

# PART III: EXHIBITS

State Timber Sale Contract  
No. 341-15-104  
Tilden Top

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.: 341-15-104

(2) Sale Name: Tilden Top

(3) Contract Expiration Date: March 31, 2017

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.

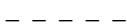
- (10) The STATE representative will furnish extra copies of Exhibit A of the contract for your use in preparing the operations map. The map shall use the following legend and show:
  - 1. Landing locations, approximate setting boundaries, and probable sequence of logging the settings. Number the settings 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.



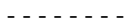
Cable Landing, with numbers for sequence.



Tractor Landing with alphabetical sequence.



Approximate setting boundary.



Spur truck roads.



Tractor yarding roads.



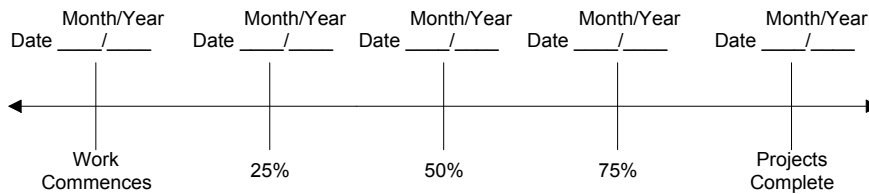
Temporary stream crossings.

EXHIBIT B  
OPERATIONS PLAN

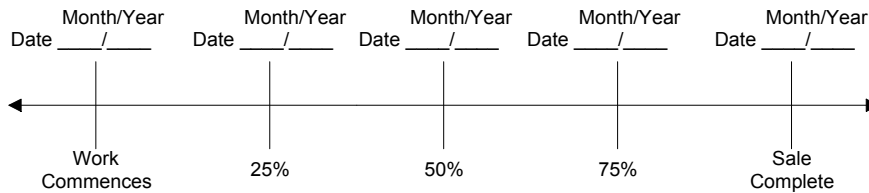
**Completion Timeline**

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 \_\_\_\_\_

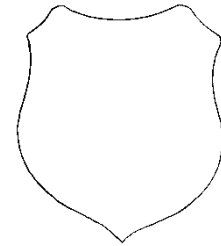
Original: Salem  
cc: District File  
Purchaser

**EXHIBIT C – SAWMILL GRADE (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: Western Lane (03) Phone 541 935-2283  
 (State Forestry District)  
 Address 87950 Territorial Hwy, Veneta, OR, 97487
- (4) PURCHASER: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_

- (9) SALE NAME: Tilden Top  
 COUNTY: Lane
- (10) STATE CONTRACT NUMBER: 341-15-104
- (11) STATE BRAND REGISTRATION NUMBER: \_\_\_\_\_
- (12) STATE BRAND INFORMATION (COMPLETE):



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

Apply minimum volume test to whole logs over 40' Westside

- (6) WESTSIDE SCALE: YES  NO   
 Use Region 6 actual taper rule. Logs over 40'.
- (7) Weight Scale Sample

- (13) PAINT REQUIRED: YES   
 COLOR: Orange

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

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

- (15) REMARKS \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Operator's Name (Optional inclusion by District): \_\_\_\_\_

- (16) SIGNATURES:
- \_\_\_\_\_  
 Purchaser or Authorized Representative Date
- \_\_\_\_\_  
 State Forester Representative Date
- \_\_\_\_\_  
 State Forester Representative PRINT NAME

**Notify the District within one hour when branding or painting is inadequate for quick identification, the receipts are missing, not correctly or completely filled out, and/or when logs presented for scaling are impossible to scale accurately.**

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

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

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

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

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](mailto: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](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

#### PROCESSING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

(1) ORIGINAL REGISTRATION  Date \_\_\_\_\_  
REVISION NUMBER \_\_\_\_\_  Date \_\_\_\_\_  
CANCELLATION  Date \_\_\_\_\_

(9) SALE NAME: Tilden Top \_\_\_\_\_  
COUNTY: Lane \_\_\_\_\_

(2) TO: \_\_\_\_\_  
(Approved Pulp Processing Facility)

(10) STATE CONTRACT NUMBER: 341-15-104 \_\_\_\_\_

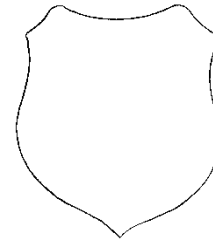
(3) FROM: Western Lane (03) Phone (541) 935-2283  
(State Forestry District)

(11) STATE BRAND REGISTRATION NUMBER \_\_\_\_\_

(4) PURCHASER: \_\_\_\_\_

(12) STATE BRAND INFORMATION: (COMPLETE BELOW)

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



\_\_\_\_\_

Mailing Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

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

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

(13) REMARKS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(7) PULP FACILITY PROCESSING INSTRUCTIONS:

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

Operator's Name (Optional inclusion by District):

\_\_\_\_\_

(14) SIGNATURES:

\_\_\_\_\_  
Purchaser or Authorized Representative Date

\_\_\_\_\_  
State Forester Representative Date

\_\_\_\_\_  
State Forester Representative PRINT NAME

(8) TPSO PROCESSING INSTRUCTIONS

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

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

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

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

- (1) **Must Complete.** Check appropriate box. REVISION NUMBER requires comments in the Remarks Section (13). CANCELLATION requires logging and hauling to be complete, recall branding hammers, date and sign where indicated, write diagonally across page "CANCEL", and send to TPSO.
- (2) **Must Complete.** Approved Pulp Processing Facility. Write in as written in the Approved Log Delivery Location [http://www.odf.state.or.us/DIVISIONS/management/asset\\_management/ScalingLocation.asp](http://www.odf.state.or.us/DIVISIONS/management/asset_management/ScalingLocation.asp)
- (3) **Must Complete.** State Forestry District and District Phone Number.
- (4) **Must Complete.** Purchaser's business name as it appears on the Contract.
- (5) **Must Complete.** Third Party Scaling Organization that will be processing the weight tickets, mailing address, and phone number.

