

PROSPECTUS

DxP Scale Sale

GRANTS PASS RESOURCE AREA
JOSEPHINE MASTER UNIT

Medford Sale # ORM07-TS-2016.0013
September 22, 2016 (SQF)

#3. Milk Dudds Timber Sale, Douglas County, O&C, P.D. BID DEPOSIT REQUIRED: \$80,200.00

All timber designated for cutting in Lot 7, Lot 11, Lot 12, NW¼SE¼ Sec. 7, Lot 1, Lot 6, Lot 7, Lot 8, Lot 11, Lot 12, W½NE¼, SE¼NE¼, N½SE¼ Sec. 19, W½SE¼ Sec. 20, W½NW¼, SE¼SW¼, SW¼SE¼ Sec. 29, Lot 8, Lot 9, Lot 10, Lot 11, Lot 12, NE¼SE¼, S½SE¼ Sec. 31 T. 31 S., R. 8 W.; S½SW¼ Sec. 11, E½NE¼, W½NW¼, NE¼SE¼, Sec. 13, SW¼NE¼, NW¼, SW¼, NW¼SE¼ Sec. 15, SW¼SE¼ Sec. 21, NE¼, NE¼NW¼, S½NW¼, SW¼, NE¼SE¼ Sec. 25, NE¼ Sec. 27 T. 31 S., R. 9 W.; SE¼NW¼, N½SW¼, NW¼SE¼ Sec. 3, NE¼, N½NW¼ Sec. 9 T. 32 S., R. 8 W., Willamette Meridian.

Approx. Number Merch. Trees	Est. Volume MBF 32' Log	Species	Est. Volume MBF 16' Log	Appr. Price Per MBF*	Est. Volume Times Appraised Price
33,309	2,835	Douglas-fir	3,470	\$99.00	\$343,530.00
3,743	307	White Fir	415	\$36.50	\$15,147.50
5,114	251	Ponderosa Pine	349	\$25.90	\$9,039.10
4,953	276	Western Hemlock	311	\$43.50	\$13,528.50
2,750	149	Incense-cedar	202	\$41.30	\$8,342.60
304	21	Western red-cedar	24	\$455.50	\$10,932.00
50,173	3,839	Totals	4,771		\$400,519.70

*Stumpage values have been determined by market value estimates and analytical appraisal methods were used to compute the appraised price. Additional information concerning the appraised price is available at the Medford District Office.

TIMBER AUCTION LOCATION – The timber auction will be held at the Medford Inter-agency Office, located at 3040 Biddle Road, Medford, Oregon, at 9 a.m. on Thursday, September 22, 2016.

Bidders will be restricted to bidding on a unit (MBF) rate of the Douglas-fir volume. All other species will be sold at appraised price per unit (MBF). The minimum bid increment will be \$0.10 per MBF.

CRUISE INFORMATION - The Timber has been cruised using the PCMTRE sampling method to select sample trees. The sample trees have been measured, utilizing the VOLT system of measurement, and the volume expanded to a total sale volume.

Maps showing the location and description of these sample trees are available at the Grants Pass Interagency Office.

Approximately 0 trees which are considered to be nonmerchantable are designated for cutting. Approximately 0% of the 4,771 M bd. ft; sale volume is salvage material. With respect to merchantable trees of all conifer species: the average tree is 12.1 inches DBHOB; the average gross merchantable log contains 43 bd. ft.; the total gross volume is approximately 5,520 M bd. ft; and 89% recovery is expected. (Average DF is 11.9 inches DBHOB; average gross merchantable log DF contains 45 bd. ft.)

LOG EXPORT AND SUBSTITUTION RESTRICTIONS - All timber sold to the Purchaser under the terms of the contract, except exempted species, is restricted from export under the United States in the form of unprocessed timber and is prohibited from use as a substitute for exported private timber.

The BLM has revised the log export restrictions special provision to reduce the log branding and painting requirements. The new requirements include branding of one end of all logs with a scaling diameter of over 10 inches. All loads of 11 logs or more, regardless of the diameter of the logs, will have a minimum of 10 logs branded on one end. All logs will be branded on loads of 10 logs or less. One end of all branded logs will be marked with yellow paint. At the discretion of the Contracting Officer, the Purchaser may be required to brand and paint all logs. The Purchaser shall bear any increased costs for log branding and painting.

CUTTING AREA – Fifty seven (57) units containing four hundred ninety (490) acres must be partial cut. This includes nine (9) right-of-ways that must be clear-cut. Additionally, three (3) right-of-ways must be clear-cut outside unit boundaries.

CUTTING TIME - Contract duration will be thirty six (36) months for cutting and removal of timber.

ACCESS - Access to the sale area is available via a public road system near the contract area, existing BLM roads, and:

- (C)(12) Right-of-Way and Road Use Agreement M-700 with Roseburg Resources Company.
Among other conditions, this agreement requires
- (1) Payment of a road use fee of **\$5,361.55**.
 - (2) Road maintenance to be completed by the Purchaser.
 - (3) Completion of an agreement between the Purchaser and Permittee.
 - (4) Arbitration of conditions of road use. The Permittee has indicated they will require a rock wear obligation of **\$0.49 per MBF per Mile (estimated at approx. \$1,402.54)**.
- (C)(13) Right-of-Way and Road Use Agreement M-605 with Plum Creek Timberlands, LP (Weyerhaeuser).
Among other conditions, this agreement requires
- (1) Payment of a road use fee of **\$1,818.00**.
 - (2) Road maintenance to be completed by the Purchaser.
 - (3) Completion of an agreement between the Purchaser and Permittee.
 - (4) Arbitration of conditions of road use. The Permittee has indicated they will require a rock wear obligation of **\$0.49 per MBF per Mile (estimated at approx. \$2,270.15)**.

ROAD MAINTENANCE - The Purchaser will be required to maintain all of the roads/temporary routes which he constructs plus 54.05 miles of existing BLM and private road. BLM will maintain 17.84 miles of existing BLM (asphalt/BST) roads. The Purchaser will be required to pay a maintenance fee of **\$0.71 per MBF per Mile (estimated at approx. \$55,975.77)** for the use of these BLM asphalt/BST roads. The Purchaser will also be required to pay a rockwear fee of **\$0.49 per MBF per Mile (estimated at approx. \$10,837.85)** for the use of the BLM aggregate roads.

ROAD CONSTRUCTION - The contract will require the Purchaser to construct 83.95 stations of temporary routes. Additional information is available in the timber sale prospectus.

SOIL DAMAGE PREVENTION –

Pursuant to Section 25 of Form 5450-3, Timber Sale Contract, the Purchaser shall not operate or cause to have operated mechanical ground based harvesting, ground based yarding, skid trail and landing rehabilitation, machine piling, road and temporary route construction, road and temporary route reconstruction, temporary route decommissioning, or non-emergency road maintenance (including blading of aggregate roads, rocking, and cross drain installation) shall be conducted on the contract area between October 15 of one calendar year and May 15 of the following calendar year both days inclusive. Purchaser may request in writing, a conditional waiver of this restriction. If soil moisture conditions are dry, as determined by the inability of a soil sample taken at four (4) to six (6) inches to maintain form when compressed and by the inability of soil moisture at the surface to be readily displaced, causing ripples and ruts along equipment tracks, the Contracting Officer may approve a conditional waiver. If impacts to soil resulting from said conditional waiver are not acceptable as determined by the Authorized Officer, the waiver will be revoked.

EQUIPMENT REQUIREMENTS - A yarding tractor not greater than 9 feet wide as measured from the outer edges of standard width shoes and equipped with an integral arch and a winch for lining logs seventy-five (75) feet. A skyline yarder with a large (50-70 foot) tower; capable of one-end suspension with a minimum lateral yarding capability of seventy-five (75) feet while maintaining a fixed position during inhaul; capable of multi-span; and capable of an external yarding distance of one thousand six hundred seventy (1,670) feet slope distance. A minimum two hundred (200) flywheel horsepower tractor with mounted rippers no more than thirty six (36) inches apart and capable of ripping to a depth of eighteen (18) inches will be required for decommissioning temporary routes and utilized skid roads within Riparian Reserves.

SLASH DISPOSAL - Slash disposal will consist of: Lop and scatter, Machine pile & cover machine piles, hand pile & cover hand piles, pile & cover landing decks, burn & mop up hand piles, machine piles, and landing decks as described in SD-5 of the Special Provisions. Lop and Scatter all slash located beyond one hundred (100) feet of temporary routes and roads where the route/road coincides with the harvest unit boundary in all cable yard portions of units, 7-2, 7-9, 9-1A, 9-1B, 11-8A, 15-19A, 19-6B, 20-4, 20-5, 25-4A, 25-4D, 25-4E, 25-4F, 25-4G, 25-4H, 25-4J, 25-4L, 25-4M, 25-11, 25-21A, 25-21B, 27-1, 29-3, 29-7A, 31-4A, 31-4C and 31-5. Lop and scatter all slash located beyond two hundred (200) feet of temporary routes, roads and/or property boundaries where the route/road/property boundary coincides with a harvest unit boundary in all ground based yard portions of units 3-14, 7-2, 9-1B, 13-2A, 13-9A, 13-9B, 15-19A, 19-3A, 19-3B, 19-8C, 25-4F, 27-1 and 27-2. Machine pile all slash and debris in ground based portions of units 9-1A, 13-2B, 13-2C, 13-2D, 13-10, 15-19A, 15-19B, 19-3C, 19-3D, 19-6A, 19-6C, 19-8B, 19-9A, 20-4, 21-4, 25-1, 25-4B, 25-4C, 25-4I, 25-4K, 25-11, 29-7B, 31-4B and 31-4C. Machine pile all slash and debris in ground based units within two hundred (200) feet of temporary routes, roads and/or property boundaries where the route/road/property boundary coincides with a harvest unit boundary in units 3-14, 7-2, 9-1B, 13-2A, 13-9A, 13-9B, 15-19A, 19-3A, 19-3B, 19-8C, 25-4F, 25-4M, 27-1, and 27-2 and all constructed roads and temporary routes. Hand pile all slash situated within one hundred (100) feet of temporary routes and roads where the route/road coincides with a harvest unit boundary in cable yard portions of units 7-2, 7-9, 9-1A, 9-1B, 11-8A, 15-19A, 19-6B, 19-8A, 19-8D, 20-4, 20-5, 25-4A, 25-4D, 25-4E, 25-4G, 25-4J, 25-4L, 25-11, 24-21A, 25-21B, 27-1, 29-3, 29-7A, 31-4A, 31-4C and 31-5. Pile all slash situated in harvest unit landings and within twenty (20) feet of each finished pile. A post logging assessment shall be conducted to determine treatment needs in all units. The initial appraisal prescribed three hundred and eight and $\frac{1}{4}$ (308.25) acres of lop and scatter, sixty four and $\frac{1}{2}$ (64.5) acres of handpile, cover, burn, and mop-up handpiles, one hundred seventeen and $\frac{1}{4}$ (117.25) acres of machine pile, cover, burn, and mop-up machine piles, and eighteen (18) acres of cover, burn, and mop-up landing decks.

CONTRACT TERMINATION - A 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 comply with the Endangered Species Act, or comply with a court order, or protect occupied marbled murrelet sites in accordance with the Standards and Guidelines of the Medford District Record of Decision (ROD) and Resource Management Plan (RMP). This contract provision limits the liability of the Government to the actual costs incurred by the Purchaser which have not been amortized by timber removed from the contract area.

PERFORMANCE BOND - A performance bond in the amount of 20% of the total purchase price will be required.

OTHER -

1. No extension of time beyond the normal 30 days will be granted for completing bonding and contract signing requirements.
2. All leave trees will be selected by the Purchaser through Designation by Prescription (DxP) criteria as outlined in Exhibit E, except Unit 7-2 which has already been blue marked (for cut tree removal).
3. This contract contains provisions (L-26M) requiring that prior to falling any trees in harvest Units, excluding unit 7-2, as shown on Exhibit A, the Purchaser shall mark the entire unit as outlined in Exhibit E. Identification of leave trees may be done by paint as approved by the Authorized Officer. Upon acceptance of each harvest unit inspection by the Authorized Officer, the Purchaser may proceed with operations.
4. No haul shall be conducted on rocked or natural surface roads in the Contract Area between October 15 of one calendar year and May 15 of the following calendar year, both days inclusive. Purchaser may request in writing, a conditional waiver of this restriction. If the Authorized Officer determines that hauling would not result in road damage or the transport of sediment to nearby stream channels based on soil moisture conditions or rain events, Contracting Officer may approve a conditional waiver for hauling. If soil moisture conditions or rain events are anticipated to cause impacts to roads or stream water quality resulting from said conditional waiver are not acceptable as determined by the Authorized Officer, the waiver will be revoked.
5. Work activities that produce noise above ambient levels that may disturb Marbled Murrelets would not occur within unit 27-2 from April 1 through August 5. Work activities would be confined to the time period between 2 hours after sunrise to 2 hours before sunset from August 6 through September 15.
6. A harvester, feller-processor, or feller-buncher with purpose built carriers with boom-mounted felling heads and a boom with a minimum lateral reach of twenty (20) feet may be used in the ground based and helicopter units. See the Milk Duds Special Provisions for full ground based harvesting restrictions.
7. Cable corridors that are hydrologically connected to streams shown on Exhibit A shall be water-barred and shall have slash placed over them prior to winter rain events to protect water quality.
8. Waterbars shall be hand constructed and activity slash lopped and scattered on corridors within the areas that contain fragile soils in units 9-1A, 15-19A, 25-11, 25-4A, 25-4M, and 31-5.

9. Temporary routes constructed or reconstructed and all skid trails and landings within two hundred (200) feet of streams shall be discontinuously sub-soiled with winged ripper, seeded, water-barred, mulched, and blocked prior to October 15th during dry soil conditions upon completion of current harvest and slash disposal treatments.
10. The License Agreement fees and conditions listed in the Prospectus are pending and are not final. Final fees are dependent on final signed License Agreements.

NARRATIVE DESCRIPTION OF HOW TO GET TO THE TIMBER SALE AREA - From I-5 take Exit 80 to Glendale, proceed down Glendale Valley Road (Hwy. 313) toward Glendale. Turn right onto Azalea-Glen Road, then turn left onto Reuben Road (Hwy. 27). Proceed for 15 miles and take a left onto Cow Creek Road. Follow Cow Creek Road for 0.2 miles and turn left onto West Fork Cow Creek Road, which becomes BLM Road #32-8-1.1. All units can be accessed from BLM Road #32-8-1.1.

ENVIRONMENTAL ASSESSMENT - An environmental assessment (DOI-BLM-ORWA-M070-2016-0001-EA) was prepared for this sale, and a Finding of No Significant Impact has been documented. This document is available for inspection as background for this sale at the Medford District Office.

OR110-5409-11 (2008)

MILK DUDDS TIMBER SALE

THIS IS A SALE PROSPECTUS ONLY. THESE ARE THE SPECIAL PROVISIONS AS THEY WILL BE WRITTEN IN THE CONTRACT. ATTACHMENTS MAY NOT INCLUDE ALL EXHIBITS REFERRED TO IN THE CONTRACT PROVISIONS. THE COMPLETE CONTRACT, INCLUDING ALL EXHIBITS, IS AVAILABLE FOR INSPECTION AT THE MEDFORD INTERAGENCY OFFICE.

Sec. 41. TIMBER RESERVED FROM CUTTING - The following timber on the contract area is hereby reserved from cutting and removal under the terms of this contract and is retained as the property of Government.

- (A) AR-1 All timber on the Reserve Areas as shown on Exhibit A and all trees marked with a combination of orange paint, orange flagging, and/or posters which are on or mark the boundaries of the Reserve Areas.
- (B) IR-2 All timber except approximately nine hundred two (902) conifer trees marked for cutting heretofore by the Government with blue paint above and below stump height in unit 7-2 as shown on Exhibit A.
- (C) IR-6M All hardwood trees and non-hazardous snags in all harvest units shown on Exhibit A.
- (D) IR-6M All pre-existing dead and down wood in all harvest units shown on Exhibit A.
- (E) IR-6M All trees outside unit boundaries within riparian buffers, red tree vole buffers, and plant buffers knocked over during falling and yarding in all units shown on Exhibit A.
- (F) IR-6M All leave trees required to meet the Selection Criteria as outlined in Exhibit E, within units 3-14, 7-9, 9-1A, 9-1B, 11-8A, 11-8B, 13-2A, 13-2B, 13-2C, 13-2D, 13-9A, 13-9B, 13-10, 15-19A, 15-19B, 19-3A, 19-3B, 19-3C, 19-3D, 19-6A, 19-6B, 19-6C, 19-8A, 19-8B, 19-8C, 19-8D, 19-9A, 20-4, 20-5, 21-4, 25-1, 25-4A, 25-4B, 25-4C, 25-4D, 25-4E, 25-4F, 25-4G, 25-4H, 25-4I, 25-4J, 25-4K, 25-4L, 25-4M, 25-11, 25-21A, 25-21B, 27-1, 27-2, 29-3, 29-7A, 29-7B, 31-4A, 31-4B, 31-4C, and 31-5 as shown on Exhibit A.
- (G) IR-6 All hardwood trees and non-hazardous snags in commercial thin harvest units shown on Exhibit A.
- (H) IR-6 All pre-existing dead and down wood in commercial thin harvest units shown on Exhibit A.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

Section 42

(A) Log Exports

- (1) LE-1 All timber sold to the Purchaser under the terms of the contract, except exempted species, 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. For the purpose of this contract, unprocessed timber is defined as: (1) any logs except those of utility grade or below, such as sawlogs, peeler logs and pulp logs; (2) cants or squares to be subsequently remanufactured exceeding eight and three-quarters (8¾) inches in thickness; (3) split or round bolts or other roundwood not processed to standards and specifications suitable for end-product uses; or (4) western red cedar lumber which does not meet lumber of American Lumber Standards Grades of Number 3 dimension or better, or Pacific Lumber Inspection Bureau R-List Grades of Number 3 Common or better. Thus, timber manufactured into the following will be considered processed: (1) lumber and construction timber, regardless of size, manufactured to standards and specifications suitable for end-product uses; (2) chips, pulp, and pulp products; (3) green or dry veneer and plywood; (4) poles and piling cut or treated for use as such; (5) cants, squares, and lumber cut for remanufacturing of eight and three quarters (8¾) inches in thickness or less; (6) shakes and shingles.

Substitution will be determined under the definition found in 43 CFR 5400.0-5(n).

The Purchaser is required to maintain and upon request to furnish the following information:

- (a) Date of last export sale.
- (b) Volume of timber contained in last export sale.
- (c) Volume of timber exported in the past twelve (12) months from the date of last export sale.
- (d) Volume of Federal timber purchased in the past twelve (12) months from the date of last export sale.
- (e) Volume of timber exported in succeeding twelve (12) months from date of last export sale.
- (f) Volume of Federal timber purchased in succeeding twelve (12) months from date of last export sale.

In the event the Purchaser elects to sell any or all of the timber sold under this contract in the form of unprocessed timber, the Purchaser shall require each party buying, exchanging, or receiving such timber to execute a Form 5460-16

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

(Certificate as to Nonsubstitution and the Domestic Processing of Timber). The original of such certification shall be filed with the Authorized Officer. Additionally, when the other party is an affiliate of the Purchaser, the Purchaser will be required to update information under item (2) of Form 5450-17 (Export Determination) and file the form with the Authorized Officer.

In the event an affiliate of the Purchaser has exported private timber within twelve (12) months prior to purchasing or otherwise acquiring Federal timber sold under this contract, the Purchaser shall, upon request, obtain from the affiliate information in a form specified by the Authorized Officer and furnish the information to the Authorized Officer.

Prior to the termination of this contract, the Purchaser shall submit to the Authorized Officer Form 5460-15 (Log Scale and Disposition of Timber Removed Report) which shall be executed by the Purchaser. In addition, the Purchaser is required under the terms of this contract to retain for a three-year period from the date of termination of the contract the records of all sales or transfer of logs involving timber from the sale for inspection and use of the Bureau of Land Management.

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.

In the event of the Purchaser's noncompliance with this subsection of the contract, the Authorized Officer may take appropriate action as set forth in Section 10 of this contract. In addition, the Purchaser may be declared ineligible to receive future awards of Government timber for a period of one year.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

(B) Logging

- (1) L-1 Before beginning operations on the contract area for the first time or after a shutdown of seven (7) or more days, the Purchaser shall notify the Authorized Officer in writing of the date they plan to begin operations. The Purchaser shall also notify the Authorized Officer in writing if they intend to cease operations for any period of seven (7) or more days.
- (2) L-3 All trees designated for cutting shall be cut so that the resulting stumps shall not be higher than twelve (12) inches measured from the ground on the uphill side of the trees, or be consistent with OSHA guidelines.
- (3) L-6 In all units except units with areas of fragile soils (9-1A, 15-19A, 25-11, 25-4A, 25-4M, and 31-5) as shown on Exhibit A, all trees designated for cutting shall be felled and whole tree yarded or yarded with tops attached except when excessive stand damage occurs or the resulting continuous slash depth is expected to exceed eighteen (18) inches as determined by the Authorized Officer. If excessive stand damage occurs or continuous slash depth is expected to exceed eighteen (18) inches, all trees shall be bucked into log lengths not to exceed forty one (41) feet prior to being yarded.
- (4) L-7 In the cable yarding areas of harvest units as shown on Exhibit A, all trees designated for cutting shall be manually felled. Ground based yarding portions of harvest units as shown on Exhibit A may be felled mechanically using a harvester, feller-processor, or feller-buncher with the approval of the Authorized Officer and in accordance with the following specifications:
 - (a) Mechanized felling operations shall be limited to slopes of thirty-five (35) percent or less.
 - (b) Mechanized felling operations are subject to seasonal operating restrictions as described in Section 42(B)(10)(L-18) of this contract.
 - (c) The harvester, 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. The boom must have a lateral reach of twenty (20) feet or more, and the machine's lateral reach must be utilized as much as possible. The purpose-built carrier may be of the articulated, rubber-tired design, or the zero-clearance tail swing leveling track-mounted design.
 - (d) The harvest equipment shall walk on existing or created slash as directed by the Authorized Officer. If Purchaser is required to create slash to walk on, then Purchaser shall not be required to whole-tree-yard.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

- (5) L-7MC Yarding on the areas designated herein and shown on Exhibit A shall be done in accordance with the yarding requirements or limitations for the designated area.

Designated Area	Yarding Requirements or Limitations
<u>CABLE UNITS</u> 7-2, 7-9, 9-1A, 9-1B, 11-8A, 15-19A, 19- 6B, 19-8A, 19-8D, 20-4, 20-5, 25-4A, 25-4D, 25-4E, 25- 4G, 25-4H, 25-4J, 25-4L, 25-11, 25- 21A, 25-21B, 27-1, 29-3, 29-7A, 31-4A, 31-4C	<p>Yarding will be done with a cable yarding system which will suspend one end of the log clear of the ground during inhaul on the yarding corridor. The cable yarding system shall be capable of yarding one thousand six hundred seventy (1,670) feet slope distance.</p> <p>A carriage is required which will maintain a fixed position on the skyline during lateral yarding and has a minimum lateral yarding capability of seventy five (75) feet.</p> <p>Yarding corridors will be perpendicular to the contours and located outside of all buffers shown on Exhibit A.</p> <p>Prior to falling any timber in the unit, all tail/lift trees and/or intermediate support trees shall be pre-designated by the Purchaser and approved by the Authorized Officer.</p> <p>Existing cable corridors shall be used whenever possible. Yarding corridors shall be approximately one hundred fifty (150) feet apart, measured at the tailholds.</p> <p>Yarding corridor widths shall not exceed six (6) feet either side of the skyline centerline.</p> <p>Landing size shall not exceed one-quarter (¼) acre, shall be located along existing roads, temporary routes, and/or cable-tractor swing routes within unit boundaries where possible, and shall be approved by the Authorized Officer. Short purchaser spurs into units may be necessary to achieve one-end log suspension. Design landings with adequate drainage so that they are not hydrologically connected to draws or the ditchline of roads.</p> <p>Directional falling to lead and away from streams, unit boundaries, and resource buffers shown on Exhibit A will be required.</p> <p>Cable corridors that are hydrologically connected; or are perpendicular to and within two hundred (200) feet of streams shown on Exhibit A; shall be water-barred and</p>

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

<p><u>CABLE UNITS</u> <u>CONTINUED</u></p> <p>7-2, 7-9, 9-1A, 9-1B, 11-8A, 15-19A, 19-6B, 19-8A, 19-8D, 20-4, 20-5, 25-4A, 25-4D, 25-4E, 25-4G, 25-4H, 25-4J, 25-4L, 25-11, 25-21A, 25-21B, 27-1, 29-3, 29-7A, 31-4A, 31-4C</p>	<p>shall have slash placed over them prior to winter rain events to protect water quality.</p> <p>Skyline equipment shall be capable of yarding in a multispan configuration.</p> <p>In unit 29-3 the Purchaser shall be allowed to walk yarder into the unit utilizing a tractor-swing system as approved by the Authorized Officer.</p>
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Designated Area	Yarding Requirements or Limitations
<p><u>GROUND BASED UNITS</u></p> <p>3-14, 7-2, 9-1A, 9-1B, 11-8B, 13-2A, 13-2B, 13-2C, 13-2D, 13-9A, 13-9B, 13-10, 15-19A, 15-19B, 19-3A, 19-3B, 19-3C, 19-3D, 19-6A, 19-6B, 19-6C, 19-8B, 19-8C, 19-9A, 20-4, 21-4, 25-1, 25-4B, 25-4C, 25-4F, 25-4I, 25-4K, 25-4M, 25-11, 27-1, 27-2, 29-3, 29-7B, 31-4B, 31-4C, 31-5</p>	<p>Yarding tractor width shall not be greater than nine (9) feet track width and shall be equipped with an integral arch. Skid roads shall not exceed a width of twelve (12) feet on average per unit.</p> <p>Prior to falling any timber in the unit, all new skid roads shall be pre-designated by the Purchaser and approved by the Authorized Officer. Yarding tractors shall operate only on tractor skid roads approved by the Authorized Officer.</p> <p>Existing skid trails shall be used when possible. New skid trails shall be placed at least one hundred fifty (150) feet apart where topography will allow. New skid trails must be located on ground less than thirty-five (35) percent slope. Rehabilitate all utilized skid trails that are within two hundred (200) feet of streams as specified in Sec. 42 (D)(9)(E-1).</p> <p>Landing size shall not exceed one-quarter (1/4) acre, shall be located along existing roads, temporary routes, and/or cable-tractor swing routes within unit boundaries, and shall be approved by the Authorized Officer. Design landings with adequate drainage so that they are not hydrologically connected to draws or the ditchline of roads.</p>

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

<p><u>GROUND BASED</u> <u>UNITS</u> <u>CONTINUED</u></p> <p>3-14, 7-2, 9-1A, 9-1B, 11-8B, 13-2A, 13-2B, 13-2C, 13-2D, 13-9A, 13-9B, 13-10, 15-19A, 15-19B, 19-3A, 19-3B, 19-3C, 19-3D, 19-6A, 19-6B, 19-6C, 19-8B, 19-8C, 19-9A, 20-4, 21-4, 25-1, 25-4B, 25-4C, 25-4F, 25-4I, 25-4K, 25-4M, 25-11, 27-1, 27-2, 29-3, 29-7B, 31-4B, 31-4C, 31-5</p>	<p>Directional falling to lead and away from streams, unit boundaries, and resource buffers shown on Exhibit A will be required.</p> <p>The use of blades while tractor yarding will be limited, equipment shall walk over as much ground litter as possible.</p> <p>See L-7 for harvester, feller-processor, or feller-buncher requirements.</p>
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- (6) L-9 No yarding or loading is permitted in or through the streams, seeps, wetlands, or resource buffers as shown on Exhibit A.
- (7) L-11 No landing shall be located in stream buffers, seeps, wetlands, resource buffers, unstable locations, or locations that would deliver sediment to streams as shown on Exhibit A.
- (8) L-18 No mechanical ground based harvesting, ground based yarding, skid trail and landing rehabilitation, machine piling, road and temporary route construction, road and temporary route reconstruction, temporary route decommissioning, or non-emergency road maintenance (including blading of aggregate roads, rocking, and cross drain installation) shall be conducted in units 3-14, 7-2, 9-1A, 9-1B, 11-8A, 11-8B, 13-2A, 13-2B, 13-2C, 13-2D, 13-9A, 13-9B, 13-10, 15-19A, 15-19B, 19-3A, 19-3B, 19-3C, 19-3D, 19-6A, 19-6B, 19-6C, 19-8B, 19-8C, 19-9A, 20-4, 21-4, 25-1, 25-4B, 25-4C, 25-4D, 25-4E, 25-4F, 25-4H, 25-4I, 25-4K, 25-4M, 25-11, 27-1, 27-2, 29-3, 29-7B, 31-4B, 31-4C, and 31-5 between October 15 of one calendar year and May 15 of the following calendar year both days inclusive. Purchaser may request in writing, a conditional waiver of this restriction. If soil moisture conditions are dry, as determined by the inability of a soil sample taken at four (4) to six (6) inches to maintain form when compressed and by the inability of soil moisture at the surface to be readily displaced, causing ribbons

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

and ruts along equipment tracks, the Contracting Officer may approve a conditional waiver. If impacts to soil resulting from said conditional waiver are not acceptable as determined by the Authorized Officer, the waiver will be revoked.

- (9) L-18 No haul shall be conducted on rocked or natural surface roads in the Contract Area between October 15 of one calendar year and May 15 of the following calendar year, both days inclusive. Purchaser may request in writing, a conditional waiver of this restriction. If the Authorized Officer determines that hauling would not result in road damage or the transport of sediment to nearby stream channels based on soil moisture conditions or rain events, Contracting Officer may approve a conditional waiver for hauling. If soil moisture conditions or rain events are anticipated to cause impacts to roads or stream water quality resulting from said conditional waiver are not acceptable as determined by the Authorized Officer, the waiver will be revoked.
- (10) L-18 No ditch maintenance shall be conducted in the Contract Area during the wet season, generally between October 15 of one calendar year and May 15 of the following calendar year, both days inclusive.
- (11) L-18a No chainsaws, heavy equipment operation or burning operations in unit 27-2 due to Marbled Murrelet habitat, between April 1st and August 5th of each year, both days inclusive.
- (12) L-18a No chainsaws, heavy equipment operation, or burning operations in unit 27-2 due to Marbled Murrelet habitat, two hours before sunset through two hours after sunrise between August 6th and September 15th of the same year, both days inclusive.
- (13) L-20 During logging operations, the Purchaser shall keep the 32-8-1.1 (West Fork Cow Creek), 32-8-4 (Slotted Pen), 31-8-31 (Elk Valley), 32-8-10.2, 31-8-31.1 (Hayes Creek), 31-9-25.1, and the 31-9-11 roads, where it passes through the contract area, clear of trees, rock, dirt, and other debris so far as is practicable. The road shall not be blocked by such operations for more than thirty (30) minutes.
- (14) L-21 The Purchaser shall provide flaggers and/or signs to control traffic or alert forest road users of active operations on roads where it passes through or near active logging or hauling operations as required by OSHA regulations.
- (15) L-23 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 prework conference between the Purchaser's authorized representative and the Authorized Officer's representative must be held at a location designated by the

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

Authorized Officer before the logging plan will be approved. All logging shall be done in accordance with the plan developed by this provision.

- (16) L-25 Before cutting and removing any trees necessary to facilitate logging in the harvest units shown on Exhibit A, the Purchaser shall identify the location of the skid roads, cable yarding roads, 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:
- (a) All skid roads and 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 road, and cable yarding road shall be limited to twelve (12) feet.
 - (b) The Purchaser may immediately cut and remove additional timber to clear skid roads and cable yarding roads; and provide tailhold, tieback, guyline, lift and intermediate support trees; and clear danger trees when the trees have been marked with pink 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 Sec. 3.(b). of the contract or sufficient bonding has been provided in accordance with Sec. 3.(d). of the contract.
 - (c) 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.
 - (d) 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.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

- (e) 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 one (1) working day 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 Sec. 8 or Sec. 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.
 - (f) The Government may reserve trees previously designated for cutting and removal by blacking out blue paint, applying orange paint as replacements for additional trees cut and removed for skid roads and/or cable yarding roads when the Authorized Officer determines such reservation is necessary to maintain stand densities consistent with objectives set forth in the management prescriptions. The volume of this timber to be reserved will be determined by the Authorized Officer in accordance with Bureau of Land Management prescribed procedures and the value shall be based on the unit prices shown in Exhibit B of the contract. The Purchaser agrees that the Total Purchase Price shall be reduced accordingly through a unilateral modification to the contract executed by the Contracting Officer.
 - (17) L-26M Before falling any trees in harvest Units, excluding unit 7-2, as shown on Exhibit A, the Purchaser shall mark the entire unit as outlined in Exhibit E. Identification of leave trees may be done by paint as approved by the Authorized Officer. Upon acceptance of each harvest unit inspection by the Authorized Officer, the Purchaser may proceed with operations.
- (C) Road Construction – Maintenance – Use
- (1) RC-1a The Purchaser shall construct, improve, and renovate all roads in strict accordance with the plans and specifications shown in Exhibit C, which is attached hereto and made a part hereof.
 - (2) RC-1b Prior to removal of any timber, except for danger trees and all Temporary Routes, the Purchaser shall complete all construction and/or renovation of roads as specified in Exhibit C.
 - (3) RC-1d The Purchaser shall not commence work on road construction, improvements, and renovation until receiving written notice to do so from the

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

Authorized Officer. Work shall be commenced no later than 5 days after such notice, and shall be completed within 1 year after such notice.

- (4) RC-1f Upon completion of logging activities, the Purchaser shall scarify the entire roadway of all temporary roads shown on Exhibit C, in strips of not less than twenty-four (24) inches or more than twenty-eight (28) inches in width to a minimum depth of twelve (12) inches, provided that no scarification shall be required where the road traverses rock outcroppings. All natural water courses shall be opened to prevent erosion of the roadways. Barriers shall be constructed so as to prevent further use of the road by vehicles.
- (5) RC-2 The Purchaser is authorized to use the roads listed below and shown on Exhibit C and D which are under the jurisdiction of the Bureau of Land Management for the removal of Government timber sold under the terms of this contract and the hauling of rock as required in Exhibit C, provided that the Purchaser pay the required maintenance obligations described in Section 42(C)(7). The Purchaser shall pay current Bureau of Land Management maintenance fees for the sale of additional timber under modification to the contract.

Road Number and Segment	Length Miles Used	Road Control	Road Surface Type
33-7-2.0(A-B)	10.15	BLM	BST
30-6-32.0(D)	0.30	BLM	BST
32-8-1.1(A-B2)	7.39	BLM	BST
Total	17.84		

- (6) RC-2a The Purchaser is authorized to use the roads listed below and shown on Exhibit C and D which are under the jurisdiction of the Bureau of Land Management, Roseburg Resources Co., and/or Plum Creek Timberlands LP (Weyerhaeuser) for the removal of Government timber sold under the terms of this contract and the hauling of rock as required in Exhibit C, provided that the Purchaser comply with the conditions set forth in Section 42(C)(11) and pay the required rockwear obligation described in Section 42(C)(8) and Section 42(C)(9). The Purchaser shall pay current Bureau of Land Management rockwear fees for the sale of additional timber under modification to the contract.

Road Number and Segment	Length Miles Used	Road Control	Road Surface Type
32-8-9.01(A-C)	1.18	BLM	GRR
32-8-3.01	0.10	BLM	PRR
32-8-4.00(A)	4.73	BLM	GRR
31-8-29.00(A-C)	1.08	BLM	NAT
31-8-31.01(A-B)	3.42	BLM	GRR

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

31-8-31.02(A)	0.17	BLM	PRR
31-8-31.03	0.80	BLM	GRR
31-8-31.04	0.17	BLM	NAT
31-8-31.00(A-B)	4.24	BLM	ASC
31-8-31.00(D)	1.33	BLM	ABC
31-8-31.00(G)	0.24	BLM	ABC
31-9-36.00	0.69	BLM	GRR
31-9-25.00	0.46	BLM	PRR
31-9-25.04	0.11	BLM	NAT
31-9-25.01(A)	1.21	BLM	ASC
31-9-25.01(C & E)	0.95	BLM	NAT
31-9-25.02	0.15	BLM	NAT
31-9-25.05	0.62	BLM	PRR
31-9-25.03(A-C)	1.65	BLM	GRR
31-8-30.00(A1-A2)	1.92	BLM	GRR
31-9-13.04	0.06	BLM	NAT
31-9-12.00(A-B)	1.90	BLM	GRR
31-8-6.01(B)	0.15	BLM	PRR
31-8-8.02(A-B)	1.43	BLM	PRR
31-8-5.00(F)	0.77	BLM	PRR
31-9-11.00(A-B)	1.33	BLM	GRR
31-9-11.05	0.08	BLM	NAT
31-9-10.01	1.90	BLM	PRR
31-9-10.00(A-B)	1.70	BLM	PRR
31-9-21.00(B-C)	0.54	BLM	PRR
31-8-29.02	0.47	Roseburg Resources	NAT
31-8-30.02(A)	0.56	Roseburg Resources	NAT
31-8-5.00(E)	0.13	Roseburg Resources	PRR
31-9-11.00(C)	1.88	Roseburg Resources	PRR
31-9-11.06	0.02	Roseburg Resources	NAT
32-8-11.00(B)	0.14	Roseburg Resources	NAT
32-8-4.03	0.33	Roseburg Resources	ASC
32-8-4.04	0.07	Roseburg Resources	ASC
32-8-10.02(B1-B2)	1.51	Roseburg Resources	PRR
32-8-4.00(B-C)	1.18	Roseburg Resources	ASC
31-8-20.01	0.20	Plum Creek Timberlands	NAT
31-8-30.00(B1)	0.14	Plum Creek Timberlands	GRR
31-8-30.02(B)	0.21	Plum Creek Timberlands	NAT
31-8-31.00(C)	1.60	Plum Creek Timberlands	ABC
31-8-31.00(E1-F2)	1.35	Plum Creek Timberlands	ABC
31-9-12.04(A-B)	0.60	Plum Creek Timberlands	NAT

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

31-9-12.02(A-B)	1.00	Plum Creek Timberlands	NAT
31-8-31.01(C)	0.17	Plum Creek Timberlands	NAT
31-9-13.03	0.24	Plum Creek Timberlands	NAT
31-9-15.00	0.32	Plum Creek Timberlands	NAT
31-9-21.00(A)	0.56	Plum Creek Timberlands	PRR
31-9-21.04(A-B)	0.34	Plum Creek Timberlands	NAT
31-9-21.05	0.26	Plum Creek Timberlands	ABC
31-9-25.01(B&D)	3.33	Plum Creek Timberlands	NAT
31-9-26.00(A)	0.40	Plum Creek Timberlands	PRR
31-9-26.03	0.54	Plum Creek Timberlands	NAT
31-9-27.00(D)	1.62	Plum Creek Timberlands	NAT
32-8-10.02(A)	0.44	Plum Creek Timberlands	PRR
Total	54.05		

**No rockwear fees assessed on NAT surfaced roads; listed only for authorization of use.*

- (7) RC-2e The Purchaser is authorized to use the roads listed in Section 42(C)(5) which are under the jurisdiction of the Bureau of Land Management, and maintained by the Bureau of Land Management, for the removal of Government timber sold under the terms of the contract; provided, that the Purchaser shall pay a road maintenance fee of **\$0.71** per thousand board feet log scale per mile for the use of said roads. The total maintenance fee due shall be based upon volumes determined pursuant to Section 2 and 3 of this contract and mileage of roads used as determined by the Authorized Officer. Prior to the use of such roads, the Purchaser shall give written notice to the Authorized Officer of the roads intended for use in the removal of timber purchased under this contract, together with an estimate of the volume to be hauled over such roads. **The Purchaser is required to label, with a permanent ink marker, each load ticket with the corresponding unit number as directed by the Authorized Officer.** The Authorized Officer shall establish an installment schedule of payment of the maintenance obligation. If it is determined by the Authorized Officer, after all merchantable timber has been cut and scaled, that the total maintenance payments made under this contract exceed the total maintenance payment due, such excess shall be returned to the Purchaser within sixty 60 days after such determination is made.
- (8) RC-2e_(RW) The Purchaser is authorized to use the roads listed in Section 42(C)(6) which are under the jurisdiction of the Bureau of Land Management and maintained by the Purchaser, for the removal of Government timber sold under the terms of the contract; provided, that the Purchaser shall pay a road rockwear fee of **\$0.49** per thousand board feet log scale per mile for the use of said roads. The total rockwear fee due shall be based upon volumes determined pursuant to Section 2 and 3 of this contract and mileage of roads used as determined by the Authorized Officer. Prior to the use of such roads, the Purchaser shall give

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

written notice to the Authorized Officer of the roads intended for use in the removal of timber purchased under this contract, together with an estimate of the volume to be hauled over such roads. **The Purchaser will be required to label, with a permanent ink marker, each load ticket with the corresponding unit number as directed by the Authorized Officer.** The Authorized Officer shall establish an installment schedule of payment of the rockwear obligation. If it is determined by the Authorized Officer, after all merchantable timber has been cut and scaled, that the total rockwear payments made under this contract exceed the total rockwear payment due, such excess shall be returned to the Purchaser within sixty 60 days after such determination is made.

- (9) RC-2e_(LA) The Purchaser is authorized to use the roads listed in Section 42(C)(6) which are under the jurisdiction of the Roseburg Resources Co. and/or Plum Creek Timberlands LP and maintained by the Purchaser, for the removal of Government timber sold under the terms of the contract; provided, that the Purchaser shall pay a road rockwear fee of **\$0.49** per thousand board feet log scale per mile for the use of said roads. The total rockwear fee due shall be based upon volumes determined pursuant to Section 2 and 3 of this contract and mileage of roads used as determined by the Authorized Officer. Prior to the use of such roads, the Purchaser shall give written notice to the Authorized Officer of the roads intended for use in the removal of timber purchased under this contract, together with an estimate of the volume to be hauled over such roads. **The Purchaser will be required to label, with a permanent ink marker, each load ticket with the corresponding unit number as directed by the Authorized Officer.** The Authorized Officer shall establish an installment schedule of payment of the rockwear obligation. If it is determined by the Authorized Officer, after all merchantable timber has been cut and scaled, that the total rockwear payments made under this contract exceed the total rockwear payment due, such excess shall be returned to the Purchaser within sixty 60 days after such determination is made.
- (10) RC-2f The Authorized Officer may at any time by written notice, terminate the Purchaser's operator road maintenance obligations and require instead payment of current Bureau of Land Management road maintenance fees for the particular surface type of the roads involved. These fees will be applied to the remaining contract volume on the sale area to be transported over road or roads listed in Section 42(C)(6). The Purchaser shall pay the total maintenance amount for said roads within thirty (30) days following receipt of written notice; provided, however, that if the total amount exceeds five hundred and no/100 dollars (\$500.00), the Purchaser may elect to make payment in installments in the same manner as and together with payments required in Section 2 and 3 of this contract.
- (11) RC-2h Except for road maintenance in accordance with Section 42(C)(5) or Section 42(C)(12), the Purchaser shall perform any required road repair and maintenance work on roads used by the purchaser, under the terms of Exhibit D,

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

"Road Maintenance Specifications," of this contract, which is attached hereto and made a part hereof.

- (12) RC-3 In the use of roads 31-8-29.02(Por.), 31-8-30.02(A), 31-8-5.00(E), 31-9-11.00(C), 31-9-11.06, 32-8-11.00(Por. B), 32-8-4.00(B & Por. C), 32-8-4.03(Por.), 32-8-4.04, 32-8-10.02(B1 & B2) the Purchaser shall comply with the conditions of Right-of-Way and Road Use Agreement No. M-700 between the United States of America and **Roseburg Resources Co.** These conditions include, but are not limited to: Payment to Roseburg Resources Co. a road use obligation of **Five Thousand Three Hundred Sixty One and 55/100 dollars (\$5,361.55)** and a rockwear obligation of **One Thousand Four Hundred Two and 54/100 dollars (\$1,402.55)** based on the estimated contract volume, payable at the time indicated in the license agreement. Other special conditions and fees may apply; see the license agreement for additional terms and conditions. This document is available for inspection at the Bureau of Land Management, Medford Interagency Office, 3040 Biddle Road, Medford, Oregon 97504. **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 and Road Use Agreement, or any License Agreement executed pursuant thereto, for failure to pay appropriate road use and rockwear obligations 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.
- (13) RC-3 In the use of roads 31-8-20.01, 31-8-30.00(B1), 31-8-30.02(B), 31-8-31.00(C, E1, E2, F1, & F2), 31-8-31.01(C), 31-9-12.02(A & B), 31-9-12.04(A & B), 31-9-13.03, 31-9-15.00, 31-9-21.00(Por. A), 31-9-21.04(A & B), 31-9-21.05, 31-9-25.01(B & D), 31-9-26.0(Por. A), 31-9-26.03, 31-9-27.00(D), 32-8-10.02(A) the Purchaser shall comply with the conditions of Right-of-Way and Road Use Agreement No. M-605 between the United States of America and **Plum Creek Timberlands LP.** These conditions include, but are not limited to: Payment to Plum Creek Timberlands LP, a road use obligation of **One Thousand Eight Hundred Eighteen 00/100 dollars (\$1,818.00)** and a rockwear obligation of **Two Thousand Two Hundred Seventy and 15/100 dollars (\$2,270.15)** based on the estimated contract volume, payable at the time indicated in the license agreement. Other special conditions and fees may apply; see the license agreement for additional terms and conditions. This document is available for inspection at the Bureau of Land Management, Medford Interagency Office, 3040 Biddle Road, Medford, Oregon 97504. **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 and Road Use 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.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

- (14) RC-3d The Purchaser also agrees that if they elect to use any other private roads 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, the Purchaser shall request and agree to the modification of this contract to provide for such use and for allowances for amortization of the Government's share of the capital investment of any such road.
- (15) RC-5 In the construction of temporary routes, landings, and tramway wedges as shown on Exhibit A and C, the Purchaser shall comply with the crossing plat terms and conditions of the Right-of-Way and Road Use Agreement No. **M-700** between the United States and **Roseburg Resources Co.** This document is available for inspection at the Bureau of Land Management, Medford Interagency Office, 3040 Biddle Road, Medford, Oregon 97504.
- (16) RC-5 In the construction of temporary routes, landings, and tramway wedges as shown on Exhibit A and C, the Purchaser shall comply with the crossing plat terms and conditions of the Right-of-Way and Road Use Agreement No. **M-605** between the United States and **Plum Creek Timberlands, LP.** This document is available for inspection at the Bureau of Land Management, Medford Interagency Office, 3040 Biddle Road, Medford, Oregon 97504.
- (17) RC-8 The Purchaser shall be required to secure written approval to use vehicles or haul equipment over Government owned or controlled roads and/or structures when that vehicle or equipment exceeds the maximum allowable weights or dimensions established by the State for vehicles operating without a permit.

Details of such equipment shall be furnished to the Authorized Officer for evaluation of load characteristics, at least fifteen (15) days prior to proposed move-in.

Details shall include:

- (a) Axle weights when fully loaded.
- (b) Axle spacing.
- (c) Transverse wheel spacing.
- (d) Tire size.
- (e) Outside width of vehicle.
- (f) Operating speed.
- (g) Frequency of use.
- (h) Special features (e.g., running tracks, overhang loads, etc.)

The Purchaser shall be responsible for repair of any damage to roads or structures caused by the use of overweight or over-dimension vehicles (1) without written approval, (2) in violation of the conditions of a written approval, or (3) in a negligent manner. The amount of actual damage shall be determined by the Authorized Officer following a technical inspection and evaluation.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

(D) Environmental Protection

- (1) E-1 In addition to the requirement set forth in Section 26 of this contract, the Purchaser shall implement the following noxious weed control measures:
 - (a) In order to prevent the potential spread of noxious weeds into the Medford District BLM, the operator would be required to clean all logging, construction, chipping, grinding, shredding, rock crushing, and transportation equipment prior to entry on BLM lands.
 - (b) Cleaning shall be defined as removal of dirt, grease, plant parts, and material that may carry noxious weed seeds into BLM lands. Cleaning prior to entry onto BLM lands may be accomplished by using a pressure hose.
 - (c) Only equipment inspected by the BLM would be allowed to operate within the Analysis Area. All subsequent move-ins of equipment as described above shall be treated the same as the initial move-in.
 - (d) Prior to initial move-in of any equipment, and all subsequent move-ins, the operator shall make the equipment available for BLM inspection at an agreed upon location off Federal lands.
 - (e) Equipment would be visually inspected by the Authorized Officer to verify that the equipment has been reasonably cleaned.
- (2) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall only use certified weed-free hay and native grass seed species approved by the Authorized Officer for rehabilitation activities. All seeding shall be contingent upon seed availability.
- (3) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall not conduct ground-based logging when soil moisture at a depth of 4-6 inches is wet enough to maintain form when compressed, or when soil at the surface would readily displace, causing ribbons and ruts along equipment tracks.
- (4) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall prepare a Spill Prevention, Control, and Countermeasure Plan for all hazardous substances to be used in the contract area, as directed by the Authorized Officer. Such plan shall include identification of Purchaser's representatives responsible for supervising initial containment action for releases and subsequent cleanup. Such plans must comply with the State of Oregon DEQ OAR 340-142, Oil and Hazardous Materials Emergency Response Requirements.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

- (5) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall not refuel equipment, store, or cause to have stored, any fuel or other petroleum products within one hundred fifty (150) feet of all riparian management or wet areas. All Petroleum products shall be stored in durable containers and located so that any accidental releases will be contained and not drain into any stream system. Hydraulic fluid and fuel lines on heavy mechanized equipment would be in proper working condition in order to minimize potential for leakage into streams. Absorbent materials shall be onsite to allow for immediate containment of any accidental spills. Spilled fuel and oil shall be cleaned up and disposed of at an approved disposal site.
- (6) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall not locate new landings in areas that contribute eroded fines to streams, wet areas, dry draws and swales. If these landing locations cannot be avoided, ensure that properly installed sediment control measures are placed and maintained, as needed, to keep eroded material onsite.
- (7) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall ensure that silt fencing or other sediment control measures are properly placed and maintained during use and periods of non-use when utilizing landings or temp routes that have the potential to release eroded fines into a stream or wet area, directly or via draws or ditchlines. Any project-related activity would be suspended if conditions develop that cause a potential for sediment laden runoff to enter a wetland, floodplain or waters of the state. Operations can resume when sediment control devices are in place and conditions allow turbidity standards to be met.
- (8) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall use dust abatement measures on the 31-8-31 (Elk Valley Rd, 2 crossings), 31-9-25.1 (Twin Culverts), and the 31-8-30 (East Fork Elk Valley) where these roads cross fish bearing streams if hauling causes un-acceptable levels of fine sediment that may enter into streams, as directed by the Authorized Officer.
- (9) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall, prior to October 15 of the same operating season, winterize and rehabilitate temporary routes, landings, hydrologically connected corridors and skidtrails and other areas of exposed soils by properly installing and/or using water bars, berms, sediment basins, gravel pads, hay bales, small dense woody debris, seeding and/or mulching, to reduce sediment runoff and divert runoff water away from stream channels, headwalls, slide areas, high landslide hazard locations or steep erodible fill slopes as directed by the Authorized Officer.
- (10) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall hand construct waterbars and lop and scatter activity slash on cable corridors within the areas that contain fragile soils in units 9-1A, 15-19A,

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

25-11, 25-4A, 25-4M, and 31-5 as shown on Exhibit A and as directed by the Authorized Officer.

- (11) E-1 In addition to the requirement set forth in Section 26 of this contract, the Purchaser shall as directed by the Authorized Officer rehabilitate all ground based skid trails utilized within two hundred (200) feet of streams, all temporary routes, the cable-tractor swing route in unit 29-3, and all landings outside of the road prism by one of the following methods:
- (a) If the Authorized Officer deems ripping will not cause unacceptable damage to the root systems of residual trees the Purchaser shall discontinuously subsoil with winged ripper teeth, simultaneously water bar, seed, mulch, and barricade.
 - 1. Use a minimum 200 flywheel horsepower tractor with mounted rippers having shanks and teeth consistent with drawings and specifications shown on Exhibit R of this contract, which, is attached hereto and made a part hereof.
 - 2. Rip to a depth of twelve (12) inches, and no further than thirty six (36) inches apart.
 - 3. Ripping will occur before **October 15** of the year of harvest.
 - 4. Any step landings shall be re-contoured following use.
 - (b) If the Authorized Officer deems ripping will cause an unacceptable amount of damage to the root systems of residual trees the Purchaser shall scarify to a depth of up to six (6) inches and simultaneously water bar, seed, mulch, and barricade.
- All rehabilitation shall occur within eighteen (18) months of harvest, during the dry season, and after pile burning is complete.
- (12) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall place material removed during excavation in locations where it cannot enter streams or other water bodies.
- (13) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall, upon completion of skidding, pull vegetation over and block skid trails if unauthorized off-highway vehicles (OHV) are identified utilizing the skid trails.
- (14) E-2 The water bars to be constructed as required by Sec. 26(c) shall be constructed in accordance with the specifications shown on Exhibit C9-1, which is attached hereto and made a part hereof.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

- (15) E-4 The Purchaser shall immediately discontinue specified construction or timber harvesting operations upon written notice from the Contracting Officer that:
- (a) threatened or endangered plants or animals protected under the Endangered Species Act of 1973, as amended, may be affected by the operation, and a determination is made that consultation or reinitiation of consultation is required concerning the species prior to continuing operation, or;
 - (b) when, in order to comply with the Endangered Species Act, the Contracting Officer determines it may be necessary to modify or terminate the contract, or;
 - (c) federal proposed, federal candidate, Bureau sensitive or State listed species protected under BLM Manual 6840 - Special Status Species Management - have been identified, and a determination is made that continued operations would affect the species or its habitat, or;
 - (d) other active raptor nests have been discovered, and a determination is made that continued operations under this contract would adversely affect the present use of the discovered nesting area by the raptor, or;
 - (e) when, in order to comply with a court order which enjoins operations on the sale or otherwise requires the Bureau of Land Management to suspend operations, or;
 - (f) when, in order to comply with a court order, the Contracting Officer determines it may be necessary to modify or terminate the contract, or;
 - (g) species have been discovered which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, and the Contracting Officer determines that continued operations would affect the species or its habitat, or;
 - (h) when, in order to protect species which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, the Contracting Officer determines it may be necessary to modify or terminate the contract.

Those operations necessary for a safe removal of personnel and equipment from the contract area and those directed by the Contracting Officer which are required in order to leave the contract area in an acceptable condition will be permitted. Discontinued operations may be resumed upon receipt of written instructions and authorization by the Contracting Officer.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

During any period of suspension, the Purchaser may withdraw performance and payment bond coverage aside from that deemed necessary by the Authorized Officer to secure cut and/or removed timber for which the Bureau of Land Management has not received payment, and/or unfulfilled contract requirements associated with harvest operations that have already occurred and associated post-harvest requirements.

In the event of a suspension period or a combination of suspension periods that exceed a total of 30 days, the First Installment held on deposit may be temporarily reduced upon the written request of the Purchaser. For the period of suspension extending beyond 30 days, the First Installment on deposit may be reduced to five (5) percent of the First Installment amount listed in Section 3.b. of the contract. Any First Installment amount temporarily reduced may be refunded or transferred to another BLM contract at the request of the Purchaser. However, if the Purchaser has outstanding debt owing the United States, the Contracting Officer must first apply the amount of First Installment that could be refunded to the debt owed in accordance with the Debt Collection Improvement Act, as amended (31 USC 3710, *et seq.*). Upon Purchaser's receipt of a bill for collection and written notice from the Contracting Officer lifting the suspension, the Purchaser shall restore the First Installment to the full amount shown in Section 3.b. of the contract within 15 days after the bill for collection is issued, subject to Section 3.h. of the contract. The Purchaser shall not resume contract operations until the First Installment amount is fully restored.

In the event of a suspension period or a combination of suspension periods that exceed a total of 30 days, the unamortized Out-of-Pocket Expenses for road or other construction required pursuant to Exhibit C of the contract shall be refunded or transferred to another BLM contract at the request of the Purchaser. Upon written notice from the Contracting Officer lifting the suspension, the Purchaser shall reimburse the Government the amounts refunded or transferred. The Purchaser may choose to pay this reimbursement at once or in installments payable at the same time as payments are due for the timber under the contract and in amounts approximately equal to the expenses associated with the timber for which payment is due.

In the event that operating time is lost as a result of the incorporation of additional contract requirements, or delays due to Endangered Species Act consultation with the U.S. Fish and Wildlife Service or U.S. National Marine Fisheries Service, or court-ordered injunctions, the Purchaser agrees that an extension of time, without reappraisal, will constitute a full and complete remedy for any claim that delays due to the suspension hindered performance of the contract or resulted in damages of any kind to the Purchaser.

The Contracting Officer may determine that it is necessary to terminate the cutting and removal rights under the contract in order to comply with the Endangered Species Act, protect species that have been discovered which were

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, or comply with a court order. Following the issuance of a written notice that cutting and removal rights will be terminated, the Purchaser will be permitted to remove timber cut under the contract, if allowed by the Endangered Species Act, survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, or court order requirements necessitating the modification or termination.

In the event cutting and removal rights are terminated under this subsection, the Purchaser agrees that the liability of the United States shall be limited to the actual costs incurred by the Purchaser which have not been amortized by timber removed from the contract area. This calculation of liability shall utilize actual Purchaser costs and Government estimates of timber volumes. At the Authorized Officer's request, the Purchaser agrees to provide documentation of the actual costs incurred in the performance of the contract. In addition, the Purchaser shall be released from the obligation to pay the contract price for any timber which is not authorized to be removed from the contract area.

The Purchaser specifically and expressly waives any right to claim damages, other than those described in the preceding paragraphs, based on an alleged breach of any duty to the Purchaser, whether express or implied, in regard to the manner in which the Government defended the litigation which resulted in the court order affecting the operation of the contract. This waiver also extends to any claims based on effects on the operation of the contract that arise from litigation against another agency. Furthermore, the Purchaser specifically acknowledges and agrees that a court ruling that the Government violated the Administrative Procedures Act cannot be interpreted, in itself, to mean that the Government had not acted reasonably in regard to its duties to the Purchaser under this contract.

(D) Fire Prevention and Control

(1) F-1 Fire Prevention and Control. 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 closed fire season or periods of fire danger, prepare a fire prevention and control plan to the satisfaction of the State of Oregon, Department of Forestry.

(a) F-1a Fire Prevention and Control. Primarily for purposes of fire prevention and control, the Purchaser shall comply with the following provisions:

1. Prior to the operation of power driven equipment in construction or logging operations under this contract during the closed fire season or periods of fire danger, prepare a fire prevention and control plan to the satisfaction of the State of Oregon, Department of Forestry.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

2. Provide and maintain in good repair, on the contract area, the following equipment for use during closed fire season or periods of fire danger:

- a. F-2a Fire fighting tools shall be kept at each landing or at such other place as the Authorized Officer shall designate whenever people are working on the contract area. All fire fighting tools shall be kept in a sturdily constructed box which shall be painted red and lettered on the front or top in large letters, "For Fire Only."

The box shall have a hinged lid and a hasp by which the lid can be sealed. One box may serve two landings not over six hundred (600) feet apart. When filled, the box shall not weigh over two hundred (200) pounds. The fire tools shall be in good condition, be tight on strong handles, and have sharp cutting edges. There shall not be less than four (4) tools in each box nor less than one (1) tool for each person working on the contract area. Three-fourths ($\frac{3}{4}$) of all fire tools shall be shovels, hazel hoes, or other scraping tools. The fire tools shall be used only for fighting fire.

- b. F-2b A round pointed size "0" or larger shovel in good condition shall be within fifty (50) feet of any power saw when in operation.
- c. F-2c At each landing during periods of operation one (1) tank truck. Each truck shall have three hundred (300) gallons minimum capacity with five hundred (500) feet minimum of hose and a nozzle acceptable to the Authorized Officer and a mounted or portable pump conforming to the standards set forth in Oregon Revised Statute ORS 477.645 through ORS 477.670 and any rule promulgated pursuant to those statutes. All hose couplings shall have the standard thread adopted by the State Fire Marshall pursuant to ORS 476.410 as amended or be provided with suitable adapters. At the close of each working day, all bulldozers and tank trucks shall be filled with fuel and made ready for immediate use. All tank trucks and portable tanks shall be filled with water and made available for immediate use.
- d. F-2d Serviceable radio or radio-telephone equipment able to provide prompt and reliable communication between the contract area, Medford BLM District Office, and the Oregon Department of Forestry. Such communication shall be

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

available during periods of operation including the time watch-service is required.

- e. F-2e A pair of headlights capable of being quickly attached to each bulldozer used on the contract area. The headlights shall be adequate to provide illumination sufficient to allow use of the bulldozers for fire fighting and construction of fire trails at night.
- f. F-2f A headlight for each person in the woods crew adequate to provide sufficient illumination for night fire fighting. A headlight shall be of the type that can be fastened to the head so as to allow independent use of the hands. It shall be equipped with a battery case so designed that it can be either carried in the hip pocket or fastened to the belt. The head of the light and the battery case shall be connected by insulated wires. At least one extra set of batteries shall be provided for each such headlight.
- g. F-2g Two (2) back-pack pumps at each landing and one (1) at each tail block, all to be kept full of water and in good operating condition.
- h. F-2h A chemical fire extinguisher of at least eight (8) ounces minimum capacity of a type approved by the Oregon State Forester shall be carried during the closed fire season or periods of fire danger by each saw operator using a power saw on the contract area. Such fire extinguisher shall be filled and in effective operating condition and shall at all times be immediately available to the operator when the saw is being fueled or the motor of the saw is running. A size "0" or larger shovel shall be available with each gas can when refueling. Any fueling of a power saw shall be done in an area which has first been cleared of all flammable material. Power saws shall be moved at least twenty (20) feet from the place of fueling before the engine is started. Each power saw shall be equipped with an exhaust system and a spark arresting device which are of types approved by the Oregon State Forester.
- i. F-5 Where blocks and cables are used on the contract area during periods of fire danger, the Purchaser shall remove all flammable material at least ten (10) feet from the place where the tail or any other block will hang when the cable is tight. Such clearings shall be inspected periodically by the Purchaser and shall be kept free of flammable material.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

(E) Slash Disposal and Site Preparation

- (1) SD-1 Fire Hazard Reduction. In addition to the requirements of Sec. 15 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 hazard reduction measures required by this contract:

Prior to commencement of any operation under this Section F of the contract, a slash disposal and pre-work conference between the purchaser's representative and the Authorized Officer must be held at a location designated by the Authorized Officer. All slash disposal shall be done in accordance with the plans developed at this pre-work conference. Slash, as defined for **ALL** section, shall mean all material (brush, limbs, tops, unmerchantable stems, and chunks) severed or knocked over as a result of purchasers operations under the terms of this contract. For slash disposal and site preparation refer to the following special provisions and Exhibit S maps.

