



Oregon Department of Forestry

2600 State St Salem OR 97310

PART III: EXHIBITS

EXHIBIT B

TIMBER SALE OPERATIONS PLAN

(See page 2 for instructions)

Date Received by State: _____

(5) State Brand Information (Complete)

(1) Contract Number: SW-341-2025-GF7524-01

(2) Sale Name: Conan GNA

(3) Contract Expiration Date: 12/31/2028

(4) Purchaser Name: _____

(6) State Representatives:

<u>Name</u>	<u>Circle One</u>	<u>Phone No.</u>	<u>Cell No.</u>	<u>Alt Phone</u>
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			

(7) Purchaser Representatives:

<u>Name</u>	<u>Circle One</u>	<u>Phone No.</u>	<u>Cell No.</u>	<u>Alt Phone</u>
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			

(8) Name of Subcontractors and Start Dates:

<u>Project No.</u>	<u>Subcontractor Name.</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Cell No.</u>	<u>Alt Phone</u>

	<u>Subcontractor Name.</u>	<u>Start Date</u>	<u>Cell No.</u>	<u>Alt Phone</u>
FELLING				
YARDING				

(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.

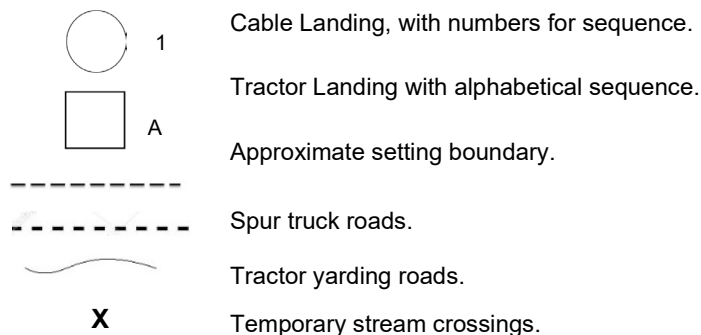
Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS
EXHIBIT B
INSTRUCTION SHEET FOR OPERATIONS PLAN

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 including without limitation PURCHASER'S independent obligation to avoid take of a T&E species and PURCHASER'S obligation to comply with terms and conditions of any incidental take Permit(s) that include required minimization and mitigation measures in any applicable Habitat Conservation Plan. 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.
- (9) 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 required by the timber sale contract. Provide spur road specifications
 3. Locations of proposed tractor yarding roads. Show if and how marked on the ground.
 4. Locations of temporary stream crossings.
 5. List the sequence of performing project work.
 6. Location of rock sources - attach pit development plans.



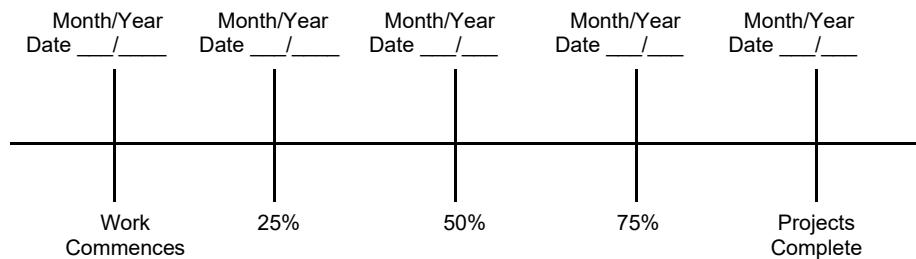


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PART III: EXHIBITS
EXHIBIT B
OPERATIONS PLAN

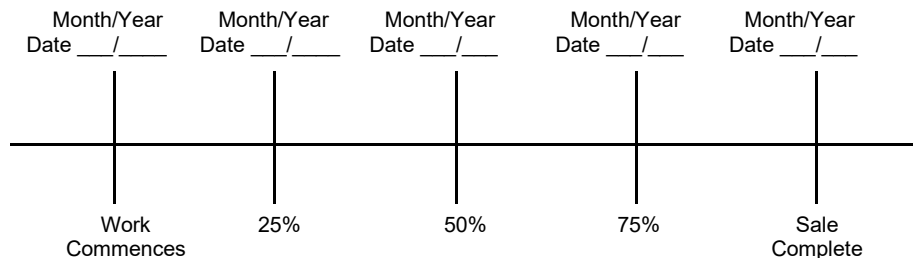
Completion Timeline

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 or that the plan is consistent with the terms and conditions of any applicable incidental take Permit(s) including any required minimization and mitigation measures proposed in the applicable Habitat Conservation Plan. As provided in the timber sale contract, PURCHASER's must comply with all applicable state, federal, and local laws, including without limitation any Permit(s) issued thereunder.

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 _____



Oregon Department of Forestry
EXHIBIT C - SAWMILL GRADE (WESTSIDE SCALE)
SCALING INSTRUCTIONS - LOCATION APPROVAL - BRAND INFORMATION
Southwest Oregon - SOA

(1) ORIGINAL REGISTRATION ☐ Date _____
REVISION NUMBER 000 ☐ Date _____
CANCELLATION ☐ Date _____

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

(3) FROM: Southwest Phone (541) 474-3152
Oregon
(State Forestry District)
Address: 5375 MONUMENT DR.
GRANT PASS, OR 97526

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

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

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

(6) WESTSIDE SCALE:
Use Region 6 actual taper rule. Logs over 40'.

(7) Weight Scale Sample ☐ YES ☒ NO

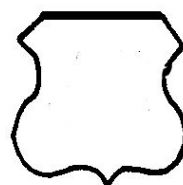
(8) APPROVED SCALING LOCATIONS (as shown on the ODF Approved Locations web-site)	Species	Yard	Truck	Weight

(9) SALE NAME: Conan GNA
COUNTY: Jackson

(10) STATE CONTRACT NUMBER:
SW-341-2025-GF7524-01

(11) STATE BRAND REGISTRATION NUMBER:

(12) STATE BRAND INFORMATION:



(13) PAINT REQUIRED: YES ☒
COLOR: Orange

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

(15) REMARKS:
"Mule Trains"
1. Loads are required to have load tickets for each set of bunks.
2. If truck and pup are to be weighed, weigh and process separately for gross and tare weights.

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

(16) SIGNATURES:

Purchaser or Authorized Representative Date

State Forester Representative Date

State Forester Representative PRINT NAME



Oregon Department of Forestry
EXHIBIT C - SAWMILL GRADE
INSTRUCTIONS FOR EXHIBIT C
Southwest Oregon - SOA

- (1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires logging and hauling to be complete, recall branding hammers.

- (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

Mountain Western Log Scaling & Grading Bureau
2560 NW Medical Park Drive, OR 97471
Phone: (541) 673-5571 Fax: (541) 672-6381
Email: info@mwlsqb.com

Northwest Log Scalpers Inc.
6137 NE 63rd St, Vancouver, WA, 98661
Phone: (360) 553-7212 ext. 4 Fax: (360) 553-7213
Email: info@nwlogscalpers.com

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

Yamhill Log Scaling & Grading Bureau
P.O.Box 709, Forest Grove, OR 97116
Phone: (503) 359-4474 Fax: (503) 359-4476
Email: yamhilllog@frontier.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: https://apps.odf.oregon.gov/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 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. Signatures not required on revisions.



**Oregon Department of Forestry
EXHIBIT C - PULP SORT
PROCESSING INSTRUCTIONS - LOCATION APPROVAL
BRAND INFORMATION**

Southwest Oregon, SOA

(1) ORIGINAL REGISTRATION ☐ Date _____
REVISION NUMBER 000 ☐ Date _____
CANCELLATION ☐ Date _____

(9) **SALE NAME:** Conan GNA

COUNTY: Jackson

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

(10) **STATE CONTRACT NUMBER:**

SW-341-2025-GF7524-01

(3) FROM: Southwest Oregon Phone (541) 474-3152
(State Forestry District)

(11) STATE BRAND REGISTRATION NUMBER: _____

(12) STATE BRAND INFORMATION: _____

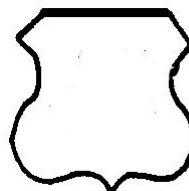
Address: 5375 MONUMENT DR.
GRANT PASS, OR 97526

(4) PURCHASER: _____

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

Mailing Address: _____

Phone Number: _____



(13) **REMARKS:**
"Mule Trains"
1. Loads are required to have load tickets for each set of bunks.
2. Truck and pup are to be weighed and processed separately for gross and tare weights.

(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.

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

(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.

(14) SIGNATURES: _____

Purchaser or Authorized Representative _____ Date _____

State Forester Representative _____ Date _____

State Forester Representative PRINT NAME _____

(8) TPSO PROCESSING INSTRUCTIONS

- Submit data files daily (or each day of activity).
- Mail or deliver scale tickets weekly to ODF Headquarters in Salem.

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.

General Distribution: TPSO, Approved Scaling Locations and Purchaser.



**Oregon Department of Forestry
EXHIBIT C - PULP SORT
INSTRUCTIONS FOR EXHIBIT C**

Southwest Oregon, SOA

- (1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires logging and hauling to be complete, recall branding hammers.
- (2) Approved Pulp Processing Facility. Write in as written in the Approved Log Delivery Location
https://apps.odf.oregon.gov/Divisions/management/asset_management/scalinglocation.asp
- (3) State District office, address and phone.
- (4) Enter Purchaser's business name, address, and phone number as it appears on the Contract.
- (5) 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

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

Mountain Western Log Scaling & Grading Bureau
2560 NW Medical Park Drive, Roseburg, OR 97471
Phone: (541) 673-5571 Fax: (541) 672-6381
Email: info@mwlsqb.com

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

Northwest Log Scalers Inc.
6137 NE 63rd St, Vancouver, WA, 98661
Phone: (360) 553-7212 ext. 4 Fax: (360) 553-7213
Email: info@nwlogscalers.com

- (6) 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) 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 (13).
- (13) Use this section to list any special instructions or the reason for any revisions in section item (1).
- (14) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form. Signatures not required on revisions.

PART III: EXHIBITS

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
12 feet	feet(*)	N to O	0+00 to 10+17	Outsloped (**)
12 feet	feet(*)	E to D	0+00 to 5+00	Outsloped (**)
12 feet	feet(*)	R to S	0+00 to 6+00	Outsloped (**)
feet	feet(*)	to	to	(**)

(*Surfaced width only applies if "WINTER AND WET WEATHER OPTION" is chosen.)

(**Drainage shall be changed to Ditch if "WINTER AND WET WEATHER OPTION" is chosen.)

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

CLEARING CLASSIFICATION.

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

Improvement and Maintenance- The "Road Brushing Specifications" in Exhibit D, T-842 shall apply.

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 cut slopes shall be removed. Grubbing debris shall not be placed or permitted to remain in or under any road embankment sections.

GRUBBING CLASSIFICATION.

Construction - from the top of the cut slope to the toe of the fill.

Improvements - 5 feet back from the shoulder of the subgrade or ditch, whichever is widest, or as marked in the field.

CLEARING AND GRUBBING DISPOSAL. Clearing and grubbing debris shall not be placed or permitted to remain in or under any road embankment sections. Clearing and grubbing debris shall be left in a stable location, and not left lodged against standing trees. Clearing and grubbing debris may be scattered through openings in the timber outside of the cleared right-of-way, except for the following areas where debris shall be fully contained and hauled to a designated waste area:

- Where end-haul is required
- On side slopes exceeding 50 percent
- On unstable areas
- In any stream channel (Type F, N or D) or where material may enter the stream channel.

Clearing, grubbing, and associated disposal shall be completed prior to subgrade approval.

EXHIBIT D

State Timber Sale Contract
SW-341-2025-GF7524-01
Conan GNA

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 (55) percent, the road shall be on full bench for the width specified. Full-bench construction (no sidecast fill) will be used on steep slopes to avoid sidecast failure.

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. CONTRACTOR shall obtain advanced 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, outsloped, or insloped at 4 to 6 percent as shown on the "Forest Road Specifications" table in this Exhibit.

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.

