

# PART III: EXHIBITS

State Timber Sale Contract  
No. 341-12-04  
Road Blocker

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.: 341-12-04

(2) Sale Name: Road Blocker

(3) Contract Expiration Date: June 30, 2013

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.



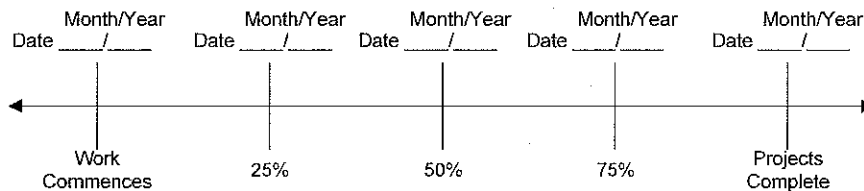
Temporary stream crossings.

EXHIBIT B  
 OPERATIONS PLAN

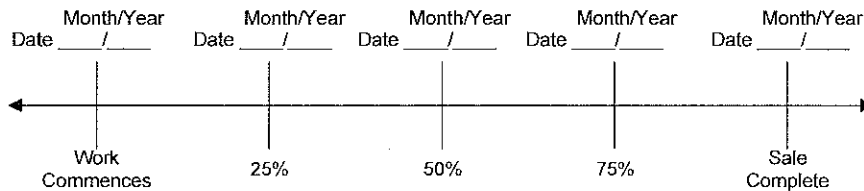
**Completion Timeline**

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 \_\_\_\_\_

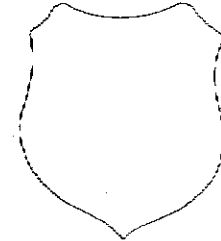
Original: Salem  
 cc: District File  
 Purchaser

EXHIBIT C – SAWMILL GRADE

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: \_\_\_\_\_

- (13) SALE NAME: Road Blocker  
 COUNTY: Lane
- (14) STATE CONTRACT NUMBER: 341-12-04
- (15) STATE BRAND REGISTRATION NUMBER \_\_\_\_\_
- (16) STATE BRAND INFORMATION (COMPLETE):



- (17) PAINT REQUIRED: YES   
 COLOR: Orange

(5) MINIMUM SCALING SPECIFICATIONS			CLASS		
SPECIES	SCALING DIAMETER INCHES	*NET SCALE VOLUME	PER MBF	** SUM	SUB
Conifers		10			
Hardwoods		10			

(18) SPECIAL REQUESTS (Check applicable)

PEELABLE CULL (all species) .....

**NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE** .....

PENCIL BUCK .....

ADD-BACK VOLUME - Deductions due to delay .....

OTHER: \_\_\_\_\_

\* Apply minimum volume test to whole logs over 40' Westside; 20' Eastside.  
 \*\* Sum (if indicated): see instructions and explain in Item (19).

- (6) WESTSIDE SCALE: YES NO  
 Use Region 6 actual taper rule. Logs over 40'.
- (7) EASTSIDE SCALE: YES NO  
 Use Region 6 actual taper rule. Logs over 40'.
- (8) Weight Scale Sample YES NO  
 (6) - (8), pink log load receipts
- (9) Weight Sale YES NO
- (10) Per Load YES NO  
 (9) and (10), yellow log load receipts

(19) REMARKS \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

(20) SIGNATURES:

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

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

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

(11) APPROVED SCALING LOCATIONS  
 (as shown on the ODF Approved Locations web-site)

Species	Yard	Truck	Weight

(12) NOTICE OF CANCELLATION OF BRAND:  
 Effective Date: \_\_\_\_\_

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.

EXHIBIT C– SAWMILL GRADE  
INSTRUCTIONS FOR FORM 343-307 (rev. 01/09)