- (a) SD-1a LOP AND SCATTER Lop and scatter all slash beyond one hundred (100) feet of temporary routes and roads where the route/road coincides with the harvest unit boundary in all cable yard portions of units, 7-2, 7-9, 9-1A, 9-1B, 11-8A, 15-19A, 19-6B, 20-4, 20-5, 25-4A, 25-4D, 25-4E, 25-4G, 25-4H, 25-4J, 25-4L, 25-11, 25-21A, 25-21B, 27-1, 29-3, 29-7A, 31-4A, 31-4C and 31-5 as directed by the Authorized Officer. Lop and scatter all slash located beyond two hundred (200) feet of temporary routes, roads and/or property boundaries where the route/road/property boundary coincides with a harvest unit boundary in all ground based yard portions of units 3-14, 7-2, 9-1B, 13-2A, 13-9A, 13-9B, 15-19A, 19-3A, 19-3B, 19-8C, 25-4F, 25-4M, 27-1 and 27-2 as directed by the Authorized Officer. All slash (any material less than six inches in diameter) shall be lopped to no more than eight (8) feet in length and all top and side branches must be free of the central stem so that slash is reduced to the extent that it is within eighteen (18) inches of the ground at all points. All slash shall be arranged in a discontinuous pattern across the forest floor.
- (b) SD-1b MACHINE PILING Pile all slash and debris in ground based yard portions of units, 9-1A, 13-2B, 13-2C, 13-2D, 13-10, 15-19A, 15-19B, 19-3C, 19-3D, 19-6A, 19-6C, 19-8B, 19-9A, 20-4, 21-4, 25-1, 25-4B, 25-4C, 25-4I, 25-4K, 25-11, 29-7B, 31-4B and 31-4C. Machine pile all slash and debris in ground based yard units within two hundred (200) feet of temporary routes, roads and/or property boundaries where the route/road/property boundary coincides with a harvest unit boundary in units 3-14, 7-2, 9-1B, 13-2A, 13-9A, 13-9B, 15-19A, 19-3A, 19-3B, 19-8C, 25-4F, 25-4M, 27-1, and 27-2 and all

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

constructed roads and temporary routes in accordance with the following specifications:

1. All equipment shall be approved by the Authorized Officer. Piling shall be accomplished using a track mounted hydraulic excavator or equivalent with at least a 5 tooth brush rake. The excavator shall have a minimum reach of twenty (20) feet. The excavator shall be equipped with a hydraulic thumb or rotating controllable grapple head. Finished piles shall be tight and free of dirt and other non woody debris.
 2. Piling operations are limited to existing skid trails; to slopes less than thirty five (35) percent slope; and to seasonal restrictions described in Sec. 42(B)(10)(L-18).
 3. Machine piles shall be located as far away as possible from reserve trees, snags (minimum of 15 feet), and/or unit boundaries (minimum of 25 feet) to minimize scorch and mortality.
 4. Machine piles shall be constructed as compactly as possible. There should be an adequate supply of fine fuels located within and under the covered area of the pile to ensure ignition of the larger fuels. Completed piles shall be free of projecting limbs or slash which would interfere with adequate covering of the piles.
 5. The machine piles shall be adequately covered with a cap ten (10) feet by ten (10) feet of four (4) millimeter black polyethylene plastic to ensure ignition. The plastic shall be held in place with woody debris or tied with rope or twine to ensure coverage. Coverage shall be completed when piles are constructed, or as directed by the Authorized Officer.
 6. All slash remaining in the unit shall be lopped to no more than twelve (12) feet in length and all top and side branches must be free of the central stem so that slash is reduced to the extent that it is within eighteen (18) inches of the ground at all points.
- (c) SD-1c HAND PILING Hand pile all slash within one hundred (100) feet of temporary routes and roads where the route/road coincides with a harvest unit boundary in cable yard portions of units 7-2, 7-9, 9-1A, 9-1B, 11-8A, 15-19A, 19-6B, 19-8A, 19-8D, 20-4, 20-5, 25-4A, 25-4D, 25-4E, 25-4G, 25-4J, 25-4L, 25-11, 25-21A, 25-21B, 27-1, 29-3, 29-7A, 31-4A, 31-4C and 31-5 in accordance with the following specifications:
1. Piling shall be accomplished by hand. Finished piles shall be tight and free of dirt and other non-woody debris.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

2. Pile all slash which is between one (1) and six (6) inches in diameter on the large end and exceeds two (2) feet in length, or as directed by the Authorized Officer.
 3. Piles shall be placed within unit boundaries, however, outside of wildlife buffers, roadways, turnouts, shoulders, or cut banks. No piles shall be located in any stream channel; on down logs or stumps; within ten (10) feet of any other pile or the trunk of the nearest reserve tree/vegetation. No portion of the pile will be under the crown of any living tree. No piles shall be placed adjacent to or within twenty five (25) feet of unit boundaries.
 4. A five (5) foot by five (5) foot cover of 4 mm black plastic shall cap each handpile to maintain a dry ignition point. The cover shall be firmly fixed to the pile to hold it in place. Approximately one third ($\frac{1}{3}$) of the pile shall lie above this plastic cover. The ignition point will consist of fine fuel material such as needles, small limbs, and branches less than one half ($\frac{1}{2}$) inch in diameter and free of dirt. Piles shall be constructed by aligning individual pieces in the same direction and placing the heavier slash on top. Piles shall have a stable base to prevent toppling. The long axis of individual pieces shall be oriented up and down the slope. Protruding pieces shall be trimmed to allow covering in a manner that permits the pile to shed water. Height shall be no less than five (5) feet and no greater than eight (8) feet; width shall be no less than six (6) feet and shall not exceed eight (8) feet; piles shall be circular and not windrowed.
 5. All activity slash remaining in the unit shall be lopped to no more than twelve (12) feet in length and all top and side branches must be free of the central stem so that slash is reduced to the extent that it is within eighteen (18) inches of the ground at all points.
- (d) SD-1d Operations required by this provision shall be kept current with yarding as directed by the Authorized Officer and shall be conducted as follows:
1. Units shall be piled and covered during the same season that they are logged.
 2. Landing decks, machine and hand piles located on temporary routes, skid trails, landings or within harvest units would be burned, chipped, or otherwise removed from these sites within eighteen (18) months of unit harvest completion.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

- (e) SD-1e LANDING SLASH Pile all slash situated in harvest unit landings and within twenty (20) feet of each finished pile. Piles shall be firelined within twenty (20) feet, or within safe working condition, of each finished pile. Fireline shall be to mineral soil and a minimum of eighteen (18) inches wide. A minimum fuel break of two (2) feet on each side of the fireline of removing logging slash greater than one (1) inch diameter at the small end. Slash shall be piled by machine or hand and piles shall be located in tractor skid trails, cable yarding corridor chutes, or on landings. Landing decks shall be located as far away as possible from reserve trees, snags, and coarse woody debris (minimum of 15 feet). Finished piles shall be tight and free of earth.
 - 1. Merchantable sawlogs (including pole decks) would be removed from yarded material, and be hauled off site for processing. Debris at the landing sites would be piled and burned on the immediate downhill side of existing roads, chipped, or removed for biomass utilization.
 - 2. A ten (10) foot by ten (10) foot cover of 4 mm black plastic shall cap each pile to maintain a dry ignition point. The cover shall be firmly fixed to each pile to hold it in place.
- (2) SD-2 Notwithstanding the provisions of Sec. 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. In accordance with written instructions to be issued by the Authorized Officer at least ten (10) days in advance of 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 each unit as shown below.
 - (a) Burning and mop-up of hand and machine piles (including landing decks) shown on Exhibit S in accordance with Section 42(F)(2) and 42(F)(3).
 - 1. Prescribed fire plans shall be prepared for burning activities to ensure that resource and fire management objectives are met by setting parameters under which the burning may take place. Prescribed burning within the harvest units shall be conducted in a manner that will minimize damage to reserve trees, duff and soil, and to avoid loss of large, coarse woody debris and will be consistent with ecosystem management objectives. The Purchaser shall burn ninety (90) percent of piles for satisfactory completion of treatment, as directed by the Authorized Officer.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

2. Piles (hand piles, machine piles and landing decks) shall be burned in the fall to spring season after one or more inches of precipitation has occurred to reduce the potential for fire spread and scorch and mortality to the residual trees and shrubs. Patrol and mop-up of burning piles shall occur when needed to prevent treated areas from re-burning or becoming an escaped fire. The timing of prescribed burns depends on these parameters and the availability of adequate fire suppression resources as a contingency plan in the event of escaped fire.
3. For Igniting and Burning (hand piles, machine piles and landing decks) on Units 3-14, 7-2, 7-9, 9-1A, 9-1B, 11-8A, 11-8B, 13-2A, 13-2B, 13-2C, 13-2D, 13-9A, 13-9B, 13-10, 15-19A, 15-19B, 19-3A, 19-3B, 19-3C, 19-3D, 19-6A, 19-6B, 19-6C, 19-8A, 19-8B, 19-8C, 19-8D, 19-9A, 20-4, 20-5, 21-4, 25-1, 25-4A, 25-4B, 25-4C, 25-4D, 25-4E, 25-4F, 25-4G, 25-4H, 25-4I, 25-4J, 25-4K, 25-4L, 25-4M, 25-11, 25-21A, 25-21B, 27-1, 27-2, 29-3, 29-7A, 29-7B, 31-4A, 31-4B, 31-4C and 31-5, as described by the Authorized Officer:
 - a. One (1) person to supervise crew(s) (burn boss qualified to the level/type of burn) and equipment operators, and to serve as Purchaser's representative.
 - b. One (1) crew with ten (10) members per crew, including a designated crew foreman. Each crew shall be equipped with fuel, ten (10) drip torches, shovels, pulaskis, one (1) power saw and one (1) backpack pump; one (1) tool for each crew member.
 - c. All crews shall arrive on the project area with 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.
 - d. All personnel will be under supervision of the Authorized Officer or designated BLM representative. The Purchaser's representative will work closely with the Authorized Officer or BLM representative in coordination in planning and implementation of all burn units.
4. For Mop-up (hand piles, machine piles and landing decks) on Units 3-14, 7-2, 7-9, 9-1A, 9-1B, 11-8A, 11-8B, 13-2A, 13-2B, 13-2C, 13-2D, 13-9A, 13-9B, 13-10, 15-19A, 15-19B, 19-3A, 19-3B, 19-3C, 19-3D, 19-6A, 19-6B, 19-6C, 19-8A, 19-8B, 19-8C, 19-8D, 19-9A, 20-4, 20-5, 21-4, 25-1, 25-4A, 25-4B, 25-4C, 25-4D, 25-4E, 25-4F, 25-4G, 25-4H, 25-4I, 25-4J, 25-4K, 25-4L, 25-4M, 25-11, 25-21A, 25-21B, 27-1,

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

27-2, 29-3, 29-7A, 29-7B, 31-4A, 31-4B, 31-4C and 31-5 as described by the Authorized Officer:

- a. One (1) person to supervise crew(s) and equipment operators, and to serve as Purchaser's representative.
- b. One (1) crew with ten (10) members per crew, including a designated crew foreman. Each crew shall be equipped with fuel, ten (10) drip torches, shovels, pulaskis, one (1) power saw and one (1) backpack pump; one (1) tool for each crew member.
- c. All crews shall arrive on the project area with 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.
- d. All personnel will be under supervision of the Authorized Officer or designated BLM representative. The Purchaser's representative will work closely with the Authorized Officer or BLM representative in coordination with mop-up of all burn units.

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. All personnel shall arrive at the project area(s) with the following personal safety equipment: long sleeve natural fabric shirt, full length natural fabric trousers, minimum eight (8) inch top leather boots, hardhat, and leather gloves. 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 unit to be burned as shown on Exhibit A and S as required in Section 42(G) for four hundred fifty (450) work hours for each piled unit (hand and machine) and landing decks as directed by the Authorized Officer within a ten (10) day period for each piled unit and piled landing beginning 8:00 a.m. the day following completion of ignition in that unit or until released from such services by the Authorized Officer, whichever occurs first.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

In the event of a fire escapement, Purchaser's personnel and equipment shall, under supervision of the Authorized Officer or designated representative, take action to suppress, including control and mop-up, the escaped fire until released from such service by the Government. If it becomes necessary to suppress a fire which escapes from the prescribed fire area for a period beyond midnight of ignition day, then the Government shall, at its option: (1) reimburse Purchaser for such additional use of personnel and equipment at wage rates shown in the current Administratively Determined Pay Rates for 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 area 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 by the Purchaser 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 costs 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 deferral of burning and new conditions necessitate additional site preparation work and/or use of additional personnel and equipment to accomplish planned burning, the Purchaser also shall be responsible for such additional costs.

- (3) SD-5 Perform logging residue reduction and site preparation work on approximately four hundred and ninety (490) acres of harvest area located in Harvest Unit No.s 3-14, 7-2, 7-9, 9-1A, 9-1B, 11-8A, 11-8B, 13-2A, 13-2B, 13-2C, 13-2D, 13-9A, 13-9B, 13-10, 15-19A, 15-19B, 19-3A, 19-3B, 19-3C, 19-3D, 19-6A, 19-6B, 19-6C, 19-8A, 19-8B, 19-8C, 19-8D, 19-9A, 20-4, 20-5, 21-4, 25-1, 25-4A, 25-4B, 25-4C, 25-4D, 25-4E, 25-4F, 25-4G, 25-4H, 25-4I, 25-4J, 25-4K, 25-4L, 25-4M, 25-11, 25-21A, 25-21B, 27-1, 27-2, 29-3, 29-7A, 29-7B, 31-4A, 31-4B, 31-4C and 31-5 as shown on Exhibit S.

MILK DUDDS TIMBER SALE

SPECIAL PROVISIONS

- (a) The required work shall consist of any treatment or combination of treatments listed in the table below, as determined by the Authorized Officer and specified in writing by the Contracting Officer. The number of acres of each treatment shall be determined by the Authorized Officer.

Treatment	Description	Cost/Acre
Lop and Scatter	< 12 tons/acre	\$42.00
Handpile and Cover	0-25 piles/acre	\$325.00
Hand Pile Burn and Mop-up	0-25 piles/acre	\$42.00
Machine Pile and Cover	≤ 8 piles/acre	\$375.00
Machine Pile Burn and Mop-up	≤ 8 piles/acre	\$28.00
Cover and Burn Landing Decks	≤ 12 decks/acre	\$56.00

- (b) The following treatments were assumed for appraisal purposes on this contract:

Appraised Treatment	Acres	Cost/Acre	Total Cost Per Treatment
Lop and Scatter	308.25	\$42.00	\$12,946.50
Handpile and Cover	64.5	\$325.00	\$20,962.50
Hand Pile Burn and Mop-up	64.5	\$42.00	\$2,709.00
Machine Pile and Cover	117.25	\$375.00	\$43,968.75
Machine Pile Burn and Mop-up	117.25	\$28.00	\$3,283.00
Cover, Burn Landing Decks and Mop-up*	18	\$56.00	\$1,008.00
Total Appraised Cost			\$84,877.75

*Estimated 212 landing decks equals approximately 18 acres based on 12 landing decks is equivalent to one acre.

- (c) The Total Purchase Price set forth in Section 2 shall be adjusted by the amount that the total cost of the site preparation treatments designated pursuant to Section 42(F)(3)(a) differs from \$84,877.75, as calculated by using the estimated acres determined by the Authorized Officer and the per acre costs listed in Section 42(F)(3)(a).

Restricted To Dry Condition

Restricted Period (terms and conditions of Marbled Murrelet consultation)

Restricted Period (Work activities that produce loud noise are confined to the time period between 2 hours after sunrise to 2 hours before sunset)

** In-stream work periods for culvert cleaning are June 15th-September 15th

Ditch Maintenance Is allowed during the dry season, generally May 15th through October 15th.

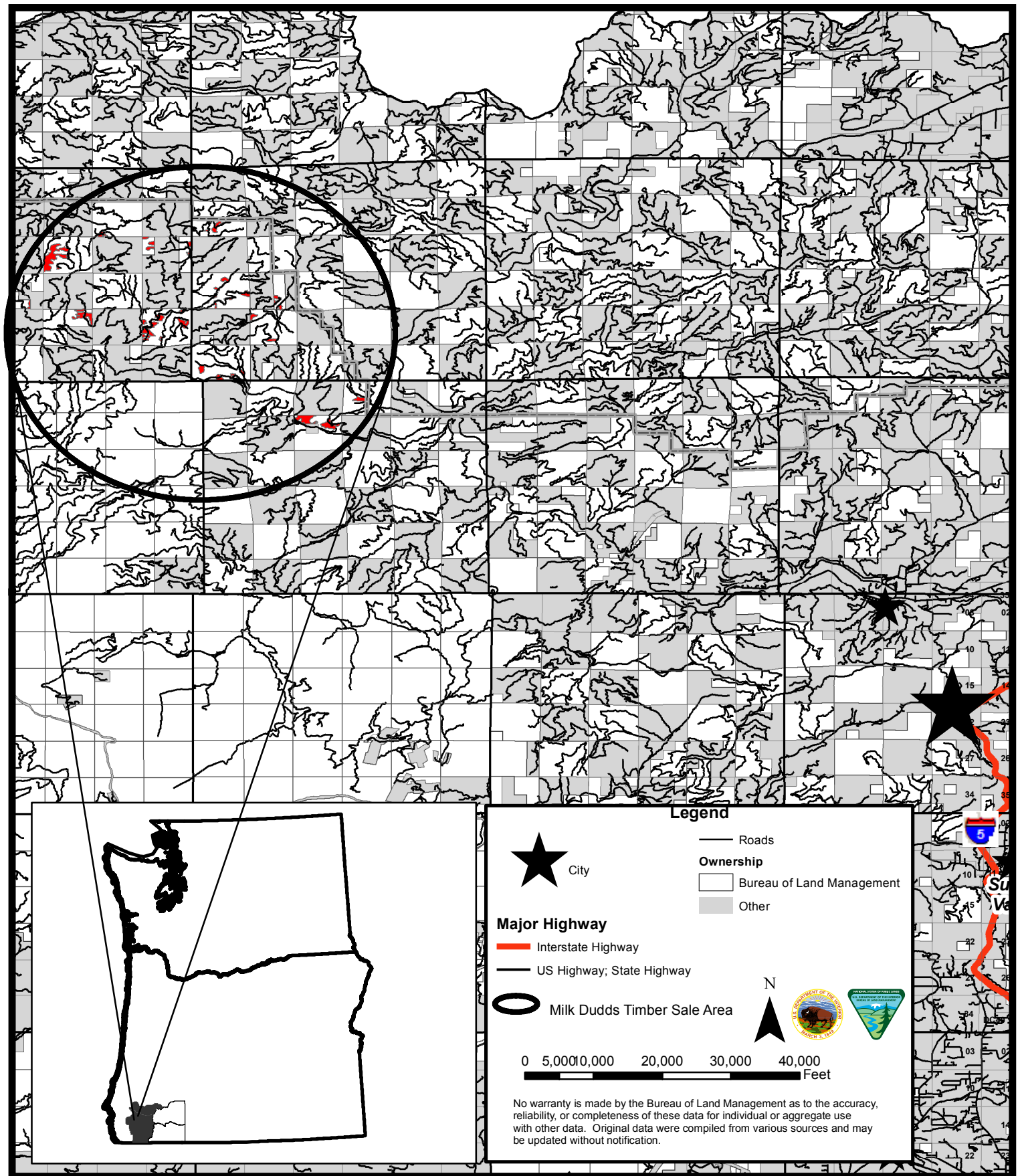
Dry Condition Yarding and Temporary Route work—Ground-based harvesting and yarding, temporary route work, and rehabilitation activities would not occur when soil moisture at a depth of 4-6 inches is wet enough to maintain form when compressed, or when soil moisture at the surface would readily displace, causing ribbons and ruts along equipment tracks. These conditions are generally found when soil moisture at a depth of 4-10 inches is between 15-25% depending on soil type.

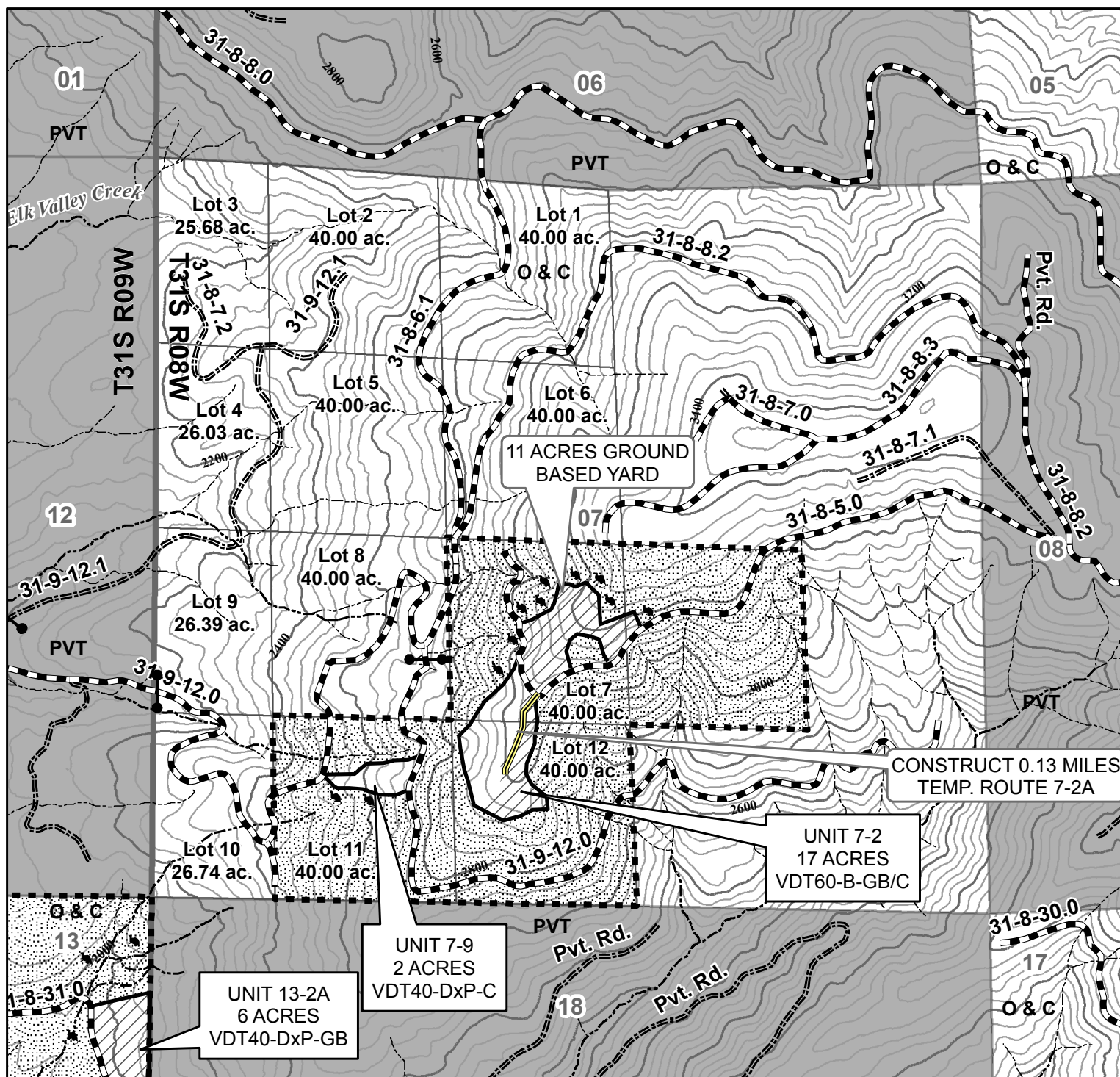
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U.S.D.I BLM MEDFORD DISTRICT
T. 31 S., R. 8 W., Sec. 7, 19, 20, 29, 31
T. 31 S., R. 9 W., Sec. 11, 13, 15, 21, 25, 27
T. 32 S., R. 8 W., Sec. 3, 9 WILL. MER.
DOUGLAS COUNTY

MILK DUDDS TIMBER SALE LOCATION MAP
TIMBER SALE # ORM07-TS-16-13
DOUGLAS COUNTY

SALE LOCATION MAP





0 750 1,500 3,000
Feet

1 inch = 1,000 feet

40 FOOT CONTOUR INTERVAL

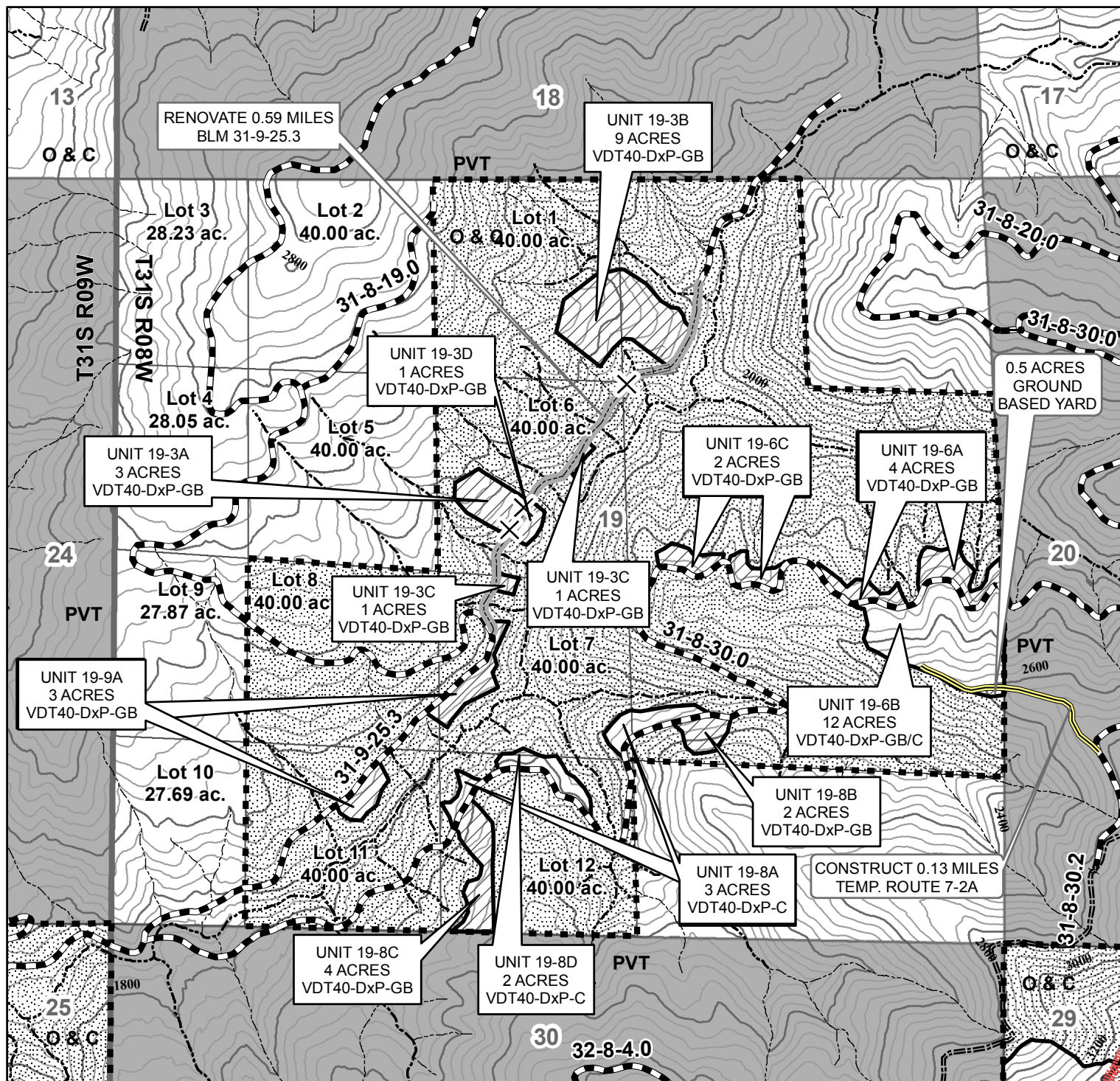


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Bureau of Land Management
Medford District Office
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Map created by SDT
7/14/2016





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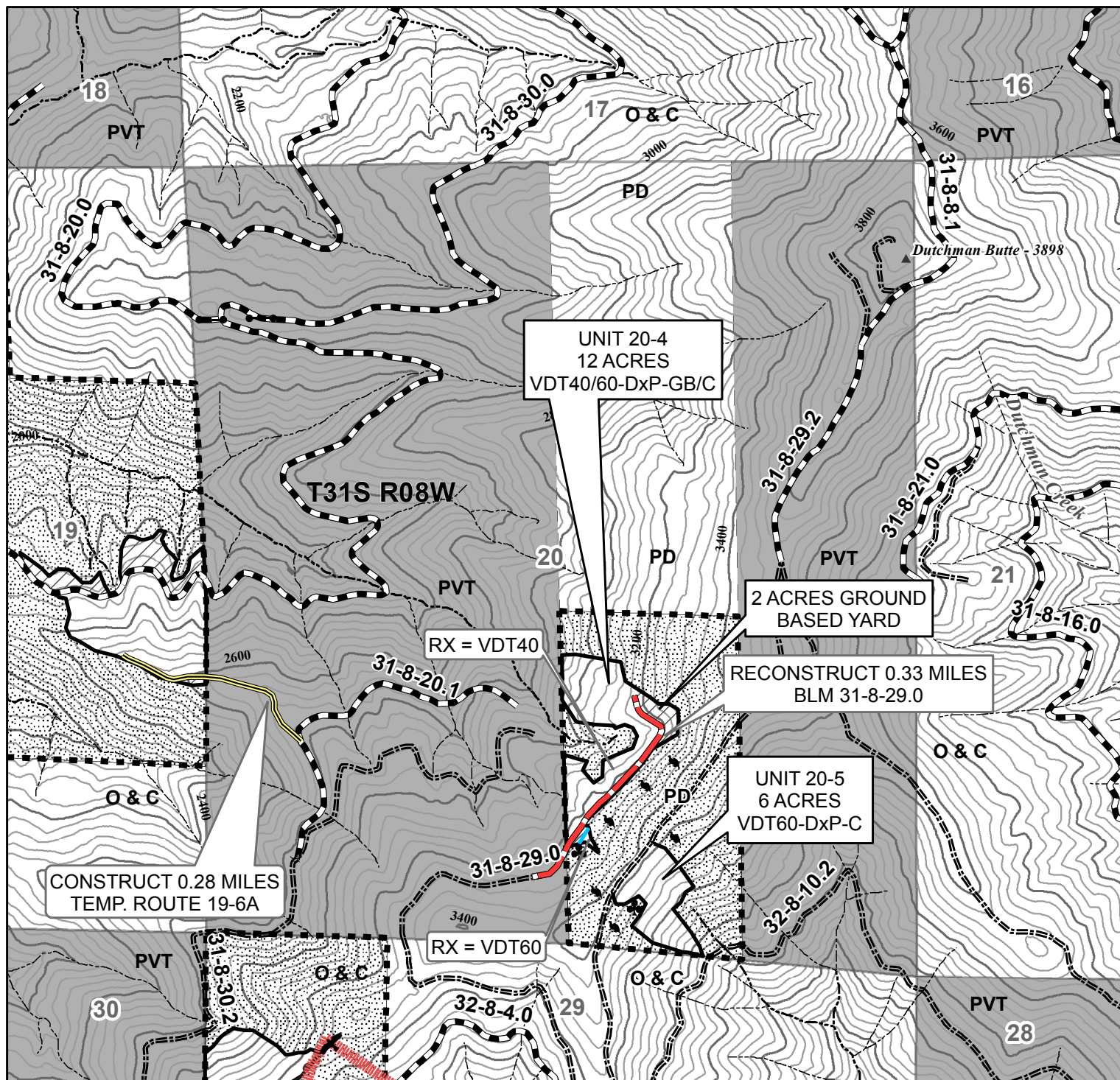
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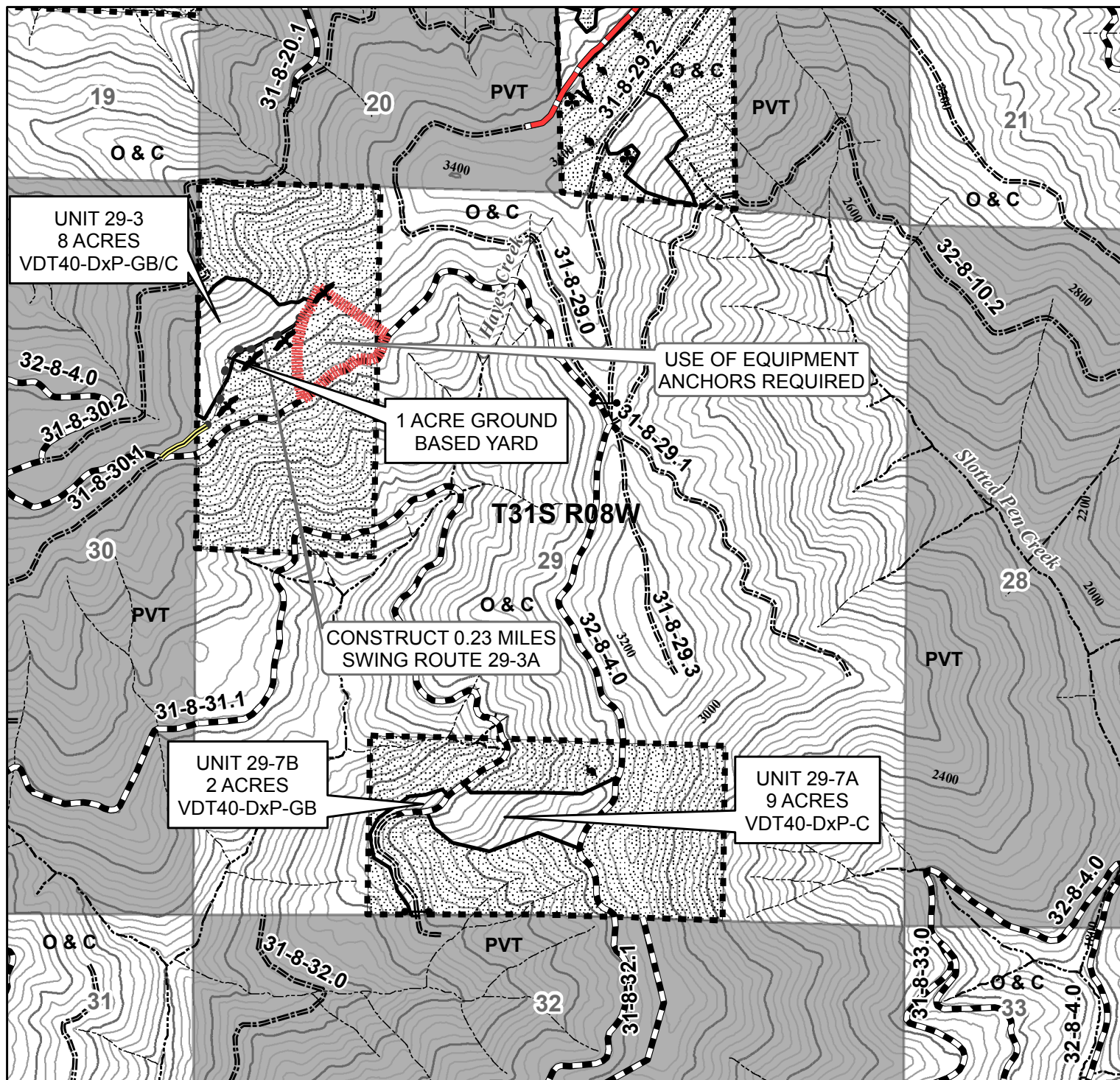
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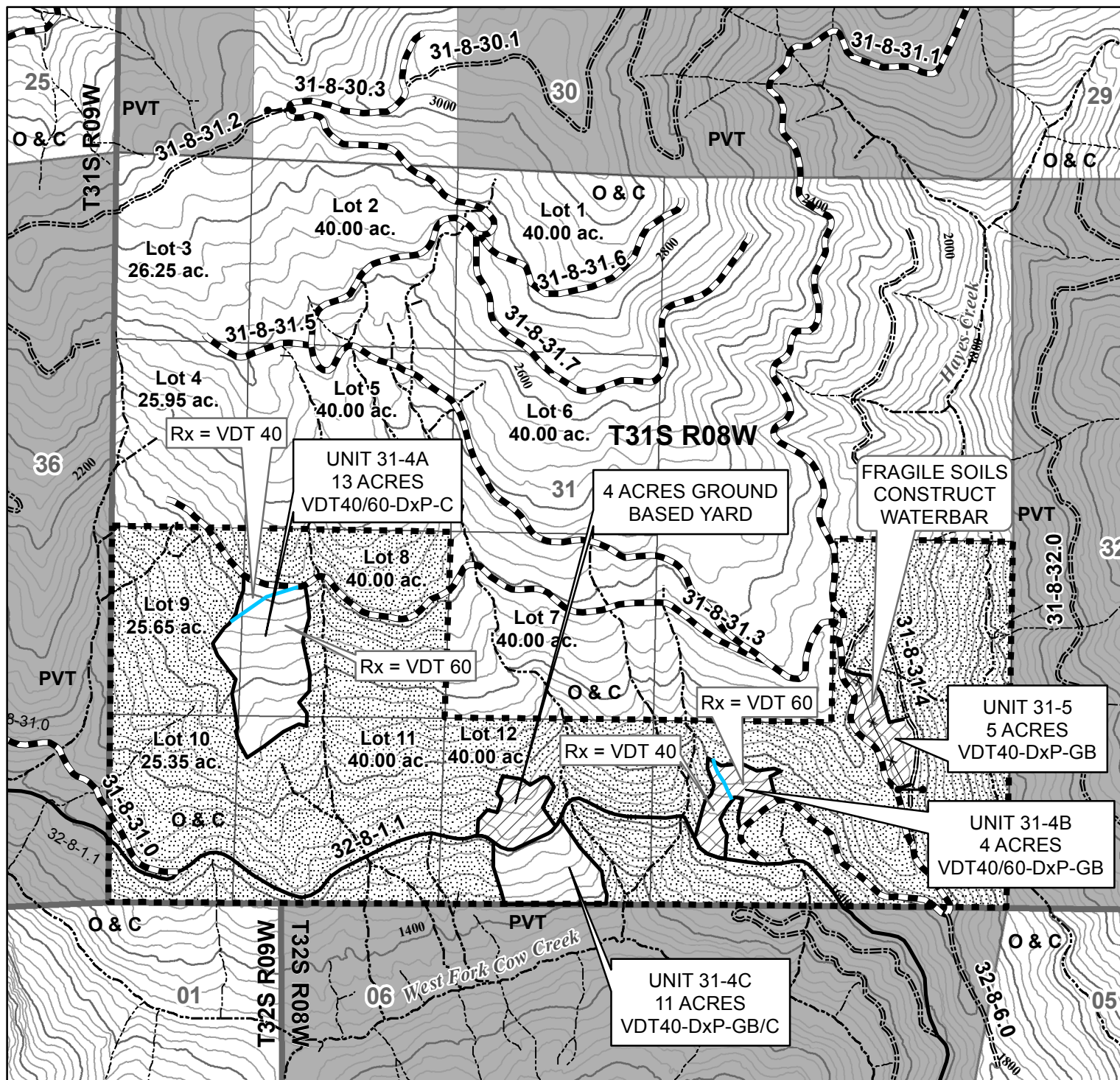
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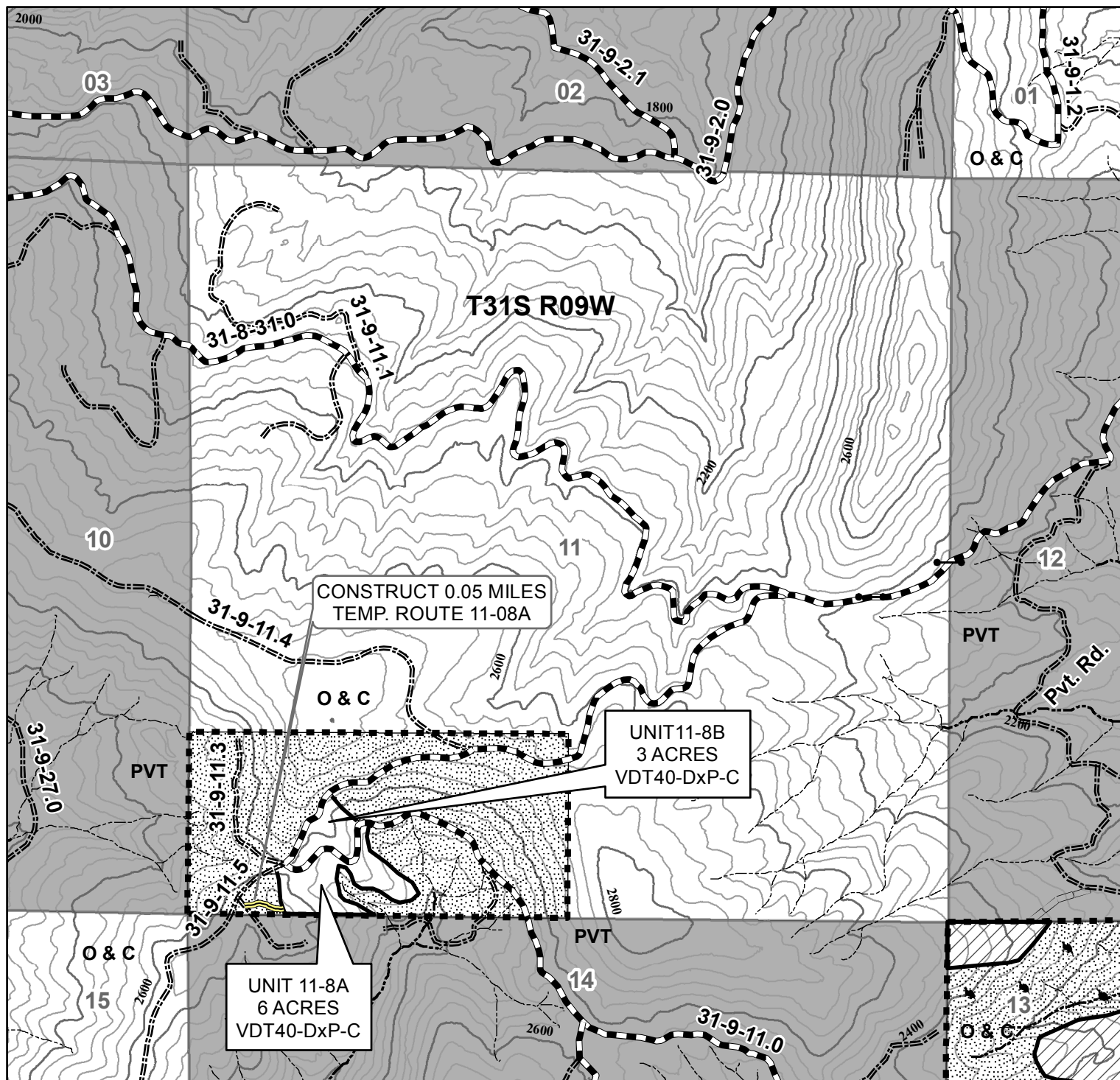
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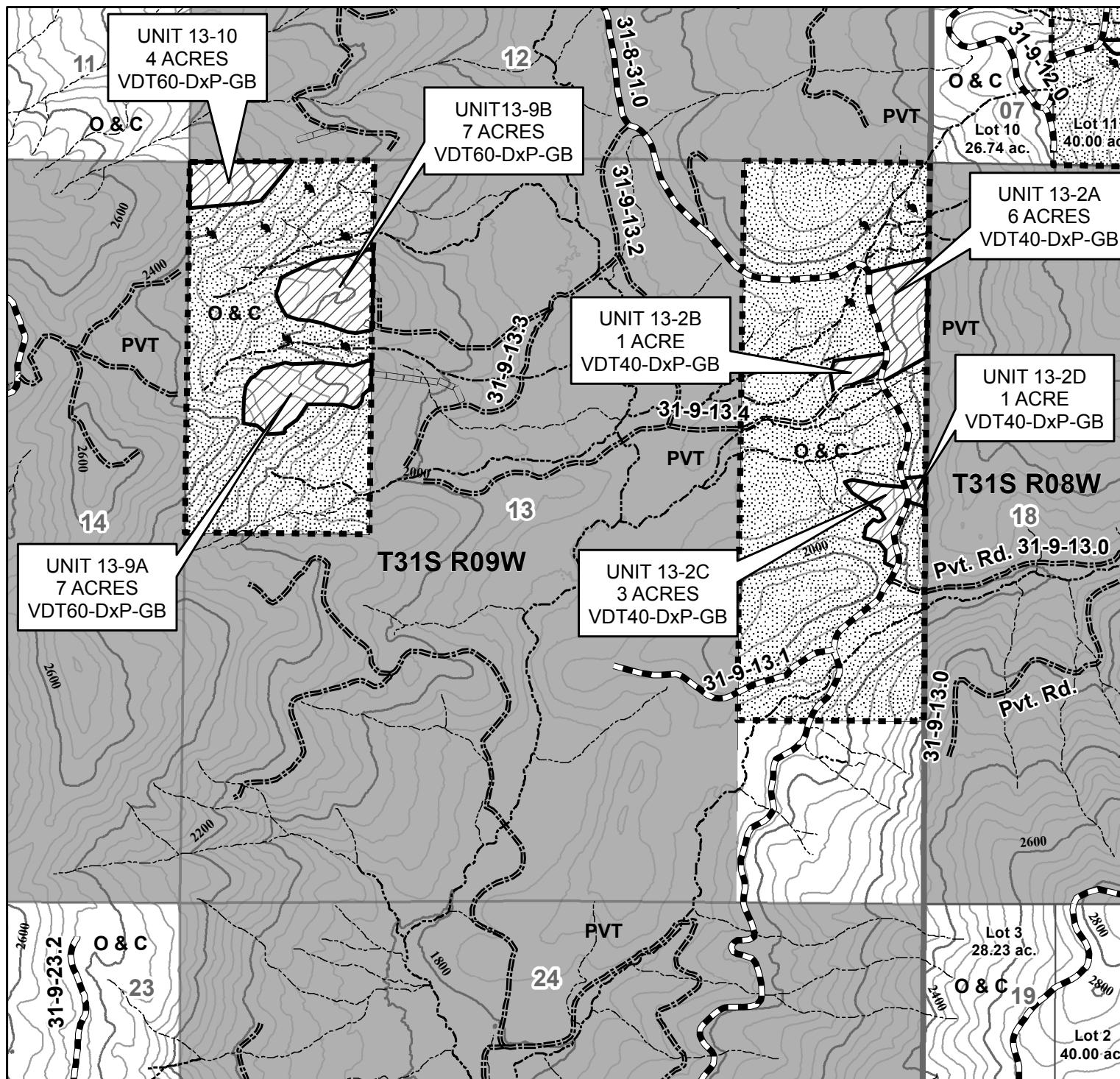
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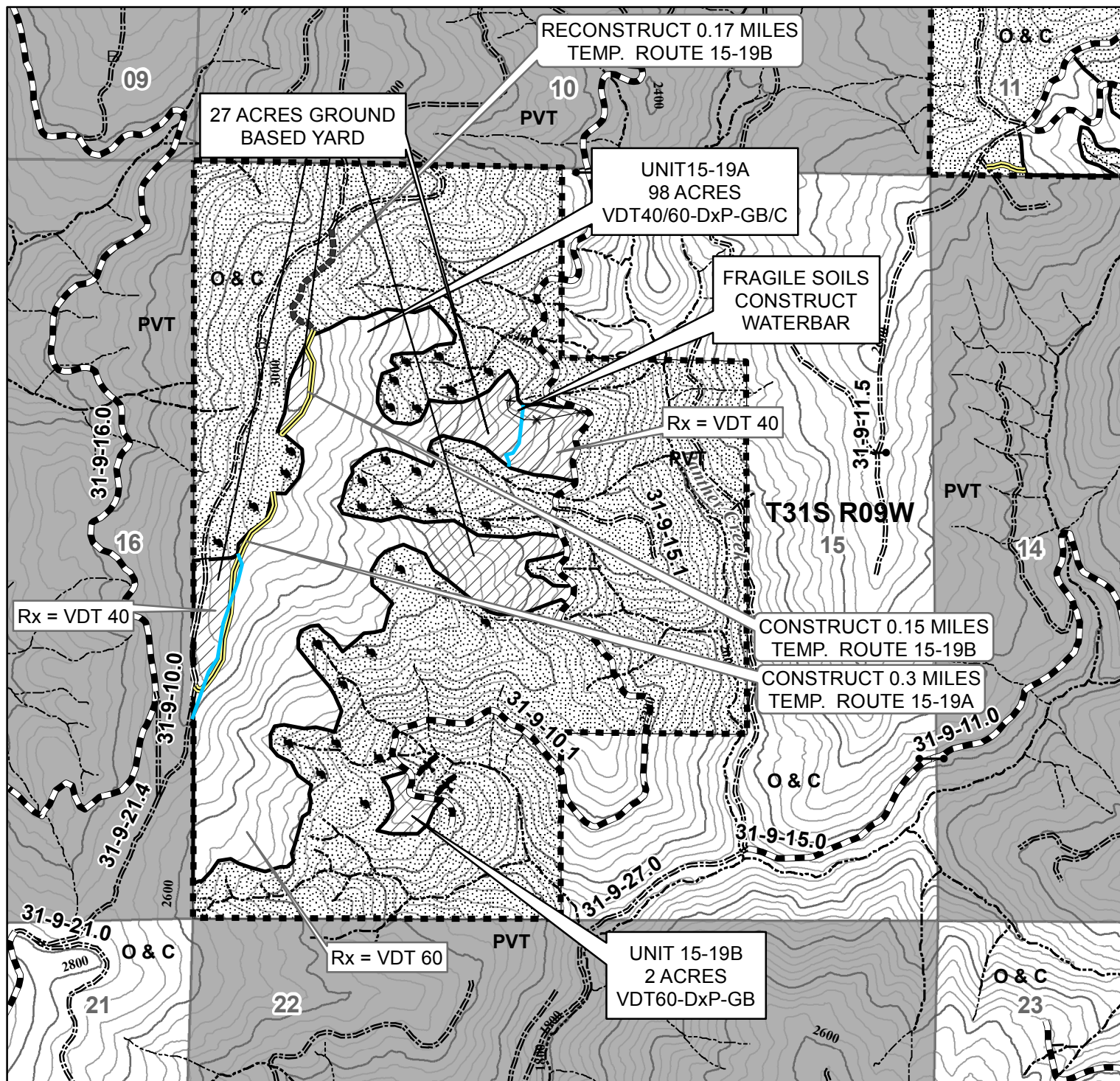
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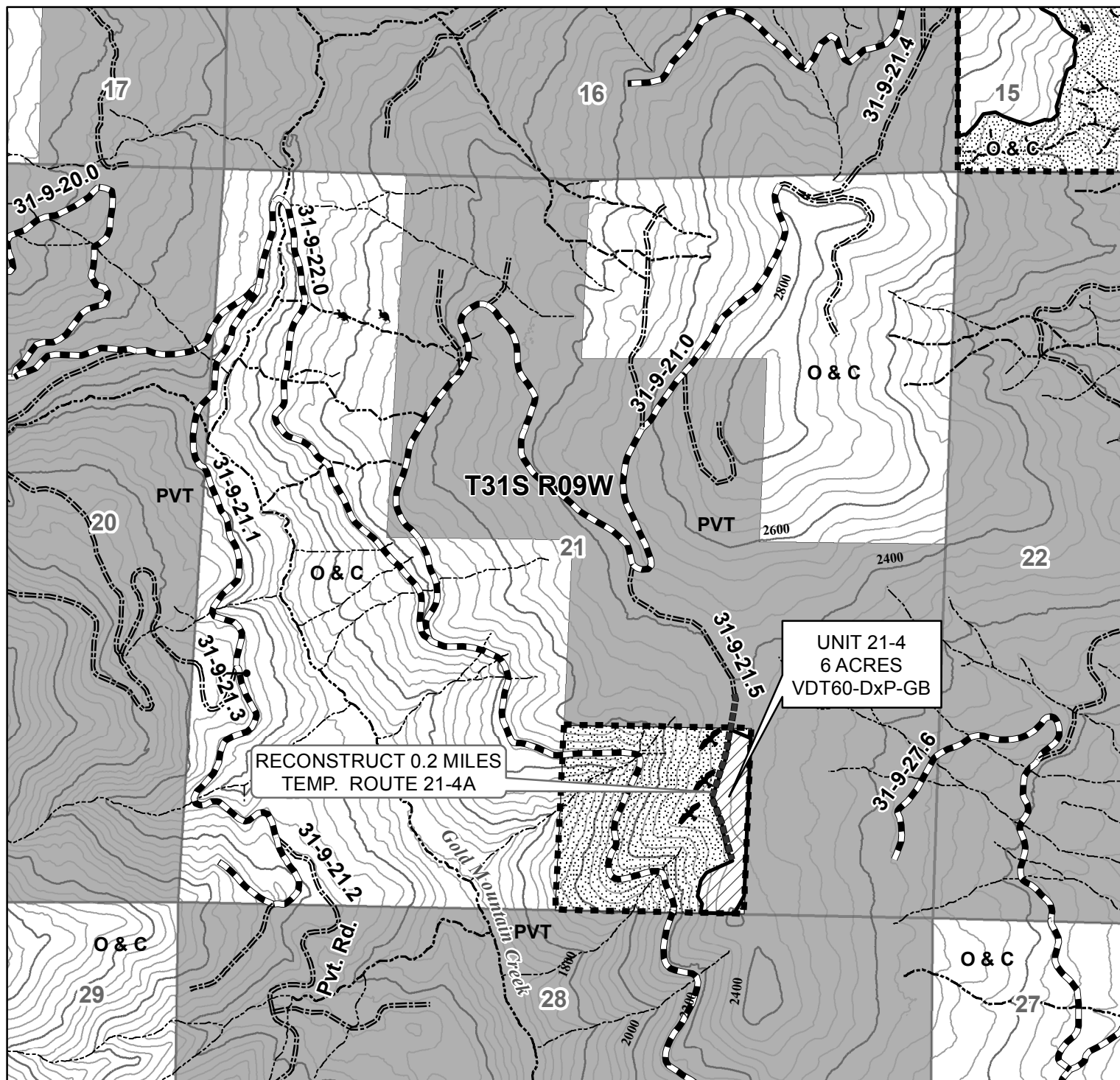
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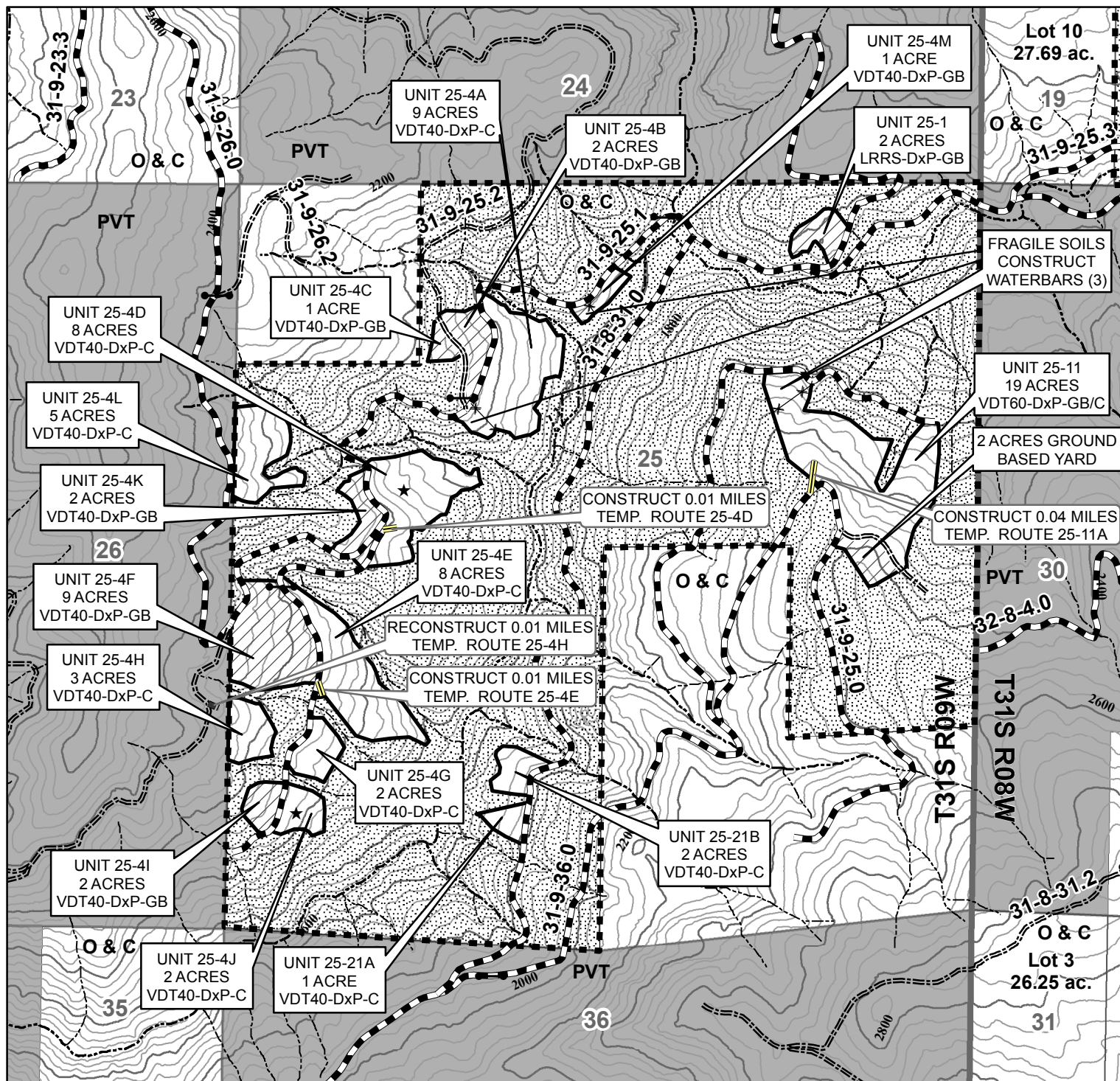
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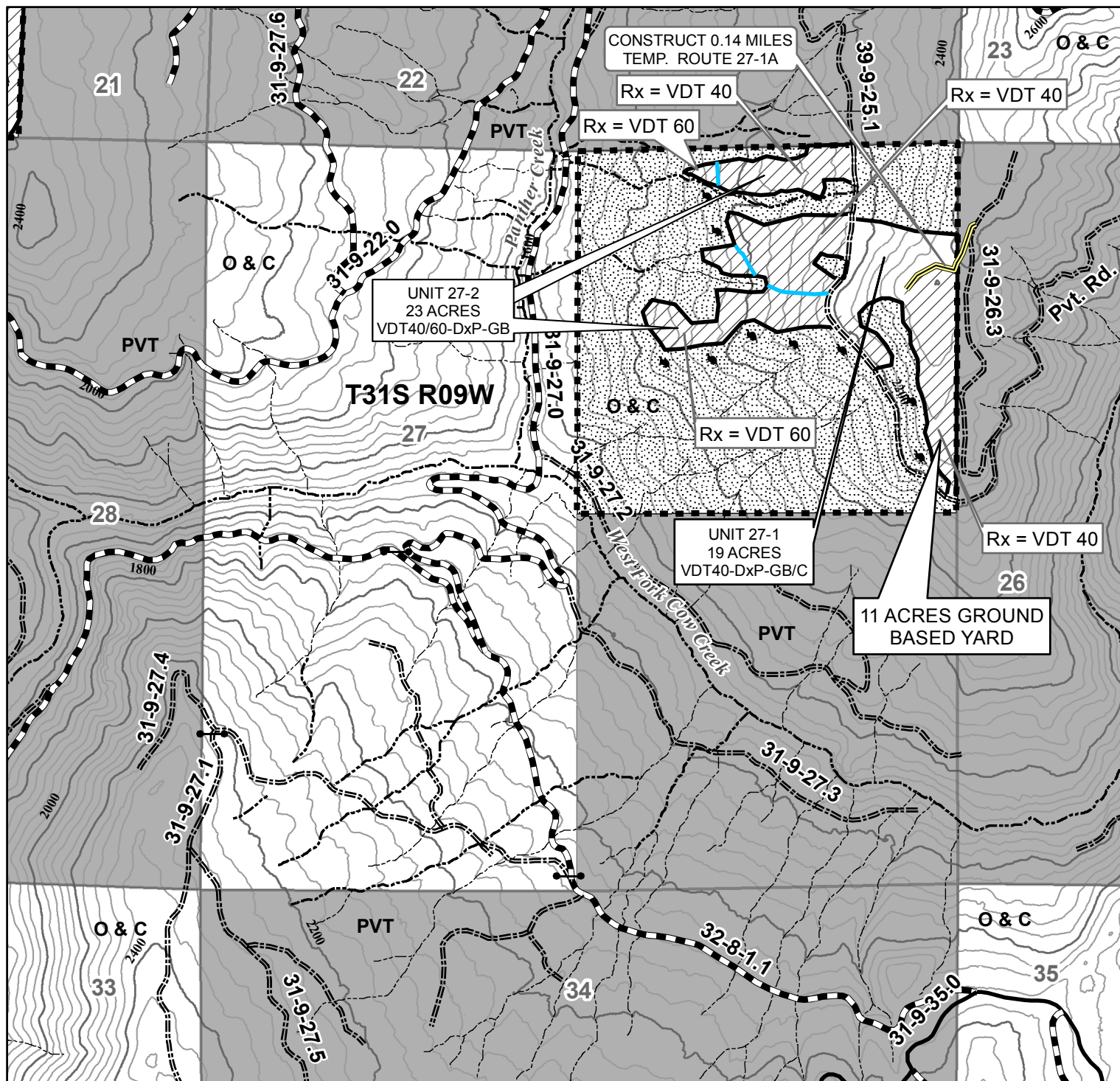
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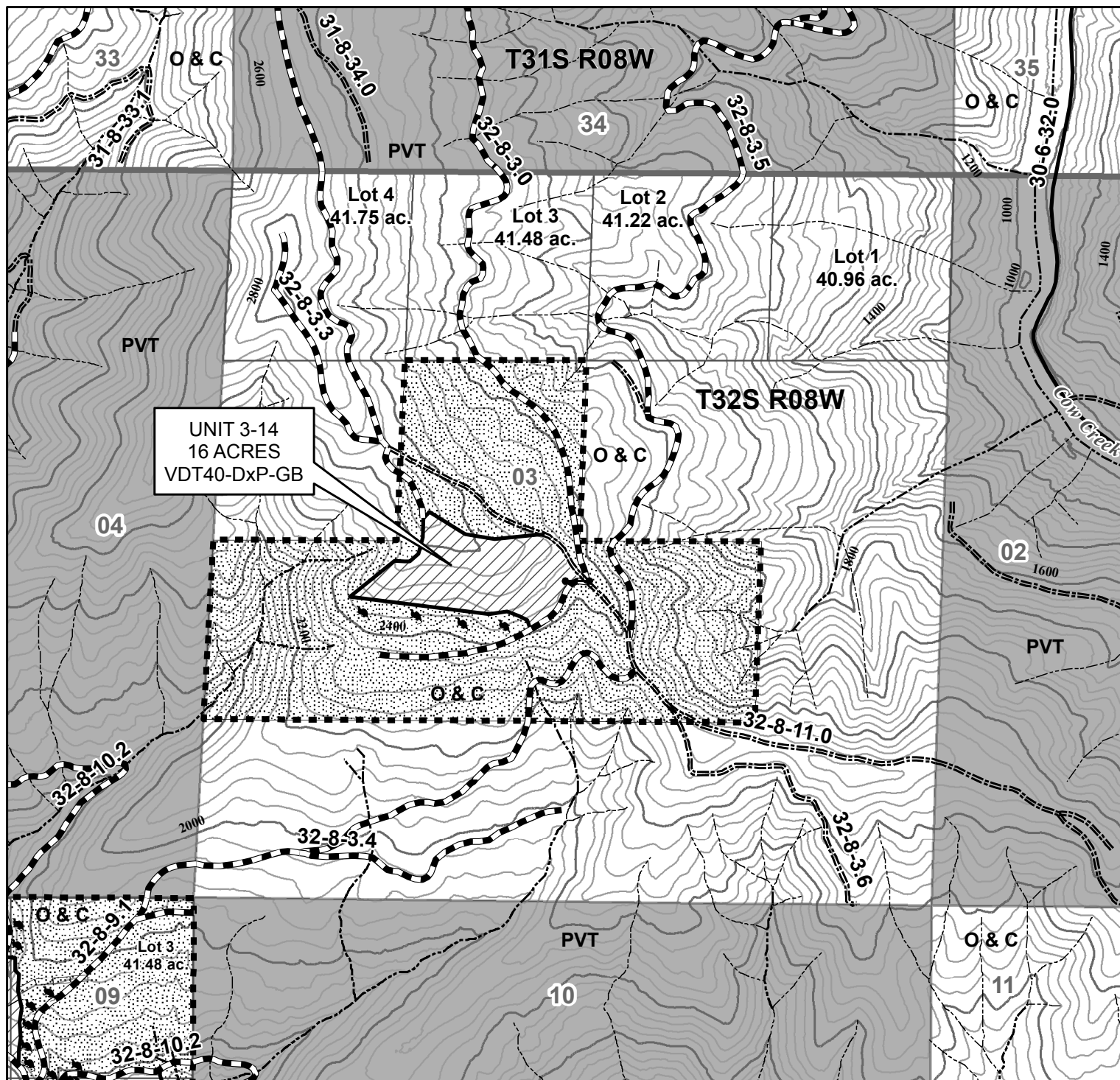
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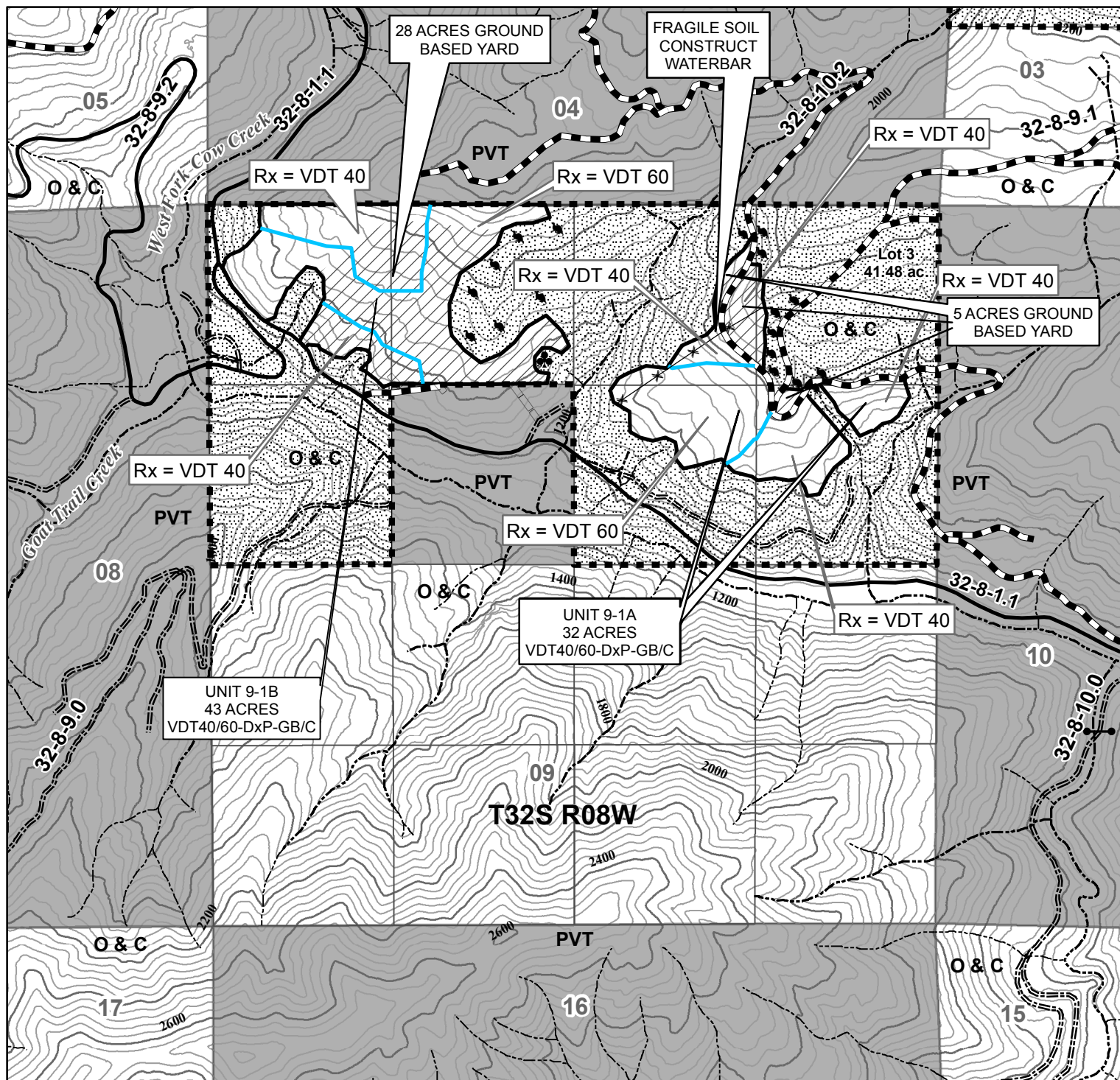
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Map created by SDT
7/14/2016



