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: _____

(1) Contract Number: FG-341-2025-W01019-01

(2) Sale Name: NW Slope

(3) Contract Expiration Date: 05/31/2028

(4) Purchaser Name: _____

(5) State Brand Information (Complete)

(6) State Representatives:

Name	Circle One	Phone No.	Cell No.	Alt Phone
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			

(7) Purchaser Representatives:

Name	Circle One	Phone No.	Cell No.	Alt Phone
	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:

Project No.	Subcontractor Name.	Start Date	Completion Date	Cell No.	Alt Phone

	Subcontractor Name.	Start Date	Cell No.	Alt Phone
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 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.

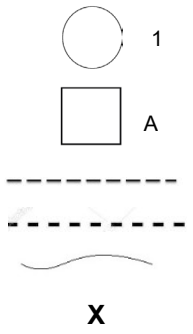
(7) The STATE representative will be designated when your plan is approved and is the person who will inspect and issue instructions regarding performance.

(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.



Cable Landing, with numbers for sequence.

Tractor Landing with alphabetical sequence.

Approximate setting boundary.

Spur truck roads.

Tractor yarding roads.

Temporary stream crossings.

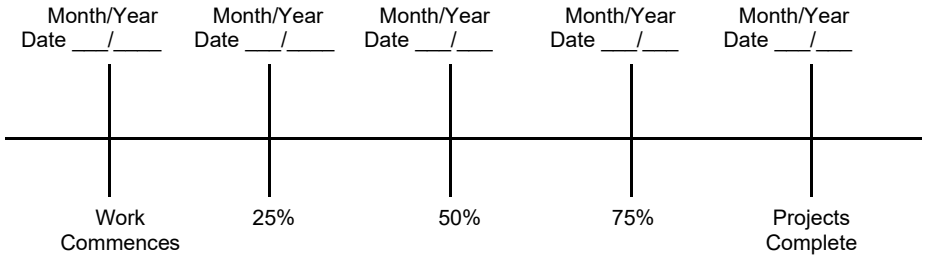
Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS

EXHIBIT B
OPERATIONS PLAN

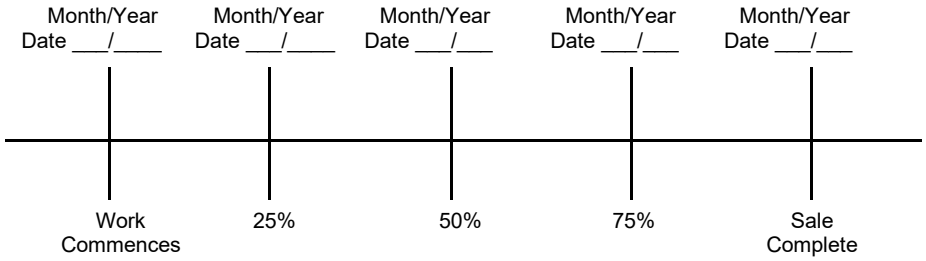
Completion Timeline

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: _____

STATE OF OREGON - DEPARTMENT OF FORESTRY

_____

Title _____

SUBMITTED BY:
PURCHASER

_____

Title _____

Oregon Department of Forestry

EXHIBIT C - SAWMILL GRADE (WESTSIDE SCALE)
SCALING INSTRUCTIONS - LOCATION APPROVAL - BRAND INFORMATION
Forest Grove - NWOA

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

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

(3) FROM: Forest Grove Phone (503) 357-2191
(State Forestry District)
Address: 801 GALES CRK RD
FOREST GROVE,OR 97116-1199

(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'.

	YES	NO
(7) Weight Scale Sample	☐	☑

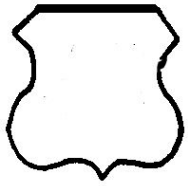
(8) APPROVED SCALING LOCATIONS (as shown on the ODF Approved Locations web-site)	Species	Yard	Truck	Weight

(9) **SALE NAME:** NW Slope
COUNTY: Tillamook

(10) **STATE CONTRACT NUMBER:**
FG-341-2025-W01019-01

(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

Notify the District within one hour when branding or painting is inadequate for quick identification, the receipts are missing, not correctly or completely filled out, and/or when logs presented for scaling are impossible to scale accurately.
General Distribution: TPSO, Approved Scaling Locations and Purchaser.

Oregon Department of Forestry
EXHIBIT C - SAWMILL GRADE
INSTRUCTIONS FOR EXHIBIT C
Forest Grove - NWOA

(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

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, OR 97471
Phone: (541) 673-5571 Fax: (541) 672-6381
Email: info@mwlsgb.com

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

(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 specifies 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.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
Match existing	Match existing	A to B	0+00 to 183+50	Ditch
Match existing	Match existing	B to C	0+00 to 154+50	Ditch
Match existing	Match existing	D to E	0+00 to 39+00	Ditch
Match existing	Match existing	F to G	0+00 to 19+50	Ditch
Match existing	Match existing	H to I	0+00 to 50+50	Ditch
16 feet	14 feet	J to K	0+00 to 9+50	Ditch
16 feet	14 feet	L to M	0+00 to 22+50	Ditch
16 feet	14 feet	N to O	0+00 to 4+50	Ditch
16 feet	14 feet	P to I	0+00 to 9+00	Ditch
16 feet	14 feet	Q to R	0+00 to 21+50	Ditch

CLEARING. This work shall consist of clearing, removing, and disposing of all trees, Snags, Down Timber, brush, surface objects, and protruding obstructions within the clearing limits. All danger trees, leaners, and Snags outside the clearing limits which could fall and hit the road shall be felled.

CLEARING CLASSIFICATION.

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

Improvement - Where clearing limits have not been marked, the clearing limits shall extend 5 feet back of the top of the cutslope and 10 feet out from the toe of the fill slope, or as directed by STATE.

GRUBBING. This work shall consist of the removal or digging out of stumps and protruding objects. All stumps shall be completely removed within the limits of required grubbing. Stumps overhanging cutslopes shall be removed.

GRUBBING CLASSIFICATION.

New construction - from the top of the cutslope to the toe of the fill.

Improvement - 4 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 55 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

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.

Excavated materials shall not be placed within an RCA.

Unless road plans show otherwise, all roads shall be on a balanced cross section, except when the slope is over 50 percent, the road shall be on full bench for the width specified.

Suitable excavated material shall be used for the formation of fills, shoulders, and drainage structure backfills. Embankment materials shall be free of woody debris, brush, muck, sod, frozen material, and other deleterious materials.

Sidecast includes any road generated excess excavation material which is not essential as part of the road prism, is not compacted, and is below the roadway. Sidecast shall not be placed where it will enter a stream course. Leaving sidecast below the road is only permissible if specifically allowed in “Full Bench and End Haul Requirements” in this Exhibit.

ROAD WIDTH LIMITATIONS. PURCHASER shall obtain advance written approval from STATE to construct the road to a greater width than specified. Extra subgrade width shall be required for:

Fill Widening. Add to each fill shoulder 1 foot for fills 3 feet to 6 feet high; 2 feet for fills over 6 feet high.

Curve Widening. Widen the inside shoulder of all curves as specified in the plans or as follows: 400 divided by the radius of the curve equals the amount of extra width.

DRAINAGE.

Subgrade. Subgrade shall be crowned, outsloped, or insloped at 4 to 6 percent as shown on the “Forest Road Specifications” table in this Exhibit.

Ditch. Construct "V" shaped ditch 3 feet wide and to a depth of 1 foot below subgrade.

Ditchouts. Construct ditchouts to drain away from subgrade at locations marked in the field or as directed by STATE.

TURNOUTS. Increase roadbed width an additional 8 feet for both subgrade and surfacing. Length shall be at least 25 feet, plus 25-foot approaches at each end. Location: Intervisible but not greater than 750 feet apart.

SLOPES. Top of cutslope shall be rounded.	Cutslopes	Fill Slopes
Solid Rock	Vertical to ¼ :1	
Fractured Rock	¼:1	
Soil - side slopes 50% and over	½:1	1½:1
Soil - side slopes less than 50%	¾:1	1½:1

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 stated or approved by STATE. Surface is to be outsloped or crowned for drainage with general grade no more than 3 percent. Surface as shown in the “Road Surfacing” table in this Exhibit, with 2 feet of subgrade extending out from base of the surfacing.

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 to the Waterbar and Tank Trap specifications in this contract, and blocked from vehicular traffic prior to October 31, annually and as directed by STATE.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

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

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
Match existing	Match existing	A to B	0+00 to 183+50	Ditch
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Match existing	Match existing	F to G	0+00 to 19+50	Ditch
Match existing	Match existing	H to I	0+00 to 50+50	Ditch
16 feet	14 feet	J to K	0+00 to 9+50	Ditch
16 feet	14 feet	L to M	0+00 to 22+50	Ditch
16 feet	14 feet	N to O	0+00 to 4+50	Ditch
16 feet	14 feet	P to I	0+00 to 9+00	Ditch
16 feet	14 feet	Q to R	0+00 to 21+50	Ditch

CLEARING. This work shall consist of clearing, removing, and disposing of all trees, Snags, Down Timber, brush, surface objects, and protruding obstructions within the clearing limits. All danger trees, leaners, and Snags outside the clearing limits which could fall and hit the road shall be felled.

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Improvement - Where clearing limits have not been marked, the clearing limits shall extend 5 feet back of the top of the cutslope and 10 feet out from the toe of the fill slope, or as directed by STATE.