SLOPES

Solid Rock

Cut Slopes

Vertical to $\frac{1}{4}$:1

Fractured Rock

$(\frac{1}{2})$:1

Soil - side slopes 50% and over

$(\frac{3}{4})$:1

Fill Slopes

$(1\frac{1}{2})$:1

Soil - side slopes less than 50%

(1) :1

$(1\frac{1}{2})$:1

(Top of cut slope shall be rounded.)

LANDINGS. Landings shall be constructed as posted in the field, no less than (50) feet wide and no more than (70) feet wide unless otherwise approved by STATE. Surface is to be (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 D, T835, and blocked from vehicular traffic prior to (October 31), annually and as directed by STATE.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

- (1) Roadside Brushing. Conduct roadside brushing as specified in Exhibit D and T-842.
- (2) Bank Slough Removal. Excavate all bank slough. Bank slough material shall not be pulled across existing surfacing rock. Excavated material shall be hauled to the designated waste areas as marked in the field and/or designated on Exhibit A.
- (3) Drainage Ditches. When cleaning ditch lines minimize disturbance to vegetation lining the ditch lines. Clean areas of ditch only where water drainage is being impeded. 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.
- (4) Instream Culvert Replacement. During construction, stream water would be diverted around the work site and back into the channel. Newly installed culverts will meet 100 year flow (Q100) on perennial streams.
- (5) Relief Culvert locations will be approved by ODF before installation to ensure that water is routed only onto stable soil/vegetation. Ditch relief culverts will be placed between 100 and 200 feet from crossing in a location that maximizes the sediment filtering and infiltration capacity of the forest floor.
- (6) Waste areas shall be uniformly sloped and compacted for drainage. During construction, reconstruction or maintenance activities, soil and vegetative material shall be placed in ODF approved sites.
- (7) All disturbed sites related to reconstruction and or maintenance such as waste area sites and culvert replacements will require erosion control methods such as straw bales, erosion control fences, waterbarring, grass seeding or hydromulching. Applied erosion control measures associated with road work will be inspected for functionality and maintained during operations as determined by the Sale Administer.
- (6) Temporary roads still needed to complete project implementation would be winterized with all erosion control measures in place and barricaded or blocked. Erosion control, at a minimum, would include water bars and ground cover using slash, weed free straw or wood chips (greater than 70% coverage).
- (7) Landing and temporary roads shall be designed and used to minimize impacts to soil, streams, and riparian areas.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS- BLADING: Derived from USFS T-811 Blading instructions.

- (1) Timing - Perform surface blading during the contract period as often as needed to provide conditions stated for the maintenance level of the road.
- (2) Ditches - Do not pull ditches. When cleaning ditch lines minimize disturbance to vegetation lining the ditch lines. Clean areas of ditch only where water drainage is being impeded.
- (3) Blade and shape (before, during, and after sale) the existing traveled way and shoulders, including turnouts, to produce a surface which is uniform, consistent to grade, and crowned or cross-sloped as indicated by the character of the existing surface, unless otherwise shown to at least $\frac{1}{2}$ inch per 1 foot of width, but not more than $\frac{3}{4}$ inch per 1 foot of width. Thoroughly loosen surfacing material to no less than 2 inches depth or the depth of potholes or corrugations. Scarification to facilitate cutting to the full depth of potholes or corrugations may be elected, but will be considered incidental to blading. Do not scarify to a depth that will cause contamination of the surfacing.
- (4) Apply water during blading when sufficient moisture is not present to prevent segregation. Supply, haul, and apply water. Pumping of water for use in road maintenance must allow for the retention of at least 90% of the original stream flow below the pumping site.
- (5) Establish a blading pattern which provides a uniform driving surface, retains the surfacing on the roadbed, and provides a thorough mixing of the materials within the completed surface width. Upon final blading, no disturbed rock shall protrude more than 2 inches above the adjacent surface unless otherwise provided in the contract. Remove and place outside the roadbed, material not meeting this dimension so as not to obstruct drainage ways or structures. This material may be scattered off the roadbed if there is free drainage.
- (6) Undercutting - Undercutting roadway back slope is not permitted.
- (7) At intersections, blade the roadbeds of side roads which are not closed or restricted from vehicular use to ensure smooth transitions.
- (8) Berms - Maintain existing berms to the condition of adjacent segments. Do not create new berms.
- (9) Smooth Blading - Smooth blading may be used as an interim measure to remove loose surfacing material from the wheel paths, and store removed materials in a recoverable windrow, until blade processing as described in this section is feasible.
- (10) Watering will not be required for smooth blading. Accomplish smooth blading without distorting the existing cross-slope or crown of the traveled way.
- (11) Move and store loose surfacing materials on the high side of super-elevated curves and sections with uniform inslope or outslope. In crowned sections, store the material on either or both sides as elected. Windrow and place stored materials to provide not less than 12 feet of smooth traveled way on one-lane segments, or 20 feet of smooth traveled way on two-lane segments, or segments with turnouts. Cut holes through windrows, which may collect water on the road, for drainage at least every 500 feet.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

- (12) Subgrade Preparation and Application of Surfacing Rock.
- (a) Complete culvert installations, drainage ditches, fill reconstruction, ditchouts, and other specified work prior to the application of new surfacing rock.
 - (b) Cut out all potholes and/or washboard sections from the existing surfacing.
 - (c) Apply required patching and leveling rock, as directed by STATE.
 - (d) Process (grade and mix) the existing surface and added base rock. Provide for a crown, outslope, or inslope of 4 to 6 percent, and compact in accordance to the "Compaction and Processing Requirements" in this Exhibit D.
 - (e) Upon completion of above required work, apply, process, and compact surfacing rock in accordance to this Exhibit D at the specific locations listed below.

Road Points Map for reference:

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

<u>Road</u>	<u>Segment</u>	<u>Work Description</u> -
Spurs extend from 64 road, 190, 200, 215, 220	B-C, D-E, G-H, I-J, K-L, M-O, P-S	Grubbing for Road Reconstruction. Road segments with pole size and larger timber will need stumps pulled up with an excavator and place on the side of the road outside of the fill slope on the downhill side. Stumps shall be placed in a stable location. Stumps shall be cut from the merchantable timber. Blade a smooth running surface. Reconstruct temp road on old road grade, cut, grub, and blade as necessary. Reconstruct temporary road by clearing and grubbing trees in ROW. Follow flagline for center of road ensuring a road grade less than 16%. Blade natural surface to 12' running surface. Close Road upon completion. Subsoil roads and waterbar for drainage. Cover road surface with slash for approximately 70% coverage.
220 Extension	N-O	Grub and Blade as above: From station 0+00 at point N to point 3+00 will be new temp road construction through timber. From Point 3+00 to 10+17 Point O will be flat ridge line to blade with little or no timber.
All Haul routes	A-S	Brush Road ROW 4' below fillslope and 4' from center of ditch up cutslope. Limb branches for 15' high clearance to allow log truck hauling. See Exhibit F. (Exhibit D, T842 for diagram) Do not pull the ditch lines. Grade Road as necessary before, during and after logging as described in road maintenance Section 2130 and Exhibit D of contract in coordination with other operators. Spot Rock Road with 126 yards of 1 1/2"-0 rock.

EXHIBIT D
ROAD SURFACING

TYPE OF ROCK	SIZE OF ROCK	COMPACTED DEPTH	Road	Road Length for Rock	APPROX. TOTAL TRUCK MEASURE (VOLUME)
Gray	1 1/2" - 0	Spot Rock approximately 2"	64 Road	Haul Road is 8.2 Miles	126 (CY)
Gray	1 1/2" - 0	2" Depth	210	500'	50 (CY)

Rock must be obtained from an approved weed free quarry.

EXHIBIT D

ROCK ACCOUNTABILITY

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

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

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

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

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 the prior month must be submitted weekly.

Exhibit D – USE OF ROADS BY PURCHASER. C5.12#

Purchaser's use of existing roads identified on Sale Area Map by the following codes is prohibited or subject to restrictive limitations, unless agreed otherwise:

<u>Code</u>	<u>Use Limitations</u>
X	Hauling prohibited
R	Hauling restricted
U	Unsuitable for hauling prior to completion of agreed reconstruction
P	Use prohibited
A	Public use restriction
W	Regulation waiver

Roads coded A will be signed by Forest Service to inform the public of use restrictions. Purchaser's use of roads coded R, A, or W shall be in accordance with the following restrictions:

Restricted Road List (All Units Haul)

Description of Restrictions:

***R - Due to limitation in structural capacity, use of the following roads shall be limited to periods of dry weather. The Normal operating season is June 1 to October 31. No haul during freeze thaw conditions.**

Road Number	Road Name or Description	Termini		Map Legend	Description of Restrictions*
		From	To		
All	All natural surface roads within the sale area.	All	All	R	As stated above*
6400, 050, 190, 200, 210, 215, 220,	Rocked Mainline	A P B	S Q T	R	As stated above*
	Other			R	As stated above*

The roads authorized for use are subject to the following provisions:

1. The current Rogue River-Siskiyou National Forest Road Rules Document (8/30/2012) is applicable to all commercial road users. This document is available for inspection at the Rogue River-Siskiyou National Forest Supervisor's Offices.
2. Federal Regulations contained in 36 CFR 261.12: These regulations prohibit use of vehicles or equipment in excess of State legal highway loads or posted limits without valid Forest Service overload permits, damaging a road while using it, or blocking a road open to use by others, except as may otherwise be provided in the contract. Submit requests for any proposed overload permit at least 30 days in advance of planned use of overload.

Exhibit D – ROAD MAINTENANCE REQUIREMENTS. C5.31#

Purchaser shall maintain roads in accordance with the following Contract Road Maintenance Requirements Summary:

Contract Road Maintenance Requirements Summary

- 1 = Prehaul,
2 = During Operations,
3 = After Haul

Road	Termini		Miles	ML	Road Maintenance Applicable Road											
	From	To			T811	T812	T813	T831	T832	T834	T838	T839	T842	T851	T854	T891
6400	A	K	2.9		(2, 3)	(2)	(2)			(1, 2, 3)	(1)		(1)	(2)	(2)	(2)
temp	B	C	0.4		(2, 3)						(1)	(1)	(1)	(2)	(2)	
050	B	T	0.3		(2, 3)											
temp	D	E	0.4		(2, 3)						(1)	(1)	(1)	(2)	(2)	
190	F	I	0.3		(2, 3)		(2)			(1, 2, 3)	(1)		(1)	(2)	(2)	(2)
temp	G	H	0.1		(2, 3)						(1)	(1)	(1)	(2)	(2)	
temp	I	J	0.1		(2, 3)						(1)	(1)	(1)	(2)	(2)	
temp	K	L	0.1		(2, 3)						(1)	(1)	(1)	(2)	(2)	
200	K	M	0.5		(2, 3)	(2)	(2)			(1, 2, 3)	(1)		(1)	(2)	(2)	(2)
220	M	O	1.1		(2, 3)					(1, 2, 3)	(1)		(1)	(2)	(2)	
210	M	Q	1.8		(2, 3)	(2)	(2)			(1, 2, 3)	(1)		(1)	(2)	(2)	(2)
215	P	S	0.7		(2, 3)					(1, 2, 3)	(1)		(1)	(2)	(2)	

T-851 Logging Out, T-854 Treatment and Disposal of Danger Trees – Occasional occurrences on these roads due to windfall and drought. T-834 Drainage Structure Maintenance, as needed where culverts, ditches, road slopes needs to be maintained.

Description of work required by the above listed T-specs is shown in the following ROAD MAINTENANCE REQUIREMENTS SPECIFICATION table, and included in the timber sale contract.

