



PROSPECTUS

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Siuslaw Field Office, Northwest Oregon District
3106 Pierce Parkway Suite E, Springfield, Oregon 97477
<http://www.blm.gov>



July 30, 2025

Parcel No. 1
Contract No. ORN03-TS-2025.0376
Siuslaw Field Office

Dueling Elk
*SBA Set-Aside Sale

TIMBER SALE NOTICE

NOTICE IS HEREBY GIVEN that the Bureau of Land Management will offer for sale timber as described herein for oral auction, pursuant to Instructions to Bidders, as stated on Form No. 5440-9, attached. Written and oral bids will be received by the District Manager, or their representative, at the **NORTHWEST OREGON DISTRICT'S SPRINGFIELD INTERAGENCY OFFICE, 3106 PIERCE PARKWAY, SPRINGFIELD, OREGON**. The timber sale will commence at 10:00 a.m. on Thursday, **August 28, 2025**.

THIS TIMBER SALE NOTICE does not constitute the decision document for purposes of appeal of a forest management decision. Consistent with 43 CFR Subpart 5003.2(b), the date the BLM posts the forest management decision on the BLM's ePlanning website establishes the effective date of the decision for purposes of an administrative appeal. Website Address: <https://www.blm.gov/or/resources/forests/index.php>.

A WRITTEN BID on Form 5440-9 at not less than the appraised price on a unit basis per species and the required minimum bid deposit shall be required to participate in oral bidding for each tract.

FOR SBA SET-ASIDE TRACTS, the bidder must not have been determined by the Small Business Administration to be ineligible for preferential award for set-aside sales and must accompany the bid deposit with a self-certification statement that the bidder is qualified as a small business concern as defined by the Small Business Administration in its regulations, Title 13, Chapter I, Part 121 (Revision 7) as amended, of the Code of Federal Regulations. The Form 5430-1 Self Certification Statement is attached hereto. The successful bidder will be required to sign SBA Form 723 "Small Business Certification Required on All Preferential Sales of Set-Aside Timber" at the time the timber sale contract is signed. Section 2(a) of Form 723 requires that successful bidders on SBA set-aside tracts must comply with delivery requirements pertaining to timber volume. No more than 30 percent of the timber volume from a set-aside sale may be delivered for manufacturing to a business that is not a small business, as defined by the SBA (13 CFR 121.507 (a)). A copy of SBA form 723 is attached.

THE SUCCESSFUL BIDDER, as a condition of award, will be required to complete and/or sign the following forms:

1. Form 5430-11, a certification that the bid was arrived at by the bidder or offerer independently, and was tendered without collusion with any other bidder or offerer.
2. Form 5450-17, Export Determination.

PRE-AWARD QUALIFICATIONS. The high bidder may be required to furnish information to determine the ability to perform the obligations of the contract. If the high bidder is determined not qualified, not responsible or refuses to respond within 15 days of a request for information pertaining to qualifications, the contract may be offered and awarded for the amount of the high bid to the highest of the bidders who is qualified, responsible, and willing to accept the contract.

A PERFORMANCE BOND in an amount not less than 20 percent of the total purchase price will be required for all contracts of \$2,500 or more, but the amount of the bond shall not be in excess of \$500,000, except when the Purchaser opts to increase the minimum bond as provided in 43 CFR 5451.2. A minimum performance bond of

not less than \$500 will be required for all installment contracts less than \$2,500.

INSTALLMENT PAYMENTS may be authorized for sales of \$500 or more. Required installments will be determined by BLM. For sales under \$500,000, installments will not be less than 10% of the total purchase price. For sales of \$500,000 or more, installment payments shall be \$50,000.

LOG EXPORT AND SUBSTITUTION. All timber sales, including timber from Federal rights-of-ways, shall be subject to the restrictions relating to the export and substitution of unprocessed timber from the United States in accordance with P.L. 94-165 and 43 CFR 5400 and 5424, as amended.

LOG EXPORT AND SUBSTITUTION RESTRICTIONS. Excepting Port-Orford-cedar, all timber offered for sale hereunder is restricted from export from the United States in the form of unprocessed timber and is prohibited from being used as a substitute for exported private timber.

SPECIAL PROVISIONS. A revised Special Provision has been added to the contract which enables the Contracting Officer to suspend the contract to facilitate protection of certain plant or animal species, and/or to modify or terminate the contract when necessary to: (1) Comply with the Endangered Species Act or to prevent incidental take of northern spotted owls in accordance with management direction in the Record of Decision (ROD) and Resource Management Plan (RMP), or; (2) Comply with a stay or remedy issued by the Interior Board of Land Appeals or a court order, or; (3) Protect species which were identified for protection in accordance with management direction established in the ROD and RMP.

ADDITIONAL INFORMATION concerning each timber sale tract described herein is available at the Springfield Interagency Office. A copy of the timber sale contract is also available for inspection at the Springfield Interagency Office. This prospectus includes maps and tables that cannot be made Section 508 compliant. For help with its data or information, please contact the Northwest Oregon District's Springfield Interagency Office at (541) 683-6776.

THE VOLUMES LISTED herein are estimates only, based on 16-foot taper breaks, which must be taken into consideration if comparisons are made with volume predictions based on other standards. The volumes based on 32-foot taper breaks are shown for comparison purposes. No sale shall be made for less than the total purchase price, without regard to the amount bid per unit, even though quantity of timber actually cut or removed or designated for taking is more or less than the estimated volume or quantity so listed.

AN ENVIRONMENTAL ANALYSIS (EA) was prepared for the N126 LSR Landscape Project, which includes the Dueling Elk sale area. A Finding of No Significant Impact and Decision Record for the EA have been documented. A Determination of NEPA Adequacy (DNA) has been documented for this sale. These documents are available for inspection as background for this sale at the Northwest Oregon District's Springfield Interagency Office.

ACCESS to a sale may be through a locked gate (see individual sale information). Prospective bidders may obtain a key from the Northwest Oregon District's Springfield Interagency Office. Any other persons interested in visiting the timber sale site should first contact Joseph Lynch at (541) 683-6739.

Attachments:

- Form 5440-9
- Form 5430-11
- Form 5450-17
- Form 5450-22
- Form 5430-1
- SBA Form 723

NORTHWEST OREGON DISTRICT		TIMBER SALE NOTICE LUMP SUM EUGENE MASTER UNIT SBA Sale				PARCEL NO.: 1							
SIUSLAW FIELD OFFICE						SALE DATE: August 28, 2025							
Contract No.: ORN03-TS-2025.0376		Dueling Elk											
Lane County, Oregon: O&C and PD: Oral Auction						Bid Deposit Required: \$ 131,300.00							
All timber designated for cutting on				Lots 6 and 7, E1/2SW1/4, SE1/4, <u>Section 19</u> ; Lot 10, <u>Section 20</u> , T. 16 S., R. 7 W.; S1/2SE1/4, <u>Section 23</u> ; Lots 17-27 and 31-32 <u>Section 25</u> ; NE1/4, SE1/4NW1/4, <u>Section 26</u> T. 16 S., R. 8 W. Will. Mer.									
Estimated Volume 32' Log (MBF)		Species		Estimated Volume 16' Log (MBF)		Appraised Price Per MBF		Estimated Volume Times Appraised Price					
7,070		Douglas-fir		8,353		\$ 154.80		\$		1,293,044.40			
207		Western hemlock		272		\$ 49.40		\$		13,436.80			
23		Western redcedar		30		\$ 194.40		\$		5,832.00			
7,300		TOTALS		8,655				\$		1,312,313.20			
*=10% of Pond Value													

APPRAISED PRICES are calculated by determining market value through the analytical appraisal method. The minimum bid increment will be \$0.10 per MBF or multiples thereof.

LOG EXPORT RESTRICTIONS: All timber offered for sale hereunder is restricted from export from the United States in the form of unprocessed timber and is prohibited from being used as a substitute for exported private timber.

NOTE: The volume for this timber sale has been calculated using 16 foot eastside Scribner rules, and the 32 foot log volumes are estimates derived from the 16 foot volumes.

CRUISE INFORMATION: The timber volumes for Douglas-fir, western hemlock and western redcedar in Partial Harvest Areas were based on a variable plot cruise for estimating board foot volume. Plots were measured using a 20 basal area factor for a total of 231 plots. Timber volumes for Douglas-fir and western hemlock in the right-of-way were 100% cruised for estimating board foot volume.

A map showing the location and description of these sample trees is available at the Northwest Oregon District Springfield Interagency Office.

With respect to merchantable Douglas-fir(sample) trees: The average tree is 16.1" DBHOB: the average log contains 67bd.ft; the total gross merchantable volume is approximately 8,678 MBF; and 96% recovery is expected.

CUTTING AREA: Two areas totaling approximately 366 acres must be partial harvested and approximately 8 acres of right-of-way must be clear cut.

ACCESS: Access to the sale is provided by:

1. A public road;
2. BLM existing roads;
3. BLM roads to be constructed;
4. State of Oregon roads used under a State of Oregon/BLM cooperative agreement;
5. Roads covered by a Right-of-Way and Road Use Agreement E-340C between Sierra Pacific Industries and the United States. In the renovation, improvement and use of private roads, the Purchaser shall enter into a license agreement with Sierra Pacific Industries. The license agreement shall be delivered to Sierra Pacific Industries for execution at least 15 days prior to any use of company roads. See the Prospectus for full terms and conditions of use.
6. Access Road Easement RE-E-156. Maintenance of the road will be accomplished by the timber sale Purchaser. No fees are required under the terms of this easement.

ROAD MAINTENANCE: The Purchaser shall pay road use fees of \$14,770.89 to Sierra Pacific Industries. The Purchaser shall pay BLM a road maintenance fee of \$994.64 and a rockwear fee of \$14,512.91. See Exhibit D map for specification of road maintenance responsibility. In addition to the quantities shown below, 300 cubic yards (truck measure) of maintenance rock and surface protection rock is required. Additional rocking may be required for wet weather haul and will be at the Purchaser's expense.

ROAD CONSTRUCTION:

Spurs: B, C, D, E, F, H, I, J, K, L, M, N, O, Q, R, S, T

Length: 85.49 Stations

Class: SN-14

Special Requirements in Road Construction: Operations limited to periods of dry weather.

ROAD RENOVATION:

Road Nos.: 16-7-19, -19.1, -19.2, 16-8-23, -24.1, -25.1, -36

Length: 365.91 Stations

Class: SN-14 / SN-16

Special Requirements in Road Renovation: Operations may be limited to periods of dry weather.

ROAD IMPROVEMENT:

Spurs A, P, U and Road No. 16-8-25

Length: 44.76 Stations

Class: SN-14 / SN-16

Special Requirements in Road Improvement: Operations may be limited to periods of dry weather.

Culverts

<u>Diameter:</u>	<u>Length:</u>	<u>Number:</u>
18"	520'	17
24"	220'	6

Suggested Rock Source: Commercial, Junction City Vicinity

Estimated Rock Quantities (CY truck measure)

<u>3/4" minus</u>	<u>1-1/2" minus</u>	<u>3" minus</u>	<u>6" minus</u>
1,592	6,067	4,093	4,853

Total Estimated Exhibit C Road Costs (construction, renovation, and improvement): \$860,634.71**DURATION OF CONTRACT: Duration of the contract will be 48 months for cutting and removal of timber.**

SPECIAL PROVISIONS: The contract will contain special provisions regarding road construction, road renovation, road improvement, road maintenance, logging methods, prevention of erosion, falling of snags, creation of snags, falling of all trees designated for cutting, logging residue reduction, and submission of a written logging plan specifying spur road locations, landing locations, logging methods, and logging schedule.

Under Sec. 26 of the timber sale contract, ground based logging will be prohibited during periods of high soil moisture. This will normally limit ground based logging to July, August and September.

It is estimated that approximately 1,298 MBF of additional timber, such as corridor and guyline trees, may be removed under the contract, but it is not included in the advertised sale volume, nor is it included in the timber sale appraisal.

OTHER SPECIAL REQUIREMENTS:

- **All haul and heavy equipment use on Rd. No. 16-8-36 is seasonally restricted beyond the point "Begin Seasonal Restriction Haul" shown on Exhibits A, C, and D due to risk associated with a road adjacent landslide. These restrictions will be enforced in the fall as winter weather patterns develop and soils begin to become saturated. Restrictions will be lifted in late spring once conditions have sufficiently dried and an extended weather forecast supports lifting of the restriction.**
- Aluminum nails and tags are affixed to trees in the former progeny site within Partial Harvest Area 1. No consideration of volume or defect was made specific to these items in the cruise. No value or volume adjustments will be made. Metal posts, boundary stakes and old fence sections may be found within the site as well, these items do not need to be preserved.
- Upon completion of yarding, select and girdle 3,830 trees (961 high girdle and 2,869 low girdle) as described in Exhibit W. 766 low girdle snags may be operationally created. Within the Snag Thin Areas and Partial Harvest Areas requiring Snag Created Openings shown on Exhibit W, down orange painted reserve trees may be credited toward the number of low girdle trees required in Exhibit W. Storm damaged trees meeting the specifications for high girdle described in Exhibit W may be credited to the high girdle requirement with approval of the Authorized Officer. The Purchaser shall be responsible for marking, tallying and submitting snag creation totals.

- No yarding or hauling shall be conducted on natural surfaced roads during periods of wet weather as determined by the Authorized Officer.
- Yarding shall be done with a carriage equipped skyline capable of yarding 1,500 feet slope distance in the Partial Harvest Areas on slopes greater than 35%.
- Yarding across streams requires full suspension above the stream.
- Limbs and tops shall remain attached to the tree and be yarded to the landing.
- With the exception of hauling, daily operations within the Special Operating Area shall not be permitted from April 1 through August 5 of each year, both days inclusive; and shall not begin until 2 hours after sunrise and shall cease 2 hours prior to sunset from August 6 through September 15 of each year, both days inclusive.
- In the Special Holding Areas, obtain approval from the Authorized Officer prior to attaching logging equipment to any tree.
- With the exception of hauling, daily operations after March 31, 2027, within 110 yards of the Habitat Area shall not be permitted from April 1 through August 5 of each year, both days inclusive; and shall not begin until 2 hours after sunrise and shall cease 2 hours prior to sunset from August 6 through September 15 of each year, both days inclusive.
- Construct Spur F prior to March 31, 2027.
- Optional construction of up to 500 feet of natural surface road is authorized to facilitate ground-based operations in the area near the end of Road No. 16-7-19.1.
- Trees 40" DBH or greater are reserved and if felled shall be retained on site.
- Seventeen (17) trees marked with yellow paint shall not be felled or damaged during logging operations.
- Trees within 100 feet of the Power Line Right-of-Way shall be directionally felled away from the power lines. The Purchaser shall contact Blachly-Lane Electric Cooperative prior to these operations.
- There are both above ground and underground utilities in T16S-R7W-19 and 20, along road 16-7-19.1. The Purchaser shall contact Blachly-Lane Electric (541-688-8711) and Oregon Utility Notification Center (1-800-332-2344) prior to beginning any operations and request a line locate if digging or any road work is to occur. All landings should be constructed away from utility boxes. Resolution of liability for any damage to the power system shall be between the Purchaser and Blachly-Lane Electric Cooperative.
- Clean equipment prior to arrival on BLM-managed lands.
- Upon completion of hauling, all decommissioning shall be completed during the dry season and as directed by the Authorized Officer. Decommissioning measures may include:
 - Decompact and/or block skid trails and natural surfaced roads with decompaction equipment, such as a track mounted excavator with a thumb.
 - Slash, construct drainage dips, waterbars, and/or lead-off ditches.
 - Block at entry points using earthen barricades as directed by the Authorized Officer.

- Sec. 44(e) contains explicit instruction on requirements for equipment and personnel involved in pile burning.

The Purchaser **will not** have the option of making a buyout security deposit in lieu of performing the slash disposal requirements of this contract.

NARRATIVE DESCRIPTION OF HOW TO GET TO THE TIMBER SALE AREA: Access to the sale is through a locked gate. Prospective bidders may obtain a key from the Northwest Oregon District's Springfield Interagency Office and proceed to the sale area.

To access Partial Harvest Area 1: From Highway 36 in Triangle Lake, turn south onto Rd. No. 16-7-19 which is beyond milepost 26. Open the chain-link fence rolling gate and proceed to the harvest area. Follow Timber Sale Area signs to the sale area.

To access Partial Harvest Area 2: Continue on Highway 36 and turn north at milepost 23 onto Rd. No. 16-8-36 and proceed to harvest area. Follow Timber Sale Area signs to the sale area.

Any other persons interested in visiting the timber sale site should first contact Joseph Lynch at (541) 683-6739.



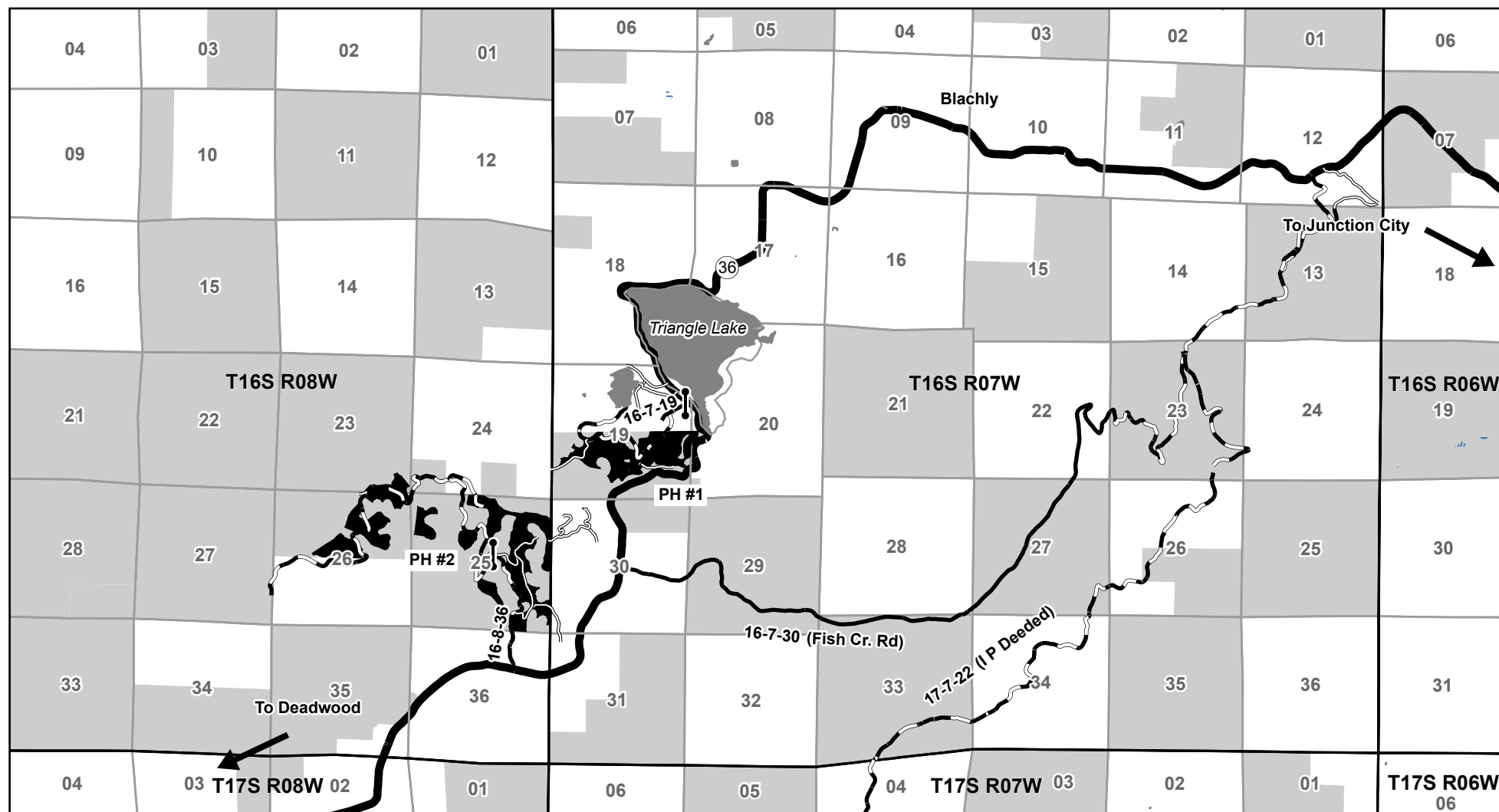
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

Timber Sale Location Map

Dueling Elk

T. 16 S., R. 7 W., Sec. 19 & 20, T. 16 S., R. 8 W., Sec. 23, 25, & 26

Northwest Oregon District



- Partial Harvest Area
- Highway
- Paved Road
- Rocked Road
- Natural Road
- Bureau of Land Management
- Private/Other
- Gate

0 0.5 1 2 Miles

Date: 6/11/2025

Seasonal Restriction Matrix

Restricted Periods are Shaded and X'd; 2-hour daily timing restrictions are X'd only.

	Jan		Feb		Mar		Apr		May		June		July		Aug		Sept		Oct		Nov		Dec	
	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
All operations except hauling																								
<u>Special Operating Areas and 110 yards from Habitat Area after March 31, 2025</u>																								
<ul style="list-style-type: none"> April 1 – August 5, both days inclusive: Operations are prohibited. August 6 - September 15, both days inclusive: Operations shall not begin until 2 hours after sunrise and shall cease 2 hours prior to sunset. 																								
Felling, yarding, or loading																								
<u>Partial Harvest Areas</u>																								
<ul style="list-style-type: none"> April 15 – June 15, both days inclusive. Sap flow seasonal restriction may be conditionally waived. 																								
Ground-based yarding																								
<u>Partial Harvest Areas</u>																								
<ul style="list-style-type: none"> Typically October 1 – June 30; may vary due to weather conditions. 																								
Right-of-Way logging and clearing																								
<u>Right-of-Way Areas</u>																								
<ul style="list-style-type: none"> Typically October 1 – May 31; may vary due to weather conditions. 																								
All haul and heavy equipment use on Rd. No. 16-8-36 beyond the point shown on Exhibits A, B, C.																								
<u>Road Use, Rd. No. 16-8-36</u>																								
<ul style="list-style-type: none"> Landslide risk associated with soil saturation. Typically October 15 - May 15; may vary due to soil and weather conditions. 																								
Hauling on natural-surfaced roads																								
<u>Partial Harvest Areas</u>																								
<ul style="list-style-type: none"> Typically October 15 – May 31; may vary due to weather conditions. 																								
In stream restrictions																								
<ul style="list-style-type: none"> Typically July 1 – September 15 both days inclusive: Stream crossing culvert replacement site work shall be completed prior to timber haul. 																								

NOTE: This chart is for informational purposes only. Refer to Section 44 Special Provisions of the timber sale contract for exact date restrictions and stipulations.

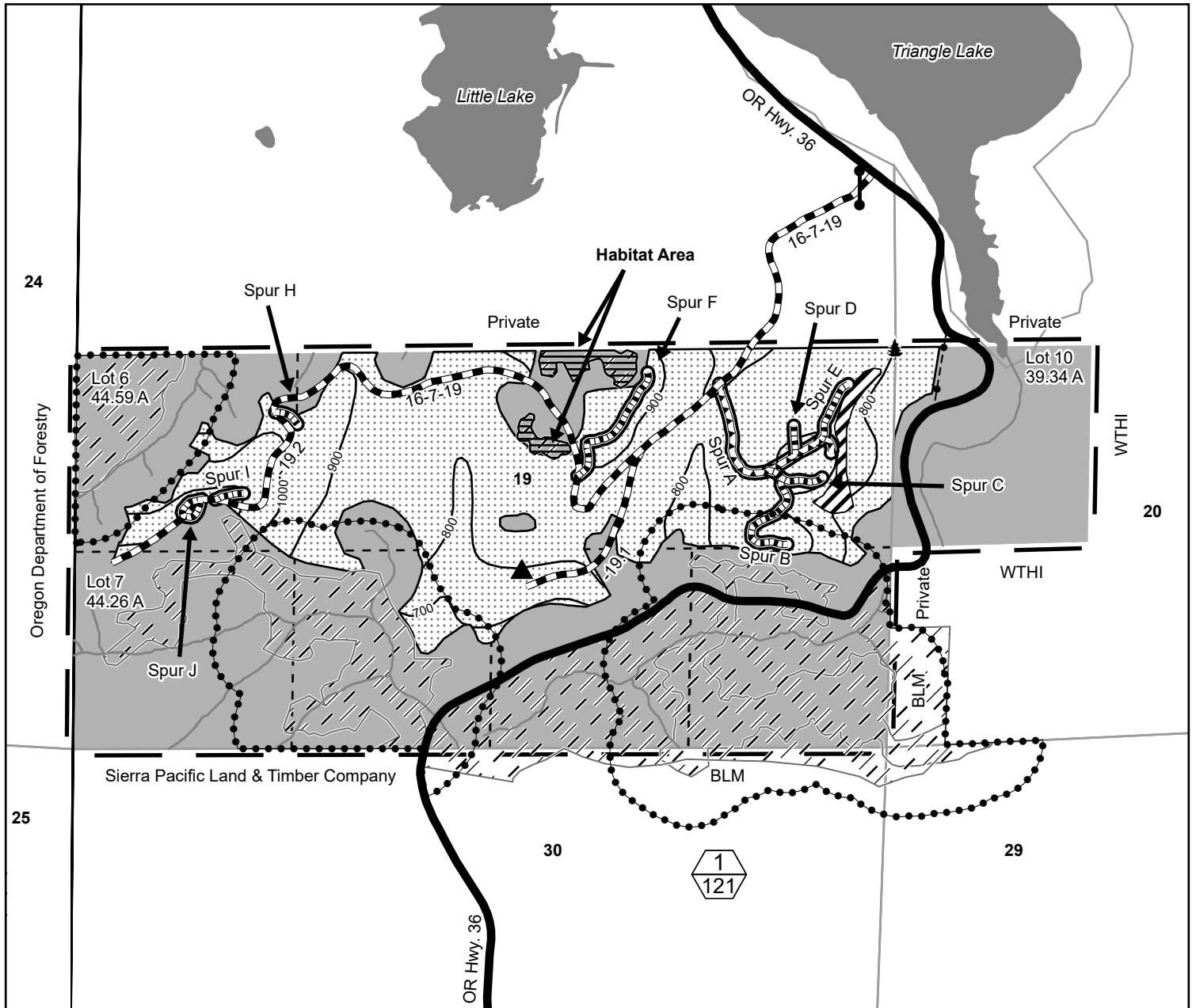


UNITED STATES DEPARTMENT OF THE INTERIOR

Bureau of Land Management

Dueling Elk Timber Sale Contract No. ORN03-TS-2025.0376
T. 16 S., R. 7 W., Sec. 19 and 20, Northwest Oregon District

Exhibit A
Sheet 1 of 2



- Boundary - Cutting Area (Blazed, Painted, Posted)
- Contract Area
- Partial Harvest Area
- Reserve Area
- Unposted Reserve Area
- Habitat Area
- Special Operating Area
- Special Holding Area
- Approximate Location of Special Habitat Tree
- Gate

- Stream
- Highway
- Construction
- Renovation
- Improvement
- Right-of-Way Area
- Powerline Right-of-Way
- Utility Box
- Harvest Area (Top)/ Harvest Area Acres (Bottom)