GRUBBING. This work shall consist of the removal or digging out of stumps and protruding objects. All stumps shall be completely removed within the limits of required grubbing. Stumps overhanging cutslopes shall be removed.

GRUBBING CLASSIFICATION.

New construction - from the top of the cutslope to the toe of the fill.

Improvement - 4 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 55 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

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.

Excavated materials shall not be placed within an RCA.

Unless road plans show otherwise, all roads shall be on a balanced cross section, except when the slope is over 50 percent, the road shall be on full bench for the width specified.

Suitable excavated material shall be used for the formation of fills, shoulders, and drainage structure backfills. Embankment materials shall be free of woody debris, brush, muck, sod, frozen material, and other deleterious materials.

Sidecast includes any road generated excess excavation material which is not essential as part of the road prism, is not compacted, and is below the roadway. Sidecast shall not be placed where it will enter a stream course. Leaving sidecast below the road is only permissible if specifically allowed in “Full Bench and End Haul Requirements” in this Exhibit.

ROAD WIDTH LIMITATIONS. PURCHASER shall obtain advance written approval from STATE to construct the road to a greater width than specified. Extra subgrade width shall be required for:

Fill Widening. Add to each fill shoulder 1 foot for fills 3 feet to 6 feet high; 2 feet for fills over 6 feet high.

Curve Widening. Widen the inside shoulder of all curves as specified in the plans or as follows: 400 divided by the radius of the curve equals the amount of extra width.

DRAINAGE.

Subgrade. Subgrade shall be crowned, outsloped, or insloped at 4 to 6 percent as shown on the “Forest Road Specifications” table in this Exhibit.

Ditch. Construct "V" shaped ditch 3 feet wide and to a depth of 1 foot below subgrade.

Ditchouts. Construct ditchouts to drain away from subgrade at locations marked in the field or as directed by STATE.

TURNOUTS. Increase roadbed width an additional 8 feet for both subgrade and surfacing. Length shall be at least 25 feet, plus 25-foot approaches at each end. Location: Intervisible but not greater than 750 feet apart.

SLOPES. Top of cutslope shall be rounded.	Cutslopes	Fill Slopes
Solid Rock	Vertical to ¼ :1	
Fractured Rock	¼:1	
Soil - side slopes 50% and over	½:1	1½:1
Soil - side slopes less than 50%	¾:1	1½:1

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 stated or approved by STATE. Surface is to be outsloped or crowned for drainage with general grade no more than 3 percent. Surface as shown in the “Road Surfacing” table in this Exhibit, with 2 feet of subgrade extending out from base of the surfacing.

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 to the Waterbar and Tank Trap specifications in this contract, and blocked from vehicular traffic prior to October 31, annually and as directed by STATE.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

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

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD CONSTRUCTION INSTRUCTIONS:

1. Excavated Materials. Excavated materials shall be utilized for road construction and hauled in where required. Surplus excavation materials shall be hauled to the waste areas as marked in the field and/or designated on Exhibit A. Surplus excavated materials and waste materials shall be sloped and compacted for drainage.

2. Drainage Ditches. Construct ditchlines, including ditchouts, as directed by STATE. Cutslopes of ditchlines and ditchouts shall not exceed a 1:1 slope. Construct culvert sediment basins. Waste materials from drainage ditches and sediment basins shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE.

3. Culvert Installation. Fill construction backfill shall consist of select materials and may be obtained from borrow pits, as directed by STATE. Backfill materials shall be hauled in where necessary and thoroughly compacted in accordance with this Exhibit.

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

5. Subgrade Preparation and Application of Surfacing Rock.
   (a) Complete culvert installations, drainage ditches, fill construction, ditchouts, settling ponds, and other specified work prior to the application of surfacing rock.
   (b) Subgrade shall be crowned, outsloped, or insloped at 4 to 6 percent.
   (c) Upon completion of above required work, apply, process, and compact surfacing rock in accordance with specifications in the “Compaction and Processing Requirements” in this Exhibit. Final road surface shall be crowned, outsloped, or insloped at 4 to 6 percent.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS:

Segment	Station	Work Description
J to K	0+00	Point J. Begin road construction; crown road, construct ditch. Begin full bench construction to maintain a grade of ≤ 18%. End haul surplus material and woody debris to Waste Area No. 1 or Waste Area No. 4. Install an 18' gate with the hinge post on the West side of the road according to the specifications in Exhibit E.
	0+10	Develop Waste Area No. 1 on right.
	2+00	Install Culvert No. 10 (18"X40') as cross drain.
	4+50	End full bench construction.
	6+50	Construct turnaround on left.
	7+00	Construct roadside landing on left.
	9+00	Construct turnaround on right.
End	9+50	Point B. End road construction, construct landing.

Segment	Station	Work Description
L to M	0+00	Point L. Begin road construction; crown road, construct ditch. Begin full bench construction to maintain a grade of ≤ 15%. End haul surplus material and woody debris to Waste Area No. 2.
	1+00	End full bench construction.
	5+90	Junction with OHV trail on left and right. Maintain OHV access.
	6+10	Point N. Junction with N to O on left.
	8+50	Construct roadside landing on left.
	10+65	Install Culvert No. 11 (18"X40') as cross drain.
	13+50	Begin drift to construct fill.
	15+50	End drift and fill construction.
	16+00	Install Culvert No. 12 (18"X30') as cross drain.
	18+30	Develop Waste area No. 5 on left.
	18+50	Point P. Junction with P to I on right.
	22+00	Construct turnaround on left.
End	22+50	Point M. End road construction, construct landing.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS:

Segment	Station	Work Description
N to O	0+00	Point N. Begin road construction; crown road, construct ditch.
	3+75	Construct turnaround on left.
End	4+50	Point O. End road construction, construct landing, construct helispot.

Segment	Station	Work Description
P to I	0+00	Point P. Begin road construction; crown road, construct ditch.
	4+50	Begin full bench construction to maintain a grade of ≤ 18%. End haul surplus material and woody debris to Waste Area No. 2. Begin rock hammering.
	6+50	End full bench construction. End rock hammering.
	7+50	Construct three settling ponds, in ditch line on left.
	7+60	Live stream. Install Culvert No. 13 (24”X50’).
	7+70	Construct three settling ponds, in ditch line on left.
End	9+00	Point I. End road construction, construct landing.

Segment	Station	Work Description
Q to R	0+00	Point Q. Begin road construction; crown road, construct ditch.
	2+50	Begin drift to maintain grade of ≤ 15%.
	4+00	End drift.
	5+50	Install Culvert No. 14 (18’X30”) as cross drain.
	5+60	Begin full bench construction. End haul surplus material and woody debris to Waste Area No. 2.
	7+10	End full bench construction.
	9+45	Install Culvert No. 15 (18’X30”) as disconnect.
	10+90	Construct three settling ponds in ditchline on left.
	11+00	Live stream. Install Culvert No. 16 (24’X50”).
	11+10	Construct three settling ponds in ditchline on left.
	11+30	Begin drift to construct fill at 12+90.
	12+35	Install culvert No. 17 (18’X50”) as disconnect, culvert goes across OHV trail, maintain OHV access.
	12+50	Junction with OHV trail on right and left, maintain trail access.
	12+80	Construct three settling ponds in ditchline on left.
	12+90	Live stream. Install Culvert No. 18 (24’X60”).
	13+00	Construct three settling ponds in ditchline on left.
	13+20	End drift and fill construction.
	14+60	Construct turnaround on left.
	15+10	Construct roadside landing on right.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS:

Cont.	15+40	Begin fill construction at 17+30.
	16+30	Install culvert No. 19 (18'X30") as disconnect.
	17+00	Begin subgrade reinforcement.
	17+20	Construct three settling ponds in ditchline on left.
	17+30	Live stream. Install Culvert No. 20 (24'X60").
	17+40	Construct three settling ponds in ditchline on left.
	17+80	End drift and fill construction.
	18+30	Install Culvert No. 21 (18'X30") as disconnect.
	19+30	End subgrade reinforcement.
	21+00	Construct turnaround on left.
End	21+50	Point R. End road improvement. Construct landing. Junction with OHV trail, maintain trail access.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

1. Excavated Materials. Excavated materials shall be utilized for road and fill construction and hauled in where required. Surplus excavation materials shall be hauled to the waste areas as marked in the field and/or designated on Exhibit A. Surplus excavated materials and waste materials shall be sloped and compacted for drainage.

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. Culvert Replacement and Culvert Installation. Existing culvert geometry shall be modified to provide for optimum drainage and culvert performance. Modifications may include, skewing the culvert and/or installing the culvert at gradients equal to or exceeding the drainage (or ditch) gradient. Where culvert replacement is specified, fills shall be excavated to natural stream course levels. All woody debris encountered during fill excavation shall be removed. Unsuitable backfill material shall be hauled to the designated waste areas as marked in the field and/or designated on Exhibit A. Backfill materials shall be hauled in where necessary.

4. Drainage Ditches. Restore or construct ditchlines, including ditchouts, as directed by STATE. Clean out all culvert inlets and outlets for a 10-foot radius. Ditch debris including woody debris shall be loaded and hauled to designated waste areas and shall be accomplished with the use of an excavator and dump truck. Re-establish or construct culvert sediment basins. Waste materials from drainage ditches and sediment basins shall not be pulled across existing surfacing rock but shall be placed in nearby waste areas.

5. Settling Ponds. Construct up to 3 settling ponds for erosion control in project areas and ditchlines where sedimentation or erosion is possible as directed by STATE. Excavated material shall be hauled to the designated waste areas as marked in the field and/or designated on Exhibit A. Waste materials shall be sloped and compacted for drainage. Settling pond dimensions shall be a finished length of 3 feet, width of 3 feet, and 3 feet in depth, or as directed by STATE. Backslopes shall be ¾:1.