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

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](mailto: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](mailto:yamhill@attglobal.net)

Northwest Log Scalers, Inc.  
5526 NE 122<sup>nd</sup> Ave, Portland, OR 97230  
Phone: (503) 254-0600 Fax: (503) 408-0919  
Email: [info@nwlogscalers.com](mailto: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](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 \\WPODFFILL01\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

ROAD	SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
Tilden Ridge Rd & San Antone Rd	16	12	A to H		Ditched & Outsloped
Lake Creek Mountain Rd	16	12	All portions as determined by STATE		Ditched
Spur 1	16	12		0+00 to 21+00	Ditched & Outsloped

Surface width shall be increased to accommodate off-tracking on horizontal curves.

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 10 feet out from the toe of the fill slope, or as directed by STATE. The "Road Brushing Specifications" in Exhibit H shall apply. Clearing debris shall not be placed or permitted to remain in or under any road embankment sections. Clearing debris shall not be left lodged against standing trees.

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

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

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

GRUBBING CLASSIFICATION.

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 and as specified in road construction/improvement instructions.

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 12 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 unless otherwise specified.

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

SLOPES

Solid Rock

Fractured Rock

Soil - side slopes 50% and over

Soil - side slopes less than 50%

Back Slopes

Vertical to 1/4 :1

1/2 :1

3/4 :1

3/4 :1

Fill Slopes

1 1/2 :1

1 1/2 :1

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 outsloped 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 I, and blocked from vehicular traffic prior to October 31, annually and as directed by STATE.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD CONSTRUCTION INSTRUCTIONS:

- 1 Timber Removal. Remove all trees within posted right-of-way boundary or individually marked with a blue "C", as specified in Section 2210, "Designated Timber."
- 2 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.
- 3 Fill Armor and Energy Dissipator Construction. Where rock is specified for fill armor, rock shall be machine placed and tamped at a 1½:1 slope, beginning at the toe of the fill. Where rock is used for an energy dissipator, rock shall be placed below the culvert outlet and embedded for a minimum of 3 feet, in accordance with Exhibit G.
- 4 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.
- 5 STATE owned rock sources.
  - (a) San Antone Stockpile.
    - (1) Stockpile contains 3"-0" rock.
    - (2) Stockpile contains 1½"-0" rock.
  - (b) Fire Pond Stockpile.
    - (1) Contains Pit Run quality rock.

EXHIBIT D  
FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS

**Spur 1 as shown on Exhibit A (Stationing 0+00 to 21+00)**

**Instructions:**

- 0+00 to 21+00 All rock required may be acquired from STATE owned sources **EXCEPT ¾“-0”**.
- Clear and grub. Approximately 40 feet wide of clearing and grubbing is anticipated.
- Where the road prism exists on top of the ridge, stumps may be wasted in openings and gaps away from the toe of the fill in stable locations. All other locations, stumps shall be wasted on the cut slope side of the road prism in openings and gaps in stable locations.
- Stumps shall not be lodged against any trees.
- Construct the subgrade. A balanced cut and fill is anticipated throughout the majority of the construction. All fill material shall be clean soil, free from organic debris. For any excess material needed to construct the subgrade, standard drifting or endhaul techniques shall be used.
- The subgrade shall be compacted according to Exhibit F.
- Fill material used in subgrade construction shall not be any closer than **10 feet** from the posted Right-of-Way boundary unless otherwise approved in writing by STATE.
- 0+00 Construct a small rolling dip according to Exhibit I, to divert water off the main haul route.
- 0+00 to 12+20 The subgrade shall be outsloped at 4 to 6%. Outslope shall not exceed 4% on slopes greater than 10%.
- The subgrade shall be approved by STATE prior to rocking.
- Spread and shape a compacted depth of 8 inches of 3”-0” base rock.
- 5+00 to 6+60 Construct a turnout 50 feet long by 12 feet wide. The truck turnout shall have a 25 foot approach at both ends. Excess material generated from 0+00 to 4+00 may be drifted and utilized in this location.
- 12+20 Construct a ditchout. The ditchout shall be approximately 3 feet wide by 2 feet deep. The depth and width of the ditchout may be adjusted to accommodate site specific purposes.
- 12+20 to **17+00** Subgrade shall be crowned 4 to 6% to allow for adequate drainage. A 3X1 ditch shall be constructed along the base of the cut slope prior to rocking.
- The subgrade shall be approved by STATE prior to rocking.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

- 12+20 to **17+00** Spread and shape a compacted depth of 6 inches of 3"-0" base rock. Cap the base rock with 3 inches of ¾" -0" cap rock.
- 13+20 to 14+40** **Provide a subgrade width of 20 feet and a surfacing width of 16 feet to accommodate offtracking.**  
Apply an additional 20 Cu. Yds. of surfacing rock to accommodate offtracking.
- 17+00 to 21+00 Subgrade shall be outsloped at 4 to 6%. Outslope shall not exceed 4% on slopes greater than 10%.  
  
The subgrade shall be approved by STATE prior to rocking.  
  
Spread and shape a compacted depth of 8 inches of 3"-0" base rock.
- 17+80 to 18+30 Landing # 3. Construct the landing. The Landing pad shall be approximately 50 feet long and 40 feet wide, not including the haul route. The landing shall be outsloped 3 percent to accommodate for drainage.  
  
Fill material shall be offset a minimum of 20 feet from the break in slope, from slopes greater than 50%.  
  
Apply 30 Cu. Yds. of Pit Run rock for the surfacing material located at landing # 3.
- 21+00 Landing # 5. Construct a landing. The landing shall be outsloped 3 percent for drainage.  
  
Fill material shall be offset a minimum of 20 feet from the break in slope, from slope greater than 50%.  
  
Apply 30 Cu. Yds. of Pit Run rock for the surfacing material.

EXHIBIT D  
FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

- 1 Timber Removal. Remove all trees within posted Right-of-Way Boundary or individually marked with a Blue "C", as specified in Section 2210, Designated Timber.
- 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 F.
- 3 Bank Slough Removal. Dig out all bank slough. Bank slough material shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE.
- 4 Drainage Ditches. Restore or construct ditchlines, including ditchouts, as directed by STATE. Clean out all culvert inlets and outlets for a 10-foot radius. Re-establish or construct culvert sediment basins. Waste materials from drainage ditches and sediment basins shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE. 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.
- 5 Subgrade Preparation and Application of Surfacing Rock.
  - (a) Complete culvert installation, 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 surface.
  - (c) Apply required patching and leveling rock, as directed by STATE.
  - (d) Process (grade and mix) existing surface and added rock. Provide for a crown or outslope of 4 to 6 percent.
- 6 STATE owned rock sources.
  - (a) San Antone Stockpile.
    - (1) Stockpile contains 3"-0" rock.
    - (2) Stockpile contains 1½"-0" rock.
  - (b) Fire Pond Stockpile.
    - (1) Contains Pit Run quality rock.

