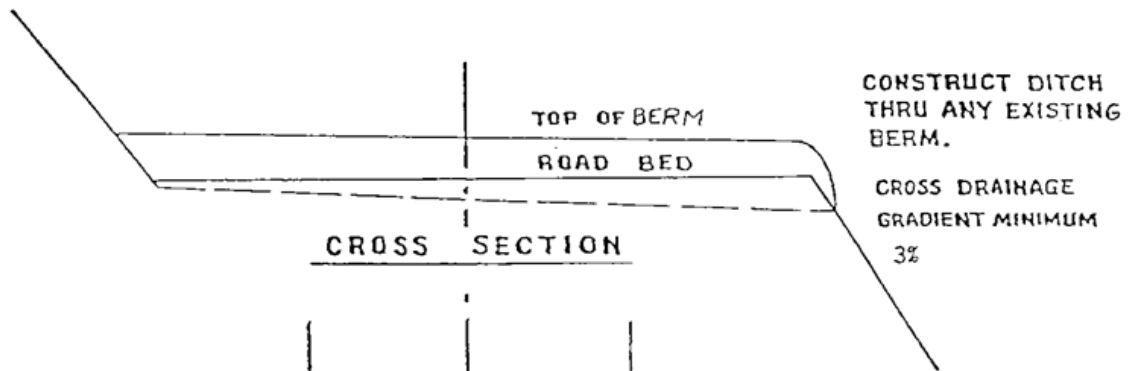
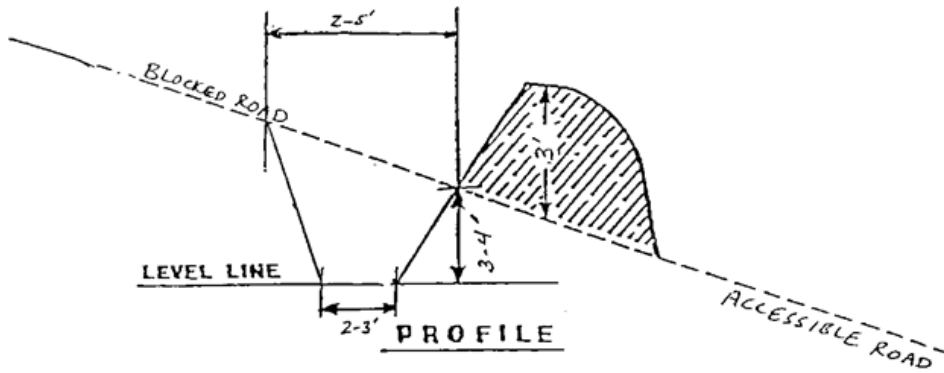


SPACING OF WATERBARS

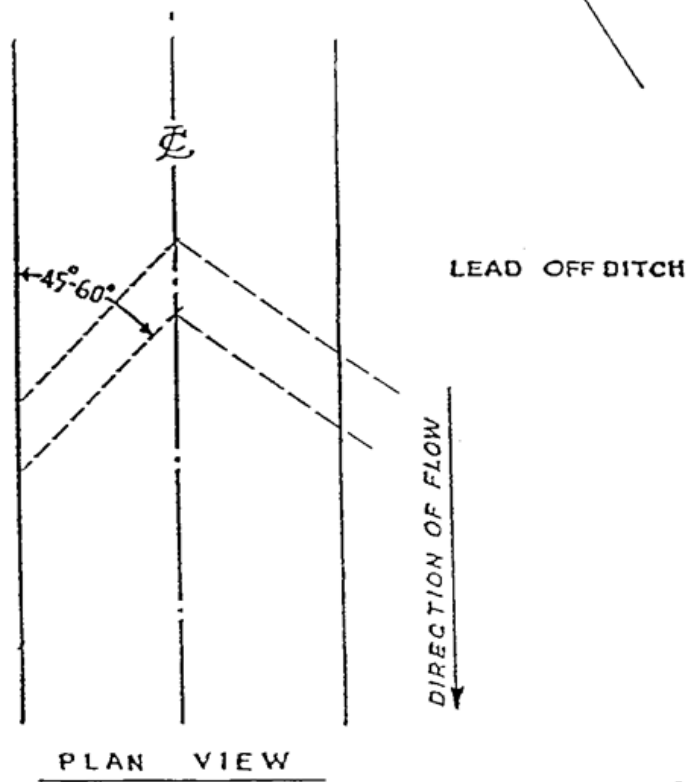
ROAD GRADE	DISTANCE
≤ 5%	400'
6-10%	200'
11-15%	150'
16-20% or greater	100'