0 500 1,000 1,500
Feet

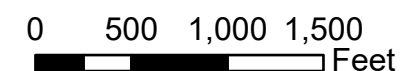
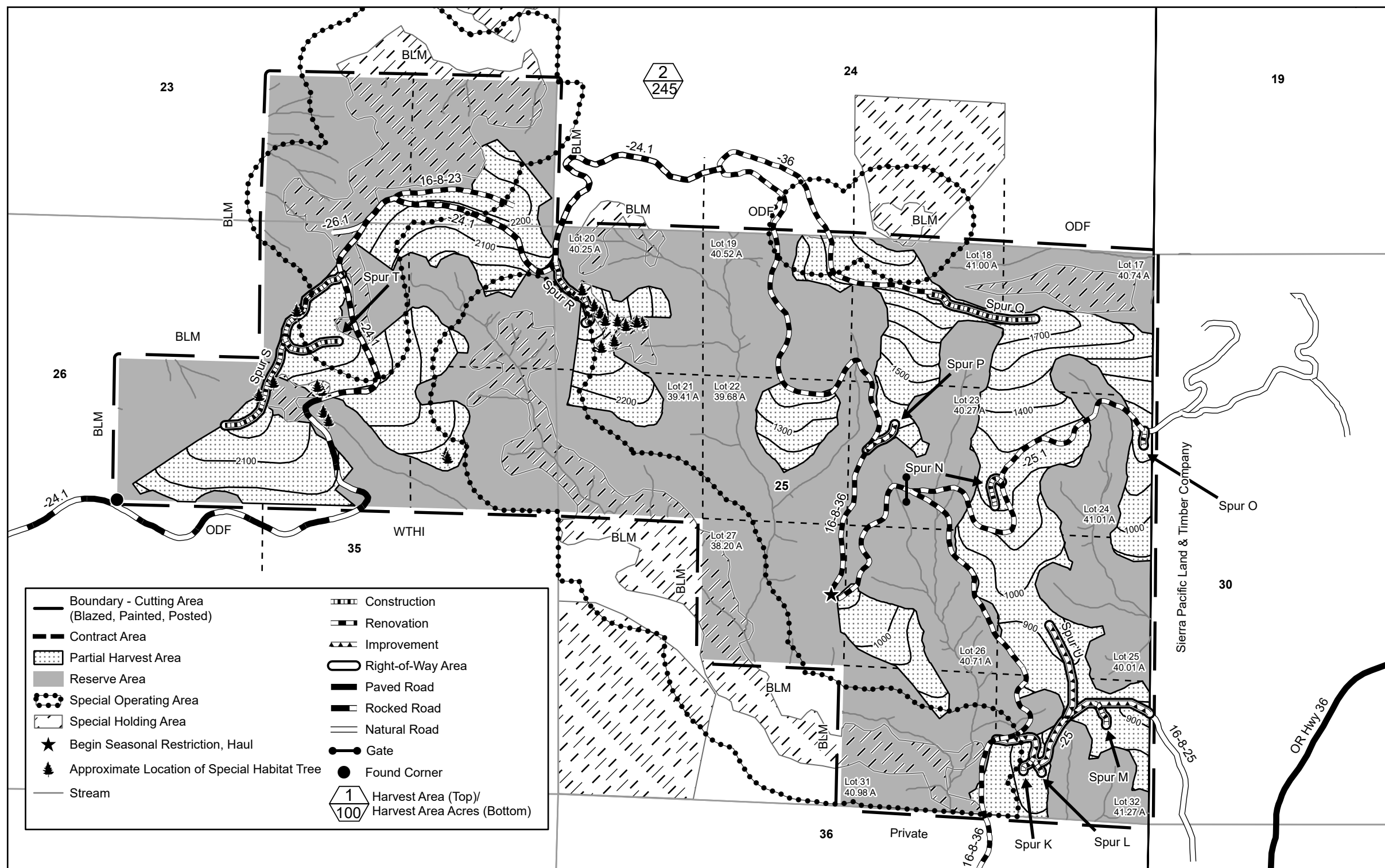
Partial Harvest Area 1	121.00
Right of Way Area 1	3.80
Reserve Area	243.39
Contract Area	368.19 A
Total Partial Harvest Area	366.00
Total Right of Way Area	8.00
Total Reserve Area	799.24
Total Contract Area	1173.24 A



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

**UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Dueling Elk Timber Sale Contract No. ORN03-TS-2025.0376
T. 16 S., R. 8 W., Sec. 23, 25, and 26 Northwest Oregon District**

Sheet 2 of 2



Partial Harvest Area 2	245.00
Right of Way Area 2	4.20
Reserve Area	555.85
<u>Contract Area</u>	<u>805.05</u>

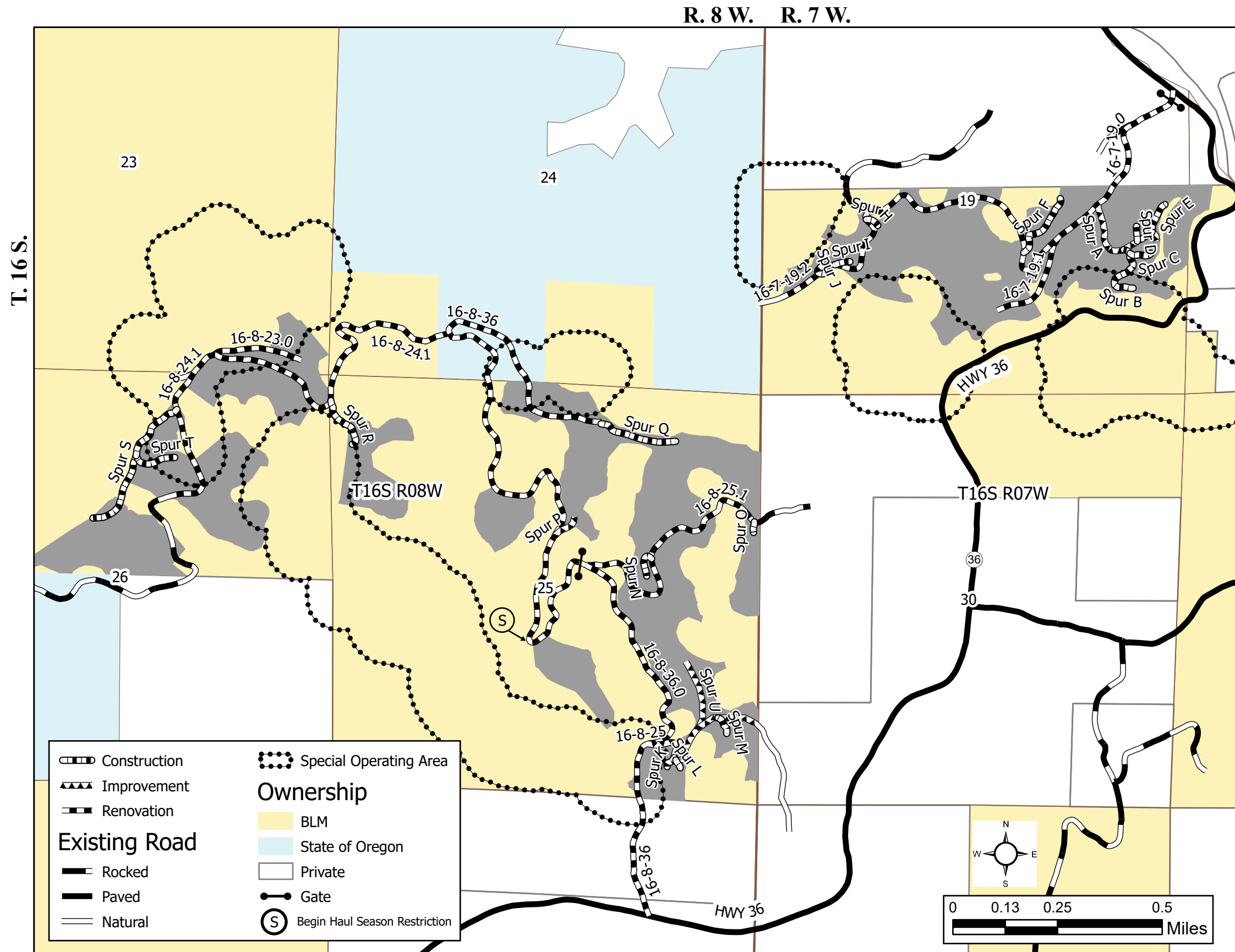
Date: 7/24/2025

<u>Right-of-Way Area No. 1</u>	—4.0 Acres	(127.5 MBF/Acre)
Douglas-fir		500.0 MBF
Western hemlock		9.0 MBF
		<hr/> 510.0 MBF



UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management, Northwest Oregon District

Exhibit C
Sheet 1 of 33



Index	
Sheet	Contents
1	Cover Sheet
2	Special Provisions
3-21	General Specifications
22	Roadside Brushing Detail
23	Culvert Summary
24	Culvert Installation Details
25	Surfacing Details & Summary
26-27	Typical Cross Section Details
28-33	Worklist Plans

Sale Name: Dueling Elk	
Contract No.: ORN03-TS-2025.0376	
Construction: Spurs B, C, D, E, F, H, I, J, K, L, M, N, O, Q, R, S & T	
Renovation: Road Nos. 16-7-19, -19.1, -19.2, 16-8-23, -24.1, -25.1 & -36	
Improvement: Spurs A, P & U and Road No. 16-8-25	

T. 16 S., R. 7 W., Secs. 19 & 20 and T. 16 S., R. 8 W., Secs. 23, 25 & 26 Willamette Meridian, Lane County, Oregon	
Designed: G. Hedrick	Recommended
Drawn: G. Hedrick	Lead Engineer
Checked:	Approved
Date: 7/24/2025	Field Manager
XC_cover	

SPECIAL PROVISIONS

1. Purchaser shall provide proof prior to beginning any road work that operation permits have been obtained for road work.
2. In order to prevent the spread of noxious weeds, the Purchaser shall clean road equipment prior to entry on BLM lands as approved by the Authorized Officer.
3. The Purchaser shall notify the Authorized Officer at least 7 days prior to the date he plans to begin operations. The Purchaser shall also notify the Authorized Officer if he intends to cease operations for any period of 30 or more days.
4. Any road segments not completed during dry weather shall be winterized to ensure proper drainage and prevent erosion or damage. Winterization shall include water barring, maintaining existing drainage features, and implementing any additional measures deemed necessary by the Authorized Officer. Road segments without surfacing rock must be blocked or barricaded to restrict vehicular access.
5. Prior to any logging operations, including unloading of logging equipment and removal of timber, except right-of-way timber, the required construction, improvement and/or renovation of the haul route shall be completed and accepted.
6. Suggested Rock Source: Commercial, Junction City Vicinity
7. No operations, with the exception of haul, shall occur within the Special Operating Area as shown on the Cover Sheet and Worklist Maps from April 1 through August 5, both days inclusive. Additionally, from August 6 to September 15, operations shall not begin until 2 hours after sunrise and shall cease 2 hours prior to sunset, both days inclusive. These restrictions shall not be waived.
8. The Purchaser shall construct Spur F prior to March 31, 2027.
9. The Purchaser shall place a 6" lift of 3" minus crushed rock at all roadside landing locations on Road Nos. 16-8-36. Rock shall be placed in accordance with Section 1200 of this Exhibit.
10. The Purchaser shall take precautions during all operations to protect the paved surface on Road No. 16-8-36. The Purchaser shall repair any damage caused by operations at their expense.
11. Upon completion of all culvert replacements and/or installations, the excavated roadbed shall be resurfaced with an 8" depth of 3" minus crushed rock, applied in accordance with Section 1000 of this Exhibit.
12. Above-ground and underground utilities are present in Sections 19 and 20 of T16S-R7W, along Road 16-7-19.1. Prior to initiating any operations, the Purchaser shall contact Blachly-Lane Electric at (541) 688-8711 and the Oregon Utility Notification Center at 1-800-332-2344 to request a utility locate if any digging or road work is planned. Any liability for damage to the power system shall be resolved between the Purchaser and Blachly-Lane Electric
13. All hauling and use of heavy equipment on Road No. 16-8-36 are seasonally restricted beyond the point marked "Begin Haul Seasonal Restriction" due to risks associated with an adjacent landslide area. These restrictions will be enforced in the fall as winter weather patterns develop and soil saturation increases. Restrictions will be lifted in late spring once conditions have sufficiently dried and an extended weather forecast supports safe operation.

TIMBER SALE ROAD SPECIFICATIONS

TABLE OF CONTENTS

SECTION	DESCRIPTION
100	General
200	Clearing and Grubbing
300	Excavation and Embankment
400	Pipe Culverts
500	Renovation and Improvement of Existing Roads
600	Watering
1000	Aggregate Base Course - Crushed Rock
1200	Aggregate Surface Course - Crushed Rock
1400	Slope Protection
1700	Erosion Control
2100	Roadside Brushing

GENERAL – 100

101 — Prewrite Conference:

A prework conference will be held prior to the start of new construction, renovation, improvement, and surfacing operations. The Purchaser shall request the conference at least 2 business days prior to the time it is to be held. The conference will be attended by the Purchaser and/or his representatives, subcontractors and/or his or their representatives and the Authorized Officer and/or his representatives.

The purpose of the prework conference will be to review the required work, exhibits and specifications, and to establish a work schedule and a list of the Purchaser's representatives and subcontractors.

102 — Definitions:

AASHTO - American Association of State Highway and Transportation Officials. Current editions of tests and specifications.

Apparent Opening Size (AOS) - Number of the U.S. Bureau of Standard sieve (or its opening size in millimeters or inches) having openings closest in size to the diameter of uniform particles which will allow 5 percent by weight to pass through the geotextile material when shaken in a prescribed manner. This is also referred to as Equivalent Opening Size (EOS).

ASTM - American Society for Testing and Materials.

Base Course - Surfacing structure consisting of crushed gravel or stone, crushed sandstone, pitrun rock, bank or river-run gravels, etc., to provide support and, in the event no surface course is placed, the running surface for traffic load.

BLM - Bureau of Land Management

Borrow - Excavated material required for embankments and other portions of the work.

Culvert - A pipe, pipe-arch, arch, or box structure constructed of metal, concrete, plastic, or wood which provides an opening under the roadway primarily for the conveyance of liquids, pedestrians or livestock.

Curve Widening - Widening required on inside of curves to accommodate long log and equipment hauling trucks.

Embankment - A structure of soil, aggregate, or rock material placed on a prepared ground surface and constructed to subgrade.

End Haul - Excavated material moved, other than by dozer, to an embankment or waste area to prevent sidecasting material outside of the road prism.

Excess Excavation - Material from the roadway in excess of that needed for construction of the designed roadway (waste).

Grading - Leveling to grade, shaping and smoothing of a road subgrade; the shaping of roadside ditches as to grade and contour. In some instances includes smoothing of the cut bank.

Overhaul - Distance excavated material is transported in excess of the distance included in the cost

for excavation.

Pioneer Road - Temporary construction access built along the route of the project.

Piping - The process by which soil particles are washed in or through pore spaces in drains and filters or poorly compacted fill/backfill material.

Plans - The approved drawings, or exact reproductions there-of-which show the locations, character, dimensions, and details of the work to be done.

Purchaser - The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through their, or its agents, employees, or contractors.

Reasonably Close Conformity - Compliance with reasonable and customary manufacturing and construction tolerances where working tolerances are not specified.

Roadbed - The graded portion of the road within top and side slopes, prepared as a foundation for the pavement structure and shoulders.

Road Centerline - The longitudinal center of a roadbed.

Road Improvement - Work done to an existing road which improves it over its original design standard.

Road Renovation - Work done to an existing road which restores it to its original design.

Roadway - The portion of a road within limits of construction. Usually from the toe of the fill slope to a point where the cut slope intersects natural ground line. Synonym - road prism.

Scarification - The process of loosening or breaking up of the surface layer of soil or road, usually to a specified depth.

Shoulder - The portion of the roadbed contiguous with the traveled way designed for accommodation of stopped vehicles, safety, and lateral support of base and surface courses.

Spalls - Flakes or chips of stone.

Specifications - A general term applied to all directions, provisions, and requirements pertaining to performance of the work.

Specific Gravity - The ratio of the density of a material to the density of water, obtained by weighing known volumes of both items in air. A specific gravity less than one implies that the material will float.

Structures - Bridges, culverts, catch basins, retaining walls, underdrains, flumes, splash pads, downspouts, and other project features which may be involved in the work and not otherwise classified in these specifications.

Subbase - Reinforcement of the subgrade with large particles of pitrun rock or crushed stone. Usually confined to roads having wet subgrades, or subgrades with weak support characteristics.

Surface Course - Top layer of a road structure consisting of finely crushed gravels or asphalt designed to provide a smooth running surface for traffic load.

Subgrade - The top surface of a roadbed upon which the traveled way and shoulders are constructed.

Timber - Standing trees, downed trees, or logs which can be measured in board feet.

Traveled Way - The portion of the roadbed used for the movement of vehicles, exclusive of shoulders.

Typical Cross Sections - Cross-sectional plane of a typical roadway; showing natural ground line and designed roadway in relation to cut and fill, through cut, and through fill.

Turnout - Extra widening of the roadbed at appropriate intervals on single-lane roads for passing purposes.

102a — Tests Used in These Specifications:

<u>AASHTO T 11</u>	Quantity of rock finer than No. 200 sieve.
<u>AASHTO T 27</u>	Sieve analysis of fine and coarse aggregate using sieves with square openings; gradation.
<u>AASHTO T 89</u>	Liquid limit of material passing the No. 40 sieve. Water content at which the soil passes from a plastic to a liquid state.
<u>AASHTO T 90</u>	Plastic limits and plasticity index of soil. a. Plastic limit - lowest water content at which the soil remains plastic. b. Plasticity index - range of water content, within which the material is in a plastic state. Numerical difference between the liquid and plastic limits of the soil.
<u>AASHTO T 96</u>	Resistance to abrasion of small size coarse aggregate by use of the Los Angeles machine.
<u>AASHTO T 99</u>	Relationship between soil moisture and density of soil. Method A - 4" mold, soil passing a No. 4 sieve. 25 blows/layer & 3 layers. Method C - 4" mold, soil passing a 3/4 inch sieve. 25 blows/layer & 3 layers. Method D - 6" mold, soil passing a 3/4 inch sieve. 56 blows/layer & 3 layers.
<u>AASHTO T 176</u>	Shows relative portions of fine dust or claylike materials in soil or graded aggregate.
<u>AASHTO T 180</u>	(OSHD 106-71) moisture density relationship of soil same as AASHTO T 99 proctor but uses a 10-lb. hammer & 18-in. drop height.
<u>AASHTO T 191</u>	<u>Sand Cone</u> . Density of soil in place: For subgrade use 6-inch or 12-inch cone. For rock surfacing for 1-1/2-inch minus to 3-inch minus use 12-inch cone.
<u>AASHTO T 205</u>	<u>Rubber balloon</u> . Density of soil in place. Use for compacted or firmly bonded soil.
<u>AASHTO T 210</u>	Durability of aggregates based on resistance to produce fines.
<u>AASHTO T 224</u>	Correction for coarse particles in the soil.

AASHTO T 238 Density of Soil and Soil-Aggregate in place by nuclear methods.

AASHTO T 248 Reducing field samples of aggregate to testing size by mechanical splitter, quartering, or miniature stockpile sampling.

ASTM D 4564 Determination of relative density of cohesionless soils.

DMSO (dimethyl sulfide) Determines volume of expanding clays in aggregates. Usually associated with marine basalts.

103 — Compaction equipment shall meet the following requirements:

103f — Vibratory roller. The drum diameter shall be not less than 48 inches, the drum width not less than 58 inches, and have a turning radius of 15 feet or less. Vibration frequency shall be regulated in steps to 1400, 1500, and 1600 vibrations per minute (VPM), corresponding to engine speeds of 1575, 1690, and 1800 RPM. The centrifugal force developed shall be 7 tons at 1600 RPM. It shall be activated by a power unit of not less than 25 horsepower. The vibratory roller shall be self-propelled or drawn by a vehicle of sufficient horsepower to enable the unit to travel through a loose layer of material at a speed ranging from 0.9 mile to 1.8 miles per hour, as directed by the Authorized Officer.

The towing vehicle and roller or self-propelled unit meeting the above requirements shall be considered a vibratory roller unit.

103g — Vibratory compactor. Vibratory compactors shall consist of multiple or gang-type compacting units or pads with a minimum variable width of 2 feet. It shall be self-contained and capable of compacting material as required.

103i — Other. Compaction equipment approved by the Authorized Officer.

CLEARING AND GRUBBING – 200

201 — This work shall consist of clearing, grubbing, removing and disposing of vegetation, debris, surface objects and protruding obstructions within the clearing limits in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections shown on the plans and as staked on the ground.

202 — Where clearing limits have not been staked, established by these specifications or shown on the plans, the limits shall extend 10 feet back of the top of the cut slope and 5 feet out from the toe of the fill slope.

203 — Clearing shall consist of the removal and disposal of trees, logs, rotten material, brush, and other vegetative materials and surface objects in accordance with these specifications and within the limits established for clearing as specified under Subsections 202, as shown on the plans, and as staked/posted on the ground.

203a — Brush less than 2 feet in height need not be cut within the limits established for clearing.

203b — Standing trees and snags to be cleared shall be felled within the limits established for clearing unless otherwise authorized.

204 — Grubbing shall consist of the removal and disposal of stumps, roots, and other wood material

embedded in the ground and protruding obstacles remaining as a result of the clearing operation in accordance with Subsections 204a, 204b, 204c, 204d, and 204e.

- 204a — Stumps, including those overhanging cut banks, shall be removed within the required excavation limits.
- 204b — Stumps and other protruding objects shall be completely removed within the limits of required embankments having heights of less than 4 feet. When authorized, stumps and other nonperishable objects may be left provided they do not extend more than 6 inches above the existing ground line.
- 204c — On excavated areas, roots and embedded wood shall be removed to a depth not less than 6 inches below the subgrade.
- 204d — On areas to be occupied by embankments having heights greater than 4 feet, no stump or portion thereof shall remain within 3 feet of embankment subgrades or slope surfaces after grubbing is completed.
- 204e — Roots and embedded wood material shall be removed to a depth not less than 1 foot below embankment subgrades or slope surfaces.
- 205 — Clearing and grubbing debris shall not be placed or permitted to remain in or under road embankment sections.
- 206 — Clearing and grubbing debris shall be disposed of by scattering in accordance with Subsection 210.
- 210 — Disposal of clearing and grubbing debris stumps and cull logs shall be by scattering over government owned lands outside of established clearing limits in a manner acceptable to the Authorized Officer. The areas for such scattering shall have the prior approval of the Authorized Officer.
- 212 — No grading will be permitted prior to completion and approval by the Authorized Officer of the required clearing and grubbing work, except that stump grubbing may proceed with the excavation of the road prism.
- 213 — No clearing or grubbing debris shall be left lodged against standing trees.

EXCAVATION AND EMBANKMENT – 300

- 301 — This work shall consist of excavating, overhaul, placement of embankments, backfilling, borrowing, leveling, ditching, grading, insloping, outsloping, crowning and scarification of the subgrade, compaction, disposal of excess and unsuitable materials, and other earth-moving work in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.
- 302 — Excavation shall also consist of the excavation of road and landing cut sections, borrow sites, backfilling, leveling, ditching, grading, compaction, and other earth moving work necessary for the construction of the roadway in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.
- 303 — Suitable material removed from the excavation shall be used in the formation of embankment subgrade, shoulders, slopes, bedding, backfill for structures, and for other purposes as shown on the plans.
- 304 — Borrow shall consist of suitable material required for the construction of embankments or for other

portions of the work; such material shall be obtained from sources selected by the Purchaser at his option and approved by the Authorized Officer.

- 305 — Embankment construction shall consist of the placement of excavated and borrowed materials, backfilling, leveling, grading, compaction, and other earth-moving work necessary for the construction of the roadway and landings in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.
- 305a — Material used in the construction of embankment sections shall be free of stumps, cull logs, brush, muck, sod, roots, frozen material, and other deleterious materials and shall be placed and compacted as specified.
- 305b — Embankment materials shall be placed in successive parallel layers on areas cleared of stumps, cull logs, brush, sod, and other vegetative and deleterious materials, except as provided under Subsection 204. Roadway embankments of earth material shall be placed in horizontal layers not exceeding 8 inches in depth.
- 306 — Layers of embankment, selected borrow, and final subgrade material as specified under Subsections 305a, 305b, and 317 shall be moistened or dried to a uniform optimum moisture content suitable for maximum density and compacted to full width with compacting equipment conforming to requirements of Subsections 103f, 103g, and 103i.
- 306c — Compacted materials shall have a uniform density of not less than 85 percent of the maximum density as determined by AASHTO T 99, Method A or Method D.
- 306g — All fill slopes shall be compacted to 85 percent of maximum density, either by walking with cat/excavator or by pressing with excavator bucket, to prevent surface erosion and raveling.
- 308 — In the case of rock fills, placement of material in layers is not required and such material may be placed by end-dumping or other methods approved by the Authorized Officer provided that the rock be reasonably prevented from escaping beyond the embankment toe.
- 314 — When heavy clays, muck, clay shale, or other deleterious material for forming the roadbed is encountered in cuts at subgrade, it shall be excavated to a minimum depth of 2 feet below the subgrade elevation and the excavated area backfilled with a selected borrow material approved by the Authorized Officer. The backfill material shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density in accordance with the requirements of Subsection 306. Unsuitable material shall be disposed of as directed by the Authorized Officer.
- 316 — Borrow material from sources selected at the Purchaser's option shall be inspected and approved in writing by the Authorized Officer prior to placement.
- 317 — Selected borrow shall consist of talus material, finely broken rock, gravel, or other material of granular or favorable characteristics.
- 318 — Selected borrow or selected roadway excavation material shall be uniformly spread on the roadbed in lifts not to exceed 6 inches in depth until the required thickness shown on the plans is attained.

Each layer shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width in accordance with the requirements of Subsection 306.
- 320 — Ditches shall conform to the slope, grade, dimensions, and shape of the required cross section shown on the plans. Roots, stumps, rocks, and other projections shall be removed to form smooth, even

slopes.

- 321 — Excess excavated, unsuitable, or slide materials shall not be disposed of on areas where the material will encroach on a stream course or other body of water. Such materials shall be disposed of in accordance with Subsections 321b and 321c. Materials not disposed of in this manner shall be retrieved and disposed of at the Purchaser's expense and at the direction of the Authorized Officer.
- 321c — End-dumping will be permitted for the placement of excess materials under Subsection 321 in designated disposal areas or within areas approved by the Authorized Officer. Watering, rolling, and placement in layers are not required. Materials placed shall be sloped, shaped, and otherwise brought to a visible condition acceptable to the Authorized Officer.
- 322 — When so indicated on the plans, selected coarse rock encountered in the excavation shall be conserved for slope protection or special rock embankment purposes and placed in accordance with the requirements and details of Section 1400 of these specifications and as shown on the plans.
- 323 — In the construction of channel changes and stream-crossing embankment sections, natural stream flow shall be maintained unless otherwise provided.
- 324 — Excavated material shall not be allowed to cover boles of standing trees to a depth in excess of 2 feet on the uphill side.
- 327 — The finished grading shall be approved in writing by the Authorized Officer in segments or for the total project. The Purchaser shall give the Authorized Officer 3 business days' notice prior to final inspection of the grading operations, and start of surfacing operations.

PIPE CULVERTS – 400

- 401 — This work shall consist of furnishing and installing pipe culverts, pipe arch culverts, downspouts, and energy dissipater in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Individual lengths and locations are approximate; final lengths and locations will be determined by the Authorized Officer upon completion of the roadbed. Additional pipe and erosion control devices may be required at the option of the Authorized Officer, in which case a reduction in the total purchase price shall be made to offset the cost of furnishing and installing such items. Costs will be based upon the unit prices set forth in the current BLM Timber Appraisal Production Cost Schedule.
- 402 — Installation of pipe culverts shall conform to the lines, grades, dimensions, and typical cross sections shown on the plans.
- 403 — Ditch relief culverts shall have a gradient of from 2 percent to 4 percent greater than the adjacent road grade. Grade culverts shall be skewed down grade 20 degrees as measured from the perpendicular to the centerline unless otherwise specified on the plans.
- 405e — Corrugated-polyethylene pipe for culverts 12-inch through 36-inch diameter shall meet the requirements of AASHTO M 294. Corrugated-polyethylene pipe for culverts to be used for downspouts 12-inch through 36-inch diameter shall meet the requirements of AASHTO M 294-03, Type C. Installation will be subject to the same specification as other pipe materials.
- 406 — Coupling bands shall conform to the requirements of AASHTO M 36 and AASHTO M 218 or AASHTO M 274 with the exception of band widths and the "Hugger"-type band which shall conform to

the details, dimensions, and typical diagram shown on the plans.