EXHIBIT D  
FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

**Tilden Ridge Rd and San Antone Rd from Point A to H as shown on Exhibit A**

**Instructions:**

All rock required may be acquired from STATE owned sources EXCEPT ¾“-0”.

- **Grade and Shape**
  - Grade out all potholes by cutting and remixing the surface aggregate with the base aggregate to produce a smooth running surface.
  - Grade out all washboards.
  - Re-establish, crowned, outsloped, or insloped drainage to 4 to 6% based on the site specific needs. Operator shall grade and mix existing rock to establish drainage were needed.
  - Remove any slime muck, brush, or debris from running surface.
  - Re-establish drainage by grading and pulling the outside road edge. Outside road edge shall be sloped 6 to 10%.
  - Remove all berms.
  - Re-establish ditchouts and ditches where needed. End haul excessive ditch material were needed. This material shall include but not be limited to, bank slough, boulders, and organic debris.
- **Waste material generated from grading and shaping shall be wasted at an approved waste location as designated by STATE. Operator shall not leave graded material in a berm/pile positioned on the road prism. It shall be expected to end haul such material unless otherwise approved by STATE. The operator may propose waste locations to be approved by STATE.**
- **Apply Spot Rock. 220 Cu. Yds.**
  - Apply the allotted spot rock as directed by STATE.
  - Spot rock may be used to re-inforce soft spots, pot holes, or for traction purposes.
  - Compact locations as directed by STATE.
  - ¾“-0” shall be used on steep grades around 15% for traction.
  - 1 ½“-0” shall be used on grades around 10% for traction and drivability.
  - 3“-0” may be used on flat running surfaces.
- **Re-establish drainage at Point B.**
  - Shall include re-opening/establishing a ditchline on the inside corner of the curve.
  - Spot rock around the curve if needed.
  - Waste may either be piled on the inside corner of the curve or end hauled to an approved waste site, if in excess, as directed by STATE.
- **Re-establish drainage at Point C.**
  - Shall include re-opening/establishing a ditchline on the inside corner of the curve.
  - Spot rock around the curve if needed.
  - Waste may either be piled on the inside corner of the curve or end hauled to an approved waste site, if in excess, as directed by STATE.

EXHIBIT D  
FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

- Apply curve widening rock at **Point D**.
  - Provide a minimum of 5' of extra width, where possible, on the outside corner of the curve.
  - Approx. 20 Cu. Yds. of 3"-0" rock.
- Apply a compacted depth of 3" of 3"-0" rock from **Points E to F**.
  - Rock shall be uniformly graded and shaped.
  - Patch all potholes prior to the lift of rock.
  - Provide additional rock for a turn out located close to Point E.
  - The turnout shall be a minimum of 40 feet long, 12 feet wide, with 25 foot approaches. Approx. 10 Cu. Yds. of 3"-0" rock.
- Provide empty truck turnouts from **Point A to H** to facilitate mineral and log haul purposes.
  - Grade off wide spots and apply surfacing rock.
  - Final location to be determined by STATE or as marked in the Field.
  - Approx. 60 Cu. Yds. of 3"-0" rock.

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**Tilden Ridge Rd from Point H "fire pond" to Point I "Lake Creek Mountain Rd".  
Stationing (0+00 to 86+00).**

**Stationing            Instructions:**

All rock required may be acquired from STATE owned sources EXCEPT ¾"-0".

0+00 to 86+00	Daylight the roadway. Remove all trees within posted Right-of-W Boundary and trees painted with a blue "C".
" "	All daylighting and log removal shall be completed prior to the application of surfacing rock, unless otherwise approved by STATE.
" "	Grade/pull the outside edge of the road. The edge of the road shall be sloped to 6 to 10%.
" "	Remove all, muck, slime, piles, and organic material that has accumulated on the road prism. Waste material generated from shaping shall be wasted at an approved waste located on Exhibit A. Operator shall not leave graded material in a berm/pile positioned on the road prism. Operator shall be expected to end haul such material unless otherwise approved by STATE.
" "	Establish outslope drainage of 4 to 6 percent from 0+00 to 86+00. Re-establish drainage by hauling in suitable fill material, from pulling back clean material from the fill slope, or from clean fill material located on the cutslope. No additional fill material shall be added to the outside road edge unless otherwise approved by STATE. Approximately 500 Cu. Yds. Will be needed to establish required drainage.
1+50	Fire Pond Stockpile site. Operator shall reclaim the pit run rock for the use as landing rock. Some of the pit run rock is partially wasted in the form of a landing pad. The other portion is piled.

EXHIBIT D  
FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

3+30	Establish a waterbar on the old adjacent unsurfaced road. The intent is to provide relief drainage from the outslope drainage from the haul route.
6+30	Side cast pull back. Remove all the material associated with the stress cracking and end haul to waste area shown on Exhibit A.
“ ”	Create a rolling dip according to the specifications from Exhibit I. Dimension (a) on the diagram shall be 50'. Dimension (b) on the diagram shall be 1' or 1.5'. The rolling dip shall be position in a manner to capture the full length of the water seeping out of the exposed rocks.
6+30 to 9+00	Remove all of the bank slough. The bank slough material shall be utilized as fill material to establish outslope drainage from 0+00 to 86+00.
“ ”	The boulders and rocks that have accumulated on the outside edge shall be end hauled to 1+50 and piled in a location that will not interfere with operations. Material gathered from the roadway may be used as pit run for the landings.
9+00 to 10+00	Create a rolling dip according to the specifications from Exhibit I. Dimension (a) on the diagram shall be 50'. Dimension (b) on the diagram shall be 1' or 1.5'. The rolling dip shall be position in a manner to capture the full length of the water seeping out of the exposed rocks.
10+00	Create a turn out left. Operator shall use pit run rock as the surfacing material. Rock may be obtained from the Fire Pond Stockpile.
23+10	Landing # 1. Open up old existing landing. Establish outslope drainage of 3 percent. Apply approximately 30 Cu. Yds. of pit run rock for the surfacing material.
≈27+40	Build a truck turn around. Apply pit run rock as the surfacing material from the Fire Pond Stockpile.
29+40	Landing # 2. Open up old existing landing. Establish outslope drainage of 3 percent. Apply approximately 30 Cu. Yds. of pit run rock for the surfacing material.
33+70	Intersection of Spur 1 and Tilden Ridge Rd.
46+00	Create a truck turn around at the old pit run location. End haul waste material to the waste area as shown on Exhibit A. Use pit run rock as the surfacing material from the firepond stockpile.
At 52+80	Landing # 4. Construct landing 4. The operator shall use landing 4 as an appropriate waste site, as shown on Exhibit A, labeled Waste Area 1. Clean waste encountered from the improvement efforts shall be used as adequate fill material to build up the Landing. Clean waste shall include only material free of organic debris. Organic debris shall be wasted separately from the clean material. The landing shall be outsloped 3 percent for drainage.