6. Energy Dissipator Construction. Where rock is specified for fill armor, rock shall be machine placed and tamped at a 1½:1 slope, beginning at the toe of the fill. Where rock is used for an energy dissipator, rock shall be placed below the culvert outlet and embedded for a minimum of 3 feet, in accordance with Exhibit E.

7. Subgrade Preparation and Application of Surfacing Rock.
   (a) Complete culvert installations, drainage ditches, fill reconstruction, ditchouts, settling ponds, and other specified work prior to the application of new surfacing rock.
   (b) Cut out all potholes and/or washboard sections from the existing surfacing.
   (c) 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.
   (e) Upon completion of above required work, apply, process, and compact surfacing rock in accordance to this Exhibit.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
A to B	0+00	Point A. South Fork Road. Begin road improvement; crown road, clean or construct ditch. Powerline in ditch on right side.
	31+95	Powerline crosses road to left side.
	74+30	Junction with South Fork camp on right. Powerline crosses road to camp.
	118+10	Junction with OHV trail on left and right maintain OHV access.
	143+35	Lyda camp on left and right.
	146+85	Junction with C-Line road on right.
End	183+50	Point B. Junction with Woods Point on right. End road improvement.

Segment	Station	Work Description
B to C	0+00	Point B. Woods Point Road. Begin road improvement; crown road, clean or construct ditch. Existing culvert, clean inlet and outlet, install marker.
	30+05	Existing culvert, clean inlet and outlet, install marker.
	34+15	Existing culvert, clean inlet and outlet, install marker.
	40+10	Existing culvert, clean inlet and outlet.
	44+75	Existing culvert, clean inlet and outlet.
	46+50	Point J. Junction with J to K on right.
	48+60	Existing culvert, clean inlet and outlet.
	53+80	Existing culvert, install marker.
	56+30	Existing culvert, install marker.
	57+45	Junction on left.
	61+75	Existing culvert, install marker.
	62+35	Junction on left.
	67+30	Existing culvert, clean inlet and outlet.
	73+35	Live stream. Existing culvert, install marker. Place 12cy of Riprap as Energy Dissipator at outlet.
	81+30	Junction on left.
	92+80	Point D. Junction with D to E on left.
	93+80	Live stream. Remove existing culvert and install Culvert No. 1 (24”X40’).
	95+30	Junction with OHV trail on right and left maintain trail access.
	99+25	Live stream. Existing culvert, install marker.
	110+50	Construct three settling ponds in ditchline on left.

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS:

Cont.	110+60	Live stream. Existing culvert, clean inlet and outlet. Place 12cy of Riprap as Energy Dissipator at outlet.
	110+70	Construct three settling ponds in ditchline on left.
	114+10	Junction with OHV trail on left, maintain OHV access.
	114+40	Point L. Junction with L to M on left.
	114+60	Install Culvert No. 2 (24”X40’) as cross drain.
	118+25	Existing culvert, clean inlet and outlet.
	124+15	Existing culvert, clean inlet and outlet, install marker.
	139+65	Point F. Junction with F to G on left.
	147+20	Existing culvert, clean inlet and outlet, install marker.
	152+10	Point J. Junction with J to K on left.
End	154+50	Point C. End road improvement.

Segment	Station	Work Description
D to E	0+00	Point D. Begin road improvement; crown road, clean or construct ditch.
	0+40	Remove existing culvert.
	1+00	Live stream. Install Culvert No. 3 (24”X40’).
	10+75	Junction on left.
	24+00	Live stream. Existing culvert, install marker.
	24+10	Construct three settling ponds in ditchline on left.
	30+00	Junction on left.
	33+00	Existing culvert, clean inlet and outlet.
	36+00	Improve roadside landing on right.
	37+10	Existing culvert, clean inlet and outlet.
End	39+00	Point E. End road improvement.

Segment	Station	Work Description
F to G	0+00	Point F. Begin road improvement; crown road, clean or construct ditch.
	1+10	Existing culvert, clean inlet and outlet.
	5+50	Construct roadside landing on left.
	8+00	Construct three settling ponds in ditchline on left.
	8+10	Live stream. Remove existing culvert and replace with Culvert No. 4 (36”X40’).
	8+20	Construct three settling ponds in ditchline on left.
	9+40	Live stream. Remove existing culvert and replace with Culvert No. 5 (24”X30’).

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS:

Cont.	9+50	Construct three settling ponds in ditchline on left.
	10+50	Live stream. Remove existing culvert and replace with Culvert No. 6 (36”X40’). Place 24cy of Riprap as Energy Dissipator at outlet.
	10+60	Construct three settling ponds in ditchline on left.
	11+05	Existing culvert, clean inlet and outlet.
	15+30	Existing culvert, clean inlet and outlet, install marker.
	15+90	Existing culvert, clean inlet and outlet, install marker.
	18+00	Construct turnaround on right.
End	19+50	Point G. End road improvement, improve landing.

Segment	Station	Work Description
H to I	0+00	Point H. Begin road improvement; crown road, clean or construct ditch.
	2+80	Install Culvert No. 7 (18”X30’) as cross drain.
	9+00	Install Culvert No. 8 (18”X30’) as disconnect.
	9+80	Construct three settling ponds in ditch line on left.
	9+90	Live stream, existing culvert.
	10+00	Construct three settling ponds in ditch line on left.
	20+25	Existing culvert, clean inlet and outlet.
	27+35	Existing culvert, clean inlet and outlet.
	28+00	Install Culvert No. 9 (18”X50’) as cross drain.
	29+05	Existing culvert, clean inlet and outlet, install marker.
	35+95	Live stream. Existing culvert, clean inlet and outlet. End haul surplus material and woody debris to Waste Area No. 2.
	38+00	Live stream. Existing culvert, clean inlet and outlet. End haul surplus material and woody debris to Waste Area No. 2.
	39+85	Existing culvert, clean inlet and outlet, install marker.
End	50+50	Point I. Junction with N to I on left. End road improvement.

EXHIBIT D

FULL BENCH AND END-HAUL REQUIREMENTS

POINT TO POINT	STA. TO STA.
J to K	0+00 to 4+50
L to M	0+00 to 1+00
P to I	4+50 to 6+50
Q to R	2+50 to 4+00
Q to R	5+60 to 7+10

Full Bench and End-Haul Areas General Requirements

Sidecast includes any road generated excess excavation material which is not essential as part of the road prism, is not compacted, and is below the roadway. Material shall not be sidecast unless specified above.

When controlled blasting is required, it shall be accomplished using timing devices, delayed charges, low intensity shots, or other suitable means to contain material within the road prism.

Containment/Sidecast

- Full: No excavated material remains below the road.
- Normal/Incidental: The amount of excavated material lost over the outside edge of the road shall not exceed 1 foot in depth.
- Sidecast: Material shall be spread evenly below the road so that it does not build up behind trees, snags or other debris, and shall not exceed 3 feet in depth.

Any amount of material exceeding the containment requirements shall be removed by whatever means necessary and end-hauled to a designated waste area.

Waste Area Location

- As shown on Exhibit A and as marked in the field.
- Setback from slope break shall be a minimum of 20 feet horizontal measurement.

Waste Area Treatment

- Deposit at waste area, spread evenly, compact, and provide adequate drainage.
- Pile woody debris separate from other waste material.
- Mulch and seed all waste areas in accordance with Exhibit J.

EXHIBIT D

ROCK TABLE

ROAD SEGMENT: A to B				Sta. to Sta. 0+00 to 183+50				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Spot Rock	1 ½"-0 Crushed	A to B	Varies	Station	Varies	Stations	183.5	250
Total Rock for Road Segment:								250

ROAD SEGMENT: B to C				Sta. to Sta. 0+00 to 154+50				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culvert Nos. 1 & 2	Varies	Culvert	24	Culverts	2	48
Energy Dissipator	Riprap	73+35 & 110+60	Varies	Culvert	12	Culverts	2	24
Surfacing Rock	1 ½"-0 Crushed	0+00 to 63+00	6	Station	31	Stations	63	1,953
Surfacing Rock	4"-0 crushed	63+00 to 93+00	8	Station	42	Stations	30	1,260
Culvert spot rock	1 ½"-0 Crushed	75+30, 77+80 & 91+90	Varies	Culvert	24	Culverts	3	72
Spot rock	1 ½"-0 Crushed	92+85 to 154+50	Varies	Station	Varies	Stations	Varies	250
Junction	1 ½"-0 Crushed	46+50, 57+45, 62+35, 81+30, 92+80, 95+30, 113+80, 114+14, 139+65 & 152+10	6	Junction	12	Junctions	10	120
Turnout	1 ½"-0 Crushed	B to C	6	Turnout	14	Turnouts	11	154
Traction Rock	1 ½"-0 Crushed	101+00 to 104+00, 130+00 to 132+00, 138+00 to 142+00 & 144+00 to 147+00	4	Station	20	Stations	9	180
Total Rock for Road Segment:								4,061

ROAD SEGMENT: D to E				Sta. to Sta. 0+00 to 39+00				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culvert No. 5	Varies	Culvert	24	Culverts	1	24
Surfacing Rock	4"-0 Crushed	D to E	8	Station	42	Stations	39	1,638
Junction	4"-0 Crushed	10+75 & 30+00	8	Junction	24	Junctions	2	48
Turnout	4"-0 Crushed	D to E	8	Turnout	19	Turnouts	4	76
Roadside Landing	4"-0 Crushed	36+00	8	Landing	60	Landings	1	60
Total Rock for Road Segment:								1,846