- 406a — "Hugger"-type coupling bands shall only be used with annular corrugated pipe and pipe-arch culverts, or helically corrugated pipe and pipe-arch culverts having annular reformed ends. Annular reformed ends shall consist of two annular corrugations.
- 406d — Pipe culverts and pipe-arch culverts shall be connected with coupling bands using "O"-ring neoprene gaskets or neoprene flat gaskets as per manufacturer.
- 407a — Half round downspouts shall conform to the material and construction requirements at locations specified in the Work Plan.
- 408 — Pipe culverts and pipe-arch culverts shall be placed on the bed starting at the downstream end with the inside circumferential laps pointing downstream and with the longitudinal laps at the side or quarter points. Coupling bands of the type required under these specifications shall be installed so as to provide the circumferential and longitudinal strength necessary to preserve the pipe alignment, prevent separation of the pipe sections, and minimize infiltration of fill material.
- 410 — Pipes shall be unloaded and handled with reasonable care. If the Authorized Officer determines any structure is damaged to the extent that it is unsuitable for use in the road construction, it shall be replaced at the Purchaser's expense.
- 411 — Trenches necessary for the installation of pipe culverts and pipe-arch culverts shall conform to the lines, grades, dimensions, and typical diagrams included in the plans, and the Culvert Installation Detail Sheet.
- 412 — Where ledge rock, boulders, soft, or spongy soils are encountered, they shall be excavated a minimum of 24 inches below the invert grade for a width of at least one pipe diameter or span on each side of the pipe and shall be backfilled with crushed rock material in accordance with Section 1004 gradation I.
- 413 — Pipe culverts and pipe-arch culverts shall be bedded on a crushed rock material in accordance with Section 1204 gradation E material having a depth of not less than 6 inches as shown on plans. Foundation material shall be of uniform density throughout the length of the structure and shall be shaped to fit the pipe.
- 416 — Side-fill material for pipe culverts shall be placed within 1 pipe diameter, or a minimum of 2 feet, of the sides of the pipe barrel, and to 1 foot over the pipe with crushed rock material in accordance with Section 1204 gradation E free of excess moisture, muck, frozen material, roots, sod, or other deleterious or caustic material and devoid of rocks or stones of sizes which may impinge upon and damage the pipe or otherwise interfere with proper compaction.
- 417 — For pipe culverts and pipe-arch culverts, side-fill material conforming to the requirements of Subsection 416 shall be placed and compacted under the haunches of the pipe, and shall be brought up evenly and simultaneously on both sides of the pipe to 1 foot above the pipe, in layers not exceeding 6 inches in depth and 1 pipe diameter/span, or a minimum of 2 feet in width each side of, and adjacent to, the full length of the pipe barrel.
Each layer shall be moistened or dried to a uniform moisture content suitable for maximum compaction and immediately compacted by approved hand or pneumatic tampers until a uniform density of 85 percent of the maximum density, is attained as determined by AASHTO T 99, Method

C.

- 418 — Side fills beyond the compaction limits specified under Subsection 417 shall be compacted as specified under Section 300.
- 419 — The pipe-arch culverts after being bedded and backfilled as required by these specifications shall be protected by a 2-foot cover of fill before heavy equipment is permitted to cross the drainage structures. Removal of the protection fill shall be as directed by the Authorized Officer.
- 423 — Construction of catch basins and ditch dams shall conform to the lines, grades, dimensions and typical diagrams shown on the Culvert Installation Detail.
- 424 — Construction of energy dissipaters, shall be required for culverts as outlined on the Culvert Summary page of this exhibit.
- 427 — Record culvert sizes, lengths and location actually installed where they vary from the plans on a copy of the culvert list. This culvert list shall be furnished to the Authorized Officer.
- 428 — Remove and dispose of old culverts in a legal manner, and for any fees required. The Purchaser shall remove the old culverts from the work site prior to road acceptance.
- 429 — Keep the excavation site dewatered so that the installation of culverts is completed under dry conditions. Dispose of excess water by using pumping or natural drainage ways near the site in a manner that will avoid damage to adjacent property. Provide for downstream waterflow with no more than 10% increase in natural stream turbidity due to transport of excavated material or sediment during construction. Diversion streams shall not be returned to the natural channel until all in-stream work has been completed.

RENOVATION AND IMPROVEMENT OF EXISTING ROADS – 500

- 501 — This work shall consist of reconditioning and preparing the roadbed and shoulders, minor excavation and/or embankment, cleaning and shaping drainage ditches, trimming vegetation from cut and embankment slopes, and cleaning and repairing drainage structures of existing roads in accordance with these specifications, and as shown on the plans and as marked on the ground.
- 501a — This work shall include the removal and disposal of slides in accordance with these specifications and as shown in the Work Plan.
- 502 — The existing road surface shall be bladed and shaped conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and as marked on the ground.
- 502a — Roots, stumps, deleterious materials and rocks larger than 4 inches in maximum dimension shall be removed from the scarified layers of the roadbed. Material so removed will not be permitted to remain on road shoulders or in ditches.
- 502b — Drainage ditches shall be bladed and shaped in accordance with the lines, grades, dimensions, and typical cross sections shown on the plans.
- 503 — Debris from slides shall be disposed of as directed by the Authorized Officer.

- 504 — Scarified material and existing road surface shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width with equipment conforming to requirements of Subsections 103a, 103f, 103g, and 103i.
- 504c — A uniform density of not less than 95 percent of the maximum density as determined by AASHTO T 99, Method A, C, or D.
- 506 — The inlet end of existing drainage structures shall be cleared of vegetative debris and boulders that are of sufficient size to obstruct normal stream flow. Pipe inverts shall be cleared of sediment and other debris lodged in the barrel of the pipe. The outflow area of pipe structures shall be cleared of rock and vegetative obstructions which will impede the structure's designed outflow configuration. Catch basins shall conform to the lines, grade, dimensions, and typical diagram shown on the plans.
- 507 — Existing and new drainage structures shown on the Culvert Summary sheet shall be replaced and/or installed with structures of the type, gauge, diameter, and length shown on the Culvert Summary and in accordance with the installation requirements set forth under Section 400 of these specifications.
- 508 — Vegetation encroaching on the roadbed and the drainage ditches of existing roads shall be removed by cutting and disposed of in accordance with Subsection 2100 of these specifications.
- 509 — The finished grading shall be approved in writing by the Authorized Officer 1 business day prior to surfacing operations. The Purchaser shall give the Authorized Officer 3 business days' notice prior to final inspection of the grading operations.

WATERING – 600

- 601 — This work shall consist of furnishing and applying water required for the compaction of embankments, roadbeds, backfills, base courses, surface courses, finishing and reconditioning of existing roadbeds, laying dust, or for other uses in accordance with these specifications.
- 602 — Water, when needed for compaction or laying dust, shall be applied at the locations, in the amounts, and during the hours as directed by the Authorized Officer. Amounts of water to be provided will be the minimum needed to properly execute the compaction requirements in conformance with these specifications, and for laying dust during work periods.
- 603 — Water trucks used in this work shall be equipped with a distributing device of ample capacity and of such design as to ensure uniform application of water on the roadbed.
- 604 — Water required under these specifications shall be obtained from a source selected by the Purchaser and approved by the Authorized Officer. Use of water sources are subject to applicable State water regulations.
- 605 — The Purchaser shall secure the necessary water permits and pay all required water fees for use of water sources selected by the Purchaser and approved by the Authorized Officer.

AGGREGATE BASE COURSE – 1000 **CRUSHED ROCK MATERIAL**

- 1001 — This work shall consist of furnishing, hauling, and placing one or more lifts of crushed rock material on roadbeds and landings approved for placing crushed rock material, in accordance with these

specifications and conforming to the dimensions and typical cross sections shown on the plans. Material not conforming to these specifications will be rejected and shall be removed from the road at the Purchaser's expense.

- 1002 — Crushed rock materials used in this work shall consist of quarry rock, stone, gravel, or other approved materials obtained from commercial sources.
- 1002a — Crushed rock materials may be obtained from commercial sources selected by the Purchaser at his option and expense providing that the rock materials selected comply with the specifications in this section.
- 1003 — Crushed rock material produced from gravel shall have 2 manufactured fractured faces on 65 percent, by weight, of the material retained on the No. 4 sieve. If necessary to meet the above requirement, or to eliminate an excess of filler, the gravel shall be screened before crushing.
- 1004 — Crushed rock materials shall consist of hard durable rock fragments conforming to the following gradation requirements:

TABLE 1004

AGGREGATE BASE COURSE
CRUSHED ROCK MATERIAL
Percentage by Weight Passing
Square Mesh Sieves
(AASHTO T 27)

Sieve Designation	GRADATION	
	A	I
6-inch	-	100
3-inch	100	45-65
2-inch	90-95	-
1-1/2-inch	-	-
1-inch	45-75	-
3/4-inch	-	-
1/2-inch	-	-
3/8-inch	-	-
No. 4	15-45	0-10
No. 8	-	-
No. 10	-	-
No. 30	-	-
No. 40	5-25	-
No. 200	2-15	-

- 1005 — Crushed rock material retained on the No. 4 sieve shall have a percentage of loss of not more than 35 at 500 revolutions, as determined by AASHTO T 96.
- 1006 — Crushed rock material shall show durability value of not less than 35, as determined by AASHTO T 210.
- 1007 — That portion of crushed rock material passing the No. 40 sieve, including blending filler, shall have liquid limits of not more than 35, and a plasticity index of not less than 4 and not more than 12 as determined by AASHTO T 89 and AASHTO T 90.

- 1008 — If additional binder or filler is necessary in order to meet the grading or plasticity requirements, or for satisfactory bonding of the material, it shall be uniformly blended with the crushed rock material at the crushing and screening plant prior to placing on the road, unless otherwise agreed. The material for such purposes shall be obtained from sources approved by the Authorized Officer and shall be free from stones, vegetative matter, and other deleterious materials.
- 1008a — Each layer of crushed rock material shall be thoroughly mixed on the roadbed by alternately blading, to full depth, until a uniform mixture has been obtained. The mixture shall then be spread to full width. When completed, the spreading shall produce a surface which is smooth, presents uniform shoulder lines, and conforms to the specified cross section.
- 1009 — The roadbed, as shaped and compacted under Sections 300 and 500 of these specifications, shall be approved in writing by the Authorized Officer prior to placement of crushed rock materials.
- 1010 — Crushed rock materials shall be placed and processed on the approved roadbed in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and as staked on the ground and compacted in layers not to exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted, before the succeeding layer is placed. 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 crushed rock material until the surface is smooth and uniform.
- 1010a — Crushed rock material used to repair or reinforce a soft, muddy, frozen, yielding, or rutted roadbed shall not be construed as surfacing under this specification unless approved as such by the Authorized Officer prior to placement.
- 1012 — Each layer of crushed rock material shall be placed, processed, shaped, moistened or dried to a uniform moisture content suitable for maximum compaction, and compacted to full width by compaction equipment conforming to the requirements of Subsection 103f, 103g, 103i.
- 1013 — Each layer of crushed rock material for base placed, processed, and shaped as specified shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width until a uniform density of not less than 95 percent of the maximum density is attained as determined by AASHTO T 99, Method D.
- 1018 — The equipment and methods used for stockpiling crushed rock material and for removing material from the stockpiles shall be such that minimum degradation or segregation of the material will result and that minimal amounts of foreign material will be incorporated into the crushed base material. There will be no intermingling of stockpiled materials.
- 1019 — Upon completion of the work, stockpile sites shall be sloped, shaped, and otherwise brought to a visible condition acceptable to the Authorized Officer.

AGGREGATE SURFACE COURSE – 1200
CRUSHED ROCK MATERIAL

- 1201 — This work shall consist of furnishing , hauling, and placing one or more layers of crushed rock material on roadbeds and base courses approved for placing crushed rock material in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans. Material not conforming to these specifications will be rejected, and shall be removed from the road at the purchaser's expense.

- 1202 — Crushed rock materials used in this work shall consist of quarry rock, stone, gravel, or other approved materials obtained from commercial sources.
- 1202a — Crushed rock materials used in this work may be obtained from commercial sources selected by the Purchaser at his option and expense, providing the rock materials furnished comply with the specifications.
- 1203 — When crushed rock material is produced from gravel, not less than 65 percent by weight of the particles retained on the No. 4 sieve will have 2 manufactured fractured faces. If necessary to meet the above requirements or to eliminate an excess of filler, the gravel shall be screened before crushing.
- 1204 — Crushed rock material shall consist of hard durable rock fragments conforming to the following gradation requirements:

TABLE 1204

AGGREGATE SURFACE COURSE
CRUSHED ROCK MATERIAL
Percentage by weight passing
square mesh sieves
(AASHTO T 11 & T 27)

Sieve Designation	GRADATION	
	C-1	E
1-1/2-inch	100	-
1-inch	-	-
3/4-inch	60-90	100
1/2-inch	-	-
No. 4	30-55	40-75
No. 8	22-43	-
No. 30	11-27	-
No. 40	-	5-35
No. 200	3-15	2-15

- 1205 — Crushed rock material retained on the No. 4 sieve shall have a percentage of loss of not more than 35 at 500 revolutions, as determined by AASHTO T 96.
- 1206 — Crushed rock material shall show a durability value of not less than 35, as determined by AASHTO T210 and will be accepted if it complies with the additional DMSO requirements as shown on Table 1206a.
- 1206a — The crushed rock material shall show a loss of not more than the percentage shown in Table 1206a, when submerged in DMSO, dimethyl sulfoxide, for five days, according to Federal Highway Administration Region 10 Accelerated Weathering Test Procedure.

TABLE 1206a

Durability	DMSO (% loss by wt.)
35	20

EXHIBIT C

Sale Name: Dueling Elk

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40	25
45	30
50	35
55	40
60	45

- 1207 — That portion of crushed rock material passing the No. 40 sieve, including blending filler, shall have a liquid limit of not more than 35, and a plasticity index not more than 12 as determined by AASHTO T 89 and AASHTO T 90.
- 1207a — That portion of crushed rock material passing No. 4 sieve, including blending filler, shall have a sand equivalent of not less than 35, as determined by AASHTO T 176, except where that portion exhibits a sand equivalence of less than 35, the aggregate will be accepted if it complies with the additional requirement as follows:

TABLE 1207a

Sand Equivalent	Percent Passing #200 Sieve AASHTO T 27
34	9
33	8
32	7
31	6
30	5
29 or less	4

- 1208 — If additional binder or filler material is necessary to meet the grading or plasticity requirements or for satisfactory bonding of the material, it shall be uniformly blended with the crushed rock material at the crushing and screening plant prior to placing on the road, unless otherwise agreed. The material for such purposes shall be obtained from sources approved by the Authorized Officer and shall be free from stones, vegetative matter, and other deleterious materials.
- 1208a — Each layer of crushed rock material shall be thoroughly mixed on the roadbed by alternately blading, to full depth, until a uniform mixture has been obtained. The mixture shall then be spread to full width. When completed, the spreading shall produce a surface which is smooth, presents uniform shoulder lines, and conforms to the specified cross section.
- 1209 — Shaping and compacting of roadbed and base course shall be completed and approved in writing, prior to placing crushed surface rock material, in accordance to the requirements of Subsections 300 and 500 for placing on the roadbed and landings and Subsection 1000 for placing on the base course. The Purchaser shall give the Authorized Officer 3 business days' notice prior to final inspection of surfacing operations.
- 1210 — Crushed rock material conforming to the requirements of these specifications shall be placed on the approved roadbed and base course in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and staked on the ground.

Compacted layers shall not exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted, and approved by the Authorized Officer before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and then adding or removing crushed rock material until the surface is smooth and uniform.

- 1210a — Crushed rock material used to repair or reinforce soft, muddy, frozen, yielding, or rutted roadbed shall not be construed as surfacing required by this specification unless approved by the Authorized Officer prior to placement.
- 1213 — Each layer of crushed rock material placed, uniformly processed, and shaped as specified shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width until a uniform density of not less than 95 percent of maximum density is attained as determined by AASHTO T 99, Method C or D.
- 1218 — The equipment and methods used for stockpiling crushed rock material and for removing material from the stockpiles shall be such that minimum degradation or segregation of the material will result and that minimal amounts of foreign material will be incorporated into the crushed surface material. There will be no intermingling of stockpiled materials.
- 1219 — Upon completion of the work, stockpile sites shall be sloped, shaped, and otherwise brought to a visible condition acceptable to the Authorized Officer.

SLOPE PROTECTION – 1400

- 1401 — This work shall consist of furnishing, hauling, and placing stone materials for slope protection in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross-sections shown on the plans. Material not conforming to these specifications will be rejected and shall be removed from the slope protection structure at the Purchaser's expense and as directed by the Authorized Officer.
- 1402 — Stone material shall consist of hard angular quarry rock of such quality that it will not disintegrate on exposure to water or weathering, and shall be graded in accordance with these specifications.
- 1403 — Individual machine-placed stones shall vary in weight from 525 to 700 pounds each.
- 1404 — The material shall be well graded from the smallest to the maximum size specified. Stones smaller than the specified 10 percent size shall consist of spalls and fine rock fragments so distributed as to provide a stable compact mass.
- 1405 — Rip rap shall conform to the following gradations:

TABLE 1405

Class	Approx. Cubic Dimension (inches)	Sphere Diameter (inches)	% of Total Volume Smaller than Size of Stone
1	6-8	8	100
	5-6	6	80
	2-5	6	50
	0-2	2	10
2	8-10	12	100
	6-8	8	80
	3-6	6	50
	0-3	4	10
3	14-16	21	100
	10-14	18	80
	5-10	12	50
	0-5	6	10
4	18-20	24	100
	14-18	22	80
	6-14	18	50
	0-6	8	10
5	26-28	36	100
	20-26	32	80
	8-20	25	50
	0-8	10	10
6	28-34	42	100
	22-28	34	80
	10-22	27	50
	0-10	12	10

*Rocks smaller than six inches in diameter are not counted.

- 1405a — Stone materials shall show a durability value of not less than 50 as determined by AASHTO T 210.
- 1405b — Stone materials shall conform to a minimum apparent specific gravity of 2.50 and a maximum absorption of 4.2 percent as determined by AASHTO T 85.
- 1406 — The placement of slope protection stones by the end dumping method shall be conducted to prevent the stones from escaping beyond the embankment toe.
- 1406a — The embankment shall be placed in successive horizontal layers of sufficient depth to contain the maximum size rock present in the material. Spalls and finer fragments of stone other than specified in Subsection 1405 shall be used to chock the larger stones solidly in position and to fill voids between the major stones as laid in the embankment. The exposed face of the embankment shall be reasonably smooth and uniform; material shall be prevented from escaping beyond the toe of the structure.

- 1406b — Spaces in back of hand-laid embankment shall be filled with hand-tamped or rammed rock-spall material.
- 1407 — Determination of the acceptability of the slope protection material gradation will be through visual inspection and physical measurements by the Authorized Officer.
- 1409 — Slope protection material shall be placed so as to form the cross sections shown on the plans. The face of the slope protection structure above the low-water line shall be uniform, free from humps, depressions, or large cavities.

EROSION CONTROL – 1700

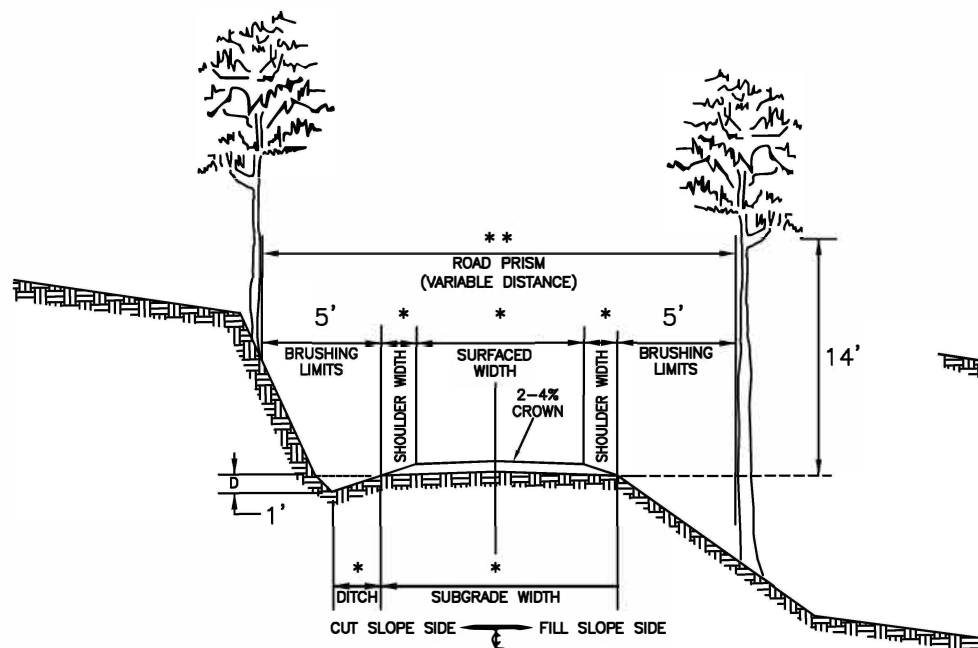
- 1701 — This work shall consist of measures to control soil erosion or water pollution during the construction operation through the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections shown on the plans.
- 1702 — The Purchaser shall construct settling basins or other erosion control structures located outside of the road right-of-way as detailed in the Purchasers dewatering plan and as approved by the Authorized Officer.
- 1703 — This work shall consist of furnishing and installing brush barriers or sediment fences in accordance with these specifications and as directed by the Authorized Officer.
- 1708a — Road segments not completed during dry weather periods shall be winterized, by providing a well-drained roadway using water bars, maintaining drainage, and performing additional measures necessary to minimize erosion and other damage to the roadway, as directed by the Authorized Officer. Portions of roads not having surface rock in place will be blocked or barricaded to prevent vehicular traffic.
- 1711 — The Purchaser shall construct energy dissipaters for pipe culverts conforming to the requirements and details shown on the plans.
- 1713 — Where newly constructed logging spur roads join with existing surfaced roads, the Purchaser shall construct a sag in the spur road profile as directed by the Authorized Officer.

ROADSIDE BRUSHING – 2100

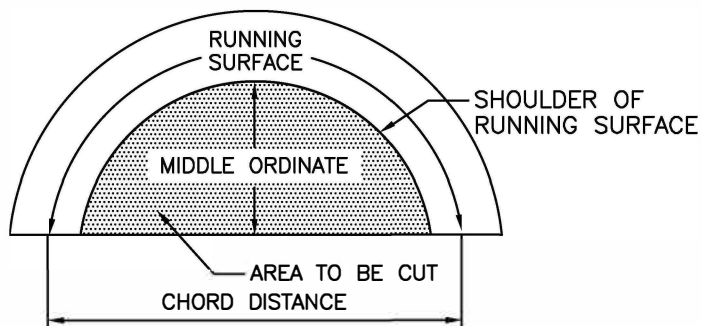
- 2101 — This work shall consist of the removal of vegetation from the road prism - variable distance, and inside curves in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the Roadside Brushing Detail Sheet of this exhibit, at designated locations as shown in the plans.
- 2102 — Roadside brushing may be performed mechanically with self-powered, self-propelled equipment and/or manually with hand tools, including chain saws.

- 2103 — Vegetation cut manually and/or mechanically less than 6 inches in diameter at DBHOB, shall be cut to a maximum height of 2 inches above the ground surface or above obstructions such as rocks or stumps on cut and fill slopes and all limbs below the 2 inch area will be severed from the trunk.
- 2103a — Vegetation shall be cut and removed from the road bed between the outside shoulders and the ditch centerline and such vegetation shall be cut to a maximum height of 1 inch above the ground and running surface. Limbs below the 1 inch area will be severed from the trunk. Sharp pointed ends will not be permitted. Cuts shall be parallel to the ground line or running surface.
- 2104 — Trees in excess of 6 inches in diameter at DBHOB shall be limbed, so that no limbs extend into the treated area or over the roadbed to a height of 14 feet above the running surface of the roadway on cut and fill slopes, within the road prism-variable distance. Limbs shall be cut to within 1 inch of the trunk to produce a smooth vertical face. Removal of trees larger than 6 inches in diameter for sight distance or safety may be directed by the Authorized Officer.
- 2105 — Vegetation that is outside of the road prism-variable distance that protrudes into the road prism and within 14 feet in elevation above the running surface shall be cut to within 1 inch of the trunk to produce a smooth vertical face.
- 2106 — Vegetative growth capable of growing 1 foot in height or higher shall be cut within the road prism-variable distance or as directed by the Authorized Officer.
- 2107 — Inside curves shall be brushed out for a sight distance of 200 feet chord distance or a middle ordinate distance of 25 feet whichever is achieved first. Overhanging limbs and vegetation in excess of 1 foot in height, shall be cut within these areas.
- 2108 — Self-propelled equipment shall not be permitted on cut and fill slopes or in ditches.
- 2109 — Debris resulting from this operation shall be scattered downslope from the roadway. Debris shall not be allowed to accumulate in concentrations. Debris in excess of 1 foot in length and 2 inches in diameter shall not be allowed to remain on cut slopes, ditches, roadways or water courses, or as directed by the Authorized Officer.
- 2115 — Mechanical brush cutters shall not be operated when there are people and occupied vehicles within 400 feet of the immediate operating area.
- 2116 — Traffic warning signs shall be required at each end of the work area. Signs shall meet the requirements of the Manual on Uniform Traffic Control Devices.

BRUSHING TYPICAL CROWNED CROSS SECTION



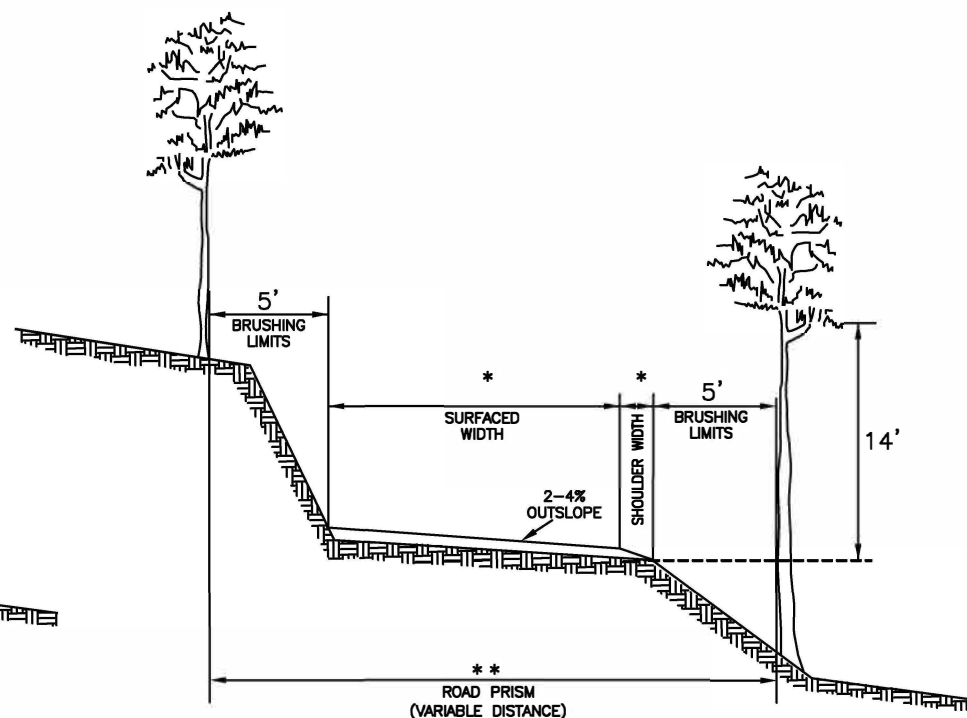
SIGHT DISTANCE DIAGRAM



NOTES:

- 1) BRUSHING OF THROUGH CUTS SHALL CONFORM TO CUT SLOPE SIDE OF THE TYPICAL CROWNED CROSS SECTION.
- 2) BRUSHING OF THROUGH FILLS SHALL CONFORM TO FILL SLOPE SIDE OF THE TYPICAL CROWNED CROSS SECTION.