EXHIBIT D  
FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

- 52+80 STATE shall mark the toe of the fill with slope stakes. The toe of the fill shall be marked after the removal of timber.
- “ ” The operator shall widen the inside corner of the road by 10 feet as marked in the field. The top of cut shall not be any closer than 10 feet from the posted right of way boundary signs. The clean material generated, may be incorporated into the landing. Operator shall not waste more than a 1,000 Cu. Yds. of material at waste area 1.
- “ ” Conduct sidecast pull back as directed by STATE, on the east aspect on the existing portion of the landing. Clean sidecast material may be incorporated into the landing construction.
- “ ” Apply 60 Cu. Yds. of pit run rock for the surfacing material.
- At 59+90 Conduct sidecast pullback. Remove all of the material associated with the stress cracking and the apparent slump. Remove all organic debris encountered during excavation. Waste material shall be end hauled to the waste Area shown on exhibit A. Clean waste shall be used to build up the outer edge of landing 4. Waste material that contains organic debris shall be piled separate.
- At 71+50 Conduct sidecast pullback. Remove all of the material associated with the stress cracking and the apparent slump. Remove all organic debris encountered during excavation. Waste material shall be end hauled to the waste Area shown on exhibit A. Clean waste shall be used to build up the outer edge of landing 4. Waste material that contains organic debris shall be piled separate.
- 80+60 Dig out old stump hole located on the fill slope side of the road.
- 0+00 to 86+00 Compact the subgrade. All portions of the road shall be compacted according to the specifications in Exhibit F.
- “ ” The subgrade shall be approved by STATE prior to rocking.
- “ ” Apply a compacted depth of 6 inches of 3"-0" rock obtained from the San Antone Stockpile.
- “ ” Rock Lifts shall be compacted with a vibratory roller.

EXHIBIT D

FULL BENCH AND END-HAUL REQUIREMENTS

POINT TO POINT	STA. TO STA.	CONTAINMENT - SIDECAST	WASTE AREA LOCATION	WASTE AREA TREATMENT
As determined by STATE.		2	1 & 2	1 & 2

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.
- (3) Sidecast: Material shall be spread evenly below the road so that it does not build up behind trees, snags or other debris, and shall not exceed 3 feet 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) Waste Area 1 as shown on Exhibit A and as marked in the field. No more than 1,000 Cu. Yds. total.
- (2) Waste Area 2 as shown on Exhibit A and as marked in the field. No more than 1,000 Cu. Yds. total.

Waste Area Treatment

- (1) Deposit at waste area, spread evenly, compact, and provide adequate drainage.
- (2) Pile woody debris, muck, slime, and organics, separate from other waste material.

EXHIBIT E  
 ROAD SURFACING

ROAD	ROCK TYPE	SIZE OF ROCK	COMPACTED DEPTH	POINT TO POINT	STATION TO STATION	TOTAL YDS <sup>3</sup>
Tilden Ridge RD	BASE	3"-0"	3"	E to F	4.5 STA	77
Tilden Ridge RD	BASE	3"-0"	6"	G to H	0+00 to 86+00	2838
Spur 1 < 15% grade	BASE	3"-0"	8"		0+00 to 12+20 & 17+00 to 21+00	713
Spur 1 > 15% grade	BASE	3"-0"	6"		12+20 to 17+20	158
Spur 1 > 15% grade	CAP	¾"-0"	3"		12+20 to 17+20	82
<b>TURNOUTS:</b>				<b>NO. OF T.O.</b>	<b>POINT TO POINT</b>	
Tilden Ridge RD	BASE	3"-0"	3"	7	DETERMINED BY STATE	70
Tilden Ridge RD	BASE	Pit Run	6"	1	10+00	20
SPUR 1	BASE	3"-0"	6"	1	AS MARKED IN FIELD	33
<b>TURNAROUNDS:</b>				<b>NO. OF T.A.</b>		
Tilden Ridge Rd	BASE	Pit Run	6"	1	At STA 27+40	20
Tilden Ridge Rd	BASE	Pit Run	6"	1	At STA 46+00	20
<b>LANDINGS AND JUNCTIONS:</b>				<b>APPROX. YDS<sup>3</sup>/STA</b>	<b>NO. OF LANDINGS</b>	
Tilden Ridge Rd	BASE	Pit Run	6"	30	4	120
Spur 1	BASE	Pit Run	6"	30	2	60
<b>MISCELLANEOUS: (Spot Rock)</b>			<b>AMOUNT</b>	<b>POINT TO POINT</b>	<b>LOCATION</b>	
Tilden Ridge Rd	SPOT	¾"-0"	100	A to E	PURCHASER DETERMINED	100
Tilden Ridge Rd	SPOT	3"-0"	100		PURCHASER DETERMINED	100
Tilden Ridge Rd	SPOT	1 ½" -0"	40		PURCHASER DETERMINED	40
SPUR 1	CURVE WIDENING	¾"-0"	10		13+20 to 14+40	10

See continued....