- (1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires Item (12). Complete date.
- (2) Designate Third Party Scaling Organization (TPSO).
- (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. Review Section 2040 or 2045, "Log Removal," of the Contract. Species, or combined species can be separate entries. Information serves as a basis for scaling (see also Items (16) thru (18)), and is required to show existence on the sale. **SUM** (lump sum material). **SUB** (sub-merchantable material). SUB, as used by the State, references that material containing at least 10 bf (net) but less than the lower merchantable net volume limit or grade requirements for other merchantable (Per MBF) entries. Per MBF, SUM, and SUB must be indicated by checking the appropriate column. Species with the same specifications and value are combined into one entry. Per MBF and SUB require scaling therefore complete specifications. SUM need not be scaled, hence no specifications. Loads containing only SUM are to be ticketed if so instructed in Item (19). Mixed loads of SUM, Per MBF and/or subspecies will always be scaled.
- (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) Eastside – Region 6 actual taper/taper table segment scale. Special Service Rules on file with TPSO. See: Segment Scaling and Grading of Long Logs -- All Species -- State Forestry Department Scaling Practices (Northwest Log Rules Eastside). Items with \* follow U.S. Forest Service Eastside rules.
- (8) 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 (19).
- (9) Weight Sale – Check box if sale is to be sold as a weight sale. Processing procedures from approved locations to TPSO's will be explained in the Remarks section of Item (19).
- (10) Per Load – Check box if volumes on sale are per load. Specific instructions for handling and processing will be fully explained in the Remarks section of Item (19).
- (11) 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.
- (12) When logging and hauling is complete, recall branding hammers, date and sign where indicated, check CANCELLATION box in Item (1), and send to TPSO.
- (13) Enter sale name and county.
- (14) Enter sale Contract number.
- (15) Enter Oregon's State Brand Registry Number **(REQUIRED)**.
- (16) Show brand assigned to timber sale. One brand only. If more than one brand is assigned to the sale: (1) make separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section Item (19).
- (17) Check yes for Paint Required and designate "Orange" for color. Non required removal volumes may sometimes require blue paint.
- (18) 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.
- (19) 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.
- (20) 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 e-mailed directly to the State Forests Program/Asset Management Unit to both Timber Revenue Specialists. Scaling instructions for each brand should be scanned separately, for each approved TPSO.

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

EXHIBIT C – PULP SORT

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: \_\_\_\_\_

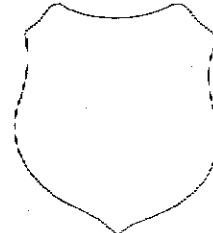
(12) NOTICE OF CANCELLATION OF BRAND:  
 Effective Date: \_\_\_\_\_

(13) SALE NAME: Road Blocker  
 COUNTY: Lane

(14) STATE CONTRACT NUMBER: 341-12-04

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

(16) STATE BRAND INFORMATION: (COMPLETE BELOW)



(17) PAINT REQUIRED: YES   
 COLOR: \_\_\_\_\_

(5) MINIMUM SCALING SPECIFICATIONS			CLASS		
SPECIES	SCALING DIAMETER INCHES	*NET SCALE VOLUME	PER MBF	** SUM	SUB
Conifer Pulp	Per Load				X
Hardwood Pulp	Per Load				X

\* Apply minimum volume test to whole logs over 40' Westside; 20' Eastside.  
 \*\* Sum (if indicated): see instructions and explain in Item (19).

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

(7) EASTSIDE SCALE: YES  NO   
 Use Region 6 actual taper rule. Logs over 40'.

(8) Weight Scale Sample YES  NO   
 (6) – (8), pink log load receipts

\*(9) Weight Sale YES  NO   
 \*(10) Per Load YES  NO   
 (9) and (10), yellow log load receipts

(18) SPECIAL REQUESTS (Check applicable)	
PEELABLE CULL (all species) .....	<input type="checkbox"/>
<b>NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE</b> .....	<input checked="" type="checkbox"/>
PENCIL BUCK .....	<input type="checkbox"/>
ADD-BACK VOLUME - Deductions due to delay .....	<input type="checkbox"/>
• Convert loads to MBF using a factor of 2,000 board feet per load.	

(19) SPECIAL PROCESSING INSTRUCTIONS: (1) The Scaler Receipt portion of the STATE Log Load Receipt shall be removed and mailed weekly to the approved Third-Party Scaling Organization (TPSO). (2) The TPSO shall notify the Western Lane District Office, (541)935-2283 immediately if the above requirements are not met.

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

(20) 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— PULP SORT  
INSTRUCTIONS FOR FORM 343-307 (rev. 01/09)

- (1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires Item (12). Complete date.
- (2) Designate Third Party Scaling Organization (TPSO).
- (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. Review Section 2040 or 2045, "Log Removal," of the Contract. Species, or combined species can be separate entries. Information serves as a basis for scaling (see also Items (16) thru (18)), and is required to show existence on the sale. **SUM** (lump sum material). **SUB** (sub-merchantable material). SUB, as used by the State, references that material containing at least 10 bf (net) but less than the lower merchantable net volume limit or grade requirements for other merchantable (Per MBF) entries. Per MBF, SUM, and SUB must be indicated by checking the appropriate column. Species with the same specifications and value are combined into one entry. Per MBF and SUB require scaling therefore complete specifications. SUM need not be scaled, hence no specifications. Loads containing only SUM are to be ticketed if so instructed in Item (19). Mixed loads of SUM, Per MBF and/or subspecies will always be scaled.
- (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).
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- (8) 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 (19).
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- (10) Per Load – Check box if volumes on sale are per load. Specific instructions for handling and processing will be fully explained in the Remarks section of Item (19).
- (11) 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.
- (12) When logging and hauling is complete, recall branding hammers, date and sign where indicated, check CANCELLATION box in Item (1), and send to TPSO.
- (13) Enter sale name and county
- (14) Enter sale Contract number.
- (15) Enter Oregon's State Brand Registry Number **(REQUIRED)**.
- (16) Show brand assigned to timber sale. One brand only. If more than one brand is assigned to the sale: (1) make separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section Item (19).
- (17) Check yes for Paint required and designate color being used. Non-required removal volumes may *sometimes* require blue paint.
- (18) Special Requests. These are requests that will be applied to ODF timber sales but are *not* applicable to non-scale materials. Special requests boxes must be "marked" if they apply to the timber sale, designated in the Exhibit C scaling instructions form. If "Other" is indicated, it must contain a description and any necessary comments.
- (19) 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.
- (20) 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 e-mailed directly to the State Forests Program/Asset Management Unit to both Timber Revenue Specialists. Scaling instructions for each brand should be scanned separately, for each approved TPSO.