EXHIBIT D

ROCK TABLE

ROAD SEGMENT: F to G				Sta. to Sta. 0+00 to 19+50				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culverts Nos. 4, 5 & 6	Varies	Culvert	24	Culverts	3	72
Energy Dissipator	Riprap	Culvert No. 6	Varies	Culvert	24	Culverts	1	24
Surfacing Rock	4"-0 Crushed	F to G	8	Station	42	Stations	19.5	819
Turnout	4"-0 Crushed	F to G	8	Turnout	19	Turnouts	2	38
Roadside Landing	4"-0 Crushed	5+50	12	Landing	95	Landings	1	95
Landing	4"-0 Crushed	Point G	8	Landing	120	Landings	1	120
Total Rock for Road Segment:								1,168

ROAD SEGMENT: H to I				Sta. to Sta. 0+00 to 50+50				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culverts Nos. 7, 8 & 9	Varies	Culvert	24	Culverts	3	72
Surfacing Rock	4"-0 Crushed	H to I	8	Station	42	Stations	50.5	2,121
Turnout	4"-0 Crushed	H to I	8	Turnout	19	Turnouts	4	76
Total Rock for Road Segment:								2,269

ROAD SEGMENT: J to K				Sta. to Sta. 0+00 to 9+50				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Surfacing Rock	4"-0 Crushed	J to K	12	Station	66	Stations	9.5	627
Turnout	4"-0 Crushed	J to K	12	Turnout	29	Turnouts	2	58
Turnaround	4"-0 Crushed	6+50 & 9+00	12	Turnaround	20	Turnarounds	2	40
Traction Rock	1 ½"-0 Crushed	0+00 to 4+50	3	Station	16	Stations	4.5	72
Roadside Landing	4"-0 Crushed	7+00	12	Landing	95	Landings	1	95
Landing	4"-0 Crushed	Point B	12	Landing	180	Landings	1	180
Total Rock for Road Segment:								1,072

ROAD SEGMENT: L to M				Sta. to Sta. 0+00 to 22+50				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Surfacing Rock	4"-0 Crushed	L to M	12	Station	66	Stations	22.5	1,485
Junction	4"-0 Crushed	Point N and Point P	12	Junction	24	Junctions	2	48
Turnout	4"-0 Crushed	L to M	12	Turnout	29	Turnouts	4	116
Turnaround	4"-0 Crushed	22+00	12	Turnaround	20	Turnarounds	1	20
Roadside Landing	4"-0 Crushed	8+50	12	Landing	95	Landings	1	95
Landing	4"-0 Crushed	Point M	12	Landing	180	Landings	1	180
Total Rock for Road Segment:								1,944

EXHIBIT D

ROCK TABLE

ROAD SEGMENT: N to O				Sta. to Sta. 0+00 to 4+50				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Surfacing Rock	4”-0 Crushed	N to O	12	Station	66	Stations	4.5	297
Turnout	4”-0 Crushed	N to O	12	Turnout	29	Turnouts	1	29
Turnaround	4”-0 Crushed	3+75	12	Turnaround	20	Turnarounds	1	20
Landing	4”-0 Crushed	Point O	12	Landing	180	Landings	1	180
Total Rock for Road Segment:								526

ROAD SEGMENT: P to I				Sta. to Sta. 0+00 to 9+00				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Surfacing Rock	4”-0 Crushed	P to I	12	Station	66	Stations	9	594
Turnout	4”-0 Crushed	P to I	12	Turnout	29	Turnouts	2	58
Traction Rock	1 ½”-0 Crushed	4+50 to 6+50	3	Station	16	Stations	2	32
Total Rock for Road Segment:								684

ROAD SEGMENT: Q to R				Sta. to Sta. 0+00 to 21+50				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Subgrade Reinforcement	Pit-run	17+00 to 19+30	12	Station	Varies	Stations	2.3	122
Surfacing Rock	4”-0 Crushed	Q to R	12	Station	66	Stations	21.5	1,419
Turnout	4”-0 Crushed	Q to R	12	Turnout	29	Turnouts	2	58
Turnaround	4”-0 Crushed	14+60 & 21+00	12	Turnaround	20	Turnarounds	2	40
Roadside Landing	4”-0 Crushed	15+10	12	Landing	95	Landings	1	95
Landing	4”-0 Crushed	Point R	12	Landing	180	Landings	1	180
Total Rock for Road Segment:								1,914

STOCKPILE			
Rock Size and Type	Location	Approximate Dimensions	Volume (Stockpile Measurement CY)
4”-0	Backwoods Quarry	Base:30’ x 30’ Top: 20’ x 20’ Height: 12’	250

TOTAL ROCK	Riprap	Pit-run	4”-0 Crushed	1 ½”-0 Crushed
	48 CY	122 CY	12,515 CY	3,299 CY

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

EXHIBIT D

ROCK ACCOUNTABILITY

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

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

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

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

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

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

Moisture Content: Compaction must take place when moisture content of the materials being compacted is favorable for effective compaction as determined by STATE.

Compaction Pass: A pass is defined as traveling a road section forward and then backward over that same section.

Subgrade. Subgrade surfaces of the road segments listed below shall be graded and compacted prior to rocking. Compaction shall be accomplished by traveling all surfaces from shoulder to shoulder until the surface is smooth and hard and visible deformation ceases. At least 3 passes shall be made over the entire width and length of the road. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

Subgrade shall be crowned, outsloped, or insloped at 4 to 6 percent as specified in the “Forest Roads Specifications” table in Exhibit D.

ROAD SEGMENT	SUBGRADE COMPACTION OPTIONS
All road segments that require rock surfacing	Vibratory Roller
All road segments that require subgrade reinforcement rock	Vibratory Grid Roller or a combination of Vibratory Roller and Dozer

Fills. Embankments and fills shall be placed in (approximately) horizontal layers not more than 8 inches in depth. Each layer shall be separately, and thoroughly, compacted. Compaction equipment shall be operated over the entire width of each layer until visible deformation of the layers ceases. At least 3 passes shall be made over the entire width and length of each layer.

Placing individual rocks or boulders with more depth than the allowed layer thickness shall be permitted, provided the embankment will accommodate them. Such rocks and boulders shall be at least 6 inches below the subgrade. They shall be carefully distributed, and the voids filled with finer material, forming a dense and compacted mass. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

ROAD SEGMENT	FILL COMPACTION OPTIONS
All road segments	Vibratory Roller, Vibratory Hand-Operated, Backhoe-Mounted Tamper, or Dozer

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

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

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

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

ROAD SEGMENT	CRUSHED ROCK COMPACTION OPTIONS
All road segments requiring crushed rock	Vibratory Roller

COMPACTION EQUIPMENT OPTIONS

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

Vibratory Hand-Operated or Backhoe-Mounted Tamper. Vibratory hand-held or hydraulic tampers shall be used for compaction of backfill materials around culverts. The tamper shoe dimensions shall be a minimum of 10" X 13" and capable of a centrifugal force of 2,250 pounds.

Vibratory Grid Compactors. The roller shall have a grid surface and have an operating weight of 32,000 pounds or more. The rock shall be worked with a grader weighing at least 20,000 pounds during the grid rolling process. All rock shall come in contact with the vibratory grid compactor.

Dozer. A dozer/track-type tractor weighing a minimum of 45,000 pounds as directed by STATE shall be operated over the pit-run so that the entire surface comes in contact with the tracks.

EXHIBIT E

FOREST GATE DESIGN, CONSTRUCTION, AND INSTALLATION

DESCRIPTION OF WORK. PURCHASER shall construct, and install gate with posts at locations posted in the field, as directed by STATE. PURCHASER shall furnish all materials unless otherwise specified.

GATE AND POST REQUIREMENTS AND SPECIFICATIONS:

Gates shall be commercially manufactured, heavy duty, 6-rail with vertical braces, notched and welded.

The gate shall be 50” x 18’.

Post shall be constructed from 4” Sch. 40 steel pipe.

Holes shall be drilled and painted prior to setting in the ground.

All posts shall be painted with a rust resistant primer coat and a topcoat of a rust resistant high visibility yellow. Prior to painting, posts shall be cleaned and free of rust scale.

GENERAL GATE AND POST INSTALL INSTRUCTIONS:

All gate post locations shall be marked on the ground and will require STATE approval prior to installing the posts.

Distance between hinge and lock post shall be minimized while allowing full swing of gate in both directions with 6” – 8” of ground clearance throughout the swing.

If the bottom of the posts are installed at a depth shallower then 5’, the bottom of the post shall be cut. The post shall then be set, with a minimum of 2’ below ground, set in concrete. Concrete shall be a minimum of 2’ in diameter and 2’ deep (.45cy per post).

Blocking post shall be set to a height of 4’ above the ground, firm and plum.

The gate shall be locked to the hinge post (“master’’ lock supplied by STATE) utilizing the installed chain, as shown in this exhibit.

The gate shall be able to be locked (“DF” lock supplied by STATE) to the lock post utilizing the installed chain, as show in this exhibit.

The gate shall be able to be locked (“DF” lock supplied by STATE) to the blocking post utilizing the installed chain, as approved by STATE.

All bare metal, welds, scrapes, cuts or grind marks shall be cleaned and painted with rust resistant high visibility yellow paint.