BRUSHING TYPICAL OUTSLOPED CROSS SECTION



* VARIABLE DISTANCE BETWEEN RUNNING SURFACE AND START OF FILL AND CUT SLOPE

** ALL AREAS WITHIN THE VARIABLE DISTANCE SHALL BE FREE OF ALL VEGETATION CAPABLE OF GROWING 1 FOOT IN HEIGHT OR HIGHER AND ALL OVERHANGING LIMBS AND BRANCHES 14 FEET IN ELEVATION ABOVE THE SUBGRADE.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
NORTHWEST OREGON DISTRICT SPRINGFIELD, OREGON

ROADSIDE BRUSHING DETAIL

Road Nos.: 16-7-19, -19.1, -19.2, -23, -24.1, 16-8-25, -25.1, -36

DATE: 07/07/2025

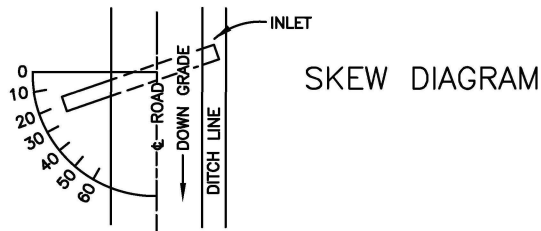
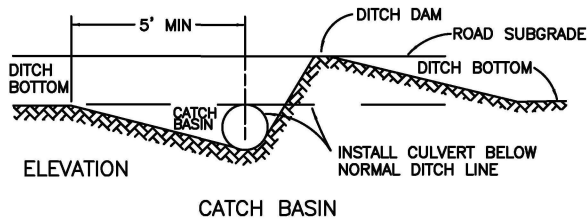
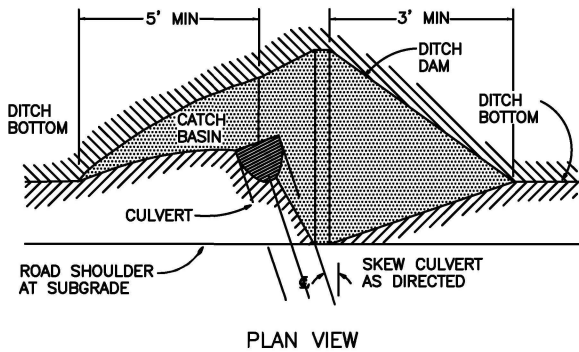
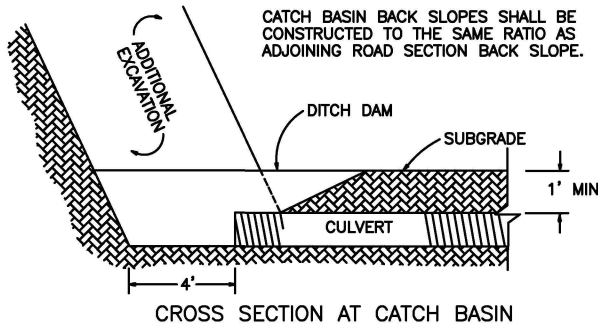
SHEET 22 OF 32

ALWAYS THINK SAFETY NOT TO SCALE

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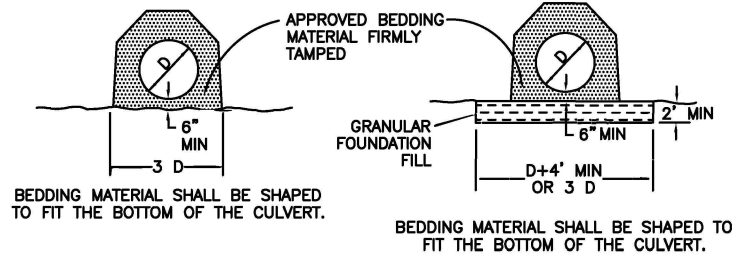
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EXHIBIT C



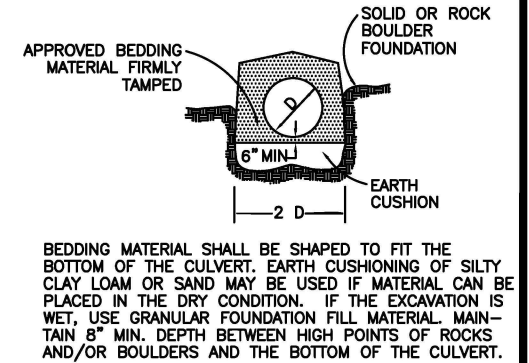
THE GRADE OF CROSSDRAINS SHALL BE THE SAME AS ADJACENT ROAD GRADE, EXCEPT GRADES SHALL NOT BE LESS THAN 2%

BEDDING OF CULVERT

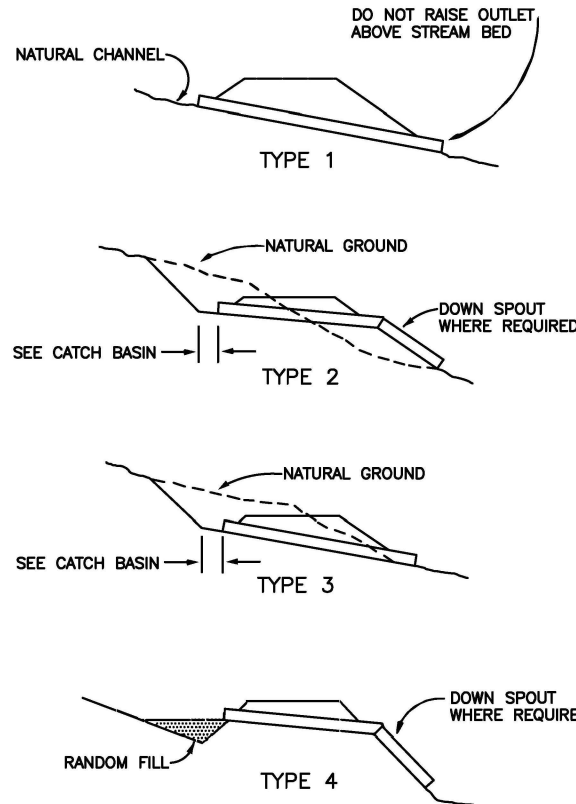


BEDDING OF CULVERTS ON STABLE NATURAL GROUND FOUNDATION OR COMPACTED EMBANKMENT

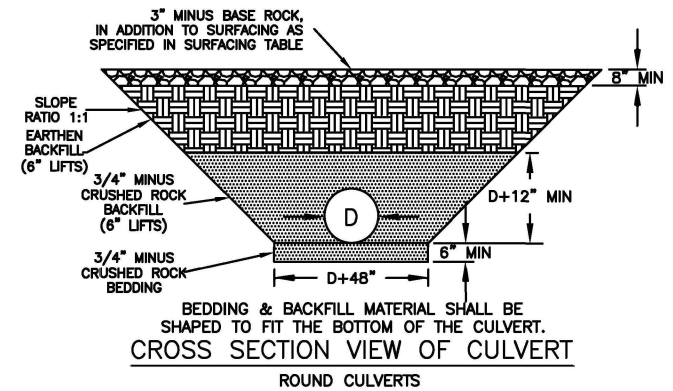
BEDDING OF CULVERTS ON SOFT SPONGY OR UNSTABLE SOIL FOUNDATION



BEDDING OF CULVERT IN SOLID ROCK OR BOULDER FOUNDATION



CULVERT INSTALLATION TYPES



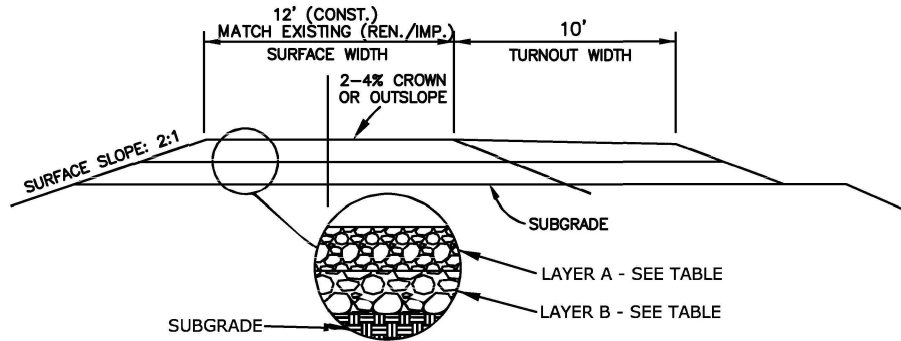
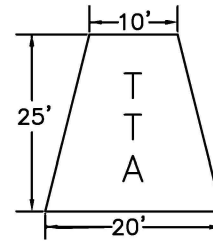
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
NORTHWEST OREGON DISTRICT SIUSLAH FIELD OFFICE

CULVERT INSTALLATION DETAIL

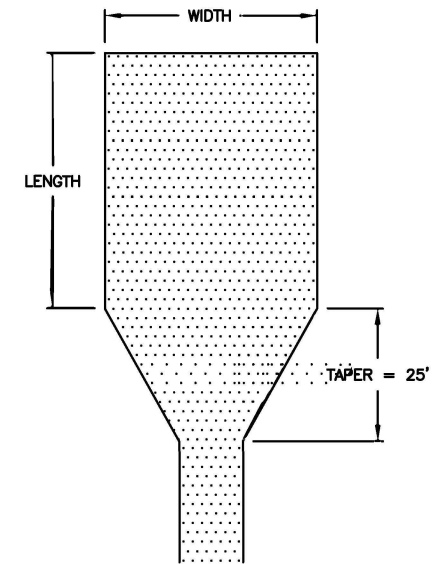
DATE: 07/07/2025 SHEET 24 OF 32

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TYPICAL SURFACING CROSS SECTION

TRUCK TURN
AROUND

*TRUCK TURN AROUNDS SURFACED
W/ 8" DEPTH OF 6" MINUS

TYPICAL LANDING CONSTRUCTION
PLAN VIEW

*LANDINGS SURFACED
W/ 8" DEPTH OF 6" MINUS

*LANDING DIMENSIONS = LENGTH X WIDTH

SURFACING TABLE

ROAD/SPUR NUMBER	FROM STA/MP	TO STA/MP	LAYER A		LAYER B	
			DEPTH	GRADATION	DEPTH	GRADATION
SPUR A	0+00	13+17	8"	6"-0" (GRADATION I)		
SPUR B	0+00	8+73	8"	6"-0" (GRADATION I)		
SPUR C	0+00	2+82	8"	6"-0" (GRADATION I)		
SPUR D	0+00	1+88	8"	6"-0" (GRADATION I)		
SPUR E	0+00	4+23	8"	6"-0" (GRADATION I)		
SPUR F	0+00	9+09	8"	6"-0" (GRADATION I)		
SPUR H	0+00	1+74	8"	6"-0" (GRADATION I)		
SPUR I	0+00	1+94	8"	6"-0" (GRADATION I)		
SPUR J	0+00	3+74	8"	6"-0" (GRADATION I)		
SPUR K	0+00	1+60	8"	6"-0" (GRADATION I)		
SPUR L	0+00	1+15	8"	6"-0" (GRADATION I)		
SPUR M	0+00	2+44	8"	6"-0" (GRADATION I)		
SPUR N	0+00	3+40	8"	6"-0" (GRADATION I)		
SPUR O	0+00	1+35	8"	6"-0" (GRADATION I)		
SPUR P	0+00	3+65	4"	3"-0 (GRADATION A)		
SPUR Q	0+00	9+96	4"	3"-0 (GRADATION A)		
SPUR R	0+00	7+01	4"	3"-0 (GRADATION A)		
SPUR S	0+00	18+89	4"	3"-0 (GRADATION A)		
SPUR T	0+00	5+52	4"	3"-0 (GRADATION A)		
SPUR U	0+00	8+94	8"	6"-0" (GRADATION I)		
16-7-19	0.00	0.3	6"	1.5"-0" (GRADATION C-1)		
		0.30	1.02	6"	3"-0 (GRADATION A)	
16-7-19.2	1.02	1.52	6"	3"-0 (GRADATION A)		
16-8-24.1	0.00	1.33	4"	1.5"-0" (GRADATION C-1)		
16-8-25	0+00	19+00	8"	6"-0" (GRADATION I)		
16-8-36	0.00	2.8	4"	1.5"-0" (GRADATION C-1)		
		2.80	2.94	4"	3"-0 (GRADATION A)	

NOT TO SCALE

ALWAYS THINK ***SAFETY***

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
NORTHWEST OREGON DISTRICT SIUSLAU FIELD OFFICE

TYPICAL SURFACING CROSS SECTION
AND SURFACING TABLE

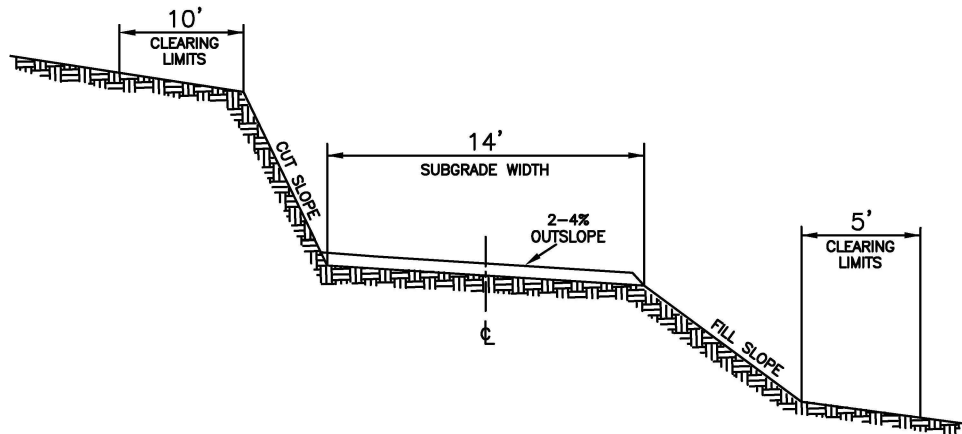
Spurs: A, B, C, D, E, F, H, I, J, K, L, M, N, O,
P, Q, R, S, T, U

Road Nos.: 16-7-19, 16-7-19.2, 16-8-24.1,
16-8-25, 16-8-36

DATE: 07/07/2025

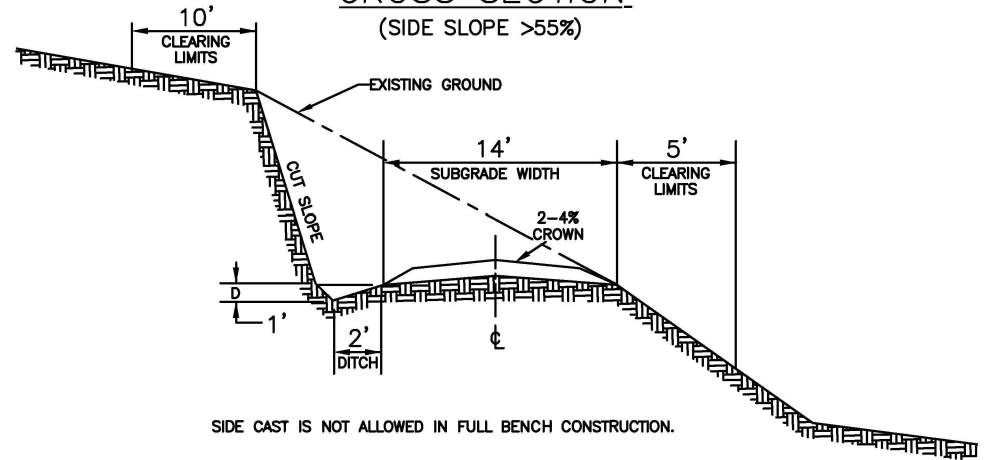
SHEET 25 of 33

TYPICAL OUTSLOPED CROSS SECTION



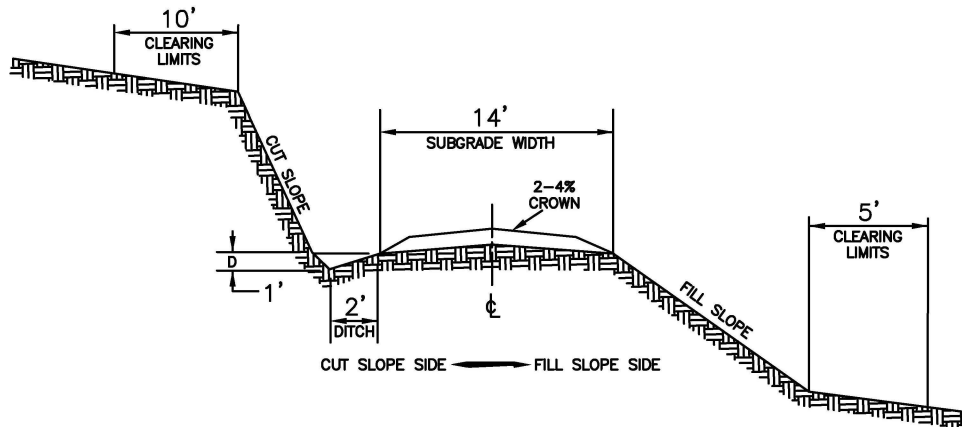
TYPICAL FULL BENCH CROSS SECTION

(SIDE SLOPE > 55%)



SIDE CAST IS NOT ALLOWED IN FULL BENCH CONSTRUCTION.

TYPICAL CROWNED CROSS SECTION



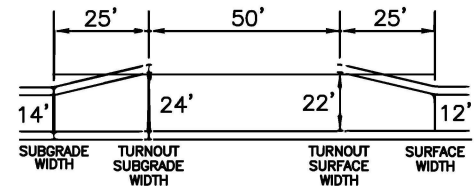
CUT SLOPE RATIO

1:1 COMMON, CUTS TO 6 FT.
1/2:1 COMMON, CUTS > 6 FT.
1/4:1 SOLID ROCK
1/4:1 SOFT ROCK OR HARDPAN

FILL SLOPE RATIO

1 1/2:1 COMMON
1 1/4:1 ROCK

TURNOUTS RIGHT OR LEFT

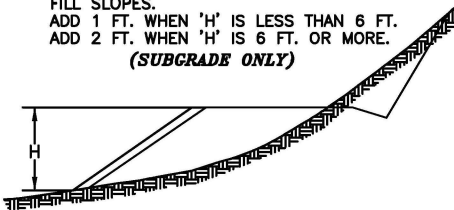


NOT TO SCALE

ALWAYS THINK **SAFETY**

FILL WIDENING

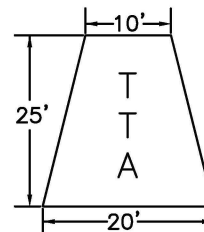
EXTRA WIDENING REQUIRED ON ALL FILL SLOPES.
ADD 1 FT. WHEN 'H' IS LESS THAN 6 FT.
ADD 2 FT. WHEN 'H' IS 6 FT. OR MORE.
(SUBGRADE ONLY)



CURVE WIDENING

$CW = 400/R$
 $R = \text{CURVE RADIUS (FT)}$
 $CW = \text{CURVE WIDENING (FT)}$

TRUCK TURN AROUND



NOTES:

- 1) THROUGH CUTS SHALL CONFORM TO CUT SLOPE SIDE OF THE TYPICAL CROWNED CROSS SECTION.
- 2) THROUGH FILLS SHALL CONFORM TO FILL SLOPE SIDE OF THE TYPICAL CROWNED CROSS SECTION.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
NORTHWEST OREGON DISTRICT SIUSLAU FIELD OFFICE

CONSTRUCTION DETAILS

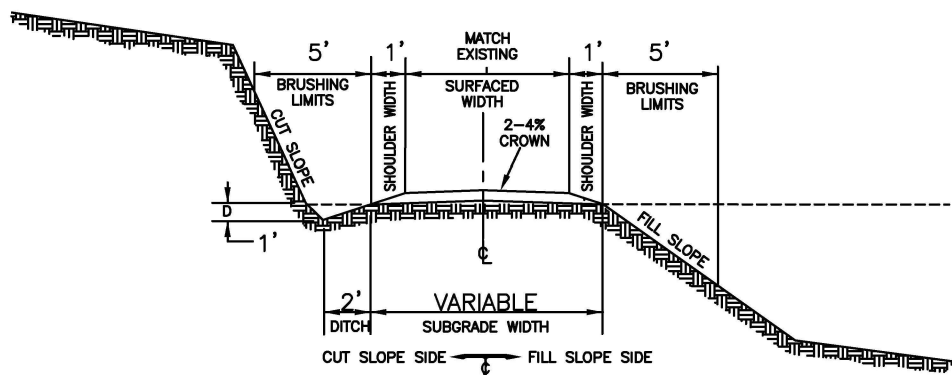
Spurs: B, C; D, E, F, H, I, J, K, L, M, N, O, Q, R, S, T

DATE: 07/07/2025

SHEET 25 OF 32

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TYPICAL CROWNED CROSS SECTION



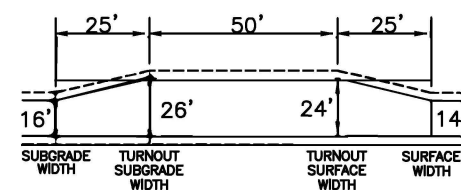
FILL SLOPE RATIO

- 1 1/2:1 COMMON
1 1/4:1 ROCK

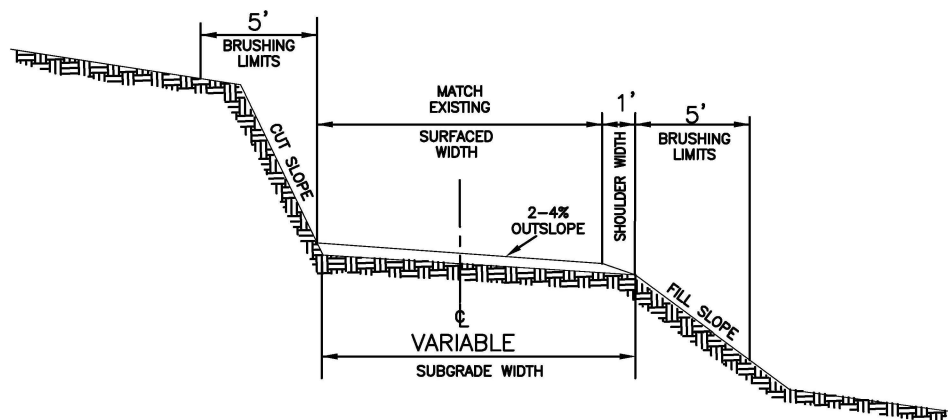
CUT SLOPE RATIO

- 1:1 COMMON, CUTS TO 6 FT.
1/2:1 COMMON, CUTS > 6 FT.
1/4:1 SOLID ROCK
1/4:1 SOFT ROCK OR HARDPAN

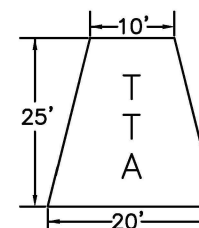
TURNOUTS RIGHT OR LEFT



TYPICAL OUTSLOPED CROSS SECTION



TRUCK TURN AROUND

ALWAYS THINK **SAFETY**

NOT TO SCALE

NOTES:

- 1) RENOVATION OF THROUGH CUTS SHALL CONFORM TO CUT SLOPE SIDE OF THE TYPICAL CROWNED CROSS SECTION.
- 2) RENOVATION OF THROUGH FILLS SHALL CONFORM TO FILL SLOPE SIDE OF THE TYPICAL CROWNED CROSS SECTION.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
NORTHWEST OREGON DISTRICT SIUSLAU FIELD OFFICE

RENOVATION AND IMPROVEMENT
TYPICAL CROSS SECTIONS

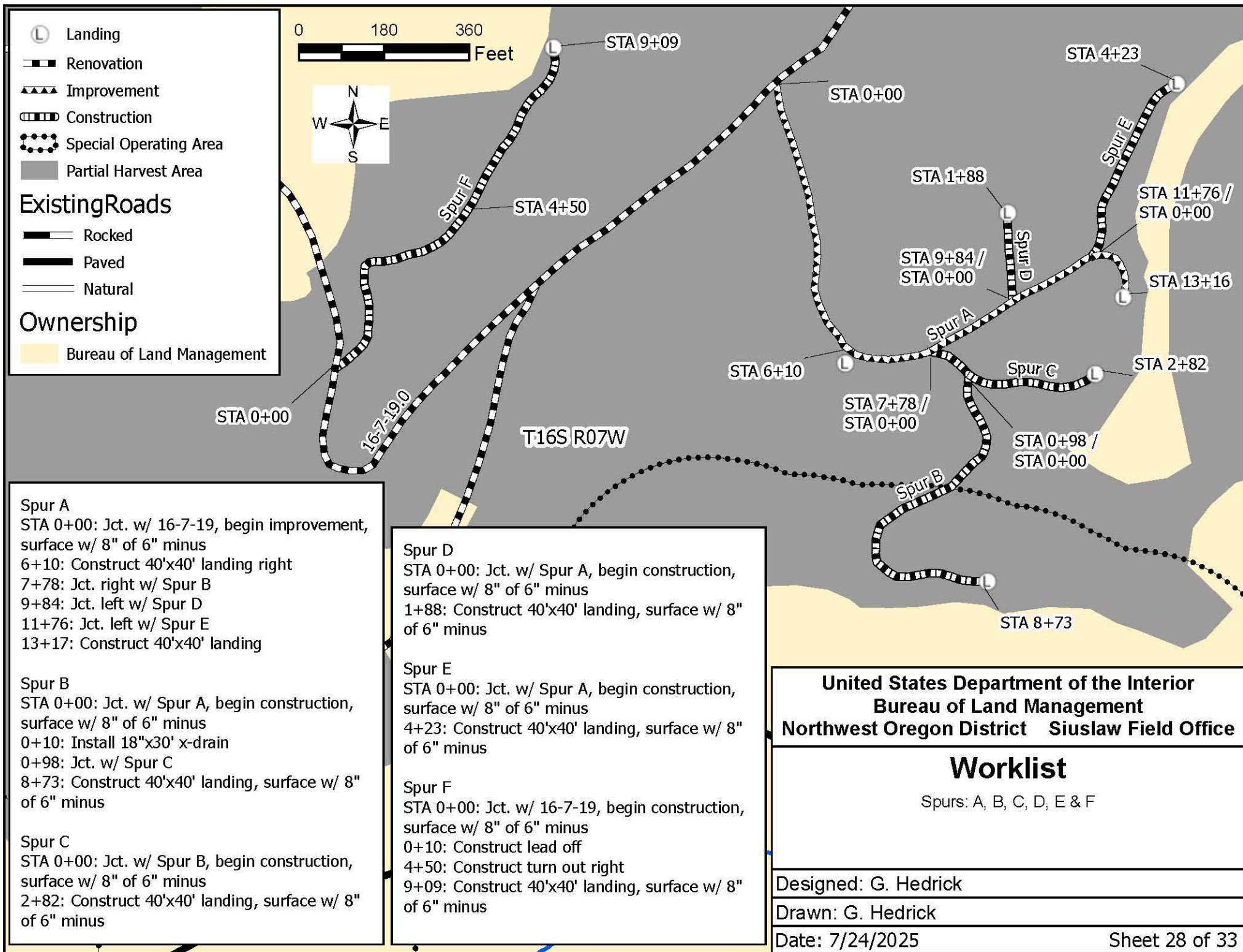
Spurs: A, P, U

Road Nos.: 16-7-19, -19.1, -19.2, 16-8-23, -24.1, -25,
-25.1, -36

DATE: 07/07/2025

SHEET 26 OF 32

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Spur H
 STA 0+00: Jct. w/ 19-6-19.2, begin construction, surface w/ 8" of 6" minus
 1+74: Construct 40'x40' landing, surface w/ 8" of 6" minus

Spur I
 STA 0+00: Jct. w/ 19-6-19.2, begin construction, surface w/ 8" of 6" minus
 1+94: Construct 40'x40' landing, surface w/ 8" of 6" minus

Spur J
 STA 0+00: Jct. w/ 19-6-19.2, begin construction, surface w/ 8" of 6" minus
 3+74: Jct. w/ 19-6-19.2, end construction

- Landing
- Replace X-drain
- Gate
- Renovation
- Improvement
- Construction
- Special Operating Area
- Partial Harvest Area