Milk Dudds Contract Area Boundary

Milk Dudds Contract Reserve Area

Milk Dudds Timber Sale Units

Cable Yard

Ground Base Yard

Approximate Location of Gaps

Rx Change Line Flagged in Yellow and Posted with White Tags

Designated Landing

Designated Skid Trail

Area Where Use of Equipment Anchors is Required in Unit 29-3

Area Where Waterbars Required on Yarding Corridors

Cable Tractor Swing Route

Legend

Milk Dudds Road Work Construction Type

Road Reconstruction

Road Renovation

Milk Dudds Temporary Routes Construction Type

Temp. Route Construction

Temp. Route Reconstruction

Mountain Peaks

Owl Habitat Area

Red Tree Vole Buffer

Botany Buffer

Gate

Intermittent Streams

Perennial Streams

Roads Surface Type

Paved

Rocked

Natural

Intermediate 40-ft contour

Index 200-ft contour

Lots

Sections

Township and Range

BLM Ownership - O&C Lands

BLM Ownership - Public Domain

Private Ownership

SUMMARY

VDT40-DxP-GB	VARIABLE DENSITY THIN TO 40% CANOPY COVER-DESIGNATION BY PRESCRIPTION-GROUND BASE YARD (UNITS 3-14, 11-8B, 13-2A, 13-2B, 13-2C, 13-2D, 19-3A, 19-3B, 19-3C, 19-3D, 19-6A, 19-6C, 19-8B, 19-8C, 19-9A, 25-4B, 25-4C, 25-4F, 25-4I, 25-4K, 25-4M, 29-7B, 31-5)	83 ACRES
VDT40-DxP-C	VARIABLE DENSITY THIN TO 40% CANOPY COVER-DESIGNATION BY PRESCRIPTION-CABLE YARD (UNITS 7-9, 11-8A, 19-8A, 19-8D, 25-4A, 25-4D, 25-4E, 25-4G, 25-4H, 25-4J, 25-4L, 25-21A, 25-21B, 29-7A)	62 ACRES
VDT40-DxP-GB/C	VARIABLE DENSITY THIN TO 40% CANOPY COVER-DESIGNATION BY PRESCRIPTION-GROUND BASE AND CABLE YARD (UNITS 19-6B, 27-1, 31-4C, 29-3)	50 ACRES
VDT60-DxP-GB	VARIABLE DENSITY THIN TO 60% CANOPY COVER-DESIGNATION BY PRESCRIPTION-GROUND BASE YARD (UNITS 13-9A, 13-9B, 13-10, 15-19B, 21-4)	26 ACRES
VDT60-DxP-C	VARIABLE DENSITY THIN TO 60% CANOPY COVER-DESIGNATION BY PRESCRIPTION-CABLE YARD (UNIT 20-5)	6 ACRES
VDT60-DxP-GB/C	VARIABLE DENSITY THIN TO 60% CANOPY COVER-DESIGNATION BY PRESCRIPTION-GROUND BASE AND CABLE YARD (UNIT 25-11)	19 ACRES
VDT60-B-GB/C	VARIABLE DENSITY THIN TO 60% CANOPY COVER-BLUE MARK CUT TREE-GROUND BASE AND CABLE YARD (UNIT 7-2)	17 ACRES
VDT40/60-DxP-GB	VARIABLE DENSITY THIN TO 40% AND 60% CANOPY COVER-DESIGNATION BY PRESCRIPTION-GROUND BASE YARD (UNITS 27-2, 31-4B)	27 ACRES
VDT40/60-DxP-C	VARIABLE DENSITY THIN TO 40% AND 60% CANOPY COVER-DESIGNATION BY PRESCRIPTION-CABLE YARD (UNIT 31-4A)	13 ACRES
VDT40/60-DxP-GB/C	VARIABLE DENSITY THIN TO 40% AND 60% CANOPY COVER-DESIGNATION BY PRESCRIPTION-GROUND BASE AND CABLE YARD (UNITS 9-1A, 9-1B, 15-19A, 20-4)	185 ACRES
LRRS-DxP-GB	LAMINATED ROOT ROT SANITATION-DESIGNATION BY PRESCRIPTION-GROUND BASE YARD (UNIT 25-1)	2 ACRES
	TOTAL TIMBER SALE UNIT AREA	490 ACRES
	RESERVE AREA	2,321 ACRES
	TOTAL CONTRACT AREA	2,826 ACRES

LEGEND

UNIT	ACRES	PRESCRIPTION TYPE	PAINT COLOR	LOGGING SYSTEM
3-14	16	VDT40	DxP	GB
7-2	17	VDT60	B	GB/C
7-9	2	VDT40	DxP	C
9-1A	32	VDT40/60	DxP	GB/C
9-1B	43	VDT40/60	DxP	GB/C
11-8A	6	VDT40	DxP	C
11-8B	3	VDT40	DxP	GB
13-2A	6	VDT40	DxP	GB
13-2B	1	VDT40	DxP	GB
13-2C	3	VDT40	DxP	GB
13-2D	1	VDT40	DxP	GB
13-9B	7	VDT60	DxP	GB
13-9A	7	VDT60	DxP	GB
13-10	4	VDT60	DxP	GB
15-19A	98	VDT40/60	DxP	GB/C
15-19B	2	VDT60	DxP	GB
19-3A	3	VDT40	DxP	GB
19-3B	9	VDT40	DxP	GB
19-3C	1	VDT40	DxP	GB
19-3D	1	VDT40	DxP	GB
19-6A	4	VDT40	DxP	GB
19-6B	12	VDT40	DxP	GB/C
19-6C	2	VDT40	DxP	GB
19-8A	3	VDT40	DxP	C
19-8B	2	VDT40	DxP	GB
19-8C	4	VDT40	DxP	GB
19-8D	2	VDT40	DxP	C
19-9A	3	VDT40	DxP	GB
20-4	12	VDT40/60	DxP	GB/C
20-5	6	VDT60	DxP	C
21-4	6	VDT60	DxP	GB
25-1	2	LRRS	DxP	GB
25-4A	9	VDT40	DxP	C
25-4B	2	VDT40	DxP	GB
25-4C	1	VDT40	DxP	GB
25-4D	8	VDT40	DxP	C
25-4E	8	VDT40	DxP	C
25-4F	9	VDT40	DxP	GB
25-4G	2	VDT40	DxP	C
25-4H	3	VDT40	DxP	C
25-4I	2	VDT40	DxP	GB
25-4J	2	VDT40	DxP	C
25-4K	2	VDT40	DxP	GB
25-4L	5	VDT40	DxP	C
25-4M	1	VDT40	DxP	GB
25-11	19	VDT60	DxP	GB/C
25-21A	1	VDT40	DxP	C
25-21B	2	VDT40	DxP	C
27-1	19	VDT40	DxP	GB/C
27-2	23	VDT40/60	DxP	GB
29-3	8	VDT40	DxP	GB/C
29-7A	9	VDT40	DxP	C
29-7B	2	VDT40	DxP	GB
31-4A	13	VDT40/60	DxP	C
31-4B	4	VDT40/60	DxP	GB
31-4C	11	VDT40	DxP	GB/C
31-5	5	VDT40	DxP	GB
TOTAL	490			

ALL ACRES COMPUTED BY GPS TRAVERSE

BOUNDARIES OF HARVEST UNITS ARE POSTED AND PAINTED IN ORANGE

VDT40 = VARIABLE DENSITY THIN TO 40% CANOPY COVER

VDT60 = VARIABLE DENSITY THIN TO 60% CANOPY COVER

VDT40/60 = VARIABLE DENSITY THIN TO 40% AND 60% CANOPY COVER

LRRS = LAMINATED ROOT ROT SANITATION

DxP = DESIGNATION BY PRESCRIPTION, PAINT COLOR TO BE DETERMINED

B = BLUE PAINT (CUT TREE MARK)

GB = GROUND BASE YARD

C = CABLE YARD

GB/C = GROUND BASE AND CABLE YARD

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT (BLM)

Contract No.: ORM07-TS-2016.0013
Sale Name: Milk Dudds
Issuing Office: Medford District

EXHIBIT B
SCALE SALE

PURCHASE PRICE SCHEDULE AND MEASUREMENT SPECIFICATIONS

I. **Total Actual Purchase Price** - In accordance with Section 3.(d). of the contract, the Purchaser agrees to pay the Government for the timber sold under the contract in accordance with the following schedule and measurement requirements. Timber sold is comprised of Merchantable Timber, Merchantable Timber Remaining, and Other Timber as defined below. In the event an Extension of Time is approved, the prices per measurement unit are subject to readjustment (refer to Section 9 of the contract).

Schedule of Species, Measurement Units, and Prices		
Species	Measurement Unit	Price Per Measurement Unit
Merchantable logs - Douglas-fir	MBF	\$99.00
White Fir	MBF	\$36.50
Ponderosa Pine	MBF	\$25.90
Western Hemlock	MBF	\$43.50
Incense-cedar	MBF	\$41.30
Western red-cedar	MBF	\$455.50
Utility logs	MBF	Not Applicable

II. **Merchantable Timber** - All timber which can be cut into logs, which equal or exceed the following specifications, shall be considered merchantable timber. Purchaser shall pay for same in accordance with Sec. 3 of the contract at the unit prices shown in Section I of this Exhibit.

Schedule of Minimum Material Specifications			
Species and Products	Length	Diameter (inside bark at small end)	Net Scale
All Species	8 feet	5 inches	33 1/3% of gross volume of any log segment or 10 bf.

III. **Merchantable Timber Remaining - Measurement Requirements** - The remaining volume of any merchantable sold timber on the contract area shall be determined as provided in Section 3.(e). of the contract. Purchaser shall pay for same in accordance with Sec. 3 of the contract at the unit prices shown in Section I of this Exhibit.

IV. **Scaling**

A. **Log Rule and Measurement** - All logs shall be scaled according to the Northwest Log Rules Eastside Log Scaling Handbook, as amended, or supplemented by BLM before the first advertisement date of the sale. A Scaling Authorization Form (OR 5300-18) must be completed prior to beginning of operations. If sample log scaling is agreeable to Purchaser and the Contracting Officer, the procedures will be agreed upon in writing regarding sample design, number of log sorts, expansion of sample volumes for computation of Merchantable Timber volume, etc.

B. **Scaling Service** - Log scaling services shall be provided and performed by BLM personnel or parties under contract to BLM.

1. All logs shall be scaled and volumes determined by BLM or a certified contract scaler.

2. The BLM scaler or contract scaler is designated to collect Eastside MBF scale data from all loads.

C. **Other Timber** - If any timber is of a species or size not listed in Section II of this Exhibit (above) or is of a quality different from merchantable timber described herein, the Authorized Officer shall establish volumes and values in accord with Standard BLM methods.

D. **Defect Caused by Abnormal Delay** - Scaling deductions made for rot, check or other defect resulting from abnormal delay in scaling caused by Purchaser shall be recorded separately and charged to the Purchaser in accordance with Section 3. of the contract.

E. **Log Presentation** - Purchaser shall present logs so that they may be scaled in an economical and safe manner in accordance with the Memorandum(s) of Agreement for Yard Scaling required in Section IV.G.5. of this Exhibit.

F. **Check Scale** - The Government will conduct check scales as set forth in the following section.

Normally a check scale includes at least 200 short logs (20 feet or less) or at least 100 multiple-segment logs. Sample the species and defect situation as fairly as possible. Individually analyze more complex scaling situations and increase the number of logs check scaled if necessary.

The following standards will be used to determine the proficiency of individual scalers.

Gross Scale. A variance of one percent in gross scale is the standard unless otherwise justified.

Net scale. The allowable variance is as follows:

Check scaler's percent defect in logs	Scalers allowable variance
0-10 percent	2 percent
	.2 x percent defect

over 10 percent	to a maximum of 5 percent
-----------------	---------------------------

Determinations as to volume of timber made by a government check scaler in conformance with the standards as set forth herein shall be final. All loads check scaled by BLM will be identified with the check scaler's initials legibly marked or painted in the face of the first log in each load. When such checks show a variance in scale in excess of acceptable standards, in two or more consecutive check scales, an adjustment to the volume reported as scaled will be made by BLM. Such adjustments will be made based on the difference between available BLM check scales and the original scale during the period covered by the unsatisfactory check scales. Unless otherwise approved in writing by the Authorized Officer, the volume to which this difference will be applied will be 50 percent of the volume scaled between the last satisfactory check and the first unsatisfactory check, 100 percent of the volume scaled during the unsatisfactory check, and 50 percent of the volume between the last unsatisfactory check scale and the next satisfactory check scale.

G. Accountability

1. Purchaser shall notify the Authorized Officer three (3) days prior to starting or stopping of hauling operations performed under the contract.
2. All logs will be painted and branded at the landing and accounted for in accordance with Sec. 42(A)(1) of the contract. Each truck driver shall obtain a load receipt and a BLM scaler receipt from the Log Truck Ticket Book issued by the Authorized Officer and comply with the instructions specified on the cover of said book. While products are in transit, the truck driver shall display the load receipt and BLM scaler receipt on the bunk or wing log at the front of the load on the driver's side. All logs on each load shall be delivered to the destination listed on the woods receipt. The BLM scaler receipt shall be surrendered at the location of BLM scaling, the unloading location, or as requested by BLM.
3. The Purchaser shall not haul logs from the contract area on weekends; Memorial Day, Fourth of July, Labor Day, Thanksgiving, Christmas, and New Year's holidays; or outside the hours of 4:00 a.m. to 8:00 p.m. daily, unless otherwise approved in writing by the Authorized Officer or designated in the Approved Logging Plan (Refer to Section 42 (B) of the contract).
4. The Purchaser shall furnish BLM a map showing the route which shall be used to haul logs from the timber sale area to the scaling location. Such route shall be the most direct haul route between the two points, unless another route is approved by BLM. The route of haul may be changed only with advance notice to and approval by BLM. The haul route map shall be attached to the Approved Logging Plan.
5. All loads will be scaled at scale locations listed on the Scaling Authorization (Form OR 5300-18) as approved by the Authorized Officer. The Purchaser shall ensure that all scale

site owners listed on the Scaling Authorization enter into a Memorandum of Agreement for Yard Scaling before requesting BLM approval of the Scaling Authorization. Areas for scaling BLM logs will be designated on the ground and identified on the yard map as required in the Memorandum(s) of Agreement for Yard Scaling.

6. Any removal of logs from loaded trucks before being accounted for and/or scaled as required by the contract shall be considered a willful trespass and render the Purchaser liable for damages under applicable law. Any payment made for purchase of such logs shall be deducted from amount due because of trespass.

H. Scaling Lost Products - The value of lost loads shall be equal to the highest value load for the month in which the lost load is hauled regardless of where the highest value load is scaled. If no loads have been scaled in that month, value will be determined from the closest month in which loads were scaled.

V. Estimated Volumes and Values - The following volume estimates and calculations of value of timber sold are made solely as an administrative aid for determining payment amounts, when payments are due, the value of timber subject to any special bonding provisions, and other purposes specified in various portions of the contract. The cutting areas are shown on Exhibit A of the contract.

A. Merchantable Timber Volume Removed from Contract Area - The total volume of removed timber shall be determined using the Government's records of scaled volumes of timber skidded or yarded monthly, or a shorter period if agreed to by the Purchaser and Government, to loading points or removed from the contract area.

B. Merchantable Timber Not Yet Removed from Contract Area - The value of merchantable timber which has not been removed will be determined by multiplying the value per acre as shown below times the amount of acreage subject to the purpose of the value determination, as determined by the Authorized Officer:

Total Estimated Purchase Price And/Or Schedule of Volumes and Values for Merchantable Timber Not Yet Removed from Contract Area					
Cutting Area		Total Estimated Volume (MBF)		Total Estimated Purchase Price	
Cutting Area Number	Approximate Number of Acres	Volume per Acre	Total Volume	Value per Acre	Total Value
11-8A	6	8.7	52	\$795.37	\$4,772.20
11-8B	3	8.7	26	\$726.33	\$2,179.00
13-10	4	10.3	41	\$829.60	\$3,318.40
13-2A	6	8.7	52	\$795.37	\$4,772.20
13-2B	1	8.0	8	\$718.90	\$718.90

13-2C	3	8.7	26	\$726.33	\$2,179.00
13-2D	1	8.0	8	\$718.90	\$718.90
13-9A	7	10.4	73	\$838.69	\$5,870.80
13-9B	7	10.4	73	\$838.69	\$5,870.80
15-19A	98	10.4	1022	\$842.26	\$82,541.80
15-19B	2	10.5	21	\$856.10	\$1,712.20
19-3A	3	8.7	26	\$726.33	\$2,179.00
19-3B	9	8.8	79	\$963.03	\$8,667.30
19-3C	1	8.0	8	\$718.90	\$718.90
19-3D	1	8.0	8	\$718.90	\$718.90
19-6A	4	8.8	35	\$838.35	\$3,353.40
19-6B	12	8.4	101	\$786.54	\$9,438.50
19-6C	2	8.5	17	\$709.40	\$1,418.80
19-8A	3	8.7	26	\$726.33	\$2,179.00
19-8B	2	8.5	17	\$709.40	\$1,418.80
19-8C	4	8.8	35	\$838.35	\$3,353.40
19-8D	2	8.5	17	\$709.40	\$1,418.80
19-9A	3	8.7	26	\$726.33	\$2,179.00
20-4	12	10.5	126	\$844.03	\$10,128.40
20-5	6	10.5	63	\$842.75	\$5,056.50
21-4	6	8.7	52	\$795.37	\$4,772.20
25-1	2	10.5	21	\$856.10	\$1,712.20
25-11	19	10.4	198	\$839.89	\$15,957.90
25-21A	1	8.0	8	\$718.90	\$718.90
25-21B	2	8.5	17	\$709.40	\$1,418.80
25-4A	9	8.3	75	\$760.59	\$6,845.30
25-4B	2	8.5	17	\$709.40	\$1,418.80

25-4C	1	8.0	8	\$718.90	\$718.90
25-4D	8	8.3	66	\$760.64	\$6,085.10
25-4E	8	10.6	85	\$850.65	\$6,805.20
25-4F	9	8.3	75	\$760.59	\$6,845.30
25-4G	2	8.5	17	\$709.40	\$1,418.80
25-4H	3	8.7	26	\$726.33	\$2,179.00
25-4I	2	8.5	17	\$709.40	\$1,418.80
25-4J	2	8.5	17	\$709.40	\$1,418.80
25-4K	2	8.5	17	\$709.40	\$1,418.80
25-4L	5	8.4	42	\$794.66	\$3,973.30
25-4M	1	8.0	8	\$718.90	\$718.90
27-1	19	8.4	160	\$780.56	\$14,830.60
27-2	23	10.5	242	\$842.91	\$19,387.00
29-3	8	8.3	66	\$760.64	\$6,085.10
29-7A	9	8.3	75	\$760.59	\$6,845.30
29-7B	2	8.5	17	\$709.40	\$1,418.80
3-14	16	10.5	168	\$843.14	\$13,490.30
31-4A	13	10.5	136	\$840.56	\$10,927.30
31-4B	4	10.3	41	\$829.60	\$3,318.40
31-4C	11	8.5	93	\$792.69	\$8,719.60
31-5	5	8.4	42	\$794.66	\$3,973.30
7-2	17	10.4	177	\$837.98	\$14,245.70
7-9	2	8.5	17	\$709.40	\$1,418.80
9-1A	32	10.5	335	\$841.30	\$26,921.70
9-1B	43	10.5	450	\$842.09	\$36,209.90
Sale Totals	490	9.7	4771		\$400,519.70

OVERNIGHT LOAD CONTROL RECORD	
Log Delivery Location	
Timber Sale	
1	Time and Date Load Delivered
2	Truck Name
3	Load Receipt No.
4	Number of Logs
5	Signature of Person Receiving the Load
6	Date and Time Load Released
7	Signature of Person Releasing the Load

Instructions:

1. Designated individual fills out the heading and lines 1 through 5 (including FULL SIGNATURE in ink on line 5.)

2. Contractor or BLM scaler will fill out lines 6 and 7 (including FULL SIGNATURE in ink) when loads are released for scaling, otherwise the BLM and/or yard owner will be required to sign.

3. Unless otherwise agreed, scaler will attach this form to the Load Receipt.

OVERNIGHT LOAD CONTROL RECORD	
Log Delivery Location	
Timber Sale	
1	Time and Date Load Delivered
2	Truck Name
3	Load Receipt No.
4	Number of Logs
5	Signature of Person Receiving the Load
6	Date and Time Load Released
7	Signature of Person Releasing the Load

Instructions:

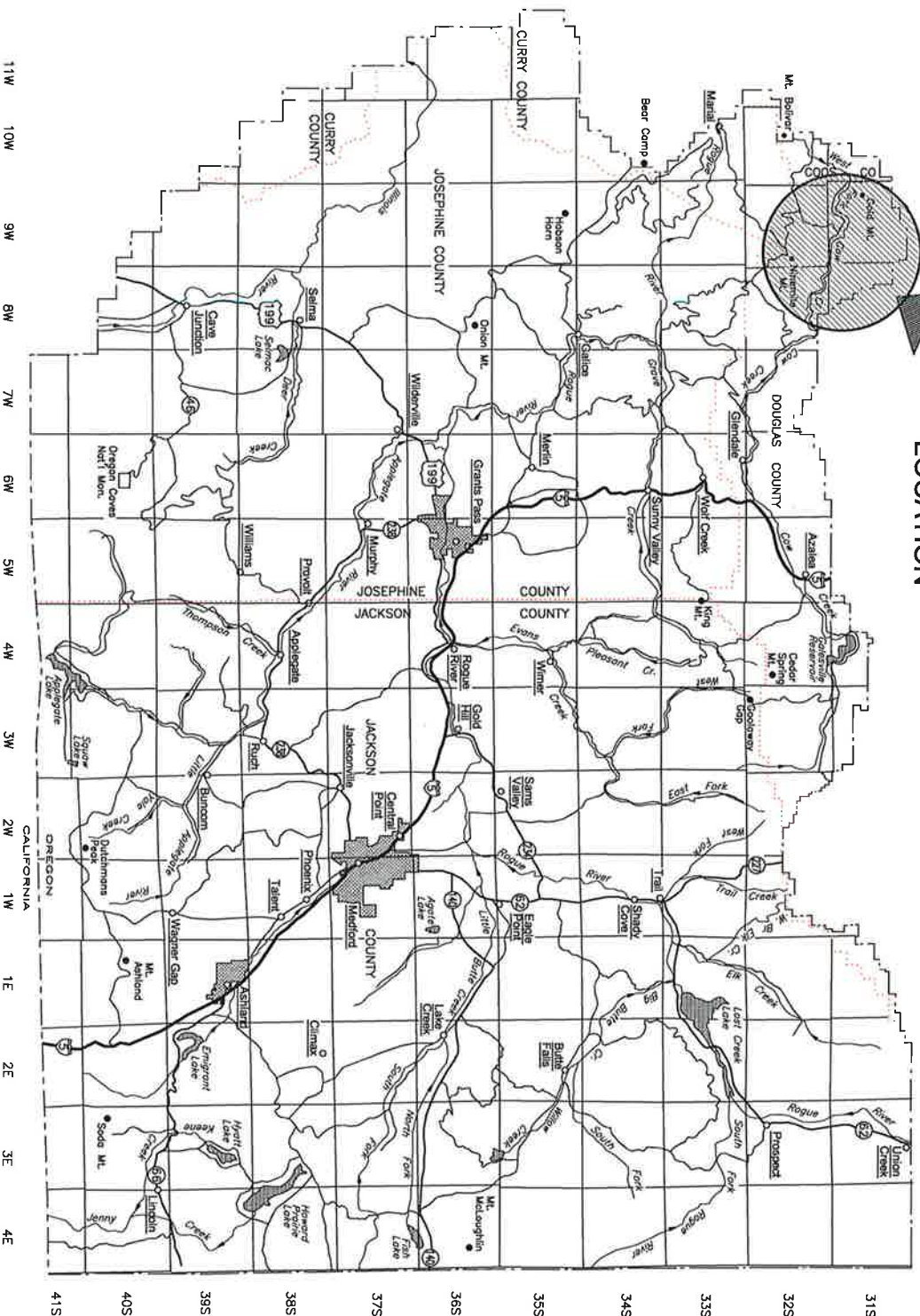
1. Designated individual fills out the heading and lines 1 through 5 (including FULL SIGNATURE in ink on line 5.)

2. Contractor or BLM scaler will fill out lines 6 and 7 (including FULL SIGNATURE in ink) when loads are released for scaling, otherwise the BLM and/or yard owner will be required to sign.

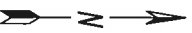
3. Unless otherwise agreed, scaler will attach this form to the Load Receipt.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT
GRANTS PASS RESOURCE AREA

PROJECT
LOCATION



0 6 12
SCALE IN MILES



ALWAYS
THINK
SAFETY

EXHIBIT C1
MILK DUDDS TIMBER SALE
TRACT NO. ORM07-TS-16-13

MILK DUDDS
TIMBER SALE
TITLE SHEET

DESIGNED:	
REVIEWED:	
APPROVED:	
DRAFTED BY: BLM	SCALE: 1" = 12 MI
DATE: JULY 2016	SHEET: 1 OF 1
DRAWING NO.: OR-11-9113.4-1	

EXHIBIT NO.	DESCRIPTION		
C1	TITLE SHEET		
C2	OVERALL SALE & ROAD RENOVATION MAPS		
C3	ESTIMATE OF QUANTITIES		
C4	SPECIFICATION SHEET		
C5	TYPICAL ROAD DATA		
C6	CULVERT INSTALL DETAIL		
C7	CULVERT BAND DETAIL		
C8	CULVERT LIST		
C9	DRAINAGE & EROSION CONTROL DETAILS		
C10	ARMORED WATER DIP		
C11	ROADSIDE BRUSHING DETAIL		
C12	ROAD RENOVATION WORKLIST		
C13	ROAD SPECIFICATIONS		
C14	SPECIAL PROVISIONS		
D1	ROAD MAINTENANCE SPECIFICATIONS		
D2	ROAD MAINTENANCE MAP		
REV. NO.	DESCRIPTION	DATE	APPROV
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON			

EXHIBIT C2-1

- BLM LANDS
- NON-BLM LANDS
- TIMBER SALE UNITS
- BST ROAD
- ROCKED ROAD
- NATURAL SURFACE ROAD
- EX. GATE
- EX. BARRICADE
- COUNTY BOUNDARY
- DISTRICT BOUNDARY

ALWAYS
THINK
SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.

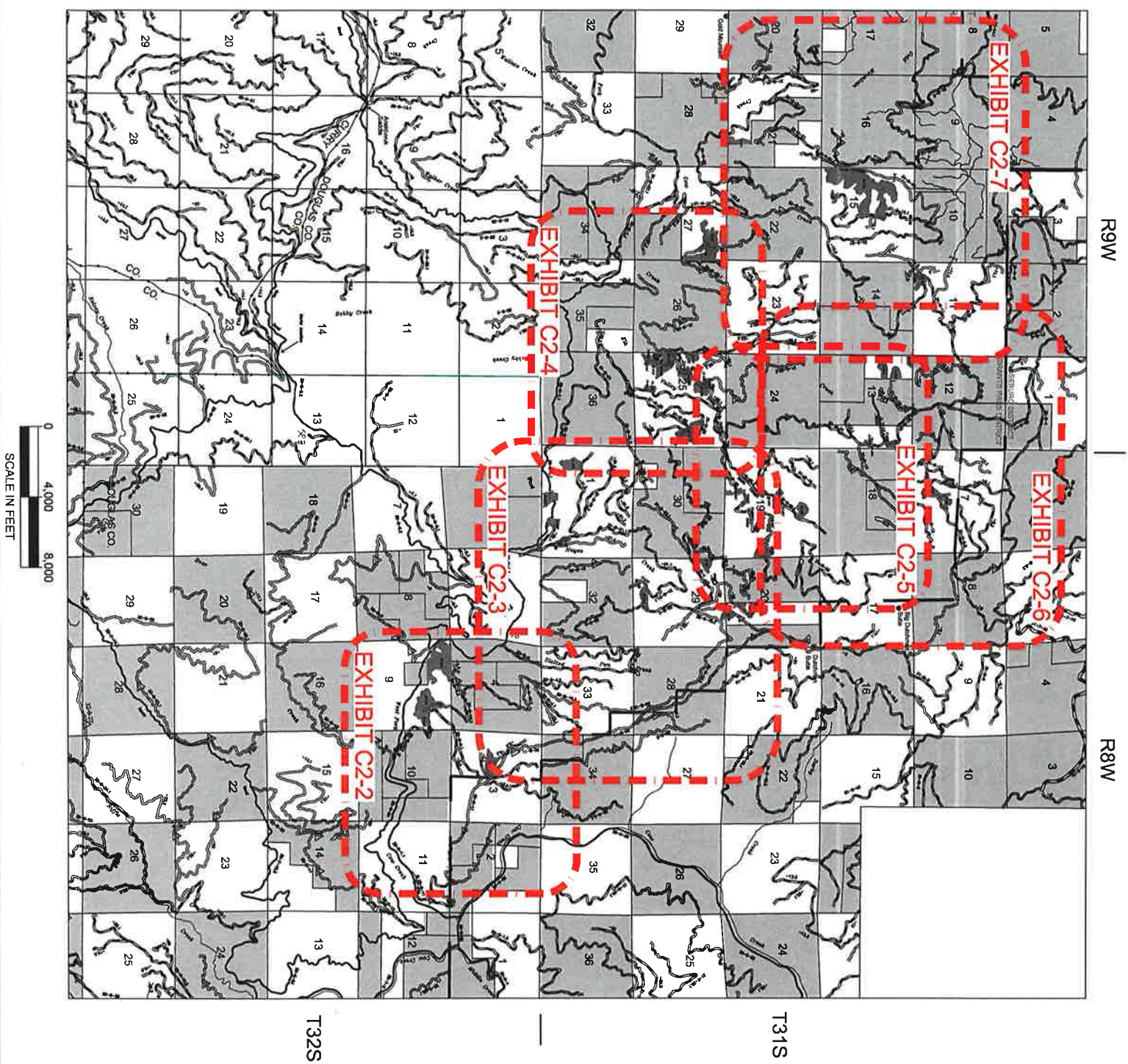
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
TIMBER SALE
OVERALL SALE AREA MAP

DESIGNED: *[Signature]*
REVIEWED: *[Signature]*
APPROVED: *[Signature]*

DRAFTED BY: ELF
DATE: JULY 2016
DRAWING NO.: OR-11-91134-1

SCALE: 1" = 1.5 MI
SHEET: 1 OF 7



R08W

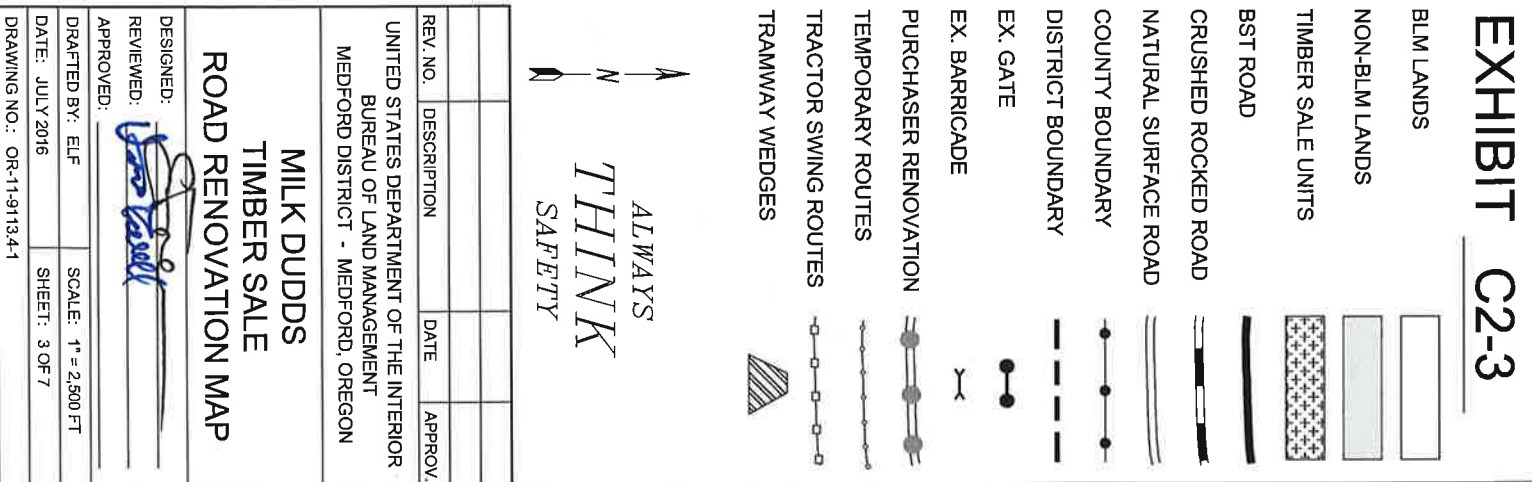


EXHIBIT C2-4

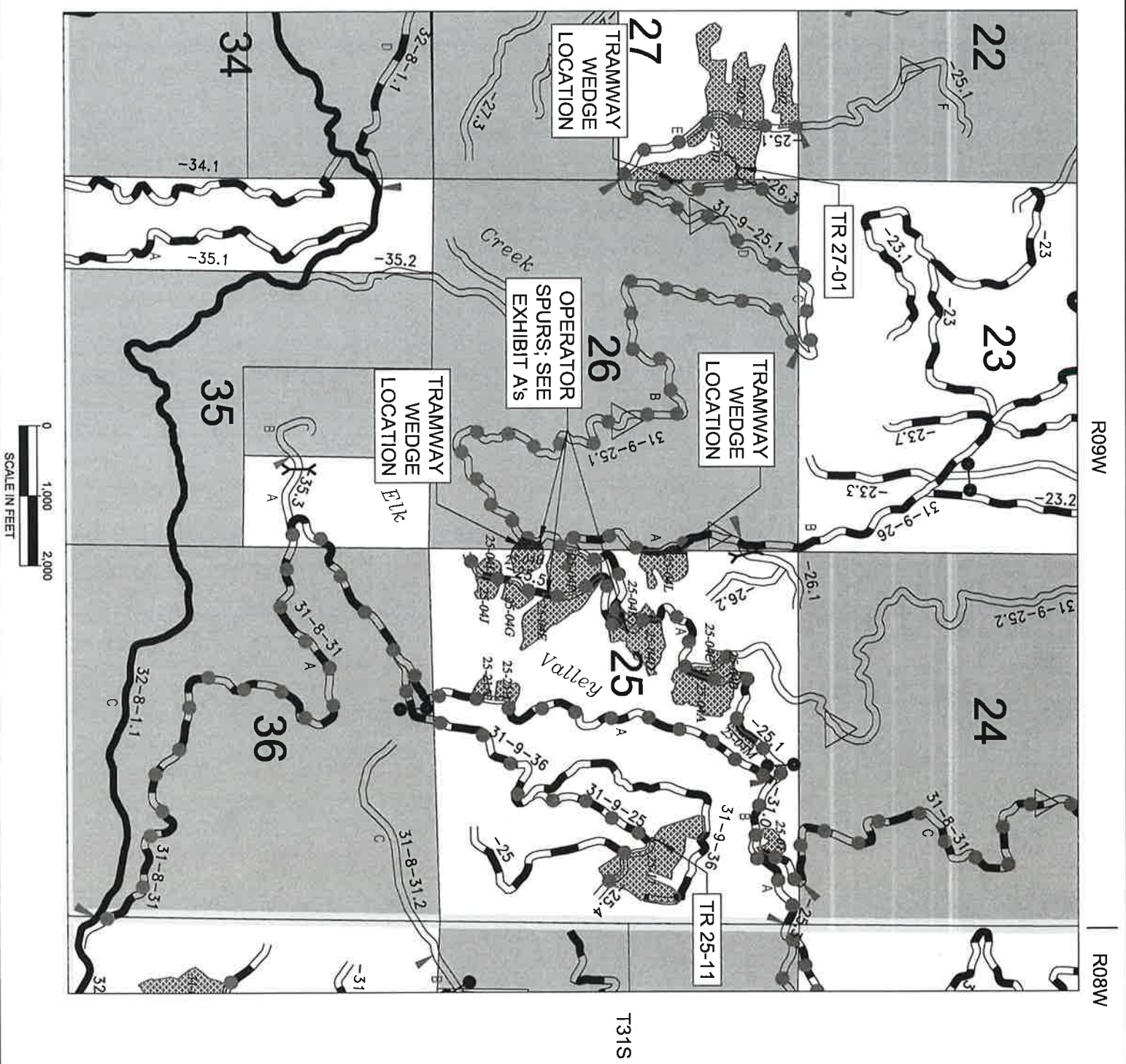
- BLM LANDS
- NON-BLM LANDS
- TIMBER SALE UNITS
- BST ROAD
- CRUSHED ROCKED ROAD
- NATURAL SURFACE ROAD
- COUNTY BOUNDARY
- DISTRICT BOUNDARY
- EX. GATE
- EX. BARRICADE
- PURCHASER RENOVATION
- TEMPORARY ROUTES
- TRACTOR SWING ROUTES
- TRAMWAY WEDGES

ALWAYS
THINK
SAFETY

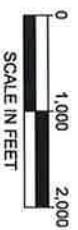
REV. NO.	DESCRIPTION	DATE	APPROV.
	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON		

MILK DUDDS
TIMBER SALE
ROAD RENOVATION MAP

DESIGNED: _____
 REVIEWED: *[Signature]*
 APPROVED: _____
 DRAFTED BY: ELF
 DATE: JULY 2015
 SCALE: 1" = 2,000 FT
 SHEET: 4 OF 7
 DRAWING NO.: OR-11-9134-1



R08W



T31S

ALWAYS
THINK
SAFETY

REV. NO.	DESCRIPTION	DATE	APPROVAL	
	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON			
	MILK DUDDS TIMBER SALE			
	ROAD RENOVATION MAP			
DESIGNED:				
REVIEWED:				
APPROVED:				
DRAFTED BY: ELF				
SCALE: 1" = 2,000 FT				
DATE: JULY 2015				
SHEET: 5 OF 7				
DRAWING NO.: OR-11-9T13-4-1				

EXHIBIT C2-6

- BLM LANDS
- NON-BLM LANDS
- TIMBER SALE UNITS
- BST ROAD
- CRUSHED ROCKED ROAD
- NATURAL SURFACE ROAD
- COUNTY BOUNDARY
- DISTRICT BOUNDARY
- EX. GATE
- EX. BARRICADE
- PURCHASER RENOVATION
- TEMPORARY ROUTES
- TRACTOR SWING ROUTES
- TRAMWAY WEDGES

ALWAYS
THINK
SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.

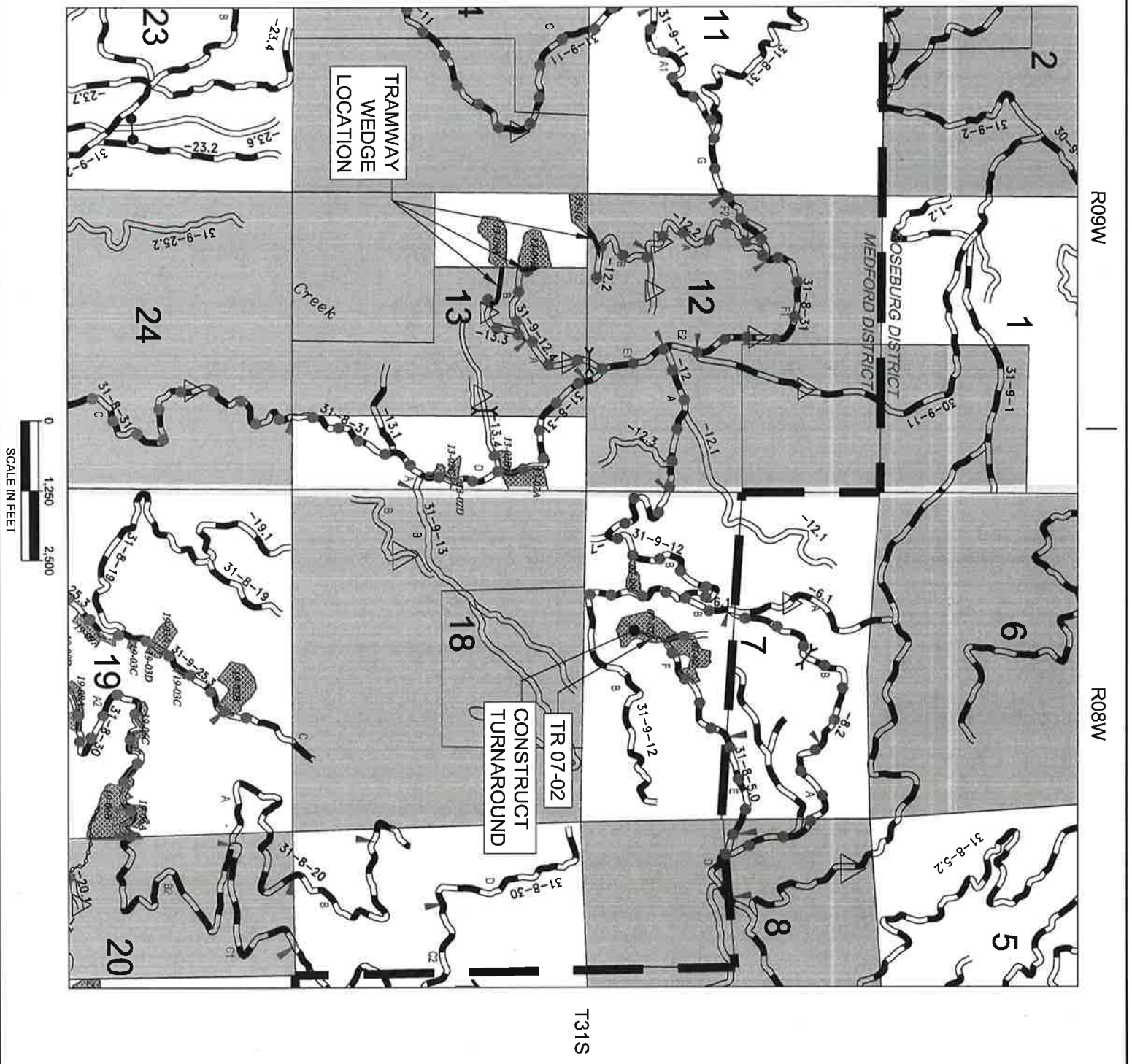
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
TIMBER SALE
ROAD RENOVATION MAP

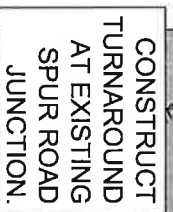
DESIGNED: [Signature]
REVIEWED: [Signature]
APPROVED: [Signature]

DRAFTED BY: ELF
DATE: JULY 2015
DRAWING NO.: OR-11-91134-1

SCALE: 1" = 2,500 FT
SHEET: 6 OF 7



R09W



CONSTRUCT
TURNAROUND



EXHIBIT C3-1

ROAD NUMBER	FROM (M.P.)	TO (M.P.)	LENGTH (MILES)	CLEARING AND GRUBBING	EXCAVATION				DRAINAGE				RENOVATION				AGGREGATE			MISCELLANEOUS							
					ROCK	COMMON	CORRUGATED METAL PIPE 16 GA				BLADING, WATERING, & ROLLING	DITCH AND/OR CULVERT CLEANING	SCARIFICATION AND/OR HEAVY BLADING	SLIDE REMOVAL	CRUSHED ROCK COMMERCIAL 1-1/2" MINUS	SLOPE PROTECTION CLASS 3 RIPRAP	SLOPE PROTECTION CLASS 0 RIPRAP	HAY BALE CHECK DAMS (OAE)	SOIL STABILIZATION	ROADSIDE BRUSHING	MISCELLANEOUS						
							SIZE		DOWNSPOUT												RECONSTRUCT WATER DIPS	RECONSTRUCT WATER BARS	CONSTRUCT WATER DIPS	CONSTRUCT WATER BARS	REMOVE/REPLACE EX. BARRICADES	(RE)CONSTRUCT TURNAROUND	CONSTRUCT TURNOUT
							18"	24"	36"	ELBOWS																	
SPECIFICATION NO. —————→				200	300				400				500				1200	1400	1400	8000	1800	2100	8000				
UNITS —————→	MP	MP	MILE	ACRE	CY	CY	LF	LF	LF	EA	LF	LF	MILE	MILE	MILE	CY	CY	CY	EA	ACRE	MILE	EA	EA	EA	EA	EA	EA
32-8-10.2 (A-B)	0.00	1.88	1.88										1.88	1.88					3		1.88						
32-8-4.3	0.00	0.33	0.33										0.33	0.33							0.33						
32-8-4.4	0.00	0.07	0.07										0.07								0.07						
32-8-9.1 (A-C)	0.00	1.18	1.18									40	1.18	1.18					12	2		1	1.18				
32-8-11.0 (A)	2.16	2.02	0.14										0.14								0.14						
32-8-3.1	0.00	0.10	0.10										0.10	0.10							0.10						
32-8-4.0 (A-C)	0.00	5.87	5.87				30	268	50				5.87	5.87					108	16	6	5.87					
31-8-30.2 (A-B)	0.00	0.76	0.76										0.76	0.76							0.76	7			1		
31-8-20.1	0.00	0.20	0.20										0.20	0.20							0.20						
31-8-29.0 (A-C)	0.00	1.08	1.08	0.8									1.08	1.08	0.33 0.33						1.08				1		
31-8-29.2	0.00	0.47	0.47										0.47	0.47							0.47						
31-8-31.1 (A-C)	0.00	3.59	3.59									62	3.59	3.59	0.07 0.07				29	4	33	5	3.59				
31-8-31.2 (A)	0.00	0.17	0.17										0.17	0.17							0.17						
31-8-31.3	0.00	0.80	0.80										0.80	0.80					4		0.80					1	

AGGREGATE GRADATION REQUIREMENTS

ITEM 900			ITEM 1000			ITEM 1200		
SIZE	GRADATION		SIZE	GRADATION		SIZE	GRADATION	
4 inch	A		3 inch	A,C,F		1 1/2 inch	C,C-1	
3 inch	B		2 inch	B,D,G,H		1 inch	D,D-1	
2 inch	C					3/4 inch	E,E-1	
1 1/2 inch	D							

- ROADS LISTED FOR SURFACE RESHAPING SHALL CONSIST OF BLADING, WATERING, & ROLLING PER CONTRACT SPECIFICATIONS & DRAWINGS.
- DITCH/CULVERT CLEANING SHALL CONSIST OF DITCH BLADING AND RESHAPING, CLEARING DEBRIS, VEGETATION, SEDIMENT, ROCK AND ALL OTHER MATERIAL HINDERING THE FLOW OF RUNOFF PER CONTRACT SPECIFICATIONS & DRAWINGS.

FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.

DESIGNED:	REVIEWED:	APPROVED:
DRAFTED BY: ELF	SCALE: NONE	
DATE: JULY 2016	SHEET: 1 OF 5	
DRAWING NO.: OR-11-91134-1		

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
TIMBER SALE
ESTIMATE OF QUANTITIES

EXHIBIT C3-2


ROAD NUMBER	FROM (M.P.)	TO (M.P.)	LENGTH (MILES)	CLEARING AND GRUBBING	EXCAVATION				DRAINAGE				RENOVATION				AGGREGATE			MISCELLANEOUS											
					ROCK	COMMON	CORRUGATED METAL PIPE 16 GA				BLADING, WATERING, & ROLLING	DITCH AND/OR CULVERT CLEANING	SCARIFICATION AND/OR HEAVY BLADING	SLIDE REMOVAL	CRUSHED ROCK COMMERCIAL 1-1/2" MINUS	SLOPE PROTECTION CLASS 3 RIPRAP	SLOPE PROTECTION CLASS 0 RIPRAP	HAY BALE CHECK DAMS (OAE)	SOIL STABILIZATION	ROADSIDE BRUSHING AND CHIPPING	8000										
							SIZE			DOWNSPOUT FILL ROUND											ELBOWS	18"	24"	18"	24"	EA	EA	EA	EA	EA	EA
							18"	24"	36"																						
SPECIFICATION NO. —————>					200	300	400				500				1200	1400	1400	8000	1800	2100	8000										
UNITS —————>	MP	MP	MILE	ACRE	CY	CY	LF	LF	LF	EA	LF	LF	MILE	MILE	MILE	CY	CY	CY	EA	ACRE	MILE	EA	EA	EA	EA	EA	EA	EA			
31-8-31.4	0.00	0.17	0.17										0.17								0.17										
31-8-31.0 (A-G)	0.00	8.63	8.63										8.63	8.63					10		8.63										
31-9-36.0	0.00	0.69	0.69				40	175					0.69	0.69		36	7		3		0.69										
31-9-25.0	0.00	0.46	0.46										0.46	0.46							0.46										
31-9-25.4	0.00	0.11	0.11										0.11	0.11							0.11										
31-9-25.1 (A-E)	0.00	5.09	5.09				30	80	60			40	5.09	5.09		41	5	30	7	5.09	6										
31-9-25.2	0.00	0.15	0.15				40						0.15	0.15			2				0.15										
31-9-25.5	0.00	0.62	0.62				50						0.62	0.62	0.44	17	2	15	2	0.62					1						
31-9-26.0 (A)	0.00	0.40	0.40										0.40	0.40							0.40										
31-9-26.3	0.00	0.56	0.56										0.56		0.65				8		0.56	10				1					
31-9-25.3 (A-C)	0.00	1.65	1.65	0.8			136	100					1.65	1.65	0.65	68	12		6		1.65										
31-8-30.0 (A-B1)	0.00	2.11	2.11				178						2.11	2.11		48	8	30	6		2.11										
31-9-13.4	0.00	0.06	0.06										0.06		0.06				1		0.06					1					
31-9-12.4 (A-B)	0.00	0.60	0.60										0.60	0.60					1		0.60					1					
TOTALS					SEE EXHIBIT C3-4 FOR TOTAL ROAD PROJECT QUANTITIES																										


AGGREGATE GRADATION REQUIREMENTS


ITEM 900	ITEM 1000	ITEM 1200
SIZE	SIZE	SIZE
GRADATION	GRADATION	GRADATION
4 inch	A	1 1/2 inch
3 inch	B	1 inch
2 inch	C	3/4 inch
1 1/2 inch	D	E, E-1

- ROADS LISTED FOR SURFACE RESHAPING SHALL CONSIST OF BLADING, WATERING, & ROLLING PER CONTRACT SPECIFICATIONS & DRAWINGS.
- DITCH/CULVERT CLEANING SHALL CONSIST OF DITCH BLADING AND RESHAPING, CLEARING DEBRIS, VEGETATION, SEDIMENT, ROCK AND ALL OTHER MATERIAL HINDERING THE FLOW OF RUNOFF PER CONTRACT SPECIFICATIONS & DRAWINGS.

MILK DUDDS
TIMBER SALE
ESTIMATE OF QUANTITIES

DESIGNED: 

REVIEWED: 

APPROVED: 

DRAFTED BY: ELF

DATE: JULY 2016

SCALE: NONE

SHEET: 2 OF 5

DRAWING NO.: OR-11-9113-4-1

ALWAYS
THINK
SAFETY

EXHIBIT C3-3

ROAD NUMBER	FROM (M.P.)	TO (M.P.)	LENGTH (MILES)	CLEARING AND GRUBBING	EXCAVATION		DRAINAGE						RENOVATION				AGGREGATE			MISCELLANEOUS																
					RIPPABLE ROCK	COMMON	CORRUGATED METAL PIPE 16 GA			ELBOWS			BLADING, WATERING, & ROLLING	DITCH AND/OR CULVERT CLEANING	SCARIFICATION AND/OR HEAVY BLADING	SLIDE REMOVAL	CRUSHED ROCK COMMERCIAL 1-1/2" MINUS	SLOPE PROTECTION CLASS 3 RIPRAP	SLOPE PROTECTION CLASS 0 RIPRAP	HAY BALE CHECK DAMS (OAE)	SOIL STABILIZATION	ROADSIDE BRUSHING AND CHIPPING	MISCELLANEOUS													
							SIZE		DOWNSPOUT	ROUND	18"	24"											18"	24"	18"	24"	18"	24"	18"	24"	18"	24"	18"	24"	18"	24"
							18"	24"																												
SPECIFICATION NO. →				200	300	400						500				1200	1400	1400	1700	1800	2100	8000														
UNITS →	MP	MP	MILE	ACRE	CY	CY	LF	LF	LF	EA	LF	LF	MILE	MILE	MILE	CY	CY	CY	EA	ACRE	MILE	EA	EA	EA	EA	EA	EA	EA	EA	EA						
31-9-13.3	0.00	0.24	0.24										0.24	0.24					1		0.24															
31-9-12.0 (A-B)	0.00	1.90	1.90				80					10	1.90	1.90			24	2	5		1.90															
31-8-6.1 (B)	0.65	0.80	0.15										0.15	0.15					1		0.15															
31-8-8.2 (A-B)	0.00	1.43	1.43										1.43	1.43							1.43						1									
31-8-5.0 (E-F)	1.30	2.20	0.90										0.90	0.90							0.90						1									
31-9-12.2 (A-B)	0.00	1.01	1.01										1.01	1.01							1.01															
31-9-11.0 (A-C)	0.00	3.19	3.19				88						3.19	3.19			24	4	2		3.19															
31-9-11.5	0.00	0.08	0.08										0.08	0.08							0.08															
31-9-11.6	0.00	0.02	0.02										0.02	0.02							0.02															
31-9-15.0	0.00	0.32	0.32										0.32	0.32					1		0.32															
31-9-27.0 (D)	2.66	4.28	1.62										1.62	1.62							1.62															
31-9-10.1	0.00	1.90	1.90				440	460				20	1.90	1.90			186	32	10		1.90							1								
31-9-10.0 (A-B)	0.00	1.70	1.70				80	40					1.70	1.00			36	6			1.70							1	1							
31-9-21.4 (A-B)	0.00	0.29	0.29										0.29								0.29															


AGGREGATE GRADATION REQUIREMENTS

ITEM 900	ITEM 1000	ITEM 1200
SIZE	SIZE	SIZE
4 inch	3 inch	1 1/2 inch
3 inch	2 inch	1 inch
2 inch		3/4 inch
1 1/2 inch		
GRADATION	GRADATION	GRADATION
A	A,C,F	C,C-1
B	B,D,G,H	D,D-1
C		E,E-1
D		

RENOVATION NOTES

- ROADS LISTED FOR SURFACE RESHAPING SHALL CONSIST OF BLADING, WATERING, & ROLLING PER CONTRACT SPECIFICATIONS & DRAWINGS.
- DITCH/CULVERT CLEANING SHALL CONSIST OF DITCH BLADING AND RESHAPING, CLEARING DEBRIS, VEGETATION, SEDIMENT, ROCK AND ALL OTHER MATERIAL HINDERING THE FLOW OF RUNOFF PER CONTRACT SPECIFICATIONS & DRAWINGS.

MILK DUDDS
TIMBER SALE
ESTIMATE OF QUANTITIES

DESIGNED: 

REVIEWED: _____

APPROVED: _____

DRAFTED BY: ELF

DATE: JULY 2016

DRAWING NO.: OR-11-91134-1

SCALE: NONE

SHEET: 3 OF 5

FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.

EXHIBIT C3-4

ROAD NUMBER	FROM (M.P.)	TO (M.P.)	LENGTH (MILES)	CLEARING AND GRUBBING	EXCAVATION		DRAINAGE						RENOVATION				AGGREGATE				MISCELLANEOUS									
					RIPPABLE ROCK	COMMON	CORRUGATED METAL PIPE 16 GA			ELBOWS	FULL ROUND	BLADING, WATERING, & ROLLING	DITCH AND/OR CULVERT CLEANING	SCARIFICATION AND/OR HEAVY BLADING	SLIDE REMOVAL	CRUSHED ROCK COMMERCIAL 1-1/2" MINUS	SLOPE PROTECTION CLASS 3 RIPRAP	SLOPE PROTECTION CLASS 0 RIPRAP	HAY BALE CHECK DAMS (OAE)	SOIL STABILIZATION	ROADSIDE BRUSHING AND CHIPPING	RECONSTRUCT WATER DIPS	RECONSTRUCT WATER BARS	CONSTRUCT WATER DIPS	CONSTRUCT WATER BARS	REMOVE/REPLACE EX. BARRICADES	(RE)CONSTRUCT TURNAROUND	CONSTRUCT TURNOUT		
							SIZE																							
							18"	24"	36"																				18"	24"
SPECIFICATION NO. —————>				200	300		400						500				1200	1400	1400	1700	1800	2100	8000							
UNITS —>	MP	MP	MILE	ACRE	CY	CY	LF	LF	LF	EA	LF	LF	MILE	MILE	MILE	CY	CY	CY	EA	ACRE	MILE	EA	EA	EA	EA	EA	EA	EA		
31-9-21.0 (A-C)	0.52	1.62	1.10										1.10	1.10							1.10						1			
31-9-21.5	0.00	0.26	0.26										0.26								0.26									
								</																						

AGGREGATE GRADATION REQUIREMENTS

ITEM 900			ITEM 1000			ITEM 1200		
SIZE	GRADATION		SIZE	GRADATION		SIZE	GRADATION	
4 inch	A		3 inch	A,C,F		1 1/2 inch	C,C-1	
3 inch	B		2 inch	B,D,G,H		1 inch	D,D-1	
2 inch	C					3/4 inch	E,E-1	
1 1/2 inch	D							

RENOVATION NOTES

- ROADS LISTED FOR SURFACE RESHAPING SHALL CONSIST OF BLADING, WATERING, & ROLLING PER CONTRACT SPECIFICATIONS & DRAWINGS.
- DITCH/CULVERT CLEANING SHALL CONSIST OF DITCH BLADING AND RESHAPING, CLEARING DEBRIS, VEGETATION, SEDIMENT, ROCK AND ALL OTHER MATERIAL HINDERING THE FLOW OF RUNOFF PER CONTRACT SPECIFICATIONS & DRAWINGS.

FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.