EXHIBIT D  
 FOREST ROAD SPECIFICATIONS

Road	Stations	Construction/ Improvement	Subgrade Width	Surfaced Width	DRAINAGE
Spur 1	15.02	New Construction	16'	12'	Outsloped
Spur 1A	2.90	New Construction	16'	12'	Outsloped
Spur 2	1.75	Improvement	16'	12'	Ditched
Spur 3	40.88	Improvement	16'	12'	Outsloped
Spur 4	5.18	New Construction	16'	Dirt	Outsloped
IP Deeded	2.10	Improvement	16'	12'	Ditched
Turn Around #1	3.75	Improvement	16'	12'	Ditched
Nelson Divide	23.00	Improvement	16'	Dirt	Outsloped

CLEARING. This work shall consist of clearing, removing, and disposing of all trees, Snags, Down Timber, brush, surface objects, and protruding obstructions within the clearing limits.

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.

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: As marked in the field or directed by the STATE.

SLOPES

Solid Rock

Fractured Rock

Soil - side slopes 50% and over

Soil - side slopes less than 50%

Back Slopes

Vertical to ¼ :1

½:1

¾:1

¾:1

Fill Slopes

Not steeper than

1 1/3:1

LANDINGS. Landings shall be constructed as posted in the field, no less than 50 feet wide and no more than 75 feet wide unless otherwise approved by STATE. Surface is to be outsloped or 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 1, 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 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. Excess excavated material not used for embankment shall be sidecast on slopes up to 50 percent or end hauled or pushed to waste areas as shown on Exhibit A and marked in the field or be used for fills.
- (3) Controlled Blasting. 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 material within the road prism.
- (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) Subgrades shall be compacted with a vibratory roller.
  - (d) Subgrade must be approved by STATE prior to application of surfacing material.
  - (e) 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

IP Deeded Road and junction with Spur 1 :

- Subgrade is to be crowned and have a ditch.
- Grade changes shall be gradual and smooth in transition from the existing roads to the improvement area.
- Subgrade shall be compacted with a vibratory roller.
- Subgrade to Spur 1 shall be built at least 2 Stations in length prior to subgrade approval.
- Subgrade shall be approved by STATE prior to rocking.
- Rock shall be applied at 10" compacted depth of 1 ½" minus rock for the IP Deeded Road.
- Rock shall be applied for at least the first 0.50 Stations of Spur 1 to reduce contamination with the IP Deeded Road during the construction of Spurs 1 and 1A.

Spurs 1 and 1A (New Construction)

- Subgrade is to be outsloped.
- Grades are not to exceed 18% and curve widening is required.
- Excess materials shall be incorporated into road subgrade fills as necessary for road grades or hauled to waste area (WA1 – 23+00 on Nelson Divide Road).
- Cut banks shall be sloped ¼ :1 from approximately Station 4+90 to 9+60 on Spur 1.
- Install a truck turn around (TA #2) around Station 13+20 on Spur 1.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

Spurs 1 and 1A (New Construction): (Continued)

- Install a turnout left (TOL) at approximately 4+10 on Spur 1.
- Subgrades shall be compacted with a vibratory roller and shall be approved by the STATE prior to rocking.
- Spread and compact 6" depth of 3" minus rock.
- On grades in excess of 15% (from 4+10 to 11+50 Spur 1), spread and compact 3" depth cap of ¾" minus rock, in addition to the base rock.
- Spread and compact 8" depth of Jaw-run for the last 0.50 Stations of Spur 1 and Spur 1A. Rock is to be applied as twice the road width (24') for approximately 44 yards per Landing.

Spur 4 (New Construction) :

- Subgrade is to be outsloped.
- Favorable haul grades are expected to be from 20 to 24%.
- Equipment compaction is satisfactory for this spur.
- Subgrade shall be approved by the STATE prior to rocking.
- Spread and compact 6" depth of 1½" minus rock for the first 0.50 Stations.