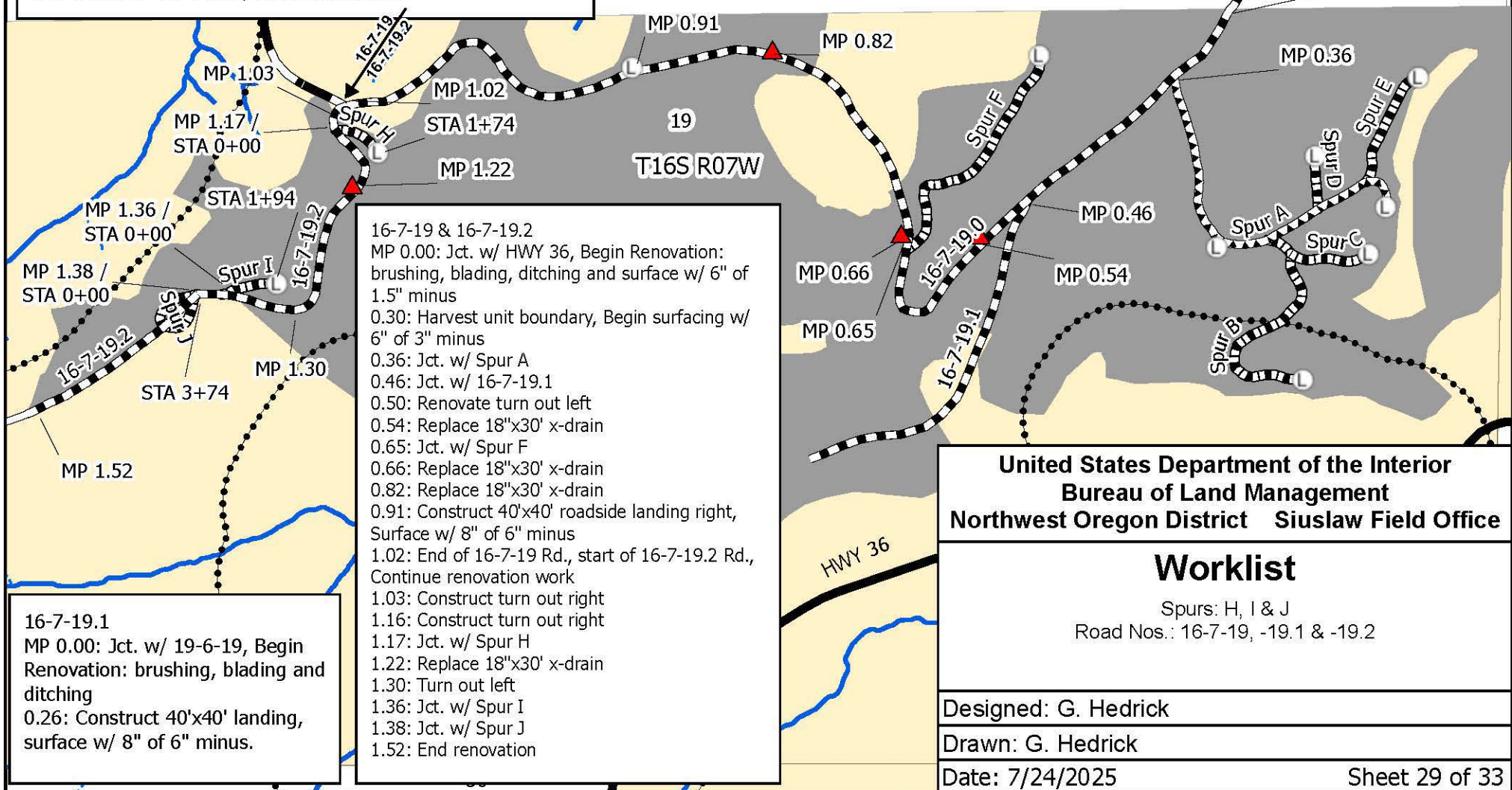
Existing Road

- Rocked
- Paved
- Natural

Ownership

- BLM
- Private

0 0.1 0.2
 Miles



United States Department of the Interior
Bureau of Land Management
Northwest Oregon District Siuslaw Field Office

Worklist

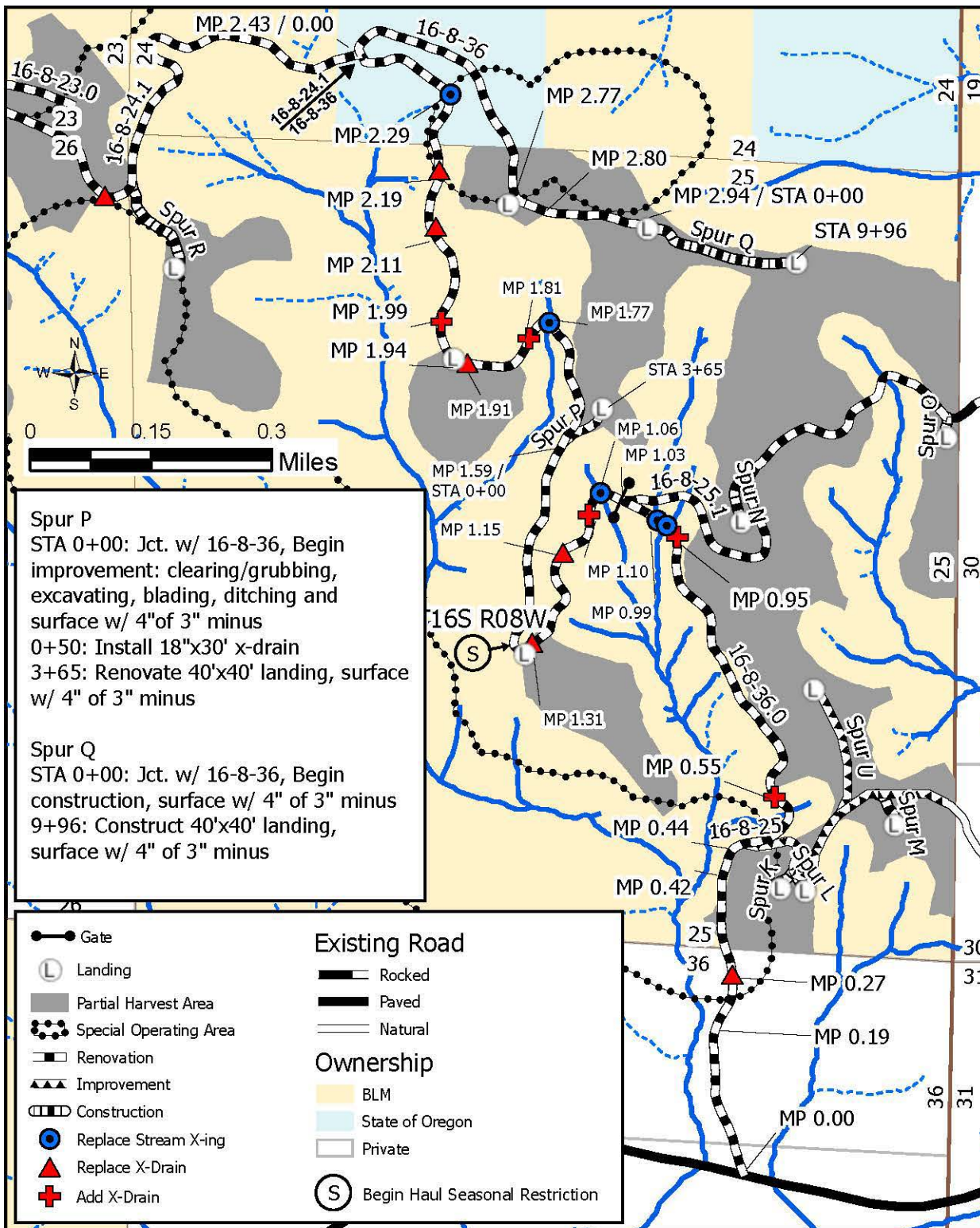
Spurs: H, I & J
 Road Nos.: 16-7-19, -19.1 & -19.2

Designed: G. Hedrick

Drawn: G. Hedrick

Date: 7/24/2025

Sheet 29 of 33



16-8-36
 MP 0.00: Jct. w/ HWY 36, Begin Renovation: brushing
 0.19: Start of rocked surface, begin blading, ditching and surface w/ 4" of 1.5" minus
 0.27: Replace 18"x30' x-drain
 0.42: Turn out left
 0.44: Jct. w/ 16-8-25
 0.55: Install 18"x30' x-drain
 0.56: Turn out left
 0.77: Turn out left
 0.95: Install 24"x30' stream x-ing
 0.97: Replace 24"x40' stream x-ing
 0.99: Replace 24"x40' stream x-ing
 1.01: Jct. w/ 16-8-25.1
 1.03: Gate
 1.06: Replace 24"x40' stream x-ing
 1.10: Install 18"x30' x-drain
 1.15: Replace 18"x30' x-drain
 1.22: Turn out left
 1.30: Replace 18"x30' x-drain
 1.31: Construct 40'x40' roadside landing left, surface w/ 8" of 6" minus
 1.59: Jct. w/ Spur P
 1.77: Replace 24"x40' stream x-ing
 1.81: Install 18"x30' x-drain
 1.91: Replace 18"x30' x-drain
 1.94: Turn out left, surface w/ 4" of 3" minus
 1.99: Install 18"x30' x-drain
 2.11: Replace 18"x30' x-drain
 2.19: Replace 18"x30' x-drain
 2.29: Replace 24"x30' stream x-ing
 2.43: Jct. w/ 16-8-24.1, continue renovation
 2.77: Construct 40'x40' roadside landing right, surface w/ 4" of 3" minus
 2.80: Begin heavy renovation: Clearing/Grubbing, reconstruct road surface and surface w/ 4" of 3" minus
 2.94: Renovate 40'x40' landing, surface w/ 4" of 3" minus

United States Department of the Interior
 Bureau of Land Management
 Northwest Oregon District Siuslaw Field Office

Worklist

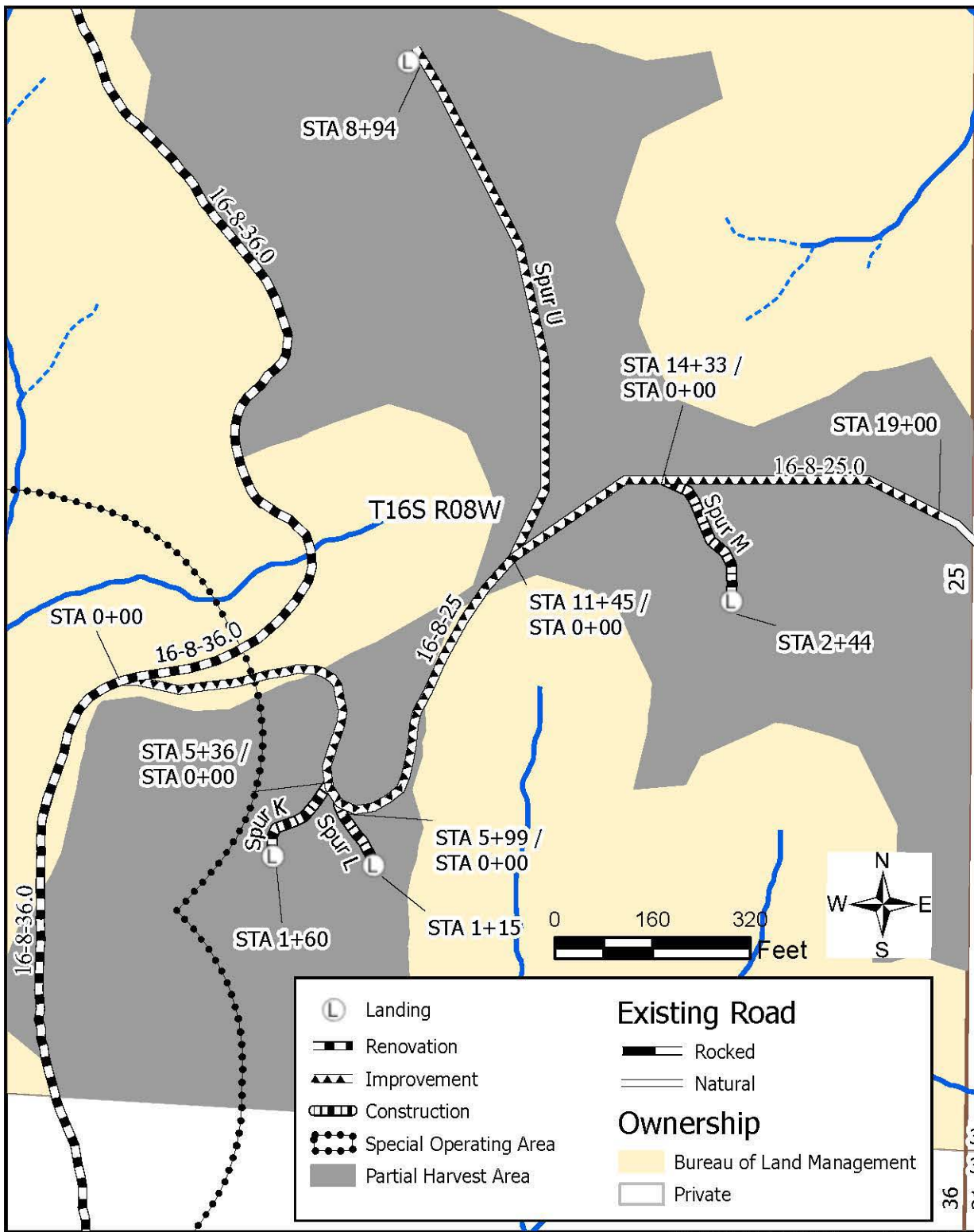
Spurs: P & Q
 Road Nos.: 16-8-36

Designed: G. Hedrick

Drawn: G. Hedrick

Date: 7/24/2025

Sheet 30 of 33



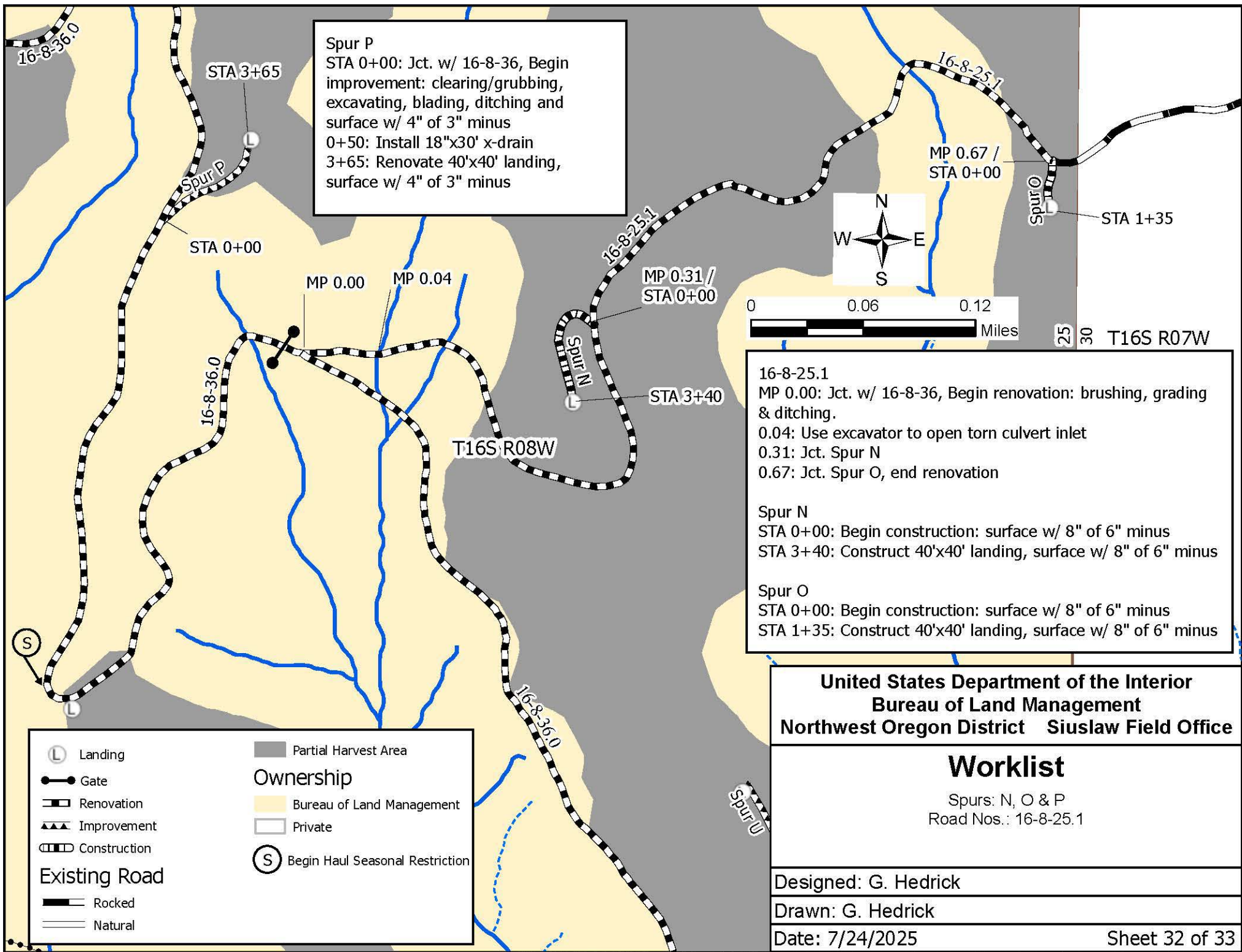
- 16-8-25
 STA 0+00: Jct. w/ 16-8-36, Begin Improvement: brushing, blading, ditching and surface w/ 8" of 6" minus
 5+36: Jct. w/ Spur K
 5+99+: Jct. w/ Spur L
 11+45: Jct. w/ Spur U, Install 18"x30' x-drain
 14+33: Jct. w/ Spur M
 19+00: End improvement
- Spur K
 STA 0+00: Jct. w/ 16-8-25, Begin construction, surface w/ 8" of 6" minus
 1+60: Construct 40'x40' landing, surface w/ 8" of 6" minus
- Spur L
 STA 0+00: Jct. w/ 16-8-25, Begin construction, surface w/ 8" of 6" minus
 1+15: Construct 40'x40' landing, surface w/ 8" of 6" minus
- Spur M
 STA 0+00: Jct. w/ 16-8-25, Begin construction, surface w/ 8" of 6" minus
 2+44: Construct 40'x40' landing, surface w/ 8" of 6" minus
- Spur U
 STA 0+00: Jct. w/ 16-8-25, Begin Improvement: clear/grub, blading, ditching and surface w/ 8" of 6" minus
 8+94: Construct 40'x40' landing, surface w/ 8" of 6" minus

United States Department of the Interior
Bureau of Land Management
Northwest Oregon District Siuslaw Field Office

Worklist
 Spurs: K, L, M & U
 Road Nos.: 16-8-25

Designed: G. Hedrick
Drawn: G. Hedrick
Date: 7/24/2025

Sheet 31 of 33



Spur S
 STA 0+00: Jct. w/ 16-8-24.1,
 Begin construction, surface w/
 4" of 3" minus
 5+00: Construct turn out
 right, surface w/ 4" of 3" minus
 8+32: Jct. w/ Spur T
 10+70: Construct turn out
 right, surface w/ 4" of 3" minus
 18+89: Construct 40'x40'
 landing, surface w/ 4" of 3"
 minus

Spur T
 STA 0+00: Jct. w/ Spur S, Begin
 construction, surface w/ 4" of 3" minus
 5+52: Construct 40'x40' landing,
 surface w/ 4" of 3" minus

16-8-24.1
 MP 0.00: Jct. w/ 16-8-36, Begin Renovation:
 brushing, blading, ditching and surface w/ 4" of 1.5"
 minus
 0.33: Turn out left, surface w/ 4" of 1.5" minus
 0.51: Jct. w/ Spur R
 0.56: Replace 18"x40' x-drain
 0.77: Replace 18"x30' x-drain
 0.86: Jct. w/ 16-8-23
 1.03: Jct. w/ Spur S
 1.25: Turn out left, surface w/ 8" of 6" minus
 1.33: End of harvest unit, end renovation

16-8-23
 MP 0.00: Jct. w/ 16-8-24.1, begin renovation:
 brushing, blading & ditching
 0.21: Renovate landing

Spur R
 STA 0+00: Jct. w/ 16-8-24.1, Begin construction,
 surface w/ 4" of 3" minus
 7+01: Construct 40'x40' landing, surface w/ 4" of 3"
 minus

United States Department of the Interior
 Bureau of Land Management
 Northwest Oregon District Siuslaw Field Office

Worklist

Spurs: R, S & T
 Road Nos.: 16-8-23 & 16-8-24.1

Designed: G. Hedrick

Drawn: G. Hedrick

Date: 7/24/2025

Sheet 33 of 33

ROAD MAINTENANCE SPECIFICATIONS

SECTION	DESCRIPTION
	Special Provisions
3000	General
3100	Operational Maintenance
3200	Seasonal Maintenance
3300	Final Maintenance
3400	Other Maintenance

SPECIAL PROVISIONS

1. In order to prevent the spread of noxious weeds, the Purchaser shall clean road maintenance and decommissioning equipment, prior to entry on BLM lands, as directed by the Authorized Officer.
2. The Purchaser shall place and compact **300 CY (cubic yards, truck measure)** crushed maintenance rock for surface protection, roadside landings, and log haul maintenance during periods of wet weather haul. Aggregate shall conform to Sections 1000 and 1200 of Exhibit C. On Road No. 16-8-36 the Purchaser shall protect road surfaces in all areas of tracked equipment operation by placing a 6" lift of 3" minus crushed rock or as directed by the Authorized Officer. Additional road reinforcement (rocking may be required for wet weather haul and will be at the purchaser's expense.
3. Maintenance rock gradation shall be determined by the Authorized Officer upon time of request. Load tickets shall be supplied to the BLM for maintenance rock accounting.
4. Upon completion of harvest operations, any remaining aggregate shall be placed in locations determined by the Authorized Officer.
5. The Purchaser shall take precautions during all operations to protect the paved surface on Road No. 16-8-36. The Purchaser shall repair any damage caused by operations at their expense.
6. Above-ground and underground utilities are present in Sections 19 and 20 of T16S-R7W, along Road 16-7-19.1. Prior to initiating any operations, the Purchaser shall contact Blachly-Lane Electric at (541) 688-8711 and the Oregon Utility Notification Center at 1-800-332-2344 to request a utility locate if any digging or road work is planned. Any liability for damage to the power system shall be resolved between the Purchaser and Blachly-Lane Electric.
7. All haul and heavy equipment use on Rd. No. 16-8-36 is seasonally restricted beyond the point "Begin Seasonal Restriction Haul" shown on Exhibits A, C, and D due to risk associated with a road adjacent landslide. These restrictions will be enforced in the fall as winter weather patterns develop and soils begin to become saturated. Restrictions will be lifted in late spring once conditions have sufficiently dried and an extended weather forecast supports lifting of the restriction.

GENERAL – 3000

- 3001 — The Purchaser shall be required to maintain all roads listed and/or referenced in Section 42(b)(9), as shown on the Exhibit D map of this contract in accordance with Sections 3000, 3100, 3200, 3300, and 3400, of this exhibit.
- 3002 — The Purchaser shall maintain the cross section of existing native or rocked surfaced roads to the existing geometric standards. Any roads required to be constructed, renovated, or improved under terms of this contract shall be maintained to the geometric standards required in Exhibit C of this contract.
- 3003 — The minimum required maintenance on any roads shall include the provisions specified in Subsections 3101, 3104, and 3105.
- 3004 — The Purchaser shall be responsible for providing timely maintenance and cleanup on any roads with logging units substantially completed prior to moving operations to other roads. The maximum length of non-maintained or non-cleanup of the road prism shall not exceed the sum of one (1) mile at any time. Release of maintenance requirements may be granted, upon written request, when the conditions specified in Sections 3300 and 3400 are met satisfactorily.

OPERATIONAL MAINTENANCE - 3100

- 3101 — The Purchaser shall blade and shape the road surface and shoulders with a motor grader. Banks shall not be undercut. Back blading with tractors or similar equipment will be allowed only around landings and other areas when approved by the Authorized Officer.
- 3102 — The Purchaser shall furnish and place **300 CY (cubic yards, truck measure)** of aggregate conforming to the requirements in Sections 1000 and 1200 of Exhibit C of this contract on the roadway at locations and in the amounts designated by the Authorized Officer.

This aggregate shall be used to repair surface failures and areas of depleted surface depth excluding damages covered by Section 12 of this contract. The aggregate shall be furnished, hauled, placed, spread, and compacted by use of dump trucks, water trucks, and motor grader or similar equipment.
- 3104 — The Purchaser shall perform other road cleanup including removal of debris, fallen timber, bank slough, and slides which can practicably be accomplished by a motor grader, rubber tired front end bucket loader, rubber tired backhoe or comparable equipment, and by the use of hand tools.
- 3104a — Removal of bank slough and slide material includes placement of material at the nearest designated, suitable disposal site where material cannot erode into streams, lakes, or reservoirs or cause undue damage to road fill slopes which have been planted or mulched to control soil erosion as directed by the Authorized Officer.

- 3104b — The Purchaser shall be responsible for removal of all slides or slough, up to fifteen station yards in quantity, at any one site. This work includes unlimited multiple sites on all roads required to be maintained by the purchaser.

Prior to removal of any slough or slide material exceeding fifteen station yards at any one site, the Purchaser and the Authorized Officer or their Authorized Representatives shall agree in writing, in the field, to the quantity of material, method of disposal, and the disposal site. Work may commence immediately after agreement.

Upon completion of agreed upon work, a reduction in timber sale purchase price will be made to offset the cost of the work, based on current BLM Road Cost Guide. Adjustments in purchase price for completed work shall be made as necessary and no less than once per year when actual work is ongoing.

- 3105 — The Purchaser shall be responsible for maintaining normal flow in drainage structures. This includes cleaning out drainage ditches, catch basins, clearing pipe inverts of sediment and other debris lodged in the barrel of the pipe, and maintaining drain dips and water-bars using equipment specified in Subsection 3104 and other culvert cleaning and flushing equipment.

- 3106 — The Purchaser shall be responsible for repair and replacement of all materials eroded from road shoulders and fill slopes, up to fifteen station yards in quantity, at any one site. This work includes unlimited multiple sites on all roads required to be maintained by the Purchaser. Prior to repair and replacement of eroded material exceeding fifteen station yards at any one site, the Purchaser and the Authorized Officer or their Authorized Representatives shall agree in writing, in the field, to the quantity of material, borrow source and method of repair. Work may commence immediately after agreement.

Upon completion of agreed upon work, a reduction in timber sale purchase price will be made to offset the cost of the work based upon current BLM Road Cost Guide. Adjustments in purchase price for completed work shall be made as necessary and no less than once per year when actual work is ongoing.

- 3107 — The Purchaser shall cut or trim trees and brush which obstruct vision or prevent the safe passage of traffic along the traveled way when directed by the Authorized Officer.

The Purchaser shall also cut trees or brush encroaching on the road prism that are a result of his activities or winter damage during the contract period. Disposal of such vegetative material shall be in accordance with Section 2100 of Exhibit C.

- 3108 — The Purchaser shall avoid fouling gravel or bituminous surfaces through covering with earth and debris from side ditches, slides or other sources. The Purchaser shall also avoid blading surfacing material off the running surface of the roadway. Skidding of logs on the roadway in or outside designated logging units is not authorized without prior written approval by the Authorized Officer. Repair required caused by such skidding activity is not considered maintenance and shall be repaired at the Purchaser's expense.

SEASONAL MAINTENANCE - 3200

- 3201 — The Purchaser shall perform preventative maintenance at the end of Purchaser's hauling each season and during non-hauling periods which occur between other operations on the contract area. This includes requirements specified in Section 3100.

- 3202 — The Purchaser shall perform and complete maintenance specified in Sections 3000, 3100, and 3200, on all roads maintained by him, prior to October 1 each year, except as specified in Subsection 3203, after initial commencement of construction or logging operations. Thereafter, all roads shall have continuous preventive maintenance and road cleanup until suspension of seasonal operations. This includes all roads used and not used during the preceding operating seasons.

- 3203 — The Purchaser shall complete road cleanup and maintenance, as specified in Section 3100, at the completion of logging operations on any roads located in an area separate from the area where logging activities will resume.
- 3204 — The Purchaser shall be responsible for performing post storm inspections and maintenance during the winter season to minimize erosion and potential road or watershed damage.

FINAL MAINTENANCE – 3300

- 3301 — The Purchaser shall complete final maintenance and/or damage repairs on all roads used under terms of their contract within thirty (30) calendar days following the expiration of Purchaser's right to cut and remove timber (Sec. 4) and in accordance with Sec. 16(b) of this contract. This work shall include any maintenance and/or damage repairs specified in Sections 3000, 3100, and 3200, necessary to meet the conditions specified in Subsection 3002, and shall be executed in accordance with Subsection 3302 of this section.

The Authorized Officer may grant acceptance of Purchaser's maintenance responsibility in part where certain individual roads or road segments are no longer of any use to the Purchaser's remaining removal operations, providing that all contract requirements as specified under Sec. 16(b), Special Provisions Sections 3000, 3100, 3200, and 3300, of the maintenance specifications have been completed and a relinquishment of cutting and removal rights on cutting units tributary to these roads is signed by the Purchaser. Request for partial acceptance must be submitted in writing by the Purchaser.