T Specification Descriptions

T-803 Snow Removal	T-838 Maintenance for High Clearance Vehicle Use
T-811 Blading	T-839 Maintenance for Project Use
T-812 Dust Abatement	T-842 Cutting Roadway Vegetation
T-813 Surfacing	T-851 Logging Out
T-831 Ditch Maintenance	T-854 Treatment and Disposal of Danger Trees
T-832 Remove and End Haul Materials	T-891 Water Supply and Watering
T-834 Drainage Structure Maintenance	

General Notes: All structures shall be cleaned and maintained. Structures to include bridges, culverts, catch basins, fences, gates, cattle guards and other structure

Sale Name: Conan GNA

Exhibit D - ROAD MAINTENANCE REQUIREMENTS SPECIFICATION TABLE PURSUANT TO
C5.31# - ROAD MAINTENANCE REQUIREMENTS (07/2001)

1	2	3		4	5	6		7	8	9	
Road No.	Special Project Specification	Travel Way		Brush And Log Out	Surfacing	Dust Abatement		Seasonal Maintenance	Snow Removal	Post Haul	
		Width	X Slope			Product	Applic Rate			Block	Treat
6400 Rd along haul route	See Above	Existing Width	As Is	4' R & L OPT	Aggregate Grading	Water or Lignin	0.5				PR
050, 190, 200, 210, 215, 220	See Above	Existing Width	As Is	4' R & L OPT	Aggregate Grading	Water or Lignin	0.5				PR
Temp Roads	See Above	Existing Width	As Is	2' R & L OPT				Waterbar and decommission when complete		Yes	PR
Existing Width = Purchaser shall maintain the traveled way to the width existing upon entry, or at the completion of Specified Road work. R and L = Purchaser shall remove brush for specified width on either or both the right (R) side or left (L) side of road. Aggregate Grading = Purchaser shall place surfacing on roads listed according to the grading indicated. PR = Work is Purchaser's Responsibility to perform.											

Road Maintenance T-Specifications

for

**Conan GNA Timber Sale
SW-341-2025-GF7524-01**

1/14/2025

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

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EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 800 SPECIFICATION DEFINITIONS

Wherever the following terms or pronouns are used in Specification T-800 the intent and meaning shall be interpreted as follows:

- 800-1.1 Agreement: Maintenance projects require a mutually acceptable method to resolve the problems which arise when incompatible situations arise between drawings and specifications and actual conditions on the ground to allow orderly and satisfactory progress of the maintenance.
- These specifications have been developed in anticipation of those problem areas and have provided that such changes will be by Agreement.
- It is intended that drawings and specifications will govern unless "on-the-ground" conditions warrant otherwise, when specifications call for "Agreement", "agreed", or "approval" such Agreement or approval shall be promptly confirmed in writing.
- 800-1.2 Annual Road Maintenance Plan: A plan prepared by various users of one or several roads. The plan is an Agreement on maintenance responsibilities to be performed for the coming year.
- 800-1.3 Base Course: Material used to reinforce subgrade or, as shown on drawings, placed on subgrade to distribute wheel loads.
- 800-1.4 Berm: Curb or dike constructed to prevent Roadway runoff water from discharging onto embankment slope.
- 800-1.5 Borrow: Select Material taken from designated borrow sites.
- 800-1.6 Crown, Inslope, and Outslope: The cross slope of the Traveled Way to aid in drainage and traffic maneuverability.
- 800-1.7 Culverts: A conduit or passageway under a road, trail, or other obstruction. A culvert differs from a bridge in that it is usually entirely below the elevation of the Traveled Way.
- 800-1.8 Drainage Dip: A dip in the Traveled Way which intercepts surface runoff and diverts the water off the Traveled Way. A Drainage Dip does not block the movement of traffic.
- 800-1.9 Drainage Structures: Manufactured structures which control the runoff of water from the Roadway including Inslope, overside drains, aprons, flumes, down drains, downpipes, and the like.
- 800-1.10 Dust Abatement Plan: A table which lists the road, dust palliative, application rates, and estimated number of subsequent applications.
- 800-1.11 Lead-off Ditches: A ditch used to transmit water from a Drainage Structure or Drainage Dip outlet to the natural drainage area.
- 800-1.12 Material: Any substances specified for use in the performance of the work.
- 800-1.13 Prehaul Maintenance: Road maintenance work which the Purchaser determines must be accomplished to maintain the roads to a satisfactory condition commensurate with the Purchaser's use provided Purchaser's Operations do not damage improvements under B6.22 or National Forest resources and hauling can be done safely. This work will be shown in the Annual Road Maintenance Plan as provided in C/CT5.4.

Prehaul Maintenance work the Purchaser elects to perform will be in compliance with the Road Maintenance T-Specifications.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

- 800-1.14 Roadbed: The portion of a road between the intersection of Subgrade and side slopes, excluding that portion of the ditch below Subgrade.
- 800-1.15 Road Maintenance Plan: A table which shows applicable road maintenance specifications to be performed by Purchaser on specific roads.
- 800-1.16 Roadside: A general term denoting the area adjoining the outer edge of the Roadway.
- 800-1.17 Roadway: The portion of a road within the limits of excavation and embankment.
- 800-1.18 Shoulder: That portion of Roadway contiguous with Traveled Way for accommodation of stopped vehicles, for emergency use, and lateral support of base and Surface Course, if any.
- 800-1.19 Slide: A concentrated deposit of Materials from above or on back slope extending onto the Traveled Way or Shoulders, whether caused by mass land movements or accumulated raveling.
- 800-1.20 Slough: Material eroded from the back slope which partially or completely blocks the ditch, but does not encroach on the Traveled Way so as to block passage of traffic.
- 800-1.21 Slump: A localized portion of the Roadbed which has slipped or otherwise become lower than that of the adjacent Roadbed and constitutes a hazard to traffic.
- 800-1.22 Special Project Specifications: Specifications which detail conditions and requirements peculiar to the individual project.
- 800-1.23 Subgrade: Top surface of Roadbed upon which Base Course or Surface Course is constructed. For roads without Base Course or Surface Course, that portion of Roadbed prepared as the finished wearing surface.
- 800-1.24 Surface Course: The Material placed on Base Course or Subgrade primarily to resist abrasion and the effects of climate. Surface Course may be referred to as surfacing.
- 800-1.25 Surface Treatment Plan: A table which lists the roads and surface treatments to be applied.
- 800-1.26 Traveled Way: That portion of Roadway, excluding Shoulders, used for the movement of vehicles.
- 800-1.27 Turnouts: That portion of the Traveled Way constructed as additional width on single lane roads to allow for safe passing of vehicles.
- 800-1.28 Water Source: A place designated on the Road Maintenance Map for acquiring water for road maintenance purposes.
- 800-1.29 Water bar: A dip in the Roadbed which intercepts surface runoff and diverts the water off the Roadway. A Water bar is not designed to be traversable by logging trucks._

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T-803 - SNOW REMOVAL (05/07)

803.01 Description

This Section provides for removal of snow from roads to facilitate logging operations and safe use.

803.02 Maintenance Requirements

- A. Erect signs required by the Sign Plan in the SUPPLEMENTAL SPECIFICATIONS.
- B. Perform work in a manner to preserve and protect roads and appurtenances, and prevent erosion damage to roads, streams, and other Forest values.
- C. Do not undercut banks. Do not blade gravel or other surfacing material off the road.
- D. Keep roadbed drainage ditches, drain dips, and culverts functional when needed during operations and upon completion of operations.
- E. Control snow removal to identify the usable traveled way having roadbed support. Reshape over-width plowing as necessary to define the usable width.
- F. Space, construct, and maintain drainage holes in the dike of snow or berm caused by snow removal operations. Place drain holes to obtain surface drainage without discharging on erodible fills.
- G. Close roads to wheeled vehicles at times and in the manner specified in C(T)5.12 or the Road Rules document.
- H. Upon seasonal completion of Purchaser's Operations, effectively block the road by a snow barricade, unless otherwise approved by the Contracting Officer.
- I. Remove snow for either public access or project use as established in the SUPPLEMENTAL SPECIFICATIONS and meet the following requirements:
 - a. Removal for Public Access (Method JU) - Remove snow from all of the traveled way; includes turnouts, for safe and efficient use for both timber transportation and the public. Remove intruding windfalls, debris, or slough and slide material for the full width of the traveled way and deposit out of drainage's at locations designated by the Contracting Officer.
 - b. Removal for Project Use (Method TS) - Remove snow from all or part of the traveled way; includes sufficient turnouts for safe and efficient use for timber transportation and to protect the road. Remove intruding windfalls, debris or slough and slide material and dispose of only as necessary to provide passage for timber transportation. Removed materials may be deposited off the traveled way or outside the traveled way at locations designated by the Contracting Officer.
- J. When directed by the Contracting Officer, replace in kind, within sixty (60) days after the start of Normal Operating Season, any surfacing material which has been bladed off the road, unless otherwise agreed. Contracting Officer will notify Purchaser in writing as to the cubic yard equivalent of bladed off material by the start of the normal operating season.

803.03 Equipment

Purchaser may use any type of equipment to remove snow, providing:

- a) Type or use of equipment is not restricted in C (T) 5.12 or Road Rules document.
- b) Equipment is of the size and type commonly used to remove snow and will not cause damage to the road.
- c) The use of plows or dozers to remove snow requires written approval by the Contracting Officer. Equip plows or dozers with shoes or runners to keep the dozer blade a minimum of 2 inches above the road surface unless otherwise approved by the Contractor Officer.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

803.04 Ice Control

Ice control may be performed by Purchaser when approved by the Contracting Officer in writing. Such approval will include ice control materials, application rates, and any specific requirements of use.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 811 BLADING (10/07)

811.01 Description

This work consists of surface blading the traveled way to a condition that facilitates traffic and provides proper drainage. Blading includes shaping the crown or slope of travel way, berms, and drainage dips in accordance with this specification. Compaction is required when shown on the ROAD LISTING.

811.02 Maintenance Requirements

- A. Timing - Perform surface blading during the contract period as often as needed to provide conditions stated for the maintenance level of the road.
- B. General
 - 1. Blade and shape the existing traveled way and shoulders, including turnouts, to produce a surface which is uniform, consistent to grade, and crowned or cross-sloped as indicated by the character of the existing surface, unless otherwise shown in the ROAD LISTING, to at least $\frac{1}{2}$ inch per 1 foot of width, but not more than $\frac{3}{4}$ inch per 1 foot of width. Thoroughly loosen surfacing material to no less than 2 inches depth or the depth of potholes or corrugations. Scarification to facilitate cutting to the full depth of potholes or corrugations may be elected, but will be considered incidental to blading. Do not scarify to a depth that will cause contamination of the surfacing.
 - 2. Apply water during blading when sufficient moisture is not present to prevent segregation. Supply, haul, and apply water in accordance with Section T-891.
 - 3. Shape existing native rock or aggregate surfaced drainage dips to divert surface runoff to existing outlet devices, ditches, or discharge locations.
 - 4. Establish a blading pattern which provides a uniform driving surface, retains the surfacing on the roadbed, and provides a thorough mixing of the materials within the completed surface width. Upon final blading, no disturbed rock shall protrude more than 2 inches above the adjacent surface unless otherwise provided in the contract. Remove and place outside the roadbed, material not meeting this dimension so as not to obstruct drainage ways or structures. This material may be scattered off the roadbed if there is free drainage.
 - 5. Where DESIGNATED ON THE GROUND, included in the ROAD LISTING, SHOWN ON THE DRAWINGS or as ordered by the Contracting Officer invasive species of concern prevention practices shall be followed as listed below.

Invasive Species of Concern Prevention Practices
There are no known areas of concern. Prior to beginning blading on Forest Service Roads, Forest Service will identify with flagging all areas of concern.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

C. Routine Blading

1. Conform to the dimensions SHOWN ON THE DRAWINGS or designated in the SUPPLEMENTAL SPECIFICATIONS upon completion of blading.
2. Shape roadbed width in excess of the dimensions shown only as needed to provide drainage away from the traveled way. Do not remove established grasses and other vegetation from the excess width except as incidental to providing drainage or unless otherwise provided in the contract.

D. Compaction

Roads requiring compaction will be included in the ROAD LISTING. Unless Compaction Method B is designated in the ROAD LISTING, all traveled ways requiring compaction may be compacted by Method A. Compaction shall commence immediately following blading.

Compaction methods are:

Compaction Method A: Breaking track while operating equipment on the traveled way.