EXHIBIT E  
 ROAD SURFACING

MISCELLANEOUS: (Spot Rock)			AMOUNT	POINT TO POINT	LOCATION	
SPUR 1	CURVE WIDENNG	3"-0"	10		13+20 to 14+40	10
Tilden Ridge Road	CURVE WIDENING	3"-0"	220		As determined by STATE	220

ROCK TOTALS Cu. Yds.	PIT RUN	3" - 0"	1 1/2" - 0"	3/4" - 0"
	240	4219	40	192

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

## EXHIBIT E

### ROCK ACCOUNTABILITY

PURCHASER shall obtain subgrade approval from STATE prior to rocking. Rocking shall be limited to periods when weather conditions are acceptable to STATE and when sediment will not enter streams. Additional surfacing needed because of construction season or construction practice is not included in the preceding ROAD SURFACING table, and shall be furnished at PURCHASER expense.

Rock accountability shall be determined by the following methods, as directed by STATE. STATE shall be given 24 hours' notice prior to rocking.

Depth Measurement. Rock shall be spread and compacted according to the depths specified in Exhibit D. Truck measure volumes are given, but shall not limit the amount of rock spread.

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

Load Records. Notify STATE before spreading the rock and maintain a record of all rock delivered for spreading. Make the record available for STATE inspection. A report listing the amount of rock delivered weekly. Rock load receipts shall be provided to the state weekly for all rock purchased from commercial sources. However depth measurement shall be used to determine contract compliance.

EXHIBIT E

DURABLE CRUSHED ROCK SPECIFICATIONS

Grading Requirements

<u>For 3/4"-0"</u>	Passing	1" sieve	100%
	Passing	3/4" sieve	90-100%
	Passing	3/8" sieve	55-75%
	Passing	1/4" sieve	40-60%
	Passing	No. 10 sieve	20-40%
	Passing	No. 40 sieve	8-16%
<u>For 1 1/2"-0"</u>	Passing	2" sieve	100%
	Passing	1 1/2" 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%
<u>For 3"-0"</u>	Passing	4" sieve	100%
	Passing	3" sieve	90-100%
	Passing	1 1/2" sieve	60-90%
	Passing	3/4" sieve	40-60%
	Passing	1/4" sieve	20-40%
	Passing	No. 10 sieve	5-20%

JAW-RUN & PIT-RUN ROCK SPECIFICATIONS

<u>For Jaw-Run</u>	Passing	6" sieve	100%
	Passing	3" sieve	45-65%
<u>For 6"-0" Pit-Run</u>	Passing	10" sieve	100%
	Passing	6" sieve	60-85%
	Passing	3" sieve	30-50%
	Passing	1/4" sieve	0-20%

For 24"-6" 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.

Control of gradation shall be by visual inspection by STATE.

EXHIBIT F

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
Spur 1	OPTION (1), Vibratory Roller

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
Spur 1 Tilden Ridge Rd All Landings	OPTION (1), Vibratory Roller

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.

EXHIBIT F

COMPACTION AND PROCESSING REQUIREMENTS

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

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
Tilden Ridge Road Spur 1	OPTION (1), Vibratory Roller

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
Any segment requiring pit-run rock	OPTION (1) or (8)



EXHIBIT F

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) Rubber-Tired Skidders. A rubber-tired skidder weighing a minimum of 20,000 pounds shall be operated over the fill layers so that the entire layered surface comes in contact with the tires. Skidders with oversized tires (high flotation) are not acceptable for compaction.
- (3) 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.
- (4) 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.
- (5) 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.
- (6) Grid Rollers. Pit-run rock shall be processed by grid roller fully equipped with 32,000 pounds or more of ballast weights. Twenty passes shall be made with a grid roller over the entire length and width of the road, unless STATE requires fewer passes. A grader weighing at least 20,000 pounds shall work the pit-run surface during grid rolling so that all pit-run rock comes in contact with the grid roller. Grid rolling shall be performed when the subgrade is dry and firm. Road surface shall be uniformly shaped and graded prior to and during grid rolling.
- (7) Loaded Dump Trucks. Dump trucks shall be routed over the entire cross section of the road surface. Loaded trucks shall cover all of the subgrade with a minimum of three passes.
- (8) D7 Cat or equivalent.

EXHIBIT G  
CULVERT SPECIFICATIONS

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

Culverts shall be constructed of corrugated aluminized (Type 2) steel unless otherwise approved by STATE.

Aluminized (Type 2) steel culverts shall meet the requirements of AASHTO M-36-03<sup>1</sup>.

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 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.

Backfill shall consist of, crushed rock, rock crusher reject, 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.

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.

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

EXHIBIT G

CULVERT SPECIFICATIONS

The intake ends of culverts in fills less than 3 feet to the top of the culvert shall be marked by driving steel posts within 6 inches of the downgrade side. Posts shall be painted with a rust-resistant paint and be a minimum of 5 feet long, with the spade driven 2 feet into the ground.