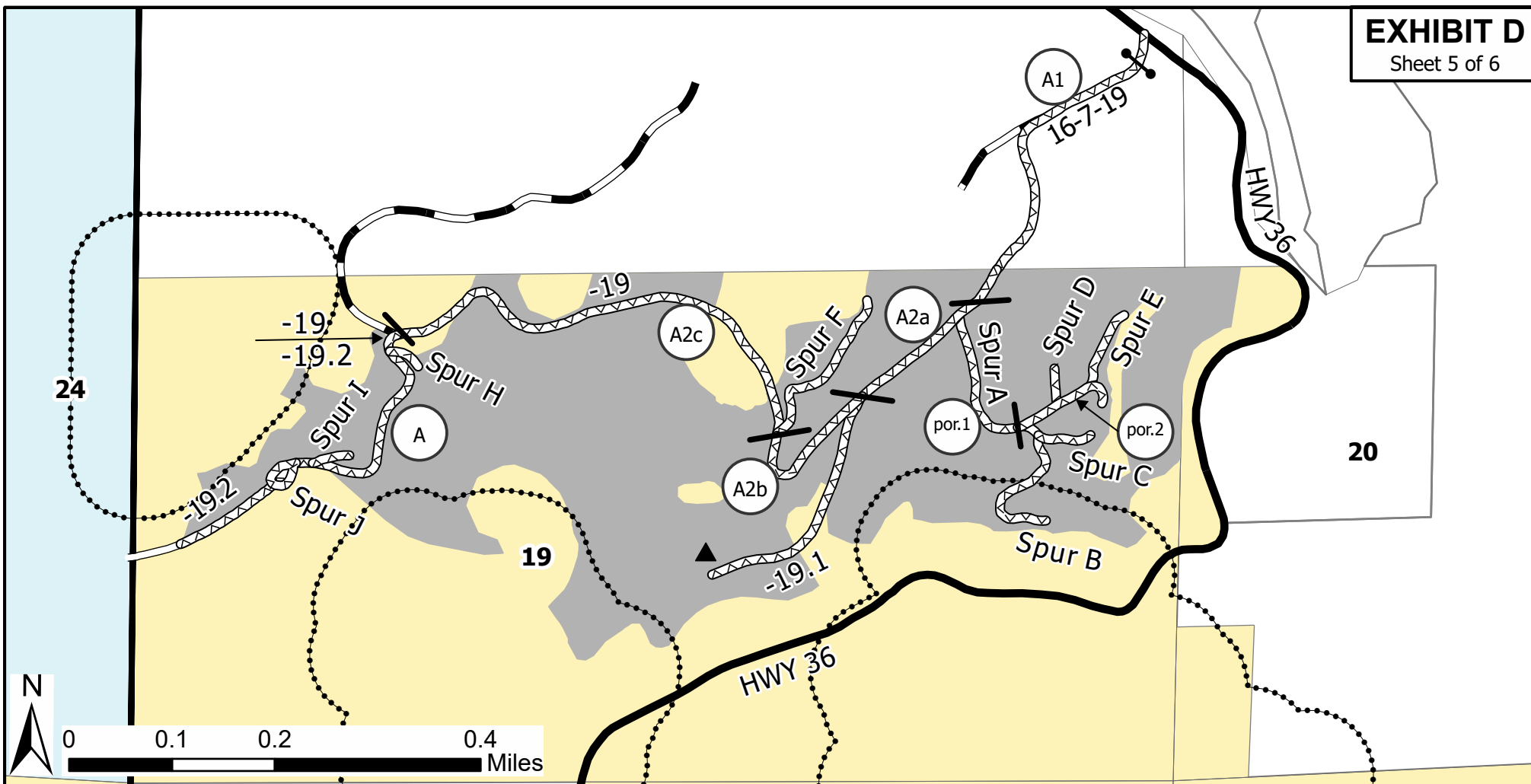
- 3302 — The Purchaser shall perform final road maintenance only when weather or soil moisture conditions are suitable for normal maintenance equipment operations as determined by the Authorized Officer.

If final maintenance is delayed after the date required in Subsection 3301 of this contract by adverse soil moisture or unsuitable equipment operating conditions, the Purchaser will be notified by the Authorized Officer when soil moisture and equipment operating conditions are suitable. The Purchaser shall then be required to complete final maintenance within 30 days.

OTHER MAINTENANCE - 3400

- 3401 — The Purchaser shall repair any damage to road surfaces that was specified under Subsection 3108. This repair includes restoring the roadway to the designed standard and replacement of surfacing with approved surface material. This repair is not limited to use of equipment specified in Subsection 3104.
- 3402 — The Purchaser shall be permitted to remove ice and snow from roads authorized for use under this contract only when prior written approval has been secured from the Authorized Officer. The Purchaser shall submit a written request for permission to remove ice and snow in advance of the date operations are to begin.

Upon receiving written authorization for ice or snow removal, the Purchaser will perform the work according to the conditions and equipment requirements set forth in the authorization.



SALE NAME: Dueling Elk
CONTRACT NO.: ORN03-TS-2025.0376

Purchaser Maintenance	Partial Harvest Area	Special Operating Area
Existing Road	Ownership	Utility Box
Rocked	Bureau of Land Management	Segment/Portion Break
Paved	State of Oregon	Segment/Portion I.D.
Natural	Private	Gate

United States Department of the Interior
Bureau of Land Management
Northwest Oregon District Siuslaw Field Office

Road Maintenance Map

T. 16 S., R. 7 W., Sec. 19
 Willamette Meridian
 Lane County, Oregon

Designed: G. Hedrick

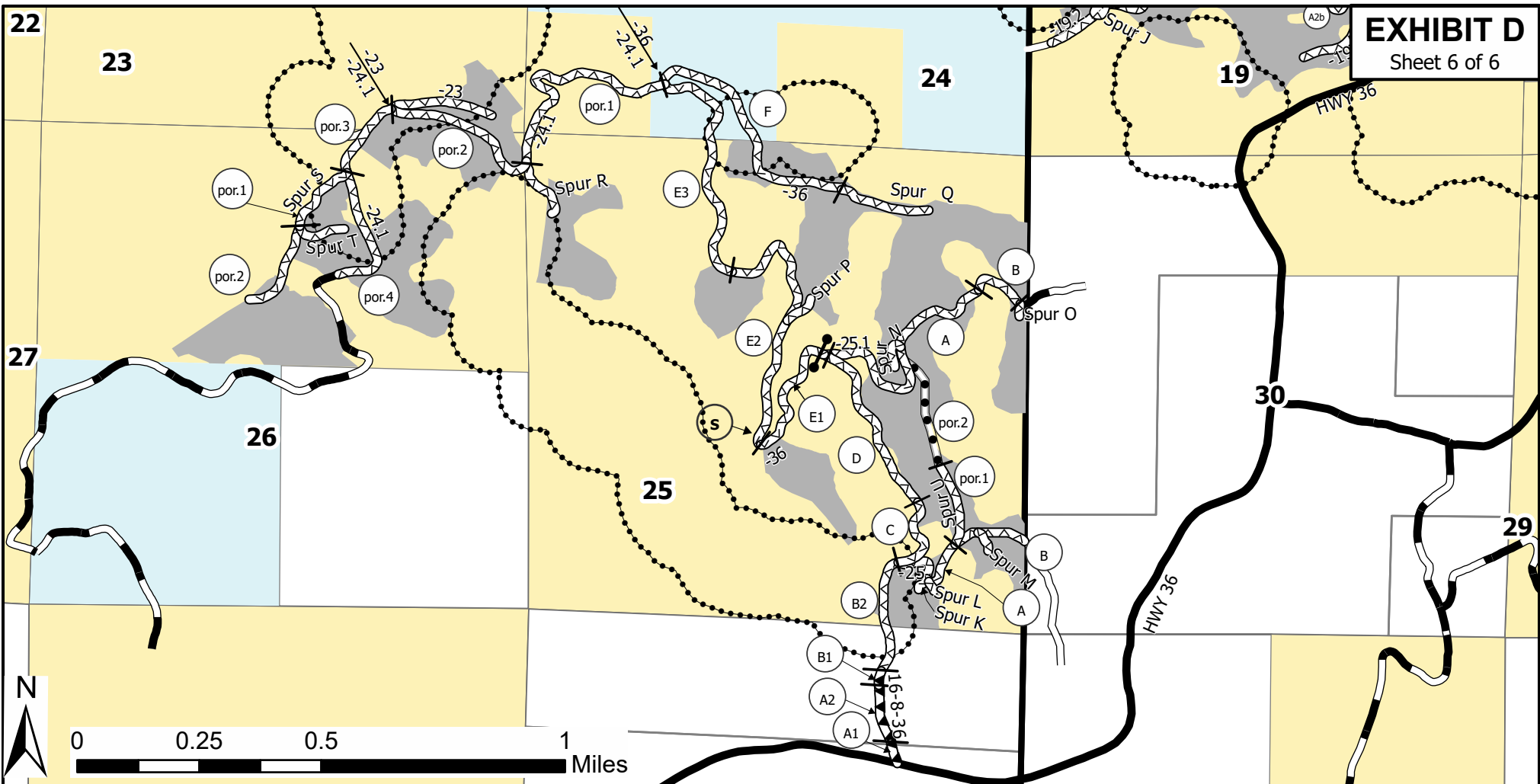
Drawn: T. Moore

Date: 7/24/2025

XD_Sec19_Landscape

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.





SALE NAME: Dueling Elk
CONTRACT NO.: ORN03-TS-2025.0376

- | | | |
|-----------------------|---------------------------|----------------------------|
| Purchaser Maintenance | Partial Harvest Area | Special Operating Area |
| Decommission Road | Ownership | Segment/Portion Break |
| BLM Maintenance | Bureau of Land Management | Segment/Portion I.D. |
| Existing Roads | State of Oregon | Gate |
| Rocked | Private | Begin Seasonal Restriction |
| Paved | | |
| Natural | | |

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



United States Department of the Interior
Bureau of Land Management
Northwest Oregon District Siuslaw Field Office

Road Maintenance Map

T. 16 S., R. 8 W., Secs. 23, 24, 25, 26, 36
Willamette Meridian
Lane County, Oregon

Designed: G. Hedrick

Drawn: T. Moore

Date: 7/24/2025

XD_Sec2526_Landscape

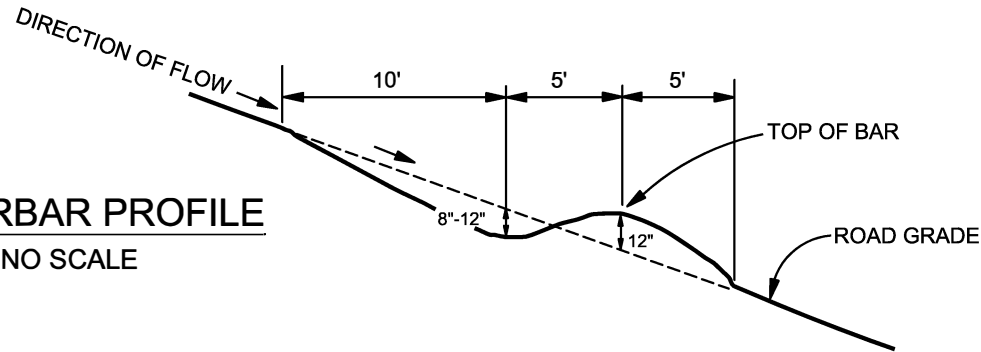
EXHIBIT H

Contract No. ORN03-TS2025-0367

Dueling Elk

WATERBAR PROFILE

NO SCALE



GENERAL CONSTRUCTION SPECIFICATIONS

1. AS DIRECTED BY THE AUTHORIZED OFFICER, TRUCK ROADS, SKID TRAILS AND FIRE TRAILS CONSTRUCTED OR USED BY THE PURCHASER SHALL BE WATERBARRED AS INDICATED BELOW.
2. WATERBARS SHALL BE DUG INTO THE SURFACE OF THE ROAD OR TRAIL 8" TO 12" DEEP, SHALL BE LOCATED DIAGONALLY ACROSS THE ROAD TO HELP DRAINAGE, AND SHALL BE CUT THROUGH ANY BERM OR OBSTRUCTION TO PROVIDE AN ADEQUATE LEAD-OFF DITCH.
3. WATERBARS SHALL BE LOCATED AS DIRECTED BY THE AUTHORIZED OFFICER. WATERBAR SPACING IS BASED BY GRADIENT AND EROSION CLASS.

GRADIENT (PERCENT)	WATERBAR SPACING* BY EROSION CLASS**		
	HIGH (FEET)	MODERATE (FEET)	LOW (FEET)
2 - 5%	200	300	400
6 - 10%	150	200	300
11 - 15%	100	150	200
16 - 20%	75	100	150
21 - 35%	50	75	100
36+%	50	50	50

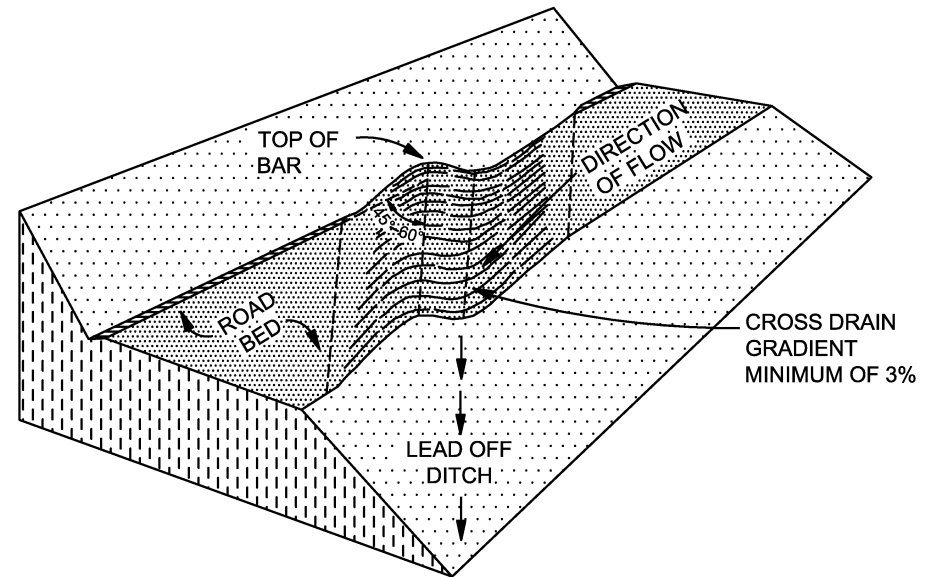
* Spacing is determined by slope distance and is the maximum allowed for the grade.

** The erosion classes include the following rock types:

High: Granite, sandstone, andesite porphyry, glacial or alluvial deposits, soft matrix conglomerate, volcanic ash and pyroclastics

Moderate: Basalt, andesite, quartzite, hard matrix conglomerate, and rhyolite

Low: Metasediments, metavolcanics, and hard shale



PERSPECTIVE VIEW (TYPICAL)

NO SCALE

ALWAYS THINK SAFETY

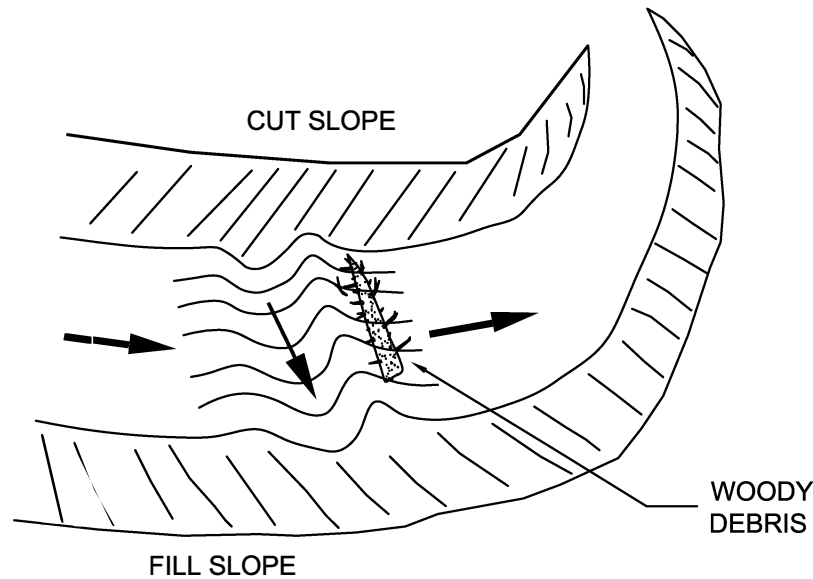
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
NORTHWEST OREGON DISTRICT SPRINGFIELD, OREGON

WATERBAR DIAGRAM

DATE: 04/05/2018

EXHIBIT J

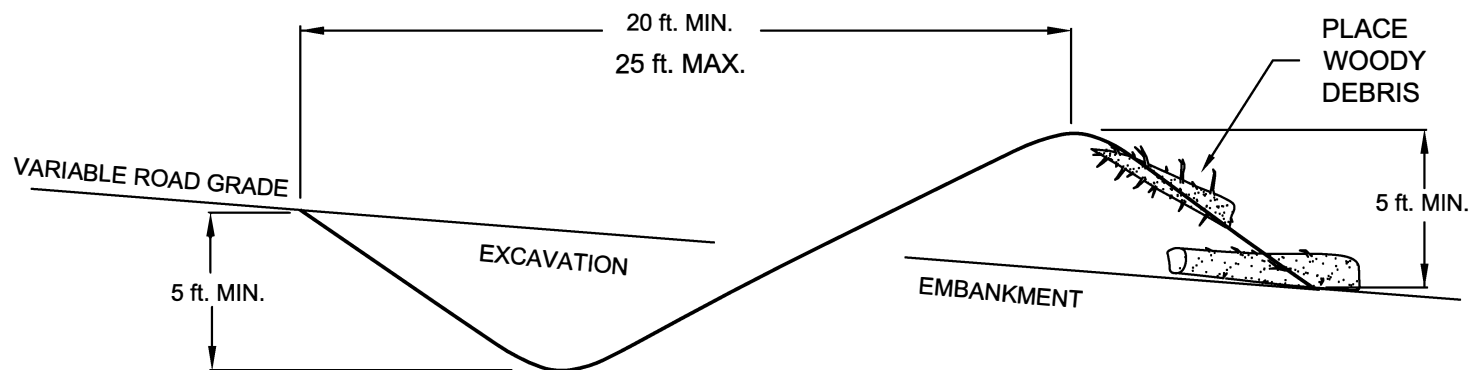
Contract No. ORN03-TS2025-0367
Duelling Elk



CONSTRUCTION NOTES

- (1) PLACE WOODY DEBRIS, if available, WITHIN and ON EMBANKMENT TO DISCOURAGE VEHICULAR NEGOTIATION.
- (2) THE BOTTOM OF BARRICADE SHALL BE OUTSLOPED ON A 7% GRADE UNLESS OTHERWISE NOTED.
- (3) DRAWINGS NOT TO SCALE.

METHOD OF INSTALLATION



PROFILE VIEW

(a) Snag Creation: Selection, Location, and Tally

- 1) Within designated snag creation areas shown on this Exhibit, the Purchaser shall select and girdle 3,830 trees within one year of final harvest operations. As specified on Tables 1-3, and shown on Sheets 5-6 of this Exhibit, 961 trees shall be selected for high girdling and 2,869 trees shall be selected for low girdling.

Operationally created snags, storm damage created snags, or down reserve trees may be credited toward snag counts with the approval of the Authorized Officer. To be credited toward high girdle snag counts, the tree can either meet the minimum high girdle specifications, as described in d(2), or be accepted at the discretion of the Authorized Officer. Snag Created Openings are located within the Partial Harvest Areas and Snag Thin Areas are outside of or adjacent to the harvest unit as mapped in this Exhibit.

In no case shall additional standing trees or live green snags be removed or girdled in areas over 1 acre that have less than 40% remaining canopy cover or less than three live trees per acre without the approval of the Authorized Officer.

- 2) Chainsaw use within Special Operating Areas shall not be permitted from April 1 through August 5 of each year, both days inclusive; and shall not begin until 2 hours after sunrise and shall cease 2 hours prior to sunset from August 6 through September 15 of each year, both days inclusive. These restrictions shall not be waived.
- 3) Trees that are damaged from the normal conduct of felling or yarding operations such that they are expected to become snags may be credited toward low girdle snag counts. These trees shall be greater than 10" DBH, approved by the Authorized Officer and will meet snag specifications in accordance with a(5) and a(6). These trees/snags are to remain standing if they meet State safety laws, codes, or regulations. These trees shall be marked with an "S" with red paint at DBH on two sides of the bole and shall be tallied as described in (a)8. The painted S shall be greater than 12" tall and visible from 150'.
- 4) Trees selected for girdling shall be located beyond the falling distance of power lines, structures, recreation trails, and open roads, unless otherwise directed by the Authorized Officer.
- 5) Trees selected for girdling shall be live, sound trees and shall not have unique structural characteristics, such as forked or broken tops, crooked boles, large scars, cavities, or nest structures. Hierarchy for species selection is as follows: Douglas-fir, western hemlock.
- 6) Trees selected for girdling shall be greater than 10" DBH, less than 35" DBH, and from the highest diameter class. Trees selected for high girdling shall have the fullest crowns. Trees 40" or greater are reserved in accordance with Section 43(c) and Special Habitat Trees are marked with yellow paint and are reserved in accordance with Section 43(e).
- 7) The Purchaser shall field-locate all snag creation areas by using a GPS-enabled device capable of geo-referencing PDF maps with an accuracy of 50 feet or less.
- 8) The Purchaser shall tally and map all girdled trees, recent naturally created snags, and recent blown-down reserve trees that they wish to be credited by tree number, DBH, species, girdle type, and unit identifier. Credited snags and down wood must be mapped using a GPS enabled mapping system such as Avenza Maps. Tree tally data shall be delivered electronically in a spreadsheet to the Authorized Officer bi-weekly during active girdling operations, or as otherwise directed. At the completion of girdling operations for each unit, the Purchaser shall submit a completed tally to the Authorized Officer.
- 9) Girdling operations shall commence within one (1) year of contract award in areas A-J. These areas may be girdled prior to harvest area treatments. Half of the required total number of girdled trees shall be completed prior to contract expiration, not including operationally or storm created snags. The remaining total number of girdled trees shall be completed within one year of final harvest operations.

(b) Snag Created Openings

- (1) Consist of 43, ½-acre openings
- (2) Snag Created Openings, as shown on Sheets 5 & 6 of this Exhibit, shall be created at or near the center point of each ½ acre circle. The purchaser shall select a tree for high girdle treatment and designate it as a plot center tree.
- (3) The Purchaser shall mark the plot center tree in each Snag Created Opening with the corresponding identifier (number), in Table 2, as shown on maps of this Exhibit. Identifiers shall be marked on plot center trees with high visibility red paint on two sides at DBH, greater than 12" tall and visible from 150'.
- (4) Type 1 openings - Within an 83-foot radius of the high girdled center tree, the Purchaser shall select and tally 5 high girdle and 12 low girdle in each snag opening in accordance with a(5) and a(6).
- (5) Type 2 opening – Aggregate Snags areas, composed of 2 polygons totaling 5.4 acres, symbolized on the map. The Purchaser shall create 19 high girdle and 58 low girdles in total, in accordance with a(5) and a(6). These created snags shall be dispersed throughout both areas combined shown on Sheet 6 of this Exhibit.

(c) Snag Thin Areas

- (6) Each Snag Thin Area (A through J) has a required number of high and low girdle trees that must be created, as specified in Table 1. Low and high girdled treatments shall be intermixed, where possible, and treatments shall be distributed throughout the Snag Thin Areas.
- (7) If the required number of low and high girdle trees are not available within the specified acreage of the Snag Created Openings, additional low girdles shall be created within Snag Thin Areas (A, B, C, D, and H), or at the direction of the Authorized Officer, until the required number of total trees are girdled.

(d) High Girdle Specifications

- (1) During sap flow, remove the bark and cambium layer from a 12-inch wide or greater band completely encircling the bole of the tree. Outside of sap flow season, high girdling will be accomplished by making three (3) parallel, evenly spaced cuts around the tree. The distance between the top cut and the bottom cut shall not exceed twelve (12) inches. Each cut must connect with itself completely around the tree and penetrate through the cambium layer into the wood at least ½ inch, but not more than 1 inch.
- (2) Trees shall retain at least 15 live limbs greater than 5 feet long below the girdle site or have a minimum top diameter at the girdle site of 8".
- (3) High-girdled trees shall be marked with a band of high visibility red paint near DBH, and one piece of high visibility pink flagging tied around the bole of the tree at a height of 30-40 feet. Flagging must be visible from the ground.
- (4) If a tree is selected for high girdling but not treated due to safety issues or finding an existing wildlife structure, such as a cavity or nest, then the Purchaser shall paint the tree as described above in (d)(3) and note the reason on the data sheet.

(e) Low Girdle Specifications

- (1) During sap flow, remove the bark and cambium layer from a 12-inch wide or greater band completely encircling the bole of the tree. Outside of sap flow season, base girdling will be accomplished by making three (3) parallel, evenly spaced cuts around the tree. The distance between the top cut and the bottom cut shall not exceed twelve (12) inches. Each cut must connect with itself completely around the tree and penetrate through the cambium layer into the wood at least ½ inch, but not more than 1 inch. Trees shall be girdled at or below DBH.
- (2) Mark low girdled trees with a band of high visibility red paint near DBH level.

Table 1. Snag Thin Areas

Snag Thin Area	High Girdle	Low Girdle	Total Snags
A	15	31	46
B	40	82	122
C	300	640	940
D	30	62	92
E	80	170	250
F	14	29	43
G	143	293	436
H	41	85	126
I	59	123	182
J	5	14	19
Area Total	727	1529	2256

Table 2. Snag Created Openings (post harvest snags)

Unit Identifier (Number of each Type)	Acreage Max	High Girdle	Low Girdle	Girdle Tree (Total) Per Opening
Type 1 (43)	0.5	5	12	17
*Type 2	N/A	19	58	77

***Type 2 dispersed throughout two polygons shown on Exhibit W map.**

Table 3. Snag Creation Totals

	No. of Areas/Openings	High Girdle Trees Total	Low Girdle Trees Total *	Combined Girdle Trees Total
Snag Thin Areas	10	727	1,529	2,256
Snag Created Openings	46	234	574	808
Operationally Created Snags	NA	0	766	766
GRAND TOTAL	52	961	2,869	3,830
<p>*All trees selected for girdling shall be tallied up to the required total of 3,830. If the estimated number of trees for low girdle and high girdle are not available within the designated radius for the Snag Created Openings, the Purchaser may locate the deficit within Snag Thin Areas A, B, C, D, and H with the approval of the Authorized Officer.</p>				

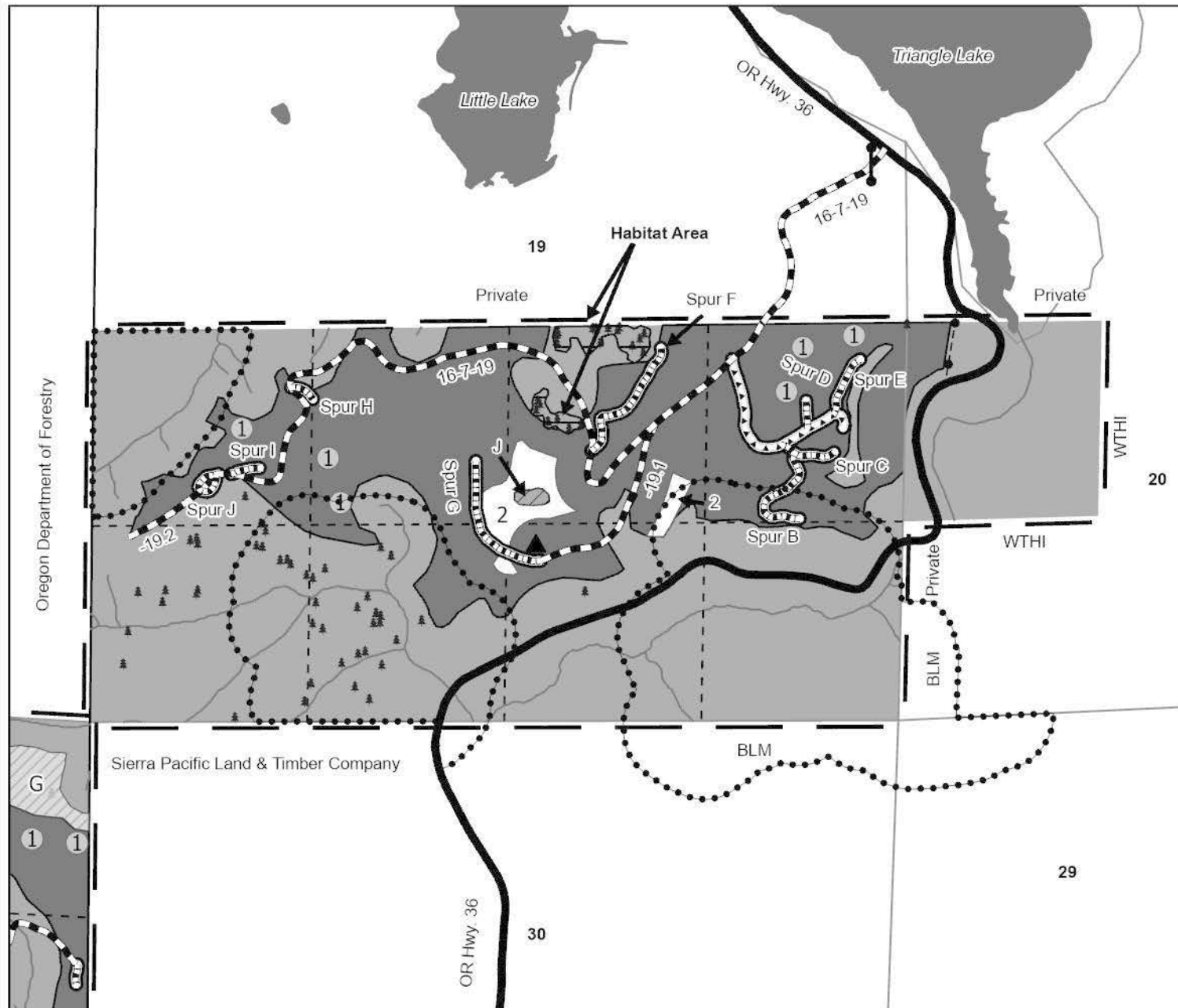


UNITED STATES DEPARTMENT OF THE INTERIOR

Bureau of Land Management

Dueling Elk Timber Sale Contract No. ORN03-TS-2025.0376
T. 16 S., R. 7 W., Sec. 19 and 20, Northwest Oregon District

Exhibit W
Sheet 5 of 6



- Boundary - Cutting Area (Blazed, Painted, Posted)
- Contract Area
- Partial Harvest Area
- Reserve Area
- Habitat Area
- Special Operating Area
- ▲ Approximate Location of Special Habitat Tree
- Stream
- Construction
- Renovation
- Improvement
- ① Snag Created Opening (Types)
- Power Line Right-of-Way
- ▲ Utility Box
- ② Aggregate Snag Area
- ▨ Snag Thin Area

0 500 1,000 2,000
Feet

SEC. 43 - Timber Reserved From Removal and/or Cutting

- (a) All timber on the Reserve Area shown on Exhibit A and all blazed, orange painted and posted trees which are on or mark the boundaries of the Reserve Area.
- (b) All trees marked with orange paint above and below stump height in the Partial Harvest Areas shown on Exhibit A.
- (c) All trees 40" or greater in diameter at breast height (DBH) within the Partial Harvest Areas shown on Exhibit A which do not present a safety hazard as determined by the Authorized Officer. Trees 40" DBH or greater which are felled shall be retained on site.
- (d) All snags, hardwoods, or Pacific yew trees in the Partial Harvest Areas shown on Exhibit A which do not present a safety hazard as determined by the Authorized Officer. Snags, hardwoods, or Pacific yew trees felled shall be retained on site.
- (e) Approximately 17 trees marked with yellow paint above and below breast height in the Approximate Location of Special Habitat Tree shown on Exhibit A. These trees shall not be felled or damaged during logging operations.
- (f) All existing down woody material six inches or greater in diameter at the large end and greater than twenty feet in length in the Partial Harvest Areas shown on Exhibit A which do not present a safety or operational hazard.