Compaction Method B: 7-10 ton pneumatic, steel, or equivalent vibratory roller, operated to cover the full width two (2) times.

E. Undercutting - Undercutting roadway back slope is not permitted.

F. Intersections

- 1 At intersections, blade the roadbeds of side roads which are not closed or restricted from vehicular use to ensure smooth transitions.
- 2 Signing, cross ditching in the road surface (traveled way), earth berms, or other devices placed to discourage or eliminate use by passenger cars, are field evidence of road closure or restriction. Roads listed for work under Sections T-835, T-836, T-838, and T-839 shall be considered restricted.
- 3 Side roads listed for work under this Section are not restricted.

G. Cleaning of Structures - Do not allow materials resulting from work under this Section to remain on or in structures, such as bridges, culverts, cattle guards, or drainage dips.

H. Berms - Maintain existing berms to the condition of adjacent segments. Do not create new berms.

I. Smooth Blading - Smooth blading may be used as an interim measure to remove loose surfacing material from the wheel paths, and store removed materials in a recoverable windrow, until blade processing as described in this section is feasible.

Watering will not be required for smooth blading. Accomplish smooth blading without distorting the existing cross-slope or crown of the traveled way.

Move and store loose surfacing materials on the high side of super-elevated curves and sections with uniform inslope or outslope. In crowned sections, store the material on either or both sides as elected. Windrow and place stored materials to provide not less than 12 feet of smooth traveled way on one-lane segments, or 20 feet of smooth traveled way on two-lane segments, or segments with turnouts. Cut holes through windrows, which may collect water on the road, for drainage at least every 500 feet.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

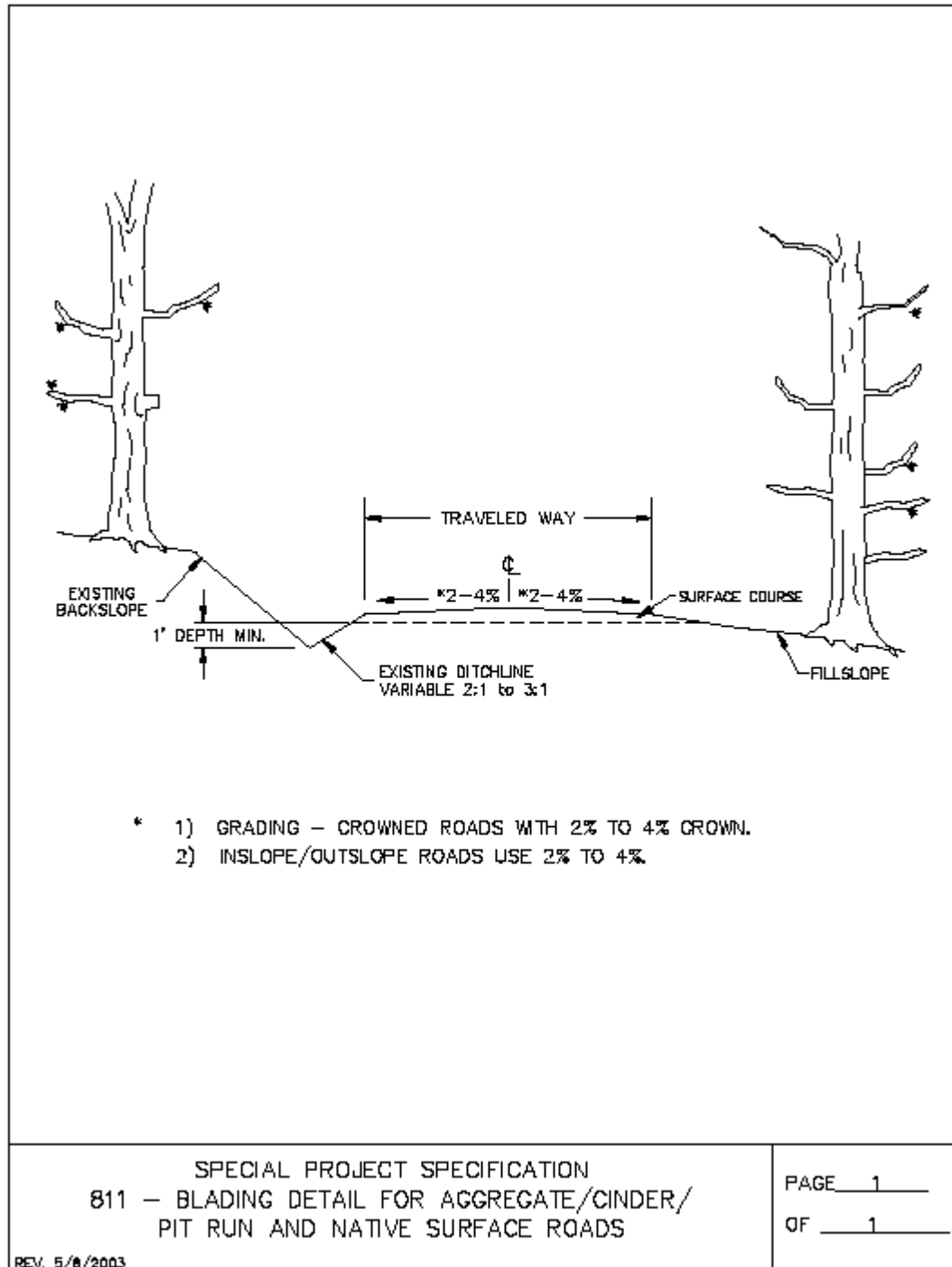


EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 812 DUST ABATEMENT (05/07)

812.01 Description

This work consists of applying dust palliatives on roads shown in the ROAD LISTING.

812.02 Materials

The dust palliative materials are shown in the ROAD LISTING, unless shown as Optional for Purchaser's election. If Optional is shown then the Purchaser may use any of the products listed below. Dust palliative materials shall meet the following requirements:

- A. Water (H₂O) will be obtained from sources SHOWN ON THE DRAWINGS or listed in the SUPPLEMENTAL SPECIFICATIONS to Section T-891 Water Supply, unless otherwise approved by the Contracting Officer.
- B. Lignin Sulfonate (LIG S) Provide certification that the material meets the requirements of Subsection 725.20 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP-03)" and the Forest Service Supplemental Specification 725.20.
- C. Magnesium Chloride (MG CL₂) Provide certification that that the material meets the requirements of Subsection 725.02 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP03) " and the Forest Service Supplemental Specification 725.02.
- D. Calcium Chloride Brine (CA CL₂B). Provide certification that the material meets the requirements of Subsection 725.02 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP03) " and the Forest Service Supplemental Specification 725.02..
- E. Calcium Chloride Flake (CA CL₂F). Provide certification that that the material meets the requirements of Subsection 725.02 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP03) " and the Forest Service Supplemental Specification 725.02.
- F. Bituminous dust palliatives. Manufacture materials specifically for dust abatement purposes which conform to the requirements of Section T-892 for each listed road in the ROAD LISTING.

812.03 Methods

As shown in the SUPPLEMENTAL SPECIFICATIONS, Purchaser may utilize a variety of methods to decrease or eliminate the need for dust abatement: **reducing the number of loads, changing the time of day the loads are hauled, reducing the speed of the vehicles, increasing the spacing between vehicles, etc.**

812.04 Equipment

- A. Design, equip, and operate application equipment for spreading dust palliatives so that the material is uniformly applied at the rate and traveled way widths shown in the ROAD LISTING.
- B. For bituminous palliatives provide equipment that heats and applies the bituminous material. Provide a bituminous distributor that is self-powered and mounted on pneumatic tires and equipped with a pump and circulating spray bar, a tachometer, pressure gauges, accurate volume measuring devices such as visual volume dial or gauge calibrated to the tank, and a thermometer. Provide equipment which is a standard commercial type of proven performance.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

- C. Accomplish dilution of dust palliatives within the application vehicle with the water source protected from contamination. Circulate the resulting mixture at least five (5) minutes to ensure uniform mixing prior to application.

812.05 Maintenance Requirements

- A. Limit water applications to abatement for hauling vehicles and provide at a frequency and rate which controls dust such that vehicle tail lights and turn signals remain visible. Vary rates of application as needed but remain low enough to avoid forming rivulets. Accomplish the abatement by sufficient frequency of application without saturating and softening the traveled way. Compacted or glazed road surface or wheel tracks may be loosened as needed for water penetration.
- B. Apply all other dust palliatives at the rates and times agreeable to the Contracting Officer. The ROAD LISTING shows the expected average application rate and may be varied to meet field conditions. Lignin Sulfonate, Magnesium Chloride, and Calcium Chloride Brine are listed as liters per square meter of the undiluted product at fifty (50), thirty-three (33), and thirty-eight (38) percent respectively. Calcium Chloride Flake is listed in Kilograms per square meter at seventy-seven (77) percent concentration.
- C. Apply bituminous dust palliatives only when the surface to be treated contains sufficient moisture to obtain uniform distribution of the dust palliative unless noted differently in the SUPPLEMENTAL SPECIFICATIONS.
- D. Prior to initial application, when needed, the road will be bladed and shaped under Section T-811, Blading.
- E. Required subsequent applications may be applied to the existing road surface without blading.
- F. Dust palliatives will not be applied in a manner that spatters or mars adjacent structures or trees, or placed on or across cattleguards or bridges. Discharge dust abatement material only on roads approved by the Contracting Officer.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 813 SURFACING (10/07)

813.01 Description

This work consists of placing surface aggregate as DESIGNATED ON THE GROUND, or as ordered by the Contracting Officer. It includes preparing the area, furnishing, hauling, and placing all necessary materials and other work necessary to blend with the adjacent road cross section.

813.02 Materials

- A. Materials will be Government-furnished when stated in the supplemental specifications.
- B. Materials furnished by the Purchaser shall conform to the gradation and quality requirements of Section 703 of the "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-03 U.S. Customary Units" and FS supplements to the FP-03.
- C. All materials transported onto National Forest System land shall be free of invasive species of concern. Written documentation of methods used to determine the invasive species of concern free status of any and all materials furnished by the Purchaser shall be submitted to the Contracting Officer before transport of any materials onto National Forest System land.

The Contracting Officer shall have 5 days, excluding weekends and Federal holidays, to review the methods and inspect the materials after the required written documentation is provided by the Purchaser. After satisfactory review and inspection or after such 5 day period, the Purchaser may transport the material onto National Forest System land.

Material or methods appropriate for establishing invasive species of concern free status for the particular invasive species of concern are listed below.

Invasive Species of Concern and Acceptable Methods specific to this project:

Invasive Species of Concern	Acceptable Methods
Contact the Forest Service for list of Concerned Species.	Contact the Forest Service for list of Concerned Species and methods for mitigation measures to be taken prior to construction activities.

813.03 Maintenance Requirements

- A. Thoroughly loosen the area to be surfaced to a minimum depth of 1 inch prior to placement of aggregate.
- B. Mixing and Placing

When scheduled coincidentally with work under Section T-811, and included in the SUPPLEMENTAL SPECIFICATIONS, mix surfacing and existing aggregate with water until a uniform mixture is obtained prior to final shaping and compaction.

Otherwise, spread the material on the prepared area in layers no more than 4 inches in depth. When more than one (1) layer is required, shape and compact each layer before the succeeding layer is placed. Upon completion, the surfacing shall reasonably conform to the adjacent cross section and provide smooth transitions in the road profile.

Compaction Methods

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

Compaction Method A: Breaking track while operating equipment on the traveled way.

Compaction Method B: 7-10 ton pneumatic, steel, or equivalent vibratory roller, operated to cover the full width two (2) times.

Either Method A or B may be used unless Method B is designated in the ROAD LISTING.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 831 DITCH MAINTENANCE (10/07)

831.01 Description

This Section provides for routine maintenance of various types of ditches to provide a waterway which is unobstructed, as shown on the ROAD LISTING or DESIGNATED ON THE GROUND.