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

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

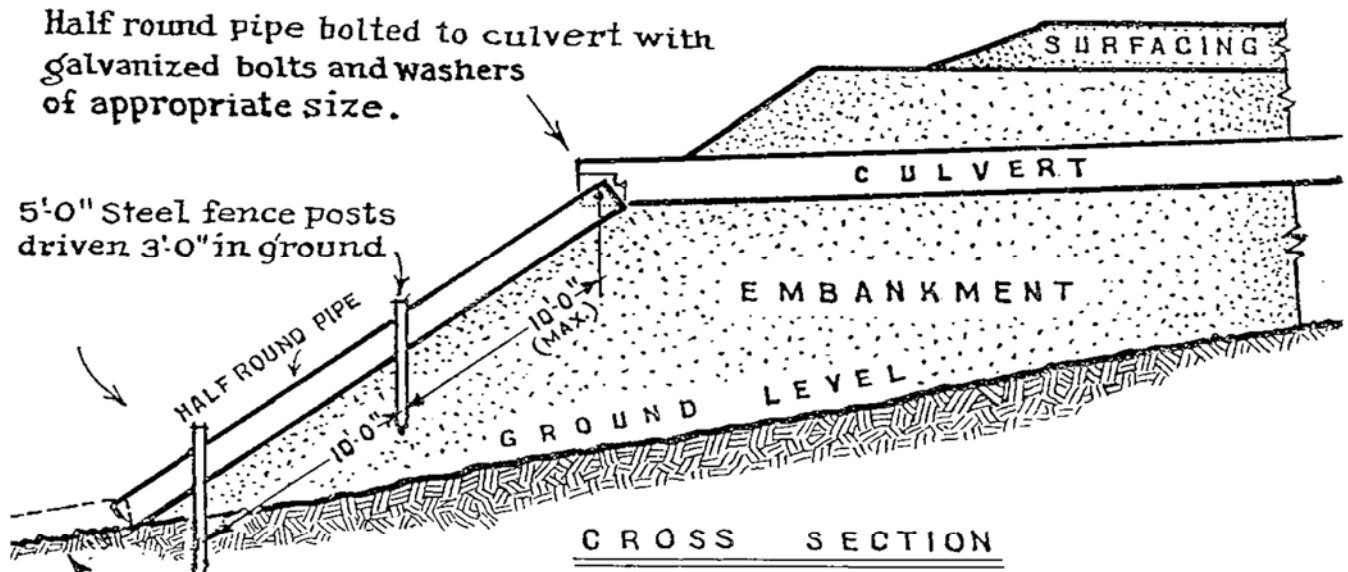
<u>Dia.</u>	<u>Steel Culvert</u>	<u>Thickness</u>		<u>Band Gauges</u>	<u>Band Widths (")</u>	
	<u>Gauge</u>	<u>Uncoated</u>	<u>Coated</u>		<u>Annular</u>	<u>Helical</u>
12-15	16	(0.0598")	(0.064")	16	7	12
18-24	16	(0.0598")	(0.064")	16	12	12
30-36	16	(0.0598")	(0.064")	16	12	12
42	14	(0.0747")	(0.079")	16	12	12
48	14	(0.0747")	(0.079")	16	24	24
54	14	(0.0747")	(0.079")	16	24	24
60	12	(0.1046")	(0.109")	16	24	24
66-72	12	(0.1046")	(0.109")	16	24	24
78	12	(0.1046")	(0.109")	16	24	24
84	12	(0.1046")	(0.109")	16	24	24
90-120	12	(0.1046")	(0.109")	16	26	26

Culverts larger than 60" in diameter shall have (3" x 1") corrugations.

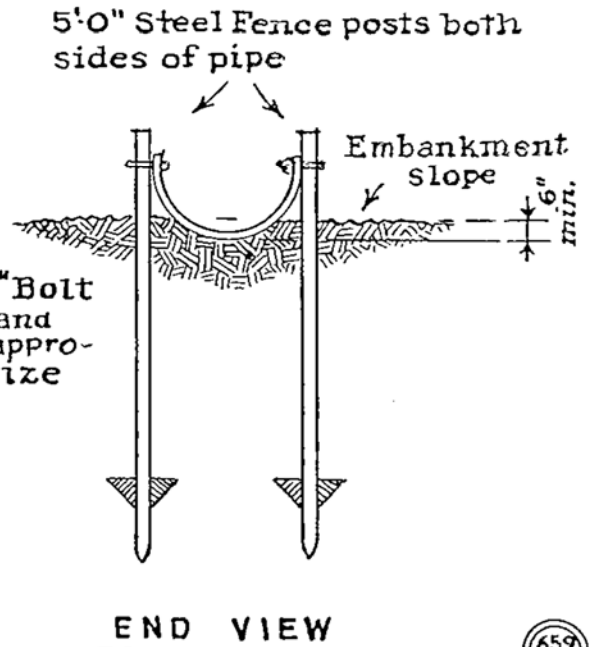
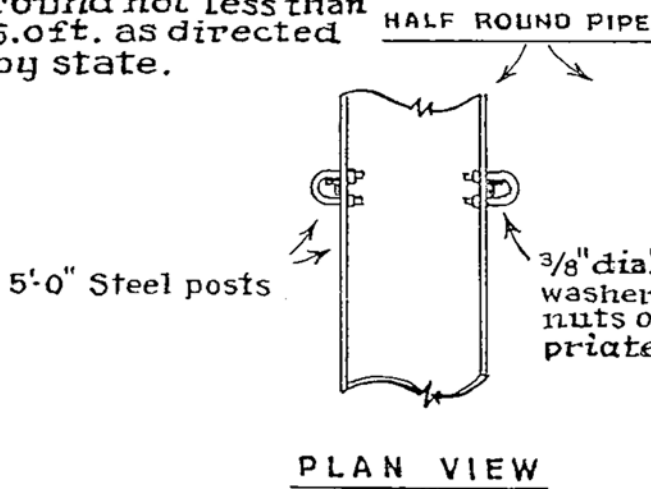
EXHIBIT G