Spur 2 (Improvement) :

- Grade and shape road to Landing located on the knob (1+75 Stations) or to another location on the existing road that is approved by the STATE prior to commencing work.
- Clean all ditches and culvert catch basins.
- Cut all trees and brush necessary for the Landing and road.
- Road shall be compacted with a vibratory roller.
- Spread and compact 6" depth of 1½" minus rock for the first 0.50 Stations.
- Spread and compact 8" depth of Jaw-run for the last 0.50 Stations. Rock is to be applied as twice the road width (24') for approximately 44 yards per Landing.

Spur 3 (Improvement) :

- Grade and shape road to Landing located at Station 40+88.
- Cut all trees and brush necessary for the Landings and road.
- Road is to be outsloped.
- Construct 3 separate truck turnarounds in locations designated by the PURCHASER and approved by the STATE.
- Construct turnouts (3 total) at Stations 14+40, 28+50, and 35+50 or in other locations approved by the STATE.
- Road subgrade shall be compacted with a vibratory roller.
- Subgrade shall be approved by the STATE prior to rocking.
- Spread and compact 6" depth of 1½" minus.
- Spread and compact 8" depth of Jaw-run rock and be applied as twice the road width (24') for approximately 44 yards per Landing. There are 4 landings to have rock applied. Three Landings that will be located by the PURCHASER and approved by the STATE. The fourth Landing shall be the last 0.50 Stations on the spur.

IP DEEDED Landing Areas (Improvement) :

- PURCHASER shall determine the location of each Landing with STATE approval and written approval from the BLM. PURCHASER shall provide STATE with a copy of the BLM approval.
- For all Landings along the IP DEEDED Road, PURCHASER shall spread 8" depth of Jaw-run rock (compaction is not necessary) on all portions of Landing(s) that are adjacent to the existing road. Rock shall be placed adjacent to the road and not on the road surface. Rocked areas shall be large enough to ensure that all tracked equipment working the landing areas will remain on the rock.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

Turn Around #1 (Improvement):

- Grade, shape, and compact road (3+75 Stations).
- Cut all trees and brush necessary for the road.
- Road is to be ditched. Curve widening is needed.
- Spread and compact 3" depth of 1½" minus and apply in curve widening areas.

Nelson Divide Road and Waste Area #1 (WA #1):

- Grade and shape road (23+00 Stations).
- Cut all trees and brush necessary for the road.
- Spread and compact 6" depth of 1½" minus rock for the first 0.50 Stations.
- Road is to be ditched.

Final Road Maintenance Requirements (Spurs 1, 1A, 2, 3, and TA#1):

- Grade and shape all roads.
- Pull ditches and clean culvert catch basin and inlets (if present).
- Apply patch rock as directed by the STATE.
- Install driveable waterbars on all grades exceeding 15% as directed by the STATE.

Final Road Maintenance Requirements (Spur 4 and Nelson Divide Rd):

- Grade and shape all roads.
- Install waterbars as directed by the STATE.
- Install Tank Traps in locations approved by the STATE for both Spur 4 and the Nelson Divide Road.

Final Road Maintenance Requirements (IP DEEDED Road):

- Grade and shape road and Landing areas.
- Pull ditches and clean culvert catch basin and inlets (if present).
- Apply patch rock as directed by the STATE.
- Remove all waste/garbage materials resulting from operations.
- Arrange a field inspection with the BLM prior to completion of operations.

EXHIBIT D

FULL BENCH AND END-HAUL REQUIREMENTS

POINT TO POINT	STA. TO STA.	CONTAINMENT - SIDECAST	WASTE AREA LOCATION	WASTE AREA TREATMENT
IP DEEDED jct w/ Spur 1	0+00 to 2+10	1	1,2,3	1,2
Spur 1	4+10 to 9+50	1	1,2,3	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.

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) As shown on Exhibit A and/or as marked in the field.
- (2) Setback from slope break shall be a minimum of 20 feet horizontal measurement.
- (3) All waste locations must be approved by STATE prior to depositing material.