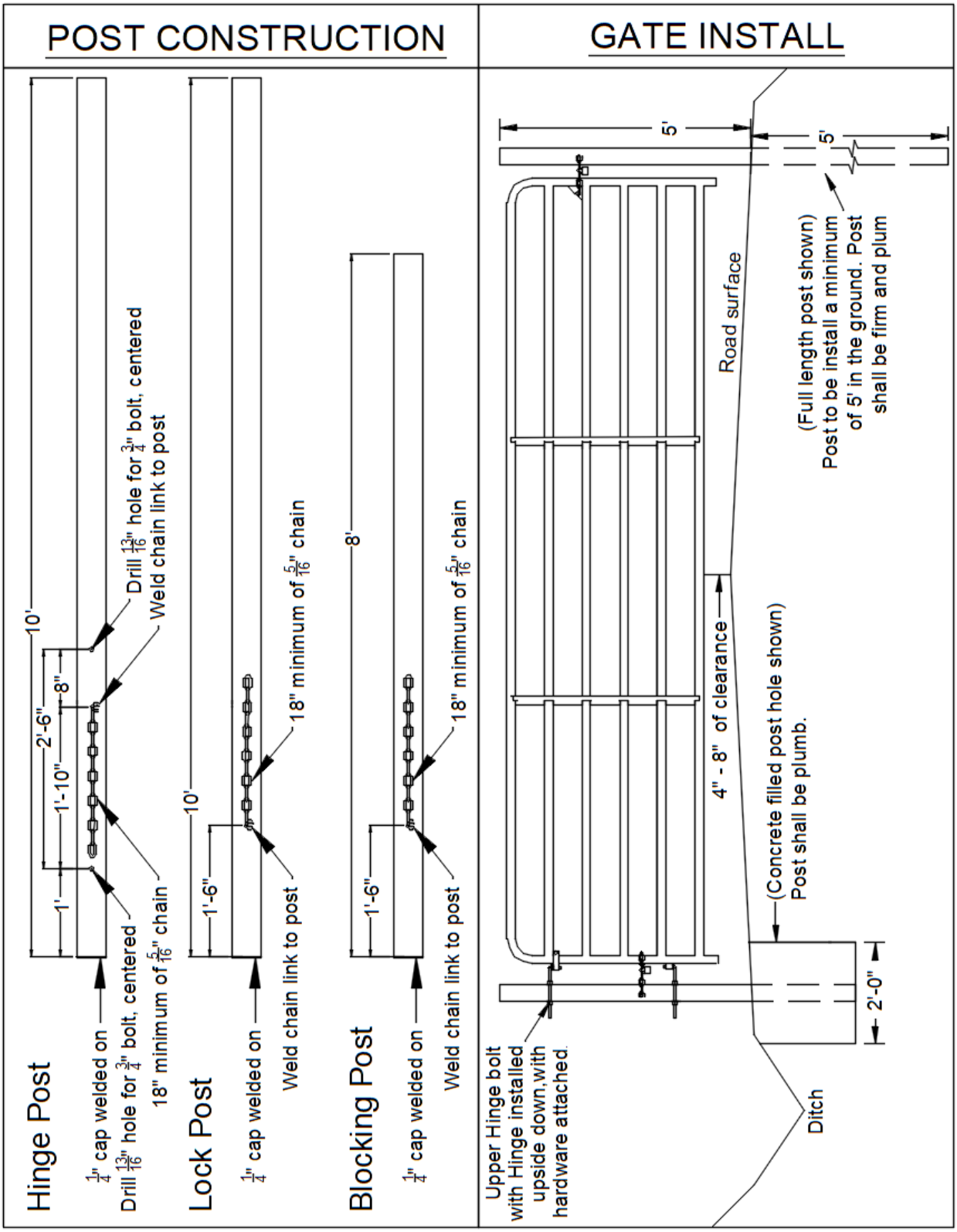

POST CONSTRUCTION
GATE INSTALL
Hinge Post
10'
2'-6"
1'-10"
8"
1'
Drill 13/16" hole for 3/4" bolt, centered
Weld chain link to post
1/4" cap welded on
Drill 13/16" hole for 3/4" bolt, centered
18" minimum of 5/16" chain
Lock Post
10'
1'-6"
18" minimum of 5/16" chain
1/4" cap welded on
Weld chain link to post
Blocking Post
8'
1'-6"
18" minimum of 5/16" chain
1/4" cap welded on
Weld chain link to post
5'
5'
Road surface
(Full length post shown)
Post to be install a minimum
of 5' in the ground. Post
shall be firm and plum
4" - 8" of clearance
(Concrete filled post hole shown)
Post shall be plumb.
2'-0"
Upper Hinge bolt
with Hinge installed
upside down,with
hardware attached.
Ditch

EXHIBIT F

CULVERT SPECIFICATIONS

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

Uninstalled culverts shall become property of the STATE. PURCHASER will deliver surplus culverts to the district office as directed by STATE.

Culverts 36 inches in diameter and smaller shall be constructed of corrugated polyethylene. Culverts larger than 36 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.

Joining shall be done with bands of like material and corrugations. Manufacturers' instructions shall be followed for prefabricated pipe assembly. Polyethylene joints shall be made with split couplings, corrugated to engage the culvert corrugations, and shall engage a minimum of 4 corrugations, 2 on each side of the culvert joint.

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

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

Cross Drain Culverts

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

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

Disconnect Culverts

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

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

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

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

EXHIBIT F

CULVERT SPECIFICATIONS

Minimum height of cover over top of culvert to subgrade when road is to be rocked shall be as follows: 12" for culverts 18” to 36” and 18” for culverts 42” to 96” (add 6" for roads which will not be rocked). Minimum vertical cover for other designs shall be as specified by STATE.

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

The intake end of cross drain and disconnect culverts shall be provided with a sediment catching basin 3 feet in diameter at the bottom. The outlet end of any culvert which would allow water to erode embankment soil shall be provided with an energy dissipator, half round, or other approved slope protection device. Construct lead-off ditches away from culvert outlets where the slope gradients restrict the free flow of water.

Culverts 36 inches in diameter or larger shall have 1:1 step beveled inlets.

Compaction by tamping utilizing a Vibratory Hand-Operated or Backhoe-Mounted Tamper is required for all stream crossing culverts and culverts on improvement sections.

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

The intake ends of culverts in fills less than 3 feet to the top of the culvert shall be marked by driving steel posts within 6 inches of the downgrade side. Posts shall be painted with a rust-resistant paint and be a minimum of 5 feet long, with the spade driven 2 feet into the ground. Install a culvert marker at each existing culvert that is missing a marker that could be reached by a grader blade.

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

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

EXHIBIT F

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	ROAD SEGMENT POINT TO POINT	STATION
1	24	40	B to C	93+80
2	24	40	B to C	114+60
3	24	40	D to E	1+00
4	36	40	F to G	8+10
5	24	30	F to G	9+40
6	36	40	F to G	10+50
7	18	30	H to I	2+80
8	18	30	H to I	9+00
9	18	50	H to I	28+00
10	18	40	J to K	2+00
11	18	40	L to M	10+65
12	18	30	L to M	16+00
13	24	50	P to I	7+60
14	18	30	Q to R	5+50
15	18	30	Q to R	9+45
16	24	50	Q to R	11+00
17	18	50	Q to R	12+35
18	24	60	Q to R	12+90
19	18	30	Q to R	16+30
20	24	60	Q to R	17+30
21	18	30	Q to R	18+30