ALWAYS
THINK
SAFETY

DESIGNED:	REVIEWED:	APPROVED:
DRAFTED BY: ELF	SCALE: NONE	
DATE: JULY 2016	SHEET: 4 OF 5	
DRAWING NO.: OR-11-91134-1		

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
TIMBER SALE
ESTIMATE OF QUANTITIES

EXHIBIT C3-5

ROAD NUMBER	FROM (STA)	TO (STA)	LENGTH (MILES)	CLEARING AND GRUBBING	EXCAVATION				DRAINAGE				CONSTR / RENOV			AGGREGATE			DECOMMISSIONING					
					ROCK	COMMON	CORRUGATED METAL PIPE 16 GA				BLADING, WATERING, & ROLLING	(RE)CONSTRUCT TURNAROUND	OPEN FOOTPRINT HEAVY BLADING (DOZER)	SLIDE REMOVAL	PIT RUN	CRUSHED ROCK COMMERCIAL 1-1/2" MINUS	RIPRAP SLOPE PROTECTION	SOIL STABILIZATION	CONSTRUCT WATER DIP	CONSTRUCT WATER BARS	RIPPING SUBGRADE	BARRICADES		
							SIZE		DOWNSPOUT															
							18"	24"	18"	24"														
SPECIFICATION NO. —————>				200	300	400				500			700	1200	1400	1800	8000	2600						
UNITS —>	STA	STA	MILE	ACRE	CY	CY	LF	LF	LF	EA	LF	LF	MILE	EA	MILE	CY	CY	CY	ACRE	EA	EA	MILE	EA	EA
TEMPORARY ROUTES																								
TR 29-03	0+00	3+75	0.07	0.2		343							1						0.2		3	0.02*	1	
TR 19-06B	0+00	15+20	0.29	0.8		1388							1						0.8		15	0.12*	1	
TR 25-11	0+00	2+25	0.04	0.1		206													0.1		2	0.04	1	
TR 27-01	0+00	7+70	0.15	0.3		306							1						0.3		7	0.06*	1	
TR 07-02	0+00	6+35	0.12	0.3		343							1						0.3		6	0.12	1	
TR 11-08A	0+00	3+50	0.07	0.2		189							1						0.2		3	0.07	1	
TR 15-19A-N	0+00	17+40	0.33	0.6		591							1	0.17					1.2		17	0.33	1	
TR 15-19A-S	0+00	16+05	0.30	1.1		1692							1						1.1		15	0.30	1	
TR 21-04	0+00	11+75	0.22										1	0.22					0.7		11	0.18*	1	
TEMP ROUTE TOTALS			1.59	3.6		5058							8	0.39					4.7		79	1.24	9	

TEMP ROUTE CONSTRUCTION NOTES:

- TEMP ROUTES CROSSING NON-BLM LANDS MUST HAVE A SIGNED LICENSE AGREEMENT AND CROSSING PLAT WITH THE LAND OWNER PRIOR TO CONSTRUCTION. ALL LICENSE AGREEMENT AND CROSSING PLAT TERMS AND CONDITIONS MUST BE MET.
- ALL TEMP ROUTES CONSTRUCTED OR RECONSTRUCTED ON BLM LANDS SHALL BE RIPPED PER CONTRACT SPECIFICATIONS. DO NOT RIP SUBGRADE ON NON-BLM LANDS UNLESS DIRECTED TO IN THE TERMS AND CONDITIONS OF THE LICENSE AGREEMENT. (*)
- ALL TEMP ROUTES CONSTRUCTED OR RECONSTRUCTED ON BLM LAND AND NON-BLM LAND SHALL BE WATER BARED, SEEDED AND MULCHED, AND BLOCKED PER CONTRACT SPECIFICATIONS AND PER THE TERMS AND CONDITIONS IN THE LICENSE AGREEMENTS AND CROSSING PLATS.

FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.

**MILK DUDDS
TIMBER SALE
ESTIMATE OF QUANTITIES**

REV. NO. DESCRIPTION DATE APPROVAL
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

DESIGNED: 
REVIEWED: 
APPROVED: 

DRAFTED BY: ELF SCALE: NONE
DATE: JULY 2016 SHEET: 5 OF 5
DRAWING NO.: OR-11-9113-4-1

ALWAYS
THINK
SAFETY

EXHIBIT C4-1

ROAD NUMBER	FROM (M.P.)	TO (M.P.)	LENGTH (MILES)	TYPICAL STATION TYPE	ALIGNMENT		ROAD WIDTH ¹⁻³		GRADIENT		BRUSHING WIDTH			SURFACING ³								REMARKS		
					MAXIMUM DEGREE OF CURVE	EXISTING SUBGRADE	DITCH	MAXIMUM FAVORABLE	MAXIMUM ADVERSE	BEYOND		EXISTING ROAD(S)	BASE COURSE			SURFACE COURSE								
										TOP CUT	TOE FILL		L	R	MINIMUM WIDTH	COMPACTION DEPTH	TYPE ²	GRADING	MINIMUM WIDTH	COMPACTION DEPTH	TYPE ²		GRADING	
32-8-10.2 (A-B)	0.00	1.88	1.88	6		14'	3'					4	4								D		Privt Controlled Road	
32-8-4.3	0.00	0.33	0.33	6		14'	3'					4	4								D			
32-8-4.4	0.00	0.07	0.07	6		14'	-					4	4								D			Privt Controlled Road
32-8-9.1 (A-C)	0.00	1.18	1.18	6		16'	3'					4	4								A			
32-8-11.0 (A)	2.16	2.02	0.14	6		14'	3'					4	4								A		Segment A is Privt Controlled	
32-8-3.1	0.00	0.10	0.10	4		16'	-					4	4								A			
32-8-4.0 (A-C)	0.00	5.87	5.87	6		14'	3'					4	4								D		Segments B & C are Privt Controlled	
31-8-30.2 (A-B)	0.00	0.76	0.76	3		16'	-					4	4								A/E			Privt Controlled Road
31-8-20.1	0.00	0.20	0.20	3		14'	-					4	4								E		Privt Controlled Road	
31-8-29.0 (A-C)	0.00	1.08	1.08	3		14'	-					4	4								E			
31-8-29.2	0.00	0.47	0.47	5		16'	2'					4	4								E		Privt Controlled Road	
31-8-31.1 (A-C)	0.00	3.59	3.59	6		14'	3'					4	4								D/E			Segment C is Privt Controlled
31-8-31.2 (A)	0.00	0.17	0.17	6		14'	3'					4	4								D			
31-8-31.3	0.00	0.80	0.80	6		16'	2'					4	4								A			

NOTES

- EXTRA SUB-GRADE WIDTHS
TO EACH FILL SHOULDER, ADD 1 FOOT FOR FILLS OF 1-6 FEET AND 2 FEET FOR FILLS OVER 6 FEET. WIDEN THE INSIDE SHOULDER OF ALL CURVES AS FOLLOWS WHEN THE DEGREE OF CURVE EQUALS:
7-21 ADD 1 FT.
22-35 ADD 2 FT.
36-48 ADD 3 FT.
49-64 ADD 4 FT.
65-96 ADD 5 FT.
- SURFACING TYPES
A. PIT RUN ROCK
B. GRID ROLLED ROCK MATERIAL
C. SCREENED ROCK MATERIAL
D. CRUSHED ROCK MATERIAL
E. NATURAL/NATIVE SOIL
- TURNOUTS
A. WIDTH 10 FT. IN ADDITION TO SUB-GRADE WIDTH, OR AS SHOWN ON THE PLANS.
B. LOCATED APPROXIMATELY, AS SHOWN ON THE ROAD PLANS.
C. INVISIBLE AND NOT MORE THAN 750 FT. APART.
- SURFACING
TURNOUTS, CURVE WIDENING, AND ROAD APPROACH APRONS SHALL BE SURFACED.
- CLEARING WIDTH
SEE SUBSECTION 2100

MATERIALS	CUT SLOPE	FILL SLOPE
COMMON	1/2 : 1	1 1/2 : 1
SOFT ROCK & SHALE	1/2 : 1	1 1/2 : 1
SOLID ROCK	1/2 : 1	angle of repose

ALWAYS
THINK
SAFETY

DESIGNED:		
REVIEWED:		
APPROVED:		
DRAFTED BY: ELF	SCALE: NONE	
DATE: JULY 2016	SHEET: 1 OF 6	
DRAWING NO.: OR-11-9113-4-1		

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
TIMBER SALE
SPECIFICATION SHEET

EXHIBIT C4-2

ROAD NUMBER	FROM (M.P.)	TO (M.P.)	LENGTH (MILES)	TYPICAL STATION TYPE	MAXIMUM DEGREE OF CURVE	EXISTING SUBGRADE	DITCH	MAXIMUM FAVORABLE	MAXIMUM ADVERSE	BRUSHING WIDTH			SURFACING ³						REMARKS						
										ALIGNMENT			ROAD WIDTH ¹⁻³	GRADIENT		BASE COURSE				SURFACE COURSE					
										BEYOND	TOP CUT	TOE FILL		EXISTING ROAD(S)	L	R	MINIMUM WIDTH	COMPACTION DEPTH		TYPE ²	GRADING	MINIMUM WIDTH	COMPACTION DEPTH	TYPE ²	GRADING
31-8-31.4	0.00	0.17	0.17	3		15'	-				4	4								E					
31-8-31.0 (A-D)	0.00	7.04	7.04	6		17'	3'				4	4								D		Segment C is Privt Controlled			
31-8-31.0 (E-G)	7.04	8.63	1.59	6		15'	3'				4	4								D		Segments E & F are Privt Controlled			
31-9-36.0	0.00	0.69	0.69	6		16'	3'				4	4								A					
31-9-25.0	0.00	0.46	0.46	6		14'	3'				4	4								A					
31-9-25.4	0.00	0.11	0.11	5		14'	3'				4	4								E					
31-9-25.1 (A)	0.00	1.14	1.14	6		16'	3'				4	4								A					
31-9-25.1 (B-E)	1.14	5.09	3.95	3		12'	-				4	4								E		Segments B & D are Privt Controlled			
31-9-25.2	0.00	0.15	0.15	3		16'	-				4	4								E					
31-9-25.5	0.00	0.62	0.62	6		14'	3'				4	4								A					
31-9-26.0 (A)	0.00	0.40	0.40	6		16'	3'				4	4								A		Segment A is Privt Controlled			
31-9-26.3	0.00	0.56	0.56	3		12'	-				4	4								E		Privt Controlled Road			
31-9-25.3 (A-C)	0.00	1.65	1.65	6		14'	3'				4	4								B					
31-8-30.0 (A-B1)	0.00	2.11	2.11	2		14'	3'				4	4								C		Segment B1 is Privt Controlled			

NOTES

1. EXTRA SUB-GRADE WIDTHS
TO EACH FILL SHOULDER, ADD 1 FOOT FOR FILLS
OF 1-6 FEET AND 2 FEET FOR FILLS OVER 6 FEET.
WIDEN THE INSIDE SHOULDER OF ALL CURVES AS
FOLLOWS WHEN THE DEGREE OF CURVE EQUALS:
7-21 ADD 1 FT.
22-35 ADD 2 FT.
36-48 ADD 3 FT.
49-64 ADD 4 FT.
65-96 ADD 5 FT.

2. SURFACING TYPES

- A. PIT RUN ROCK
B. GRID ROLLED ROCK MATERIAL
C. SCREENED ROCK MATERIAL
D. CRUSHED ROCK MATERIAL
E. NATURAL/NATIVE SOIL

3. TURNOUTS

- A. WIDTH 10 FT. IN ADDITION TO SUB-GRADE
WIDTH, OR AS SHOWN ON THE PLANS.
B. LOCATED APPROXIMATELY, AS SHOWN ON THE
ROAD PLANS.
C. INVISIBLE AND NOT MORE THAN 750 FT. APART.

4. SURFACING

- TURNOUTS, CURVE WIDENING, AND ROAD
APPROACH APRONS SHALL BE SURFACED.

COMMON 1/2 : 1 1 1/2 : 1
SOFT ROCK 1/2 : 1 1 1/2 : 1
& SHALE 1/2 : 1
SOLID ROCK 1/2 : 1 angle of repose

5. CLEARING WIDTH

SEE SUBSECTION 2100

MILK DUDDS
TIMBER SALE
SPECIFICATION SHEET


DESIGNED:		
REVIEWED:		
APPROVED:		
DRAFTED BY: ELF	SCALE: NONE	
DATE: JULY 2016	SHEET: 2 OF 6	
DRAWING NO.: OR-11-91134-1		

EXHIBIT C4-3

ROAD NUMBER	FROM (M.P.)	TO (M.P.)	LENGTH (MILES)	TYPICAL STATION TYPE	ALIGNMENT		GRADIENT				BRUSHING WIDTH				SURFACING 3								REMARKS
					MAXIMUM DEGREE OF CURVE	EXISTING SUBGRADE	DITCH	MAXIMUM FAVORABLE	MAXIMUM ADVERSE	BEYOND		EXISTING ROAD(S)	BASE COURSE			SURFACE COURSE							
										TOP CUT	TOE FILL		L	R	MINIMUM WIDTH	COMPACTION DEPTH	TYPE 2	GRADING	MINIMUM WIDTH	COMPACTION DEPTH	TYPE 2	GRADING	

| 31-9-13.4 | 0.00 | 0.06 | 0.06 | 3 | | 14' | - | | | | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTES

- EXTRA SUB-GRADE WIDTHS
TO EACH FILL SHOULDER, ADD 1 FOOT FOR FILLS OF 1-6 FEET AND 2 FEET FOR FILLS OVER 6 FEET. WIDEN THE INSIDE SHOULDER OF ALL CURVES AS FOLLOWS WHEN THE DEGREE OF CURVE EQUALS:
7-21 ADD 1 FT.
22-35 ADD 2 FT.
36-48 ADD 3 FT.
49-64 ADD 4 FT.
65-96 ADD 5 FT.
- SURFACING TYPES
A. PIT RUN ROCK
B. GRID ROLLED ROCK MATERIAL
C. SCREENED ROCK MATERIAL
D. CRUSHED ROCK MATERIAL
E. NATURAL/NATIVE SOIL
- TURNOUTS
A. WIDTH 10 FT. IN ADDITION TO SUB-GRADE WIDTH, OR AS SHOWN ON THE PLANS.
B. LOCATED APPROXIMATELY, AS SHOWN ON THE ROAD PLANS.
C. INVISIBLE AND NOT MORE THAN 750 FT. APART.
- SURFACING
TURNOUTS, CURVE WIDENING, AND ROAD APPROACH APRONS SHALL BE SURFACED.
- CLEARING WIDTH
SEE SUBSECTION 2100

MATERIALS	CUT SLOPE	FILL SLOPE
COMMON	1/2 : 1	1 1/2 : 1
SOFT ROCK & SHALE	1/2 : 1	1 1/2 : 1
SOLID ROCK	1/2 : 1	angle of repose

ALWAYS
THINK
SAFETY

DESIGNED:			
REVIEWED:			
APPROVED:			
DRAFTED BY: ELF	SCALE: NONE		
DATE: JULY 2016	SHEET: 3 OF 6		
DRAWING NO.: OR-11-9113.4-1			

UNITED STATES DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT
 MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
 TIMBER SALE
 SPECIFICATION SHEET

[illegible]

O.: OR-11-9113.4-1

ROAD NUMBER	FROM (STA)	TO (STA)	LENGTH (MILES)	TYPICAL STATION TYPE	ALIGNMENT			GRADIENT		BRUSHING WIDTH				SURFACING 3								REMARKS
					MAXIMUM DEGREE OF CURVE	PROPOSED SUBGRADE	DITCH	MAXIMUM FAVORABLE	MAXIMUM ADVERSE	TOP CUT	BEYOND		EXISTING ROAD(S)		BASE COURSE		SURFACE COURSE					
											TOE FILL	L	R	MINIMUM WIDTH	COMPACTION DEPTH	TYPE ²	GRADING	MINIMUM WIDTH	COMPACTION DEPTH	TYPE ²	GRADING	

1. EXTRA SUB-GRADE WIDTHS
TO EACH FILL SHOULDER, ADD 1 FOOT FOR FILLS
OF 1-6 FEET AND 2 FEET FOR FILLS OVER 6 FEET.
WIDEN THE INSIDE SHOULDER OF ALL CURVES AS
FOLLOWS WHEN THE DEGREE OF CURVE EQUALS:

TO EACH FILL SHOULDER, ADD 1 FOOT FOR FILLS OF 1-6 FEET AND 2 FEET FOR FILLS OVER 6 FEET. WIDEN THE INSIDE SHOULDER OF ALL CURVES AS FOLLOWS WHEN THE DEGREE OF CURVE EQUALS:

7-21	ADD 1 FT.
22-35	ADD 2 FT.
36-48	ADD 3 FT.
49-64	ADD 4 FT.
65-96	ADD 5 FT.

SOLID ROCK

- A. PIT RUN ROCK
- B. GRID ROLLED ROCK MATERIAL
- C. SCREENED ROCK MATERIAL
- D. CRUSHED ROCK MATERIAL
- E. NATURAL/NATIVE SOIL

- A. WIDTH 10 FT. IN ADDITION TO SUB-GRADE WIDTH, OR AS SHOWN ON THE PLANS.
- B. LOCATED APPROXIMATELY, AS SHOWN ON THE ROAD PLANS.
- C. INVISIBLE AND NOT MORE THAN 750 FT. APART.

TURNOUTS, CURVE WIDENING, AND ROAD APPROACH APRONS SHALL BE SURFACED.

5. CLEARING WIDTH

SEE SUBSECTION 2100

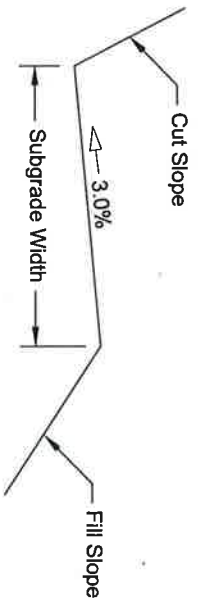
ALWAYS
THINK
SAFETY

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

APPROVED

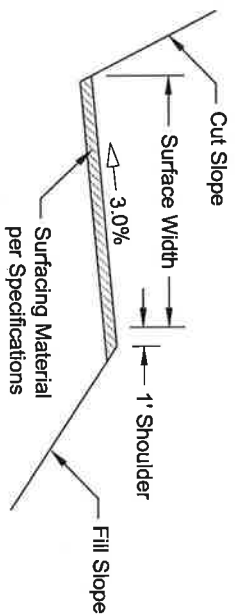
DATE: JULY 2016

DRAWING NO.: OR-11-9113.4-1

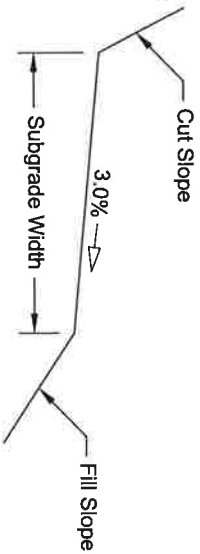


TYPICAL GRADING SECTION

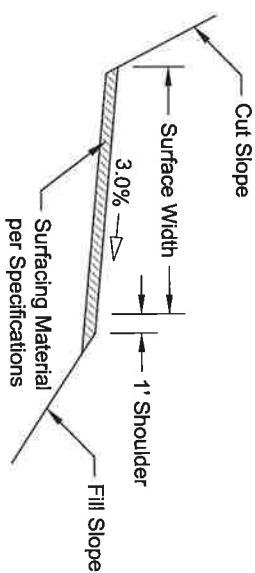
TYPE 1



TYPICAL SURFACING SECTION
TYPE 2

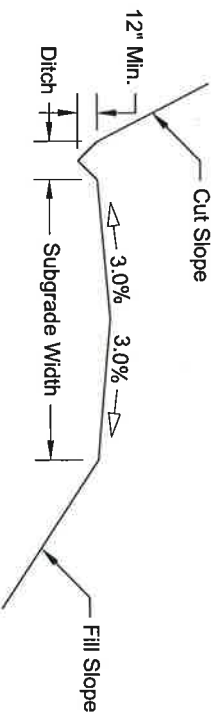


TYPICAL GRADING SECTION
TYPE 3

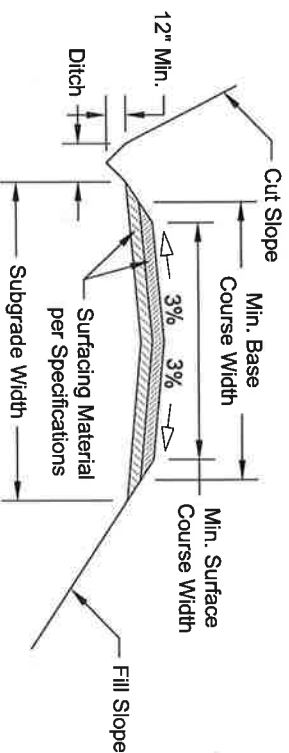


TYPICAL SURFACING SECTION

TYPE 4

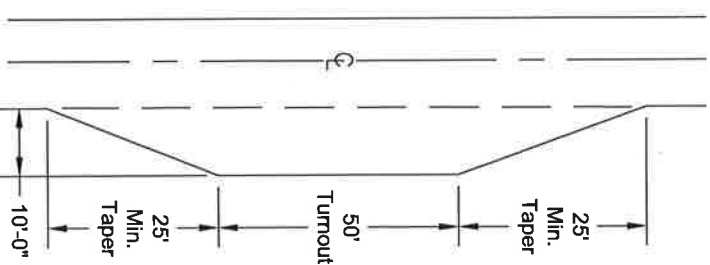


TYPICAL GRADING SECTION
TYPE 5

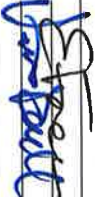


TYPICAL SURFACING SECTION
TYPE 6

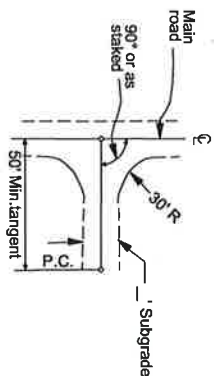
ALWAYS
THINK
SAFETY



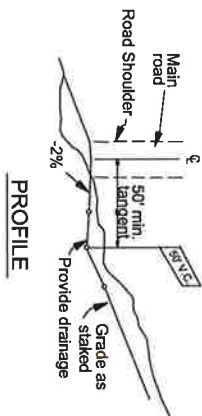
TYPICAL TURNOUT
PLAN VIEW

REV. NO.	DESCRIPTION	DATE	APPROVAL		
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON					
MILK DUDDS TIMBER SALE SPECIFICATION SHEET					
DESIGNED:					
REVIEWED:					
APPROVED:					
DRAFTED BY: ELF					
SCALE: NONE					
DATE: JULY 2016					
SHEET: 6 OF 6					
DRAWING NO.: OR-11-9T134-1					

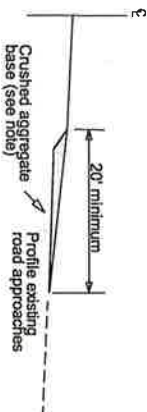
TYPICAL ROAD APPROACHES



PLAN



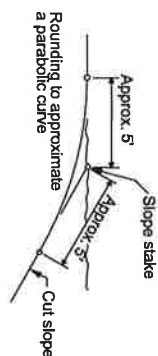
PROFILE



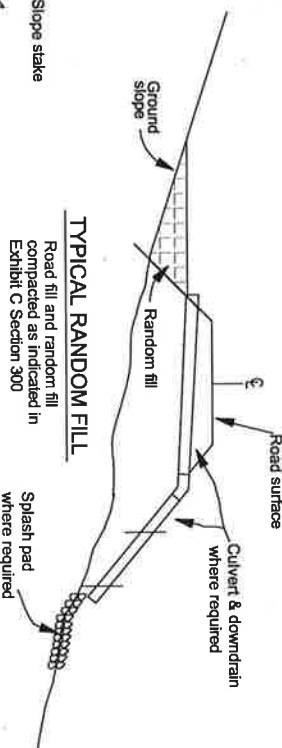
TYPICAL SURFACING SECTION

NOTES:

1. The profile of the existing approach roads shall be tapered to meet the shoulder line of the main roadway and shall receive the same wearing surface.
2. The crushed aggregate base shall be of the same gradation as used in the adjacent roadbed.
3. Approaches shall be finished with the same treatment as shown for the adjacent roadbed.

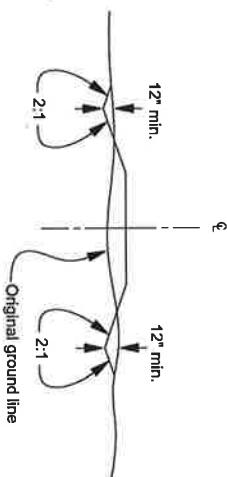


CUT SLOPE ROUNDING



TYPICAL RANDOM FILL

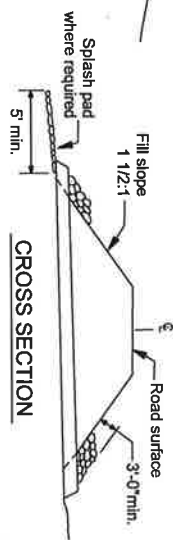
Road fill and random fill compacted as indicated in Exhibit C Section 300



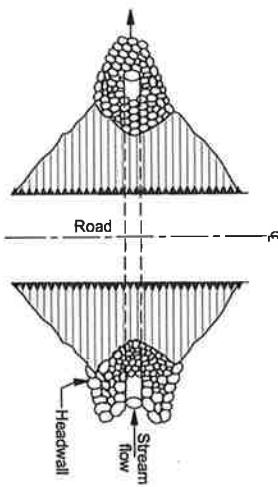
TYPICAL ROAD SECTION FOR TURNPIKE CONSTRUCTION

NOTES: RIPRAP AT CULVERTS

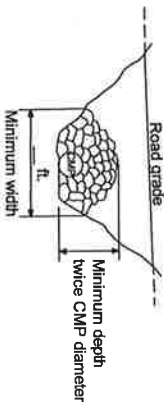
1. Riprap shall be placed in such a manner that it will not damage the culvert.
2. Trenching will be done as required by the Authorized Officer.
3. Minimum depth of splash pads shall be 1FT.
4. Minimum quantity shall be 1CY per culvert.
5. Riprap shall be placed before October 1st of the year the culvert is installed.



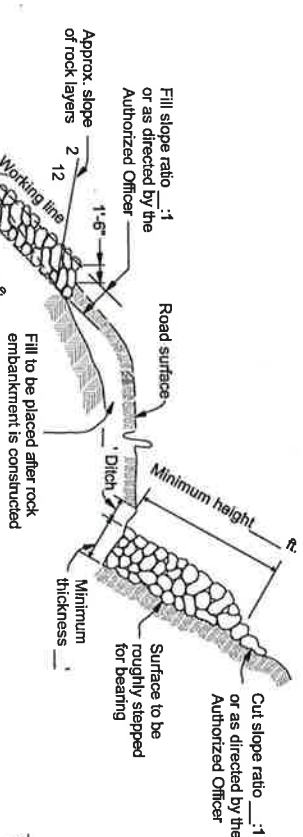
RIPRAP AT CULVERTS



PLAN

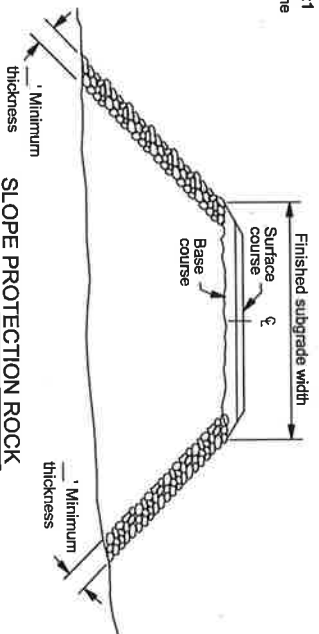


ELEVATION



SPECIAL COMPACTION

TYPICAL BENCHING SECTION



SLOPE PROTECTION ROCK

see Exhibit C Section 1400

ROCK BLANKETS AND STRUCTURES

see Exhibit C Section 1400

MILK DUDDS TIMBER SALE TYPICAL ROAD DATA

REV. NO.	DESCRIPTION	DATE	APPROV.
	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON		

DESIGNED: *[Signature]*

REVIEWED: *[Signature]*

APPROVED: *[Signature]*

DRAFTED BY: BLM

DATE: JULY 2016

DRAWING NO.: OR-11-91134-4

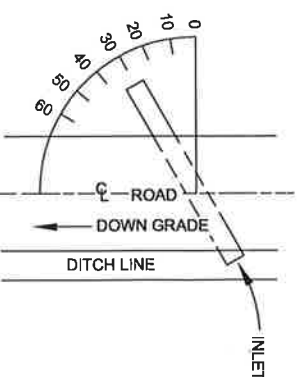
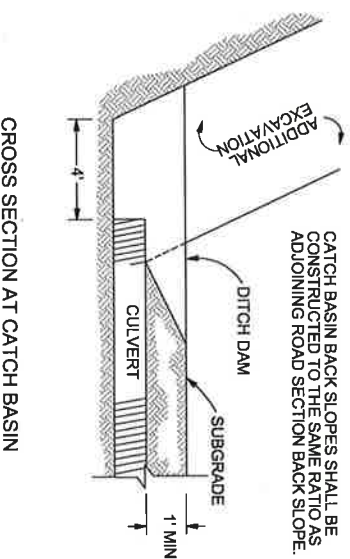
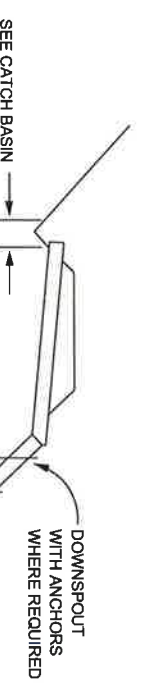
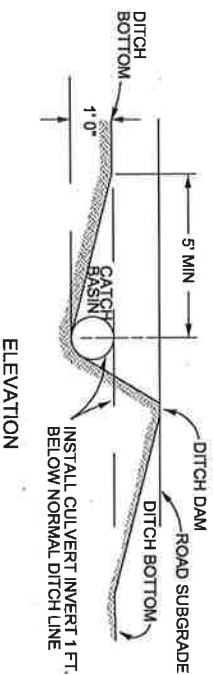
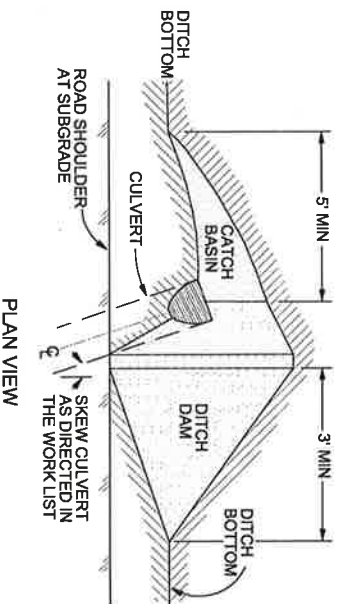
SCALE: NONE

SHEET: 1 OF 1

EXHIBIT C5

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CATCH BASIN



THE GRADE OF CROSDRAINS SHALL BE AT LEAST 2% GREATER THAN THE GRADE OF THE DITCH.

EXHIBIT C6-1

REV. NO.	DESCRIPTION	DATE	APPROV.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

**MILK DUDDS
TIMBER SALE
CULVERT INSTALL DETAILS**

DESIGNED:

REVIEWED:

APPROVED

DRAFTED BY: BLM

DATE: JULY 2016

DRAWING NO.: OR-11-9113.4-4

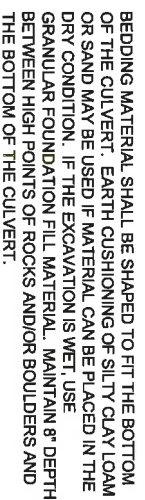
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BEDDING OF CULVERTS

[illegible]

1. The full round downspout shall be the same diameter, material, and coating as the culvert it is attached to.
2. The full round downspout shall be fabricated from 16 gauge metal with 2 2/3" x 1/2" corrugations.
3. Supports may be steel bar, angle iron, or approved equivalent metal posts and shall be a minimum of 6 feet long.

BEDDING OF CULVERT IN SOLID ROCK OR BOULDER FOUNDATION



TURNER TYPE ELBOW



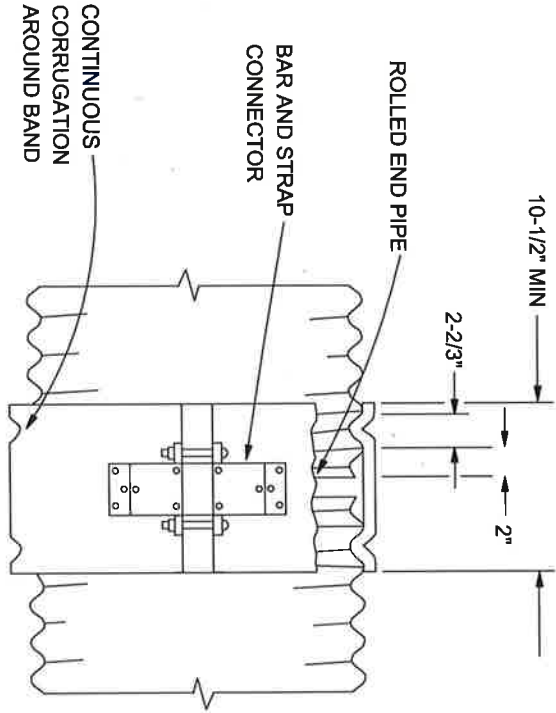
REV. NO.	DESCRIPTION	DATE	APPROVAL

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

Join pipe culvert to downspout as shown. Field drill 5/8" dia. thru downspout and install 3/8" x 2" bolts, flat washers, lock washers and locking nuts.

REV. NO.	DESCRIPTION	DATE	APPROVAL		
	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON				
	MILK DUDDS TIMBER SALE				
	CULVERT INSTALL DETAILS				
DRAWING NO.: OR-11-91134-4					
DRAFTED BY: BLM	SCALE: NONE				
DATE: JULY 2016	SHEET: 2 OF 2				
DESIGNED:					
REVIEWED:					
APPROVED:					

CSP "HUGGER" COUPLER BANDS



STANDARD CONSTRUCTION IS A ONE PIECE BAND FOR 12" THRU 48" PIPES AND A TWO PIECE BAND FOR 54" PIPES AND ABOVE

THE HUGGER COUPLER BAND OR AN APPROVED EQUIVALENT COUPLER BAND SHALL BE MADE OF THE SAME MATERIAL AND FINISH AS THE PIPES JOINED. THE COUPLER BANDS SHALL BE A MINIMUM OF 10-1/2 INCHES WIDE AND BE 16 GAUGE OR HEAVIER. THE BAND SHALL BE DESIGNED TO BE DRAWN TOGETHER WITH A MINIMUM OF TWO (2) 1/2 INCH BOLTS THROUGH USE OF A BAR AND STRAP SUITABLY WELDED TO THE BAND. THE BAND SHALL ENGAGE AND MESH WITH THE SECOND ANNULAR CORRUGATION INWARD FROM THE END OF EACH OF THE CONDUIT SECTIONS JOINED.

WHEN DESIGNATED ON THE PLANS OR IN THE SPECIAL PROVISIONS, GASKETS SHALL BE INSTALLED WHEN THE "HUGGER" TYPE, OR AN APPROVED EQUIVALENT COUPLER BAND IS INSTALLED ON SPILLWAY, OVERSIDE OR DOWN DRAINS.

MILK DUDDS
TIMBER SALE
CULVERT BAND DETAIL

DESIGNED:	REVIEWED:	APPROVED:	DRAFTED BY:	DATE:	SCALE:	SHEET:
			BLM	JULY 2016	NONE	1 OF 1
DRAWING NO.: OR-11-9113-4-4						
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON						

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EXHIBIT C8-1

CULVERT LOCATIONS

DOWNSPOUTS

REMARKS

DESIGNED

AS BUILT

1/2 ROUND

FULL ROUND

RECT. FLUME

ROAD NO.	STATION OR M.P.	SIZE	GAGE	LENGTH	SKEW ANGLE	STATION OR M.P.	SIZE	GAGE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH
----------	-----------------	------	------	--------	------------	-----------------	------	------	--------	------	--------	------	--------	------	--------

32-8-9.1(G) 0.68 24 16 40

32-8-4.0(A-C) 0.93 24 16 38

1.07 24 16 38

1.32 24 16 46

1.45 24 16 40

1.56 24 16 36

1.62 36 16 50

2.53 24 16 30

2.62 24 16 40

3.66 18 16 30

31-8-31.1 2.80 24 16 30

3.31 24 16 32

31-9-36.0 0.15 24 16 40

0.27 36 16 75

0.64 36 16 100

31-9-25.1(A-E) 0.13 24 16 40

0.29 24 16 40

0.36 36 16 60

4.75 18 16 30

31-9-25.2 0.04 18 16 40

31-9-25.5 0.36 24 16 50

31-9-25.3(A-C) 0.46 24 16 36

0.68 36 16 60

0.80 36 16 40

1.24 24 16 50

1.35 24 16 50

NOTES:

A. ESTIMATED CULVERT LENGTHS AND LOCATIONS ARE APPROXIMATE. ACTUAL LENGTHS AND LOCATIONS WILL BE STAKED IN THE FIELD.

B. SUMMARY OF QUANTITIES ARE SHOWN ON EXHIBIT C3S.

C. ALL DOWNSPOUTS ARE 16 GAUGE UNLESS OTHERWISE NOTED.

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REV. NO. DESCRIPTION DATE APPROV.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
TIMBER SALE
CULVERT LIST

DESIGNED: 

REVIEWED: 

APPROVED: _____

DRAFTED BY: BLM SCALE: NONE

DATE: JULY 2016 SHEET: 1 OF 2

DRAWING NO.: OR-11-9113.4-12

EXHIBIT C8-2

CULVERT LOCATIONS

DOWNSPOUTS


REMARKS

NOTES:
 A. ESTIMATED CULVERT LENGTHS AND LOCATIONS ARE APPROXIMATE. ACTUAL LENGTHS AND LOCATIONS WILL BE STAKED IN THE FIELD.
 B. SUMMARY OF QUANTITIES ARE SHOWN ON EXHIBIT C35.
 C. ALL DOWNSPOUTS ARE 16 GAUGE UNLESS OTHERWISE NOTED.

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REV. NO. DESCRIPTION DATE APPROV.
 UNITED STATES DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT
 MEDFORD DISTRICT - MEDFORD, OREGON

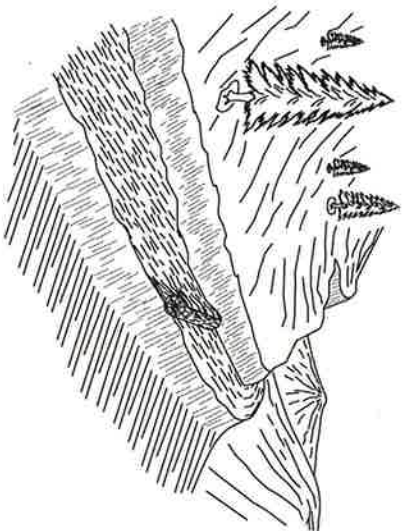
MILK DUDDS
 TIMBER SALE
 CULVERT LIST

DESIGNED: 
 REVIEWED: _____
 APPROVED: _____
 DRAFTED BY: BLM SCALE: NONE
 DATE: JULY 2016 SHEET: 2 OF 2
 DRAWING NO.: OR-11-9T13.4-12

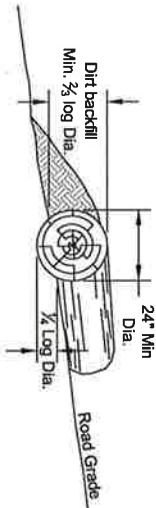
DESIGNED					AS BUILT				1/2 ROUND		FULL ROUND		RECT. FLUME		REMARKS
ROAD NO.	STATION OR M.P.	SIZE	GAGE	LENGTH	SKEW ANGLE	STATION OR M.P.	SIZE	GAGE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	
31-8-30.0(A-B1)	0.11	24	16	50											
	0.40	24	16	40											
	0.46	24	16	40											
	1.93	24	16	48											
31-9-12.0(A-B)	0.47	24	16	45											
	1.15	24	16	35						24	10				
31-9-11.0(B)	1.27	24	16	40											
	1.29	24	16	48											
31-9-10.1	0.07	36	16	50											
	0.34	24	16	30						24	20				
	0.43	24	16	80											
	0.49	36	16	80											
	0.58	24	16	70											
	0.73	24	16	40											
	0.78	36	16	120											
	0.89	36	16	70											
	0.98	36	16	80											
	1.09	24	16	60											
	1.13	24	16	40											
	1.72	24	16	70											
	1.76	36	16	60											
	1.82	24	16	50											
31-9-10.0(A-B)	0.16	18	16	40											
	0.25	24	16	40											
	0.76	18	16	40											

TOTAL 18" Downspout:

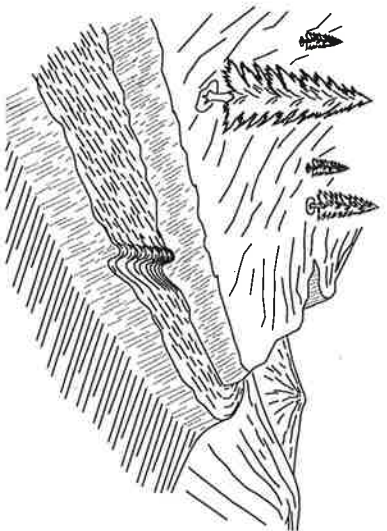
TOTAL 24" Downspout: 90 LF



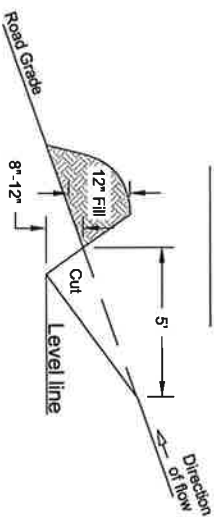
LOG BARRICADE



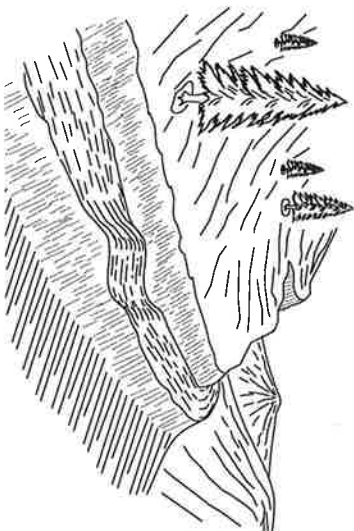
1. Log barricade shall be constructed as shown above.
2. Exact location is listed in Roads Work List, Exhibit C12.
3. All barricades shall be skewed 30 degrees.
4. The length shall be sufficient to extend from the cut bank to the fill slope.
5. The minimum small end diameter of the log barricade shall be 24".



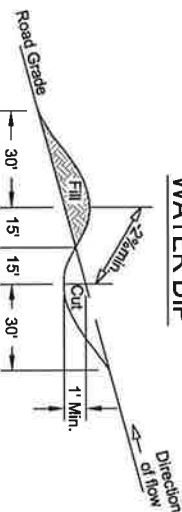
WATER BAR



1. Water bars shall be constructed as shown above.
2. Exact location will be flagged by the Authorized Officer prior to construction.
3. All water bars shall be skewed 30 degrees.
4. Upon completion of skidding logs, for the logging season, each skid road will have cross drainage constructed as shown above.



WATER DIP

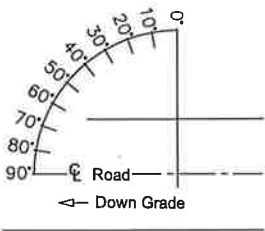


1. Water dips shall be constructed as shown above.
2. Exact location is listed in Roads Work List, Exhibit C12.
3. All water dips shall be skewed 30 degrees.
4. The length shall be sufficient to extend from the cut bank to the fill slope and be readily crossed by passenger type vehicles.
5. Rock outlet of water dip on fill slope. Rock will be placed from outlet to natural ground a minimum of 6 LF wide by 10 LF long by 1 FT depth.

BARRICADE LOCATION

ROAD NUMBER	STATION
TR 29-03	0+25
TR 19-06B	0+25
TR 25-11	0+25
TR 27-01	0+25
TR 07-02	0+25
TR 11-08A	0+25
TR 15-19A-N	0+25
TR 15-19A-S	0+25
TR 21-04	0+25

SKEW DIAGRAM




WATER DIP/BAR SPACING*

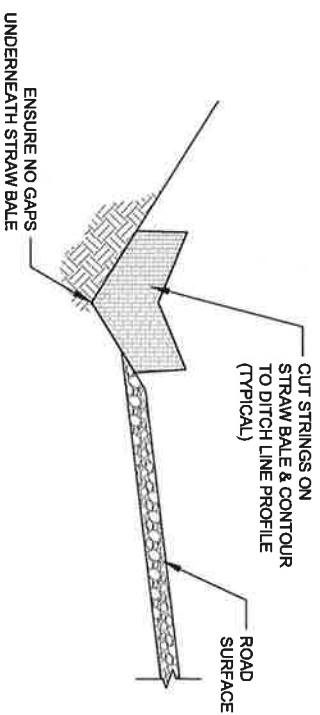
ROAD GRADE	LOAM OR CLAY LOAM	DECOMPOSED GRANITE
%	FEET	FEET
4-6	400	300
7-9	300**	200**
10-14	200	150
15-20	150	90
21-40	90	50
41-60	50	25

* Distances are maximum.
** On grades in excess of 10%, construct water bars.

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MILK DUDDS
TIMBER SALE
DRAINAGE & EROSION
CONTROL DETAILS

REV. NO.	DESCRIPTION	DATE	APPROV.	
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON				
MILK DUDDS TIMBER SALE DRAINAGE & EROSION CONTROL DETAILS				
DESIGNED: 				
REVIEWED: _____				
APPROVED: _____				
DRAFTED BY: BLM		SCALE: NONE		
DATE: JULY 2016		SHEET: 1 OF 2		
DRAWING NO.: OR-11-9113.4-4				



PLAN

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REV. NO.	DESCRIPTION	DATE	APPROVAL

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

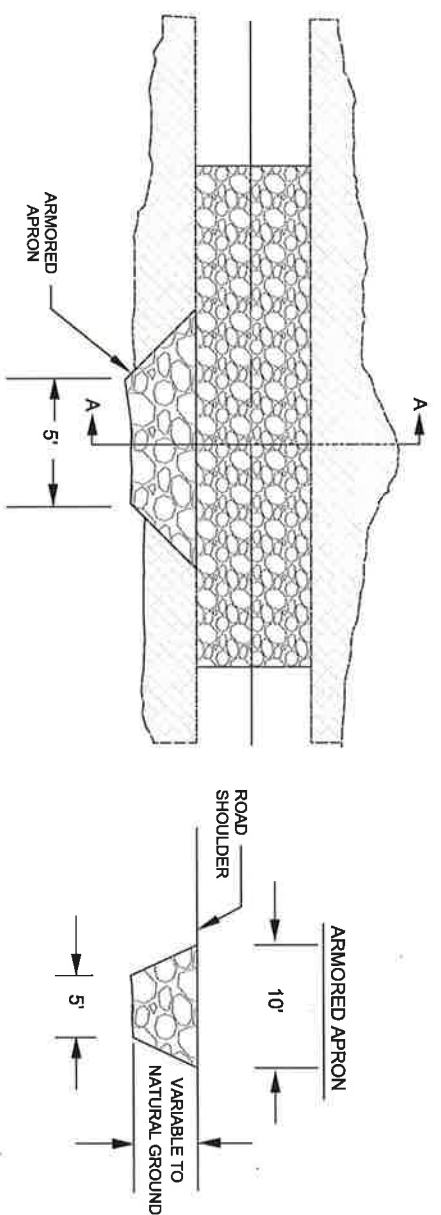
MILK DUDDS
TIMBER SALE
DRAINAGE & EROSION
CONTROL INSTALLATION

DESIGNED: _____
REVIEWED: _____
APPROVED: _____
DRAFTED BY: ELF
DATE: JULY 2016

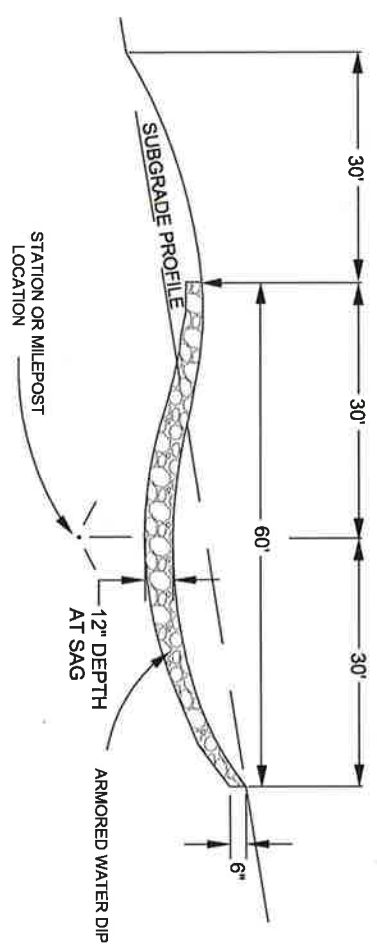
SCALE: NONE
SHEET: 2 OF 2

DRAWING NO.: OR-11-9113.4.4

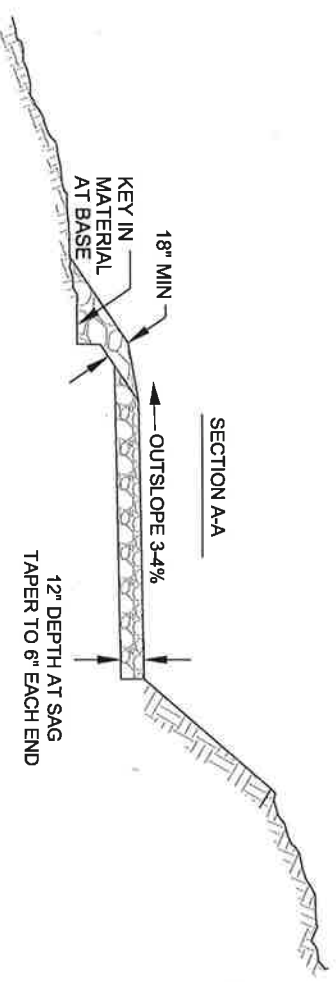
PLAN



PROFILE



SECTION A-A



NOTES

- 1) THE WATER DIP INVERT SHALL BE SMOOTH AND FREE DRAINING.
- 2) THE MINIMUM DIFFERENCE IN ELEVATION BETWEEN THE SAG AND THE CREST OF THE WATER DIP ALONG THE CUTSLOPE HINGE POINT IS 1.0 FEET.
- 3) THE MINIMUM DIFFERENCE IN ELEVATION BETWEEN THE SAG AND THE CREST OF THE WATER DIP ALONG THE FILL SLOPE SHOULDER IS 1.5 FEET.
- 4) SKEW DIP MINIMUM 15-30 DEGREES FROM PERPENDICULAR TO CENTERLINE.
- 5) EXCAVATED MATERIAL SHALL BE UTILIZED IN CONSTRUCTION OF WATER DIP. SIDECASTING IS NOT PERMITTED.
- 6) PIT RUN ROCK MATERIAL SHALL BE PLACED ON FILL SLOPE AND SUBGRADE OF ARMORED WATERDIP.
- 7) SEE ROAD RENOVATION WORKLIST FOR WATER DIPS TO BE ARMORED.
- 8) EACH DIP SHALL BE REINFORCED WITH 40 CUBIC YARDS OF 3" MINUS ROCK, ON ROADWAY AND PIT RUN AT OUTFALL.

LEGEND

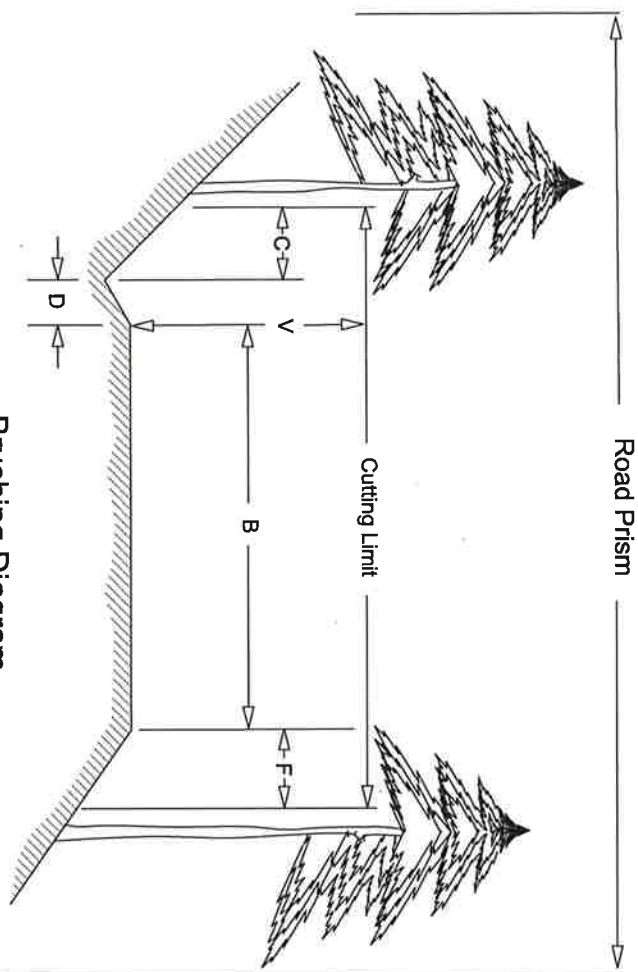
- CUT/FILL SLOPES
- SUBGRADE ARMOR MATERIAL (3" minus)
- FILL SLOPE ARMOR MATERIAL 12" MINUS OR OTHER APPROVED MATERIAL.

REV. NO.	DESCRIPTION	DATE	APPROV.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
TIMBER SALE
ARMORED WATER DIP

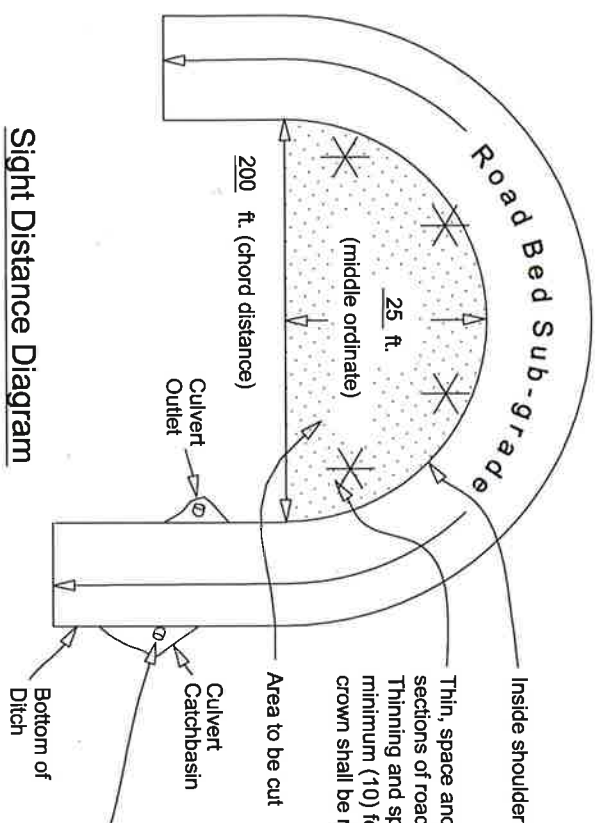
DESIGNED: _____
REVIEWED: _____
APPROVED: _____
DRAFTED BY: BLM
DATE: JULY 2016
SCALE: NONE
SHEET: 1 OF 1
DRAWING NO.: OR-11-91134-1



Brushing Diagram

- Cutting Limit = $C + D + B + F$
- B = Road Bed Subgrade (includes turnouts)
Cut all vegetation to max. height of 1".
- C = 4 ft - Distance to be brushed on cut slope beyond centerline of ditch. Cut all vegetation to max height of 6".
- D = Centerline of ditch to inside shoulder. Cut all vegetation to max. height of 1".
- F = Distance to be brushed on fill slope beyond outside shoulder
Cut all vegetation to max. height of 6".
- V = 14 ft - Height of vertical cutting limit


Inside Corner



Sight Distance Diagram

Clear 4 ft radius around all culvert inlets and outlets. Tie ribbon at outlet.

ALWAYS
THINK
SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON			
MILK DUDDS TIMBER SALE ROADSIDE BRUSHING DETAIL			
DESIGNED:			
REVIEWED:			
APPROVED:			
DRAFTED BY: BLM	SCALE: NONE		
DATE: JULY 2016	SHEET: 1 OF 1		
DRAWING NO.: OR-11-9113.4.4			

Road Work List

Definitions:

ABC = Aggregate Base Course	JCT = Junction/Intersection
ASC = Aggregate Surface Course	MP = Mile Post
BST = Bituminous	NAT = Natural Road Surface
CMP = Corrugated Metal Pipe	PRR= Pit Run Rock
CY = Cubic Yard	PVT = Private Land/Ownership
GRR = Grid Rolled Rock	Seg = Segment
HDPE = High-density Polyethylene	

Existing Road Renovation

The existing road renovation work list consists of work to be performed to the road prior to its use. All work shall comply with the contract specifications and drawings.

Road 32-8-10.2 (A-B2) - Honey Suckle Road - ABC

<u>MP</u>	<u>Task</u>
0.00	JCT w/ West Fork Cow Creek Road, 32-8-1.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing.
0.03	Existing gate
0.14	Existing 18" CMP.
0.22	Existing 18" CMP with ½ round downspout.
0.43	JCT w/ PVT road on right.
0.44	Begin Segment B1; Property line.
0.52	Existing 18" CMP with ½ round downspout.
0.60	Property line.
0.61	Existing 18" CMP.
0.71	Existing 36" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
0.76	Existing 18" CMP with ½ round downspout.
0.80	Property line.
0.82	Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
0.84	Unit 09-01A boundary on left.
0.89	Existing 18" CMP.
0.96	Unit 09-01A boundary on left.
0.97	Existing 12" CMP.
0.98	Unit 09-01A boundary on right and left.
1.04	JCT w/ 32-8-9.1 Road on right; Begin Seg B2. Unit 09-01A boundary on right.
1.12	Unit 09-01A boundary on right.
1.28	Existing 18" CMP.
1.30	Unit 09-01A boundary on right.
1.34	Unit 09-01A boundary on left.
1.38	Property line.
1.46	Existing 18" CMP with ½ round downspout.

- 1.62 Existing 36" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.71 Existing 24" CMP.
- 1.77 JCT w/ PVT road on right. Cross poly pipe.
- 1.80 Existing 18" HDPE Pipe.
- 1.88 JCT w/ PVT 32-8-4.3 Road on left. End road renovations.

Road 32-8-4.3 - ABC

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 32-8-10.2 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.03 | Existing culvert. |
| 0.33 | JCT w/ PVT 32-8-4.4 Road on left. End road renovations. |

Road 32-8-4.4 - ABC

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 32-8-4.3 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications and roadside brushing. |
| 0.07 | End road renovations. |

Road 32-8-9.1(A-C) - Jackass Prairie Road - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 32-8-10.2 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.07 | Existing 18" CMP. |
| 0.13 | Existing 18" CMP. |
| 0.21 | Existing 18" CMP. |
| 0.26 | Existing 18" CMP. |
| 0.32 | Existing 18" CMP. |
| 0.34 | JCT w/ PVT Road on right. |
| 0.36 | Property line. Begin Seg B. |
| 0.39 | JCT w/ PVT Road on left. |
| 0.44 | Existing 18" CMP. Jack open smashed inlet. |
| 0.45 | Property line. Begin Seg C. |
| 0.56 | Existing 18" CMP. |
| 0.59 | JCT w/ 32-8-3.4 Road on right. |
| 0.68 | Existing 18" CMP to be removed and replaced with a 24"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) |

compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.

- 0.76 Existing 18" CMP. Jack open crushed outlet.
- 0.86 Existing 18" CMP.
- 1.00 Existing 18" CMP.
- 1.09 Existing 18" CMP.
- 1.12 Fill-slope failure - Repair w/ 8 CY's of Class 0 Riprap material (or approved equal) properly keyed-in, placed, and compacted from an approved weed free commercial source per contract specifications and drawings.
- 1.16 Existing 18" CMP.
- 1.18 JCT w/ PVT 32-8-11.0 Road. End road renovations.

Road 32-8-11.0(A) - Multnomah W Fk Ridge Road - PRR

This road is segmented backwards

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 2.16 | JCT w/ 32-8-9.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 2.02 | JCT w/ 32-8-3.1 Road on left. End road renovations. |

Road 32-8-3.1 - Cow Overlook P1 Spur - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ PVT 32-8-11.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. Unit 03-14 boundary on right. |
| 0.10 | End road renovations. Unit 03-14 boundary on right. |

Road 32-8-4.0(A-C) - Slotted Pen Road - ASC

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ West Fork Cow Creek Road, 32-8-1.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.04 | Existing 18" CMP. |
| 0.11 | Existing 18" CMP. |
| 0.23 | Existing 18" CMP with ½ round downspout. |

Exhibit C12

Sale Name: Milk Dudds T.S.

Page 4 of 36

- 0.29 Existing 18" CMP.
- 0.35 Existing 18" CMP.
- 0.43 Existing 18" CMP.
- 0.50 Existing 18" CMP.
- 0.54 Existing 18" CMP. Property line.
- 0.66 Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.74 Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.86 Existing 18" CMP.
- 0.93 Existing 18" CMP to be removed and replaced with a 24"x38' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 1.07 Existing 18" CMP to be removed and replaced with a 24"x38' Galvanized CMP per project details and specifications. Drop outlet down 2 feet. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 1.22 Existing 18" CMP.
- 1.32 Existing 18" CMP to be removed and replaced with a 24"x46' Galvanized CMP per project details and specifications. Drop outlet down 2 feet. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.45 Existing 18" CMP to be removed and replaced with a 24"x40' Galvanized CMP per project details and specifications. Drop outlet down 3 feet. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 1.54 Property line.
- 1.56 Existing 18" CMP to be removed and replaced with a 24"x36' Galvanized CMP per project details and specifications. Drop outlet down 3 feet. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to

- replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 1.62 Existing 24" CMP to be removed and replaced with a 36"x50' Galvanized CMP per project details and specifications. Drop outlet down 2 feet. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.625 JCT w/ PVT spur road on right.
- 1.63 Creek crossing. Existing 84" CMP beveled at both ends. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.74 Property line. Existing 18" CMP.
- 1.85 Property line.
- 1.88 Existing 18" CMP.
- 1.97 Road surface slightly failing at fill-slope - Repair. Existing 30" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 2.05 Property line.
- 2.07 Existing 18" CMP.
- 2.08 JCT w/ 31-8-33.0 Road on left.
- 2.21 Existing 18" CMP.
- 2.31 JCT w/ barricaded dirt road on right.
- 2.41 Property line.
- 2.42 Existing 18" CMP.
- 2.53 Existing 18" CMP to be removed and replaced with a 24"x30' Galvanized CMP and a 24"x20' full round downspout per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement.
- 2.62 Existing 18" CMP to be removed and replaced with a 24"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 2.66 JCT w/ 31-8-32.0 Road on left.
- 2.71 Existing 18" CMP.
- 2.79 Existing 18" CMP.
- 2.85 Existing 18" CMP.
- 2.90 Existing 18" CMP.

- 2.99 Existing 18" CMP.
- 3.10 Existing 18" CMP.
- 3.20 Existing 18" CMP.
- 3.31 Existing 18" CMP.
- 3.34 JCT w/ PVT road on right.
- 3.38 Existing 18" CMP.
- 3.48 Existing 18" CMP.
- 3.55 JCT w/ PVT road right and left.
- 3.57 Existing 18" CMP.
- 3.66 Existing 18" CMP to be removed and replaced with a 18"x30' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 3.77 Existing 18" CMP.
- 3.86 Existing 18" CMP.
- 3.91 Property line.
- 3.99 Existing 18" CMP.
- 4.03 Unit 29-07A boundary on left.
- 4.12 Existing 18" CMP.
- 4.15 Unit 29-07A boundary on left.
- 4.23 Existing 18" CMP.
- 4.35 Existing 18" CMP.
- 4.49 Existing 18" CMP.
- 4.72 JCT w/ spur or dozer line on right.
- 4.73 JCT w/ 31-8-29.1 Rd, 32-8-10.2 Rd, 31-8-29.2 Rd, and 31-8-29.0 Rd (6-way spider junction). Begin Seg B.
- 4.76 Existing 18" CMP.
- 4.86 Existing 18" CMP.
- 4.92 Existing 24" CMP. Jack open smashed inlet.
- 5.04 Existing 18" CMP.
- 5.13 Existing 18" CMP.
- 5.21 Existing 18" CMP.
- 5.30 Existing 18" CMP.
- 5.40 Existing 18" CMP.
- 5.47 Property line. Begin Seg C.
- 5.52 JCT w/ 31-8-30.1 Road on left and TR 29-03 on right.
- 5.64 Existing 18" HDPE Pipe.
- 5.76 JCT w/ PVT road left and existing 18" HDPE Pipe.
- 5.79 Existing 18" HDPE Pipe.
- 5.87 JCT w/ 31-8-30.2 Road on right. End road renovations.