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 G

TYPICAL EMBEDDED ENERGY DISSIPATOR

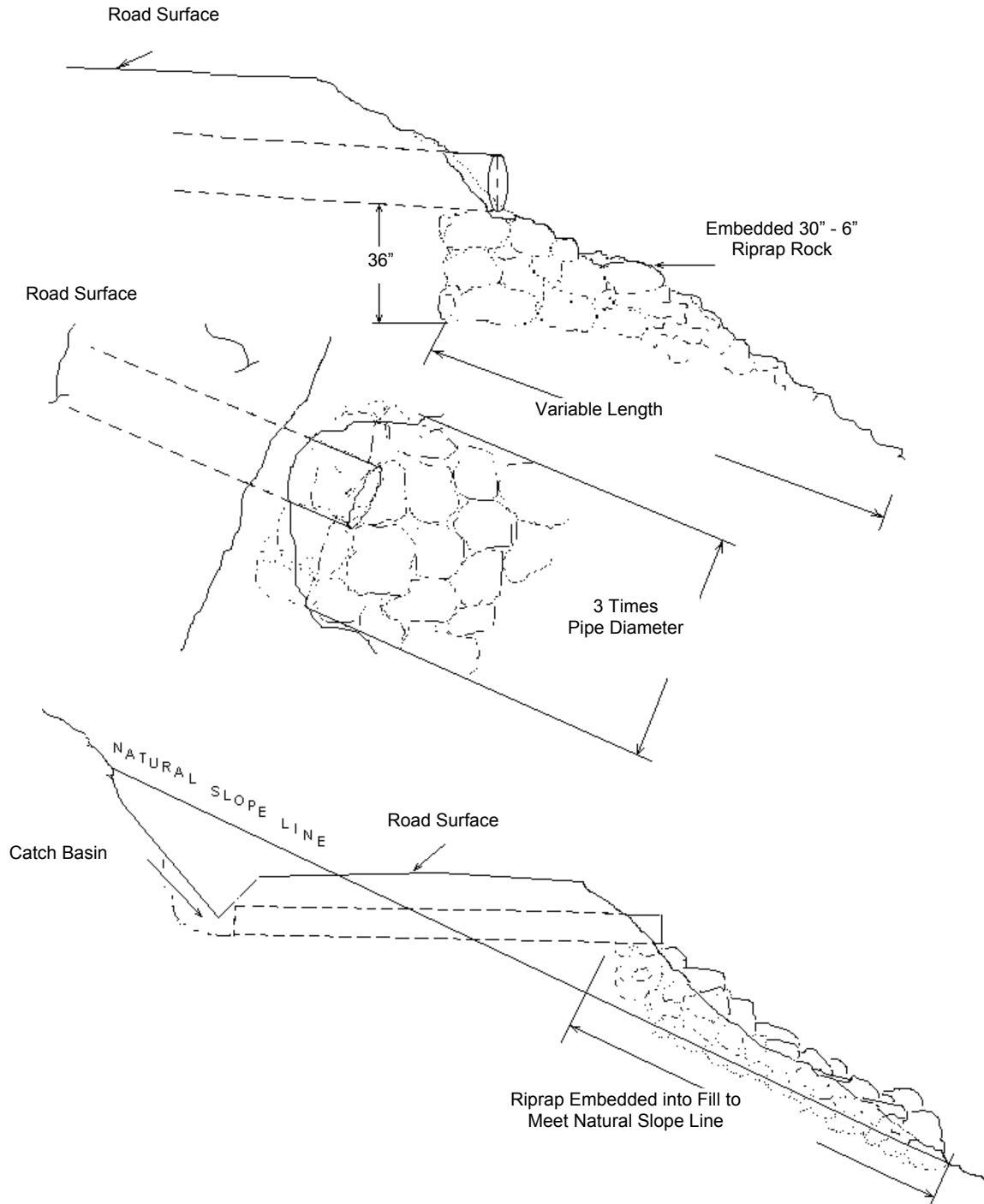
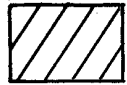
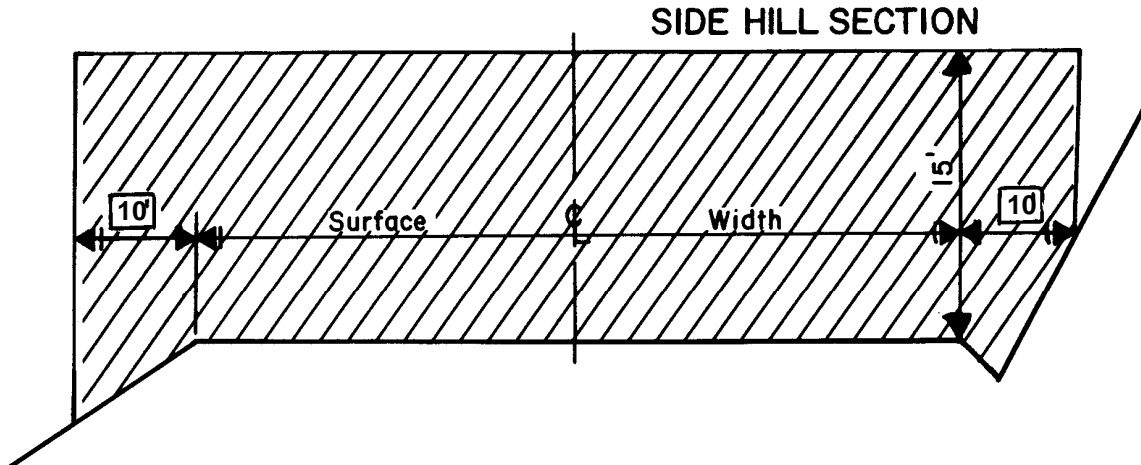


EXHIBIT H  
ROAD BRUSHING SPECIFICATIONS



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 side(s) of the road shall be 10 feet horizontal distance from the shoulder of the road and 10 feet horizontal on the down slope side from the road shoulder. In situations where site distance is an issue brushing heights on the cutslope may vary from the drawing, as directed by STATE.

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

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

EXHIBIT H

ROAD BRUSHING SPECIFICATIONS

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.

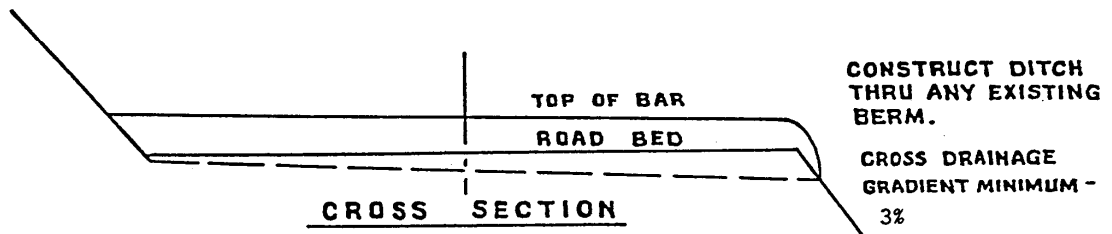
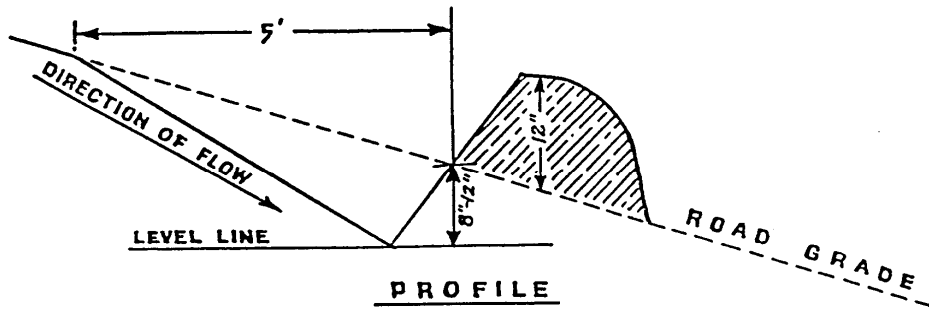
Existing debris on the roadway, cutslope, ditchline, or catch basin shall be removed and treated. Debris shall be mulched or scattered downslope from the road or placed in other stable locations. Large non-merchantable debris, 6 inches or larger in diameter, shall be mulched or cut into lengths 6 feet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