831.02 Maintenance Requirements

- A. Maintain ditches by removing rock, soil, wood, and other materials. Maintained ditches shall function to meet the intent of the original design.
- B. Undercutting back slopes during removal operations is not permitted.
- C. Suitable material up to 4 inches in greatest dimension removed from the ditches may be blended into existing native road surface and shoulder or placed in designated berm.
- D. Do not blend material from ditch cleaning operations into aggregate surfaced roads. Do not blade material across aggregate or bituminous surfaced roads, unless approved in writing by the Contracting Officer.
- E. Haul material in excess of 831.02 D or subject to 831.02 E to a designated waste area under Section T-832. Remove excess materials temporarily stored on the ditch slope or edge of the shoulder daily.
- F. Remove limbs and wood chunks in excess of 12 inches in length or 3 inches in diameter from ditches and place outside the roadway.
- G. Clean paved surfaces of all materials resulting from ditch maintenance work.
- H. Shape lead-off ditches to drain away from the traveled way.
- I. Where DESIGNATED ON THE GROUND, included in the ROAD LISTING, SHOWN ON THE DRAWINGS or as ordered by the Contracting Officer invasive species of concern prevention practices shall be followed as listed below.

Invasive Species of Concern Prevention Practices
There are no known areas of concern. Prior to beginning blading on Forest Service Roads, Forest Service will identify with flagging all areas of concern.

T - 832 REMOVE AND END HAUL MATERIALS (05/07)

832.01 Description

Work consists of loading, hauling, and placing of slide, slough, or excess materials such as rock, soil, vegetation, and other materials to designated disposal sites.

832.02 Maintenance Requirements

- A. Remove, end haul, and dispose of excess materials generated by work under other Sections of this contract.
- B. Remove the slide and slough materials in the area extending approximately 6 feet vertically above the road surface and not more than 3 feet down slope from the roadbed. Dispose of material at designated sites as SHOWN ON THE DRAWINGS, identified in SUPPLEMENTAL SPECIFICATIONS, or as ordered by the Contracting Officer.

Reshape the slope which generated the slide material as nearly as practical to its original condition by equipment operating from road surface. Reshaping of roadside ditches in slide area shall be in accordance with Section T-831.
- C. When approved by the Contracting Officer, fill slumps by compacting selected materials into roadway depressions. Compaction is by Method 2.
- D. Place all materials in disposal sites as specified in the SUPPLEMENTAL SPECIFICATIONS, as SHOWN ON THE DRAWINGS, or as ordered by the Contracting Officer.
 - 1. Method 1 - Side Casting and End Dumping. Material may be placed by side casting and end dumping. Where materials include large rocks, provide a solid fill by working smaller pieces and fines into voids. Shape the finished surfaces to drain.
 - 2. Method 2 Layer Placement - Step or roughen surfaces on which materials are to be placed prior to placing any material. Place materials in approximately horizontal layers no more than 12 inches thick. Compact each layer by operating hauling and spreading equipment over the full width of each layer.
- E. Repair any damage to existing aggregate or pavement surfaces.

Supplemental Specification T-832

832.02 Maintenance Requirements

B. The following are disposal sites for each road as designate by the FSR

Road Number	MP
All Roads	As designated

D. Disposal method 1 shall be used at all disposal sites except on disposal sites listed below.

Road Number	MP

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 834 DRAINAGE STRUCTURE MAINTENANCE (10/07)

834.01 Description

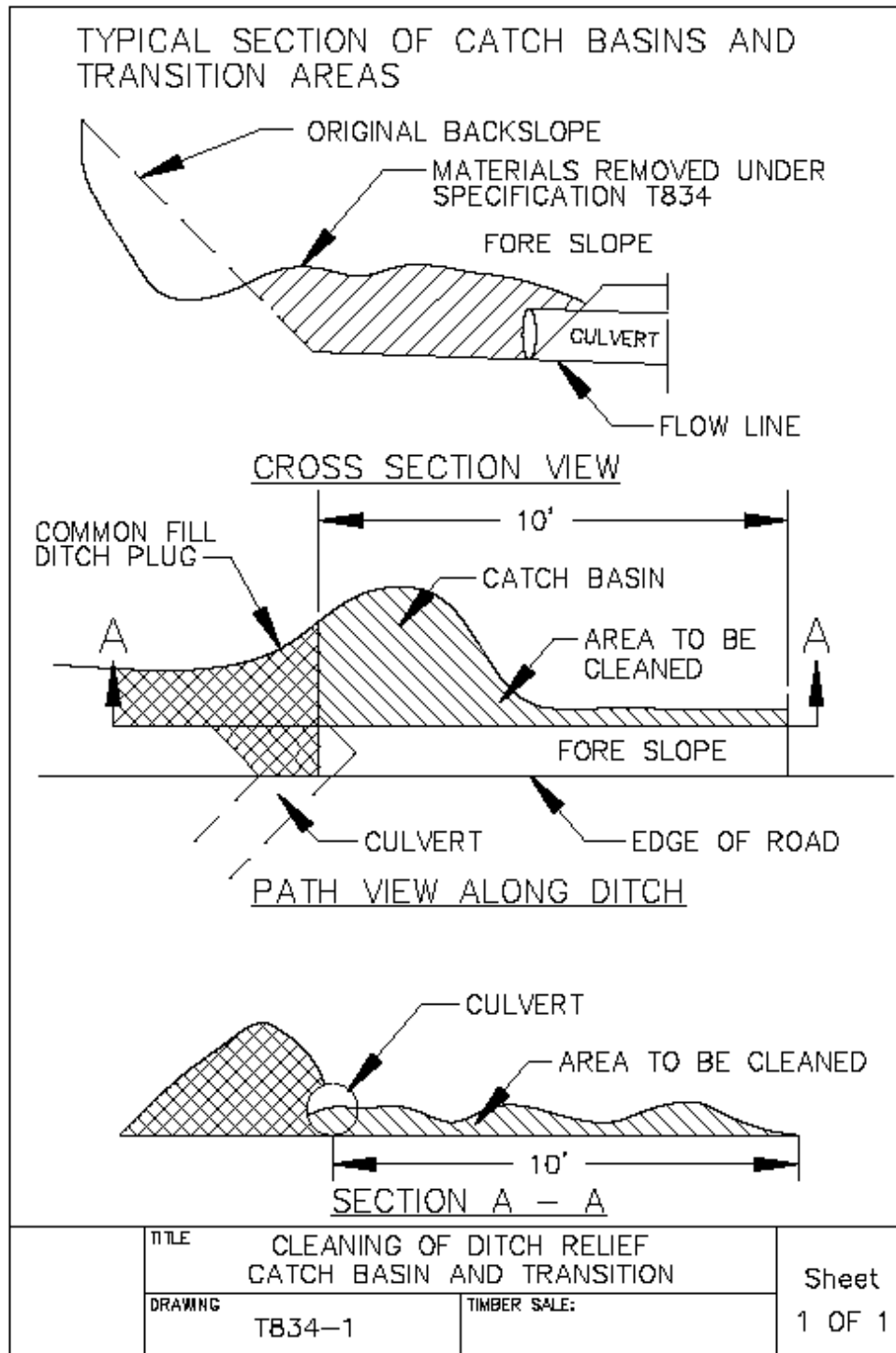
This work consists of cleaning and reconditioning culverts and other drainage structures.

834.02 Maintenance Requirements

- A. Clean drainage structures, inlet structures, culverts, catch basins, and outlet channels specified in the SUPPLEMENTAL SPECIFICATIONS. Clean catch basins by removing the material within the area SHOWN ON THE DRAWINGS.
- B. Clean the transition from the ditch line to the catch basin a distance of 10 feet from the catch basin. Clean outlet channels and lead-off ditches a distance of 6 feet. Remove and place debris and vegetation so as to not enter the channel or ditch, or obstruct traffic. Haul debris and vegetation to a designated disposal area in accordance with Section T-832.
- C. Hydraulic flushing of drainage structures is not allowed unless provided for in the SUPPLEMENTAL SPECIFICATIONS.
- D. Cleaning and reconditioning are limited to the first 3 feet of inlet and outlet, determined along the top of the structure. Recondition culvert inlet and outlet by field methods such as jacking out or cutting away damaged metal which obstructs flow. Treat cut edges with a zinc rich coating, in accordance with AASHTO M 36M and ASTM A 849.
- E. Where DESIGNATED ON THE GROUND, included in the ROAD LISTING, SHOWN ON THE DRAWINGS or as ordered by the Contracting Officer invasive species of concern prevention practices shall be followed as listed below.

Invasive Species of Concern Prevention Practices
Prior to beginning blading on Forest Service Roads, Forest Service will identify with flagging all areas of concern.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS



Supplemental Specification T-834

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

834.02 Maintenance Requirements

Drainage structure maintenance shall be performed on all structures over the entire length of roads listed in Table C5.31. Specific sites are shown below:

[illegible]

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 835 ROADWAY DRAINAGE MAINTENANCE (05/07)

835.01 Description

This work consists of providing post haul drainage on roads.

835.02 Maintenance Requirements

A. Drainage

1. Upon completion of work, shape the roadway to provide for the removal of surface water. The roadway need not be passable to vehicles. Repair and reinstall water bars, barriers or berms existing prior to the Purchaser's operation. Areas where water is ponded by existing centerline profile sags in through cuts may be left untreated.
2. Continuous blade shaping of the roadbed is not required under this specification.
3. Work to be done at staked locations shall be as indicated on the stake and/or stated in SUPPLEMENTAL SPECIFICATIONS:
4. Any of the following methods are acceptable for use at eroded or rutted locations:

Method A: Outsloping the roadpull bed at not less than ½ inch per yard of width.

Method B: Insloping the roadbed at not less than ½ inch per yard of width.

Method C: Water bar roadbed at locations staked on the ground and construct as SHOWN ON THE DRAWINGS or as included in SUPPLEMENTAL SPECIFICATIONS.
5. Drainage structures located in through fills and natural watercourses shall be fully functional without obstructions, including inlet and outlet channel within 20 feet of the structure.
6. Either clean culverts and other fabricated structures to provide drainage from road ditches and make the ditch functional or provide water bar(s) across the roadbed. Removed structures shall become Purchaser's property to be removed from National Forest System land. Remove and replace any purchaser-installed temporary drainage structures with a water bar.

B. Slides, Slumps and Slough

1. Slides and slough may be left in place, provided they do not potentially impound water or divert water from watercourses. As necessary, reshape the various surfaces to provide drainage.
2. Provide drainage to effectively decrease or eliminate the entry of surface water into slides, slumps, and roadbed surface cracks. Place berms, waterbars or ditches as needed to intercept and remove runoff water from the roadbed. Surface seal cracks by covering over with native soil materials to prevent additional water entry and compact with equipment tires.

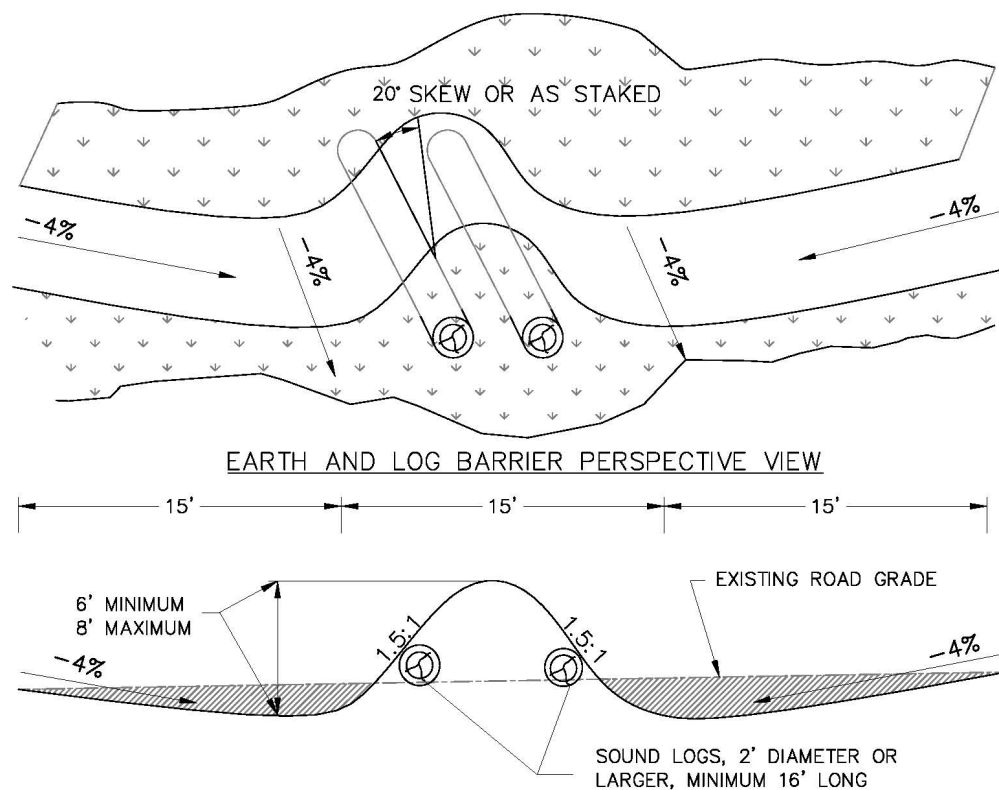
C. Entrance Devices

Upon completion of work, replace entrance devices to effectively eliminate access by motorized vehicles having four (4) wheels and a width in excess of 50 inches.