Road 31-8-30.2(A-B) - PRR/NAT

<u>MP</u>	<u>Task</u>
0.00	JCT w/ 32-8-4.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications, clearing all culvert inlets and outlets, and roadside brushing.
0.05	Existing 18" HDPE Pipe.
0.11	Existing 18" HDPE Pipe.
0.23	Existing 18" HDPE Pipe.
0.28	End PRR surface and begin NAT surface.
0.33	Reshape existing waterbar.
0.36	Property line.
0.37	Existing 18" HDPE Pipe.
0.38	Property line.
0.41	Reshape existing waterbar.
0.45	Reshape existing waterbar.
0.47	Property line.
0.51	Property line.
0.53	Reshape existing waterbar.
0.59	Reshape existing waterbar.
0.62	Reshape existing waterbar.
0.63	Two existing 18" HDPE Pipes (spring and draw).
0.67	Reshape existing waterbar.
0.72	Existing root wad barricade; remove and replace upon completion of use.
0.76	JCT w/ 31-8-20.1 Road on left. End road renovation.

Road 31-8-20.1 - NAT

<u>MP</u>	<u>Task</u>
0.00	JCT w/ 31-8-30.2 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications, clearing all culvert inlets and outlets, and roadside brushing.
0.08	Existing 18" HDPE Pipe.
0.09	Reshape existing waterbar.
0.16	Reshape existing waterbar.
0.20	JCT w/ TR 19-06B on left. End road renovation.

Road 31-8-29.0(A-C) - Dutchman Lo Spur - NAT

<u>MP</u>	<u>Task</u>
0.00	JCT w/ 32-8-4.0 Rd, 31-8-29.2 Rd, 31-8-29.1 Rd, and 32-8-10.2 Rd (6-way spider junction). Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications, clearing all culvert inlets and outlets, and roadside brushing.
0.27	Existing 18" CMP.
0.46	JCT w/ 31-8-29.4 Road on left.
0.51	Property line. End Seg A.

- 0.67 Existing 18" HDPE Pipe.
- 0.75 Begin heavy road blading and renovation.
- 0.80 Property line. End Seg B. Unit 20-04 boundary on left and right.
- 1.08 Construct truck turnaround. Unit 20-04 boundary on left and right. End road renovation.

Road 31-8-29.2 - Dutchman Lo Road - NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 32-8-4.0 Rd, 31-8-29.0 Rd, 31-8-29.1 Rd, and 32-8-10.2 Rd (6-way spider junction). Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.06 | Existing 18" CMP. |
| 0.14 | Existing 18" CMP. |
| 0.24 | Existing 18" CMP. |
| 0.32 | Existing 18" CMP w/ ½ round downspout. |
| 0.38 | Unit 20-05 boundary on right. |
| 0.47 | Unit 20-05 boundary on right. End road renovation. |

Road 31-8-31.1(A-C) - Hayes Creek Road - ASC/NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ West Fork Cow Creek Road, 32-8-1.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| | Existing 18" CMP. |
| 0.07 | Unit 31-04B boundary on left. |
| 0.13 | Unit 31-04B boundary on left. |
| 0.15 | Existing 18" CMP. |
| 0.18 | Existing 18" CMP. |
| 0.30 | Existing 18" CMP. |
| 0.40 | Property line. |
| 0.41 | JCT w/ 32-8-6.0 Road on right. Begin Seg A2. |
| 0.42 | Property line. |
| 0.44 | Existing 18" CMP. |
| 0.51 | JCT w/ 31-8-31.4 Road on right. |
| 0.54 | Existing 18" CMP. |
| 0.61 | Unit 31-05 boundary on right. |
| 0.62 | Existing 18" CMP. |
| 0.72 | Existing 18" CMP. |
| 0.77 | Existing 18" CMP. |
| 0.78 | Unit 31-05 boundary on right. |
| 0.82 | Existing 18" CMP. |

- 0.84 JCT w/ 31-8-31.2 Road on left w/ an existing 18" CMP crossing under the -31.2 Road.
- 0.94 Existing 18" CMP.
- 1.02 Existing 18" CMP.
- 1.16 Existing 24" CMP.
- 1.27 Existing 24" CMP.
- 1.33 Existing 18" CMP.
- 1.39 Existing 18" CMP.
- 1.58 Existing 18" CMP.
- 1.61 Property line.
- 1.68 Existing 18" CMP.
- 1.75 Existing 18" CMP. Maintain existing water dip above culvert.
- 1.80 Existing 18" CMP w/ full-round downspout.
- 1.87 Existing 18" CMP.
- 1.90 Existing 18" CMP.
- 2.15 Existing 18" CMP.
- 2.20 Property line.
- 2.21 Existing 18" CMP.
- 2.34 Existing 18" CMP.
- 2.42 Existing 18" CMP.
- 2.47 Existing 18" CMP w/ full-round downspout. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 2.55 Existing 18" CMP.
- 2.67 Existing 18" CMP.
- 2.78 Creek crossing. Existing 30" CMP. Fill-slope failure - Repair w/ 5 CY's of Class 0 Riprap material (or approved equal) properly keyed-in, placed, and compacted from an approved weed free commercial source per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 2.80 Existing 18" CMP to be removed and replaced with a 24"x30' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 2.85 Fill-slope failure - Repair w/ 8 CY's of Class 0 Riprap material (or approved equal) properly keyed-in, placed, and compacted from an approved weed free commercial source per contract specifications and drawings. Properly place, water, and roll a 3" lift (3 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at fill slope failure.
- 2.90 Existing 18" CMP.
- 3.03 Existing 18" CMP.
- 3.15 Begin Seg B.
- 3.19 Existing 18" CMP.

- 3.26 Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 3.30 Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 3.31 Install a new 24"x32' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 3.32 Fill-slope failure - Repair w/ 20 CY's of Class 0 Riprap material (or approved equal) properly keyed-in, placed, and compacted from an approved weed free commercial source per contract specifications and drawings. Properly place, water, and roll a 3" lift (3 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at fill slope failure.
- 3.38 Unit 29-07A boundary on left.
- 3.41 Unit 29-07B boundary on right.
- 3.42 Remove trees blown down across road. Existing 18" CMP.
- 3.45 Unit 29-07A boundary on left.
- 3.48 Begin Seg C. NAT outsloped surface begins.
- 3.50 Open and broken ranch style gate.
- 3.52 End drivable portion of road – Begin heavy renovation and heavy brushing.
- 3.59 Property line. Unit 29-07B boundary on right. End road renovation.

Road 31-8-31.2(A) Hayes Creek Sp - ASC

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 31-8-31.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. Existing 18" CMP. |
| 0.08 | Existing 18" CMP. |
| 0.14 | Existing 18" CMP. |
| 0.17 | JCT w/ 31-8-31.3 Road on left. End road renovation. |

Road 31-8-31.3 - Hayes Ridge Sp - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 31-8-31.2 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.03 | Existing 18" CMP. |
| 0.16 | Existing 24" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |

- 0.23 Existing 24" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.35 Existing 18" CMP.
- 0.43 Existing 24" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.50 Existing 18" CMP.
- 0.69 Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.71 Unit 31-04A boundary on left.
- 0.79 Construct truck turnaround.
- 0.80 Unit 31-04A boundary on left. End road renovation.

Road 31-8-31.4 - Overend Sp - NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-8-31.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications and roadside brushing. |
| 0.05 | Unit 31-05 boundary on left. |
| 0.17 | Unit 31-05 boundary on left. End road renovation. |

Road 31-8-31.0(A-G) - Elk Valley Road - ASC

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ West Fork Cow Creek Road, 32-8-1.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.07 | Existing 18" CMP w/ whole round downspout. |
| 0.09 | Existing 18" CMP w/ whole round downspout. |
| 0.13 | Property line. |
| 0.17 | Existing 24" CMP |
| 0.24 | Existing 36" CMP w/ whole round downspout. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.48 | Existing 30" CMP. |
| 0.49 | Existing 24" CMP. |
| 0.56 | Existing 18" CMP w/ whole round downspout. |
| 0.73 | Existing 24" CMP. |
| 0.90 | Existing 18" CMP w/ whole round downspout. Jack open smashed inlet. |
| 0.93 | JCT w/ PVT road on right w/ an 18" plastic ditch pipe. |
| 1.06 | Existing 24" CMP w/ whole round downspout. |
| 1.08 | Existing 24" CMP w/ whole round downspout. |
| 1.22 | Existing 18" CMP. |
| 1.28 | Existing 24" CMP. |
| 1.34 | Existing 24" CMP. |
| 1.47 | Existing 24" CMP. |
| 1.49 | JCT w/ PVT road on right. |

- 1.54 Existing 18" CMP.
- 1.70 Existing 18" CMP.
- 1.92 Property line.
- 1.98 JCT w/ 31-9-35.3 Road on left.
- 2.15 Property line.
- 2.18 Existing 18" CMP.
- 2.28 JCT w/ PVT road on left.
- 2.30 Existing 24" CMP.
- 2.49 JCT w/ 31-9-36.0 Road on right.
- 2.50 Existing 24" CMP.
- 2.59 Existing 24" CMP.
- 2.62 Existing 36" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 2.65 Property line.
- 2.72 Existing 36" CMP w/ whole round downspout. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 2.75 Unit 25-21A boundary on left.
- 2.81 Unit 25-21A boundary on left.
- 2.83 Unit 25-21B boundary on left.
- 2.88 Unit 25-21B boundary on left.
- 2.90 Existing 36" CMP w/ whole round downspout. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 3.11 Existing 36" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 3.16 Existing 24" CMP w/ whole round downspout.
- 3.36 Existing 24" CMP.
- 3.65 Existing 18" HDPE pipe.
- 3.72 Bridge at creek crossing w/ drainage swales. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 3.75 JCT w/ 31-9-25.1 Road on left. Begin Seg B.
- 3.78 Existing 18" HDPE pipe.
- 3.91 JCT w/ 31-9-25.3 Road on right.
- 3.95 Unit 25-01 boundary on left.
- 4.00 Existing 24" CMP.
- 4.01 Unit 25-01 boundary on left.
- 4.11 Property line. Begin Seg C.
- 4.32 Existing 18" CMP.
- 4.42 Existing 18" CMP.
- 4.56 JCT w/ PVT road on right.
- 4.66 Existing 18" HDPE pipe.
- 4.80 Existing 18" CMP.
- 4.83 Existing 18" HDPE pipe.
- 4.92 Existing 18" CMP.
- 4.98 Existing 18" CMP.
- 5.11 Existing 18" HDPE pipe.
- 5.24 JCT w/ PVT road on left.

- 5.39 Existing 18" CMP.
- 5.54 Existing 18" CMP. Jack open smashed inlet.
- 5.62 JCT w/ PVT road on left.
- 5.63 Existing 18" CMP.
- 5.71 Property line. Begin Seg D.
- 5.81 Existing 24" CMP.
- 5.93 Existing 24" CMP.
- 6.05 Existing 48" CMP at creek crossing w/ sediment fencing on both sides of road.
Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 6.07 JCT w/ 31-9-13.1 Road on left.
- 6.09 Existing 24" CMP.
- 6.18 JCT w/ 31-9-13.0 Road on right.
- 6.21 Unit 13-02 C boundary on left.
- 6.30 Unit 13-02 D boundary on right.
- 6.32 Unit 13-02 C boundary on left.
- 6.34 Unit 13-02 D boundary on right and existing 24" CMP.
- 6.47 Existing 24" CMP.
- 6.49 Unit 13-02 A boundary on right and JCT w/ 31-9-13.4 Road on left.
- 6.50 Unit 13-02 B boundary on left.
- 6.53 Unit 13-02 B boundary on left.
- 6.54 Existing 24" CMP.
- 6.64 Unit 13-02 A boundary on right.
- 6.65 Existing 36" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 6.82 Property line.
- 7.00 Begin Seg E1.
- 7.01 Existing 18" HDPE pipe.
- 7.04 Existing 24" CMP.
- 7.07 JCT w/ PVT 31-9-12.4 Road on left.
- 7.14 JCT w/ PVT road on right.
- 7.15 Existing 18" HDPE pipe.
- 7.24 Existing 18" CMP.
- 7.30 Existing 18" CMP.
- 7.31 JCT w/ 31-9-12.0 Road on right. Begin Seg E2.
- 7.35 Existing 24" HDPE pipe; overflow for pond.
- 7.41 Existing 24" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 7.47 JCT w/ 30-9-11.0 Road on right. Begin Seg F1.
- 7.45 Existing 7'x9' squash CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 7.79 JCT w/ PVT road on right.
- 7.98 JCT w/ PVT road on left.
- 8.05 Existing 18" HDPE pipe.
- 8.10 JCT w/ PVT 31-9-12.2 Road on left.
- 8.20 Existing 18" CMP w/ 1/2 round downspout.

- 8.31 Existing 18" CMP w/ ½ round downspout.
- 8.34 Property line. Begin Seg G.
- 8.39 Existing 18" CMP.
- 8.63 JCT w/ 31-9-11.0 Road on left. End road renovation.

Road 31-9-11.0(A-C) - Upper Sixmile Ridge Rd - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-8-31.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.09 | Existing 18" CMP. |
| 0.15 | Existing 18" CMP w/ ½ round downspout. |
| 0.22 | Existing 18" CMP. |
| 0.28 | Existing 18" CMP. |
| 0.40 | Existing 18" CMP. |
| 0.46 | Existing 18" CMP. |
| 0.61 | JCT w/ 31-9-11.4 Road on right. Begin Seg A2. |
| 0.74 | Existing 18" CMP. |
| 0.82 | Unit 11-08B boundary on left. |
| 0.83 | Existing 18" CMP w/ ½ round downspout. |
| 0.88 | Existing 18" CMP. |
| 0.94 | JCT w/ 31-9-11.3 and 31-9-11.5 Roads on right. Begin Seg B. |
| 1.00 | Existing 18" CMP. |
| 1.04 | Existing 18" CMP. |
| 1.08 | Existing 18" CMP. |
| 1.09 | Unit 11-08A boundary on right and Unit 11-08B boundary on left. |
| 1.15 | Existing 18" CMP w/ ½ round downspout. |
| 1.22 | Existing 18" CMP. |
| 1.27 | Existing 18" CMP to be removed and replaced with a 24"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. |
| 1.29 | Existing 18" CMP to be removed and replaced with a 24"x48' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. |
| 1.37 | Property line. Begin Seg C. |
| 1.38 | Existing 18" CMP. |

- 1.47 Existing 18" CMP.
- 1.53 JCT w/ PVT road on right.
- 1.67 Existing 18" CMP.
- 1.76 Existing 18" CMP.
- 1.85 Existing 18" CMP.
- 1.91 JCT w/ PVT road on left. Existing 18" CMP.
- 1.98 Existing 18" CMP.
- 2.09 JCT w/ PVT road on left. Existing 36" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 2.25 JCT w/ PVT road on left.
- 2.70 Reconstruct existing water dip.
- 2.76 Existing 24" CMP at live stream. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 2.82 Existing 18" CMP.
- 3.02 Existing catch basin did not find pipe - clean out.
- 3.19 End of 31-9-11.0 Road and begin 31-9-15.0 Road at property line. End road renovation.

Road 31-9-11.5 - E Panther Rdg - NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 31-9-11.0 Road and 31-9-11.3 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.02 | Unit 11-08A boundary on left. |
| 0.03 | Existing 18" HDPE pipe. |
| 0.08 | JCT w/ PVT 31-9-11.6 Road on left. End road renovation. |

Road 31-9-11.6 - ASC

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-9-11.5 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; and roadside brushing. |
| 0.02 | JCT w/ TR 11-08A on left. End road renovation. |

Road 31-9-15.0 - E Panther Crk Road - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | End 31-9-11.0 Road and begin 31-9-15.0 Road at property line. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.02 | Existing 18" CMP. |
| 0.09 | Existing 18" CMP. |

- 0.19 Existing 18" CMP.
- 0.24 Existing 18" CMP.
- 0.32 JCT w/ 31-9-27.0 Road on left and right. End road renovation.

Road 31-9-27.0(D) - Panther Creek Road - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 2.66 | JCT w/ 31-9-15.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 2.67 | Existing 18" CMP. |
| 2.75 | Existing 18" CMP. |
| 2.82 | Existing 18" CMP. |
| 2.91 | Existing 18" CMP. |
| 3.02 | Existing 18" CMP. |
| 3.14 | Existing 24" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 3.22 | Existing 18" CMP. |
| 3.32 | Existing 18" CMP. |
| 3.47 | Existing 18" CMP. |
| 3.53 | Existing 24" CMP. |
| 3.59 | Existing 18" CMP. |
| 3.65 | Property line. |
| 3.73 | Old gate location. One gate post on right. |
| 3.74 | Existing 18" CMP. |
| 3.79 | Existing 24" CMP. |
| 3.85 | Existing 24" CMP. |
| 3.95 | Existing 24" CMP. |
| 4.02 | Existing 24" CMP. |
| 4.08 | Existing 24" CMP. |
| 4.16 | Existing 18" CMP. |
| 4.25 | Existing 18" CMP. |
| 4.28 | JCT w/31-9-10.0 Road on right and 31-9-10.1 Road on left. End road renovation. |

Road 31-9-10.1 - Panther Creek Sp - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-9-10.0 Road and 31-9-27.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.07 | Existing 36" CMP to be removed and replaced with a 36"x50' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at |

- culvert replacement. Supply and properly place 3 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.17 Existing 30" CMP.
- 0.21 Existing 18" CMP. Property line.
- 0.27 Remove and properly dispose of existing cattle gate.
- 0.34 Existing 18" CMP to be removed and replaced with a 24"x30' Galvanized CMP w/ a 24"x20' full round downspout per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement.
- 0.43 Existing 18" CMP to be removed and replaced with a 24"x80' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (11 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.49 Existing 30" CMP to be removed and replaced with a 36"x80' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (11 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 3 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.58 Existing 18" CMP to be removed and replaced with a 24"x70' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (11 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.62 Unit 15-19A boundary on right.
- 0.69 Existing 18" CMP.
- 0.73 Existing 18" CMP to be removed and replaced with a 24"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 0.76 Unit 15-19A boundary on right.

- 0.78 Existing 30" CMP to be removed and replaced with a 36"x120' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (11 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 3 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.79 JCT w/ 31-9-15.1 Road on right.
- 0.81 Existing 30" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.83 Unit 15-19A boundary on right.
- 0.86 Unit 15-19A boundary on right.
- 0.89 Existing 30" CMP to be removed and replaced with a 36"x70' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (11 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 3 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.92 Unit 15-19A boundary on right.
- 0.95 Unit 15-19A boundary on right.
- 0.98 Existing 30" CMP to be removed and replaced with a 36"x80' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (11 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 3 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.09 Existing 18" CMP to be removed and replaced with a 24"x60' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.13 Existing 18" CMP to be removed and replaced with a 24"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.

Exhibit C12

Sale Name: Milk Dudds T.S.

Page 19 of 36

- 1.72 Existing 24" CMP to be removed and replaced with a 24"x70' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.76 Existing 24" CMP to be removed and replaced with a 36"x60' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 3 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.79 Unit 15-19B boundary on right.
- 1.82 Existing 24" CMP to be removed and replaced with a 24"x50' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 1.86 Unit 15-19B boundary on right.
- 1.90 Construct truck turnaround. End road renovation.

Road 31-9-10.0(A-B) - Panther Ridge - PRR/NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-9-10.1 Road and 31-9-27.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.02 | Existing 18" CMP. |
| 0.03 | JCT w/ PVT road to right. |
| 0.06 | Existing 18" CMP. |
| 0.11 | Existing 18" CMP. |
| 0.16 | Existing 18" CMP to be removed and replaced with a 18"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. |
| 0.20 | Existing 18" CMP. |

- 0.21 Existing 18" HDPE pipe.
- 0.25 Existing 24" CMP to be removed and replaced with a 24"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 0.35 Existing 18" CMP.
- 0.40 Existing 18" CMP.
- 0.46 Existing 18" CMP.
- 0.53 Existing 18" CMP.
- 0.59 Existing 18" CMP.
- 0.66 Property line. JCT w/ old temp route left w/ barricade.
- 0.76 Existing 18" CMP to be removed and replaced with a 18"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Remove and properly dispose of ranch style gate w/ one post lying in ditch.
- 0.86 Existing 18" CMP w/ damaged outlet. Cut 8feet of unwound damaged pipe.
- 0.91 Existing 18" CMP.
- 0.97 JCT w/ PVT road on right.
- 1.00 Begin Seg B; NAT surface. JCT w/ TR 15-19A-N on left.
- 1.01 Existing water dip.
- 1.07 Remove existing tank trap and replace upon completion of haul.
- 1.09 Remove existing water bar and replace upon completion of haul.
- 1.12 Remove existing water bar and replace upon completion of haul.
- 1.14 Remove existing water bar and replace upon completion of haul.
- 1.15 Remove existing water bar and replace upon completion of haul.
- 1.18 Remove existing water bar and replace upon completion of haul.
- 1.20 Remove existing barricade and replace upon completion of haul.
- 1.22 Remove existing water bar and replace upon completion of haul.
- 1.25 Remove existing water bar and replace upon completion of haul.
- 1.28 Remove existing water bar and replace upon completion of haul.
- 1.32 Remove existing water bar and replace upon completion of haul.
- 1.37 Unit 15-19A on right and left.
- 1.38 Remove existing water bar and replace upon completion of haul.
- 1.43 Remove existing water bar and replace upon completion of haul.
- 1.46 Remove existing water bar and replace upon completion of haul.
- 1.49 Remove existing water bar and replace upon completion of haul.
- 1.55 JCT w/ TR 15-19A-S on left.
- 1.58 Remove existing water bar and replace upon completion of haul.
- 1.60 Remove existing water bar and replace upon completion of haul.

- 1.62 Remove existing water bar and replace upon completion of haul.
- 1.64 Remove existing water bar and replace upon completion of haul.
- 1.65 Remove existing water bar and replace upon completion of haul.
- 1.66 Property line. Unit 15-19A boundary on left and right.
- 1.67 Remove existing tank trap. Construct truck turnaround.
- 1.70 JCT w/ 31-9-16.1 Road on right and 31-9-21.4 Road on right. Steep pitch. End road renovation.

Road 31-9-21.4(A-B) - Panther Tie Road - NAT

(MP's listed as driving to timber unit)

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.29 | JCT w/ 31-9-16.1 Road and 31-9-10.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications and roadside brushing. |
| 0.12 | Existing water dip. |
| 0.10 | Property line. Begin Seg A. |
| 0.00 | JCT w/ 31-9-21.0 Road on left and right. End road renovation. |

Road 31-9-21.0(A-C) - Gold Mountain Sp - PRR

(MP's listed as driving to timber unit)

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 1.62 | JCT w/ 31-9-21.4 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 1.59 | Begin Seg B and rock surface. |
| 1.57 | JCT w/ old temp route on left. |
| 1.31 | Property line. |
| 1.29 | JCT w/ PVT road on left. |
| 1.19 | JCT w/ PVT road on right. |
| 1.06 | Existing water dip. |
| 0.97 | JCT w/ 31-9-21.5 Road on left. |
| 0.95 | Existing 18" CMP. |
| 0.91 | Existing 18" CMP. |
| 0.78 | JCT w/ PVT road on right. |
| 0.71 | Begin Seg A. |
| 0.52 | JCT w/ PVT road on right. Use this for truck turnaround to reverse haul direction out of Unit 21-04. End road renovation. |

Road 31-9-21.5 - NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-9-21.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications and roadside brushing. |
| 0.11 | Drain ponding water. |

- 0.16 Drain ponding water.
- 0.19 Drain ponding water.
- 0.26 JCT w/ TR 21-04 on right (jeep road). End road renovation.

Road 31-9-36.0 - Elk Hayes Road - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 31-8-31.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.04 | Existing mega-gate. |
| 0.09 | Existing 18" CMP. |
| 0.15 | Existing 18" CMP to be removed and replaced with a 24"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. |
| 0.27 | Existing 24" CMP to be removed and replaced with a 36"x75' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.37 | Existing 18" CMP. |
| 0.44 | Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.64 | Existing 36" CMP to be removed and replaced with a 36"x100' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 3 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.68 | Existing 18" CMP. |
| 0.69 | JCT w/ 31-9-25.0 Road on right. End road renovation. |

Road 31-9-25.0 - Elk Hayes P1 Spur - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 31-9-36.0 Road. Begin road renovation which may include, but is not limited to, |

reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing.

- 0.07 Existing 18" CMP.
- 0.14 Existing 18" CMP.
- 0.21 Existing 18" CMP.
- 0.31 Existing 18" CMP.
- 0.36 JCT w/ TR 25-11 on left.
- 0.37 Unit 25-11 boundary on left.
- 0.45 JCT w/ 31-9-25.4 Road on left.
- 0.46 Unit 25-11 boundary on left. END of road renovation

Road 31-9-25.4- Elk Hayes P2 Spur - NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 31-9-25.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications; clearing and reshaping ditch lines; and roadside brushing. |
| 0.11 | Unit 25-11 boundary on left and right. End road renovations. |

Road 31-9-25.1(A-E) - Upper Panther Creek Road - ASC/NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 31-8-31.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.04 | Existing bottomless arch pipe at creek crossing. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.07 | Existing mega-gate and 18" HDPE pipe. |
| 0.13 | Two existing 18" CMPs and downspout to be removed and replaced with a 24"x40' Galvanized CMP w/ a 24"x20' full round downspout per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.14 | Unit 25-04M boundary on left. |
| 0.23 | Unit 25-04M boundary on left. |
| 0.29 | Existing 18" CMP and downspout to be removed and replaced with a 24"x40' Galvanized CMP w/ a 24"x20' full round downspout per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. |
| 0.33 | Fill-slope failure - Repair w/ 10 CY's of Class 0 Riprap material (or approved equal) properly keyed-in, placed, and compacted from an approved weed free commercial |

- source per contract specifications and drawings. Properly place, water, and roll a 3" lift (3 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at fill slope failure.
- 0.36 Existing 24" CMP to be removed and replaced with a 36"x60' Galvanized CMP per project details and specifications. Drop outlet 5 feet. Fill-slope failure - Repair w/ 20 CY's of Class 0 Riprap material (or approved equal) properly keyed-in, placed, and compacted from an approved weed free commercial source per contract specifications and drawings. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 3 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.38 Unit 25-04A boundary on left.
- 0.40 Unit 25-04B boundary on right.
- 0.45 Existing 18" CMP.
- 0.54 Unit 25-04B boundary on right. JCT w/ 31-9-25.2 Road on right
- 0.56 Unit 25-04A boundary on left.
- 0.56 Existing 18" CMP w/ 1/2 round downspout.
- 0.64 Existing 18" CMP w/ 1/2 round downspout.
- 0.68 Existing 18" CMP.
- 0.75 Existing 24" CMP at creek crossing. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.80 Unit 25-04D boundary on left and Unit 25-04K boundary on right.
- 0.87 Existing 18" CMP w/ 1/2 round downspout.
- 0.89 JCT w/ 31-9-25.5 Road on left.
- 0.96 Unit 25-04D boundary on left.
- 0.98 Unit 25-04K boundary on right.
- 0.99 Existing 18" CMP.
- 1.13 Existing 18" CMP w/ 1/2 round downspout.
- 1.15 Unit 25-04F boundary on left.
- 1.21 JCT w/ 31-9-26.0 Road on right and existing 18" CMP. Begin Seg B and NAT surface.
- 1.22 Property line.
- 1.24 Existing 18" HDPE pipe.
- 1.29 Existing 18" HDPE pipe.
- 1.35 JCT w/ operator spur to. Unit 25-04H on left.
- 1.45 Existing 18" HDPE pipe.
- 1.71 JCT w/ PVT road on left.
- 1.77 Existing 18" HDPE pipe.
- 1.82 Existing 18" HDPE pipe.
- 1.86 Existing 18" HDPE pipe.
- 1.91 Existing 18" HDPE pipe.
- 2.01 Existing 18" HDPE pipe.
- 2.05 Existing 18" HDPE pipe.

- 2.21 Existing 24" HDPE pipe.
- 2.36 Existing 24" HDPE pipe.
- 2.54 Existing 18" HDPE pipe.
- 2.59 Existing 18" HDPE pipe.
- 3.04 Existing water dip – reconstruct.
- 3.09 Existing water dip – reconstruct.
- 3.19 Existing 18" HDPE pipe.
- 3.21 Existing 18" HDPE pipe.
- 3.25 Existing water bar. Reconstruct upon completion of haul.
- 3.26 Existing 18" HDPE pipe.
- 3.43 Existing 18" HDPE pipe.
- 3.55 Property line. Begin Seg C.
- 3.58 Existing water bar. Reconstruct upon completion of haul.
- 3.59 Existing 48" CMP at creek crossing. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 3.62 Existing 24" HDPE pipe. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 3.86 Existing 18" HDPE pipe. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 3.87 Property line. Begin Seg D.
- 3.90 Existing 24" HDPE pipe.
- 4.00 Existing 18" HDPE pipe.
- 4.13 Existing 24" HDPE pipe.
- 4.21 Existing 24" HDPE pipe.
- 4.31 Existing 18" HDPE pipe.
- 4.33 Existing 18" HDPE pipe.
- 4.38 JCT w/ PVT 31-9-26.3 Road on right.
- 4.48 Existing water bar. Reconstruct upon completion of haul.
- 4.50 Existing water bar. Reconstruct upon completion of haul.
- 4.51 Property line. Begin Seg E. Unit 27-01 boundary on right.
- 4.53 Unit 27-01 boundary on right.
- 4.61 Existing water bar. Reconstruct upon completion of haul.
- 4.64 Existing water bar. Reconstruct upon completion of haul.
- 4.71 Existing water dip.
- 4.74 Unit 27-01 boundary on right.
- 4.75 Existing 18" CMP to be removed and replaced with a 18"x30' Galvanized CMP per project details and specifications. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 4.76 Existing water dip.
- 4.80 Existing water dip.
- 4.82 Unit 27-02 boundary on left.
- 4.84 Existing water dip.
- 4.90 Existing water dip.
- 4.95 Existing water dip.
- 4.98 Unit 27-02 boundary on left and Unit 27-01 boundary on right.

- 5.04 Unit 27-02 boundary on left.
- 5.09 Property line. Unit 27-02 boundary on left. End road renovation.

Road 31-9-25.2 - W Elk Valley Road - NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-9-25.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.00 | Existing 18" CMP and Unit 25-04B boundary on right. |
| 0.04 | Existing 18" HDPE pipe to be removed and replaced with a 18"x40' Galvanized CMP per project details and specifications. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. |
| 0.05 | Unit 25-04C boundary on left. |
| 0.14 | Unit 25-04C boundary on left. |
| 0.15 | Unit 25-04B boundary on right. End road renovation. |

Road 31-9-25.5 - Bull Elk Rd - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-9-25.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.08 | Unit 25-04D boundary on right and left. |
| 0.16 | Fill-slope failure - Repair w/ 15 CY's of Class 0 Riprap material (or approved equal) properly keyed-in, placed, and compacted from an approved weed free commercial source per contract specifications and drawings. Existing running surface is only 10 feet wide; widen to 14 feet per road specifications. Properly place, water, and roll a 3" lift (3 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at fill slope failure. |
| 0.18 | Begin heavy blading and renovation. Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.19 | Unit 25-04E boundary on left. |
| 0.20 | Unit 25-04F boundary on right. |
| 0.34 | Unit 25-04F boundary on right. |
| 0.35 | Unit 25-04E boundary on left. |
| 0.36 | Existing 18" CMP to be removed and replaced with a 24"x50' Galvanized CMP per project details and specifications. Drop outlet 2 feet. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class |

3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.

- 0.38 Unit 25-04G boundary on left.
- 0.46 Unit 25-04G boundary on left.
- 0.47 Two existing 18" CMP's, stacked.
- 0.49 Unit 25-04I boundary on right and Unit 25-04J boundary on left.
- 0.57 Unit 25-04J boundary on left.
- 0.59 Unit 25-04 I ← right
- 0.62 Construct truck turnaround. End road renovation.

Road 31-9-26.0(A) - Panther Peak Road - PRR

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 31-9-25.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.11 | Existing 18" CMP. |
| 0.18 | Existing 18" CMP. |
| 0.35 | Existing 18" CMP. |
| 0.40 | End road renovation. |

Road 31-9-26.3 - NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-9-25.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications and roadside brushing. |
| 0.03 | Existing water bar - reconstruct upon completion of haul. |
| 0.05 | Existing water bar - reconstruct upon completion of haul. |
| 0.09 | Existing water bar - reconstruct upon completion of haul. |
| 0.14 | Existing water bar - reconstruct upon completion of haul. |
| 0.20 | Existing water bar - reconstruct upon completion of haul. |
| 0.24 | Existing water bar - reconstruct upon completion of haul. |
| 0.28 | Existing water bar - reconstruct upon completion of haul. |
| 0.32 | Existing water bar - reconstruct upon completion of haul. |
| 0.35 | Existing water bar - reconstruct upon completion of haul. |
| 0.39 | Existing water bar - reconstruct upon completion of haul. |
| 0.45 | JCT w/ TR 27-01 on left. |
| 0.56 | End road renovation at existing truck turnaround area. |

Road 31-9-25.3(A-C) - Elk Valley Creek Road - GRR

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 31-8-31.0 Road. Begin road renovation which may include, but is not limited to, |

- reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing.
- 0.07 Existing 18" CMP.
- 0.11 Existing 18" CMP.
- 0.24 Existing 18" CMP.
- 0.28 Property line. Begin Seg B.
- 0.35 JCT w/ 31-8-30.0 Road on right.
- 0.39 Existing 18" CMP.
- 0.43 Existing 18" CMP.
- 0.46 Existing 24" CMP to be removed and replaced with a 24"x36' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 0.51 Existing 18" CMP.
- 0.59 Existing 18" CMP.
- 0.68 Existing 48" CMP to be removed and replaced with a 36"x60' Galvanized CMP per project details and specifications. Deep fill draw pipe. Properly place, water, and roll a 3" lift (14 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 3 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.70 Unit 19-09A boundary on right.
- 0.78 Unit 19-09A boundary on right.
- 0.80 Existing 18" CMP to be removed and replaced with a 36"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 3 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.87 Unit 19-09A. boundary on right.
- 0.92 Existing 18" CMP.
- 1.00 JCT w/ 31-8-19.0 Road on left. Begin Seg C and heavy road reconstruction.
- 1.02 Unit 19-09A. boundary on right.
- 1.04 Remove existing barricade.
- 1.05 Existing 36" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.07 Unit 19-03C boundary on right.

- 1.10 Unit 19-03C boundary on right.
- 1.13 Existing 36" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.16 Unit 19-03D boundary on right and Unit 19-03A boundary on left.
- 1.18 Existing 18" CMP.
- 1.20 Unit 19-03D boundary on right and Unit 19-03A boundary on left.
- 1.24 Existing 24" CMP to be removed and replaced with a 24"x50' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.28 Unit 19-03C boundary on right.
- 1.32 Unit 19-03C boundary on right.
- 1.35 Existing 24" CMP to be removed and replaced with a 24"x50' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.48 Existing 24" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.52 Unit 19-03B boundary on left.
- 1.58 Unit 19-03B boundary on left.
- 1.63 Existing 24" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.65 Construct truck turnaround. End road reconstruction/renovation.

Road 31-8-30.0(A-B1) - E Fork Elk Valley Rd - ABC

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-9-25.3 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.01 | Large bottomless arch pipe at creek crossing. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.06 | Existing 18" CMP. |
| 0.11 | Existing 24" CMP to be removed and replaced with a 24"x50' Galvanized CMP per project details and specifications. Drop outlet 5 feet. Fill-slope failure - Repair w/ 30 CY's of Class 0 Riprap material (or approved equal) properly keyed-in, placed, and compacted from an approved weed free commercial source per contract specifications |

- and drawings. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.21 Property line. Begin Seg A2.
- 0.24 Existing 18" CMP.
- 0.29 Existing 18" CMP and 24" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.40 Existing 18" CMP to be removed and replaced with a 24"x40' Galvanized CMP per project details and specifications. Drop outlet 3 feet. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.46 Existing 18" CMP to be removed and replaced with a 24"x40' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.49 Units 19-08C boundary on right and Unit 19-08A boundary on left.
- 0.55 Unit 19-08C boundary on right.
- 0.57 Unit 19-08A boundary on left and existing 18" CMP.
- 0.60 Unit 19-08D boundary on left.
- 0.75 Unit 19-8A ←
- 0.81 Existing 30" CMP at creek crossing. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 0.94 Unit 19-08A boundary on left.
- 1.00 Existing 18" CMP.
- 1.04 Unit 19-08B boundary on right.
- 1.10 Unit 19-08A boundary on left.
- 1.11 Unit 19-08B boundary on right.
- 1.20 Existing 30" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.32 Existing 18" CMP.
- 1.46 Existing 18" CMP.
- 1.52 Unit 19-06C boundary on left.
- 1.60 Existing 18" CMP.

- 1.61 Unit 19-06C boundary on left.
- 1.62 Unit 19-06C boundary on left.
- 1.69 Existing 18" CMP.
- 1.74 Unit 19-06C boundary on left and existing 18" CMP.
- 1.79 Unit 19-06A boundary on left.
- 1.84 Unit 19-06B boundary on right.
- 1.92 Unit 19-06A boundary on left.
- 1.93 Existing 24" CMP to be removed and replaced with a 24"x48' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings.
- 1.95 Unit 19-06A boundary on left. Begin Seg B1.
- 2.05 Existing 18" HDPE pipe.
- 2.11 Property line. Unit 19-06A boundary on left and Unit 19-06B boundary on right. End road renovation.

Road 31-9-13.4 - Elk Valley Sp- NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | JCT w/ 31-8-31.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications and roadside brushing. Unit 13-02B boundary on right. |
| 0.06 | Unit 13-02B boundary on right. End road renovation. |

Road 31-9-12.4(A-B) - NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-8-31.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications and roadside brushing. |
| 0.07 | Existing root wad barricade; remove and replace upon completion of use. |
| 0.18 | JCT w/ PVT road on left. |
| 0.23 | Railcar bridge at creek crossing. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.27 | Existing 24" HDPE pipe. |
| 0.29 | Existing water bar - reconstruct upon completion of haul. |
| 0.31 | JCT w/ PVT 13-9-13.3 Road on left. Begin Seg B. |
| 0.34 | Existing water bar - reconstruct upon completion of haul. |
| 0.38 | Existing water bar - reconstruct upon completion of haul. |
| 0.40 | Existing water bar - reconstruct upon completion of haul. |
| 0.45 | Existing water bar - reconstruct upon completion of haul. |
| 0.47 | Existing water bar - reconstruct upon completion of haul. |
| 0.49 | Existing 18" HDPE pipe. |
| 0.50 | Existing water bar - reconstruct upon completion of haul. |

- 0.52 Existing water bar - reconstruct upon completion of haul.
- 0.56 Existing water bar - reconstruct upon completion of haul.
- 0.58 Existing water bar - reconstruct upon completion of haul.
- 0.60 End road renovation.

Road 31-9-13.3 - NAT

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-9-12.4 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications and roadside brushing. |
| 0.09 | Existing 18" HDPE pipe. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.15 | Existing 18" HDPE pipe. |
| 0.17 | Existing water bar - reconstruct upon completion of haul. |
| 0.20 | Existing 18" HDPE pipe. |
| 0.24 | End road renovation. |

Road 31-9-12.0(A-B) - Elk Creek Road - ASC

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 0.00 | JCT w/ 31-8-31.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.17 | Existing 18" CMP. Pond at outlet. |
| 0.24 | JCT w/ 31-9-12.1 Road on left. |
| 0.40 | JCT w/ PVT 31-9-12.3 Road on right. |
| 0.41 | Existing 18" CMP. |
| 0.47 | Existing 18" CMP to be removed and replaced with a 24"x45' Galvanized CMP per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement. Supply and properly place 2 CY's of Class 3 Riprap material from an approved weed free commercial source at pipe outlet for fill-slope protection per contract specifications and drawings. |
| 0.51 | Property line. Begin Seg B. |
| 0.55 | Existing 18" CMP. |
| 0.63 | Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.71 | Existing 18" CMP. |
| 0.84 | Existing 18" CMP. |
| 0.89 | Existing 18" CMP. |
| 0.91 | JCT w/ 31-8-7.0 Road on right. |
| 0.95 | Existing 18" CMP. |
| 1.02 | Existing 18" CMP. |
| 1.09 | Unit 07-09 boundary on right. |

- 1.10 Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.15 Existing 18" CMP to be removed and replaced with a 24"x35' Galvanized CMP w/ a 24"x10' full round downspout per project details and specifications. Properly place, water, and roll a 3" lift (9 CY's) compacted in place of 1-1/2" minus crushed rock material from an approved weed free commercial source per contract specifications and drawings to replace road surface at culvert replacement.
- 1.22 Existing 18" CMP w/ 1/2 round downspout.
- 1.28 Exiting out slope water dip
- 1.33 Existing 18" CMP w/ 1/2 round downspout.
- 1.36 Existing 18" CMP w/ 1/2 round downspout.
- 1.38 Existing 18" CMP.
- 1.40 Existing 24" CMP Beveled both ends; Pond overflow. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.46 Existing 24" CMP Beveled both ends. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings.
- 1.57 JCT w/ 31-8-6.1 Road on left.
- 1.59 Existing 18" CMP.
- 1.72 Existing 18" CMP w/ 1/2 round downspout.
- 1.73 Unit 07-09 boundary on right.
- 1.77 Unit 07-09 boundary on right.
- 1.83 Existing 18" CMP.
- 1.90 End road renovation at truck turnaround area.

Road 31-8-6.1(B) - Hunter Poi Sp - ABC

(MP's listed as driving to timber unit)

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.80 | JCT w/ 31-9-12.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 0.71 | Existing 18" CMP. Hydrologic Point of Concern: Install check dams or other approved BMP's per contract specifications and drawings. |
| 0.65 | JCT w/ 31-8-8.2 Road on right. End road renovation. Boundary with Medford District and Roseburg District BLM. |

Road 31-8-8.2(A-B) - Elk Valley Spur - PRR

(MP's listed as driving to timber unit)

- | <u>MP</u> | <u>Task</u> |
|-----------|---|
| 1.43 | JCT w/ 31-9-6.1 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. |
| 1.35 | Existing water dip. |
| 1.28 | Existing 18" CMP. |

1.23	Existing 18" CMP.
1.10	Existing 18" CMP w/ ½ round downspout.
1.09	Remove existing earthen barricade. Rock pit area.
0.82	Existing 18" CMP.
0.73	Existing 18" CMP.
0.61	Existing 18" CMP.
0.54	Existing 18" CMP w/ ½ round downspout. Big puddle in road on top of culvert; cut drainage through berm to drain.
0.42	Existing 18" CMP w/ ½ round downspout.
0.35	Property line.
0.34	Existing 18" CMP w/ ½ round downspout.
0.24	Existing 18" CMP w/ ½ round downspout. JCT w/ PVT road on right and 31-8-8.3 Road on left.
0.09	Existing 18" CMP.
0.07	JCT w/ PVT road on right.
0.04	Existing 18" CMP.
0.00	JCT w/ 31-8-5.0 Road on left and right. End road renovation.

Road 31-8-5.0(E-F) - Dutchman Road - PRR

<u>MP</u>	<u>Task</u>
1.30	JCT w/ 31-8-8.2 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing.
1.32	JCT w/ 31-8-7.1 Road on right.
1.43	Property line. Begin Seg F.
1.74	Boundary with Medford District and Roseburg District BLM.
1.76	Construct armored water dip. Inside ditch is plugged. Water is going down road; 1 foot deep rutting.
1.98	Unit 07-02 boundary on right.
2.04	Unit 07-02 boundary on right.
2.09	Unit 07-02 boundary on right.
2.13	Unit 07-02 boundary on left.
2.14	JCT w/ TR 07-02 on left.
2.20	Unit 07-02 boundary on left and right. End road renovation.

Road 31-9-12.2(A-B) - NAT

<u>MP</u>	<u>Task</u>
0.00	JCT w/ 31-8-31.0 Road. Begin road renovation which may include, but is not limited to, reshaping road surface (blading and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing.
0.66	JCT w/ PVT road on left. Begin Seg B.
1.01	End road renovation.

Temporary Routes (TR)

All Temporary Routes are NAT surface, unless noted otherwise. Upon completion of timber extraction, all Temporary Routes associated with each Unit are to be decommissioned. Decommissioning consists of ripping the subgrade, installation of water bars, placing of seed and mulch or slash, and constructing earthen or log barricade at the entrance.

TR 07-02

<u>MP</u>	<u>Task</u>
0.00	Begin temp route construction. JCT w/ 31-8-5.0 Road.
0.01	Construct earthen or log barricade upon completion of timber haul/operations and decommissioning requirements.
0.12	End temp route construction. Construct truck turnaround.

TR 11-08A

<u>MP</u>	<u>Task</u>
0.00	Begin temp route construction. JCT w/ PVT 31-9-11.6 Road.
0.01	Construct earthen or log barricade upon completion of timber haul/operations and decommissioning requirements.
0.07	End temp route construction.

TR 15-19A-N

<u>MP</u>	<u>Task</u>
0.00	Begin temp route reconstruction. JCT w/ 31-9-10.0 Road.
0.01	Construct earthen or log barricade upon completion of timber haul/operations and decommissioning requirements.
0.17	Begin temp route new construction.
0.33	End temp route construction.

TR 15-19A-S

<u>MP</u>	<u>Task</u>
0.00	Begin temp route construction. JCT w/ 31-9-10.0 Road.
0.01	Construct earthen or log barricade upon completion of timber haul/operations and decommissioning requirements.
0.30	End temp route construction.

TR 19-06B - Requires Crossing Plat

<u>MP</u>	<u>Task</u>
0.00	Begin temp route construction (reconstruction at some parts - existing CAT road). JCT w/ PVT 31-8-20.1 Road.
0.01	Construct earthen or log barricade upon completion of timber haul/operations and decommissioning requirements.

- 0.17 Property line.
- 0.29 End temp route construction. Construct truck turnaround.

TR 21-04 - Requires Crossing Plat

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | Begin temp route reconstruction (existing jeep road). JCT w/ PVT 31-9-21.5 Road. |
| 0.01 | Construct earthen or log barricade upon completion of timber haul/operations and decommissioning requirements. |
| 0.05 | Property line. |
| 0.22 | End temp route reconstruction. |

TR 25-11

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | Begin temp route construction. JCT w/ 31-9-25.0 Road. |
| 0.01 | Construct earthen or log barricade upon completion of timber haul/operations and decommissioning requirements. |
| 0.04 | End temp route construction. |

TR 27-01 - Requires Crossing Plat

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | Begin temp route construction. JCT w/ PVT 31-9-26.3 Road. |
| 0.01 | Construct earthen or log barricade upon completion of timber haul/operations and decommissioning requirements. |
| 0.06 | Property line. |
| 0.15 | End temp route construction. |

TR 29-03 - Requires Crossing Plat

- | <u>MP</u> | <u>Task</u> |
|-----------|--|
| 0.00 | Begin temp route construction. JCT w/ 32-8-4.0 Road. |
| 0.01 | Construct earthen or log barricade upon completion of timber haul/operations and decommissioning requirements. |
| 0.05 | Property line. |
| 0.07 | End temp route construction. Construct truck turnaround. |

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
1200	Aggregate Surface Course - Crushed Rock
1400	Slope Protection
1700	Erosion Control
1800	Soil Stabilization
2100	Roadside Brushing

TIMBER SALE ROAD SPECIFICATIONS

GENERAL – 100

Note: Information in parenthesis is a choice typically used and can be modified or deleted when necessary to insure an appropriate specification.

101 - Prework Conference(s):

A prework conference will be held prior to the start of new construction, and improvement, and renovation, and surfacing operations. The Purchaser shall request the conference at least 48 hours prior to the time it is to be held. The conference will be attended by the Purchaser and/or his representative(s), subcontractor(s) and/or his or their representative(s) and the Authorized Officer and/or his representative(s).

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 subcontractor(s).

102 - Definitions:

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

Abrasion Resistance - The ability of a fabric surface to resist wear by friction.

ACI - American Concrete Institute

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.

TIMBER SALE ROAD SPECIFICATIONS

Burst Strength - The resistance of a geotextile material to rupture from pressure applied at right angles to the plane of the geotextile material under specified conditions, usually expressed as the amount of pressure causing failure. Rupture or burst results from tensile failure of the geotextile material.

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).

Grab Tensile Strength - A modified tensile strength of a geotextile material. The strength of a specific width of geotextile material together with the additional strength contributed by adjacent areas. Typically, grab strength is determined on a 12-inch-wide strip of geotextile material, with the tensile load applied at the midpoint of the geotextile material width through 1-inch-wide jaw faces.

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.

Nonwoven Geotextile Material - A textile structure produced by bonding or interlocking of fibers, or both, accomplished by mechanical or chemical means.

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

Penetration Resistance - The geotextile material property determined by the force required to penetrate a geotextile material with a sharp pointed object. Initial penetration is by separating the fibers. Further penetration is essentially a tearing process.

Percent Open Area - The net area of a geotextile material that is not occupied by geotextile material filaments, normally determinable only for woven and nonwoven

TIMBER SALE ROAD SPECIFICATIONS

geotextile material having distinct, visible, and measurable openings that continue directly through the geotextile material.

Permeability - The geotextile material property which permits water to be transmitted in the longitudinal or transverse planes of the geotextile material.

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 thereof which show the locations, character, dimensions, and details of the work to be done.

Pore Size - The size of an opening between geotextile material filaments; apparent opening size (AOS) is used to quantify this geotextile material property.

Puncture Resistance - The geotextile material property determined by the force required to penetrate a geotextile material with a blunt object. Failure results in a tearing of the geotextile material.

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.

Reinforcement - Strengthening of concrete with iron bars or mesh: geotextile with geotextile material inclusion: subgrade with aggregate: etc.

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

TIMBER SALE ROAD SPECIFICATIONS

prism.

Scale - In quarrying, consists of the removal of loose or overhanging rock adhering to the solid face after a shot or a round of shots has been fired.

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

Separation - Function of geotextile material as a partition between adjacent materials to prevent mixing of those materials.

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.

Tensile Strength - The strength shown by a geotextile material subjected to tension as distinct from torsion, compression, or shear.

Tensile Stress - Strain Modulus - A measure of the resistance to elongation under stress. The ratio of the change in tensile stress to the corresponding change in strain.

TIMBER SALE ROAD SPECIFICATIONS

Tensile Test - A test which subjects geotextile material to tensile forces and measures resultant stresses and strains.

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.

Ultraviolet (UV) Radiation Stability - The ability of geotextile material to resist deterioration from exposure to sunlight.

Unaged Cloth - Cloth in condition received from the manufacturer or distributor.

Woven Geotextile Material - A textile structure comprising two or more sets of filaments of yarns interlaced in such a way that the elements pass each other at essentially right angles with one set of elements parallel to the geotextile material axis.

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.

TIMBER SALE ROAD SPECIFICATIONS

<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 119</u>	Slump of hydraulic cement concrete.
<u>AASHTO T 152</u>	Air content of freshly mixed concrete.
<u>AASHTO T 166</u>	Specific Gravity of compacted Bituminous Mixtures.
<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 rammer & 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 209</u>	Maximum Specific Gravity of Bituminous Paving Mixtures.
<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.
<u>AASHTO T 238</u>	Density of Soil and Soil-Aggregate in place by nuclear methods.
<u>AASHTO T 248</u>	Reducing field samples of aggregate to testing size by mechanical splitter, quartering, or miniature stockpile sampling.
<u>ASTM D 4564</u>	Determination of relative density of cohesionless soils.
<u>DMSO (dimethyl sulfide)</u>	Determines volume of expanding clays in aggregates. Usually

TIMBER SALE ROAD SPECIFICATIONS

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.

TIMBER SALE ROAD SPECIFICATIONS

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.
- 202a - Where clearing limits for structures have not been staked or shown on the plans, the limits shall extend 10 feet out from the outside edge of the structure.
- 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 and 202a and as posted.
- 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 204c ,and 204e Undisturbed stumps, roots and other solid objects which will be a minimum of 3 feet below subgrades or slope surfaces or embankments are excluded.
- 204c - On excavated areas, roots and embedded wood shall be removed to a depth not less than 6 inches below the subgrade.
- 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. (Such debris will, however, be permitted to remain under waste material from full-bench construction on steep side slopes.).
- 206 - Clearing and grubbing debris shall be disposed of by scattering in accordance with Subsection 210 and at the following road locations:

TIMBER SALE ROAD SPECIFICATIONS

Road No.	From Sta./M.P.	To Sta./M.P.
31-8-29.0	0.75	1.08
31-9-25.3	1.00	1.65
TR 29-03	0.00	0.07
TR 19-06B	0.00	0.29
TR 25-11	0.00	0.04
TR 27-01	0.00	0.15
TR 07-02	0.00	0.12
TR 11-08A	0.00	0.07
TR 15-19A-N	0.00	0.33
TR 15-19A-S	0.00	0.30

- 210 - Disposal of clearing and grubbing debris 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.
- 210a - Disposal of clearing and grubbing debris on non-government property by scattering and/or piling this material outside of clearing limits will be permitted provided the Purchaser obtains a written permit from the property owner on whose property the disposal is to be made. The Purchaser shall furnish the Authorized Officer a certified copy of the permit and a written release from the property owner absolving the Government from responsibilities in connection with the disposal of debris on said property.
- 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.

TIMBER SALE ROAD SPECIFICATIONS

EXCAVATION AND EMBANKMENT - 300

- 301 - This work shall consist of excavating, overhaul, placement of embankments, backfilling, leveling, ditching, grading, out-sloping, 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 typical cross sections shown on the plans.
- 302 - Excavation shall also consist of the excavation of temporary route and landing cut sections, backfilling, leveling, ditching, grading, compaction, and other earth moving work necessary for the construction of the temporary routes in accordance with these specifications and conforming to the 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.
- 305 - Embankment construction shall consist of the placement of excavated materials, backfilling, leveling, grading, compaction, and other earth-moving work necessary for the construction of the temporary routes and landings in accordance with these specifications and conforming to the 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. Temporary route embankments of earth material shall be placed in horizontal layers not exceeding 8 inches in depth.
- 306a - Minimum compaction for each layer of embankment and selected temporary route excavation material placed at optimum moisture shall be 6 passes over each full-width layer or fraction thereof.
- 306e - The final roadway subgrade and turnaround areas shall be compacted to full width with compacting equipment conforming to the requirements of Subsections 103f, 103g, and 103i. Minimum compaction shall be 1 hour of continuous compacting for each 6 stations of road or a fraction of as measured along the center line of the constructed road.

TIMBER SALE ROAD SPECIFICATIONS

- 306g - All fill slopes shall be compacted to 85% of maximum density, either by walking with cat/excavator or by pressing with excavator bucket, to prevent surface erosion and raveling.
- 309 - The top of cut slopes shall be rounded by blending into the adjacent terrain for a distance not less than 1 foot and not more than 3 feet beyond the top of the cut. Rounding shall be performed in soils that can be shaped without ripping or blasting.
- 314 - When heavy clays, muck, clay shale, or other deleterious material for forming the temporary route 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 excavated 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 306g. Unsuitable material shall be disposed of as directed by the Authorized Officer.
- 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 end dumped and disposed of as directed by 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.
- 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.

SPECIAL PROVISIONS

1. Before the initial start of road renovation, construction, reconstruction, or surfacing operations, or after a shutdown of 7 or more days, the Purchaser, or the Purchasers Representative, shall notify the Authorized Officer 48 hours in advance of the date they plan to begin operations. The Purchaser shall also notify the Authorized Officer if they intend to cease operations for any period of 30 or more days.
2. The Purchasers Representative/Contractor shall protect, and is responsible for, any damage to existing telephone lines, transmission lines, fiber optic lines, fences, ditches, and other existing improvements as required in Section 14. Damage to utilities and existing improvements shall be promptly paid for or repaired to a condition which is, in the opinion of the Authorized Officer and the governing utility company, as good or better condition than just prior to such damage occurring.
3. All disturbed soil shall be seeded and mulched. The Purchasers Representative/Contractor shall apply native grass seed and Certified Weed Free straw mulch for soil stabilization operations. BLM will furnish native grass seed, **if available**. Acquiring certified weed free straw mulch is the responsibility of the Purchasers Representative.
4. All stream channel culverts and inlets shall be cleared and cleaned between **June 15th and October 1st** in accordance with Oregon Department of Fish and Wildlife (ODFW) in-stream work period guidelines.
5. Ensure that all large wood is retained in the stream channel during culvert cleaning activities by moving logs which had accumulated on the upstream side of a culvert to the downstream side of the culvert.
6. Roadside brushing cutting limits beneath or adjacent to bridges shall extend 8 feet horizontally from each side of the outermost projected line of the bridge including abutments, curbs, rails or decks. Cut brush and trees shall be removed from beneath the bridge and from the stream channel.
7. While roadside brushing, there shall be no scarring or any other damage of the tree trunk or bole allowed. All debris resulting from roadside brushing activities shall be scattered downslope. Use of Excavators for brush removal will be at the discretion of the Authorized Officer. **All culvert inlets and outlets shall be brushed for a radius of 4 feet.**
8. While roadside brushing through private industry lands, conifer trees at the edges of the cleared area (see cutting limit, Exhibit C10) shall have the branches pruned rather than being felled.
9. All stumps, designated by the Authorized Officer, which would interfere with normal blading and road renovation operations (including turnouts), shall be removed in such a way as to not cause damage to the drainage ditch or the road bed. Stumps that are ground-down, shall be ground to a minimum of 3 inches below existing grade.

TIMBER SALE ROAD SPECIFICATIONS

PIPE CULVERTS - 400

401 - This work shall consist of furnishing and installing pipe culverts, full round downspouts and other erosion control devices 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. 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 - The culverts located at the following road locations:

Road No.	Sta./M.P.
32-8-4.0(A-C)	0.93, 1.07, 1.32, 1.45, 1.56, 1.62, 2.53, 2.62, 3.66
31-8-31.1	2.80, 3.31
31-9-25.1(A-E)	0.13, 0.29, 0.36, 4.75
31-9-25.2	0.04
31-9-25.5	0.36
31-9-25.3(A-C)	0.46, 0.68, 0.80, 1.24, 1.35
31-8-30.0(A-B1)	0.11, 0.40, 0.46, 1.93
31-9-12.0(A-B)	0.47, 1.15
31-9-11.0(B)	1.27, 1.29
31-9-10.1	0.07, 0.34, 0.43, 0.49, 0.58, 0.73, 0.78, 0.89, 0.98, 1.09, 1.13, 1.72, 1.76, 1.82
31-9-10.0(A-B)	0.16, 0.25, 0.73
31-9-36.0	0.15, 0.27, 0.64
32-8-9.1(C)	0.68

as shown on the plans, shall be installed in such a manner as not to impede fish passage. Installation shall conform to the lines, grades, dimensions, and typical cross sections shown on the plans.

403 - Grade culverts shall have a gradient of from 2 percent to 4 percent greater than the adjacent road grade, except grades shall not exceed 10 percent. Grade culverts shall be skewed down grade 30 degrees as measured from the perpendicular to the

TIMBER SALE ROAD SPECIFICATIONS

centerline unless otherwise specified on the plans.

- 404 - Damage to the spelter, or burn back in excess of 3/8 inch, shall be wire brushed and painted with two coats of zinc-rich paint on zinc-coated, steel pipe and aluminum-rich paint on aluminum or aluminum-coated pipe.
- 405a - Corrugated-aluminized steel-welded pipe culverts and pipe-arch culverts and special sections shall conform to the requirements of AASHTO M 274.
- 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 at the following locations:

Road No.	Sta./M.P.
32-8-4.0(A-C)	0.93, 1.07, 1.32, 1.45, 1.56, 1.62, 2.53, 2.62, 3.66
31-8-31.1	2.80, 3.31
31-9-25.1(A-E)	0.13, 0.29, 0.36, 4.75
31-9-25.2	0.04
31-9-25.5	0.36
31-9-25.3(A-C)	0.46, 0.68, 0.80, 1.24, 1.35
31-8-30.0(A-B1)	0.11, 0.40, 0.46, 1.93
31-9-12.0(A-B)	0.47, 1.15
31-9-11.0(B)	1.27, 1.29
31-9-10.1	0.07, 0.34, 0.43, 0.49, 0.58, 0.73, 0.78, 0.89, 0.98, 1.09, 1.13, 1.72, 1.76, 1.82
31-9-10.0(A-B)	0.16, 0.25, 0.73
31-9-36.0	0.15, 0.27, 0.64
32-8-9.1(C)	0.68

shall be connected with "Hugger"-type coupling bands as shown on the plans.

NOTE: History shows that leakage at elbow joints can cause fill failure.

- 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

TIMBER SALE ROAD SPECIFICATIONS

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 - Pipe 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 shall conform to the typical diagram 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 selected granular or fine readily compactable soil material.
- 413 - Pipe culverts shall be bedded on a fine readily compactable soil material having a depth of not less than 10 percent of the diameter or height of the drainage structure concerned or a minimum depth of:

Pipe Corrugation Depth	Minimum Bedding Depth
1/2 inch	1 inch
1 inch	2 inches
2 inches	3 inches

Foundation material shall be of uniform density throughout the length of the structure and shall be shaped to fit the pipe.

- 414 - The invert grade of the bedding shall be cambered in accordance with the requirements and details shown on the plans and as directed by the Authorized Officer.
- 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 fine, readily compactable soil or granular fill material 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.

TIMBER SALE ROAD SPECIFICATIONS

- 417 - For pipe 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.
- 418 - Side fills beyond the compaction limits specified under Subsection 417 shall be compacted as specified under Section 300.
- 419 - The pipe 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.
- 422 - Construction of each culverts catch basin shall conform to the lines, grades, dimensions, and typical diagrams included in the plans.
- 427 - The Purchaser shall record culvert sizes, lengths and location actually installed, where they vary from the plans, on a copy of the Culvert List, Exhibit C8.
- 428 - The Purchaser shall be responsible for removal and disposal of the old culverts in a legal manner, and for any fees required. The Purchaser shall remove the old culverts from the project site prior to acceptance of road construction for each road renovation.
- 429 - Dewatering: Keep excavation site dewatered so that installation of culverts are completed under dry conditions. Dispose of excess water by using pumping or natural drainage ways near the site and in a manner that will avoid damage to adjacent property. Provide for downstream water flow with no more that 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.