Waste Area Treatment

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

EXHIBIT E  
 ROAD SURFACING

BASE ROCK	SIZE OF ROCK	DEPTH	YARDS/STATION	ROAD	STATION TO STATION	# STA	VOLUME (cu yds)
	3"-0"	6"	33	Spur 1	0+00 to 14+52	14.52	479
	3"-0"	6"	33	Spur 1A	0+00 to 2+40	2.40	79)
	1½"-0"	10"	56	IP Deeded Rd	0+00 to 2+10	2.10	118
	1½"-0"	6"	17	Spur 2	0+00 to 0+50	0.50	17
	1½"-0"	6"	33	Spur 3	0+00 to 40+38	40.38	1333
	1½"-0"	6"	33	Spur 4	0+00 to 0+50	0.50	17
	1½"-0"	3"	17	TA #1	0+00 to 3+75	3.75	64
	1½"-0"	6"	33	Nelson Divide	0+00 to 0+50	0.50	17
<b>CAP ROCK</b>							
	¾ "-0"	3"	17	Spur 1	4+10 to 11+50	7.40	126
<b>LANDINGS (double width)</b>							
	Jaw-run	8"	44	Spur 1	14+52 to 15+02	0.50	44
	Jaw-run	8"	44	Spur 1A	2+40 to 2+90	0.50	44
	Jaw-run	8"	44	Spur 2	1+25 to 1+75	0.50	44
	Jaw-run	8"	44	Spur 3	40+38 to 40+88 3 PURCHASER located	2.00	176
	Jaw-run	8"	44	IP Deeded Rd	Estimate – all are PURCHASER located	5.00	440
<b>CURVE WIDENING</b>			<b>YDS/POINT</b>		<b>STATION</b>	<b># PTS.</b>	
	1½"-0"	6"	15	Spur 3	9+10, 15+25, 17+80	3	45
	1½"-0"	3"	15	TA #1		1	15
	3"-0"	6"	15	Spur 1	6+20, 8+60	2	30

EXHIBIT E  
 ROAD SURFACING (continued)

TURNOUTS/ TURN AROUNDS	DEPTH	YDS/POINT	ROAD	STATION	# PTS.	VOLUME (CU YDS)
3"-0"	6"	12	Spur 1	Turn Out Left @ 4+10	1	12
3"-0"	6"	12	Spur 1	Turn Around @ 13+20	1	12
1½"-0"	6"	12	Spur 3	Turn Out Left @ 14+40,28+50, 35+50	3	36
1½"-0"	6"	12	Spur 3	Truck Turn Around PURCHASER located	3	36

TOTAL APPROXIMATE YDS   ¾ " minus   126  
 TOTAL APPROXIMATE YDS   1½ " minus   1,698  
 TOTAL APPROXIMATE YDS   3 " minus   612  
 TOTAL APPROXIMATE YDS   Jaw-run   748

**Subgrades shall be compacted and approved by the STATE prior to rocking.  
 Approximate yards assumes construction during ideal weather conditions.  
 Only clean, uncontaminated crushed rock counts towards depth measurement.**

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.

Rock tickets shall be turned in to the STATE weekly. However, rock depth measurements shall be used to determine contract compliance, not tons hauled.



EXHIBIT E

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, Spur 1A, Spur 2, Spur 3, IP Deeded, TA #1,	Vibratory Roller (1)
Spur 4, Nelson Divide	Crawler Tractor (2)

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, Spur 1A, Spur 2, Spur 3, IP Deeded, TA #1,	Crawler Tractor (2)
Spur 4, Nelson Divide	Crawler Tractor (2)

Crushed Rock. The rock shall be uniformly mixed and spread in layers on the approved roadbed. Each layer of crushed rock shall be moistened or dried to uniform moisture content suitable for maximum compaction and compacted in layers not to exceed 6 inches in depth. When more than 1 layer is required, each shall be shaped and compacted before the succeeding layer is placed. Any irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and adding or removing material until the surface is smooth and uniform. Each layer shall be compacted with a minimum of 3 passes over the entire width and length of the road until the surface is smooth and hard and visible deformation ceases. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

Rock shall be compacted and processed during the same project period it is spread, unless otherwise approved in writing by STATE.

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

EXHIBIT E

COMPACTION AND PROCESSING REQUIREMENTS

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
Spur 1, Spur 1A, Spur 2, Spur 3, IP Deeded, TA #1,	Vibratory Roller (1)
Landings	Crawler tractor (2)

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

COMPACTION EQUIPMENT OPTIONS

- (1) Vibratory Rollers. The drum shall have a smooth surface, a diameter not less than 48 inches, a width not less than 58 inches, and a turning radius of 15 feet or less. (\*Vibration frequency shall be regulated in steps to 1400, 1500, and 1600 VPM, corresponding to engine speeds of 1575, 1690, and 1800 RPM. The centrifugal force developed shall be 7 tons at 1600 VPM. It shall be activated by a power unit of not less than 25 horsepower.) The vibratory roller shall be self-propelled and operated at speeds ranging from 0.9 miles to 1.8 miles per hour, as directed by STATE.
- (2) Crawler Tractor: D-7 Caterpillar or equivalent, or larger.

EXHIBIT E

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. 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 - 35 percent Maximum.

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

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

EXHIBIT 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"-0"</u>	Passing	1 1/2" sieve	100%
	Passing	1" sieve	90-100%
	Passing	1/2" sieve	55-75%
	Passing	1/4" sieve	35-55%
	Passing	No. 10 sieve	15-35%
	Passing	No. 40 sieve	7-15%
<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%
<u>For 4"-0"</u>	Passing	5" sieve	100%
	Passing	4" sieve	90-100%
	Passing	2" sieve	60-90%
	Passing	3/4" sieve	35-60%
	Passing	1/4" sieve	15-35%
	Passing	No. 10 sieve	0-20%
<u>For Jaw-Run</u>	Passing	6" sieve	100%
	Passing	3" sieve	45-65%

EXHIBIT F  
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 or corrugated aluminized (Type 2) steel.