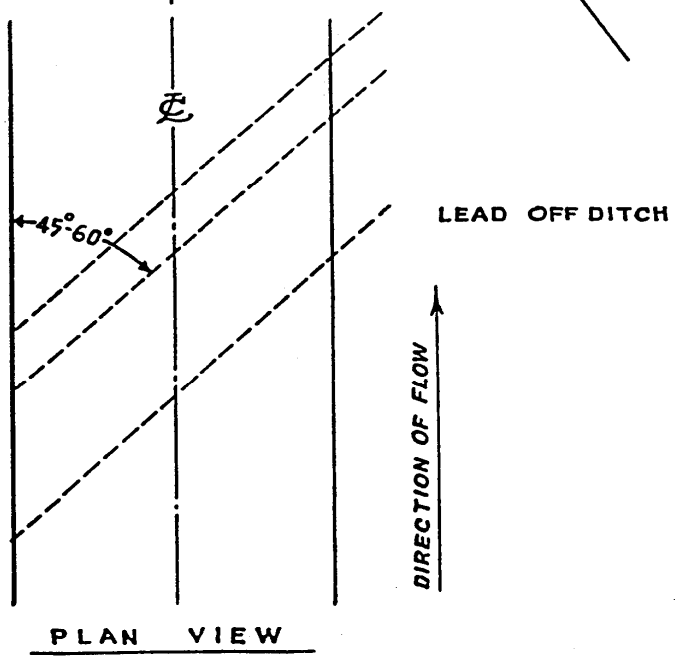
CULVERT AND ROAD MARKER DAMAGES. Culvert and road markers damaged, or any portion of a marker damaged from PURCHASER activities shall be assessed a damage fee of \$25 per marker.

EXHIBIT I  
 WATERBAR SPECIFICATIONS



**SPACING OF WATERBARS**

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

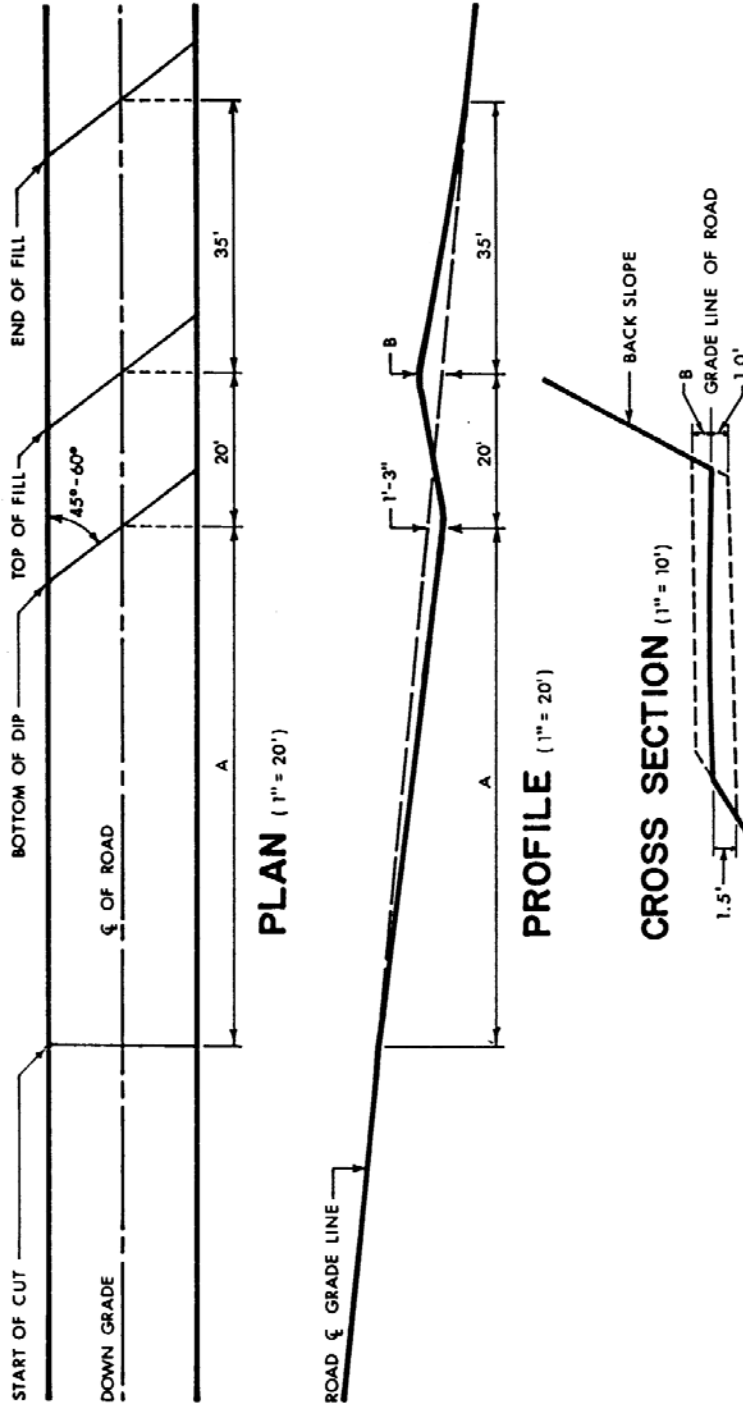


**WATERBAR SPECIFICATIONS  
 FOR CROSS DITCHING #298**



EXHIBIT I

ROAD DIP CONSTRUCTION SPECIFICATIONS



ROAD GRADE %		A	B
0%	- 5%	50'	1.0'
5%	- 10%	60'	1.5'
10%	- 15%	70'	2.0'
MORE THAN 15%		USE WATERBARS	

ROAD DIP CONSTRUCTION SPECIFICATIONS		APPROVED BY:	DRAWN BY FB
SCALE: NOTED	DATE: 10/14/80		REVISED
STATE OF OREGON DEPARTMENT OF FORESTRY 2600 STATE STREET SALEM OREGON 97310			DRAWING NUMBER <b>669</b>

# PART IV: OTHER INFORMATION

State Timber Sale Contract  
No. 341-15-104  
Tilden Top

## 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