D. Seeding

Seed and fertilize all disturbed areas in accordance with requirements set forth in Section T-841.

DRAWING T-835 – EARTH AND LOG BARRIER



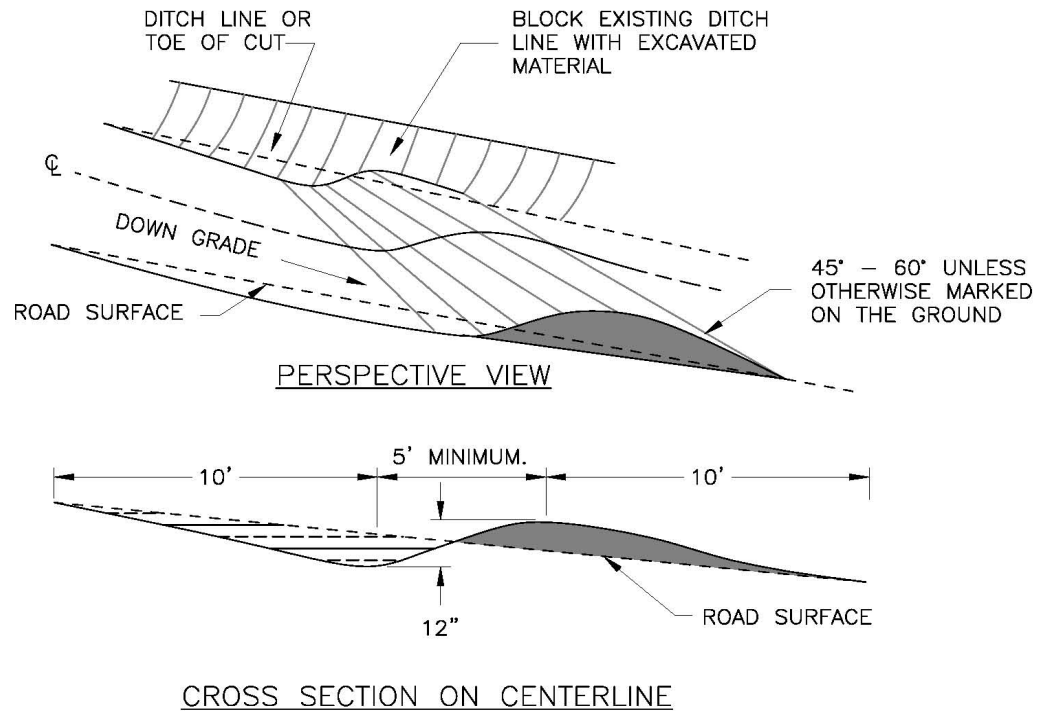
EARTH AND LOG BARRIER PROFILE

NOTES:

1. THE PURPOSE OF THE BARRIER IS TO DISCOURAGE ENTRY BY MOTORIZED VEHICLES.
2. THE CONTRACTOR SHALL EXERCISE CARE AND TAKE PRACTICAL MEASURES TO PREVENT THE LOSS OF MATERIAL BELOW THE ROADBED. SIDE CASTING IS NOT ALLOWED.
3. THE BARRIER SHALL BE CONSTRUCTED TO THE FULL WIDTH OF THE ROAD, SKEW APPROXIMATELY 20' TO CENTER LINE, AND OUTSLOPE ROAD TO DRAIN.
4. ENSURE THAT WATER MAY DRAIN AWAY FROM EARTH AND LOG BARRIER MOUND.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

DRAWING T-835 - WATER BAR



NOTE:

1. All water bars shall begin at the intersection of the roadbed and cut slope and run across the entire width of the roadbed.
2. Outslope water bars when conditions permit with inlet of water bar constructed to bottom of ditch line or a minimum of 12" below the existing road elevation measured at the bottom of the cut slope.
3. Inslope water bars only when draining into an existing ditch.
4. All water bars shall have free flowing outlets.
5. Grade of water bars shall be a minimum of 6% or 2% more than the road grade, whichever is greater.
6. When stakes are used, they shall designate the outlet location (ditch side or fill slope side).
7. Unless locations are staked by the Forest Service, the following table shall be used as a guide:

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

DRAINAGE SPACING TABLE
SPACING ALONG CENTERLINE

DOWN GRADE (IN %)	UNSURFACED	SURFACED
2	105 FT.	160 FT.
4	90 FT.	140 FT.
6	80 FT.	125 FT.
8	75 FT.	115 FT.
10	65 FT.	100 FT.
12	55 FT.	85 FT.
14	45 FT.	70 FT.
16	35 FT.	55 FT.
18	30 FT.	45 FT.
>20	30 FT.	30 FT.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 838 MAINTENANCE FOR HIGH CLEARANCE VEHICLE USE (05/07)

838.01 Description

This work consists of making limited use roads passable for project use by Purchaser and providing drainage from the traveled way and roadbed.

838.02 Maintenance Requirements

A. Traveled Way

Purchaser may smooth or fill existing cross ditches and water bars and as approved by the Contracting Officer modify existing road junctions to enable vehicle access. The Purchaser may perform the following work prior to beginning haul and resumption of haul after an extended stoppage:

1. Remove brush, fallen trees, rocks, and other debris from traveled way, including turnouts, turnarounds, and other locations that interfere with needed maintenance as follows:
 - a. No object extending over 4 inches above the road surface shall remain within the 12 feet usable traveled way. Center the usable width on the roadbed or position away from the fill slope.
 - b. Cut and remove standing or down trees, logs, brush, and limbs from within the area described in 1(a). Remove all encroaching limbs to a height of 14 feet above the traveled way surface. Scatter material not meeting utilization standards outside and below the roadbed on the fill side. Limb and remove timber that meets utilization standards or deck at locations approved by the Contracting Officer.
 - c. Place all removed materials away from drainages.
 - d. During use, maintain drainage structures including dips, ditches and culverts in a usable condition.
2. Clean and recondition drainage facilities in accordance with Section T-831 and T-834.

B. Slough and Slides

1. Slough and slides may be left in place, provided surface drainage is provided and at least 12 feet of width is available for vehicle passage.
2. Purchaser may reposition or ramp over slides and slough when the traveled way width is less than 12 feet providing the material is capable of supporting vehicles. Limit out slope to no more than six percent.
3. Reposition slough or slide materials, which are not capable of supporting a vehicle, on the roadbed to provide the 12 feet width. When directed by the Contracting Officer, slough or slide material will be removed under Section T-832.

C. Slumps and Washouts

1. Drain the roadbed immediately upgrade of slumps and longitudinal cracks to prevent water from entering slump area.
2. Slumps and longitudinal cracks at the edge of the roadbed shall not be considered a part of the usable width. Usable width may be reduced to 10 feet in the area of the slump.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

3. Unless the Contracting Officer approves material being placed on slumps, ramp the slumps on both ends into undisturbed roadbed to provide at least 10 feet usable width. Use removed materials to guide vehicles to the ramp location or to aid in draining the area.
4. Washouts may be filled with suitable material.

D. Post haul

At the end of hauling or prior to entering into seasonal shutdowns or a period of extended inactivity:

1. Shape the traveled way and disturbed roadbed to provide functional drainage.
2. Reinstall removed cross ditches and water bars and provide any additional drainage structures necessary to offset changes caused through use and maintenance.
3. Leave roads useable for high clearance vehicles. Remove or reshape purchaser modifications at road junctions to leave the entrance as it was before use, or as agreed at the time of improvement.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 839 MAINTENANCE FOR PROJECT USE (05/07)

839.01 Description

Work consists of providing minimum access required for Purchaser's Operations and associated Forest Service contract administration and preventing unacceptable resource or road damage.

839.02 Maintenance Requirements

- A. Purchaser is authorized to perform the following maintenance to provide vehicle passage and drainage:
1. Removing log, earth, and rock barriers and/or improving existing road junctions to enable vehicle access as mutually agreed.
 2. Smoothing or filling existing cross ditches and water bars.
 3. Installing Purchaser-furnished culverts or other temporary drainage structures for shallow stream crossings as approved by the Contracting Officer.
 4. Removing brush, fallen trees, rocks, and other materials from the traveled way and other locations that interfere with needed maintenance:
 - a. Place all removed materials away from drainages.
 - b. Limb and remove timber which meets utilization standards or deck at locations approved by the Contracting Officer. Scatter other woody materials, including limbs, off of and below the roadbed without creating concentrations.
 5. Clean and recondition drainage structures in accordance with Section T-831 and Section T-834.
 6. Reposition or ramp over slough and slides to provide adequate width of traveled way material.
 7. Provide traveled way drainage above slumps and seal cracks in slump area. Ramp the slumps on both ends into undisturbed roadbed to provide usable width unless otherwise ordered by the Contracting Officer.
- B. During use, the traveled way shall not channel water along the road. Prior to seasonal periods of anticipated rains and runoff, perform the following work:
1. Shape the traveled way and roadbed to drain.
 2. Reinstall removed cross ditches and water bars; construct any additional drainage structures necessary to offset changes through use and maintenance.
 3. Perform work outlined in 839.02 A (5), (6), and (7).
 4. During periods of non use, replace original barrier or provide and maintain standard MUTCD, Type 3, barricades unless alternate type barriers are approved by the Contracting Officer.

839.03 Post Haul Requirements

- A. Upon completion of project use perform such work as needed to reasonably conform to the character of the existing road prior to Purchaser's maintenance for project use, unless otherwise provided in the

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

SUPPLEMENTAL SPECIFICATIONS or the ROAD LISTING. Work shall be in addition to requirements of 839.02 B and in accordance with 839.03 B and C.

- B. Roads designated in the ROAD LISTING to be blocked shall conform to the requirements of Section T-835. Unless otherwise approved by the Contracting Officer, remove Purchaser-installed temporary structures from National Forest System land. Associated commercially-obtained materials shall remain the property of the Purchaser.
- C. Remove or reshape Purchaser improvements at road junctions, as approved by the Contracting Officer at the time of improvement.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 842 CUTTING ROADWAY VEGETATION (10/07)

842.01 Description

This work consists of cutting all vegetative growth, including trees and other vegetation less than 4 inches in diameter measured 6 inches above the ground, on roadway surfaces and roadsides.

842.02 Maintenance Requirements

A. General

1. Cut brush, trees, and other vegetation within each area treated to a maximum height of 6 inches above the ground surface or obstruction such as rocks or existing stumps. When work is performed under this Section, remove all limbs which extend into the treated area, or over the roadbed, to a height of 14 feet above the traveled way surface elevation.
2. Items to remain will be DESIGNATED ON THE GROUND.
3. Work may be performed either by hand or mechanically unless specifically shown in the ROAD LISTING. Self-propelled equipment is not allowed on cut and fill slopes or in ditches.
4. Correct damage to trunks of standing trees caused by Purchaser's operation either by treatment with a commercial nursery sealer or by removing the tree as directed by the Contracting Officer.
5. Limb trees within the cutting limits which are over 4 inches -measured at 6 inches above the ground in lieu of cutting.
6. When trees are limbed, cut limbs within 4 inches of the trunk.