Polyethylene culverts shall be double-walled and meet the requirements of AASHTO M-294-06, Type S Culvert.

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

Polyethylene culverts shall not be used where required culvert diameter is over 24 inches.

Polyethylene joints shall be made with split couplings, corrugated to engage the culvert corrugations, and shall engage a minimum of 4 corrugations, 2 on each side of the culvert joint.

Culverts shall be located according to the alignment and grade as shown on the Plan and Profile, and/or as staked in the field, or as specified in special instructions.

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.

A bedding of granulated material or 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 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 F

CULVERT SPECIFICATIONS

Minimum height of cover over top of culvert to subgrade when road is to be rocked shall be as follows: 12" for culverts 18" to 36" and 18" for culverts 42" to 96" PURCHASER shall add additional 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 stream crossing 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.

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>
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 F  
CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	GAUGE	ROAD	STATION
1	18"	38	16	Spur 4	0+00

18" Diameter Total = 38 feet

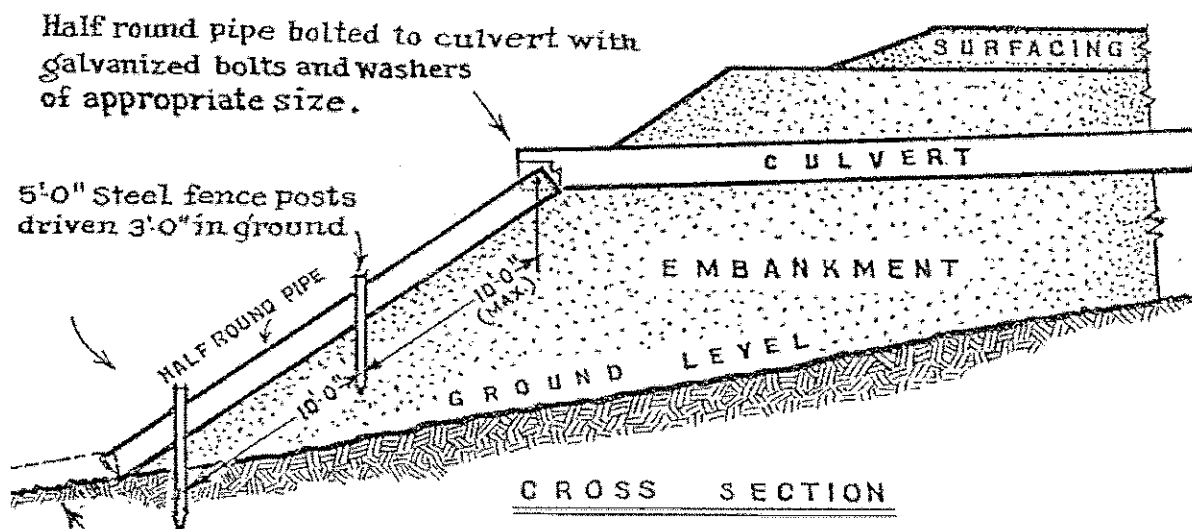
ACSP = Aluminized, CPP = Polyethylene, GCSP = Galvanized

Ditchouts will be utilized to provide ditch relief as needed along all spurs as approved by STATE.

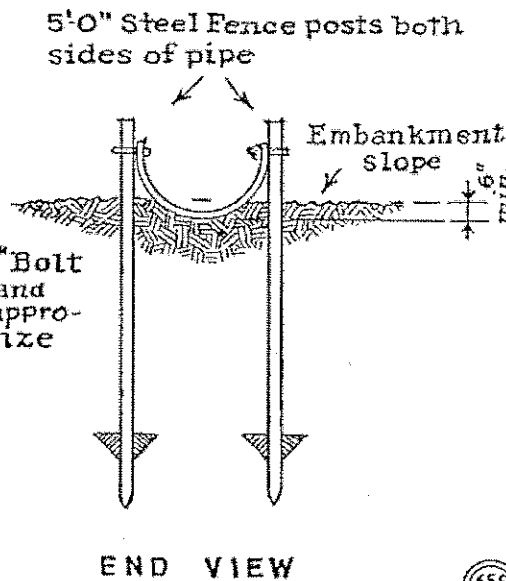
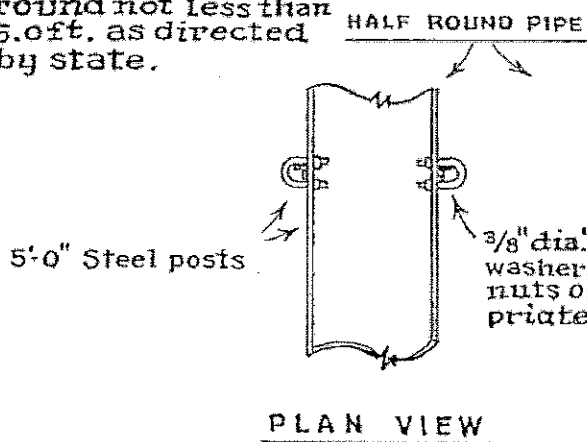
EXHIBIT F

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.