TIMBER SALE ROAD SPECIFICATIONS

RENOVATION AND IMPROVEMENT OF EXISTING ROADS - 500

- 501 - This work shall consist of reconditioning and preparing the roadbed and shoulders, 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 marked on the ground with stakes.
- 502b - Drainage ditches shall be bladed and shaped in accordance with the lines, grades, dimensions, and typical cross sections shown on the plans.
- 504 - Existing road surfaces 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 103c, 103f, 103g, and 103i and in accordance with the following table:

Road No.	From Sta./M.P.	To Sta./M.P.	Subsection 504
32-8-10.2(A-B)	0.00	1.88	504a
32-8-4.3	0.00	0.33	504a
32-8-4.4	0.00	0.07	504a
32-8-9.1(A-C)	0.00	1.18	504a
32-8-11.0(A)	2.16	2.02	504a
32-8-3.1	0.00	0.10	504a
32-8-4.0(A-C)	0.00	5.87	504a
31-8-30.2	0.00	0.76	504a
31-8-20.1	0.00	0.20	504a
31-8-29.0(A-C)	0.00	1.08	504a
31-8-29.2	0.00	0.47	504a
31-8-31.1(A-C)	0.00	3.59	504a
31-8-31.2(A)	0.00	0.17	504a
31-8-31.3	0.00	0.80	504a
31-8-31.4	0.00	0.17	504a
31-8-31.0(A-G)	0.00	8.63	504a
31-9-36.0	0.00	0.69	504a
31-9-25.0	0.00	0.46	504a
31-9-25.4	0.00	0.11	504a
31-9-25.1(A-E)	0.00	5.09	504a

TIMBER SALE ROAD SPECIFICATIONS

31-9-25.2	0.00	0.15	504a
31-9-25.5	0.00	0.62	504a
31-9-26.0(A)	0.00	0.40	504a
31-9-26.3	0.00	0.56	504a
31-9-25.3(A-C)	0.00	1.65	504a
31-8-30.0(A-B1)	0.00	2.11	504a
31-9-13.4	0.00	0.06	504a
31-9-12.4(A-B)	0.00	0.60	504a
31-9-13.3	0.00	0.24	504a
31-9-12.0(A-B)	0.00	1.90	504a
31-8-6.1(B)	0.65	0.80	504a
31-8-8.2(A-B)	0.00	1.43	504a
31-8-5.0(E-F)	1.30	2.20	504a
31-9-12.2 (A-B)	0.00	1.01	504a
31-9-11.0(A-C)	0.00	3.19	504a
31-9-11.5	0.00	0.08	504a
31-8-11.6	0.00	0.02	504a
31-9-15.0	0.00	0.32	504a
31-9-27.0(D)	2.66	4.28	504a
31-9-10.1	0.00	1.90	504a
31-9-10.0(A-B)	0.00	1.70	504a
31-9-21.4(A-B)	0.00	0.29	504a
31-9-21.0 (A-C)	0.52	1.62	504a
31-9-21.5	0.00	0.26	504a

504a - Minimum compaction required shall be 6 passes over each full-width layer, or fraction thereof, as measured along the centerline per layer of material.

506 - The inlet end of (designated) existing drainage structures (as shown on the plans) (at the following location(s):)

Road No.	From Sta./M.P.	To Sta./M.P.
32-8-10.2(A-B)	0.00	1.88
32-8-4.3	0.00	0.33
32-8-4.4	0.00	0.07

TIMBER SALE ROAD SPECIFICATIONS

32-8-9.1(A-C)	0.00	1.18
32-8-11.0(A)	2.16	2.02
32-8-3.1	0.00	0.10
32-8-4.0(A-C)	0.00	5.87
31-8-30.2	0.00	0.76
31-8-20.1	0.00	0.20
31-8-29.0(A-C)	0.00	1.08
31-8-29.2	0.00	0.47
31-8-31.1(A-C)	0.00	3.59
31-8-31.2(A)	0.00	0.17
31-8-31.3	0.00	0.80
31-8-31.4	0.00	0.17
31-8-31.0(A-G)	0.00	8.63
31-9-36.0	0.00	0.69
31-9-25.0	0.00	0.46
31-9-25.4	0.00	0.11
31-9-25.1(A-E)	0.00	5.09
31-9-25.2	0.00	0.15
31-9-25.5	0.00	0.62
31-9-26.0(A)	0.00	0.40
31-9-26.3	0.00	0.56
31-9-25.3(A-C)	0.00	1.65
31-8-30.0(A-B1)	0.00	2.11
31-9-13.4	0.00	0.06
31-9-12.4(A-B)	0.00	0.60
31-9-13.3	0.00	0.24
31-9-12.0(A-B)	0.00	1.90
31-8-6.1(B)	0.65	0.80
31-8-8.2(A-B)	0.00	1.43
31-8-5.0(E-F)	1.30	2.20
31-9-12.2 (A-B)	0.00	1.01
31-9-11.0(A-C)	0.00	3.19
31-9-11.5	0.00	0.08
31-8-11.6	0.00	0.02

TIMBER SALE ROAD SPECIFICATIONS

31-9-15.0	0.00	0.32
31-9-27.0(D)	2.66	4.28
31-9-10.1	0.00	1.90
31-9-10.0(A-B)	0.00	1.70
31-9-21.4(A-B)	0.00	0.29
31-9-21.0 (A-C)	0.52	1.62
31-9-21.5	0.00	0.26

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 (designated) 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 drainage structures at the following locations:

Road No.	Sta./M.P.
32-8-4.0(A-C)	0.93, 1.07, 1.32, 1.45, 1.56, 1.62, 2.53, 2.62, 3.66
31-8-31.1	2.80, 3.31
31-9-25.1(A-E)	0.13, 0.29, 0.36, 4.75
31-9-25.2	0.04
31-9-25.5	0.36
31-9-25.3(A-C)	0.46, 0.68, 0.80, 1.24, 1.35
31-8-30.0(A-B1)	0.11, 0.40, 0.46, 1.93
31-9-12.0(A-B)	0.47, 1.15
31-9-11.0(B)	1.27, 1.29
31-9-10.1	0.07, 0.34, 0.43, 0.49, 0.58, 0.73, 0.78, 0.89, 0.98, 1.09, 1.13, 1.72, 1.76, 1.82
31-9-10.0(A-B)	0.16, 0.25, 0.73
31-9-36.0	0.15, 0.27, 0.64
32-8-9.1(C)	0.68

shall be replaced with structures of the type, gauge, diameter, and length shown on

TIMBER SALE ROAD SPECIFICATIONS

the plans and in accordance with the placement requirements set forth under section 400 of these specifications.

- 508 - Vegetation encroaching on the roadbed and the drainage ditches of existing roads at the following locations:

Road No.	From Sta./M.P.	To Sta./M.P.
32-8-10.2(A-B)	0.00	1.88
32-8-4.3	0.00	0.33
32-8-4.4	0.00	0.07
32-8-9.1(A-C)	0.00	1.18
32-8-11.0(A)	2.16	2.02
32-8-3.1	0.00	0.10
32-8-4.0(A-C)	0.00	5.87
31-8-30.2	0.00	0.76
31-8-20.1	0.00	0.20
31-8-29.0(A-C)	0.00	1.08
31-8-29.2	0.00	0.47
31-8-31.1(A-C)	0.00	3.59
31-8-31.2(A)	0.00	0.17
31-8-31.3	0.00	0.80
31-8-31.4	0.00	0.17
31-8-31.0(A-G)	0.00	8.63
31-9-36.0	0.00	0.69
31-9-25.0	0.00	0.46
31-9-25.4	0.00	0.11
31-9-25.1(A-E)	0.00	5.09
31-9-25.2	0.00	0.15
31-9-25.5	0.00	0.62
31-9-26.0(A)	0.00	0.40
31-9-26.3	0.00	0.56
31-9-25.3(A-C)	0.00	1.65
31-8-30.0(A-B1)	0.00	2.11
31-9-13.4	0.00	0.06
31-9-12.4(A-B)	0.00	0.60

TIMBER SALE ROAD SPECIFICATIONS

31-9-13.3	0.00	0.24
31-9-12.0(A-B)	0.00	1.90
31-8-6.1(B)	0.65	0.80
31-8-8.2(A-B)	0.00	1.43
31-8-5.0(E-F)	1.30	2.20
31-9-12.2 (A-B)	0.00	1.01
31-9-11.0(A-C)	0.00	3.19
31-9-11.5	0.00	0.08
31-8-11.6	0.00	0.02
31-9-15.0	0.00	0.32
31-9-27.0(D)	2.66	4.28
31-9-10.1	0.00	1.90
31-9-10.0(A-B)	0.00	1.70
31-9-21.4(A-B)	0.00	0.29
31-9-21.0 (A-C)	0.52	1.62
31-9-21.5	0.00	0.26

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 2 days prior to surfacing operations. The Purchaser shall give the Authorized Officer 3 days' notice prior to final inspection of the grading operations.

TIMBER SALE ROAD SPECIFICATIONS

WATERING - 600

- 601 - This work shall consist of furnishing and applying water required for the compaction of roadbeds, backfills, 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 road bed.
- 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.

TIMBER SALE ROAD SPECIFICATIONS

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 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.
- 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

GRADATION

Sieve Designation	C	C-1	D	D-1	E	E-1
1-1/2-inch	100	100	-	-	-	-
1-inch	-	-	100	100	-	-
3/4-inch	50-90	60-90	-	70-98	100	100
1/2-inch	-	-	-	-	-	70-98
No. 4	25-50	30-55	30-60	36-60	40-75	44-70
No. 8	-	22-43	-	25-47	-	30-54
No. 30	-	11-27	-	12-31	-	15-34
No. 40	5-25	-	5-30	-	5-35	-
No. 200	2-15	3-15	3-15	3-15	2-15	3-15

- 1205 - Crushed rock material retained on the No. 4 sieve shall have a percentage of loss

TIMBER SALE ROAD SPECIFICATIONS

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.
- 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 of not less than 4 and 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:

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

- 1209 - Shaping and compacting of roadbed shall be completed and approved in writing, prior to placing crushed rock material, in accordance to the requirements of Subsections 300 and 500. Notification for final inspection prior to rocking shall be 72 hours prior to the inspection and shall be 10 days prior to start of surfacing operations.
- 1210 - Crushed rock material conforming to the requirements of these specifications shall be placed on the approved roadbed in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. 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

TIMBER SALE ROAD SPECIFICATIONS

rutted roadbed shall not be construed as surfacing required by this specification.

- 1212 - Each layer of crushed rock material placed, processed, and shaped as specified shall be moistened or dried to a uniform moisture content suitable for maximum compaction and compacted to full width by compacting equipment conforming to the requirements of Subsections 103f, 103g, or 103i. Minimum compaction shall be 6 passes over each full-width layer, or fraction thereof.
- 1213a - Each layer of crushed aggregate surface rock placed, processed, and shaped in accordance with these specifications shall be uniformly moistened or dried to the optimum moisture content suitable for maximum compaction and compacted to full width until a uniform density of not less than 85 percent of the maximum density is attained.

TIMBER SALE ROAD SPECIFICATIONS

SLOPE PROTECTION - 1400

- 1401 - This work shall consist of (furnishing) (,) (hauling) (,) and placing stone materials for (slope protection structures) (and) (rock blankets) 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) (blasted rock and coarse stone from roadway excavation) of such quality that it will not disintegrate on exposure to water or weathering, and shall be graded in accordance with these specifications.

NOTE: Guide for relation between volume, size and weight. (175 lbs./cu./ft.):

Volume/ Cubic Foot	Average Dimension in inches	Approximate Weight in Pounds
<i>12</i>	<i>27.5 x 27.5 x 27.5</i>	<i>2100</i>
<i>6</i>	<i>21.8 x 21.8 x 21.8</i>	<i>1050</i>
<i>4</i>	<i>19.1 x 19.1 x 19.1</i>	<i>700</i>
<i>3</i>	<i>17.3 x 17.3 x 17.3</i>	<i>525</i>
<i>1</i>	<i>12.0 x 12.0 x 12.0</i>	<i>175</i>
<i>2/3</i>	<i>10.5 x 12.0 x 12.0</i>	<i>120</i>
<i>1/2</i>	<i>9.5 x 9.5 x 9.5</i>	<i>88</i>
<i>1/3</i>	<i>8.3 x 8.3 x 8.3</i>	<i>60</i>
<i>1/4</i>	<i>7.6 x 7.6 x 7.6</i>	<i>44</i>
<i>1/6</i>	<i>6.6 x 6.6 x 6.6</i>	<i>30</i>
<i>1/8</i>	<i>6.0 x 6.0 x 6.0</i>	<i>22</i>
<i>1/100</i>	<i>2.6 x 2.6 x 2.6</i>	<i>2</i>

- 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.

TIMBER SALE ROAD SPECIFICATIONS

1405 - Rip rap shall conform to the following gradations:

TABLE 1405¹

Class	Range of Intermediate Dimensions ² (inches)	Range of Rock Mass ³ (pounds)	% of Rock Equal or Smaller by Count
0	6-8	18-42	100
	5-6	10-18	85
	2-5	1-10	50
	0-2	0-1	15
1	9-15	59-270	100
	7-11	28-110	85
	5-8	10-42	50
	3-6	2-18	15
2	15-21	270-750	100
	11-15	110-270	85
	8-11	42-110	50
	6-8	10-42	15
3	21-27	750-1600	100
	15-19	270-560	85
	11-14	110-220	50
	8-10	42-81	15
4	27-33	1600-2900	100
	19-23	560-990	85
	14-17	220-400	50
	9-12	59-140	15

¹Gradation includes spalls and rock fragments to provide a stable, dense mass.

²The intermediate dimension is the longest straight-line distance across the rock that is perpendicular to the rock's longest axis on the rock face with the largest projection plane.

³Rock mass is based on a specific gravity of 2.65 (165#/cu.ft.) and 85 percent of the cubic volume as calculated using the intermediate dimension.

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

TIMBER SALE ROAD SPECIFICATIONS

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.
- 1408 - Trenches for slope protection structures shall be excavated to the lines, elevations, and typical diagram shown on the plans. They shall be of sufficient size to permit the placing of structure footing of the full widths and length shown. Trenches shall be approved by the Authorized Officer prior to placement of slope protection material.
- 1408a - Foundation trenches and other required excavation as shown on the plans shall be approved prior to placing the slope protection material.
- 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.
- 1411 - Slope protection materials shall be placed on geotextile material conforming with requirements of Section 1300 for material separation and geotextile material repair.

TIMBER SALE ROAD SPECIFICATIONS

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.
- 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.
- 1712 - Where shown on the plans, the Purchaser shall provide erosion control measures for newly constructed ditches on steep grades which include but is not limited to, dumped stone, jute mesh, sod, check dams consisting of hay bales, and earth or stone. Width of protective lining or dam should extend far enough up the ditch slopes to effectively contain the runoff and prevent erosion and washout at the edges and prevent sediment from reaching live water.
- 1713 - Where newly constructed logging spur roads join with existing surfaced roads, the Purchaser shall construct a sag in the spur road profile and install a settling basin in accordance with the requirements and details as shown on the plans and directed by the Authorized Officer.

TIMBER SALE ROAD SPECIFICATIONS

SOIL STABILIZATION – 1800

NOTE: The Authorized Officer should work with the appropriate resource specialist (botanist, native plant coordinator, etc.) in advance of projects to ensure that all soil stabilization materials are available.

- 1801 - This work shall consist of seeding and mulching on designated cut, fill, borrow, disposal, and special areas in accordance with these specifications and as shown on the plans. This work is required for road acceptance under Section 18 of this contract.
- 1802a - Soil stabilization work consisting of seeding and mulching shall be performed on new temporary route construction, road renovation, disturbed areas, and disposal sites in accordance with these specifications.
- 1803 - Soil stabilization work as specified under Subsection 1802a shall be performed during the following seasonal periods:

From: September 15 th	To: October 31 st
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If soil stabilization of disturbed areas is not completed by the specified fall date, the Purchaser shall treat disturbed areas and then complete the requirements of Soil Stabilization 1800 the next construction season.

The Authorized Officer may modify the above seasonal dates to conform to existing weather conditions and changes in the construction schedule.

- 1803a - The Purchaser shall begin soil stabilization work within 10 days of the starting work date when notified by the Authorized Officer.
- 1806a - Additional soil stabilization work consisting of seeding and mulching may be required at the option of the Authorized Officer. Providing the additional stabilization is not due to Purchaser negligence as specified in Sec. 12 of the contract, a reduction in the total purchased price shall be made to offset the cost of furnishing and applying such additional stabilization material. Cost shall be based upon the unit price set forth in the current BLM Timber Appraisal Production Cost Schedule.
- 1808 - Mulch materials conforming to the requirements of Subsection 1808a shall be furnished by the Purchaser in the amounts specified under Subsection 1811 and applied in accordance with Subsection 1812.

TIMBER SALE ROAD SPECIFICATIONS

- 1808a - Straw mulch shall be certified weed free from commercial grain fields and native grass fields. Straw mulch shall be from oats, wheat, rye, or other approved grain crops and shall be free from, mold, or other objectionable material. Straw mulch shall be in an air-dry condition and suitable for placement.
- 1809 - Mulch material shall be delivered to the work area in a dry state. Material found to be wet will not be accepted. Material to be used in the mulching operation may be stockpiled along the road designated for treatment provided that it is maintained in a dry state and has the approval of the Authorized Officer.
- 1811 - The Purchaser shall apply to approximately 1.30 acres designated for treatment as specified under Subsections 1802a and 1806a, Government furnished native grass seed and Purchaser furnished mulch material at the following rate of application:

a. Two Stage Dry:

Native Grass Seed	10 lbs./acre
Mulch (weed free)	2,000 lbs./acre

The above proportion and application rate are subject to adjustment by the Authorized Officer during the application operation.

- 1812 - The Purchaser shall furnish and apply to the area designated for treatment as shown on the plans and as specified under Subsections 1802a and 1806a, native grass seed and mulch material at the application rate to be determined by the Authorized Officer based on visual observation of trial applications.
- Mulches shall be spread/placed in treatment areas to a depth of 2 inches to allow seed germination or as directed by the Authorized Officer. Treatment area will be covered evenly and completely. Mulch can be broadcast onto the soil surface by hand or with hand/mechanical operated spreaders.
- 1814 - The Purchaser may reduce the application rate on partially covered slopes and refrain from application on areas already well stocked with grass or on rock surfaces as determined by the Authorized Officer.
- 1815 - The seed and mulch materials shall be placed by the dry method in accordance with the requirements set forth in Subsection 1815b.
- 1815b - Dry Method - Blowers, mechanical seeders, seed drills, landscape seeders, cultipacker seeders, or other approved mechanical seeding equipment may be used when seed are to be applied in dry form.

TIMBER SALE ROAD SPECIFICATIONS

- 1819 - The Purchaser shall notify the Authorized Officer at least 3 days in advance of date he intends to commence the specified soil stabilization work.
- 1821 - Mulch that collects at the end of culverts or accumulates to excessive depths on the slopes shall be evenly spread by hand methods, as directed by the Authorized Officer.
- 1824 - Twine, rope, sacks, and other debris resulting from the soil-stabilization operations shall be picked up and disposed of to the satisfaction of the Authorized Officer.

TIMBER SALE ROAD SPECIFICATIONS

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 or manually with hand tools, including chain saws.
- 2103 - Vegetation cut manually and/or mechanically less than 6 inches in diameter when measured at DBH shall be cut to a maximum height of 1 inch above the ground surface or above obstructions such as rocks or stumps on cut and fill slopes and all limbs below the 1 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 DBH 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.

TIMBER SALE ROAD SPECIFICATIONS

- 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.
- 2113 - Roadside brushing shall be accomplished as shown on the plans and as listed below:

Road No.	From Sta./M.P.	To Sta./M.P.
32-8-10.2(A-B)	0.00	1.88
32-8-4.3	0.00	0.33
32-8-4.4	0.00	0.07
32-8-9.1(A-C)	0.00	1.18
32-8-11.0(A)	2.16	2.02
32-8-3.1	0.00	0.10
32-8-4.0(A-C)	0.00	5.87
31-8-30.2	0.00	0.76
31-8-20.1	0.00	0.20
31-8-29.0(A-C)	0.00	1.08
31-8-29.2	0.00	0.47
31-8-31.1(A-C)	0.00	3.59
31-8-31.2(A)	0.00	0.17
31-8-31.3	0.00	0.80
31-8-31.4	0.00	0.17
31-8-31.0(A-G)	0.00	8.63
31-9-36.0	0.00	0.69
31-9-25.0	0.00	0.46
31-9-25.4	0.00	0.11
31-9-25.1(A-E)	0.00	5.09
31-9-25.2	0.00	0.15
31-9-25.5	0.00	0.62
31-9-26.0(A)	0.00	0.40
31-9-26.3	0.00	0.56
31-9-25.3(A-C)	0.00	1.65

TIMBER SALE ROAD SPECIFICATIONS

31-8-30.0(A-B1)	0.00	2.11
31-9-13.4	0.00	0.06
31-9-12.4(A-B)	0.00	0.60
31-9-13.3	0.00	0.24
31-9-12.0(A-B)	0.00	1.90
31-8-6.1(B)	0.65	0.80
31-8-8.2(A-B)	0.00	1.43
31-8-5.0(E-F)	1.30	2.20
31-9-12.2 (A-B)	0.00	1.01
31-9-11.0(A-C)	0.00	3.19
31-9-11.5	0.00	0.08
31-8-11.6	0.00	0.02
31-9-15.0	0.00	0.32
31-9-27.0(D)	2.66	4.28
31-9-10.1	0.00	1.90
31-9-10.0(A-B)	0.00	1.70
31-9-21.4(A-B)	0.00	0.29
31-9-21.0 (A-C)	0.52	1.62
31-9-21.5	0.00	0.26

- 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 Devices.

UNITED STATES
DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT

ROAD MAINTENANCE SPECIFICATIONS

INDEX

3000	GENERAL MAINTENANCE
3100	OPERATIONAL MAINTENANCE
3200	SEASONAL MAINTENANCE
3300	FINAL MAINTENANCE
3400	OTHER MAINTENANCE

GENERAL MAINTENANCE – 3000

- 3001 The Purchaser shall be required to maintain all roads listed and/or referenced in section 41, as shown on the Exhibit D maps 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 dirt or graveled roads to the existing geometric standards. Any roads required to be reconstructed, improved, or renovated 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 road(s) 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.
- 3103 The purchaser shall maintain established berms and place additional berms using adjacent material where needed to protect fills as directed by the Authorized Officer.
- 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 and 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 15 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 the 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 water 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 15 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 15 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 obstructs vision or prevents the safe passage of traffic along the traveled way when directed by the Authorized Officer.

The Purchaser shall also remove 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 by cutting and chipping in accordance with Section 2100 of the Exhibit C-11 Specifications.

3108 The Purchaser shall avoid fouling gravel 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. Repairs required, that were caused by such skidding activities, are not considered maintenance and shall be repaired at the Purchaser's expense.

- 3108a The Purchaser shall perform logging operations on gravel roadways only where the locations have been marked on the ground and/or approved by the Authorized Officer.

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 1st 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 and 3108a. 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.

- 3403 The Purchaser shall be required to furnish and apply non-saline water during dry hauling periods, when directed by the Authorized Officer, for the purpose of laying dust and to prevent loss of surface material. The first application of water shall be made at the rate of one-half gallon per yd² of road surface traveled. Subsequent applications shall be made for each 40 MBF of timber or 120 yds³ of rock hauled. Subsequent watering may be done at a rate less than one-half gallon per yd² when a specified lesser rate is approved by the Authorized Officer.

The Purchaser shall secure any necessary water permits and pay all required water fees for use of the water source(s) selected by the Purchaser.

During drought periods when the transportation of water from the source to the roads noted above exceeds (20) miles, a reduction shall be made in the total purchase price to reflect the additional haul or the substitution of other acceptable dust palliatives in lieu of watering based on equipment rental rates from the current BLM Road Cost Guide.

Adjustments to the above schedules may be made by the Authorized Officer at his option as hauling conditions improve. The Purchaser, at his option and expense, may elect to substitute watering or other dust palliatives in lieu of the above hauling requirements provided that written approval is received from the Authorized Officer. Such authorization shall include the approval of product specifications for the application and the product to be used.

- 3404 The Purchaser may at his option and expense substitute lignin sulfonate or magnesium chloride for water on any or all road segments listed in Subsection 3403 or 3403a provided that written approval is received from the Authorized Officer. Such authorization shall include the approval of product specifications for the application of the product to be used. Multiple applications may be required to maintain the conditions specified in Subsection 3403.
- 3405b The Purchaser shall notify affected residents along the roads to be treated of the planned application of lignin sulfonate or magnesium chloride dust palliatives at least (3) days prior to the work. Warning signs shall be posted at key intersections to alert users that the road is being treated. All signs shall be removed by the Purchaser within thirty (30) days of treatment.
- 3406 Prior to the application of lignin sulfonate or magnesium chloride dust palliatives, the roadbed shall be bladed and shaped to remove surface irregularities and excess loose material. The prepared surface must be visibly moist and drying.
- 3406b A light application of water to promote penetration shall be made in advance of the application of the specified dust palliative to allow the drying process to begin and to eliminate any saturated surface conditions.
- 3406c The prepared roadbed shall be approved by the Authorized Officer prior to application of the specified dust palliative.
- 3407 The Purchaser shall furnish in duplicate, commercial certification signed by vendor of compliance with the lignin sulfonate or magnesium chloride dust palliatives material requirements specified under Subsection (3412b) (3412c). Commercial certification includes the date, identification number of truck or trailer, net mass, and brand name with each shipment. Also provide the net volume and specific gravity at 60 degrees F, percent solids by mass, and PH.
- 3408 Dust palliatives shall be applied with standard commercial distribution equipment operated in a manner that the material is uniformly applied on variable widths of surface at controlled rates.
- 3409 The Purchaser shall notify the Authorized Officer a minimum of (3) days in advance of application of required dust palliative.

- 3410 The Purchaser shall submit an application schedule for all dust palliative work to the Authorized Officer for approval. All work shall be in accordance with the approved plan.
- 3411 If used, lignin sulfonate or magnesium chloride dust palliatives shall only be applied when the atmospheric temperature is 45° F and steady or rising and when the weather is not foggy or rainy. Do not apply dust palliative if rain is anticipated within 24 hours of application or when the ground is frozen.
- 3412 If used, the Purchaser shall apply to the prepared roadbed specified under Subsection 3406, a lignin sulfonate or magnesium chloride dust palliative conforming to the material requirements of Subsection (3412b) (3412c). The rate of application shall be (0.5) gallons per yd² surface.

Applied materials not penetrating the road surface shall be blade mixed with additional water into the top 1 to 1½ inches of the surfacing at the Contractor's expense.

- 3412a If required, the lignin sulfonate or magnesium chloride shall be field diluted within the application vehicle and be circulated at least 5 minutes to assure mixing. An air gap shall be provided between any water source and the materials being diluted. Accidental spills shall be contained to prevent entry in water courses or ponded water. The surface of adjacent structures and trees shall be protected from spattering or marring.

A wetting agent may be used in addition to the certified compound or mixed with the road surface preparation watering. A mix of less than 1:6000 is recommended.

Water used to dilute lignin sulfonate or magnesium chloride concentrate shall be clean and free of oil, salt, acid, alkali, vegetable matter, or any other substance that contaminates the finished product.

- 3412b Specifications for Lignin Sulfonate:

Lignin sulfonate shall be the chemical residue produced as a byproduct of the acid sulfite pulping process and supplied as a water solution. The base cation shall be ammonia, calcium, or sodium. The product shall be water soluble to allow field dilution. Dilute with water until the mixture contains a minimum 48 percent concentration with the following properties:

Solids	50%
Specific gravity	1.25
PH, AASHTO T289	4.5 min.

Ensure that the material does not exceed the following chemical constituents:

phosphorous	25.00 ppm
cyanide	0.20 ppm
arsenic	5.00 ppm
copper	0.20 ppm
lead	1.00 ppm
mercury	0.05 ppm
chromium	0.50 ppm
cadmium	0.20 ppm
barium	10.00 ppm
selenium	5.00 ppm
zinc	10.00 ppm

Apply when the ambient air temperature is 45° F or above.

3412c Specifications for magnesium chloride:

The material shall consist of a brine containing 29 to 35 percent (magnesium chloride) (calcium chloride) by weight and 62 to 72 percent water by weight. Ensure that the material does not exceed the following chemical constituents:

phosphorous	25.00 ppm
cyanide	0.20 ppm
arsenic	5.00 ppm
copper	0.20 ppm
lead	1.00 ppm
mercury	0.05 ppm
chromium	0.50 ppm
cadmium	0.20 ppm
barium	10.00 ppm
selenium	5.00 ppm
zinc	10.00 ppm
sulfate	4.3 percent maximum
nitrate	5.0 percent maximum.

Concentration specifications for Magnesium chloride

- | | |
|------------------------------------|------------------|
| (1) Magnesium chloride by mass | 28% minimum |
| (2) Water by mass | 72% maximum |
| (3) Specific gravity, AASHTO T 227 | 1.290 to 1.330) |

Apply when the ambient air temperature is 45° F or above.

3413 Sampling of lignin sulfonate or magnesium chloride material may be required to validate certificates furnished by the Purchaser. When sampling is directed by the Government, the actual samples will be taken by the Purchaser or his representative in the presence of the Authorized Officer.

EXHIBIT D2-1

- BLM LANDS
- NON-BLM LANDS
- TIMBER SALE UNITS
- BST ROAD
- ROCKED ROAD
- NATURAL SURFACE ROAD
- EX. GATE
- EX. BARRICADE
- COUNTY BOUNDARY
- DISTRICT BOUNDARY

ALWAYS
THINK
SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
TIMBER SALE
OVERALL SALE AREA MAP

DESIGNED: *[Signature]*
 REVIEWED: *[Signature]*
 APPROVED: *[Signature]*
 DRAFTED BY: BLM
 DATE: JULY 2016
 SCALE: 1" = 1.5 MI
 SHEET: 1 OF 7
 DRAWING NO.: OR-11-9113-4-1

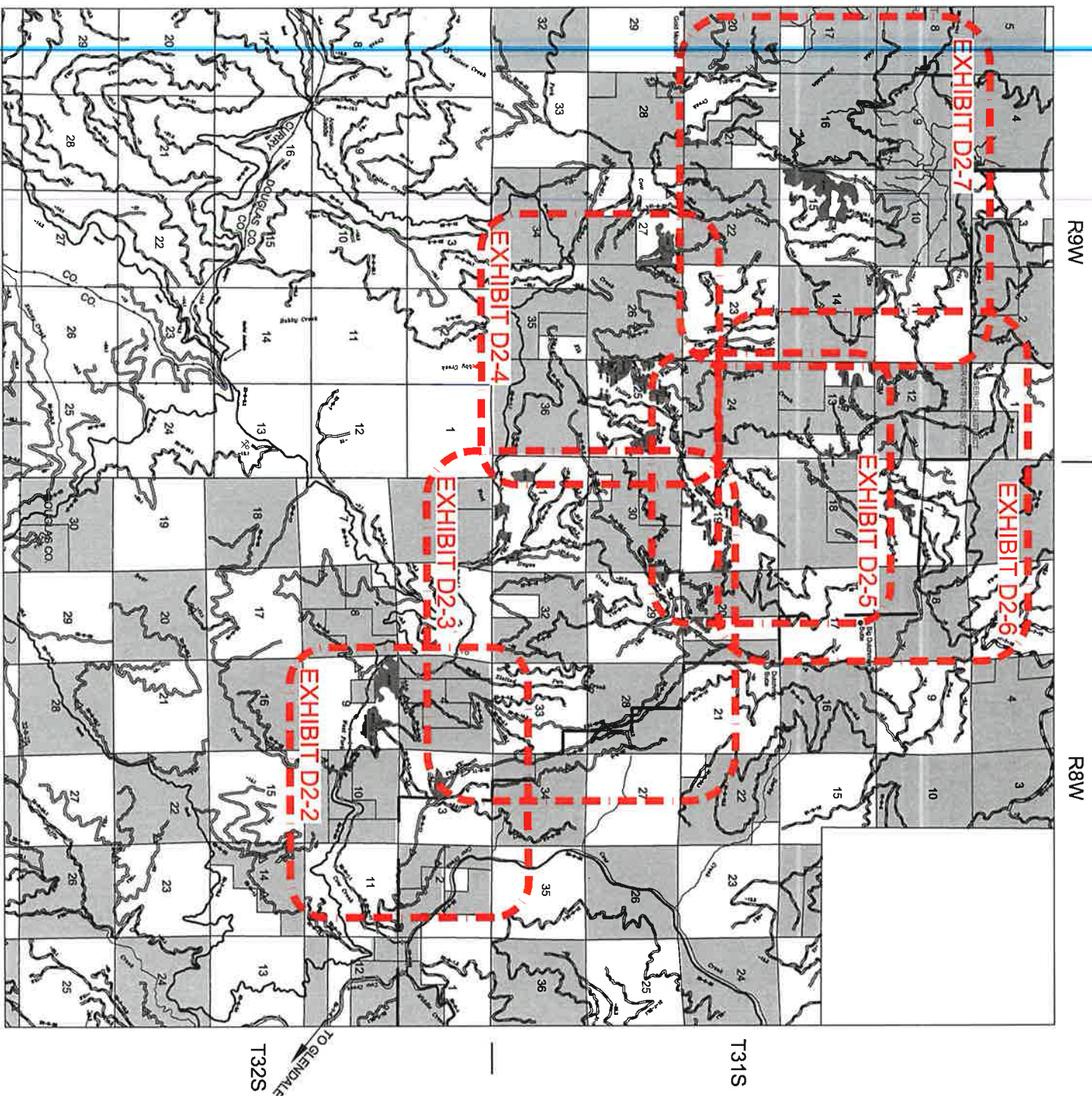


EXHIBIT D2-2

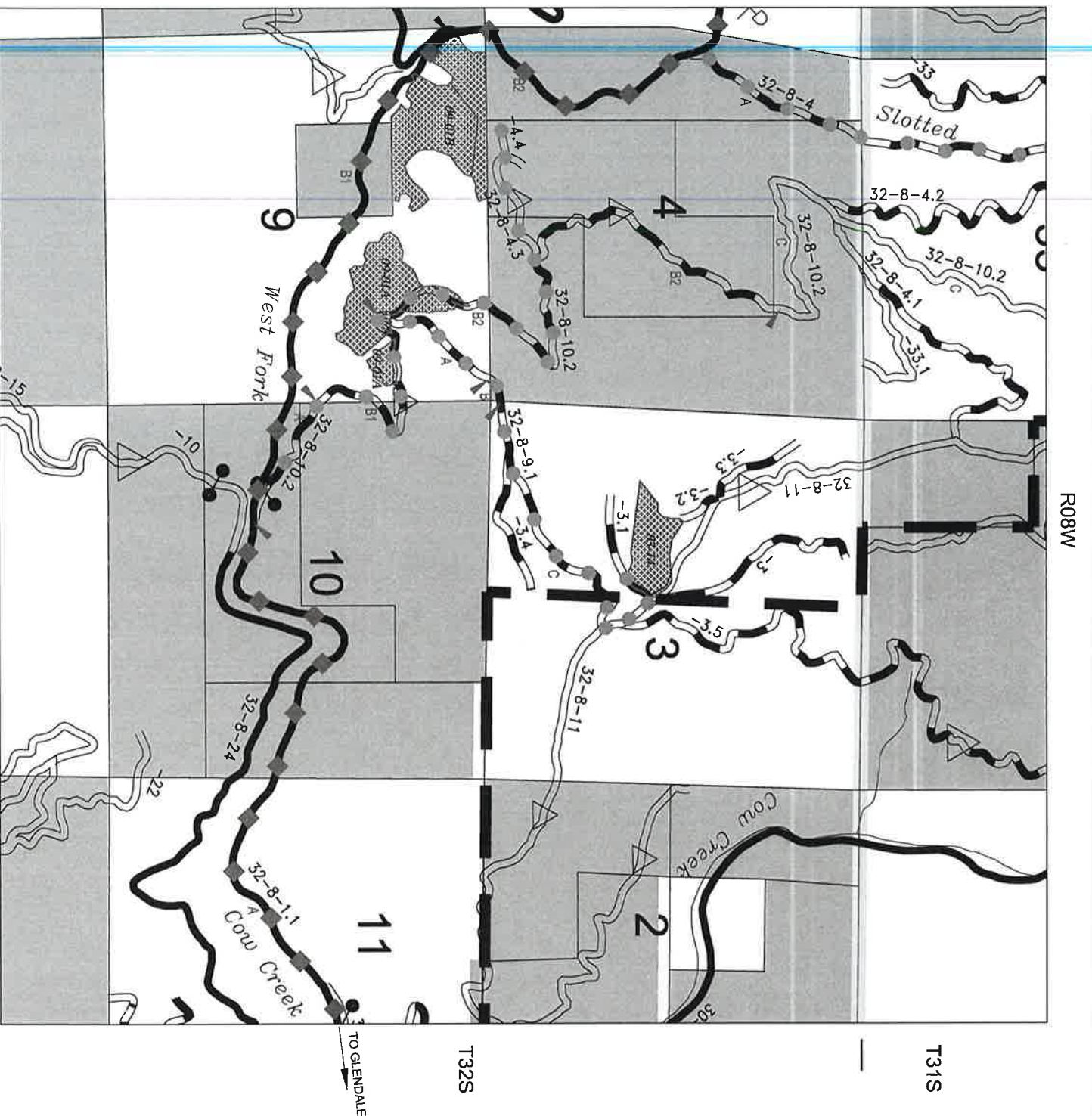
- BLM LANDS
- NON-BLM LANDS
- TIMBER SALE UNITS
- BST ROAD
- CRUSHED ROCKED ROAD
- NATURAL SURFACE ROAD
- COUNTY BOUNDARY
- DISTRICT BOUNDARY
- EX. GATE
- EX. BARRICADE
- PURCHASER MAINTENANCE
- BLM MAINTENANCE

ALWAYS
THINK
SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.
	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON		

MILK DUDDS
TIMBER SALE
ROAD MAINTENANCE MAP

DESIGNED: *[Signature]*
 REVIEWED: *[Signature]*
 APPROVED: *[Signature]*
 DRAFTED BY: BLM
 DATE: JULY 2016
 SCALE: 1" = 2,000 FT
 SHEET: 2 OF 7
 DRAWING NO.: OR-11-9113.4-1



B081W/



**MILK DUDDS
TIMBER SALE
ROAD MAINTENANCE MAP**

ROAD MAINTENANCE MAP

WINTER 2022 TIMBER SALE

Milk Dudds

DRAWING NO.: OR-11-9113.4-1



EXHIBIT D2-4

- BLM LANDS
- NON-BLM LANDS
- TIMBER SALE UNITS
- BST ROAD
- CRUSHED ROCKED ROAD
- NATURAL SURFACE ROAD
- COUNTY BOUNDARY
- DISTRICT BOUNDARY
- EX. GATE
- EX. BARRICADE
- PURCHASER RENOVATION
- BLM MAINTENANCE

ALWAYS
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SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.
	UNITED STATES DEPARTMENT OF THE INTERIOR		
	BUREAU OF LAND MANAGEMENT		
	MEDFORD DISTRICT - MEDFORD, OREGON		

MILK DUDDS
TIMBER SALE
ROAD MAINTENANCE MAP

DESIGNED: [Signature]
 REVIEWED: [Signature]
 APPROVED: [Signature]
 DRAFTED BY: BLM
 DATE: JULY 2015
 SCALE: 1" = 2,000 FT
 SHEET: 4 OF 7
 DRAWING NO.: OR-11-91134-1

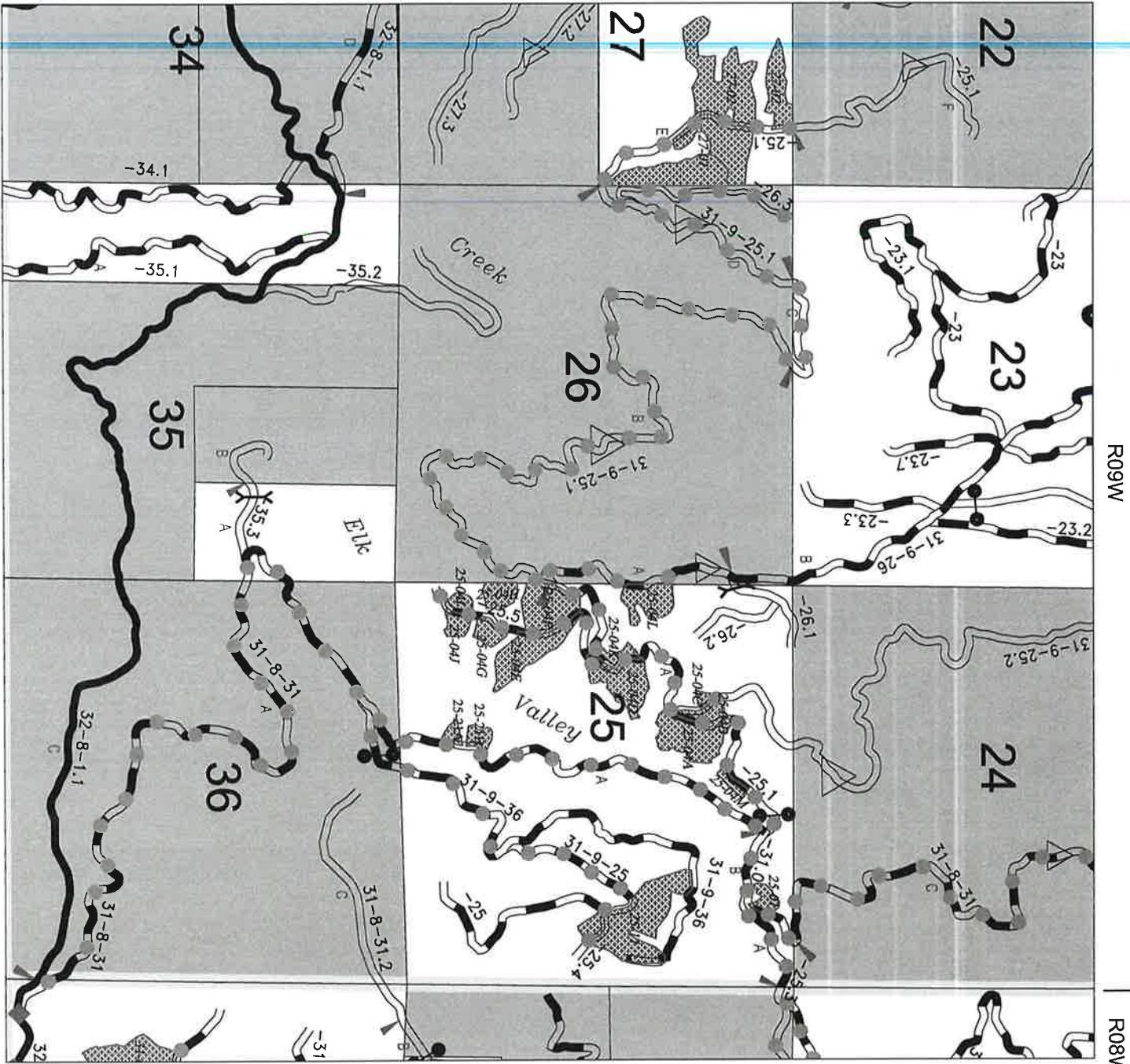


EXHIBIT D2-5

- BLM LANDS
- NON-BLM LANDS
- TIMBER SALE UNITS
- BST ROAD
- CRUSHED ROCKED ROAD
- NATURAL SURFACE ROAD
- COUNTY BOUNDARY
- DISTRICT BOUNDARY
- EX. GATE
- EX. BARRICADE
- PURCHASER RENOVATION

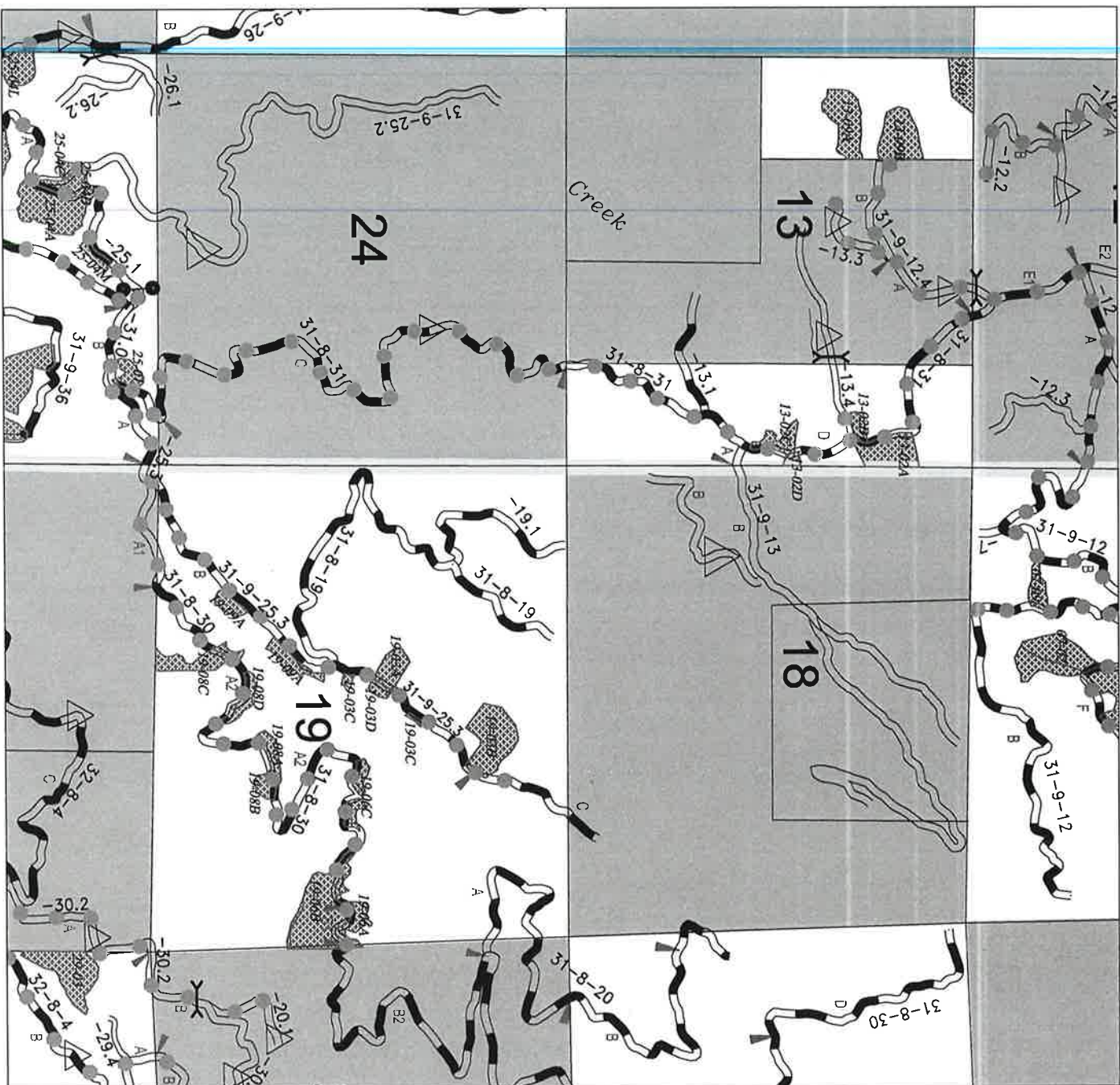
ALWAYS
THINK
SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
TIMBER SALE
ROAD MAINTENANCE MAP

DESIGNED:	
REVIEWED:	
APPROVED:	
DRAFTED BY: BLM	SCALE: 1" = 2,000 FT
DATE: JULY 2015	SHEET: 5 OF 7
DRAWING NO.: OR-11-9134-1	



T31S

EXHIBIT D2-6

- BLM LANDS
- NON-BLM LANDS
- TIMBER SALE UNITS
- BST ROAD
- CRUSHED ROCKED ROAD
- NATURAL SURFACE ROAD
- COUNTY BOUNDARY
- DISTRICT BOUNDARY
- EX. GATE
- EX. BARRICADE
- PURCHASER RENOVATION

ALWAYS
THINK
SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT - MEDFORD, OREGON

MILK DUDDS
TIMBER SALE
ROAD MAINTENANCE MAP

DESIGNED: *[Signature]*

REVIEWED: *[Signature]*

APPROVED: *[Signature]*

DRAFTED BY: BLM

DATE: JULY 2015

SCALE: 1" = 2,500 FT

SHEET: 6 OF 7

DRAWING NO.: OR-11-9113.4-1

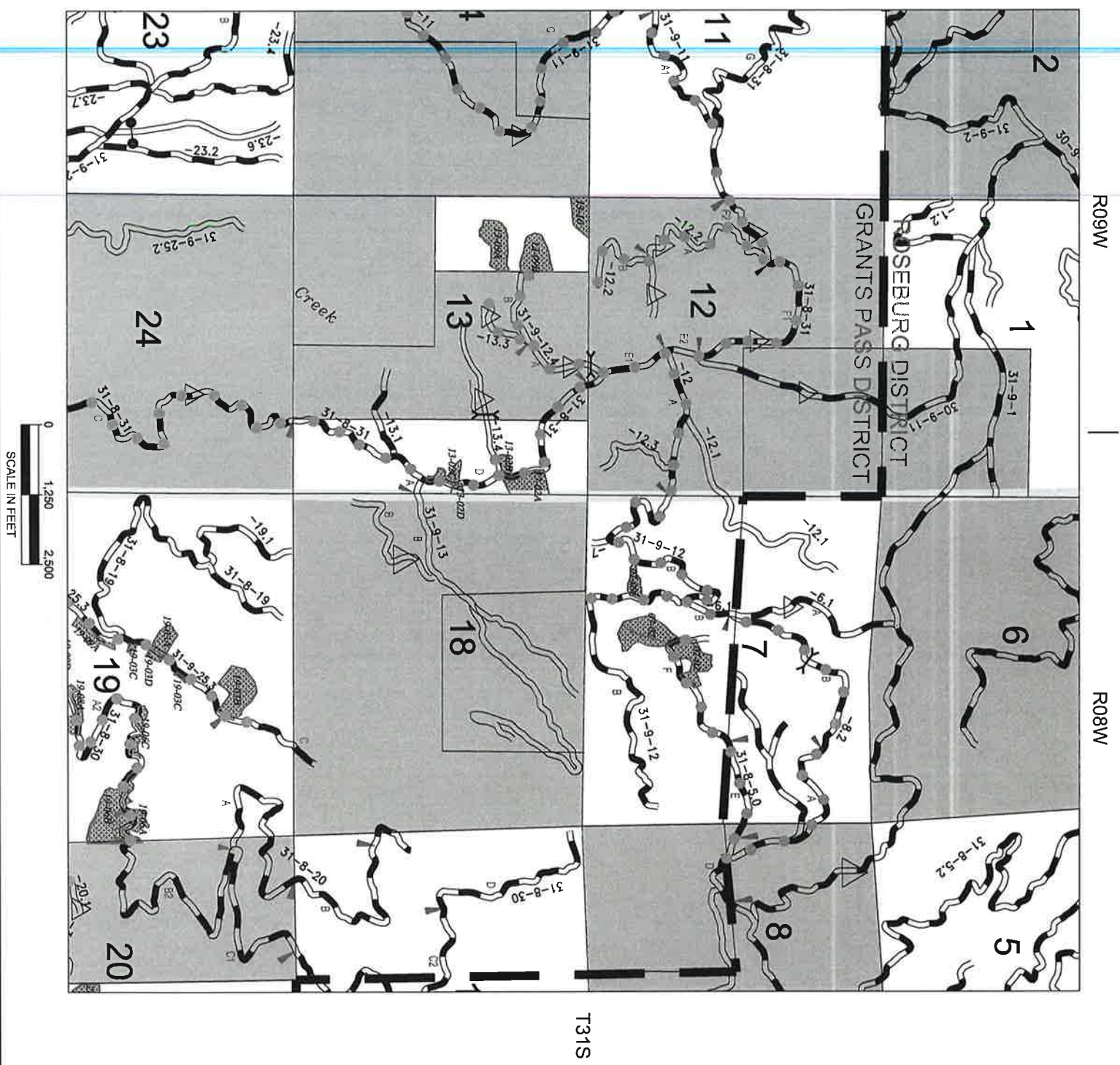


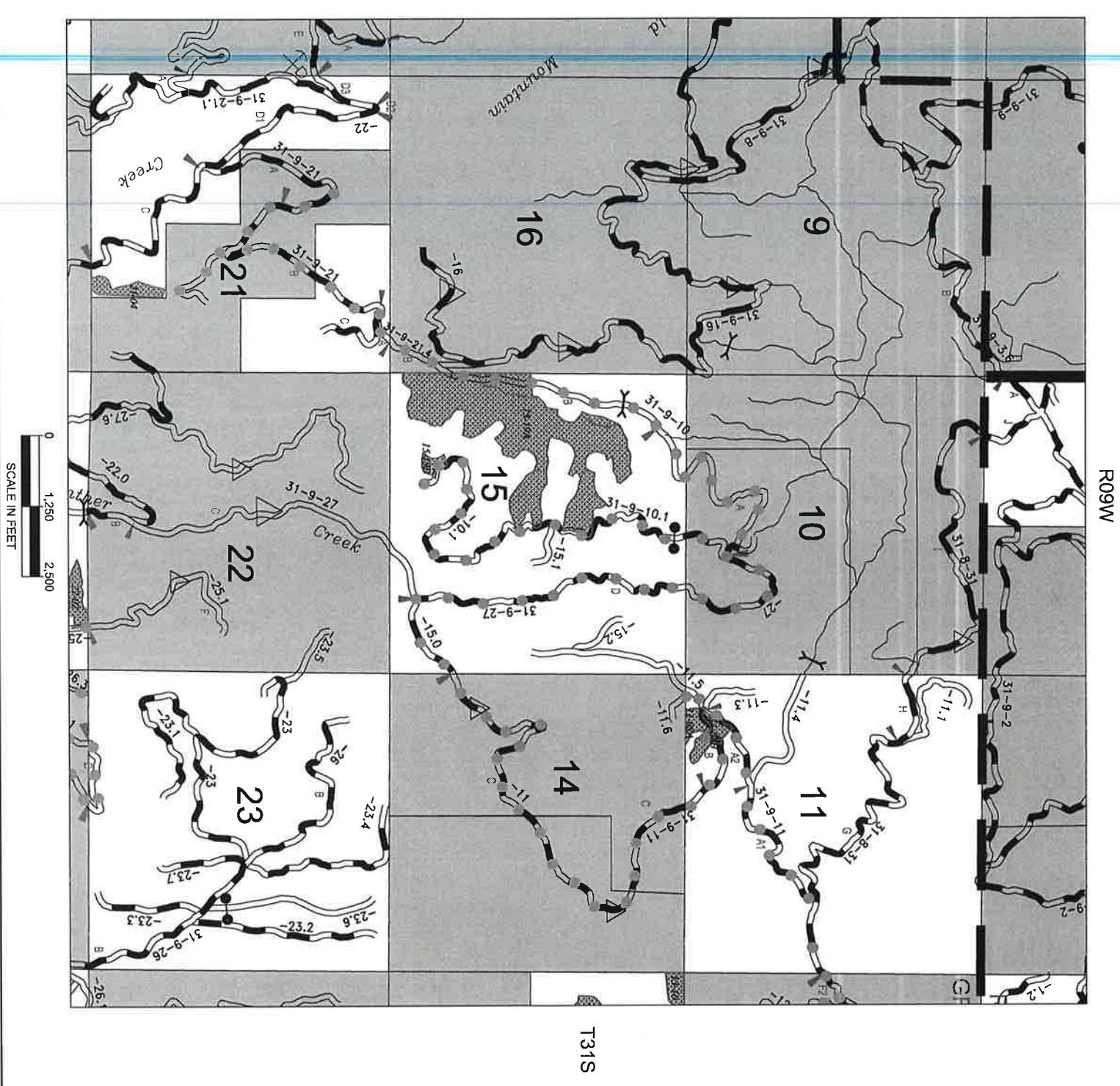
EXHIBIT D2-7

- BLM LANDS
- NON-BLM LANDS
- TIMBER SALE UNITS
- BST ROAD
- CRUSHED ROCKED ROAD
- NATURAL SURFACE ROAD
- COUNTY BOUNDARY
- DISTRICT BOUNDARY
- EX. GATE
- EX. BARRICADE
- PURCHASER RENOVATION

ALWAYS
THINK
SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON			
MILK DUDDS TIMBER SALE ROAD MAINTENANCE MAP			

DESIGNED: [Signature]
REVIEWED: [Signature]
APPROVED: [Signature]
DRAFTED BY: BLM
DATE: JULY 2015
SCALE: 1" = 2,500 FT
SHEET: 7 OF 7
DRAWING NO.: OR-11-91134-1



SELECTION CRITERIA-DESIGNATION BY PRESCRIPTION EXHIBIT E

The Selection Criteria shown below shall be used by the Purchaser in determining which trees are to be retained and which trees are to be cut and removed. The Selection of retention shall comply with Milk Dudds Special Provisions Sec 41. The Purchaser shall leave all boundary trees, trees marked with orange paint and/or flagging, hardwood trees greater than 12 inches, non-hazardous snags, suitable leave trees, and pre-existing dead and down material.

Before cutting and removing any trees necessary to facilitate logging in all Harvest Units shown on Exhibit A, the Purchaser shall identify the location of the skid roads, cable yarding roads, 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. Trees that are removed to facilitate logging do not count toward the leave tree requirements described below. Removed marked leave trees shall be swapped following the L-25 swap-tree stipulation.

Treatment Objectives: Thin from below to reduce basal area densities. Follow Table 1 guidelines for application of basal area thinning. The treated stand should provide increased growing space for residual trees, although with a non-uniform spacing.

Prescription: Use basal area factor (BAF) of 20 to implement a Variable Density Thinning (VDT) treatment. Tally and mark leave trees with paint in each unit to meet a minimum canopy cover following the basal area specifications provided in Table 1. Leave tree paint color shall be determined at the pre-work conference.

- Prescriptions are split into two groups: VDT-40 and VDT-60 where the number (40 and 60) specify the minimum percent (%) canopy cover required. Basal area (BA) ranges are provided to assist the tree marker to meet 40% canopy cover and 60% canopy cover, respectively
- In each unit, the tree marker shall select leave trees beginning with the most dominant tree, followed by codominants to mark and leave the largest, fullest crowned suitable conifer and hardwood trees within the BA range and that maintains 40% or 60% canopy
- Unless specified otherwise in Table 1, achieve the mid-range of the BA retention as a unit average (e.g. 100-140, unit average = 120).
- Clustering of trees is encouraged
- In general, use the higher end of the BA range in areas of larger diameter trees
- Anticipate skid trails and yarding corridors so that BA and canopy cover is still met
- Leave tree conifers and hardwoods should have greater than (>) 30% crown ratio
- Wherever diameters are specifically prescribed (e.g. 8.0 inches DBH), measure to the nearest 0.1 inch. Only use the 2-inch diameter class boundaries for tree tallying
- Suitable hardwoods that are not marked as leave trees should be preserved from damage

Suitable Leave Trees (see also Appendix 1):

- *Conifers* - all species of conifers greater than or equal to (\geq) 8.0 inches DBH (see Species Preference below) within the BA range
 - Begin with leaving dominant and codominant conifers
 - All incense cedar with $\geq 40\%$ crown ratio
- *Hardwoods* - unless directed otherwise in **HW Rx** in Table 1 of this Exhibit, the following hardwoods qualify as suitable leave trees to mark and retain:
 - Golden chinquapin and oak species ≥ 10.0 inches DBH w/ $> 30\%$ crown ratio
 - Madrone ≥ 16.0 inches DBH w/ $> 30\%$ crown ratio
 - **Only one** hardwood leave tree per BA plot counts toward meeting the target basal area for that plot.
 - Each hardwood BAF tree shall be marked and tallied in a separate column for hardwoods.
- Old growth conifers (e.g. Appendix 1, p.9)
- Large trees with unique structure, flat tops, nests, and large limbs
- Trees that fork below breast height (below 4.5 feet measured from the uphill side of the tree)
- Conifers with stem decay. These trees should be marked, tallied, and counted towards the prescribed basal area target.
- Avoid leaving trees within 10 feet slope distance of the edge of the road.
- Recently orange painted trees:
 - Trees recently painted with a ***single*** band of orange paint at breast height are leave trees and shall be tallied and credited towards the prescribed basal area target
 - Trees recently painted with a ***double*** band of orange paint at breast height are leave trees and shall be tallied but ignored in meeting the prescribed basal area target. Double banded trees are invisible to the basal area mark.
 - Boundary trees: count and tally orange-marked boundary trees within the BAF plot provided it meets the specifications of a suitable leave tree
 - Radial thinning trees (pre-designated trees marked with an orange painted number on the bole)

Marbled Murrelet (MAMU) Units (see also Appendix 2): Leave DF ≥ 30 inches DBH with large limbs (> 4 inches diameter) and retain adjacent trees with interlocking crowns.

- Applies only to Units: 15-19A, 21-4, 21-9, 25-4D, 25-4E, 25-4F, 25-4G, 25-4H, 25-4I, 25-4J, 25-4K, 25-4L, 27-1, 27-2

Species preference: Unless directed differently in Table 1, species preference should follow this priority list of leave trees when choosing between equally sized and formed trees of different species:

- | | |
|-------------------|---------------------|
| 1. Ponderosa pine | 4. Western redcedar |
| 2. Sugar pine | 5. Western hemlock |
| 3. Incense cedar | 6. Douglas-fir |

Gaps: Designated heavy cut areas where basal area marking is suspended and canopy cover can fall below 40% or 60%

- Trees with an orange-painted “G” designate the outer perimeter of a gap and shall be tallied as leave trees and counted towards the adjacent prescribed basal area target
- Remove all merchantable Douglas-fir (DF) and white fir (WF) within the area marked with an orange “G”
- See Exhibit A maps for gap locations within units

Radial thinning: Some units have designated trees that require radial thinning (see Table 1). These trees are marked with an orange-painted number on more than one side of the tree, an orange-painted band at breast height, and stump mark. Tally these trees and space the next leave tree from the slope distance in feet painted on the tree.

Prescription line changes:

- Units **9-1A, 9-1B, 15-19A, 20-4, 27-2, 31-4A, 31-4B, and 33-7** contain prescription (Rx) line changes that divide Group 1 (40% canopy) and 2 (60% canopy) prescription guidelines.
- Yellow flagging delineates the switch between Group 1 and 2 prescriptions.
- Trees shall be marked to meet the appropriate basal area/canopy cover specifications in each respective Group (see Table 1 of this Exhibit).
- See Exhibit A maps for locations of prescription line changes within units.

PURCHASER TREE MARKING & TALLYING:

For all units, the Purchaser shall mark and record a tally of all retention trees. Marking shall consist of a painted 2-inch wide band at breast height, completely encircling the tree and marked on the stump at ground level in a manner that the paint can be seen from all sides of the tree. For better results, yarding corridors may be delineated first before marking begins to ensure BA retention is achieved. The leave-tree paint color shall be clearly visible at a distance from all sides of the tree and shall be predetermined at the pre-work conference.

All marked retention trees shall be recorded on tally cards by species using a two (2) inch diameter class as shown to the right. The Purchaser shall also tally recent orange-marked retention trees, including boundary-marked trees that meet suitable leave tree criteria described above; however no additional paint is required on these. Hardwood species can be tallied together under one column for hardwoods using the same 2 inch diameter class. Falling of trees in a unit will occur only after marking has been reviewed and accepted by the BLM.

2-in. Diameter Class	Diameter Range
8	7.0 – 8.9
10	9.0 – 10.9
12	11.0 – 12.9
14	13.0 – 14.9
16	15.0 – 16.9
18	17.0 – 18.9
20	19.0 – 20.9
22	21.0 – 22.9
24	23.0 – 24.9
26	25.0 – 26.9
28	27.0 – 28.9

COMPLIANCE INSPECTION:

Prior to the falling of trees within the unit to be inspected each unit must first pass compliance inspection. Compliance inspection of the marking will occur only after the entire unit has been completely marked and completed unit tally cards are submitted to the BLM. Non-compliance with the Prescription and/or Selection Criteria shall constitute a contract violation which may result in a suspension of operations as provided in Section 10 of the contract. Inspection will consist of:

- 1) A review of the tally cards on a unit basis to determine that trees are tallied as specified and that each unit meets the prescribed basal area target.
- 2) Field review of the selection of leave trees in the completed unit
- 3) The unit marking may be adjusted by BLM personnel to ensure the 40% and 60% canopy retention.