**WATERBAR SPECIFICATIONS  
 FOR CROSS DITCHING #298**

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.



TANK TRAP SPECIFICATIONS

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.

Application Locations:

Road Segment	Location	Road Segment	Location
A to B	14+50	C to D	161+70
A to B	26+40	K to L	12+90
A to B	78+20	U to V	20+00
C to D	160+80	All Waste Areas	

# PART IV: OTHER INFORMATION

State Timber Sale Contract  
No. 341-14-09  
Kinnikinnick

## NOTICE OF TRANSFER OF STATE TIMBER

### Instructions

629:-Form-301-010

Complete Section 1. Mark the box which applies to you/your company in Section 2. Complete Section 3 and obtain signatures.

### SECTION 1

On \_\_\_\_\_, state timber sale purchaser (Transferor)  
\_\_\_\_\_, sold, exchanged or otherwise transferred to  
\_\_\_\_\_, (Transferee) state timber originating from State  
Timber Sale Contract No. \_\_\_\_\_.

Transferee hereby certifies that they:

- (a) Will not export the unprocessed state timber which is the subject of this transaction;
- (b) Will not sell, transfer, exchange or otherwise convey the unprocessed timber which is the subject of this transaction to any other person without first obtaining a like certification from that person; and
- (c) Are not prohibited by OAR's 629-31-005 through 045 from purchasing state timber or logs directly from the State Forester, or this is a sale of Western Red Cedar for domestic processing.

### SECTION 2

- Have not exported unprocessed timber originating from private lands in Oregon in the last 24 months.
- This is a sale of hardwood logs for domestic processing.
- This is a sale of Western Red Cedar for domestic processing.
- This is a sale of pulp logs or cull logs processed at domestic pulp mills, domestic chip plants or other domestic operations for the purpose of conversion of the logs into chips.

### SECTION 3

The parties understand that falsely entering into this certification, or failure to comply with the terms of this certification is a violation of the Forest Conservation and Shortage Relief Act of 1990 and OAR Chapter 629, Division 31, and is subject to any and all penalties contained therein.

Transferor:

Transferee:

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Dated

\_\_\_\_\_  
Dated

[Note: For the purpose of this form, the definition of unprocessed timber is the same as in OAR 629-31-005]

Mail To: State Forester  
2600 State Street  
Salem, OR 97310

**Written Plan**  
**Kinnikinnick**  
**Contract # 341-14-09**

LOCATION: Portions of Section 5, T2N, R6W, W.M., and Sections 31 and 32, T3N, R6W, W.M., Washington, County.

PROTECTED RESOURCE: The Salmonberry River and Wolf Creek, Type F streams, flow along portions of the Timber Sale Area. There is potential for cable corridors to extend beyond the sale boundaries and over these streams. The streamside vegetation is a mix of conifer and alder. The slopes adjacent to the streams range from 50%-70%.

PROTECTION MEASURES: A minimum 100 foot buffer was posted upslope of the aquatic zone. All buffer components will be protected. Harvested trees shall be felled in a manner to prevent them from entering the buffer. Cable corridors extending over the buffer area will be a minimum of 100 feet apart and cables will be pulled out of the reserved timber prior to rigging the next yarding road.

Ground-based yarding equipment shall not be allowed within the RMA.

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Erik Marcy  
Unit Forester

Prepared by Eric Foucht  
August 27, 2013