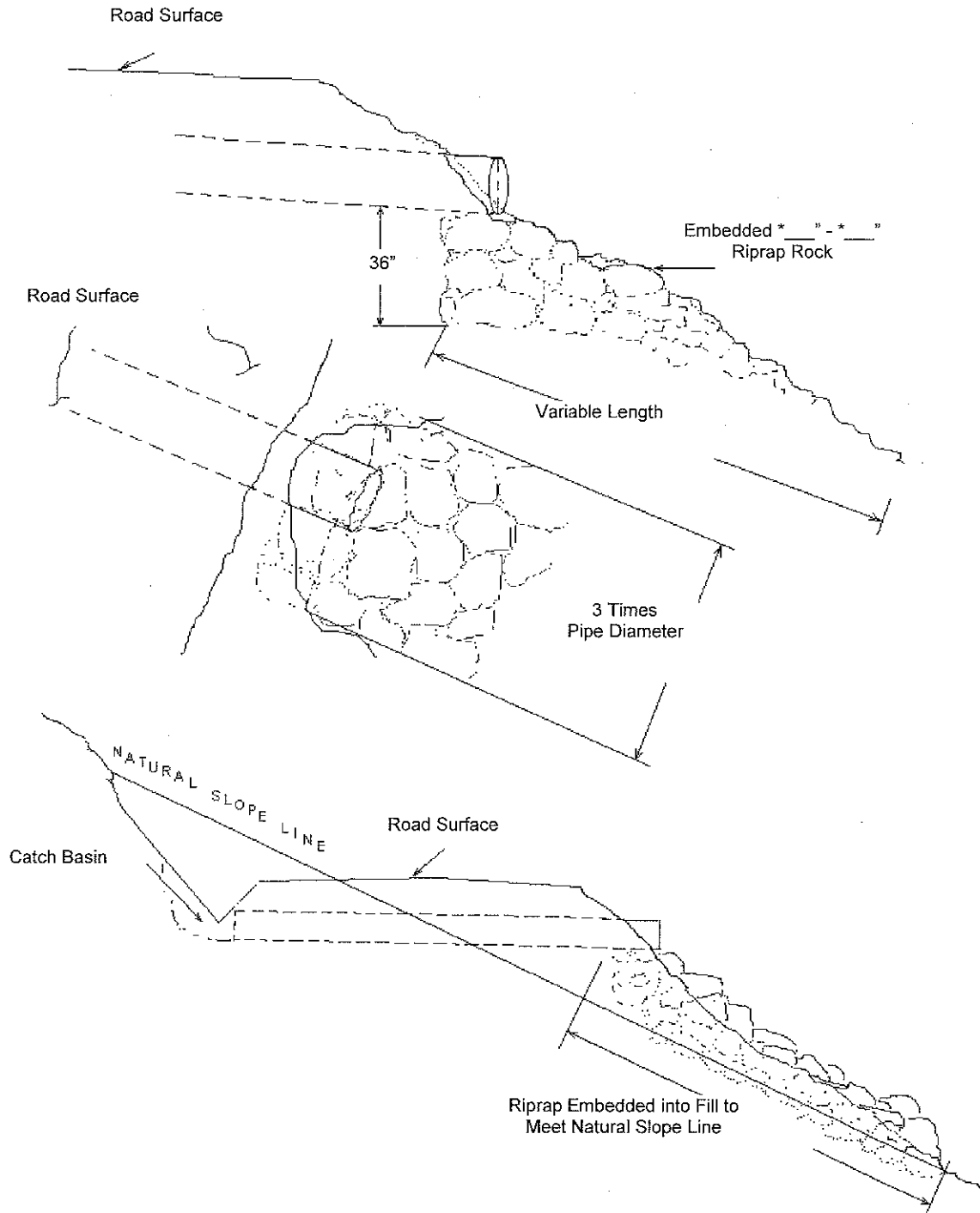
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Half rounds are not anticipated to be needed, however, if during construction the STATE determines need, then installation shall comply with installation above.