INDIVIDUAL UNIT RETENTION:

Table 1. Leave tree requirements

Group 1. VDT-40: Maintain a minimum of 40% canopy cover. Follow Prescription, Suitable Leave Trees, and guidelines described above to mark within the BA range specified in this Table				
Unit #	Acres	Basal Area (BA) Retention	Radial Thinning Clearing Distance (slope distance) (Species-Feet)	Notes
3-14	16	100-140	SP-30, IC-30, SP-40, PP-35	Use 140 BA where trees ≥18" DBH
7-9	2	120-200		Use 160-180 BA where 2 trees/pt. ≥25" DBH Use 200 BA where 3 or more trees/pt. ≥25" DBH
9-1A*	18	80-120		*Rx line change – flagged in Yellow: see Group 2 for remaining unit Rx. 25" diameter limit HW Rx: Ignore hardwoods
9-1B*	15	100-120	IC-30	*Rx line change – flagged in Yellow: see Group 2 for remaining unit Rx Use 120 BA where 3 or more trees/pt. ≥16" DBH
11-8A	6	80-120		Use 120 BA where trees >18" DBH HW Rx: Include 1 GC or Oak ≥10" DBH/pt. only
11-8B	3	80	IC-30	
13-2A	6	80-120	PP-40: Remove only the DF&WF within 40' of PP	
13-2B	1	100	PP-35, PP-40	
13-2C	2	100		Slash to spacing of submerch <8" DBH: Conifers to 16x16' spacing & HW to 45x45' spacing
13-2D	1	100		
15-19A*†	9	100-140		*Rx line change – flagged in Yellow: see Group 2 for remaining unit Rx †Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns
19-3A	3	100-120		
19-3B	9	80-120		
19-3C	1	80		
19-3D	1	100-120		
19-6A	4	80-120		HW Rx: Include 1 GC or Oak ≥10" DBH/pt. only
19-6B	12	100-140	IC-30	
19-6C	2	100-140		

Group 1. VDT-40: Maintain a minimum of 40% canopy cover. Follow Prescription, Suitable Leave Trees, and guidelines described above to mark within the BA range specified in this Table				
Unit #	Acres	Basal Area (BA) Retention	Radial Thinning Clearing Distance (slope distance) (Species-Feet)	Notes
19-8A	3	80-100		HW Rx: Include 1 GC or Oak ≥8" DBH/pt. only
19-8B	2	80-100		HW Rx: Include 1 GC or Oak ≥8" DBH/pt. only
19-8C	4	100-120	IC-25	Use 120 BA where 3 or more trees ≥16" DBH HW Rx: Include 1 GC or Oak ≥8" DBH/pt. only
19-8D	1	80-100		
19-9A	4	90-100		HW Rx: Include 1 GC or Oak ≥8" DBH/pt. only
20-4*	12	100-140		*Rx line change – flagged in Yellow: see Group 2 for remaining unit Rx Use 140 BA where trees ≥18" DBH
21-9†	2	100-140		†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns Use 140 BA where 3 or more trees/pt. ≥20" DBH
25-1	2	Laminated Root Rot Sanitation Cut		Remove all DF & WF ≥8" DBH. Leave all IC, PP, & SP
25-21A	1	120-160		Leave all WRC
25-21B	2	90-100		Leave all WRC
25-4A	9	100		
25-4B	2	100-120		
25-4C	1	90-100		
25-4D†	8	90-140 (avg 110)		†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns 1 acre LRR gap – perimeter marked with orange painted "G": remove all DF & WF ≥8" DBH within the gap. Leave IC, PP, SP
25-4E†	8	80-120		†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns Use 120 BA where trees ≥18" DBH
25-4F†	9	80-120	IC-35	†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns Use 120 BA where trees ≥18" DBH
25-4G†	2	80-100	IC-25	†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns
25-4H†	3	100-140 (avg 140)		†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns HW Rx: Include 1 GC or Oak ≥10" DBH/pt. only
25-4I†	2	140		†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns HW Rx: Include 1 GC or Oak ≥10" DBH/pt. only

Group 1. VDT-40: Maintain a minimum of 40% canopy cover. Follow Prescription, Suitable Leave Trees, and guidelines described above to mark within the BA range specified in this Table				
Unit #	Acres	Basal Area (BA) Retention	Radial Thinning Clearing Distance (slope distance) (Species-Feet)	Notes
25-4J†	2	80-100		†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns Contains a 1/10 acre gap – perimeter marked with orange painted "G": remove all conifers ≥8" DBH within the gap
25-4K†	2	80-120 (avg 100)		†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns
25-4L†	5	100-160	IC-35, IC-30	†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns HW Rx: Include 1 GC or Oak ≥10" DBH/pt. only
25-4M	1	80		
27-1†	19	100-140		†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns Use 140 BA where 3 or more trees/pt. ≥20" DBH HW Rx: Include 1 MD ≥12" DBH/pt. only
27-2*†	15	90-100		*Rx line change – flagged in Yellow: see Group 2 for remaining unit Rx †Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns
29-3	8	120-160		Ignore older yellow marked trees in S tip of unit Use 140-160 BA where 3 trees/pt. ≥18" DBH Use 160 BA where 3 or more trees/pt. ≥25" DBH
29-7A	9	100-120	IC-20, IC-25, IC-30, IC-20, IC-20, IC-20, IC-20	
29-7B	2	90-100		
31-4A*	1	80-120		*Rx line change – flagged in Yellow: see Group 2 for remaining unit Rx Count PP with >30% crown ratio only
31-4B*	3	100-140		*Rx line change – flagged in Yellow: see Group 2 for remaining unit Rx HW Rx: Include 1 GC or Oak ≥8" DBH/pt. only
31-4C	11	120-160	IC-40	Use 160 BA where 3 or more trees/pt. ≥18" DBH
31-5	5	100-160		Use 160 BA where 3 or more trees/pt. ≥25" DBH
* : Unit with prescription line change (yellow flagging) – See Exhibit A map where to alternate to Group 2 Rx †: MAMU guideline – Leave DF ≥30" with large limbs and retain adjacent trees with interlocking crowns IC: Incense cedar DF: Douglas-fir HW: Hardwoods LRR: Laminated root rot PP: Ponderosa pine WF: White fir GC: Golden chinquapin SP: Sugar pine WRC: Western red cedar Oak: Black Oak/White Oak				

Group 2. VDT-60: Maintain a minimum of 60% canopy cover. Follow Prescription, Suitable Leave Trees, and guidelines described above to mark within the BA range specified in this Table				
Unit #	Acres	Basal Area (BA) Retention	Radial Thinning Clearing Distance (slope distance) (Species-Feet)	Notes
7-2	17	*** THIS UNIT WILL BE MARKED BY BLM ***		
9-1A*	14	160-200		*Rx line change – flagged in Yellow: see Group 1 for remaining unit Rx HW Rx: Include 1 HW ≥16" DBH/pt. only Use 200 BA where 3 or more trees/pt. ≥20" DBH
9-1B*	28	140-240		*Rx line change – flagged in Yellow: see Group 1 for remaining unit Rx Use 240 BA where 2 or more trees/pt. ≥18" DBH
13-10	4	140-180		HW Rx: Include 1 GC or Oak ≥8" DBH/pt. only
13-9A	7	180-240		
13-9B	7	140-180+		Use 180+ BA where 3 or more trees/pt. ≥25" DBH HW Rx: Include 1 GC or Oak ≥8" DBH/pt. only
15-19A*†	89	150-200		*Rx line change – flagged in Yellow: see Group 1 for remaining unit Rx †Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns Use 200 BA where 3 or more trees/pt. ≥24" DBH
15-19B	2	160-180		
20-4*	1	200-240		*Rx line change – flagged in Yellow: see Group 1 for remaining unit Rx
20-5	6	200-240+		33" DBH cutting limit Use 240+ BA where 3 or more trees/pt. ≥30" DBH 100 BA among CLO
21-4†	6	160-200		†Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns Use 180-200 BA where 3 or more <i>conifers</i> /pt. ≥25" DBH HW Rx: Include 2 HW ≥16" DBH/pt. only
25-11	19	140-160	IC-30, IC-25	
27-2*†	8	160-200		*Rx line change – flagged in Yellow: see Group 1 for remaining unit Rx †Leave ≥30" DBH DF with large (≥4" dia.) limbs and retain adjacent trees with ≥10% interlocking crowns HW Rx: Include 2 HW ≥16" DBH/pt. only
31-4A*	12	160-240		*Rx line change – flagged in Yellow: see Group 1 for remaining unit Rx Use 240 BA where 3 or more trees/pt. ≥20" DBH HW Rx: Include 1 HW ≥16" DBH/pt. only
31-4B*	2	200-240		*Rx line change – flagged in Yellow: see Group 1 for remaining unit Rx HW Rx: Include 1 GC/TO ≥8" DBH/pt. <u>or</u> 1 MD ≥16" DBH/pt.
* : Unit with prescription line change (yellow flagging) – See Exhibit A map where to alternate to Group 1 Rx † : MAMU guideline – Leave DF ≥30" with large limbs and retain adjacent trees with interlocking crowns IC: Incense cedar DF: Douglas-fir HW: Hardwoods CLO: Canyon live oak PP: Ponderosa pine WF: White fir O: Oak species MD: Madrone SP: Sugar pine WRC: Western red cedar GC: Golden chinquapin LRR: Laminated root rot				

APPENDIX I

Appendix I Preferred leave trees



Largest fullest crowned dominant trees



Old growth



Uniquely structured trees



Trees with large wolfy branches

Appendix I (continued) Preferred leave trees



Trees with large nests and trees with aluminum tags / lime green flagging

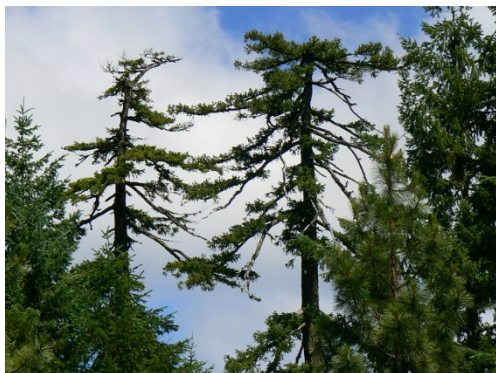


Trees with red ring rot



Large pine, cedar, and hardwoods with > 30% crown ratio

Appendix I (continued) Preferred leave trees



Trees with flat tops and platforms preferably with > 30% crown ratio



Site Trees: Trees with a white-painted "S" and a white-painted circle over a bore hole

APPENDIX II

Appendix II. Marbled Murrelet (MAMU) Zone preferred leave trees



UNITS:

**15-19A, 21-4, 21-9, 25-4D,
25-4E, 25-4F, 25-4G, 25-4H,
25-4I, 25-4J, 25-4K, 25-4L,
27-1, 27-2:**

Leave DF trees > 30 inches DBH with large limbs (> 4 inches diameter) and retain adjacent trees with $\geq 10\%$ of the crowns interlocking

DEFINITIONS

BAF: Basal area factor. A predetermined number sets the angle used in a viewing guage instrument to determine average square feet of basal area per acre (BA/AC). A measurement consists of viewing through the angle guage proceeding clockwise to count “in” trees from a stationary position. The number of “in” trees multiplied by the BAF determines the BA/AC. For marking trees, the tree marker systematically conducts these measurements as he is progressing through the stand, stopping as he moves from one area to the next taking a measured plot to determine the number of trees he is required to leave at each location to satisfy the basal area guideline provided.

Codominant: A tree whose crown helps to form the general level of the main canopy, receiving full light from above and limited light from the sides.

Conifer: An evergreen tree that produces cones, needle-shaped leaves, and wood known commercially as “softwood”.

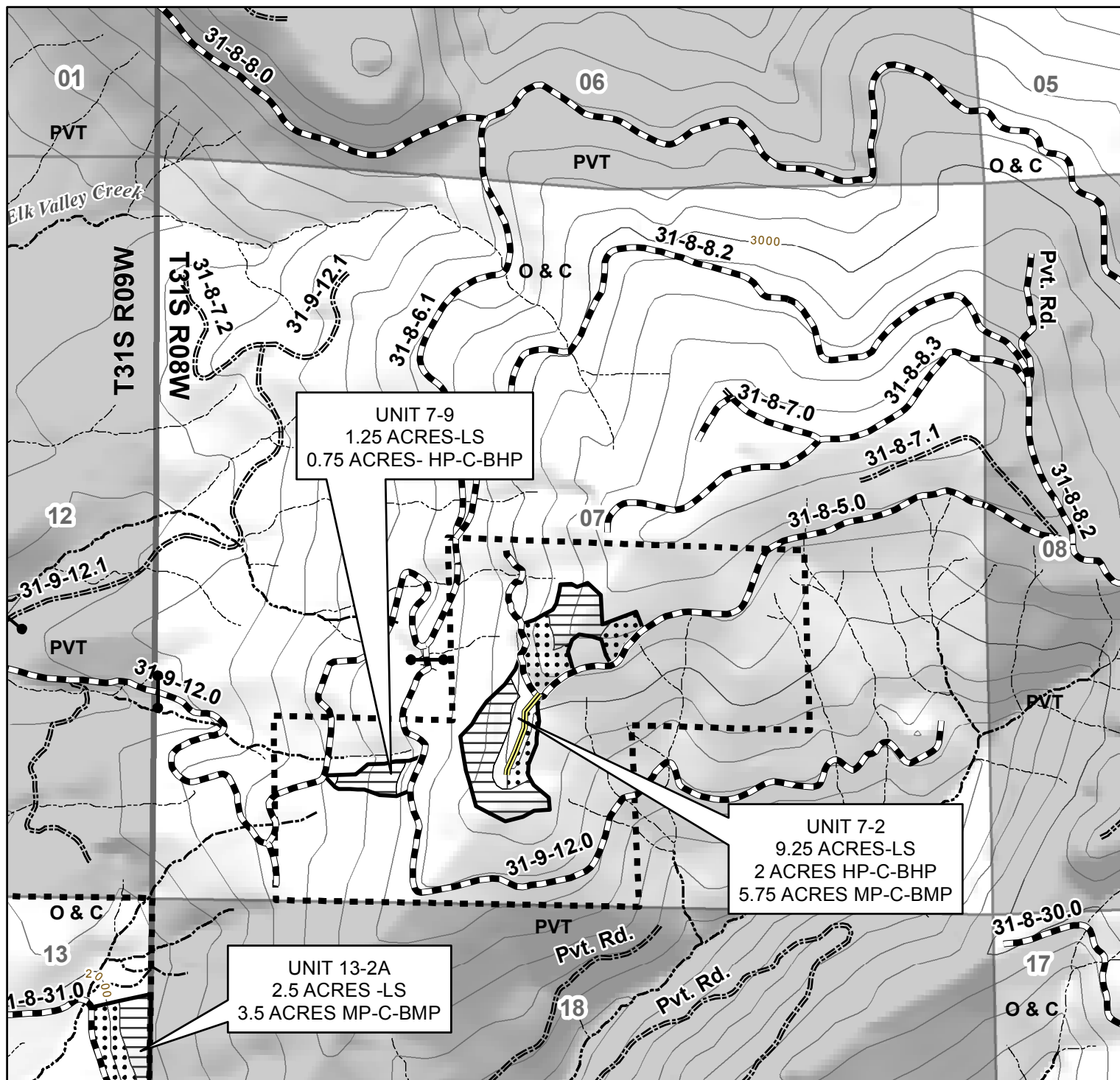
Crown Ratio: A percentage of the live crown length divided by the total tree height.

DBH: Diameter of the tree at breast height, measured at four point five feet (4.5’) above the ground level from the uphill side of the tree.

Dominant: A tree whose crown extends above the general level of the main canopy, receiving full light from above and partial light from the sides.

Hardwood: A live green broad-leaved tree which usually has a single well-devined trunk, exhibits > 30% live crown ratio and is capable of attaining a height greater than 20 feet. These include, but are not limited to alder, chinquapin, bigleaf maple, madrone, and oak species. Sprouting hardwood species may be in the form of multi-stemmed clumps originating from the base of a single defined stump.

Leave tree: Live green tree to be retained within the specifications of this prescription. These include live green conifers and large hardwoods (see Appendix 1).



0 750 1,500 3,000
Feet

1 inch = 1,000 feet

40 FOOT CONTOUR INTERVAL

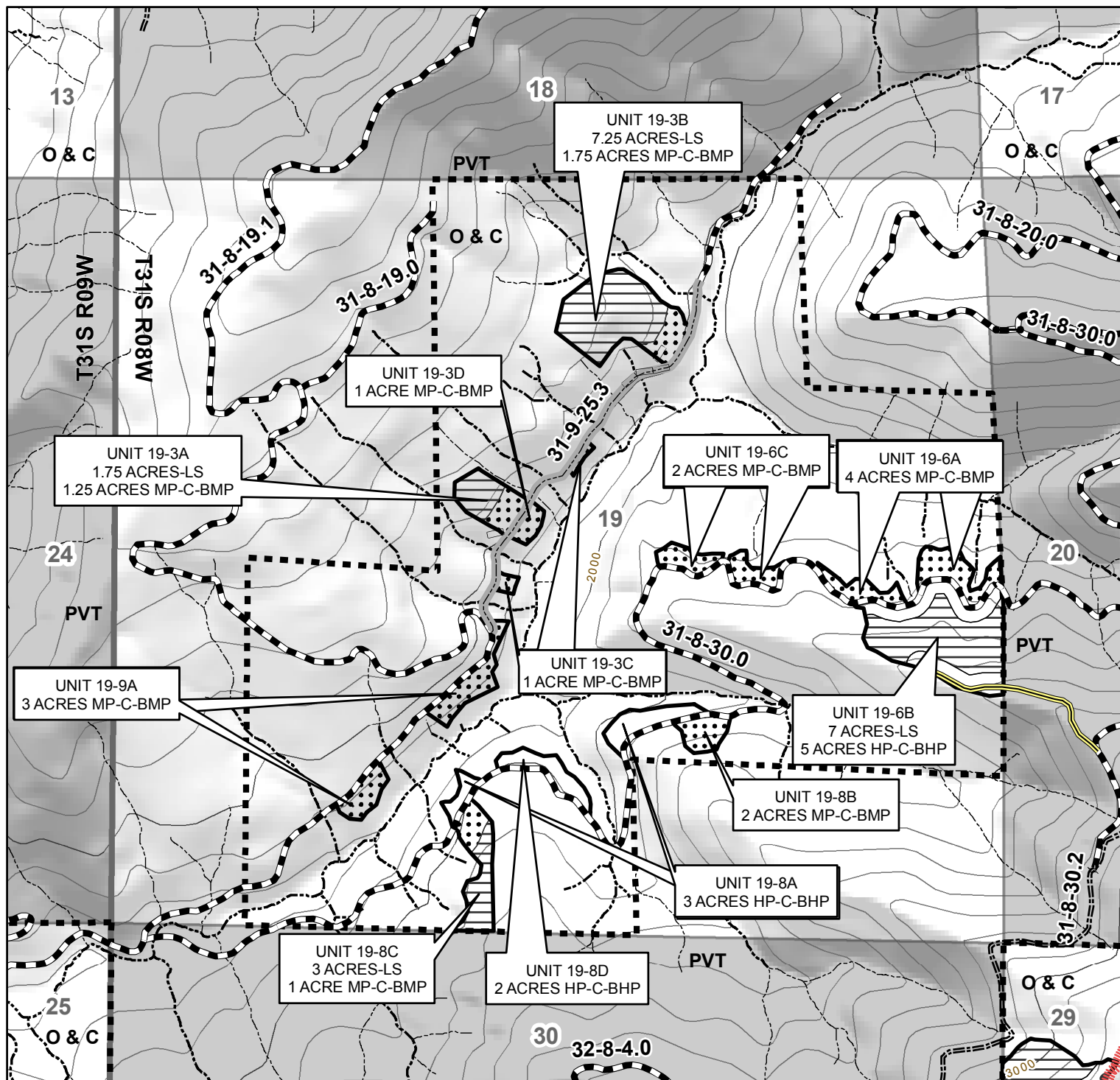
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0 750 1,500 3,000 Feet

1 inch = 1,000 feet



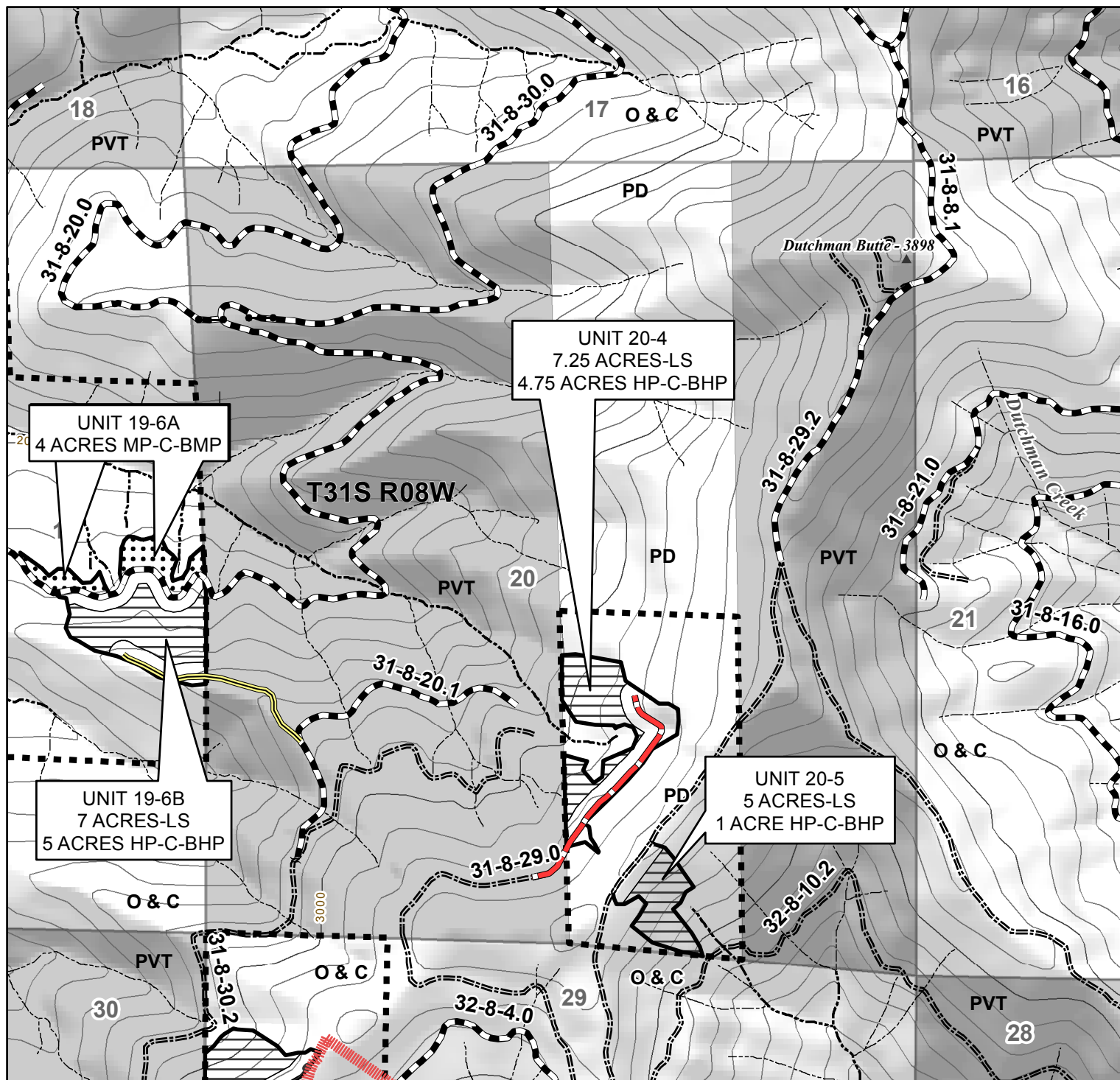
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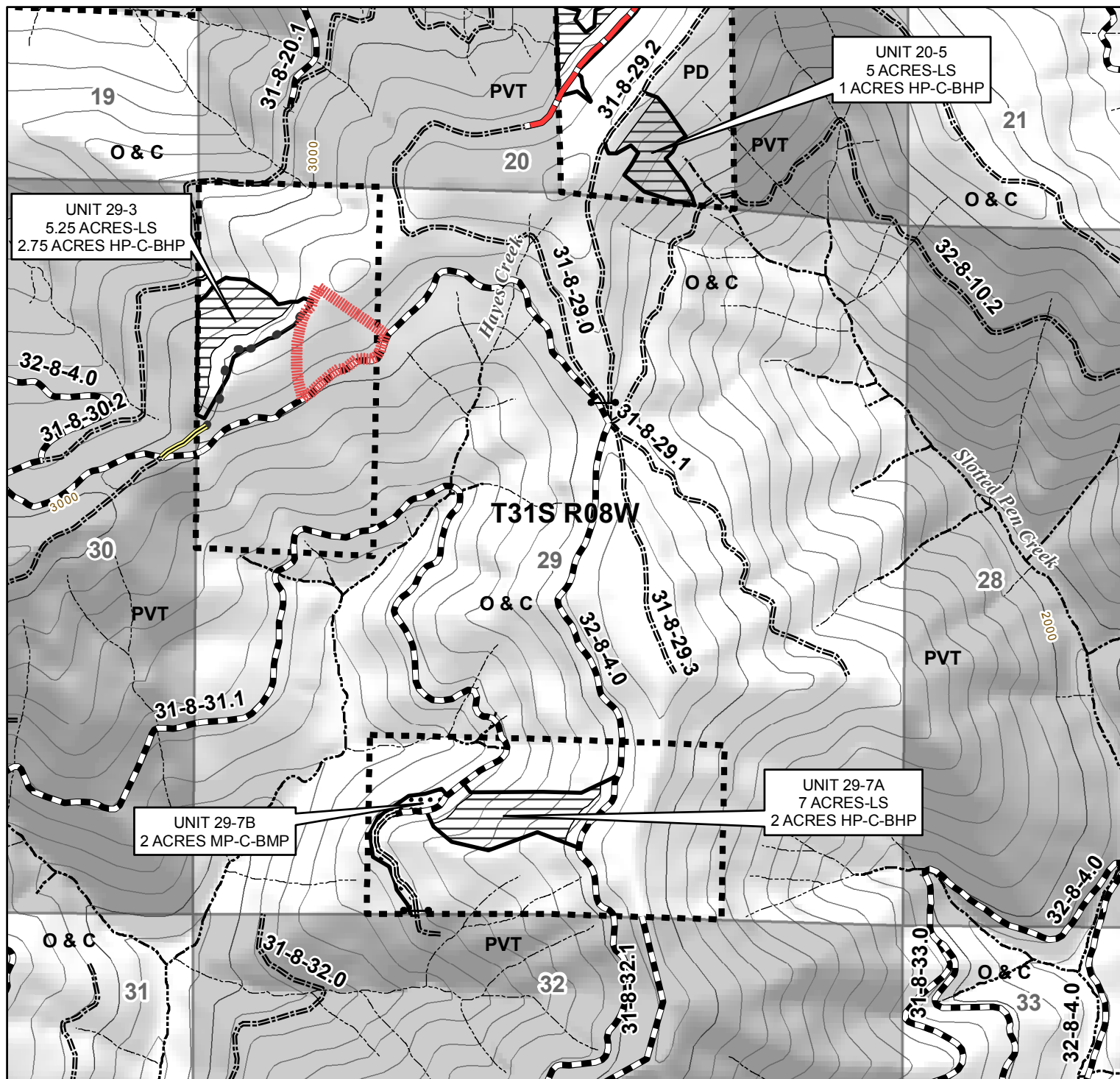
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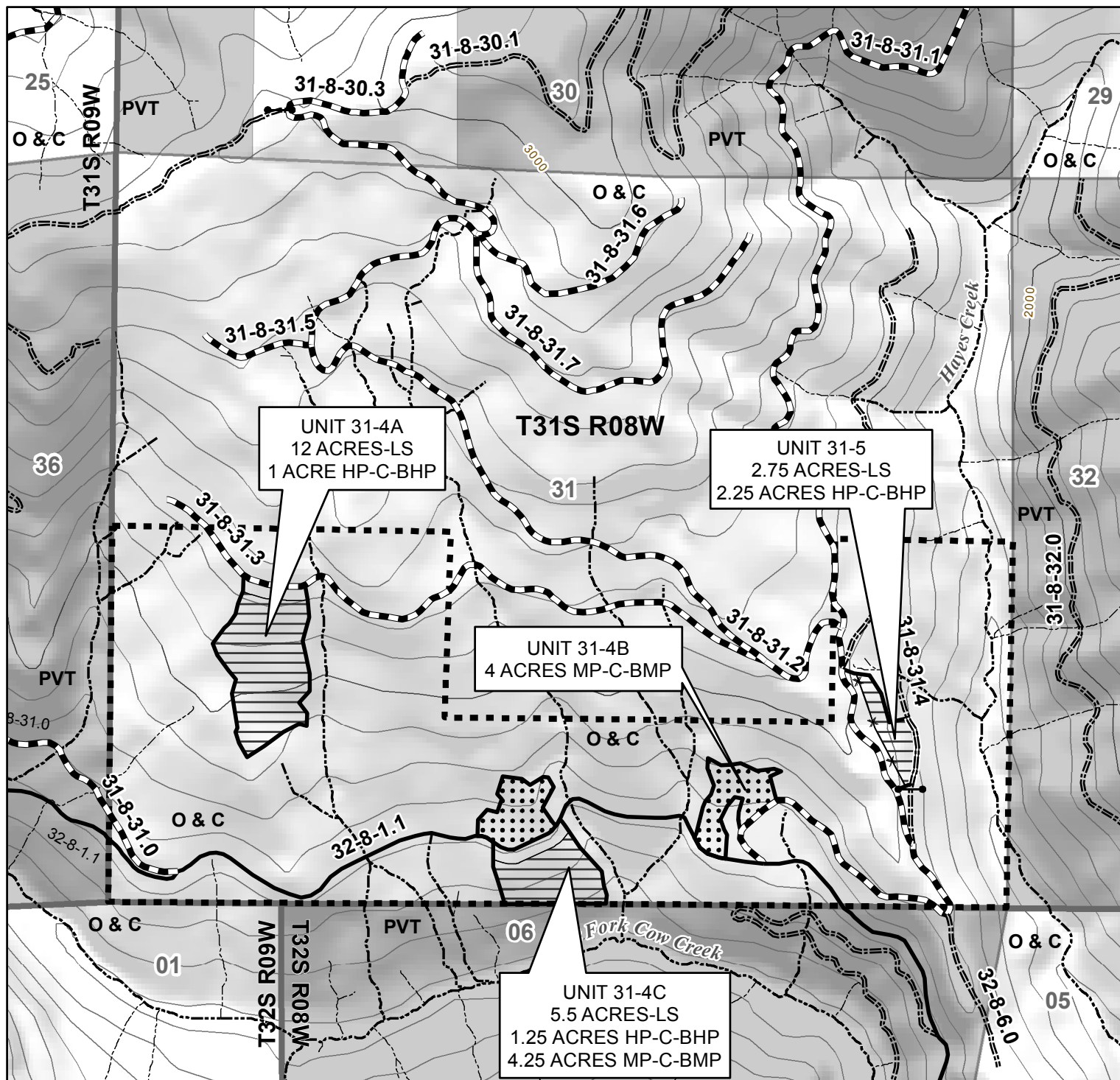
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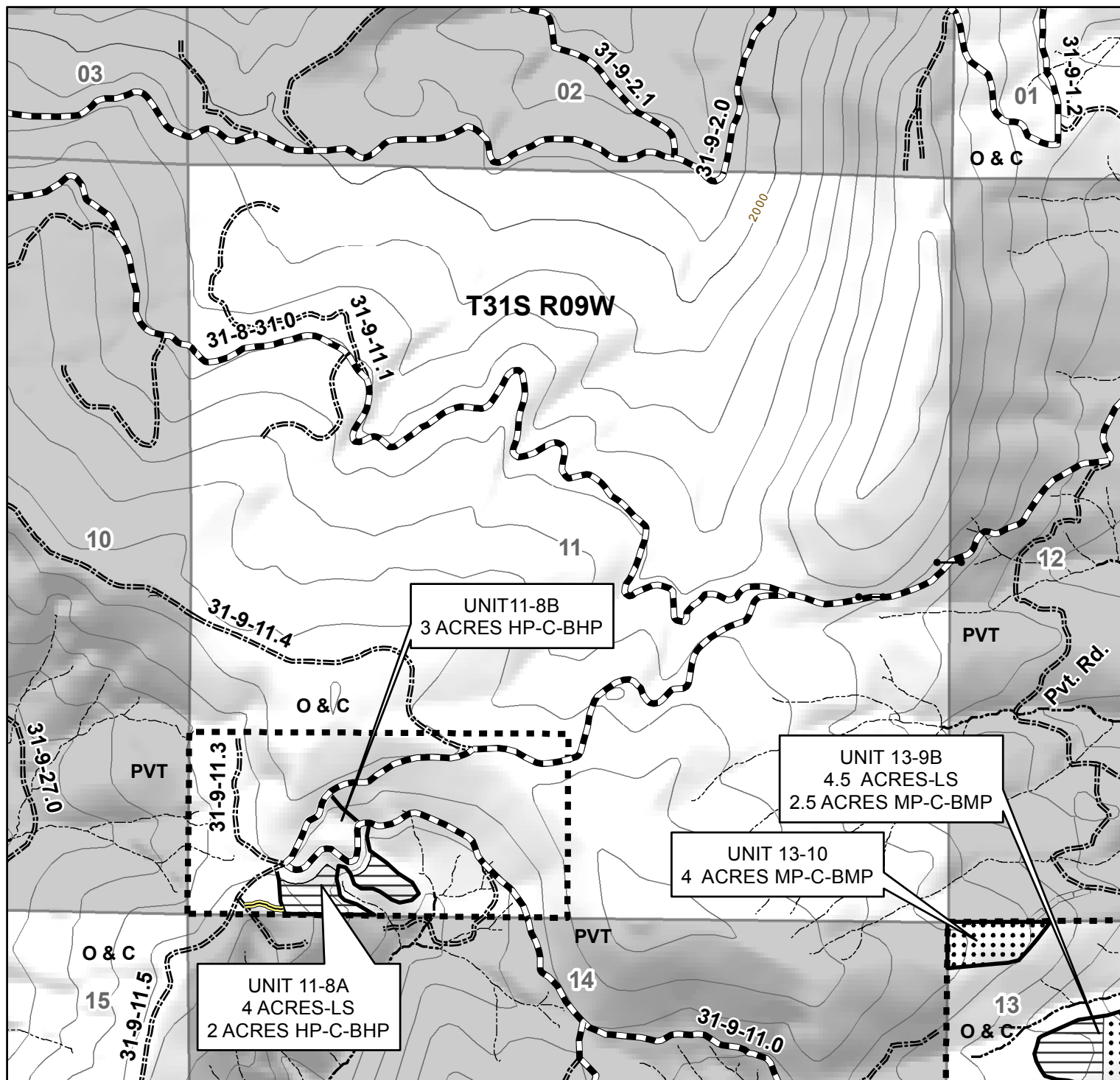
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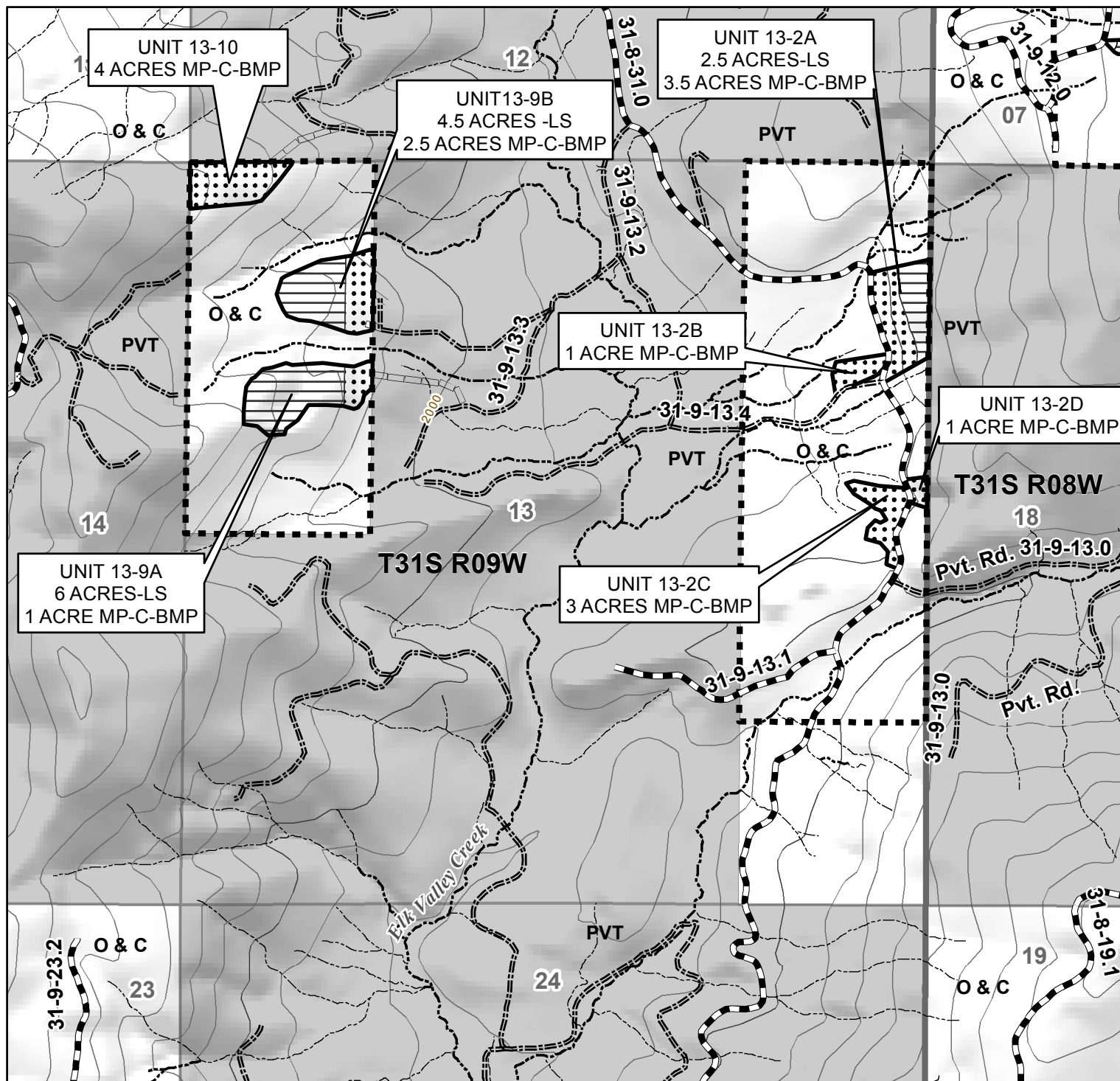
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Feet

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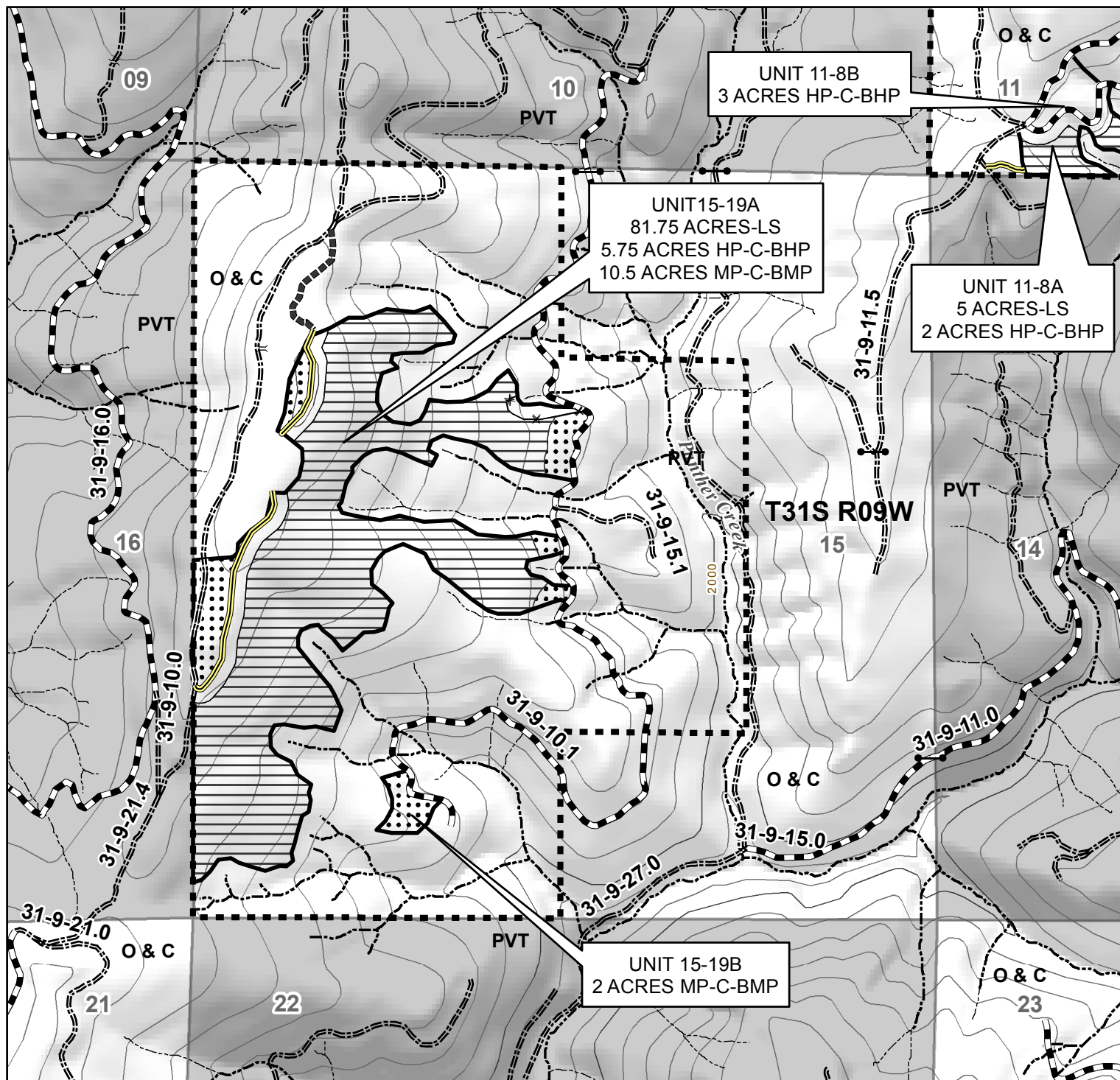
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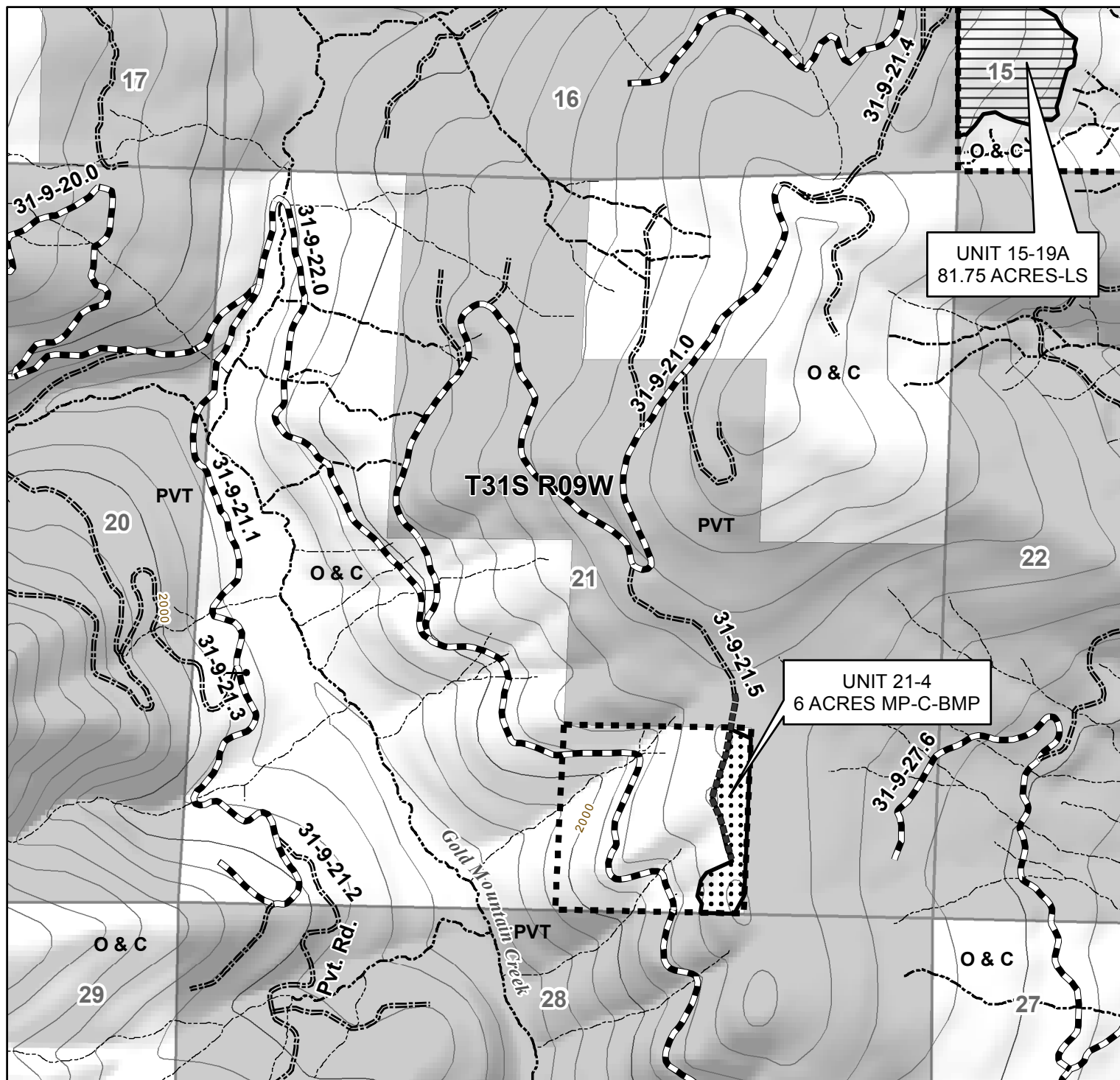
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Feet

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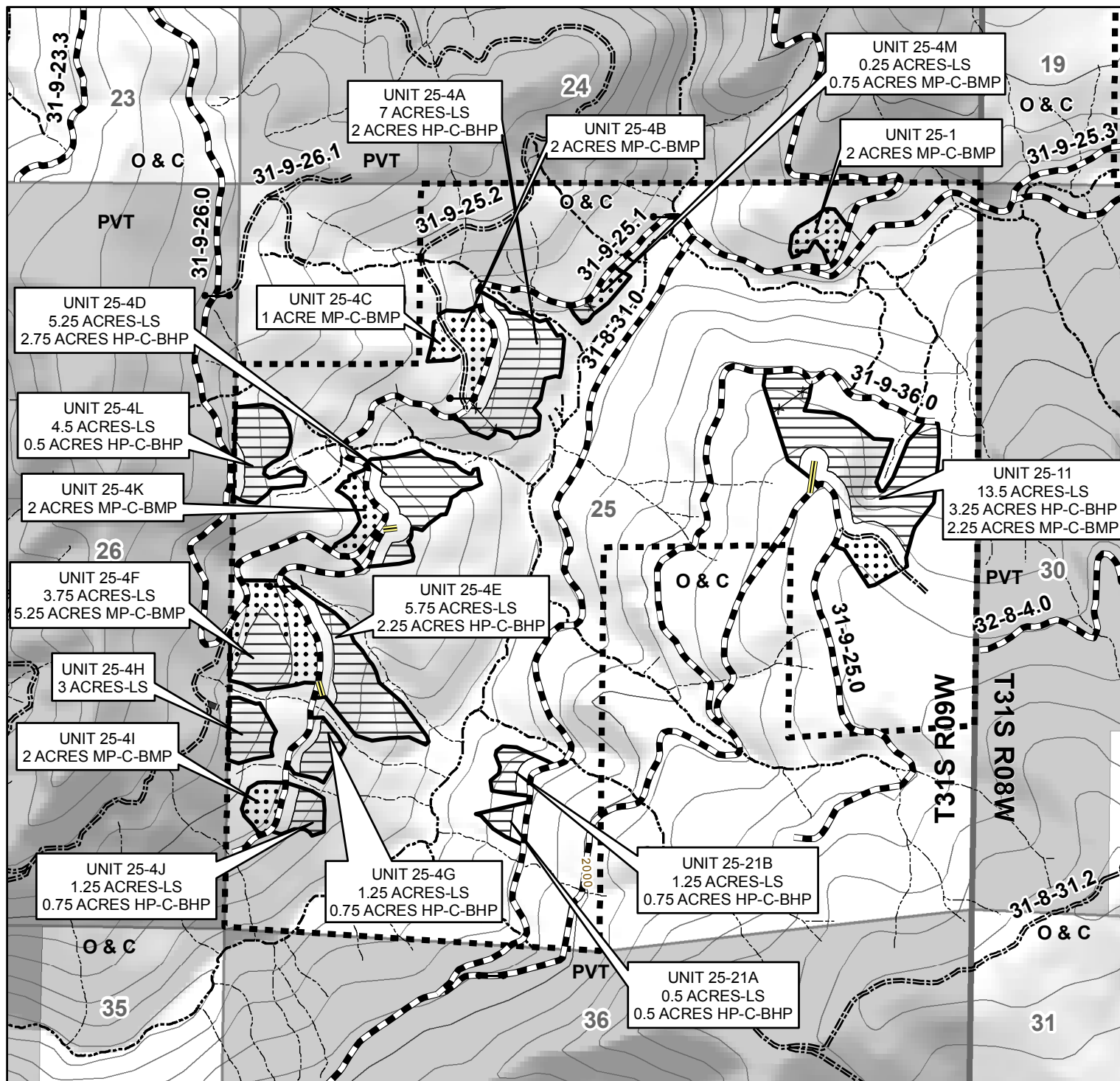
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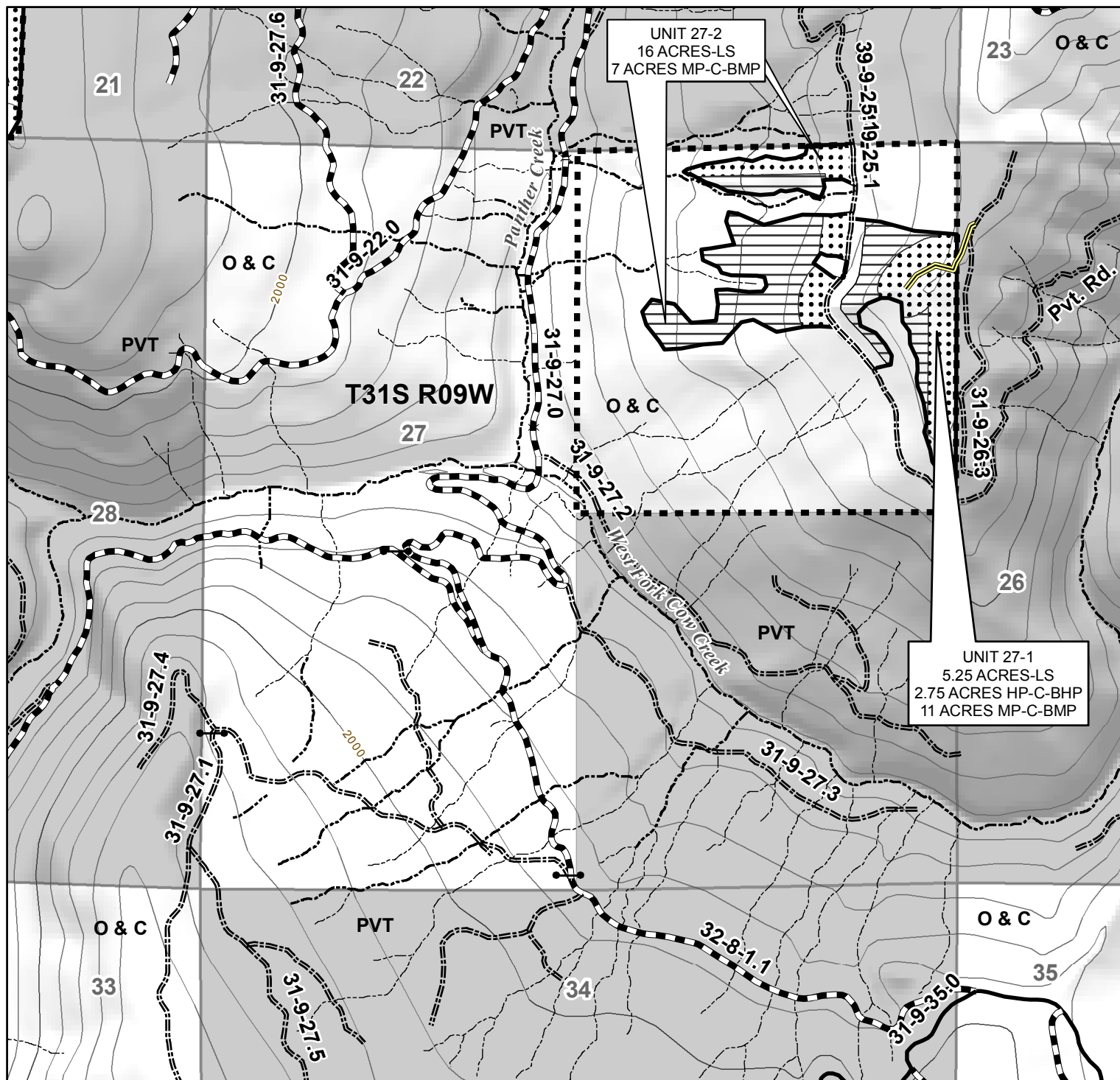
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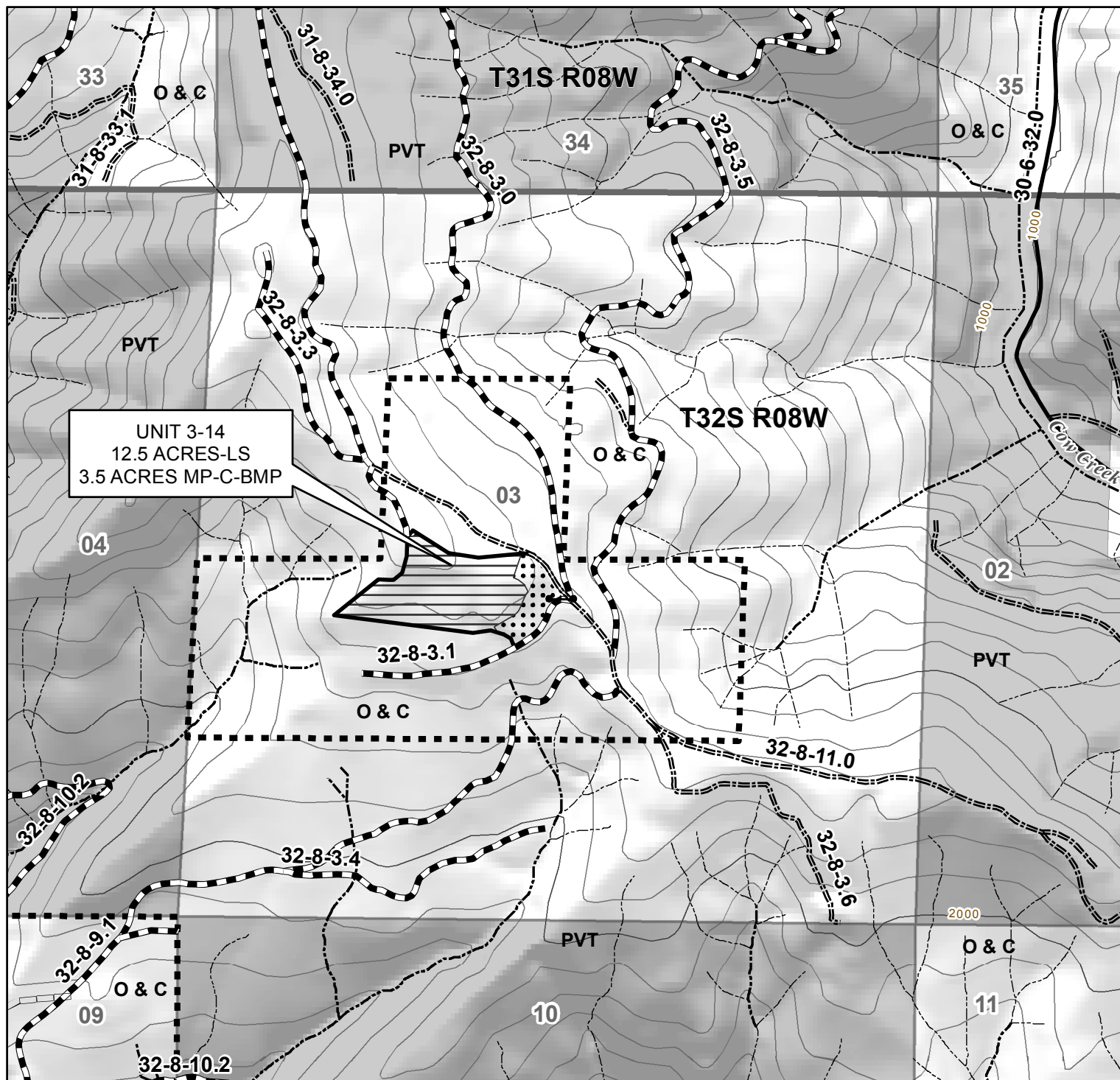
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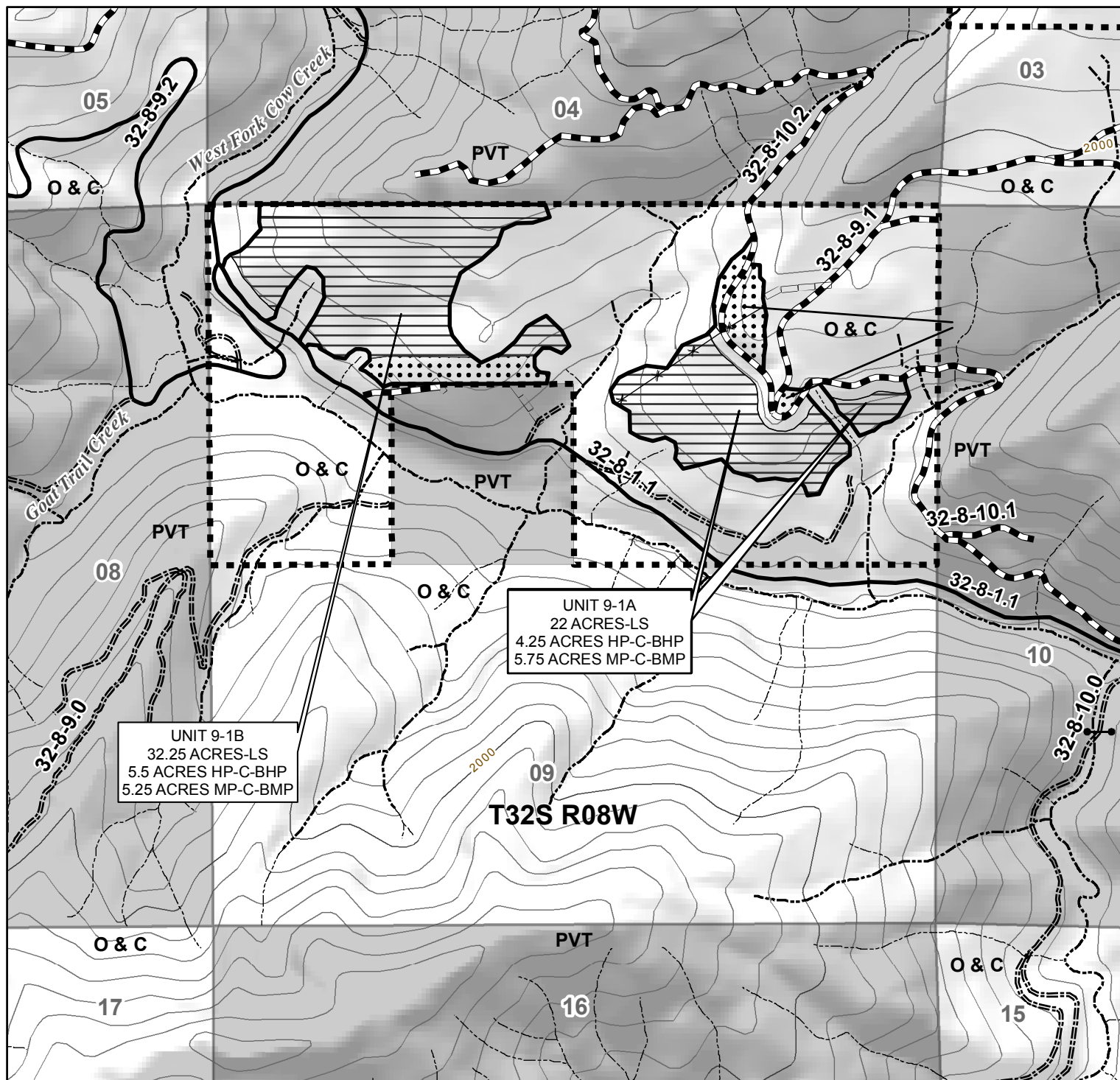
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



















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Legend

	LS Lop and Scatter		Gate
	HP Hand Pile		Intermediate 100-ft contour
	MP Mechanical Pile		Index 1000-ft contour
	Road Reconstruction		Stream
	Road Renovation		Township and Range
	Temp. Construction		Sections
	Contract_Area_Boundary	Ownership	
	Designated Skid Trail		B L M
	Equipment Anchors Required	O & C	B L M O&C
Road		P D	B L M Public Domain
	Paved		Non-Federal
	Rocked	P V T	Private
	Natural Surface		

SUMMARY

LS	LOP AND SCATTER (UNITS: 3-14, 7-2, 7-9, 9-1A, 9-1B, 11-8A, 11-8B, 13-2A, 13-9A, 13-9B, 15-19A, 19-3A, 19-3B, 19-6B, 19-8A, 19-8C, 19-8D, 20-4, 20-5, 25-4A, 25-4D, 25-4E, 25-4F, 25-4G, 25-4H, 25-4L, 25-4J, 25-4M, 25-11, 25-21A, 25-21B, 27-1, 27-2, 29-3, 29-7A, 31-4A, 31-4C)	309.25 ACRES
HP-C-BHP	HAND PILE-COVER-BURN HAND PILES (UNITS: ALONG ROADS IN UNITS: 7-2, 7-9, 9-1A, 9-1B, 11-8A, 11-8B, 15-19A, 19-6B, 19-8A, 19-8D, 20-4, 20-5, 25-4A, 25-4D, 25-4E, 25-4G, 25-4J 25-4L, 25-11, 25-21A, 25-21B)	64.5 ACRES
MP-C-BMP	MECHANICAL PILE-COVER-BURN MECHANICAL PILES (UNITS: 3-14, 7-2, 9-1A, 9-1B, 13-2A, 13-2B, 13-2C, 13-2D, 13-9A, 13-9B, 13-10, 15-19A, 15-19B, 19-3A, 19-3B, 19-3C, 19-3D, 19-6A, 19-6C, 19-8C, 19-9A, 20-4, 21-4, 25-1, 25-4B, 25-4C, 25-4F, 25-4I, 25-4K, 25-4M, 25-11, 27-1, 27-2, 29-7B, 31-4B, 31-4C)	116.25 ACRES
	TOTAL TREATMENT AREA	490 ACRES
	TOTAL TIMBER SALE UNIT AREA	490 ACRES
	TOTAL CONTRACT AREA	2826 ACRES

LEGEND

UNIT	ACRES	HARVEST TYPE	LOGGING SYSTEM	FUELS TREATMENT
3-14	16	VDT	GB	LS-MP-C-BMP-CLD-BLD
7-2	17	VDT	GB/C	LS-HP-C-BHP-MP-C-BMP-CLD-BLD
7-9	2	VDT	C	LS-HP-C-BHP-CLD-BLD
9-1A	33	VDT	GB/C	LS-HP-C-BHP-MP-C-BMP-CLD-BLD
9-1B	43	VDT	GB/C	LS-HP-C-BHP-MP-C-BMP-CLD-BLD
11-8A	7	VDT	C	LS-HP-C-BHP-CLD-BLD
11-8B	3	VDT	C	HP-C-BHP-CLD-BLD
13-2A	6	VDT	GB	LS-MP-C-BMP-CLD-BLD
13-2B	1	VDT	GB	MP-C-BMP-CLD-BLD
13-2C	3	VDT	GB	MP-C-BMP-CLD-BLD
13-2D	1	VDT	GB	MP-C-BMP-CLD-BLD
13-9A	7	VDT	GB	LS-MP-C-BMP-CLD-BLD
13-9B	7	VDT	GB	LS-MP-C-BMP-CLD-BLD
13-10	4	VDT	GB	HP-C-BHP-CLD-BLD
15-19A	98	VDT	GB/C	LS-HP-C-BHP-MP-C-BMP-CLD-BLD
15-19B	2	VDT	GB	MP-C-BMP-CLD-BLD
19-3A	3	VDT	GB	LS-MP-C-BMP-CLD-BLD
19-3B	9	VDT	GB	LS-MP-C-BMP-CLD-BLD
19-3C	1	VDT	GB	MP-C-BMP-CLD-BLD
19-3D	1	VDT	GB	MP-C-BMP-CLD-BLD
19-6A	5	VDT	GB	MP-C-BMP-CLD-BLD
19-6B	13	VDT	GB/C	LS-HP-C-BHP-CLD-BLD
19-6C	3	VDT	GB	MP-C-BMP-CLD-BLD
19-8A	3	VDT	C	HP-C-BHP-CLD-BLD
19-8B	2	VDT	GB	MP-C-BMP-CLD-BLD
19-8C	4	VDT	GB	LS-MP-C-BMP-CLD-BLD
19-8D	2	VDT	C	HP-C-BHP-CLD-BLD
19-9A	4	VDT	GB	MP-C-BMP-CLD-BLD
20-4	12	VDT	GB/C	LS-HP-C-BHP-CLD-BLD
20-5	6	VDT	C	LS-HP-C-BHP-CLD-BLD
21-4	6	VDT	GB	MP-C-BMP-CLD-BLD

LEGEND

25-1	2	LRRS	GB	MP-C-BMP-CLD-BLD
25-4A	10	VDT	C	LS-HP-C-BHP-CLD-BLD
25-4B	3	VDT	GB	MP-C-BMP-CLD-BLD
25-4C	1	VDT	GB	MP-C-BMP-CLD-BLD
25-4D	9	VDT	C	LS-HP-C-BHP-CLD-BLD
25-4E	9	VDT	C	LS-HP-C-BHP-CLD-BLD
25-4F	9	VDT	GB	LS-MP-C-BMP-CLD-BLD
25-4G	3	VDT	C	LS-HP-C-BHP-CLD-BLD
25-4H	3	VDT	C	LS-CLD-BLD
25-4I	2	VDT	GB	MP-C-BMP-CLD-BLD
25-4J	2	VDT	C	LS-HP-C-BHP-CLD-BLD
25-4K	2	VDT	GB	MP-C-BMP-CLD-BLD
25-4L	5	VDT	C	LS-HP-C-BHP-CLD-BLD
25-4M	1	VDT	GB	LS-MP-C-BMP-CLD-BLD
25-11	20	VDT	GB/C	LS-HP-C-BHP-MP-C-BMP-CLD-BLD
25-21A	1	VDT	C	LS-HP-C-BHP-CLD-BLD
25-21B	2	VDT	C	LS-HP-C-BHP-CLD-BLD
27-1	20	VDT	GB/C	LS-HP-C-BHP-MP-C-BMP-CLD-BLD
27-2	23	VDT	GB	LS-MP-C-BMP-CLD-BLD
29-3	8	VDT	C	LS-HP-C-BHP-CLD-BLD
29-7A	9	VDT	C	LS-HP-C-BHP-CLD-BLD
29-7B	2	VDT	GB	MP-C-BMP-CLD-BLD
31-4A	13	VDT	C	LS-HP-C-BHP-CLD-BLD
31-4B	5	VDT	GB	MP-C-BMP-CLD-BLD
31-4C	12	VDT	GB/C	LS-HP-C-BHP-MP-C-BMP-CLD-BLD
31-5	5	VDT	GB	LS-HP-C-BHP-CLD-BLD
TOTAL	490			

* ALL ACRES COMPUTED BY GPS TRAVERSE

* BOUNDARIES OF HARVEST UNITS ARE POSTED AND PAINTED IN ORANGE

LEGEND

SITE PREPARATION COSTS/ACRE	
TREATMENT TYPE	DESCRIPTION
LS	Within Unit boundaries
HP-C-BHP	From edge of road into Unit boundaries
MP-C-BMP	Within ground base and landing decks (Estimated 1/12 acre per machine pile)

GB = GROUND BASE (MACHINE)

C = CABLE

C/GB = CABLE/GROUND BASE

VDT = VARIABLE DENSITY THIN

LS = LOP AND SCATTER

HP = HAND PILE

C = COVER PILE

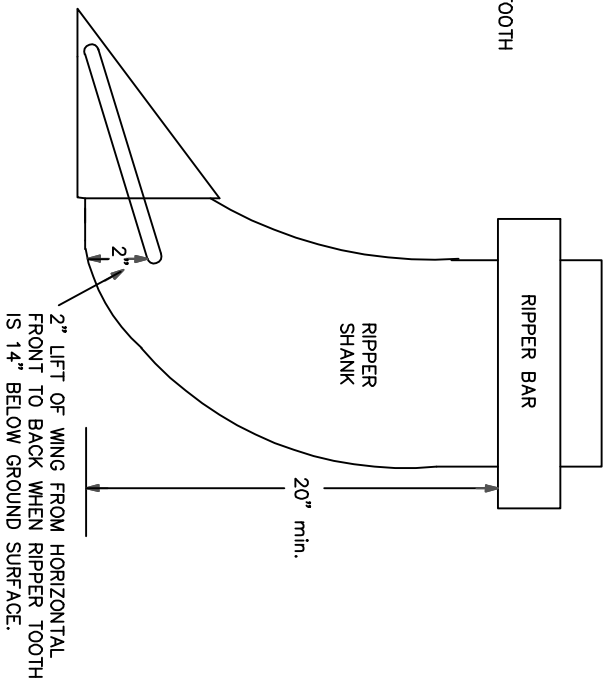
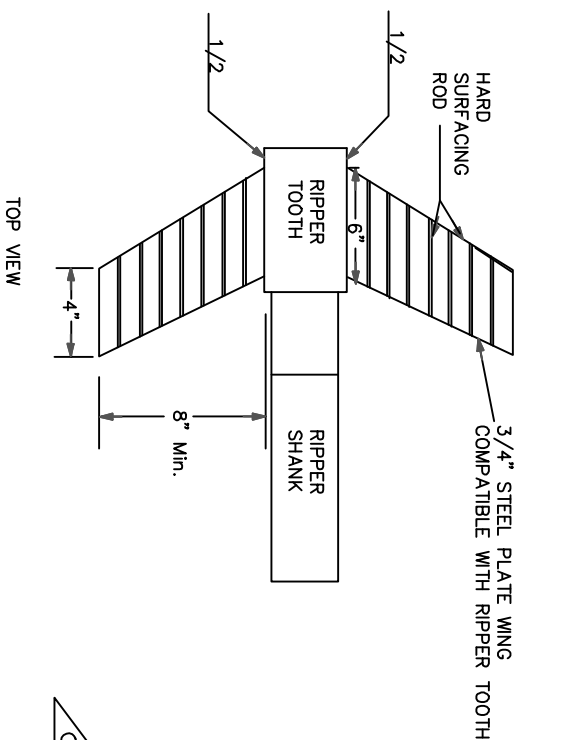
BHP = BURN HAND PILE

MP = MECHANICAL PILE

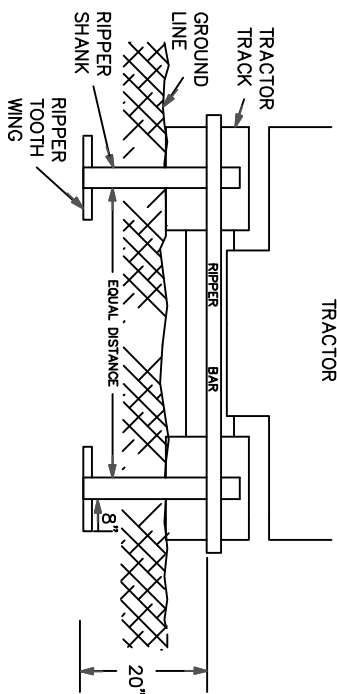
BMP = BURN MECHANICAL PILE

CLD = COVER LANDING DECK

BLD = BURN LANDING DECK



TYPICAL RIPPER POSITION



SIDE VIEW

- NOTES: TYPICAL RIPPER TOOTH CONSTRUCTION
1. USE HARD SURFACING ROD FOR ALL EDGE AND SURFACE REINFORCEMENT.
 2. WELD THAT ATTACHES WINGS TO RIPPER TEETH MUST BE COMPATIBLE WITH METAL IN TEETH AND WINGS.
 3. RIPPER SHANKS AND RIPPER TEETH MAY BE NEW OR USED.
 4. WINGS SHALL PROVIDE TWO (2) INCHES OF LIFT FROM THE HORIZONTAL WHEN TEETH ARE EXTENDED FOURTEEN (14) INCHES BELOW THE GROUND SURFACE.