SEC. 44 - Special Provisions

(a) Logging

- (1) Before beginning operations on the contract area for the first time or after a shutdown of 14 or more days, the Purchaser shall notify the Authorized Officer in writing of the date they plan to begin operations. This written notification must be received by the Authorized Officer no less than 14 days prior to the date the Purchaser plans to begin or resume operations. The Purchaser shall also notify the Authorized Officer in writing if they intend to cease operations for any period of 10 or more days.
- (2) Prior to the commencement of operations, the Purchaser shall obtain from the Authorized Officer written approval of a written operations and logging plan commensurate with the terms and conditions of the contract which shall include measures needed to assure protection of the environment and watershed. A pre-work conference between the Purchaser's authorized representative and the Authorized Officer's representative must be held at a location designated by the Authorized Officer before the logging plan will be approved. All logging shall be done in accordance with the plan.
- (3) In addition to the Purchaser's representative requirements listed in Section 24 of this contract, the designated purchaser's representative shall be fluent in speaking and understanding English, maintain familiarity with the contract, and be able to clearly communicate the status of any associated operations, concerns, or challenges within the contract area.
- (4) The Purchaser shall provide warning signs and/or flaggers in accordance with Section 29 of this contract to control traffic in the contract area during active operations, including timber falling. Through roads shall not be blocked by such operations for more than 20 minutes, or as approved by the Authorized Officer. The Purchaser shall consult with and coordinate activities with the Oregon Department of Transportation prior to commencing operations adjacent to Highway 36.
- (5) In the Partial Harvest Areas shown on Exhibit A, all trees designated for cutting shall be felled to lead and cut into log lengths not to exceed 40 feet before being yarded, unless otherwise directed by the Authorized Officer.
- (6) In the Partial Harvest Areas shown on Exhibit A, all trees designated for cutting shall be yarded with limbs and tops attached, unless otherwise approved by the Authorized Officer.
- (7) No felling, yarding, or loading shall be permitted in or through the Reserve Area shown on Exhibit A, except as listed in Section 44(a)(8), unless otherwise directed by the Authorized Officer.

- (8) In the Reserve Area shown on Exhibit A, logs may be yarded over streams. Yarding shall be done in accordance with Section 44(a)(17). Trees felled in the Reserve Area for these cable corridors shall be felled toward the stream and retained on site unless otherwise directed by the Authorized Officer. Felling and yarding is permitted in the Unposted Reserve Area shown on Exhibit A.
- (9) No felling or yarding shall be conducted in the Partial Harvest Areas shown on Exhibit A from April 15 to June 15 of each year, both days inclusive, for sap flow. This restriction may be waived by the Authorized Officer.
- (10) Haul and heavy equipment use on Rd. No. 16-8-36 is seasonally restricted beyond the point "Begin Seasonal Restriction Haul" shown on Exhibits A, C, and D due to risk associated with a road adjacent landslide. These restrictions will be enforced in the fall as winter weather patterns develop, and soils begin to become saturated. Restrictions will be lifted in late spring once conditions have sufficiently dried and an extended weather forecast supports lifting of the restriction.
- (11) With the exception of hauling, daily operations within the Special Operating Areas shown on Exhibit A shall not be permitted from April 1 through August 5 of each year, both days inclusive; and shall not begin until 2 hours after sunrise and shall cease 2 hours prior to sunset from August 6 through September 15 of each year, both days inclusive.
- (12) With the exception of hauling, daily operations occurring after **March 31, 2027**, within 110 yards of the Habitat Area shown on Exhibit A, shall not be permitted from April 1 through August 5 of each year both days inclusive; and shall not begin until 2 hours after sunrise and shall cease 2 hours prior to sunset from August 6 through September 15 of each year, both days inclusive.
- (13) No yarding or hauling shall be conducted on natural surfaced roads during periods of wet weather, as determined by the Authorized Officer.
- (14) Prior to attaching any logging equipment to a reserve tree, the Purchaser shall obtain approval from the Authorized Officer and shall take precautions to protect the tree from damage as directed by the Authorized Officer.
- (15) Trees within striking distance of the Power Line Right-of-Way, shown on Exhibit A Sheet 1, shall be directionally felled away from power lines as directed by the Authorized Officer. Prior to beginning operations adjacent to the Power Line Right-of-Way, the Purchaser shall contact Blachly-Lane Electric Cooperative (541-688-8711).
- (16) Underground utilities are present in Partial Harvest Area 1. The Purchaser shall contact Blachly-Lane Electric Cooperative and the Oregon Utility Notification Center (1-800-332-2344) prior to beginning operations to request a line locate if excavation or other ground disturbing road work is to occur. All landings should be constructed away from utility boxes. Resolution of liability for any damage to the power system shall be between the Purchaser and Blachly-Lane Electric Cooperative.
- (17) In the Partial Harvest Areas shown on Exhibit A, except where ground-based yarding as allowed in Section 44(a)(19), yarding shall be done with a skyline system capable of yarding 1,500 feet slope distance from the landings and laterally yarding at least 75 feet from the skyline roads. The carriage shall be capable of being held in position on the skyline during lateral yarding. Skyline roads shall be spaced a minimum of 150 feet apart at one end, unless otherwise approved by the Authorized Officer. Space cable yarding corridors across streams no less than 100 feet apart at the stream, with an overall desire to keep an average spacing of 200 feet apart. During yarding, the lead end of the log shall be suspended clear of the ground. Full suspension shall be required when yarding over streams. Intermediate supports and/or lift trees may be needed. Before clearing any skyline road necessary for yarding in the Partial Harvest Areas, the Purchaser shall:

- (aa) Mark the location of the skyline road on the ground with fluorescent pink flagging. Flagging marking the start of each skyline road shall be clearly labeled with the skyline road number and bearing. Such skyline roads shall be limited to the minimum width necessary for yarding of logs with minimum damage to reserve trees but, in any case, the width of each skyline road shall not exceed 12 feet, unless otherwise approved by the Authorized Officer.
 - (bb) Provide a map of requested skyline road locations a minimum of 5 working days in advance of cutting to obtain approval of the locations from the Authorized Officer. The provided map shall clearly display the skyline road number, location, length, and bearing. Proposed skyline roads shall remain free from felled trees until approved.
 - (cc) Locate cable corridors over streams and above stream channel initiation points (headwalls), so that they are within 45 degrees of perpendicular to the stream, where possible.
 - (dd) Identify on the ground all trees in the Special Holding Areas shown on Exhibit A that would be impacted by skyline roads or guylines and obtain approval by the Authorized Officer prior to cutting the adjacent harvest area.
- (18) In the Partial Harvest Areas shown on Exhibit A, felling may be done with specialized ground-based equipment (feller-processor or feller-buncher) on slopes up to 50%, as determined by the Authorized Officer considering current conditions. The feller-processor or feller-buncher shall be approved by the Authorized Officer prior to the start of mechanized felling operations. Only purpose-built carriers with boom-mounted felling heads may be approved. Purpose-built carriers may be of the articulated, rubber-tired design, or the zero-clearance tail swing, leveling track-mounted design.
- (19) In the Partial Harvest Areas shown on Exhibit A, where slopes are less than 35% (or 50% if specialized ground-based equipment is used as stated in Section 44(a)(18)), yarding may be done by equipment operated entirely on designated skid trails during periods of low soil moisture. Trees shall be felled to the lead of the skid trails where possible. Before felling and yarding any timber in the area to be logged by ground-based equipment, the Purchaser shall locate and construct designated skid trails as follows:
- (aa) Mark the location of designated skid trails on the ground with fluorescent pink flagging.
 - (bb) Space designated skid trails at a minimum of 150 feet apart unless otherwise agreed to in writing by the Authorized Officer.
 - (cc) Use existing skid trails where possible.
 - (dd) Provide a map of requested skid trail locations a minimum of 5 working days in advance of cutting to obtain approval of the locations from the Authorized Officer. Proposed skid trails shall remain free from felled trees until approved.
 - (ee) Limit the width of each skid trail to a maximum of 12 feet.
 - (ff) Limit excavation on designated skid trails to a maximum cut of 1 foot and maximum length of 1,000 feet at any one location with prior approval of the Authorized Officer.
 - (gg) Obtain written approval of completed construction from the Authorized Officer prior to commencing logging operations.
- (20) Before cutting and removing any trees necessary to facilitate logging in the Partial Harvest Areas shown on Exhibit A, the Purchaser shall identify the location of the skid trails in accordance with Section 44(a)(19), cable yarding roads in accordance with Section 44(a)(17), and tailhold, tieback, guyline, lift, intermediate support, and danger trees on the ground in a manner approved by the Authorized Officer at the pre-work conference and documented in the logging plan. Said Purchaser identification of trees to be cut and removed does not constitute authority to proceed with cutting and removal. In addition, before proceeding the following conditions must be met:
- (aa) All skid trails and/or cable yarding roads upon which timber is identified by the Purchaser to be cut and removed in accordance with this special provision must be necessary for the safe and expeditious removal of timber sold under this contract and shall be limited to the minimum width necessary for yarding of logs with a minimum of damage to reserve trees; however, unless otherwise approved in writing by the Authorized Officer, the width of each skid trail and/or cable yarding road shall be limited to 12 feet.

- (bb) With the exception of the Special Holding Areas shown on Exhibit A, the Purchaser may immediately cut and remove additional timber to clear skid trails and cable yarding roads; provide tailhold, tieback, guyline, lift and intermediate support trees; and clear danger trees when the trees have been marked with blue paint above and below stump height by the Authorized Officer and thereby approved for cutting and removal by the Authorized Officer. The volume of the timber to be sold will be determined by the Authorized Officer in accordance with Bureau of Land Management prescribed procedures. No timber may be cut or removed under terms of this provision unless sufficient installment payments have been made in accordance with Section 3(b) of the contract or sufficient bonding has been provided in accordance with Section 3(f) of the contract.
 - (cc) The Purchaser agrees that sale of this additional timber shall be accomplished by a unilateral modification of the contract executed by the Contracting Officer and that such timber shall be sold at the unit prices shown in Exhibit B of this contract unless the value of the timber must be reappraised subject to the terms for contract extension set forth in Section 9 of the contract.
 - (dd) This authorization for the Purchaser to cut and remove additional timber prior to the execution of a modification may be withdrawn by the Contracting Officer if the Authorized Officer determines that the Purchaser has cut and removed any tree not previously marked and approved for cutting by the Authorized Officer, which under Section 10 of the contract constitutes a violation of the contract and under Section 13 of the contract may constitute a trespass rendering the Purchaser liable for damages under applicable law.
 - (ee) If authorization is withdrawn, the Contracting Officer shall issue a written notice to the Purchaser that the sale of additional timber under this special provision is no longer approved. In this case, the Purchaser shall inform the Authorized Officer at least 5 working days prior to the need for cutting and removing any additional timber and execute a bilateral modification prior to cutting for such additional approved timber at the unit prices shown in Exhibit B of the contract or in accordance with Section 8 or Section 9 of the contract as determined by the Authorized Officer in accordance with this provision. The Contracting Officer may issue a written order to the Purchaser to suspend, delay, or interrupt any or all contract work for the period of time deemed necessary and appropriate for the Government to safely measure and mark additional timber.
- (21) In accordance with the requirements of Section 8 of the contract it has been determined that it is in the best interest of the Government and within the provisions of 43 CFR 5402.0-6 to sell additional timber located in the Partial Harvest Area, which is obstructing needed cable yarding roads; hazardous to workers; needed for guyline, tailhold, and/or tieback trees; or severely damaged from the normal conduct of felling or yarding operations to meet all applicable State safety laws, codes or regulations. This timber must be cut or removed so that the Purchaser can continue active falling and yarding operations. The Purchaser is, therefore, authorized to cut and remove such additional timber in accordance with the provisions of Section 8 of the contract: provided, however, that:
- (aa) Trees reserved under Section 43 of the contract for wildlife habitat objectives, and trees in the Special Holding Areas shown on Exhibit A are not included in the authorization.
 - (bb) The Purchaser shall identify each tree sold and cut in accordance with the provision by marking the cut surface of the stump immediately after falling with a large "X". The "X" shall be cut with a chainsaw and marked with high visibility paint. The stump shall be marked with plastic flagging so that the stump can be visually located from a distance of not less than 100 feet.
 - (cc) The volume and price for such timber shall be determined by the Authorized Officer in accordance with Bureau of Land Management prescribed procedures and paid for by the Purchaser in accordance with Section 3(b) or 3(f) of the contract as required by Section 8 of the contract.
 - (dd) No timber may be cut or removed under the terms of this provision if all contract payments required by Section 3(b) or 3(f) of the contract have been made.

(ee) The permission to fell and yard additional timber contained in this provision may be withdrawn by the Contracting Officer if the Authorized Officer determines that the Purchaser:

- (1) Failed to properly mark any stump with the "X" cut.
- (2) Failed to identify the location of any stump.
- (3) Cut any tree that was reserved for the tree improvement program or wildlife habitat, and including those trees reserved under Section 43 of the contract or those trees in the Special Holding Areas shown on Exhibit A.
- (4) Cut any tree in or adjacent to cable yarding corridors that was not necessary to facilitate cable yarding.
- (5) Cut any reserve tree in or adjacent to tractor skid roads that was not necessary to facilitate ground-based yarding.
- (6) Failed to properly segregate any pulled over tree that was yarded to the landing.
- (7) Cut any reserve tree that was not severely (as defined during the prework conference and documented in the approved logging plan) damaged from felling and yarding operations.
- (8) Cut more than the minimum number of trees necessary to properly serve as guyline anchor stumps.
- (9) Cut or topped more than the minimum number of trees necessary to properly serve as tailhold trees.
- (10) Cut more than the minimum number of trees necessary to properly serve as tiebacks for topped tailhold trees.
- (11) Failed to maintain accurate and current (no more than 24 hours old) documentation of cut and removed timber.

If the permission to cut and remove additional timber provision is withdrawn, the Authorized Officer shall deliver to the Purchaser a written notice that additional sale of timber under this special provision is no longer approved.

If the permission to cut and remove additional timber provision is withdrawn, the Purchaser shall inform the Authorized Officer at least 5 business days prior to the need for cutting and yarding any guyline tree, tailhold tree, tie-back tree, danger tree, corridor tree, pulled over tree, and severely damaged tree. All sales of additional timber shall comply with Section 8 of the contract.

The Contracting Officer may order the Purchaser, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the Government to safely measure and mark additional timber.

All cable yarding and/or ground-based equipment skid roads upon which timber may be cut and removed in accordance with this special provision must be needed for the removal of timber sold under this contract and shall be limited to the narrowest width necessary for the yarding of logs with minimum damage to reserved trees. The Purchaser shall be liable for damages in accordance with Section 13 of the contract for any reserved timber cut or removed in violation of the terms of this special provision.

- (22) Unless otherwise authorized in writing by the Contracting Officer, the Purchaser shall brand clearly and legibly one end of all logs with a scaling diameter (small end inside bark) of over 10 inches, prior to the removal of timber from the contract area. All loads of 11 logs or more will have a minimum of 10 logs clearly and legibly branded on one end regardless of the diameter of the logs. All logs will be branded on loads of 10 logs or less. One end of all branded logs to be processed domestically will be marked with a 3 square inch spot of highway yellow paint. The purchaser will stop trucks for accountability monitoring at mutually agreed upon locations when notified by the Authorized Officer.

If multiple trailers (mule trains) are used, each bunked load shall be considered an individual load, and these guidelines will apply to each bunked load. If a flatbed stake trailer is used, each bundle will be treated as a separate load.

At the discretion of the Contracting Officer, the Purchaser may be required to brand and paint all logs. Any increased costs for log branding and painting shall be the responsibility of the Purchaser.

(b) Road Construction, Improvement, Renovation, Use and Maintenance

- (1) The Purchaser shall construct Spurs B, C, D, E, F, H, I, J, K, L, M, N, O, Q, R, S & T; renovate Road Nos. 16-7-19, 16-7-19.1, 16-7-19.2, 16-8-23, 16-8-24.1, 16-8-25.1 & 16-8-36; improve Spurs A, P & U and Road No. 16-8-25 in strict accordance with the plans and specifications shown on Exhibit C, which is attached hereto and made a part hereof. Exhibit C contains 33 sheets.
- (2) Prior to operations, including any unloading of logging equipment, and removal of any timber, except right-of-way timber, the required construction, renovation and/or improvement of the haul route shall be completed and accepted as specified in Exhibit C.
- (3) Culvert replacement/installation on streams shall be done between July 1 and September 15 (both days inclusive) and shall be completed prior to hauling and fall rains. During installation of the stream culverts, dewatering of the culvert bed, silt fences and/or straw bales may be required as directed by the Authorized Officer. All work shall be completed in accordance with the plans and specifications shown in Exhibit C.
- (4) With the exception of hauling, daily operations within the Special Operating Area shown on Exhibits C and D, shall not be permitted from April 1 through August 5 of each year, both days inclusive; and shall not begin until 2 hours after sunrise and shall cease 2 hours prior to sunset from August 6 through September 15 of each year, both days inclusive. These restrictions shall not be waived.
- (5) The Purchaser shall surface Spurs A, B, C, D, E, F, H, I, J, K, L, M, N, O, P, Q, R, S, T & U, and Road Nos. 16-7-19, 16-7-19.2, 16-8-24.1, 16-8-25 & 16-8-36 with rock for wet weather haul. Rocking shall be in accordance with Exhibit C. If the Purchaser exercises their option to not rock any of these roads, the purchase price will be increased by the cost of surfacing as appraised at the time of sale.
- (6) Haul and heavy equipment use on Rd. No. 16-8-36 is seasonally restricted beyond the point "Begin Seasonal Restriction Haul" shown on Exhibits A, C, and D due to risk associated with a road adjacent landslide. These restrictions will be enforced in the fall as winter weather patterns develop, and soils begin to become saturated. Restrictions will be lifted in late spring once conditions have sufficiently dried and an extended weather forecast supports lifting of the restriction.
- (7) The Purchaser shall furnish 300 cubic yards (truck measure) of maintenance rock in accordance with Exhibit D, which is attached hereto and made part hereof. Exhibit D contains 6 sheets. Additional road reinforcement (rocking) and maintenance that may be required for wet weather haul and shall be at the Purchaser's expense.
- (8) BLM Maintenance: The Purchaser is authorized to use the roads listed below and shown on Exhibit D, which are under the jurisdiction of the Bureau of Land Management (BLM) and/or Allyn Ford (RE-E-156) for the removal of Government timber sold under the terms of this contract and/or the hauling of rock as required in Exhibit C and Exhibit D, provided that the Purchaser pay the required maintenance and rockwear obligations described in Section 44(b)(11) and 44(b)(12). The Purchaser shall pay current Bureau of Land Management maintenance and rockwear fees for the sale of additional timber under modification to the contract.

Road No. and Segment	Length (miles)	Road Owner	Road Surface Type
16-8-36 Segs. A2-B1	0.15	BLM	Paved
16-8-36 Seg. A1	0.04	RE-E-156	Paved

- (9) Purchaser Maintenance: The Purchaser is authorized to use the roads listed below and shown on Exhibit D which are under the jurisdiction of the Bureau of Land Management (BLM), Sierra Pacific Industries (SPI) and/or the State of Oregon (ODF) for the removal of Government timber sold under the terms of this contract and/or the hauling of rock as required in Exhibit C and Exhibit D provided that the Purchaser comply with the conditions set forth in Section 44(b)(10), Section 44(b)(13), Section 44(b)(14) and pay the required rockwear obligations described in Section 44(b)(12). The Purchaser shall pay current Bureau of Land Management rockwear fees for the sale of additional timber under modification to the contract.

Road No. and Segment	Length (miles)	Road Owner	Road Surface Type
Spur A	0.25	BLM	Rocked
Spur B	0.17	BLM	Rocked
Spur C	0.05	BLM	Rocked
Spur D	0.04	BLM	Rocked
Spur E	0.08	BLM	Rocked
Spur F	0.17	BLM	Rocked
Spur H	0.03	BLM	Rocked
Spur I	0.04	BLM	Rocked
Spur J	0.07	BLM	Rocked
Spur K	0.03	BLM	Rocked
Spur L	0.02	BLM	Rocked
Spur M	0.05	BLM	Rocked
Spur N	0.06	BLM	Rocked
Spur O	0.03	BLM	Rocked
Spur P	0.07	BLM	Rocked
Spur Q	0.19	BLM	Rocked
Spur R	0.13	BLM	Rocked
Spur S	0.36	BLM	Rocked
Spur T	0.10	BLM	Rocked
16-7-19	1.14	BLM	Rocked
16-7-19.1	0.25	BLM	Rocked
16-7-19.2 Seg. A	0.37	ODF	Rocked
16-8-23	0.22	BLM	Rocked
16-8-24.1	1.30	BLM	Rocked
16-8-25 Seg. A	0.21	BLM	Rocked
16-8-25 Seg. B	0.15	SPI	Rocked
16-8-25.1 Segs. A-B	0.65	SPI	Rocked
16-8-36 Segs. B2-F	2.67	BLM	Rocked

- (10) Except for the road maintenance in accordance with Section 44(b)(8), the Purchaser shall perform any required road repair and maintenance work on roads used by them, under the terms of Exhibit D, "Road Maintenance Specifications", of this contract, which is attached hereto and made a part hereof.
- (11) The Purchaser shall pay the Government a road maintenance obligation in the amount of Nine Hundred Ninety-four and 64/100 dollars (\$994.64) for the transportation of timber included in the contract price over the roads listed in Section 44(b)(8).
- (12) The Purchaser shall pay to the Government a road maintenance obligation for rockwear in the amount of Fourteen Thousand Five Hundred Twelve and 91/100 dollars (\$14,512.91) for the transportation of timber included in the contract price over the roads listed in Section 44(b)(9).

The rockwear fee shown above shall be paid prior to removal of any timber from the contract area; provided however, that if the total of such amount exceeds One Thousand and 00/100 dollars (\$1,000.00) the Purchaser may elect to make the payments in installments in the same manner as and together with payments required in Section 3 of this contract.

- (13) In the improvement, renovation and/or use of Road Nos. 16-8-25 Seg. B and 16-8-25.1 Segs. A & B, the Purchaser shall comply with the conditions of Right-of-Way and Road Use Agreement No. E-340C between the United States of America and Sierra Pacific Industries (SPI). Prior to the use of said roads, the Purchaser shall furnish the Authorized Officer a copy of the executed License Agreement. Default by the Purchaser of said Right-of-Way Agreement or any License Agreement executed pursuant thereto, for failure to pay appropriate road use fees shall be considered a violation of this contract. The amount of unpaid fees shall be considered as the amount of damage suffered by the Government as a result of the violation of this provision. Said agreement is available for inspection at the Bureau of Land Management, Northwest Oregon District's Springfield Interagency Office, 3106 Pierce Parkway, Suite E, Springfield, Oregon. Such conditions include but are not limited to the following actions by the Purchaser:
- (aa) Obtain a license agreement from SPI. The license agreement and insurance certificate shall be delivered to SPI at least 15 days prior to use of company roads.
 - (bb) Furnish a performance bond in the amount of Ten Thousand and 00/100 dollars (\$10,000.00).
 - (cc) Maintain comprehensive liability insurance covering all operations, including vehicles, in amounts not less than One Million and 00/100 dollars (\$1,000,000.00) bodily injury for injury to any one person, One Million and 00/100 dollars (\$1,000,000.00) for any one occurrence and One Million and 00/100 dollars (\$1,000,000.00) property damage for any one occurrence.
 - (dd) Pay a lump sum road use fee totaling Fourteen Thousand Seven Hundred Seventy and 89/100 (\$14,770.89) prior to log hauling.
 - (ee) Purchaser shall maintain Road Nos. 16-8-25 Seg. B and 16-8-25.1 Segs. A-B, in accordance with Section 44(b)(9).
- (14) In the renovation and use of Road No. 16-8-19.2 Seg. A, the Purchaser shall comply with the conditions of the Cooperative Right-of-Way Agreement, Supplement E-70, between the State of Oregon and BLM. Prior to the use of said roads, the Purchaser shall furnish the Authorized Officer a copy of the executed license agreement. Said agreement is available for inspection at the Bureau of Land Management, Northwest Oregon District Office, 3106 Pierce Parkway, Suite E, Springfield, Oregon. Such conditions include but are not limited to the following actions by the Purchaser:
- (aa) The license agreement, bond and insurance certificate shall be delivered to the Oregon Department of Forestry at least 15 days prior to use of company roads.
 - (bb) Maintain comprehensive liability insurance covering all operations, including vehicles, in amounts not less than One Million and 00/100 dollars (\$1,000,000.00) bodily injury for injury to any one person, One Million and 00/100 dollars (\$1,000,000.00) for any one occurrence and One Million and 00/100 dollars (\$1,000,000.00) property damage for any one occurrence.
 - (cc) Purchaser shall maintain Road No. 16-7-19.2 Seg. A in accordance with Section 44(b)(9).
- (15) With the prior written approval of the Authorized Officer, the Purchaser may arrange for cooperative maintenance with other users on roads included in Section 44(b)(9) of this contract; provided, that such cooperative arrangement shall not relieve the Purchaser of his liability for the maintenance and repair of such roads resulting from wear or damage, in accordance with this contract. Prior to hauling, the Purchaser shall furnish the Authorized Officer a copy of any cooperative maintenance agreement(s) entered into with other users on these roads.
- (16) The Purchaser also agrees that if they elect to use any private road, other than those provided for in this contract, which is the subject of a right-of-way agreement with the Government, for the removal of Government timber sold under the terms of this contract, they shall request and agree to the modification of this contract to provide for such use.