TOTAL LENGTHS BY DIAMETER		
18 INCH	24 INCH	36 INCH
390	370	80

EXHIBIT F

TYPICAL EMBEDDED ENERGY DISSIPATOR

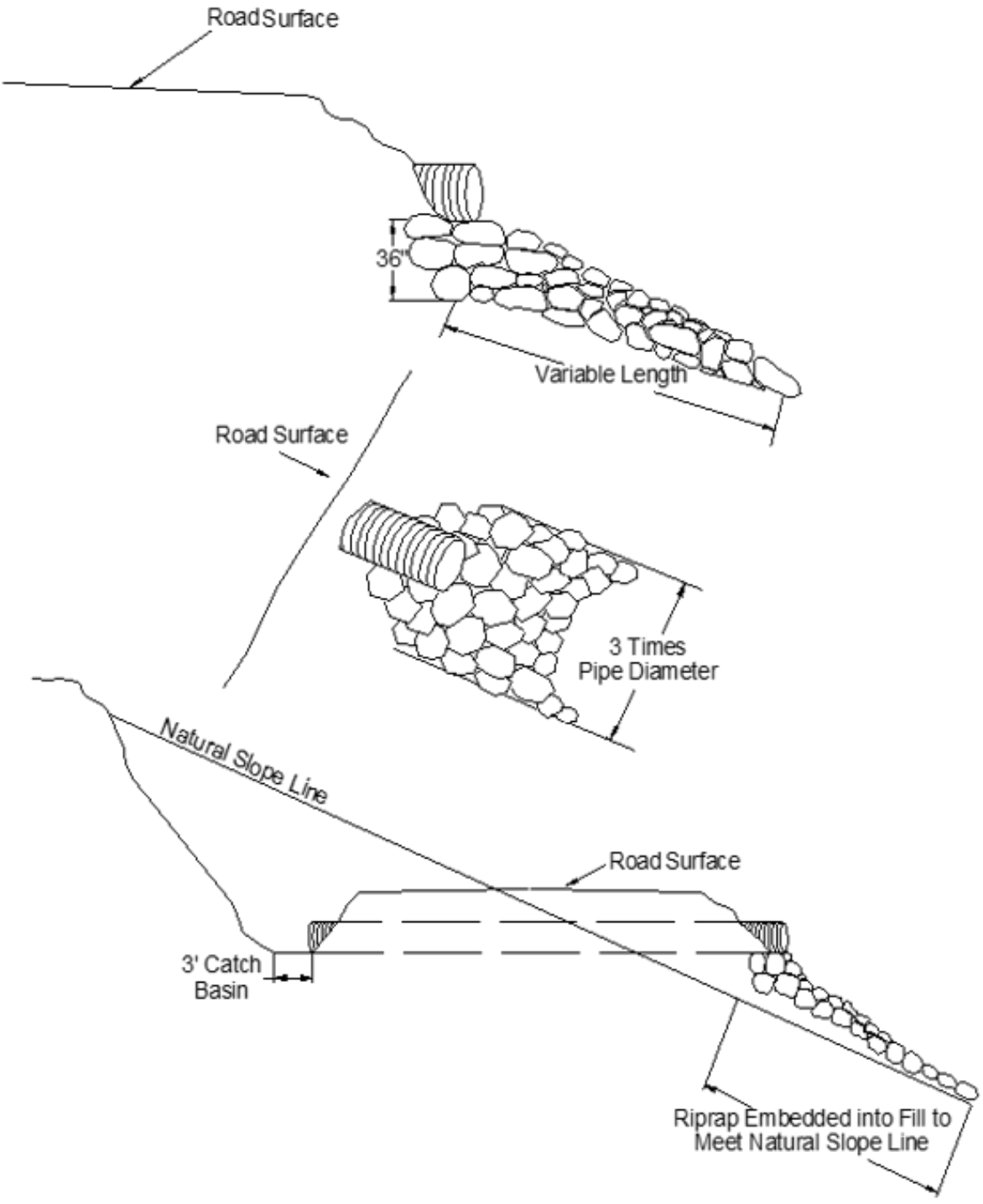


EXHIBIT G

ROCK QUARRY DEVELOPMENT AND USE

1. PURCHASER shall prepare a written development plan for the quarry area. The plan shall be submitted to STATE for approval prior to conducting any operation in quarry area. The plan shall include, but not be limited to:
   (a) Location of benches and roads to benches.
   (b) Disposal site for woody debris, overburden and reject material.
   (c) Time lines for rock quarry use.
   (d) Erosion Control measures.

2. PURCHASER shall schedule and coordinate quarry and stockpile usage with other existing or planned activity requiring quarry or stockpile usage. PURCHASER shall notify STATE 5 days prior to the start of quarry development activities.

3. The STATE shall be notified 24 hours prior to the beginning of blasting operations. Working days shall be defined as Monday through Friday, 7:00 a.m. to 4:30 p.m.

4. Purchaser shall identify a Blaster in Charge (BIC) for all blasting operations. The BIC will be qualified by experience to oversee all phases of the blasting operations. The BIC shall provide direct supervision at all times when blasting and explosives handling activities are occurring on STATE LANDS.

5. Controlled blasting techniques shall be utilized for any blasting operations, and shall be accomplished using timing devices, delayed charges, low intensity shots, or other suitable means to contain as much material as possible within the quarry development area. Each shot shall also have a “tattle-tale” end cap so that it is known if all charges were detonated. The CONTRACTOR shall detonate or remove all non-detonated explosives from STATE LANDS. PURCHASER shall maintain a comprehensive blasting log that contains all pertinent data for all blasting operations. The blasting log shall be submitted to the STATE after the completion of all blasting activity. The blasting log is intended for STATE record keeping purposes only.

6. At the Backwoods Quarry, fall all timber within the posted right-of-way boundary and remove all merchantable timber. All woody debris, including stumps and Slash shall be hauled to the designated disposal areas.

7. Overburden shall be removed for a distance of 20 feet beyond the developed rock source. All overburden and reject material shall be hauled to the designated waste area as directed by STATE.

8. PURCHASER shall conduct the operations relative to the disposal of waste material in such manner that sediment, rock, or debris shall not be washed, conveyed, or otherwise deposited in any stream.

9. Benches shall be maintained/constructed at intervals of 40 feet or less in height and shall be a minimum of 20 feet in width. Any gravel or talus slopes shall be left with a working face at an angle of 60 percent or less. There shall be a minimum of one bench with an access road to it. Said bench shall be easily accessible with tractors.

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

11. Oversized material that is produced or encountered during development shall be broken down and utilized for crushing.

12. The quarry site shall be left in a condition free from overburden and debris. Access roads to the quarry, and the quarry floor, shall be cleared at the termination of use.

13. The quarry floor shall be developed to provide for drainage away from the quarry. All quarry and stockpile site drainage ditches shall be maintained. Ditches, culverts, waterbars and other direct conveyances of water from the quarry or stockpile site shall be constructed to drain to the forest floor in locations that will provide filtration. Quarry access roads shall be cleared and blocked upon completion of quarry use as directed by STATE.

14. Proper winterization and storm-water control measures such as waterbarring, drainage, utilization of filter bales, mulching and/or blocking access shall be constructed and maintained to protect the watershed and Project Work, as directed by STATE.

EXHIBIT G

QUARRY DEVELOPMENT AND USE

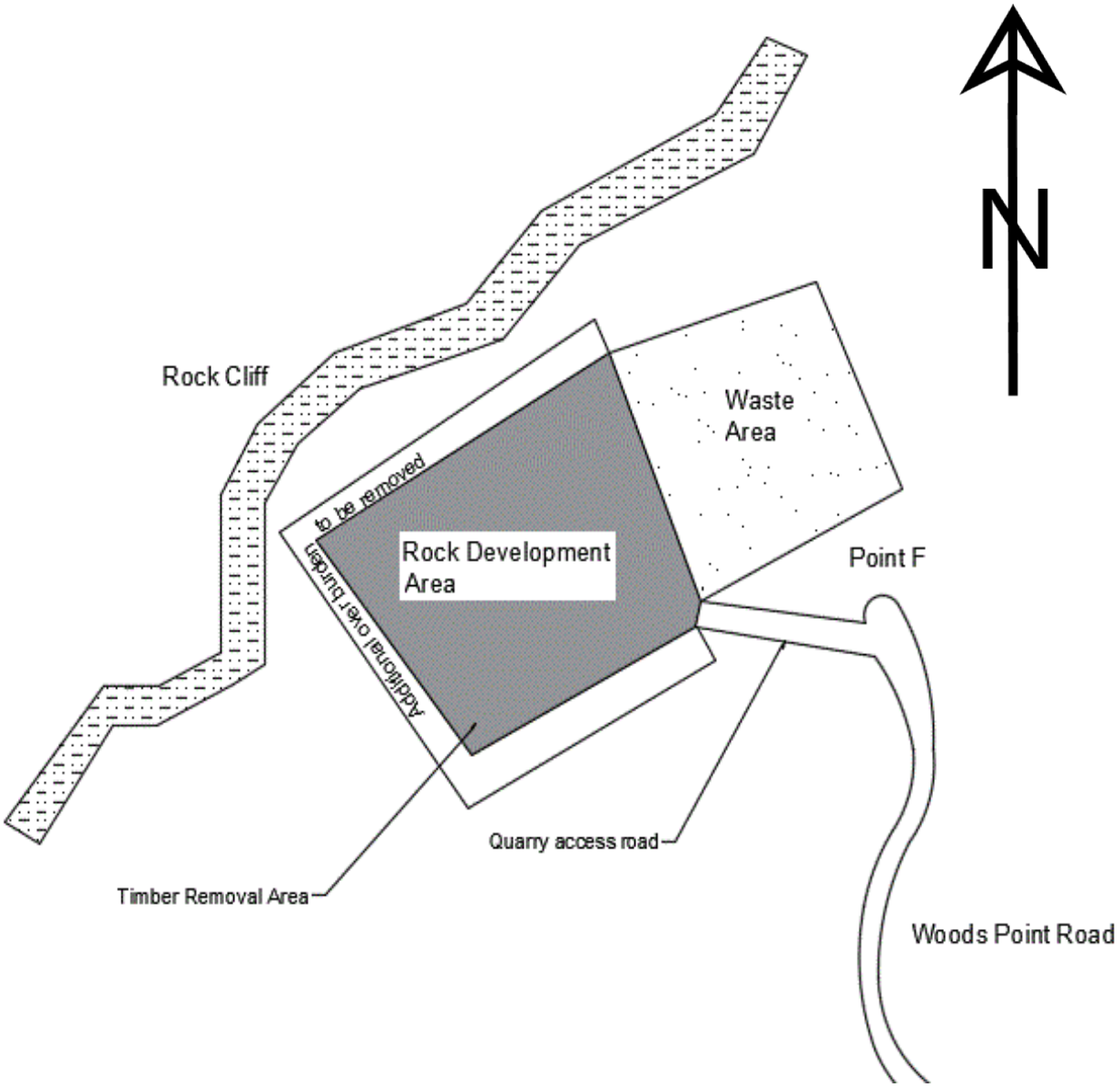


EXHIBIT G

CRUSHED ROCK SPECIFICATIONS

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

STATE requires screening and/or rejecting of materials utilized for production of crushed rock for the purpose of removing excess fine material. Excess fines are present, when greater than 5 percent of a total rock sample weight, passes a #200 sieve. Rock crushing shall be limited to periods when weather conditions are acceptable to STATE.