B. Cutting Side Vegetation

1. Show the width of vegetation to be removed in the ROAD LISTING.
2. Unless otherwise included in the SUPPLEMENTAL SPECIFICATIONS or DESIGNATED ON THE GROUND:
 - a. Commence work at the edge of the traveled way and proceed away from the road centerline.
 - b. Roads without a defined traveled way: The starting point for cutting will be marked on the ground or defined in the SUPPLEMENTAL SPECIFICATIONS.
3. The points for establishing cutting limits are as follows:
 - a. Fill and day lighted (wide roadbed) section cutting commences at the edge of the traveled way and proceeds away from the road center line.
 - b. Drainage ditched section cutting commences at the bottom of the existing ditch and proceeds away from the road center line. Cutting on ditch fore slopes is not required.
 - c. Non-ditched cut section cutting commences at the intersection of the cut bank and the roadbed and proceeds away from center line.
4. Provide transitions between differing increments of cutting width. Accomplish transitions in a taper length of not less than 50 feet or more than 70 feet.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

C. Debris

1. Materials resulting from the cutting operation in excess of 12 inches in length or 3 inches in diameter are not allowed to remain on roadway slopes within the treated area, in ditches, or within water courses.
2. Remove limbs and chunks in excess of 3 inches in any dimension from the traveled way and shoulders.
3. Materials may be scattered down slope from the roadbed, outside of the work area and drainages unless otherwise listed in D. Invasive Species of Concern.

D. Invasive Species of Concern

Where DESIGNATED ON THE GROUND, included in the ROAD LISTING, SHOWN ON THE DRAWINGS or as ordered by the Contracting Officer invasive species of concern prevention practices shall be followed as listed below.

Invasive Species of Concern Prevention Practices
There are no known areas of concern. Prior to beginning blading on Forest Service Roads, Forest Service will identify with flagging all areas of concern.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

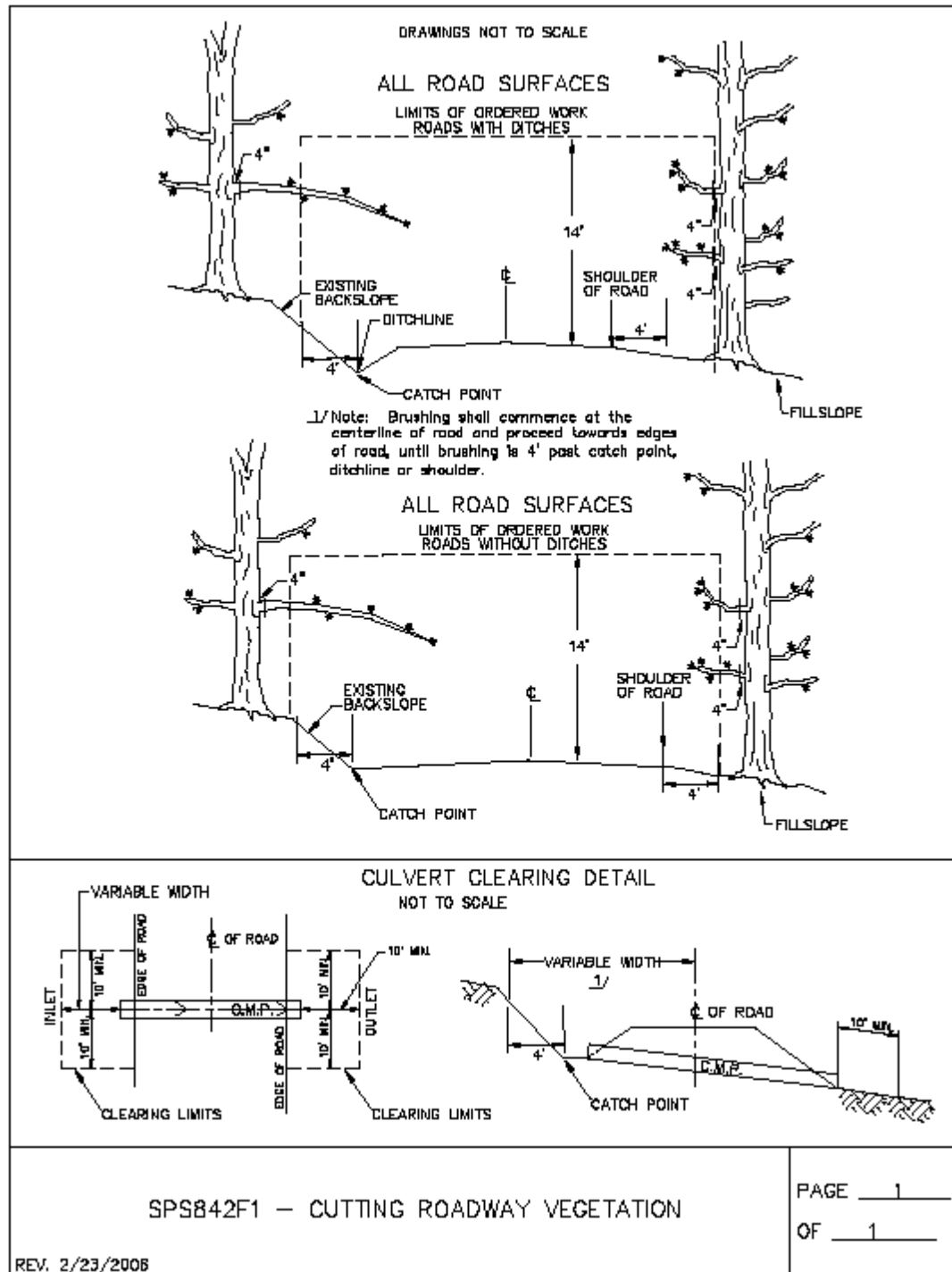


EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T - 851 LOGGING OUT (5/07)

851.01 Description

This work consists of removal of fallen trees and snags which encroach into the roadway or the 3 feet of roadside abutting the roadway on the cut side.

851.02 Maintenance Requirements

- A. Limb and remove timber which meets Utilization Standards, or deck at locations designated by the Contracting Officer.
- B. Limb other material cut into lengths for handling. Deck cut material outside ditches and drainages, off the traveled way and turnouts or at staked locations. The clearing width is to the edge of the roadway for public use roads, except limited use roads. The clearing width for limited use roads is shown in the specifications.
- C. Notwithstanding B(T)2.3, blow down timber outside Sale Area required to be removed, which meets Utilization Standards in A(T)2, when designated by the Contracting Officer is Included Timber subject to requirements of B(T)2.2.
- D. Do not leave woody debris and slash in excess of 12 inches in length or 3 inches in diameter, or concentrations which may plug ditches or culverts, in ditches, drainage channels, or on back slopes, traveled way, shoulders, or turnouts.

T - 854 TREATMENT AND DISPOSAL OF DANGER TREES (5/07)

854.01 Description

This work consists of felling and disposal of designated live or dead danger trees sufficiently tall to reach roads used by the Purchaser. Any removal of logs is subject to prior agreement between the Contractor Officer and the Purchaser.

854.02 Requirements

A. Designation of danger trees.

Danger trees to be felled will be designated in advance by the Contracting Officer. Trees to be removed will be marked.

B. Falling, bucking and treatment for disposal.

Use controlled felling to ensure the direction of fall and prevent damage to property, structures, roadway, residual trees, and traffic. Stump heights, measured on the side adjacent to the highest ground, must not exceed 12 inches or 1/3 of the stump diameter, whichever is greater. Higher stump heights are permitted when necessary for safety.

Felled snags and trees, which are not marked for removal, will be left in a stable condition such that they will not roll or slide. Position logs away from standing trees so they will not roll, are not on top of one another, and are located out of roadway and drainage structures.

Fell, limb and, remove trees, which are marked for removal, that equal or exceed the utilization standards as listed in the Timber Sale contract or SUPPLEMENTAL SPECIFICATIONS. Dispose of merchantable timber designated for removal in accordance with B/BT2.32 Construction Clearing, of the Timber Sale Contract, or as described in SUPPLEMENTAL SPECIFICATIONS.

C. Slash treatment.

Within the roadway, remove limbs, chunks, and debris in excess of 12 inches in length and 3 inches in diameter, and concentrations that may plug ditches or culverts, and water courses.

Dispose of slash by scattering outside the roadway limits without damaging trees, or improvements.

Large accumulations of slash may be ordered hauled under T-832.

EXHIBIT D – ADDITIONAL ROAD MAINTENANCE SPECIFICATIONS

T-891 WATER SUPPLY AND WATERING (5/07)

891.01 Description

This work consists of providing facilities to furnish an adequate water supply, hauling and applying water.

891.02 Materials

If the Purchaser elects to provide water from other than designated sources, the Purchaser is responsible to obtain the right to use the water, including any cost for royalties involved.

Suitable and adequate water sources available for Purchaser's use under this contract are designated as follows:

<u>Location Road</u>	<u>Location Milepost</u>	<u>Use Restrictions</u>
All roads	As designated by FSR.	Do not draft from Coho Critical Habitat. Use fish screens.

891.03 Equipment

A. Positive control of water application is required. Equipment shall provide uniform application of water without ponding or washing.

B. An air gap or positive anti-siphon device shall be provided between the water source and the vehicle being loaded if the vehicle has been used for other than water haul, if the source is a domestic potable water supply, or the water is used for tank mixing with any other materials.

C. The designated water sources may require some work prior to their use. Such work may include cleaning ponded areas, installing temporary weirs or sandbags, pipe repair, pump installation, or other items appropriate to the Purchaser's operations. Flowing streams may be temporarily sandbagged or a weir placed to pond water, provided a minimum flow of 50% is maintained. Obtain approval from the Contracting Officer on improvements for sandbags or weirs prior to placement.

EXHIBIT E

SPECIFICATIONS FOR BRUSH AND SLASH SHOVEL PILING – LANDINGS

Description of Work to be Done

- (1) Within 14 days after completion of each Setting, pile all Slash within reach of the Landings by a log loader in the center of the Landing. Material suitable for firewood four inches and greater in diameter and up to twenty feet in length shall be separated into individual piles accessible for firewood cutting. Other Slash shall be piled to facilitate pile burning as directed by STATE.
- (2) Piles must be free of noncombustible material and soil and as compact as possible. Pile all slash over 3" diameter. Piles shall be no larger than twenty (20) feet by twenty (20) feet by twenty (20) feet. No piece in the pile should exceed fifteen (15) feet in length. Protruding pieces shall be trimmed to allow covering in a manner that permits the piles to shed water.
- (3) Firewood decks shall be no larger than twenty (20) feet by twenty (20) feet by six (6) feet tall. Piles must be free of noncombustible material and as stable as possible.
- (4) Location of Landing Piles and Decks. Piles shall be located and sized in a manner that is practicable to burn with minimum damage to Forest values and any improvements designated for protection. Outside edge of grapple/loader pile and/or decks shall be at least twenty-five (25) feet from base of any trees or adjacent timber. Piles shall be located on soil surfaces that have already been impacted by disturbance skid trails, landing, temporary roads. Piles shall not be located on road surfaces and ditch lines or interfere with functioning of drainage structures, ditches, or stream channels. Piles located within fifty (50) feet from live streams must be approved in writing by State.

Machine piles at landings will be built by grapple attachment to keep dirt and rock debris out. No cat piling or pushing of piles.