(c) Environmental Protection

- (1) Upon each season's shutdown, and prior to the onset of wet weather, the Purchaser shall block skid trails and natural surfaced roads as directed by the Authorized Officer and shall place them in an erosion-resistant condition by constructing drainage dips, waterbars, and/or lead-off ditches. The waterbars and drainage dips shall be constructed in accordance with the specifications shown on Exhibit H, which is attached hereto and made a part hereof. Exhibit H contains 2 sheets. Blocking shall be completed as directed by the Authorized Officer.
- (2) In addition to the requirements set forth in Section 26 of this contract, the Purchaser shall, upon completion of hauling, complete the following decommissioning measures according to the road schedule below. All decommissioning shall be completed during the dry season and as directed by the Authorized Officer.
 - (aa) Decompect and/or block skid trails and natural surfaced roads and landings to an 18" depth, with decompaction equipment, such as a track-mounted excavator.
 - (bb) Construct drainage dips, waterbars and/or lead-off ditches as directed by the Authorized Officer. Waterbars and drainage dips shall be constructed in accordance with the specifications shown on Exhibit H.
 - (cc) Place logging slash greater than 6 inches in diameter, where available, on surfaces in a discontinuous pattern, as directed by the Authorized Officer.
 - (dd) Purchaser shall block roads with earthen barricades constructed in accordance with specifications shown on Exhibit J, sheet 1, which is attached hereto and made a part hereof.

Road Number	If not rocked				If rocked	
	(aa)	(bb)	(cc)	(dd)	(bb)	(cc)
	Decompact	Drainage	Logging Slash	Block	Drainage	Block
Skid Trails	X	X	X	X	-	-
Spur A	X	X		X	X	X
Spur B		X		X	X	X
Spur C		X		X	X	X
Spur D		X		X	X	X
Spur E		X		X	X	X
Spur F		X		X	X	X
Spur G		X		X	NA	NA
Spur H		X		X	X	X
Spur I		X		X	X	X
Spur J		X		X	X	X
Spur K		X		X	X	X
Spur L		X		X	X	X
Spur M		X		X	X	X
Spur N	X	X		X	X	X
Spur O		X		X	X	X
Spur P	X	X	X	X	X	X
Spur Q		X		X	X	X
Spur R		X		X	X	X
Spur S		X		X	X	X
Spur T		X		X	X	X
Spur U		X		X	X	X
Spur U por. 2 North of Improvement	X	X	X	X	NA	NA

- (3) Where logging slash is required, the Purchaser shall place slash on Spurs following operations, except for a twenty-four (24) inch width trail on the outside of the road prism.

- (4) In addition to the drainage requirements listed above, and as specified on Exhibit H, waterbars shall be placed within 25 feet upslope of all remaining cross drains on roads that are blocked after operations. Waterbars shall be keyed into existing ditches and ditch dams shall be constructed to capture flow, as approved by the Authorized Officer.
- (5) Cable yarding corridors shall be waterbarred immediately after use, if necessary to prevent erosion, as determined by the Authorized Officer.
- (6) In order to prevent the spread of noxious weeds, the Purchaser shall be required to clean logging, road, decommissioning, and slash disposal equipment prior to entry onto BLM lands as directed by the Authorized Officer.
- (7) Snag Creation
 - (aa) Within the Snag Thin Areas and Snag Created Openings and the Aggregate Snag Area, shown on Exhibit W, the Purchaser shall select and girdle a total of Three Thousand Eight Hundred Thirty (3,830) trees within one year of the completion harvest operations. Nine Hundred Sixty-one (961) trees shall be selected for high girdling and Two Thousand Eight Hundred Sixty-nine (2,869) trees shall be selected for low girdling. Of those 2,869 trees selected for low girdling, Seven Hundred Sixty-six (766) may be operationally created snags. See Exhibit W for specifications, locations, and distribution, which is attached hereto and made a part hereof. Exhibit W contains 7 sheets.
 - (bb) Within Snag Created Openings and the Aggregate Snag Area, shown on Exhibit W, girdled trees will be selected from orange painted reserve trees. All girdled trees shall be reserved in accordance with Section 43.
 - (cc) The Purchaser agrees that if the BLM determines a reduction in the number of girdled trees specified in the Exhibit W is necessary, then it shall be accomplished by unilateral modification of the contract executed by the Contracting Officer. Such adjustment will result in an increase of purchase price and shall be made at the original Exhibit W appraised values.
- (d) Fire Prevention
 - (1) Primarily for purposes of fire prevention and control, the Purchaser shall, prior to the operation of power-driven equipment in construction or logging operations under this contract during the fire season or periods of fire danger, prepare a fire prevention and control plan to the satisfaction of the Authorized Officer. Purchaser shall take such measures for prevention and suppression of fire on the contract area and other adjacent Government lands used or traversed by Purchaser in connection with operations as are required by applicable laws and regulations. However, when in the opinion of the Authorized Officer, weather and other conditions affecting fire incidence and control make special precautions necessary to protect the contract area and said Government lands, Purchaser shall take such additional or other fire prevention and control measures as may be required by the Authorized Officer. The Purchaser shall comply with Oregon Department of Forestry Industrial Fire Precaution Level (IFPL) I Fire Season requirements. At IFPL II and III, additional fire prevention and control provisions may be added as determined by the Authorized Officer and specified in written instructions to the Purchaser to mitigate dry fuel and weather conditions. Current IFPL can be found at the following website address: <https://gisapps.odf.oregon.gov/firerestrictions/ifpl.html>.
- (e) Logging Residue Reduction
 - (1) In addition to the requirements of Sections 15 and 26 of this contract, and notwithstanding the Purchaser's satisfactory compliance with State laws and regulations regarding offsetting or abating the additional fire hazard created by this operation and the State's willingness to release the Purchaser from liability for such hazard, the Purchaser shall remain responsible to the Government for performance of the following logging residue reduction and/or site preparation measures required by this contract:
 - (aa) Prior to commencement of any logging residue reduction and/or site preparation, a prework conference between the Purchaser's representative and the Authorized Officer must be held at a location designated by the Authorized Officer. All logging residue reduction and/or site preparation shall be done in accordance with the plans developed at the prework conference.

- (bb) Machine pile and cover all slash situated within twenty-five (25) feet of roads 16-7-19, 16-7-19.1, 16-7-19.2, 16-8-23, 16-8-24.1, 16-8-25, 16-8-25.1, 16-8-36, and Spurs A through U. Slash shall be piled by a machine equipped with a brush rake head, hydraulic thumb or a controllable, grapple head. Piles shall be piled from the top. Finished piles shall be tight and free of dirt.
- (1) Machine piles shall be located as far as possible from reserve trees, snags, culverts, powerlines, other facilities, or unit boundaries to minimize damage. Piles shall not be built on stumps or residual large diameter logs.
 - (2) Machine piles shall not be constructed or burned within 50 feet of the Powerline Right-of-Way.
 - (3) Slash between two (2) inches and twelve (12) inches in diameter on the large end, having a minimum length of three (3) feet shall be piled as directed by Authorized Officer. Pile size shall be a maximum of sixteen (16) feet in diameter by twelve (12) feet in height, and minimum pile size shall be eight (8) feet in diameter by six (6) feet in height or as directed by the Authorized Officer. No piece of slash shall extend more than two (2) feet from the main pile. Slash left on the ground shall not exceed six (6) inches in depth. No piece greater than 12 inches diameter may be piled.
 - (4) All piles shall be covered with black four (4) mil polyethylene plastic to cover at least seventy-five (75) percent of the surface of each pile. There shall be an adequate supply of finer fuels located within and under the covered area of the pile to ensure ignition of the larger fuels. Plastic shall be draped over the top of the pile, held in place with woody debris, and tied with combustible cord. The plastic must be secured so that it is held in place during strong wind conditions and maintains coverage for at least one year. The Purchaser is required to furnish the covering materials. Covering shall be completed within thirty (30) days of completion of piling or as directed by the Authorized Officer.
 - (5) Harvest Areas shall be piled during the same season they are logged.
- (cc) Pile and cover landing slash within twenty-five (25) feet of the edge of each landing. All tops, broken pieces, limbs and debris more than two (2) inches in diameter at the large end and longer than three (3) feet in length shall be piled within fifteen (15) days of completion of hauling logs from that landing. Landing piles shall be piled from the top and kept free of dirt and located at least twenty (20) feet from any reserve tree and/or as directed by the Authorized Officer. No piece of slash shall extend more than two (2) feet from main pile. No piece greater than 12 inches in diameter may be in pile.
- (1) All logs greater than six (6) inches in diameter at the large end and longer than eight (8) feet in length shall be decked or windrowed at the location designated by the Authorized Officer, except logs sold and removed from the contract area.
 - (2) Upon completion of landing piling, the Purchaser shall prepare the landing piles for burning by securely covering each landing pile with black four (4) mil polyethylene plastic. Landing piles shall be at least seventy-five (75) percent covered with the covering extending three-quarters of the way down all sides. There shall be an adequate supply of finer fuels located within and under the covered area of the pile to ensure ignition of the larger fuels. Plastic shall be draped over top of the pile and held in place with woody debris and tied with combustible cord. The plastic must be secured so that it is held in place during strong wind conditions and maintains coverage for at least one year. The Purchaser is required to furnish the covering materials. The timing of this covering work shall be in accordance with instructions from the Authorized Officer. If the structure of the landing piles will not permit adequate consumption of piled debris by burning, the Purchaser shall re-pile them at the direction of the Authorized Officer.

- (2) Notwithstanding the provisions of Section 15 of this contract, the Government shall assume all obligations for disposal or reduction of fire hazards created by Purchaser's operations on Government lands, except for burning and mop-up assistance as required herein, and measures required in Section 44(e). In accordance with written instruction to be issued by the Authorized Officer at least 10 days in advance of the earliest date of required performance, the Purchaser shall, under supervision of the Authorized Officer or designated representative, assist in preparing units for burning, mop-up, and patrol by furnishing, at the Purchaser's own expense, the services of personnel and equipment on harvest area as shown below:

(aa) For Igniting, Holding, and Mop-Up of Piles:

- (1) One (1) work leader (Firefighter Type 1 (FFT1)) to supervise crew and equipment operations, and to serve as Purchaser's representative.
- (2) Two (2) person crew (Firefighter Type 2 (FFT2)).
- (3) Sufficient fuel for burning, five (5) drip torches or propane burners, one (1) power saw, and one (1) backpack pump, one (1) tool for each crew member.
- (4) Radios capable of inter-crew communications and communication with a BLM representative at a ratio of one (1) radio per every five (5) crew members.
- (5) All ignition, holding, and mop-up personnel will be directly supervised by a BLM representative.

Aircraft and pilots used for Logging Residue Reduction or the suppression of escaped fires from Logging Residue Reduction operations, shall be acquired from a list of aircraft and pilots approved (i.e., carded for these specific activities) by the Office of Aircraft Services or the U.S. Forest Service. This list is available from BLM District Offices upon request.

All listed personnel shall be physically fit, experienced and fully capable of functioning as required. In addition, all listed personnel shall be qualified according to the National Wildfire Coordinating Group (NWCG) Wildland Fire Qualification System Guide, PMS-310-1 and provide documentation of these qualifications.

On the day of ignition all listed personnel shall be fluent in speaking and understanding English, clothing shall consist of long pants and long-sleeved shirts and be of approved aramid fabric (Nomex™ or equivalent), as well as being free of diesel fuel oil. All personnel shall wear boots with minimum eight (8) inch tall uppers that provide ankle support, approved hardhats, and leather gloves. Personnel who do not meet these requirements or do not have proper clothing and personal protective equipment (PPE) will not be allowed to participate. All listed tools and equipment shall be in good usable condition. All power-driven equipment shall be fully fueled and available for immediate use. During periods of use under this subsection, the Purchaser shall provide fuel and maintenance for all such power-driven equipment.

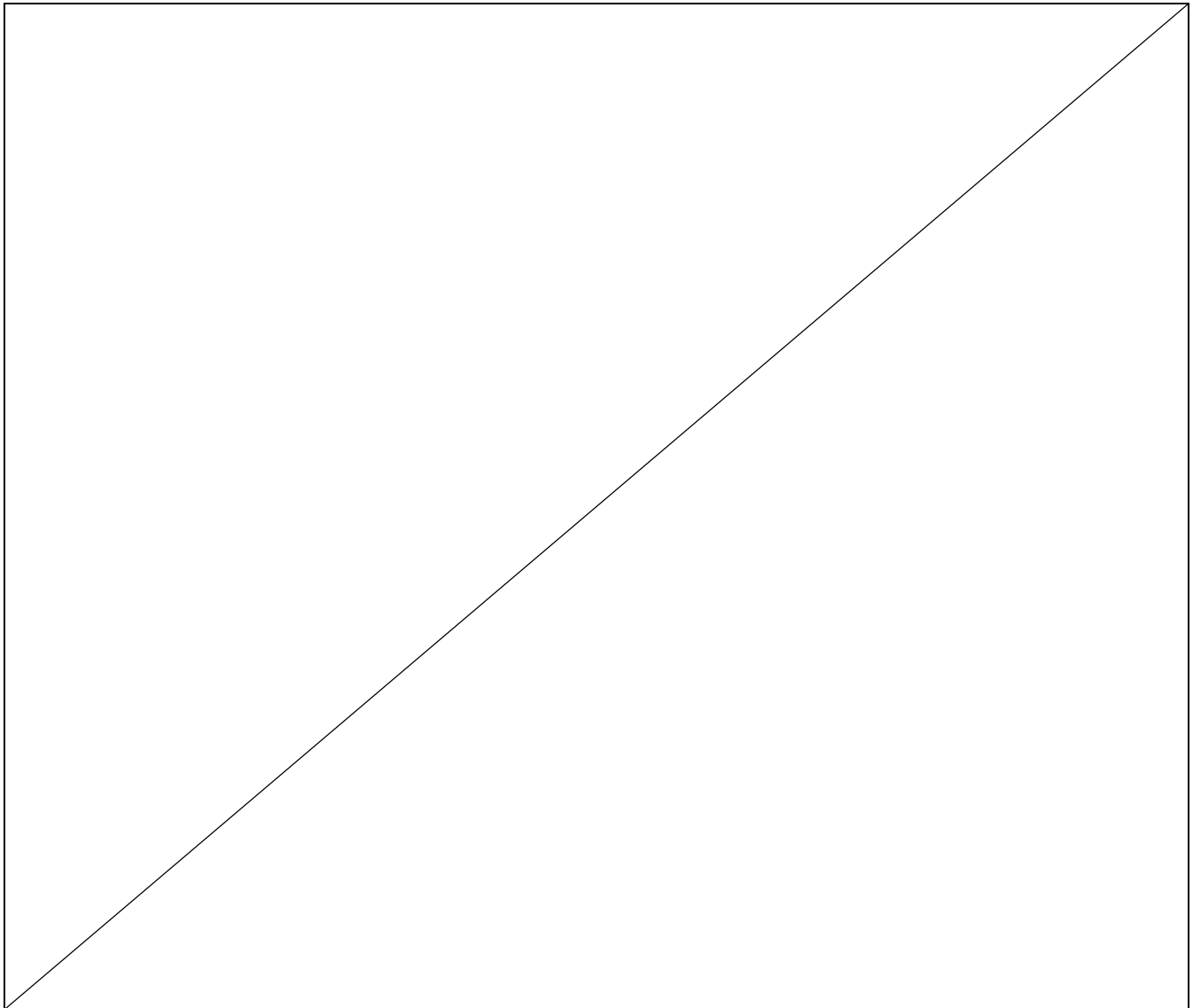
Except as provided hereafter for fire escapement, the Purchaser shall continue the required assistance in mop up on each cutting unit shown on Exhibit A for seventy-two (72) hours, as directed by the Authorized Officer within a five (5) day period commencing at 8:00 a.m. the day following the completion of ignition in that unit, or until released from such service by the Government, whichever occurs first.

In event of a fire escapement, the Purchaser's personnel and equipment shall, under supervision of the Authorized Officer, take action to control and mop up the escaped fire until released from such service by the Government. If it becomes necessary to use furnished personnel and equipment for the suppression of a fire which escapes from the prescribed fire area for a period beyond the remainder of the day in which the fire escapes, then the Government shall, at its option: (1) reimburse the Purchaser for such additional use of personnel and equipment at wage rates shown in the current Administratively Determined Pay Rates for the Western Area and at equipment rates shown in the current Oregon-Washington Interagency Fire Fighting Equipment Rental Rates schedule until the Purchaser is released from such service by the Government; or (2) release the Purchaser from additional suppression work and assume responsibility for suppressing the escaped fire.

In situations where an escaped fire is controlled and contained by an adequate fire break (i.e., trail, road, stream, rock formation, etc.), the Government may permit the Purchaser to remove personnel for that day; provided that all mop up work on the escaped fire is included with mop up work on the prescribed fire area. In such an event, the Purchaser must sign a statement of agreement to complete mop up work on all escaped fire areas concurrently with mop up work on the prescribed fire area.

In case of injury to personnel or damage to equipment furnished as required by this subsection, liability shall be borne by the Purchaser, unless such injury or damage is caused by Government negligence.

Time is of the essence in complying with this provision. In the event the Purchaser fails to provide the personnel and equipment required herein, the Purchaser shall be responsible for all additional cost incurred by the Government in disposing of slash including but not limited to the wages and other costs of providing federal employees and others as substitute labor force, the cost of providing substitute equipment and appropriate additional overhead expenses. If the Purchaser's failure results in a deferral of burning and new conditions necessitate additional personnel and equipment to accomplish the planned burn, the Purchaser also shall be responsible for such additional costs.





**United States
Department of the Interior
Bureau of Land Management**

Timber Appraisal

Sale Name: Dueling Elk	Sale Date: Thursday, August 28, 2025
BLM District: NW Oregon DO	Unit of Measure: 16' MBF
Contract #: ORN03-TS-2025.0376	Contract Term: 48 months
Sale Type: Advertised	Contract Mechanism: 5450-003
	Lump Sum Sale of Timber and other Wood Products
SBA Set-Aside	

Content

Timber Appraisal Summary
Stumpage Summary
Unit Summary
Stump to Truck
Transportation
Engineering Allowances
Other Allowances

Prepared By: Rule, Albert R - 7/24/2025
Approved By: Dotson, Bryan J - 7/29/2025

Legal Description of Contract Area

Land Status	County	Township	Range	Section	Subdivision	Meridian
O&C	Lane	16S	7W	19	Lots 6 and 7, E1/2SW1/4, SE1/4	Willamette
O&C	Lane	16S	7W	20	Lot 10	Willamette
O&C	Lane	16S	7W	23	S1/2SE1/4	Willamette
O&C	Lane	16S	7W	25	17-27 and 31-32	Willamette
O&C	Lane	16S	8W	26	NE1/4, SE1/4NW1/4	Willamette

Species Totals

Species	Net	Gross Merch	Gross	# of Merch Logs	# of Cull Logs	# of Trees
Douglas Fir	8,353.0	8,678.0	8,741.0	129,582	318	25,950
Western Hemlock	272.0	291.0	291.0	4,759	0	1,464
Western Redcedar	30.0	32.0	32.0	531	0	196
Totals	8,655.0	9,001.0	9,064.0	134,872	318	27,610

Cutting Area Acres

Regeneration Harvest Acres	Partial Cut Acres	Right of Way Acres	Total Acres	Net Volume per Acre
0.0	366.0	8.0	374.0	23.1

Logging Costs

Stump to Truck	\$2,552,879.93
Transportation	\$661,573.50
Road Construction	\$860,634.71
Maintenance/Rockwear	\$50,529.29
Road Use	\$14,770.89
Other Allowances	\$239,302.80
Total:	\$4,379,691.12
Total Logging Cost per MBF:	\$506.03

Utilization Centers

Location	Distance	% of Net Volume
Eugene/Springfield	48.0 miles	100%

Profit & Risk

Profit	11%
Risk	2%
Total Profit & Risk	13%

Tract Features

Quadratic Mean DBH	16.1 in
Average GM Log	67 bf
Average Volume per Acre	23.1 mbf
Recovery	95%
<u>Net MBF volume:</u>	
Green	8,655.0 mbf
Salvage	0 mbf
Export	0 mbf
<u>Ground Base Logging:</u>	
Percent of Sale Volume	28%
Average Yarding Slope	20%
Average Yarding Distance	250 ft
<u>Cable Logging:</u>	
Percent of Sale Volume	72%
Average Yarding Slope	40%
Average Yarding Distance	375 ft
<u>Aerial Logging:</u>	
Percent of Sale Volume	0%
Average Yarding Slope	0%
Average Yarding Distance	0 ft

Cruise

Cruise	June 2025
Completed	
Cruised By	Albert, Matt, Mario, Brian B, Kevin, Zach
Cruise	
Method	

The timber volumes for Douglas-fir, western hemlock and western redcedar in Partial Harvest Areas were based on a variable plot cruise for estimating board foot volume. Plots were measured using a 20 basal area factor for a total of 231 plots. Timber volumes for Douglas-fir and western hemlock in the right-of-way were 100% cruised for estimating board foot volume. A map showing the location and description of these sample trees is available at the Northwest Oregon District Springfield Interagency Office. With respect to merchantable Douglas-fir(sample) trees: The average tree is 16.1" DBHOB; the average log contains 67bd.ft; the total gross merchantable volume is approximately 8678 MBF; and 96% recovery is expected.

Stumpage Computation

Species	# of Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Costs	(+) Marginal Log Value	Appraised Price/MBF	Appraised Value (\$)
Douglas Fir	25,950	8,353.0	\$759.60	\$98.75	\$506.03	\$0.00	\$154.80	\$1,293,044.40
Western Hemlock	1,464	272.0	\$493.70	\$64.18	\$506.03	\$0.00	\$49.40 *	\$13,436.80
Western Redcedar	196	30.0	\$805.04	\$104.66	\$506.03	\$0.00	\$194.40	\$5,832.00
Totals	27,610	8,655.0						\$1,312,313.20

* Minimum Stumpage values were used to compute the Appraised Price/MBF (10.00% of Pond Value)

Percent of Volume By Log Grade

Species	No. 1 & 2 Peeler	No. 3 Peeler	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Douglas Fir				65.0%	31.0%	4.0%	

Species	Peeler	No. 1 Sawmill	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Western Hemlock				53.0%	40.0%	7.0%	

Species	No. 1 Sawmill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill			Camp Run
Western Redcedar							100.0%

Dueling Elk**Unit Summary****ORN03-TS-2025.0376****Unit: PH Unit 1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	1,927.0	2,005.0	2,005.0	7,063
Western Hemlock	147.0	154.0	154.0	546
Western Redcedar	28.0	30.0	30.0	149
Totals:	2,102.0	2,189.0	2,189.0	7,758

Net Volume/Acre: 17.4 MBF

Regeneration Harvest	0.0
Partial Cut	121.0
Right of Way	0.0
Total Acres:	121.0

Unit: PH Unit 2

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	5,766.0	5,999.0	6,060.0	17,610
Western Hemlock	106.0	118.0	118.0	858
Western Redcedar	2.0	2.0	2.0	47
Totals:	5,874.0	6,119.0	6,180.0	18,515

Net Volume/Acre: 24.0 MBF

Regeneration Harvest	0.0
Partial Cut	245.0
Right of Way	0.0
Total Acres:	245.0

Unit: RW Unit 1

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	159.0	162.0	162.0	593
Western Hemlock	10.0	10.0	10.0	37
Totals:	169.0	172.0	172.0	630

Net Volume/Acre: 42.3 MBF

Regeneration Harvest	0.0
Partial Cut	0.0
Right of Way	4.0
Total Acres:	4.0

Unit: RW Unit 2

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	501.0	512.0	514.0	684
Western Hemlock	9.0	9.0	9.0	23
Totals:	510.0	521.0	523.0	707

Net Volume/Acre: 127.5 MBF

Regeneration Harvest	0.0
Partial Cut	0.0
Right of Way	4.0
Total Acres:	4.0

Total Stump To Truck	Net Volume	\$/MBF
\$2,552,879.93	8,655.0	\$294.96

Stump to Truck: Falling, Bucking, Yarding, & Loading

Yarding System	Unit of Measure	# of Units of Measure	\$/Unit of Measure	Total Cost	Remarks
Cable: Medium Yarder	GM MBF	324.0	\$316.58	\$102,571.92	5 loads / day @ 5mbf/load \$4.00 gallons, \$316.58 seasonal restricted rate PH Unit 2 section 23
Cable: Medium Yarder	GM MBF	3,860.0	\$316.58	\$1,221,998.80	5 loads/ day @ 5mbf/ load \$4.00 gallons, \$316.58 seasonal restricted rate PH Unit 2 section 25
Cable: Medium Yarder	GM MBF	1,750.0	\$316.58	\$554,015.00	5 loads/ day @ 5mbf / Load \$4.00 gallons, \$316.58 seasonal restricted rate PH Unit 2 Section 26
Cable: Medium Yarder	GM MBF	482.0	\$284.52	\$137,138.64	5 loads/day @ 5 mbf/load \$4.00 gallon PH Unit 1 section 19
Cable: Medium Yarder	GM MBF	59.0	\$284.52	\$16,786.68	5loads/day @ 5mbf/load \$4.00 gallon PH Unit 2 section 20
Wheel Skidder	GM MBF	1,707.0	\$216.33	\$369,275.31	6 loads/day @5mbf/load \$4.00 gallon PH Unit 1 section 19
Wheel Skidder	GM MBF	126.0	\$216.33	\$27,257.58	6 loads/day @ 5mbf/load \$4.00 gallon PH Unit 2 section 26
Shovel	GM MBF	172.0	\$152.00	\$26,144.00	5 loads / day @ 5mbf/ load \$4.00 gallon PH Unit 1 RW Section 19
Shovel	GM MBF	521.0	\$152.00	\$79,192.00	5 loads / day @ 5mbf/load \$4.00 gallon PH Unit 2 RW section 23,24,25,26
Subtotal				\$2,534,379.93	

Additional Costs

Item	Unit of Measure	# of Units of Measure	\$/Unit of Measure	Total Cost	Remarks
Intermediate Support	Total	15.0	\$300.00	\$4,500.00	All Units
Subtotal				\$4,500.00	

Additional Moves

Equipment	Unit of Measure	# of Units of Measure	\$/Unit of Measure	Total Cost	Remarks
Cable: Medium Yarder	Total	4.0	\$1,500.00	\$6,000.00	Five additional move in
Loader	Total	4.0	\$1,200.00	\$4,800.00	Five additional move in.
Wheel Skidder	Total	4.0	\$800.00	\$3,200.00	Five additional move in.
Subtotal				\$14,000.00	

Comments:

Logging cost printouts are located in the Dueling Elks contract office folder.

Seasonal restriction due to land slide area and wildlife restriction requires multiple move ins.

Total	Net Volume	\$/MBF
\$661,573.50	8,655.0	\$76.44

Utilization Center	One Way Mileage	Description	Unit of Measure	# of Units	\$/Unit of Measure	Total Cost	% of Sale Volume
Eugene/Springfield	48.0	Log Haul	GM MBF	9,001.0	\$73.50	\$661,573.50	100%

Comments:
\$105.00/hour x 3.5 round trip (60 min delay loading and unloading) = \$367.50 / 5.0 mbf. per load = \$73.50/mbf. Log haul is to the nearest SBA Mill, Natron in Jasper, Or

Engineering Allowances

Total	Net Volume	\$/MBF
\$925,934.89	8,655.0	\$106.98

Cost Item	Total Cost
Road Construction:	\$860,634.71
Road Maintenance/Rockwear:	\$50,529.29
Road Use Fees:	\$14,770.89

Total	Net Volume	\$/MBF
\$239,302.80	8,655.0	\$27.65

Environmental Protection

Cost item	Total Cost
Snag Creation Low girdling	\$86,070.00
Snag Creation High girdling	\$96,100.00
Equipment Washing	\$2,400.00
Administration Cost for tree girdling 10%	\$18,217.00
Subtotal	\$202,787.00

Road Construction, Maintenance, Use, & Decommissioning

Cost item	Total Cost
Skid Trail/Landing	\$3,552.00
Road Decommissioning	\$16,532.55
Subtotal	\$20,084.55

Slash Disposal & Site Prep

Cost item	Total Cost
Fuels Appraisal	\$16,431.25
Subtotal	\$16,431.25

Comments:

For More information on Snag creation: Tree topping and Basal Gridle, Equipment Washing, Fuel Appraisal, Skid trail/ Landing decommissioning/Special Equipment, and Road Decommissioning appraisal. See cost sheets located in the Dueling Elk contract folder.