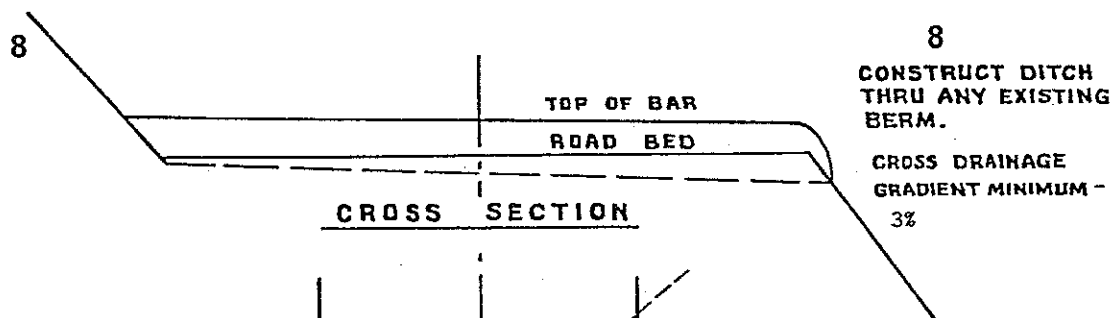
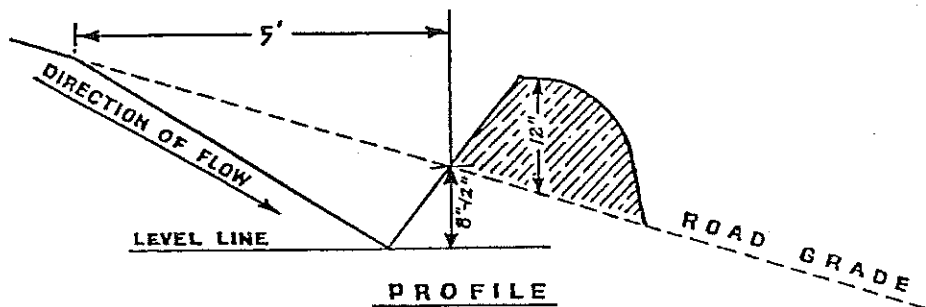


EXHIBIT F  
TYPICAL EMBEDDED ENERGY DISSIPATOR



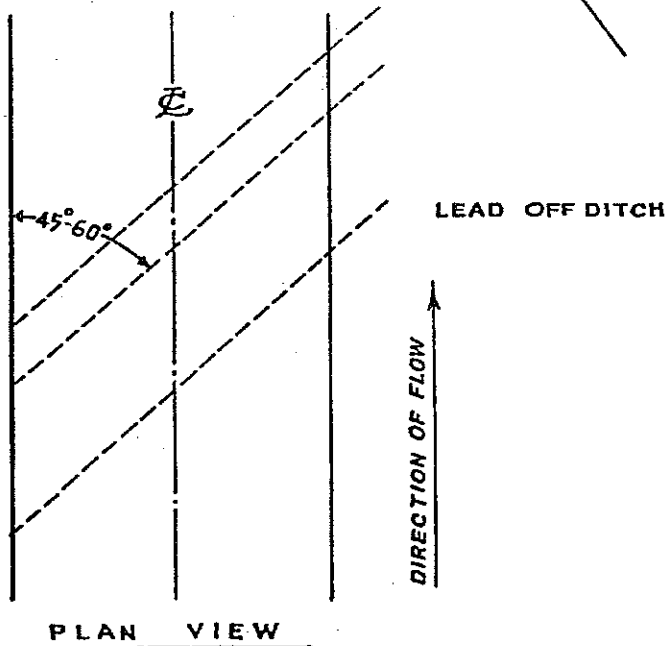
Embedded dissipators are not anticipated to be needed, however, if during construction the STATE determines need, then installation shall comply with installation above.

EXHIBIT G  
 WATERBAR SPECIFICATIONS



**SPACING OF WATERBARS**

ROAD GRADE	DISTANCE
≤ 5%	
6-10%	
11-15%	
16-20% or greater	



**WATERBAR SPECIFICATIONS  
 FOR CROSS DITCHING #298**

**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.
- (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

**OREGON DEPARTMENT OF FORESTRY**  
**Western Lane District**

**Written Plan**

**Road Blocker Timber Sale**  
**341-12-004**

**Portions of Section 4, T17S, R07W, W.M.**

**Protected Waters:** Small Type F (Jack Hays Creek)

**Activity:** Cable yarding within 100 feet of small Type F streams for approximately 1590 feet (Jack Hays Creek).

**Protection Measures :**

- No cutting will take place within approximately 100 feet of the stream (either side) except for any cable corridors that may be needed or for safety purposes.
- Any tree requiring to be felled for either corridors or safety reasons that is within the stream RMA (beyond the Timber Sale Boundary signs) will be felled away from the stream if safe to do so and left where they fall.
- Corridors through the RMA, if necessary, will be at least 100 feet apart (within the RMA).
- All lines will be re-spooled and then restrung for each new corridor.
- In unit trees, shall be felled parallel or away from the posted RMA wherever possible.

**Prepared By:** Dan Menk  
Forester

**Date:** April 27, 2011