EXHIBIT F

SKID ROAD and TEMPORARY ROAD VACATING SPECIFICATIONS

SUBSOILING, WOODY DEBRIS, WATERBARS AND BLOCKING ROADS

- (1) Equipment. A Cat or a track mounted excavator shall be used for all road blocking, and waterbarring, unless otherwise approved in writing by STATE. A winged ripper shank and excavator are recommended for all subsoiling and covering the surface with slash in a single operational pass.
- (2) Dry Conditions. Prior to October 31st of the first year following sale completion, all opened temporary roads that are not further needed for project implementation would be obliterated and erosion control measures in place. All work shall be performed during dry conditions acceptable to STATE. All subsoiling shall be done when soil moisture is less than 50%.
- (3) All compacted skid trails, temporary roads and landings that fall outside of the prisms of roads identified on the Forest transportation inventory as permanent, not further needed for project implementation shall be subsoiled and covered, or water barred (where approved) and made self-maintaining at the end of each operating season (by September 30th) in which they occur.
- (4) Subsoiling operations shall lift and fracture the soil between rips to a minimum depth of 20 inches (as measure after subsoiling). To further prevent the potential for runoff to be carried down the treated road surface the majority of subsoiling rips shall occur across (i.e. herringbone pattern) the road alignment. Where the soil is too rocky for subsoiling (pulling rock >5 inches in size to the surface). This requirement may be waived by a soil scientist or sale administrator where the ground is less than 20 inches to bedrock or top skeletal (>35% cobbles).
- (5) Temporary roads and skid trails still needed to complete project implementation would be winterized with all erosion control measures in place and barricaded or blocked. Erosion control, at a minimum, would include water bars and ground cover at 25% plus coverage of slash. All compacted temporary roads and skid trails not further needed for project implementation shall be subsoiled and ground cover applied (straw, slash, wood chips) at the above mentioned application rate with a minimum 70% effective ground cover.
- (6) Landings that have been used shall be sloped and ditched to allow water to drain or spread.
- (7) Water barring to an adequate depth and length and spacing to effectively disperse surface water runoff without maintenance. See "T-835 Water Bar" for spacing intervals. Water bars should be skewed 30 to 45 degrees to the skid trail alignment and excavated at least 20 inches below the road grade. Runoff outlets will be constructed to prevent ponding behind water bars. Whenever possible, locate the outlets to drain onto vegetated, undisturbed soil areas.
- (8) Use certified weed free straw and mulch for all erosion control and revegetation activities in the project area.

SPECIFIC INSTRUCTIONS/SPECIFICATIONS:

<u>Segment</u>	<u>Work Description</u>
Units 1-18	<u>Subsoiling:</u> After logging, all compacted skid roads (Usually the first 200') and landings shall be subsoiled or ripped. Shape roadbed to the original slope. Pull slash back across the subsoiled roadbed in a single pass, for 70% effective ground cover over exposed mineral soil. If large tree roots, bedrock or subsurface boulders prevent subsoiling, purchaser shall work around them so as to avoid pulling these to the surface or ripping through them. Compacted portions of Skid Trails and landings - shall be ripped to a depth of 20 inches.
Skidroads	<u>Woody Debris</u> Pull slash back across the subsoiled roadbed, for 70% effective ground cover over exposed mineral soil.
Skidroads and Corridors	<u>Construct Waterbars</u> as directed by STATE. Construct waterbars according to the specifications in Exhibit D and T-835.
Units 1-18 Skid Trails	<u>Block Roads.</u> All skid roads shall be closed at the end of logging season to prevent off highway vehicle use. Use excavated material and cull logs to block temporary roads and skid roads from vehicle access, as directed by STATE. See T 835 Exhibit F.
Units 1-18 Skid Trails	<u>Skid trails</u> not needed for operations would be winterized by closing and waterbarring prior to October 31st each year.
Timber Sale Area	<u>Slope and ditch</u> landings to drain water when closing out the sale.
Timber Sale Area	<u>Reclamation of temporary roads</u> may include one or more of the following actions: removal of temporarily installed culverts, excavating cross ditches (water bars) to drain water captured by the former running surface, placing large logs or rocks onto the running surface to deter vehicle use, or re-contouring the road template to near-natural ground conditions, as well as any of the soil restoration methods discussed above. Unstable road fill slopes will be pulled back adequately to prevent future failure.

EXHIBIT G

CULVERT SPECIFICATIONS

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

"Culverts 24 inches in diameter and smaller shall be constructed of corrugated polyethylene. Culverts larger than 24 inches in diameter shall be constructed of corrugated aluminized Type 2 steel. Polyethylene culverts shall be double-walled and meet the requirements of AASHTO M-294-11, Type S, or ASTM F2648. Aluminized (Type 2) steel culverts shall meet the requirements of AASHTO M-36-03¹."

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

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

The STATE Representative shall determine final culvert locations and stake the locations in the field prior to installation.

Culverts in live streams shall be installed with the inlet and outlet on grade with the stream bottom, unless otherwise specified in writing.

Instream culvert replacement shall occur between July 1 and September 15 following Oregon Department of Fish and Wildlife (ODFW) seasonal restrictions, unless approved in writing by State. During construction, stream water would be diverted around the work site and back into the channel. Newly installed culverts will meet 100 year flow (Q100) on perennial streams.

Cross Drain Culverts

Cross drain culverts on road grades in excess of 3 percent shall be skewed at least 30 degrees from perpendicular to the road centerline, except that cross drain culverts at the low point of dips in roads shall not be skewed. Cross drains shall be skewed to fit the required culvert length to the road prism.

Cross drain culverts shall be installed at a slope steeper than the incoming ditch grade, but not less than 3 percent or greater than 10 percent.

Disconnect Culverts

The culvert inlet shall be located as close to the channel that it is disconnecting, while the culvert outlet shall be located as far from the channel as possible; discharge culvert outflow on the forest floor, allowing for filtration before the water enters the disconnected channel.

The foundation and trench walls for all culverts shall be free from logs, stumps, limbs, stones, and other objects which would dent or damage the culvert. The culvert trench shall be excavated 3 culvert diameters wide to permit compaction and working on each side of the culvert. Tamping shall be done in 6-inch lifts, 1 culvert diameter each side of the culvert. Bedrock shall be excavated as required to provide a uniform foundation for the full length of the culvert.

A bedding of crushed rock or sand as specified shall be placed to provide a wide band of support and to transmit the load from above evenly over the entire length of the culvert for all culverts.

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

Transporting of the culvert shall be done carefully. Dragging or allowing free fall from trucks or into trenches shall not be permitted.

EXHIBIT G

CULVERT SPECIFICATIONS

Minimum height of cover over top of culvert to subgrade when road is to be rocked shall be as follows: 18" for culverts 18" to 36" and 24" 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 shortest culvert section length shall be placed at the inlet end.

The ends of each culvert shall be free of logs and debris which would restrict the free flow of water.

Culverts 24 inches in diameter or larger shall have 1:1 step beveled inlets.

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

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.

The intake ends of culverts in fills less than 3 feet to the top of the culvert shall be marked by driving white fiberglass posts within 6 inches of the downgrade side. Posts shall be a minimum of 6 feet long and 2½ inches wide, 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.

	Road	Location	Size	Gauge	Thickness		Band Gauges	Band Widths (")	
					Uncoated	Coated		Annular	Helical
Aluminized Steel Culvert	210	Station 22+ 21 Southwest of Point M	12" x 30' or 18" x 30'	16	(0.0598")	(0.064")	16	12	12
Aluminized Steel Culvert	6400	Station 4+47 North of Point F	18" x 30'	16	(0.0598")	(0.064")	16	12	12

EXHIBIT H

SPECIFIC CUTTING INSTRUCTIONS

• Cut conifer 9-30" (10-34" at stump Height), except reserve tree species.
• Trees over 30" are reserved from cutting, (34" stump height)
• DxD* spacing in all units for residual conifer over 30" shall be 40' (plus or minus 6 feet).
• DxD* Spacing in all units for clumps of 3 or more conifer over 20" shall be 40 feet.
• In Units 9, 10, 11, 12, and 14- Cut all blue marked trees.

Unit #	Target BA	Acceptable BA Range	Equivalent DxD* Spacing
16	80	60-120	Unit 16 = 32
3, 5, 13, 15, 18	120	100-160	Unit 3 = 25', Unit 5 = 19' Unit 13 = 23', Unit 15 = 26' Unit 18 = 28'
1, 4, 7, 17	160	140-200	Unit 1 = 35' Unit 4 = 19' Unit 7 = 29', Unit 17 = 22'
6, 8	180	160-220	Unit 6 = 23' Unit 8 = 22'

DxD: Designation by Description

* DxD spacing: Is the measured slope distance with a retractable loggers tape. Distances will be measured from the closest point between trees at the 6-inch DxD height.

** DxD stump diameter: Measured outside the bark at 6-inches above the ground, on the uphill side of the tree, with a diameter or retractable loggers tape that is perpendicular to the bole of the tree.

Reserved Timber:

- Sugar pine/western white pine (Unless diseased [orange/brown cankers, and with brown/yellow needles composing ½ of canopy])
- Pacific Yew
- Hardwoods

The Maximum DBH for cutting is 30" and all legacy trees are reserved from cutting.

Cut first preference trees 9-30" DBH:

1. Offsite pine and diseased pines, then:
2. white fir, then:
3. hemlock, then:
4. Douglas fir, then:
5. cedar, then:
6. natural pine

Stump Treatment for Phellinus Weirii root rot pathogen:

Treat all true fir and hemlock stumps greater than 12 inches with borate (Sporax) or equivalent within 24 hours of cutting.



OREGON DEPARTMENT of FISH and WILDLIFE

FISH SCREENING PROGRAM

SMALL PUMP SCREEN SELF CERTIFICATION

The Oregon Water Resources Department in coordination and cooperation with the Oregon Department of Fish and Wildlife includes screen requirements on pumps to protect fish as a condition of many surface water and/or reservoir water right permits. This is done in accordance with ORS 537.153.

The Oregon Department of Fish and Wildlife does not usually inspect small pump screens at **pumped diversions less than 225 gpm** (gallons per minute), but furnishes the following fish screening criteria information to the water right permit holder:

Screen material open area must be at least 27% of the total wetted screen area.

Perforated plate: Openings shall not exceed 3/32 or 0.0938 inches (2.38 mm).

Mesh/Woven wire screen: Square openings shall not exceed 3/32 or 0.0938 inches (2.38 mm) in the narrow direction, e.g., 3/32 inch x 3/32 inch open mesh.

Profile bar screen/Wedge wire: Openings shall not exceed 0.0689 inches (1.75 mm) in the narrow direction.

Screen area must be large enough not to cause fish impact. Wetted screen area depends on the water flow rate and the water approach velocity. **Approach velocity** is the water velocity perpendicular to and approximately three inches in front of any part of the screen face.

An Active pump screen is a self-cleaning screen that has a proven cleaning system. The **screen approach velocity for active pump screens** shall not exceed 0.4 fps (feet per second) or 0.12 mps (meters per second). The wetted screen area in square feet is calculated by dividing the maximum water flow rate in cubic feet per second (1 cfs = 449 gpm) by 0.4 fps.

A Passive pump screen is a screen that has no cleaning system other than periodic manual cleaning. **Screen approach velocity for passive pump screens** shall not exceed 0.2 fps or 0.06 mps. The wetted screen area in square feet is calculated by dividing the maximum water flow rate by 0.2 fps.

For further information on fish screening please contact:

Oregon Department of Fish and Wildlife, Statewide Fish Screening Coordinator: 503.947.6229
Oregon Department of Fish and Wildlife, Screening Program Administrative Specialist:
503.947.6224

As evidence of having met fish screen installation requirements, please sign the certification and send to: **Oregon Water Resources Department, Water Rights Section, 725 Summer Street NE, Suite A, Salem, OR 97301-1271.**

Certification: I certify that my small pumped diversion of less than 225 gpm meets fish screening criteria, and that I will maintain it to comply with regulatory criteria. I also understand that should fish screening standards change, I may be required to modify my installation to meet applicable standards.

Applicant Signature: _____ Date: ____/____/____ WRD File #: _____

Printed Name and Address: _____

Phone: (____) _____ Fax: (____) _____

Addendum to Fish Screening Exhibit:

Pumping of water for use in road maintenance must allow for the retention of at least 90% of the original stream flow below the pumping site. Water sources will require preapproval before use.