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

Hardness - Aggregate Hardness - Test Method AASHTO T 96: 30% Maximum

Durability – Test Method ODOT TM 208

Passing No. 20 Sieve: 30% Maximum

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

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

EXHIBIT G

CRUSHED ROCK SPECIFICATIONS

Grading Requirements:

For 4”-0” Jaw-Run

Passing	4" sieve	100%
Passing	2" sieve	60-80%
Passing	1/4" sieve	0-10%

RIPRAP AND PIT-RUN ROCK SPECIFICATIONS

For Pit-Run

Passing	10" sieve	100%
Passing	6" sieve	60-85%
Passing	3" sieve	30-50%
Passing	¼" sieve	0-10%

For 24”-12” Riprap A minimum of 50 percent of the material shall measure a minimum of 24 inches, measured in one dimension. Material shall be clean, well graded, and free of 2"-0" fines.

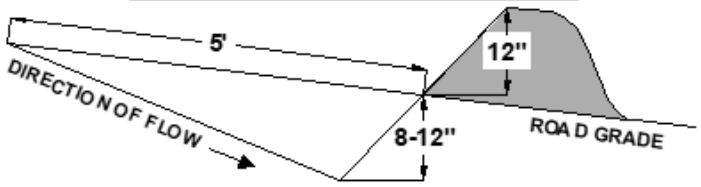
For Riprap and Pit-run, control of gradation shall be by visual inspection by STATE.

EXHIBIT H

WATERBAR SPECIFICATIONS

PROFILE

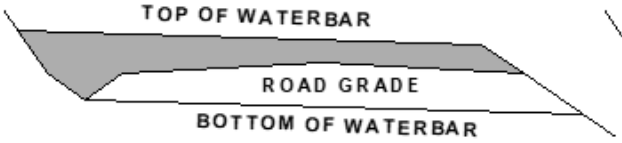
DITCHED AND OUTSLOPED



SPACING OF WATERBARS	
ROAD GRADE	DISTANCE
< 6 %	400'
6 - 10 %	200'
11 - 15 %	150'
> 15 %	100'

CROSS SECTION

DITCHED



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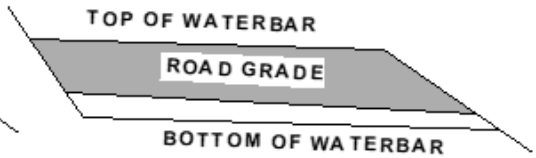
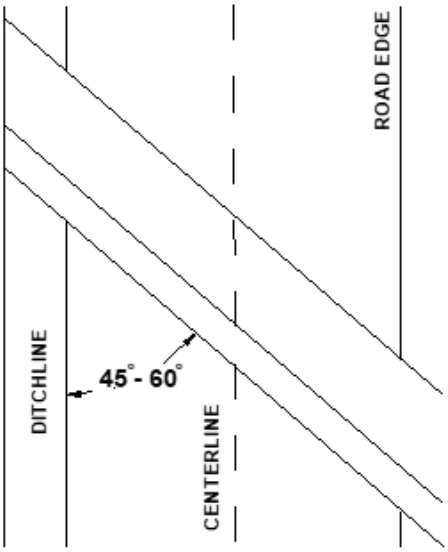


CONSTRUCT DITCHOUT THRU ANY EXISTING BERM.
CROSS DRAINAGE GRADIENT MINIMUM 3%.

PLAN VIEW

DITCHED



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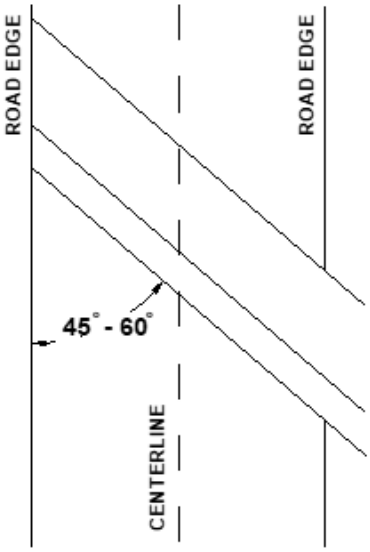
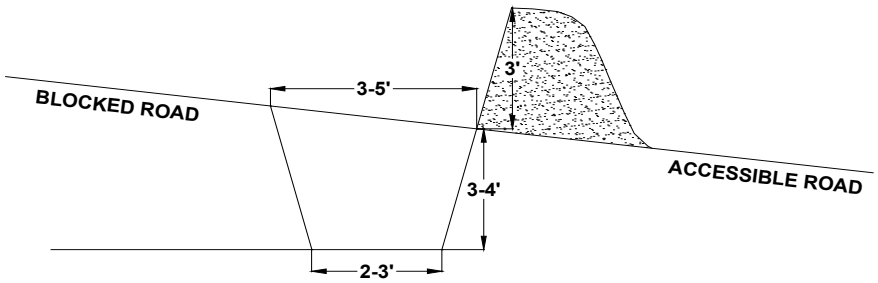


EXHIBIT H

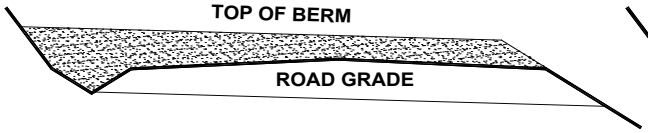
TANK TRAP SPECIFICATIONS

PROFILE
DITCHED AND OUTSLOPED



CROSS SECTION

DITCHED



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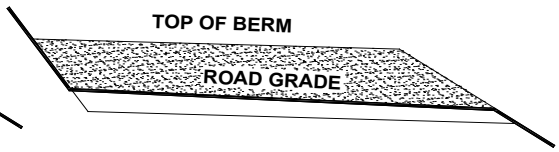
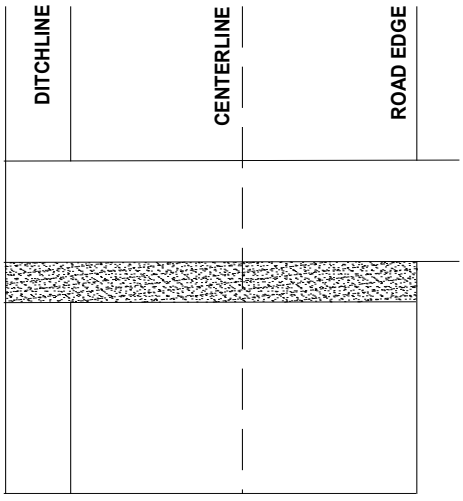
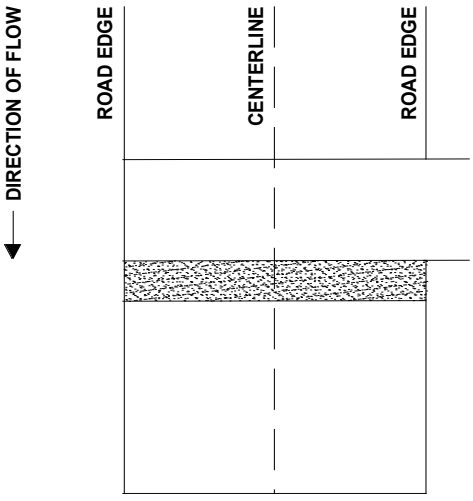


CONSTRUCT DITCHOUT THRU ANY EXISTING BERM.
CROSS DRAINAGE GRADIENT MINIMUM 3%

PLAN VIEW

DITCHED





OUTSLOPED

It should be sloped to drain with a relief ditch through the down slope edge of the road. The trench shall be behind the berm for approaching traffic.

EXHIBIT I

ROAD VACATING SPECIFICATIONS

PURCHASER shall vacate road between the following points: V1 to V2

Specific objectives for this project include:

Surface removal. Rip road surface to a depth of 12”.

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

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

Woody Debris. Woody debris shall be placed on the surface of pullback/fill material.

Block Roads. Use excavated material from fill removals, boulders to block roads from vehicle access, as directed by STATE.

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

Equipment. A minimum 1½ cubic yard, track mounted excavator shall be used for all excavation, culvert removal, streambed preparation, road blocking, and waterbarring, unless otherwise approved in writing by STATE.

Fill Removal and Stream Channel Development. Remove fills to the natural stream course level(s). Stream channel(s) shall be excavated/developed to specified widths. Developed stream banks shall be sloped at natural contours or no steeper than 2:1, as directed by STATE. Do not place excavated material within a riparian management area. If a riparian management area is not required, do not place excavated material within 75 ft. of stream channel.

Culvert Removal. Remove drainage structures and culverts. Removed culverts shall be hauled to an approved refuse site off of STATE land.

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

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

EXHIBIT I

ROAD VACATING SPECIFICATIONS

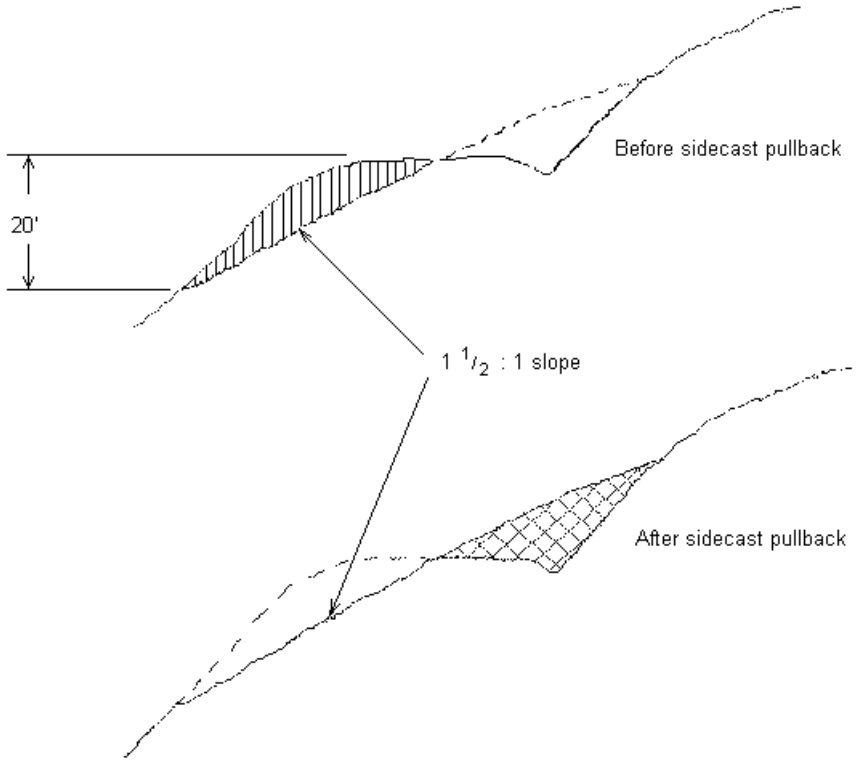
SPECIFIC INSTRUCTIONS/SPECIFICATIONS:

Segment	Station	Work Description
V1 to V2	0+00	Point V1. Begin road vacating. Begin road surface ripping and sidecast pullback. Construct tank trap.
	9+00	Remove existing culvert.
End	21+50	Point V2. End road vacating. Rip landing.

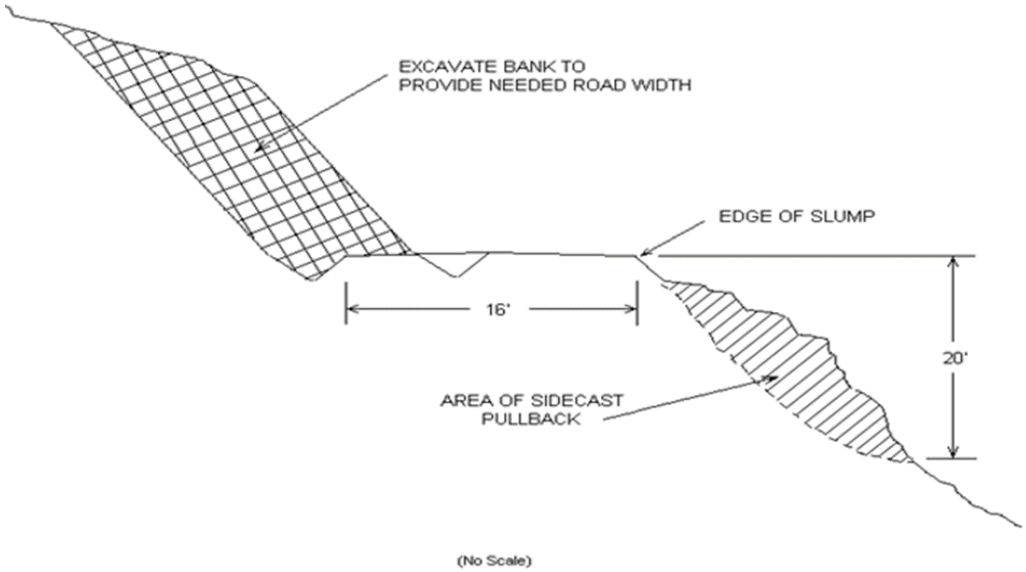
EXHIBIT I

ROAD VACATING SPECIFICATIONS

TYPICAL CROSS SECTION VIEW OF ROAD VACATING SIDECAST PULLBACK



TYPICAL CROSS SECTION VIEW OF SIDECAST PULLBACK AND ROAD REALIGNMENT



(No Scale)

EXHIBIT J

SEEDING AND MULCHING

This work shall consist of preparing seedbeds and furnishing and placing required seed, fertilizer, and straw mulch. Straw mulch shall consist of straw that is free of noxious weeds. Apply seed and fertilizer to all waste areas, and bare soils resulting from Project Nos. 1, 2 and 4. Apply straw mulch to all bare soils within 100' of streams resulting from Project Nos. 1, 2 and 4 and to all waste areas.

Seeding Seasons. Seeding shall be performed only from March 1 through June 15 and August 15 through October 31. Seeding materials shall not be applied during windy weather or when the ground is excessively wet or frozen. Areas of disturbed soil shall be seeded by the end of the project period in which work was started. PURCHASER shall notify STATE within 24 hours of seeding and fertilizer application.

APPLICATION METHODS FOR SEED AND FERTILIZER

Dry Method. Mechanical seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders, or other approved mechanical seeding equipment shall be used to apply the seed and fertilizer in the amounts and mixtures specified. Hand-operated seeding devices may be used when seed and fertilizer are applied in dry form.

APPLICATION RATES FOR SEED AND FERTILIZER

The seed mixture listed below shall be applied at 100 lbs. per acre. The seed mixture shall be comprised of the following: or as approved by STATE.

SPECIES	MIXTURE	PURE LIVE SEED	GERMINATION
Blue Wildrye - Elymus glaucus	95.92%	95%	>90%
Yarrow - Achillea millefolium	2.99%	95%	>90%

Fertilizer: Chemical analysis shall be 16-20-0 and shall be applied at the rate of 200 pounds per acre. Fertilizer shall not be applied within 100 feet of streams.

Mulching Period. Straw mulch shall be applied within 24 hours of spreading grass seed and fertilizer.

APPLICATION RATES FOR MULCH

Place straw mulch to a reasonably uniform thickness of 1½ to 2½ inches. This rate requires between 2 and 3 tons of dry mulch per acre.

Application Locations:

Road Segment	Location	Road Segment	Location
A to B	Waste Area No. 1	J to K	Waste Area No. 4
B to C	Culvert No. 1	L to M	Culvert No. 11
B to C	Waste Area No. 2	L to M	Culvert No. 12
B to C	Waste Area No. 3	L to M	Waste Area No. 5
F to G	Culvert No. 4	P to I	Culvert No. 13
F to G	Culvert No. 5	Q to R	Culvert No. 16
F to G	Culvert No. 6	Q to R	Culvert No. 18
H to I	Culvert No. 7	Q to R	Culvert No. 20

EXHIBIT K

SPECIFICATIONS FOR BRUSH AND SLASH SHOVEL PILING

Description of Work to be Done

Areas designated for work under the contract shall be treated according to the specifications given below:

Clearing - brush, logging Slash, and other debris shall be cleared from planting sites and piled in windrows or piles, so that 80 percent or more of the soil organic layer is exposed. All woody vegetation other than trees is defined as brush in this exhibit. Stumps, however, shall be placed separately, in small clumps for wildlife.

In-Unit Piles - shall be located at least 75 feet apart and shall be no more than 75 feet long. Piles shall be located inside the sale area designated for piling and shall be more than 50 feet from any cutting edge, standing tree, or existing road. Logs that do not meet Section 2045 Log Removal requirements, chunks larger than 12 inches diameter, and stumps shall be left scattered in the Unit for wildlife habitat away from roads and landings.

Pile Construction - all landing piles, and in-unit piles greater than 9 feet by 9 feet by 9 feet, shall have no smaller than a 200 square feet of polyethylene plastic sheeting or enough to cover 50% of the pile. Start the pile with good burnable material such as conifer limbs and chunks, 6 to 8 feet high, add plastic, and complete the pile with Slash on the plastic. Debris that contains a log segment at least 3 inches in diameter at the small end and at least 10 feet in length shall be decked separately from smaller debris and hauled as Pulp.

Protective Measures - shall comply with Oregon Forest Practice Rules issued per ORS 527.610 to 527.992. Examples of protective measures are: (1) waterbarring tractor trails where necessary to prevent runoff toward streams; (2) not windrowing in streams or streamways; and (3) leaving Stream Buffers along designated streams.

Work specifications may be modified or waived only upon written notice from STATE.

EXHIBIT K

SPECIFICATIONS FOR BRUSH AND SLASH SHOVEL PILING

Equipment Type, Equipment Operation, and Conduct of Work

The specifications given below are requirements for equipment type, equipment operation, and conduct of work under the contract.

Shovel - shall be a track-mounted machine with a ground-pressure rating of not more than 6.8 PSI and a net horsepower of 85 or more. The machine shall be capable of a minimum horizontal reach of 26 feet and a minimum vertical reach of 16 feet.

- Log Loader – shovel: Grapple with rake attachment shall be a hydraulically controlled, with a 360-degree continuous rotation, and tooth length on rake arm shall be greater than 14 inches long, unless otherwise approved in writing by STATE.

Equipment	Rate	Acres	Appraised Value
Log Loader	$250 / acre	15	$3,750

Operator - must be experienced in operating similar equipment on land clearing operations, be able to operate the equipment proficiently, and pile the debris on the area as directed by STATE.

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

Work Scheduling - work shall be accomplished only during dry weather conditions, and started within 14 calendar days after completion of yarding activities on the Timber Sale Area. Operations shall provide for continual operation until contract work is completed, unless interrupted by poor weather, fire closures, or other uncontrollable circumstances. Equipment breakdowns shall be repaired without undue delay, and provision shall be made for replacement of equipment to prevent prolonged delays. Piling operation shall not be allowed when operations might damage sites or affect stream flows. Any exception to these instructions must be authorized in writing by STATE.

STATE Representative - shall provide directions for the conduct of work according to specifications.