WING RIPPER DETAIL

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ASHLAND RESOURCE AREA MEDFORD DISTRICT

DESIGNED	
REVIEWED	
APPROVED	
CHIEF, DIVISION OF ENGINEERING OR DISTRICT ENGINEER	
DRAWN: JWR	SCALE: NONE
DATE: October 2009	SHEET 1 OF 1
DRAWING NO.	



United States of America
Department of the Interior
Bureau Of Land Management
Timber Sale Appraisal

District : Medford	Contract # : ORM07-TS-16-13
Sale Name : Milk Dudds	Job File # : M11329
Sale Date : 09/22/2016	Master Unit : Josephine
Appraisal Method : 16' MBF	Planning Unit : Grants Pass

Contents

Timber Sale Summary	2
Stumpage Summary	5
Prospectus	6
Exhibit B	9
Volume Summary	24
Stump to Truck Costs	39
Other Allowances Costs	40
Consolidated Comments	42

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Timber - Sale - Summary**

Medford
Milk Dudds
ORM07-TS-16-13

Legal Description

Forest Type	Township	Range	Section	Subdivision
O&C	31S	8W	7	Lot 7,11,12, NW1/4SE1/4
O&C	31S	8W	19	Lot 1,6,7,8,11,12, W1/2NE1/4, SE1/4NE1/4, N1/2SE1/4
PD	31S	8W	20	W1/2SE1/4
O&C	31S	8W	29	W1/2NW1/4, SE1/4SW1/4, SW1/4SE1/4
O&C	31S	8W	31	Lot 8,9,10,11,12, NE1/4SE1/4, S1/2SE1/4
O&C	31S	9W	11	S1/2SW1/4
O&C	31S	9W	13	E1/2NE1/4, W1/2NW1/4, NE1/4SE1/4
O&C	31S	9W	15	SW1/4NE1/4, NW1/4, SW1/4, NW1/4SE1/4
O&C	31S	9W	21	SW1/4SE1/4
O&C	31S	9W	25	NE1/4, NE1/4NW1/4, S1/2NW1/4, SW1/4, NE1/4SE1/4
O&C	31S	9W	27	NE1/4
O&C	32S	8W	3	SE1/4NW1/4, N1/2SW1/4, NW1/4SE1/4
O&C	32S	8W	9	NE1/4, N1/2NW1/4

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Cutting Volume (16' MBF)

Unit	DF	WF	PP	WH	IC	WRC			Total	Regen	Partial	ROW
11-8A	40	2	6	2	1	1			52	0	6	0
11-8B	20	1	3	1	1	0			26	0	3	0
13-10	29	5	2	3	2				41	0	4	0
13-2A	40	2	6	2	1	1			52	0	6	0
13-2B	7	0	1	0	0	0			8	0	1	0
13-2C	20	1	3	1	1	0			26	0	3	0
13-2D	7	0	1	0	0	0			8	0	1	0
13-9A	51	8	4	6	4				73	0	7	0
13-9B	51	8	4	6	4				73	0	7	0
15-19A	720	112	55	79	56				1,022	0	98	0
15-19B	15	2	1	2	1				21	0	2	0
19-3A	20	1	3	1	1	0			26	0	3	0
19-3B	60	2	8	2	2	5			79	0	9	0
19-3C	7	0	1	0	0	0			8	0	1	0
19-3D	7	0	1	0	0	0			8	0	1	0
19-6A	27	1	4	1	1	1			35	0	4	0
19-6B	80	3	11	3	2	2			101	0	12	0
19-6C	13	1	2	1	0	0			17	0	2	0
19-8A	20	1	3	1	1	0			26	0	3	0
19-8B	13	1	2	1	0	0			17	0	2	0
19-8C	27	1	4	1	1	1			35	0	4	0
19-8D	13	1	2	1	0	0			17	0	2	0
19-9A	20	1	3	1	1	0			26	0	3	0
20-4	88	14	7	10	7				126	0	12	0
20-5	44	7	4	5	3				63	0	6	0
21-4	40	2	6	2	1	1			52	0	6	0
25-1	15	2	1	2	1				21	0	2	0
25-11	139	22	11	16	10				198	0	19	0
25-21A	7	0	1	0	0	0			8	0	1	0
25-21B	13	1	2	1	0	0			17	0	2	0
25-4A	60	2	8	2	2	1			75	0	9	0
25-4B	13	1	2	1	0	0			17	0	2	0
25-4C	7	0	1	0	0	0			8	0	1	0
25-4D	53	2	7	2	1	1			66	0	8	0
25-4E	59	10	5	7	4				85	0	8	0
25-4F	60	2	8	2	2	1			75	0	9	0
25-4G	13	1	2	1	0	0			17	0	2	0
25-4H	20	1	3	1	1	0			26	0	3	0
25-4I	13	1	2	1	0	0			17	0	2	0
25-4J	13	1	2	1	0	0			17	0	2	0
25-4K	13	1	2	1	0	0			17	0	2	0
25-4L	33	1	5	1	1	1			42	0	5	0
25-4M	7	0	1	0	0	0			8	0	1	0
27-1	126	5	18	5	3	3			160	0	19	0
27-2	168	27	14	20	13				242	0	23	0
29-3	53	2	7	2	1	1			66	0	8	0

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

29-7A	60	2	8	2	2	1			75	0	9	0
29-7B	13	1	2	1	0	0			17	0	2	0
3-14	117	19	9	14	9				168	0	16	0
31-4A	95	15	8	11	7				136	0	13	0
31-4B	29	5	2	3	2				41	0	4	0
31-4C	73	3	10	3	2	2			93	0	11	0
31-5	33	1	5	1	1	1			42	0	5	0
7-2	124	20	10	14	9				177	0	17	0
7-9	13	1	2	1	0	0			17	0	2	0
9-1A	234	38	19	27	17				335	0	32	0
9-1B	315	51	25	36	23				450	0	43	0
Totals	3,470	415	349	311	202	24			4,771	0	490	0

Logging Costs per 16' MBF

Stump to Truck	\$ 198.84
Transportation	\$ 47.99
Road Construction	\$ 82.38
Road Amortization	\$ 1.50
Road Maintenance	\$ 21.85
Other Allowances :	

Fuels Treatment	\$ 17.79
Misc	\$ 8.63
Other Costs	\$ 14.75
Total Other Allowances :	\$ 41.17

Total Logging Costs per 16' MBF

\$ 393.73

Utilization Centers

Center #1 : Glendale, OR 32 Miles
Center #2 0 Miles
Weighted distance to Utilization Centers 32

Length of Contract

Cutting and Removal Time 36 Months
Personal Property Removal Time 1 Months

Profit & Risk

Total Profit & Risk 8 %
Basic Profit & Risk 8 % + Additional Risk 0 %
Back Off 0 %

Tract Features

Avg Log Douglas-fir : 45 bf All : 43 bf
Recovery Douglas-fir : 90 % All : 89 %
Salvage Douglas-fir : 0 % All : 0 %
Avg Volume (16' MBF per Acre) 10
Avg Yarding Slope 45 %
Avg Yarding Distance (feet) 200
Avg Age 52
Volume Cable 54 %
Volume Ground 46 %
Volume Aerial 0 %
Road Construction Stations 0.00
Road Improvement Stations 0.00
Road Renovation Stations 0.00
Road Decommission Stations 0.00

Cruise

Cruised By Caulfield/Cannon
Date 06/01/2016
Type of Cruise PCMTRE
County, State Douglas, OR

Net Volume

Green (16' MBF) 4,771
Salvage (16' MBF) 0
Douglas-fir Peeler 104
Export Volume 0
Scaling Allowance (\$0.75 per 16' MBF) \$3,578.25

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Medford
Milk Dudds
ORM07-TS-16-13

Stumpage Summary

Stumpage Computation (16' MBF)

Species	Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Cost	(+) Marginal Log Value	(-) Back Off	Appraised Price	Appraised Value
DF	33,309	3,470	\$ 535.57	\$ 42.85	\$ 393.73			\$ 99.00	\$ 343,530.00
WF	3,743	415	\$ 365.15	\$ 29.21	\$ 393.73			\$ 36.50	\$ 15,147.50
PP	5,114	349	\$ 258.77	\$ 20.70	\$ 393.73			\$ 25.90	\$ 9,039.10
WH	4,953	311	\$ 434.90	\$ 34.79	\$ 393.73			\$ 43.50	\$ 13,528.50
IC	2,750	202	\$ 413.06	\$ 33.04	\$ 393.73			\$ 41.30	\$ 8,342.60
WRC	304	24	\$ 923.13	\$ 73.85	\$ 393.73			\$ 455.50	\$ 10,932.00
Totals	50,173	4,771							\$ 400,519.70

Log Code by Percent

Species	Code #1	Code #2	Code #3	Code #4	Code #5	Code #6
White Fir				19.0	68.0	13.0
Incense-cedar				39.0	42.0	19.0
Ponderosa Pine				21.0	54.0	25.0
Douglas-fir			3.0	31.0	52.0	14.0
Western red-cedar			80.0	20.0		
Western Hemlock				13.0	69.0	18.0

Marginal Log Volume

Species	Grade #7	Grade #8
White Fir		
Incense-cedar		
Ponderosa Pine		
Douglas-fir		
Western red-cedar		
Western Hemlock		

Appraised By : Cannon, Grant

Date : 06/29/2016

Area Approval By :

Date :

District Approval By :

Date :

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Prospectus

Appraisal Method : (16' MBF)

Species	Trees	Net Volume 16' MBF	Net Volume 32' MBF	Net Volume CCF
Douglas-fir	33,309	3,470	2,835	
White Fir	3,743	415	307	
Ponderosa Pine	5,114	349	251	
Western Hemlock	4,953	311	276	
Incense-cedar	2,750	202	149	
Western red-cedar	304	24	21	
Total	50,173	4,771	3,839	

All Species

Gross Volume	Number Trees	Avg bf Volume Per Tree	DBH	Gross Merch Volume	Merch Logs	Avg bf Gross Merch Log
5,368	50,173	106	12.1	5,168	120,296	43

Merch Logs	Cull Logs	Total Logs	Logs per Tree	Net Volume	Gross Volume	Recovery
120,296	6,381	126,677	2.5	4,771	5,368	89 %

Douglas-fir

Gross Volume	Number Trees	Avg bf Volume Per Tree	DBH	Gross Merch Volume	Merch Logs	Avg bf Gross Merch Log
3,848	33,309	115	11.9	3,725	83,167	45

Merch Logs	Cull Logs	Total Logs	Logs per Tree	Net Volume	Gross Volume	Recovery
83,167	3,391	86,558	2.6	3,470	3,848	90 %

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Cutting Areas

Unit	Regen Acres	Partial Cut Acres	Right Of Way Acres	Total Acres
11-8A		6		6
11-8B		3		3
13-10		4		4
13-2A		6		6
13-2B		1		1
13-2C		3		3
13-2D		1		1
13-9A		7		7
13-9B		7		7
15-19A		98		98
15-19B		2		2
19-3A		3		3
19-3B		9		9
19-3C		1		1
19-3D		1		1
19-6A		4		4
19-6B		12		12
19-6C		2		2
19-8A		3		3
19-8B		2		2
19-8C		4		4
19-8D		2		2
19-9A		3		3
20-4		12		12
20-5		6		6
21-4		6		6
25-1		2		2
25-11		19		19
25-21A		1		1
25-21B		2		2
25-4A		9		9
25-4B		2		2
25-4C		1		1
25-4D		8		8
25-4E		8		8
25-4F		9		9
25-4G		2		2
25-4H		3		3
25-4I		2		2
25-4J		2		2
25-4K		2		2
25-4L		5		5
25-4M		1		1
27-1		19		19
27-2		23		23
29-3		8		8
29-7A		9		9
29-7B		2		2
3-14		16		16

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

31-4A		13		13
31-4B		4		4
31-4C		11		11
31-5		5		5
7-2		17		17
7-9		2		2
9-1A		32		32
9-1B		43		43
Totals :		490		490

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Dudds
ORM07-TS-16-13

Exhibit B

The following estimates and calculations of timber sold are made solely as an administrative aid for determining: (1) Adjustments made or credits given in accordance with Sections 6, 9, or 11; (2) When payments are due; and (3) Value of timber subject to any special bonding provisions. The value of timber will be determined by multiplying the value per acre as shown below, times the amount of acreage as determined by the authorized officer, which has been cut or removed or designated for taking.

Except provided in Section 2, Purchaser shall be liable for the total purchase price even though the quantity of timber actually cut or removed or designated for taking is less than the estimated volume or quantity shown. Cutting areas are shown on the Exhibit A.

Sale Totals (16' MBF)

Species	Net Volume	Bid Price	Sale SubTotal
Douglas-fir	3,470		
White Fir	415		
Ponderosa Pine	349		
Western Hemlock	311		
Incense-cedar	202		
Western red-cedar	24		
Sale Totals	4,771		

Unit Details (16' MB)

Unit	11-8A	6 Acres	Value per Acre : \$0.00
Species	Net Volume	Bid Price	Species Value
Douglas-fir	40		
Incense-cedar	1		
Ponderosa Pine	6		
Western Hemlock	2		
Western red-cedar	1		
White Fir	2		
Unit Totals	52		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Dudds
ORM07-TS-16-13

Unit 11-8B 3 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	20		
Incense-cedar	1		
Ponderosa Pine	3		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	26		

Unit 13-10 4 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	29		
Incense-cedar	2		
Ponderosa Pine	2		
Western Hemlock	3		
White Fir	5		
Unit Totals	41		

Unit 13-2A 6 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	40		
Incense-cedar	1		
Ponderosa Pine	6		
Western Hemlock	2		
Western red-cedar	1		
White Fir	2		
Unit Totals	52		

Unit 13-2B 1 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	7		
Incense-cedar			
Ponderosa Pine	1		
Western Hemlock			
Western red-cedar			
White Fir			
Unit Totals	8		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Dudds
ORM07-TS-16-13

Unit 13-2C 3 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	20		
Incense-cedar	1		
Ponderosa Pine	3		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	26		

Unit 13-2D 1 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	7		
Incense-cedar			
Ponderosa Pine	1		
Western Hemlock			
Western red-cedar			
White Fir			
Unit Totals	8		

Unit 13-9A 7 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	51		
Incense-cedar	4		
Ponderosa Pine	4		
Western Hemlock	6		
White Fir	8		
Unit Totals	73		

Unit 13-9B 7 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	51		
Incense-cedar	4		
Ponderosa Pine	4		
Western Hemlock	6		
White Fir	8		
Unit Totals	73		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Unit 15-19A 98 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	720		
Incense-cedar	56		
Ponderosa Pine	55		
Western Hemlock	79		
White Fir	112		
Unit Totals	1,022		

Unit 15-19B 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	15		
Incense-cedar	1		
Ponderosa Pine	1		
Western Hemlock	2		
White Fir	2		
Unit Totals	21		

Unit 19-3A 3 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	20		
Incense-cedar	1		
Ponderosa Pine	3		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	26		

Unit 19-3B 9 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	60		
Incense-cedar	2		
Ponderosa Pine	8		
Western Hemlock	2		
Western red-cedar	5		
White Fir	2		
Unit Totals	79		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Unit 19-3C 1 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	7		
Incense-cedar			
Ponderosa Pine	1		
Western Hemlock			
Western red-cedar			
White Fir			
Unit Totals	8		

Unit 19-3D 1 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	7		
Incense-cedar			
Ponderosa Pine	1		
Western Hemlock			
Western red-cedar			
White Fir			
Unit Totals	8		

Unit 19-6A 4 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	27		
Incense-cedar	1		
Ponderosa Pine	4		
Western Hemlock	1		
Western red-cedar	1		
White Fir	1		
Unit Totals	35		

Unit 19-6B 12 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	80		
Incense-cedar	2		
Ponderosa Pine	11		
Western Hemlock	3		
Western red-cedar	2		
White Fir	3		
Unit Totals	101		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Unit 19-6C 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

Unit 19-8A 3 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	20		
Incense-cedar	1		
Ponderosa Pine	3		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	26		

Unit 19-8B 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

Unit 19-8C 4 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	27		
Incense-cedar	1		
Ponderosa Pine	4		
Western Hemlock	1		
Western red-cedar	1		
White Fir	1		
Unit Totals	35		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Dudds
ORM07-TS-16-13

Unit 19-8D 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

Unit 19-9A 3 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	20		
Incense-cedar	1		
Ponderosa Pine	3		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	26		

Unit 20-4 12 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	88		
Incense-cedar	7		
Ponderosa Pine	7		
Western Hemlock	10		
White Fir	14		
Unit Totals	126		

Unit 20-5 6 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	44		
Incense-cedar	3		
Ponderosa Pine	4		
Western Hemlock	5		
White Fir	7		
Unit Totals	63		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Dudds
ORM07-TS-16-13

Unit 21-4 6 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	40		
Incense-cedar	1		
Ponderosa Pine	6		
Western Hemlock	2		
Western red-cedar	1		
White Fir	2		
Unit Totals	52		

Unit 25-1 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	15		
Incense-cedar	1		
Ponderosa Pine	1		
Western Hemlock	2		
White Fir	2		
Unit Totals	21		

Unit 25-11 19 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	139		
Incense-cedar	10		
Ponderosa Pine	11		
Western Hemlock	16		
White Fir	22		
Unit Totals	198		

Unit 25-21A 1 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	7		
Incense-cedar			
Ponderosa Pine	1		
Western Hemlock			
Western red-cedar			
White Fir			
Unit Totals	8		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Unit 25-21B 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

Unit 25-4A 9 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	60		
Incense-cedar	2		
Ponderosa Pine	8		
Western Hemlock	2		
Western red-cedar	1		
White Fir	2		
Unit Totals	75		

Unit 25-4B 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

Unit 25-4C 1 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	7		
Incense-cedar			
Ponderosa Pine	1		
Western Hemlock			
Western red-cedar			
White Fir			
Unit Totals	8		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Dudds
ORM07-TS-16-13

Unit 25-4D 8 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	53		
Incense-cedar	1		
Ponderosa Pine	7		
Western Hemlock	2		
Western red-cedar	1		
White Fir	2		
Unit Totals	66		

Unit 25-4E 8 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	59		
Incense-cedar	4		
Ponderosa Pine	5		
Western Hemlock	7		
White Fir	10		
Unit Totals	85		

Unit 25-4F 9 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	60		
Incense-cedar	2		
Ponderosa Pine	8		
Western Hemlock	2		
Western red-cedar	1		
White Fir	2		
Unit Totals	75		

Unit 25-4G 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Unit 25-4H 3 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	20		
Incense-cedar	1		
Ponderosa Pine	3		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	26		

Unit 25-4I 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

Unit 25-4J 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

Unit 25-4K 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Dudds
ORM07-TS-16-13

Unit 25-4L 5 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	33		
Incense-cedar	1		
Ponderosa Pine	5		
Western Hemlock	1		
Western red-cedar	1		
White Fir	1		
Unit Totals	42		

Unit 25-4M 1 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	7		
Incense-cedar			
Ponderosa Pine	1		
Western Hemlock			
Western red-cedar			
White Fir			
Unit Totals	8		

Unit 27-1 19 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	126		
Incense-cedar	3		
Ponderosa Pine	18		
Western Hemlock	5		
Western red-cedar	3		
White Fir	5		
Unit Totals	160		

Unit 27-2 23 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	168		
Incense-cedar	13		
Ponderosa Pine	14		
Western Hemlock	20		
White Fir	27		
Unit Totals	242		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Dudds
ORM07-TS-16-13

Unit 29-3 8 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	53		
Incense-cedar	1		
Ponderosa Pine	7		
Western Hemlock	2		
Western red-cedar	1		
White Fir	2		
Unit Totals	66		

Unit 29-7A 9 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	60		
Incense-cedar	2		
Ponderosa Pine	8		
Western Hemlock	2		
Western red-cedar	1		
White Fir	2		
Unit Totals	75		

Unit 29-7B 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

Unit 3-14 16 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	117		
Incense-cedar	9		
Ponderosa Pine	9		
Western Hemlock	14		
White Fir	19		
Unit Totals	168		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Unit 31-4A 13 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	95		
Incense-cedar	7		
Ponderosa Pine	8		
Western Hemlock	11		
White Fir	15		
Unit Totals	136		

Unit 31-4B 4 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	29		
Incense-cedar	2		
Ponderosa Pine	2		
Western Hemlock	3		
White Fir	5		
Unit Totals	41		

Unit 31-4C 11 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	73		
Incense-cedar	2		
Ponderosa Pine	10		
Western Hemlock	3		
Western red-cedar	2		
White Fir	3		
Unit Totals	93		

Unit 31-5 5 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	33		
Incense-cedar	1		
Ponderosa Pine	5		
Western Hemlock	1		
Western red-cedar	1		
White Fir	1		
Unit Totals	42		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Dudds
ORM07-TS-16-13

Unit 7-2 17 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	124		
Incense-cedar	9		
Ponderosa Pine	10		
Western Hemlock	14		
White Fir	20		
Unit Totals	177		

Unit 7-9 2 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	13		
Incense-cedar			
Ponderosa Pine	2		
Western Hemlock	1		
Western red-cedar			
White Fir	1		
Unit Totals	17		

Unit 9-1A 32 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	234		
Incense-cedar	17		
Ponderosa Pine	19		
Western Hemlock	27		
White Fir	38		
Unit Totals	335		

Unit 9-1B 43 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	315		
Incense-cedar	23		
Ponderosa Pine	25		
Western Hemlock	36		
White Fir	51		
Unit Totals	450		

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Volume Summary**

Medford
Milk Duds
ORM07-TS-16-13

Sale Volume Totals

490 Acres 0 Regen 490 Partial 0 R/W 57 Units

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Net	16' MBF GM	16' MBF Gross	32' MBF Net	32' MBF GM	32' MBF Gross	CCF Net	CCF GM	CCF Gross
Douglas-fir	33,309	83,167	3,391	3,470	3,725	3,848	2,835	3,044	3,128	0	0	0
White Fir	3,743	10,757	0	415	436	436	307	323	323	0	0	0
Ponderosa Pine	5,114	10,324	0	349	374	374	251	271	271	0	0	0
Western Hemlock	4,953	10,290	2,606	311	333	403	276	295	346	0	0	0
Incense-cedar	2,750	4,840	384	202	259	266	149	189	195	0	0	0
Western red-cedar	304	918	0	24	41	41	21	34	34	0	0	0
Totals	50,173	120,296	6,381	4,771	5,168	5,368	3,839	4,156	4,297	0	0	0

Unit Totals

Unit : 11-8A 6 Acres 0 Regen 6 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	507	1,205		43	43	40
Ponderosa Pine	76	187		6	6	6
Western Hemlock	72	82	74	4	2	2
White Fir	19	58		2	2	2
Incense-cedar	31	49	13	2	1	1
Western red-cedar	10	31		1	1	1
Unit Totals	715	1,612	87	58	55	52

Unit : 11-8B 3 Acres 0 Regen 3 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	253	602		21	21	20
Ponderosa Pine	38	93		3	3	3
White Fir	10	29		1	1	1
Incense-cedar	16	25	7	1	1	1
Western Hemlock	36	41	37	2	1	1
Western red-cedar	5	16		1	1	
Unit Totals	358	806	44	29	28	26

Unit : 13-10 4 Acres 0 Regen 4 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
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**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Douglas-fir	235	609	43	33	31	29
White Fir	41	116		5	5	5
Western Hemlock	36	101	5	4	4	3
Ponderosa Pine	37	62		3	3	2
Incense-cedar	23	43		3	3	2
Unit Totals	372	931	48	48	46	41

Unit : 13-2A 6 Acres 0 Regen 6 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	507	1,205		43	43	40
Ponderosa Pine	76	187		6	6	6
White Fir	19	58		2	2	2
Western Hemlock	72	82	74	4	2	2
Incense-cedar	31	49	13	2	1	1
Western red-cedar	10	31		1	1	1
Unit Totals	715	1,612	87	58	55	52

Unit : 13-2B 1 Acres 0 Regen 1 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	84	201		7	7	7
Ponderosa Pine	13	31		1	1	1
Incense-cedar	5	8	2			
Western Hemlock	12	14	12	1		
Western red-cedar	2	5				
White Fir	3	10				
Unit Totals	119	269	14	9	8	8

Unit : 13-2C 3 Acres 0 Regen 3 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	253	602		21	21	20
Ponderosa Pine	38	93		3	3	3
Western red-cedar	5	16		1	1	
White Fir	10	29		1	1	1
Western Hemlock	36	41	37	2	1	1
Incense-cedar	16	25	7	1	1	1
Unit Totals	358	806	44	29	28	26

Unit : 13-2D 1 Acres 0 Regen 1 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
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**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Douglas-fir	84	201		7	7	7
Ponderosa Pine	13	31		1	1	1
Incense-cedar	5	8	2			
Western Hemlock	12	14	12	1		
Western red-cedar	2	5				
White Fir	3	10				
Unit Totals	119	269	14	9	8	8

Unit : 13-9A 7 Acres 0 Regen 7 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	411	1,065	76	58	55	51
White Fir	71	202		9	9	8
Western Hemlock	63	176	10	6	6	6
Incense-cedar	41	76		5	5	4
Ponderosa Pine	64	108		5	5	4
Unit Totals	650	1,627	86	83	80	73

Unit : 13-9B 7 Acres 0 Regen 7 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	411	1,065	76	58	55	51
White Fir	71	202		9	9	8
Western Hemlock	63	176	10	6	6	6
Incense-cedar	41	76		5	5	4
Ponderosa Pine	64	108		5	5	4
Unit Totals	650	1,627	86	83	80	73

Unit : 15-19A 98 Acres 0 Regen 98 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	5,749	14,911	1,061	814	777	720
White Fir	995	2,833		121	121	112
Western Hemlock	886	2,463	134	93	82	79
Incense-cedar	575	1,063		67	76	56
Ponderosa Pine	903	1,508		58	58	55
Unit Totals	9,108	22,778	1,195	1,153	1,114	1,022

Unit : 15-19B 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	117	304	22	17	16	15
White Fir	20	58		2	2	2

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Western Hemlock	18	50	3	2	2	2
Incense-cedar	12	22		1	1	1
Ponderosa Pine	18	31		1	1	1
Unit Totals	185	465	25	23	22	21

Unit : 19-3A 3 Acres 0 Regen 3 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	253	602		21	21	20
Ponderosa Pine	38	93		3	3	3
Incense-cedar	16	25	7	1	1	1
Western Hemlock	36	41	37	2	1	1
Western red-cedar	5	16		1	1	
White Fir	10	29		1	1	1
Unit Totals	358	806	44	29	28	26

Unit : 19-3B 9 Acres 0 Regen 9 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	760	1,807		64	64	60
Ponderosa Pine	113	280		9	9	8
Western red-cedar	16	47		8	8	5
Western Hemlock	108	123	111	6	3	2
Incense-cedar	47	74	20	2	2	2
White Fir	29	87		2	2	2
Unit Totals	1,073	2,418	131	91	88	79

Unit : 19-3C 1 Acres 0 Regen 1 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	84	201		7	7	7
Ponderosa Pine	13	31		1	1	1
White Fir	3	10				
Incense-cedar	5	8	2			
Western Hemlock	12	14	12	1		
Western red-cedar	2	5				
Unit Totals	119	269	14	9	8	8

Unit : 19-3D 1 Acres 0 Regen 1 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	84	201		7	7	7
Ponderosa Pine	13	31		1	1	1

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Western Hemlock	12	14	12	1		
Western red-cedar	2	5				
White Fir	3	10				
Incense-cedar	5	8	2			
Unit Totals	119	269	14	9	8	8

Unit : 19-6A 4 Acres 0 Regen 4 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	338	803		29	29	27
Ponderosa Pine	50	125		4	4	4
White Fir	13	39		1	1	1
Incense-cedar	21	33	9	1	1	1
Western Hemlock	48	55	49	3	1	1
Western red-cedar	7	21		1	1	1
Unit Totals	477	1,076	58	39	37	35

Unit : 19-6B 12 Acres 0 Regen 12 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	1,014	2,409		86	86	80
Ponderosa Pine	151	374		12	12	11
Western Hemlock	144	164	147	8	4	3
Incense-cedar	62	98	26	3	3	2
Western red-cedar	21	62		3	3	2
White Fir	39	116		3	3	3
Unit Totals	1,431	3,223	173	115	111	101

Unit : 19-6C 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13
Ponderosa Pine	25	62		2	2	2
White Fir	6	19		1	1	1
Western Hemlock	24	27	25	1	1	1
Western red-cedar	3	10				
Incense-cedar	10	16	4	1		
Unit Totals	237	536	29	19	18	17

Unit : 19-8A 3 Acres 0 Regen 3 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	253	602		21	21	20

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Ponderosa Pine	38	93		3	3	3
Incense-cedar	16	25	7	1	1	1
Western Hemlock	36	41	37	2	1	1
Western red-cedar	5	16		1	1	
White Fir	10	29		1	1	1
Unit Totals	358	806	44	29	28	26

Unit : 19-8B 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13
Ponderosa Pine	25	62		2	2	2
Western Hemlock	24	27	25	1	1	1
White Fir	6	19		1	1	1
Western red-cedar	3	10				
Incense-cedar	10	16	4	1		
Unit Totals	237	536	29	19	18	17

Unit : 19-8C 4 Acres 0 Regen 4 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	338	803		29	29	27
Ponderosa Pine	50	125		4	4	4
Incense-cedar	21	33	9	1	1	1
Western Hemlock	48	55	49	3	1	1
Western red-cedar	7	21		1	1	1
White Fir	13	39		1	1	1
Unit Totals	477	1,076	58	39	37	35

Unit : 19-8D 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13
Ponderosa Pine	25	62		2	2	2
White Fir	6	19		1	1	1
Western Hemlock	24	27	25	1	1	1
Incense-cedar	10	16	4	1		
Western red-cedar	3	10				
Unit Totals	237	536	29	19	18	17

Unit : 19-9A 3 Acres 0 Regen 3 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
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**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Douglas-fir	253	602		21	21	20
Ponderosa Pine	38	93		3	3	3
Incense-cedar	16	25	7	1	1	1
Western Hemlock	36	41	37	2	1	1
Western red-cedar	5	16		1	1	
White Fir	10	29		1	1	1
Unit Totals	358	806	44	29	28	26

Unit : 20-4 12 Acres 0 Regen 12 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	704	1,826	130	99	94	88
White Fir	122	347		15	15	14
Western Hemlock	109	302	16	11	11	10
Ponderosa Pine	111	185		8	8	7
Incense-cedar	70	130		8	8	7
Unit Totals	1,116	2,790	146	141	136	126

Unit : 20-5 6 Acres 0 Regen 6 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	352	913	65	50	47	44
White Fir	61	173		7	7	7
Western Hemlock	54	151	8	5	5	5
Incense-cedar	35	65		4	4	3
Ponderosa Pine	55	92		4	4	4
Unit Totals	557	1,394	73	70	67	63

Unit : 21-4 6 Acres 0 Regen 6 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	507	1,205		43	43	40
Ponderosa Pine	76	187		6	6	6
White Fir	19	58		2	2	2
Western Hemlock	72	82	74	4	2	2
Incense-cedar	31	49	13	2	1	1
Western red-cedar	10	31		1	1	1
Unit Totals	715	1,612	87	58	55	52

Unit : 25-1 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	117	304	22	17	16	15

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Western Hemlock	18	50	3	2	2	2
White Fir	20	58		2	2	2
Incense-cedar	12	22		1	1	1
Ponderosa Pine	18	31		1	1	1
Unit Totals	185	465	25	23	22	21

Unit : 25-11 19 Acres 0 Regen 19 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	1,115	2,891	206	157	149	139
White Fir	193	549		23	23	22
Western Hemlock	172	478	26	17	17	16
Incense-cedar	111	206		13	13	10
Ponderosa Pine	175	292		12	12	11
Unit Totals	1,766	4,416	232	222	214	198

Unit : 25-21A 1 Acres 0 Regen 1 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	84	201		7	7	7
Ponderosa Pine	13	31		1	1	1
Incense-cedar	5	8	2			
Western Hemlock	12	14	12	1		
Western red-cedar	2	5				
White Fir	3	10				
Unit Totals	119	269	14	9	8	8

Unit : 25-21B 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13
Ponderosa Pine	25	62		2	2	2
Western Hemlock	24	27	25	1	1	1
White Fir	6	19		1	1	1
Incense-cedar	10	16	4	1		
Western red-cedar	3	10				
Unit Totals	237	536	29	19	18	17

Unit : 25-4A 9 Acres 0 Regen 9 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	760	1,807		64	64	60
Ponderosa Pine	113	280		9	9	8

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Western Hemlock	108	123	111	6	3	2
Incense-cedar	47	74	20	2	2	2
Western red-cedar	16	47		2	2	1
White Fir	29	87		2	2	2
Unit Totals	1,073	2,418	131	85	82	75

Unit : 25-4B 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13
Ponderosa Pine	25	62		2	2	2
Western Hemlock	24	27	25	1	1	1
White Fir	6	19		1	1	1
Incense-cedar	10	16	4	1		
Western red-cedar	3	10				
Unit Totals	237	536	29	19	18	17

Unit : 25-4C 1 Acres 0 Regen 1 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	84	201		7	7	7
Ponderosa Pine	13	31		1	1	1
Incense-cedar	5	8	2			
Western Hemlock	12	14	12	1		
Western red-cedar	2	5				
White Fir	3	10				
Unit Totals	119	269	14	9	8	8

Unit : 25-4D 8 Acres 0 Regen 8 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	676	1,606		57	57	53
Ponderosa Pine	101	249		8	8	7
Western Hemlock	96	110	98	5	3	2
White Fir	26	77		2	2	2
Incense-cedar	41	65	17	2	2	1
Western red-cedar	14	42		2	2	1
Unit Totals	954	2,149	115	76	74	66

Unit : 25-4E 8 Acres 0 Regen 8 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	469	1,217	87	66	63	59

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

White Fir	81	231		10	10	10
Western Hemlock	72	201	11	7	7	7
Incense-cedar	47	87		6	6	4
Ponderosa Pine	74	123		5	5	5
Unit Totals	743	1,859	98	94	91	85

Unit : 25-4F 9 Acres 0 Regen 9 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	760	1,807		64	64	60
Ponderosa Pine	113	280		9	9	8
Western Hemlock	108	123	111	6	3	2
Western red-cedar	16	47		2	2	1
Incense-cedar	47	74	20	2	2	2
White Fir	29	87		2	2	2
Unit Totals	1,073	2,418	131	85	82	75

Unit : 25-4G 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13
Ponderosa Pine	25	62		2	2	2
Western Hemlock	24	27	25	1	1	1
White Fir	6	19		1	1	1
Incense-cedar	10	16	4	1		
Western red-cedar	3	10				
Unit Totals	237	536	29	19	18	17

Unit : 25-4H 3 Acres 0 Regen 3 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	253	602		21	21	20
Ponderosa Pine	38	93		3	3	3
White Fir	10	29		1	1	1
Western Hemlock	36	41	37	2	1	1
Incense-cedar	16	25	7	1	1	1
Western red-cedar	5	16		1	1	
Unit Totals	358	806	44	29	28	26

Unit : 25-4I 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Ponderosa Pine	25	62		2	2	2
Western Hemlock	24	27	25	1	1	1
White Fir	6	19		1	1	1
Incense-cedar	10	16	4	1		
Western red-cedar	3	10				
Unit Totals	237	536	29	19	18	17

Unit : 25-4J 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13
Ponderosa Pine	25	62		2	2	2
White Fir	6	19		1	1	1
Western Hemlock	24	27	25	1	1	1
Western red-cedar	3	10				
Incense-cedar	10	16	4	1		
Unit Totals	237	536	29	19	18	17

Unit : 25-4K 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13
Ponderosa Pine	25	62		2	2	2
Western Hemlock	24	27	25	1	1	1
White Fir	6	19		1	1	1
Incense-cedar	10	16	4	1		
Western red-cedar	3	10				
Unit Totals	237	536	29	19	18	17

Unit : 25-4L 5 Acres 0 Regen 5 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	422	1,004		36	36	33
Ponderosa Pine	63	156		5	5	5
Western Hemlock	60	69	61	3	2	1
Western red-cedar	9	26		1	1	1
White Fir	16	48		1	1	1
Incense-cedar	26	41	11	1	1	1
Unit Totals	596	1,344	72	47	46	42

Unit : 25-4M 1 Acres 0 Regen 1 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
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**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Douglas-fir	84	201		7	7	7
Ponderosa Pine	13	31		1	1	1
Incense-cedar	5	8	2			
Western Hemlock	12	14	12	1		
Western red-cedar	2	5				
White Fir	3	10				
Unit Totals	119	269	14	9	8	8

Unit : 27-1 19 Acres 0 Regen 19 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	1,605	3,815		136	136	126
Ponderosa Pine	239	592		18	18	18
Western Hemlock	227	260	233	13	6	5
White Fir	61	183		5	5	5
Incense-cedar	98	156	41	5	4	3
Western red-cedar	33	99		4	4	3
Unit Totals	2,263	5,105	274	181	173	160

Unit : 27-2 23 Acres 0 Regen 23 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	1,349	3,499	249	190	181	168
White Fir	233	665		28	28	27
Western Hemlock	208	578	31	21	20	20
Incense-cedar	135	249		16	16	13
Ponderosa Pine	212	354		15	15	14
Unit Totals	2,137	5,345	280	270	260	242

Unit : 29-3 8 Acres 0 Regen 8 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	676	1,606		57	57	53
Ponderosa Pine	101	249		8	8	7
Western Hemlock	96	110	98	5	3	2
Western red-cedar	14	42		2	2	1
White Fir	26	77		2	2	2
Incense-cedar	41	65	17	2	2	1
Unit Totals	954	2,149	115	76	74	66

Unit : 29-7A 9 Acres 0 Regen 9 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
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**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Douglas-fir	760	1,807		64	64	60
Ponderosa Pine	113	280		9	9	8
Western Hemlock	108	123	111	6	3	2
Incense-cedar	47	74	20	2	2	2
Western red-cedar	16	47		2	2	1
White Fir	29	87		2	2	2
Unit Totals	1,073	2,418	131	85	82	75

Unit : 29-7B 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13
Ponderosa Pine	25	62		2	2	2
Western Hemlock	24	27	25	1	1	1
White Fir	6	19		1	1	1
Incense-cedar	10	16	4	1		
Western red-cedar	3	10				
Unit Totals	237	536	29	19	18	17

Unit : 3-14 16 Acres 0 Regen 16 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	939	2,434	173	132	126	117
White Fir	162	463		20	20	19
Western Hemlock	145	402	22	14	14	14
Incense-cedar	94	173		11	11	9
Ponderosa Pine	147	246		10	10	9
Unit Totals	1,487	3,718	195	187	181	168

Unit : 31-4A 13 Acres 0 Regen 13 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	763	1,978	141	107	102	95
White Fir	132	376		16	16	15
Western Hemlock	118	327	18	12	11	11
Incense-cedar	76	141		9	9	7
Ponderosa Pine	120	200		8	8	8
Unit Totals	1,209	3,022	159	152	146	136

Unit : 31-4B 4 Acres 0 Regen 4 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	235	609	43	33	31	29

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

White Fir	41	116		5	5	5
Western Hemlock	36	101	5	4	4	3
Incense-cedar	23	43		3	3	2
Ponderosa Pine	37	62		3	3	2
Unit Totals	372	931	48	48	46	41

Unit : 31-4C 11 Acres 0 Regen 11 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	929	2,209		78	78	73
Ponderosa Pine	139	343		11	11	10
Western Hemlock	132	151	135	7	4	3
White Fir	35	106		3	3	3
Western red-cedar	19	57		3	3	2
Incense-cedar	57	90	24	3	2	2
Unit Totals	1,311	2,956	159	105	101	93

Unit : 31-5 5 Acres 0 Regen 5 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	422	1,004		36	36	33
Ponderosa Pine	63	156		5	5	5
Western Hemlock	60	69	61	3	2	1
Incense-cedar	26	41	11	1	1	1
Western red-cedar	9	26		1	1	1
White Fir	16	48		1	1	1
Unit Totals	596	1,344	72	47	46	42

Unit : 7-2 17 Acres 0 Regen 17 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	997	2,587	184	140	134	124
White Fir	173	492		21	21	20
Western Hemlock	154	427	23	15	15	14
Incense-cedar	100	184		12	12	9
Ponderosa Pine	157	262		11	11	10
Unit Totals	1,581	3,952	207	199	193	177

Unit : 7-9 2 Acres 0 Regen 2 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	169	402		14	14	13
Ponderosa Pine	25	62		2	2	2

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Western Hemlock	24	27	25	1	1	1
White Fir	6	19		1	1	1
Incense-cedar	10	16	4	1		
Western red-cedar	3	10				
Unit Totals	237	536	29	19	18	17

Unit : 9-1A 32 Acres 0 Regen 32 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	1,877	4,869	347	264	252	234
White Fir	325	925		40	40	38
Western Hemlock	289	804	44	29	28	27
Incense-cedar	188	347		22	22	17
Ponderosa Pine	295	492		21	21	19
Unit Totals	2,974	7,437	391	376	363	335

Unit : 9-1B 43 Acres 0 Regen 43 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	2,523	6,543	466	355	338	315
White Fir	437	1,243		53	53	51
Western Hemlock	389	1,081	59	39	38	36
Incense-cedar	252	466		30	30	23
Ponderosa Pine	396	661		28	28	25
Unit Totals	3,997	9,994	525	505	487	450

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Stump to Truck Costs

Total (16' MBF)

Total Stump to Truck Costs	Net Volume	Cost / Net Volume
\$ 948,645.62	4,771	\$ 198.84

Detail

Yarding & Loading

Yarding System	Unit Of Measure	Units	Cost / Unit	Total Cost
Med Twr=40-70	GM MBF	2,719	\$ 198.30	\$ 539,177.70
Track Skidder	GM MBF	2,375	\$ 148.82	\$ 353,447.50
Subtotal				\$ 892,625.20

Other Costs

Explanation	Unit Of Measure	Units	Cost / Unit	Total Cost
Tractor Swing	GM MBF	74	\$ 277.49	\$ 20,534.26
Directional Falling	MBF	477	\$ 24.08	\$ 11,486.16
Subtotal				\$ 32,020.42

Additional Move-Ins

Equipment	# Move-In	Cost / Move In	Total Cost
Yarder / Loader	18	\$ 600.00	\$ 10,800.00
Dozer	18	\$ 440.00	\$ 7,920.00
Delimber	12	\$ 440.00	\$ 5,280.00
Subtotal			\$ 24,000.00

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Other Allowances Costs

Total (16' MBF)

Total Other Allowances Costs	Net Volume	Cost / Net Volume *	Total Buy Out Cost
\$196,444.43	4,771	\$41.17	\$0.00

Fuels Treatment

Detail (16' MBF)

Cost Item	Total Cost	Cost / Net Vol *	Buy Out	Buy Out Cost
Lop and Scatter-Lvl 1	\$ 12,936.00	\$ 2.71	N	\$ 0.00
Hand Pile, Cvr - Level 1	\$ 20,800.00	\$ 4.36	N	\$ 0.00
Hand Pile Brn-Level 1	\$ 2,688.00	\$ 0.56	N	\$ 0.00
Excavator	\$ 47,151.00	\$ 9.88	N	\$ 0.00
Hand Pile, Cvr - Level 6	\$ 1,008.00	\$ 0.21	N	\$ 0.00
Pullback - Level 1	\$ 294.75	\$ 0.06	N	\$ 0.00
Subtotal	\$ 84,877.75	\$ 17.79		\$ 0.00

Misc

Detail (16' MBF)

Cost Item	Total Cost	Cost / Net Vol *	Buy Out	Buy Out Cost
Waterbar Corridors	\$ 512.00	\$ 0.11		\$ 0.00
Marking	\$ 40,678.00	\$ 8.53		\$ 0.00
Subtotal	\$ 41,190.00	\$ 8.63		\$ 0.00

Other Costs

Detail (16' MBF)

Cost Item	Total Cost	Cost / Net Vol *	Buy Out	Buy Out Cost
Ripping	\$ 11,205.00	\$ 2.35	N	\$ 0.00
Skid Location	\$ 291.68	\$ 0.06	N	\$ 0.00
Deadman Anchors	\$ 9,450.00	\$ 1.98	N	\$ 0.00
Waterbar Skids	\$ 600.00	\$ 0.13	N	\$ 0.00
Stream and Culvert Cleaning	\$ 640.00	\$ 0.13	N	\$ 0.00
Barricades	\$ 600.00	\$ 0.13	N	\$ 0.00
Landing Clean up	\$ 7,950.00	\$ 1.67	N	\$ 0.00
Temporary Spur Construction	\$ 1,050.00	\$ 0.22	N	\$ 0.00
Landing Construction	\$ 7,950.00	\$ 1.67	N	\$ 0.00
Hand Seeding @ 17 lb seed per hour	\$ 5,940.00	\$ 1.25	N	\$ 0.00
Mulching (2 hours/5 bales)	\$ 16,200.00	\$ 3.40	N	\$ 0.00
Flaggers (2)	\$ 1,440.00	\$ 0.30	N	\$ 0.00
Equipment Washing	\$ 1,110.00	\$ 0.23	N	\$ 0.00
Equipment Washing	\$ 1,250.00	\$ 0.26	N	\$ 0.00
Lift Tree	\$ 3,000.00	\$ 0.63	N	\$ 0.00
Intermediate Support	\$ 500.00	\$ 0.10	N	\$ 0.00

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Medford
Milk Duds
ORM07-TS-16-13

Additional Tractor Time	\$ 1,200.00	\$ 0.25	N	\$ 0.00
Subtotal	\$ 70,376.68	\$ 14.75		\$ 0.00

* Cost / Net Volume has been rounded to the nearest \$0.01 Subtotals may not tie to Sale Total Cost / Net Volume.

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Consolidated Comments**

Medford
Milk Dudds
ORM07-TS-16-13

General

-Scale Sale.
-Designation by Description.
-August 2016 prices.
-Second growth DF prices.
-SP and PP are same price

Yarding & Loading

Road Costs

(see Engineering Appraisal for details).

Transportation

(see Transportation appendix for details).

Other Allowances

Other Costs:
-Temp. Spur Construction 25-4D (3 hours), 25-4E (3 hours), 25-4H (2 hours), 9-1B (6 hours).
-Additional Tractor Time: Tractor Assist on the 31-9-10 road (16 hours).

Fuels Treatment:
-Machine pile, cover, and burn is labeled as Excavator.
-Cover and burn landing decks is labeled as Hand Pile, Cvr-Level 6.
-.25 ac lop and scatter, .5 ac hand pile cover and burn, .25 ac machine pile cover and burn is labeled as Pullback - Level 1. (Total fuels treatment equals \$84,877.75)

Prospectus

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sale: Milk Dudds T.S.
Sale Date: 09/15/2016
Prep. By : EFreeman
Tract No: 16-13

ROAD MAINTENANCE AND ROAD USE APPRAISAL WORK SHEET

Summary of Costs

1.1) Road Use Obligation- Amortization: **\$7,179.55/4771 MBF = \$1.50/MBF**

Road Maintenance Obligation:

(2.1) BLM Maintenance	\$55,975.77
(2.2) BLM Rockwear	\$0.00
(5.1) Purchaser Maintenance Rockwear	\$10,837.85
Total Rockwear Payable to BLM	\$10,837.85
(3.1) 3rd Party Maintenance	\$0.00
(3.2) 3rd Party Rockwear	\$3,672.69
(4.1) Other Maintenance Payments	\$0.00
Total Maintenance Fee Obligation (2.1-5.1)	<u>\$70,486.31</u>

Purchaser Maintenance Allowances:

(5.2A) Move In	\$7,229.20
(5.2B) Culverts, Catch Basins, Downspouts	\$9,022.59
(5.2C) Grading, Ditching	\$17,508.45
(5.2D) Slide Removal and Slump Repair	\$0.00
(5.2E) Dust Palliative (Water)	\$0.00
(5.2F) Surface Repair (Aggregate)	\$0.00
(5.2G) Other	\$0.00
Total Purchaser Maintenance Allowances (5.2A-5.2G)	<u>\$33,760.24</u>

(2.1-5.2G) Cost/MBF (\$70,486.31 + \$33,760.24) /4771 MBF = \$21.85/MBF

(5.2H) Decommissioning \$0.00

(5.2H) Cost/MBF \$0.00/4771 MBF = \$0.00/MBF

Total Cost/MBF (Excluding Road Use) **\$104,246.55/4771 MBF = \$21.85/MBF**

1) Road Use Fees - Amortization

Details

R/W Number	Road Number	Rd Use Fee x	Vol MBF =	Road Use Obligation
M-700	31-8-29.2	5.57	63	\$350.91
M-700	31-8-30.2	5.00	101	\$505.00
M-700	31-8-5.0(E)	5.00	177	\$885.00
M-700	31-9-11.6	5.00	52	\$260.00
M-700	32-8-11.0(B)	4.23	168	\$710.64
M-700	32-8-4.0(B)	5.00	167	\$835.00
M-700	32-8-4.0(C)	5.00	101	\$505.00
M-700	32-8-4.3	5.00	157	\$785.00
M-700	32-8-4.4	5.00	105	\$525.00
M-605	31-8-20.1	2.00	101	\$202.00
M-605	31-8-30.2(B)	2.00	101	\$202.00
M-605	31-8-31.1(C)	2.00	17	\$34.00
M-605	31-9-12.2(A)	2.00	41	\$82.00
M-605	31-9-12.4(A)	2.00	146	\$292.00
M-605	31-9-12.4(B)	2.00	73	\$146.00
M-605	31-9-12.2(B)	2.00	41	\$82.00
M-605	31-9-13.4	2.00	73	\$146.00
M-605	31-9-21.4(A)	2.00	52	\$104.00
M-605	31-9-21.4(B)	2.00	52	\$104.00
M-605	31-9-21.5	2.00	52	\$104.00
M-605	31-9-26.3	2.00	160	\$320.00

Subtotal by agreement number

M-700	\$5,361.55
M-605	\$1,818.00

(1.1) Subtotal \$7,179.55

2) BLM Maintenance - Timber Haul

MAINTENANCE (2.1)					ROCKWEAR (2.2)				
Road Number and Segment	A Surf N Type	Mi	x Fee x	Vol MBF =	Maint	Fee x	MBF =	Rkwear	
32-8-1.1(A)	A BST	2.40	0.71	4771	\$8,129.78	0.00	4771	\$0.00	
30-6-32.0(D)	A BST	0.30	0.71	4771	\$1,016.22	0.00	4771	\$0.00	
33-7-2.0(A-B)	A BST	10.15	0.71	4771	\$34,382.21	0.00	4771	\$0.00	
32-8-1.1(B1)	A BST	1.00	0.71	4111	\$2,918.81	0.00	4111	\$0.00	
32-8-1.1(B1)	A BST	0.44	0.71	3818	\$1,192.74	0.00	3818	\$0.00	
32-8-1.1(B2)	A BST	0.74	0.71	3818	\$2,005.98	0.00	3818	\$0.00	
32-8-1.1(B2)	A BST	1.81	0.71	3387	\$4,352.63	0.00	3387	\$0.00	
32-8-1.1(B2)	A BST	0.45	0.71	3131	\$1,000.35	0.00	3131	\$0.00	
32-8-1.1(B2)	A BST	0.45	0.71	3058	\$977.03	0.00	3058	\$0.00	

(2.1) Subtotal \$55,975.77

(2.2) Subtotal \$0.00

3) Third Party Maintenance and Rockwear

MAINTENANCE (3.1)					ROCKWEAR (3.2)				
Agmmt Number	Road Number	Mi	x Fee x	MBF =	Maint	Fee x	MBF =	Rkwear	
M-605	31-8-31.0(F2)	0.27				0.49	1173	\$155.19	
M-605	31-9-21.4(A-B)	0.34				0.00	52	\$0.00	
M-605	31-9-21.0(A)	0.56				0.49	52	\$14.27	
M-605	31-9-15.0	0.32				0.00	1095	\$0.00	
M-605	31-9-13.3	0.24				0.00	73	\$0.00	

M-605	31-9-12.4(B)	0.29	0.00	73	\$0.00
M-605	31-9-12.4(A)	0.31	0.00	146	\$0.00
M-605	31-8-20.1	0.20	0.00	101	\$0.00
M-605	31-8-31.1(C)	0.17	0.00	17	\$0.00
M-605	31-9-25.1(D)	0.68	0.00	402	\$0.00
M-605	31-8-31.0(F1)	0.66	0.49	1214	\$392.61
M-605	31-8-31.0(E2)	0.35	0.49	1214	\$208.20
M-605	31-8-31.0(E1)	0.07	0.49	1408	\$48.29
M-605	31-8-31.0(C)	1.60	0.49	1648	\$1,292.03
M-605	31-8-30.2(B)	0.21	0.00	101	\$0.00
M-605	31-8-30.0(B1)	0.14	0.49	35	\$2.40
M-605	31-9-12.2(A-B)	1.00	0.00	41	\$0.00
M-605	31-9-26.0(A)	0.40	0.49	42	\$8.23
M-605	31-9-26.3	0.54	0.00	160	\$0.00
M-605	31-9-27.0(D)	1.62	0.00	1095	\$0.00
M-605	32-8-10.2(A)	0.44	0.49	660	\$142.30
M-605	31-5-25.1(B)	2.65	0.00	402	\$0.00
M-605	31-9-21.5	0.26	0.49	52	\$6.62
M-700	31-8-5.0(E)	0.13	0.49	177	\$11.27
M-700	32-8-10.2(B1)	0.62	0.49	660	\$200.51
M-700	32-8-4.4	0.07	0.49	105	\$3.60
M-700	32-8-4.3	0.33	0.49	157	\$25.39
M-700	32-8-4.0(B)	0.81	0.49	167	\$66.28
M-700	32-8-4.0(C)	0.37	0.49	101	\$18.31
M-700	32-8-11.0(B)	0.14	0.00	168	\$0.00
M-700	31-9-11.0(C)	1.88	0.49	1095	\$1,008.71
M-700	31-8-30.2(A)	0.56	0.00	101	\$0.00
M-700	31-8-29.2	0.47	0.00	63	\$0.00
M-700	32-8-10.2(B2)	0.89	0.49	157	\$68.47
M-700	31-9-11.6	0.02	0.00	52	\$0.00

Subtotal of maintenance fees by agreement number: (NONE)

Subtotal of rockwear fees by agreement number:

M-605	\$2,270.15
M-700	\$1,402.55

(3.1) Subtotal \$0.00

(3.2) Subtotal \$3,672.69

4) Other Maintenance Payments - USFS or Others Perform Maintenance

Agency	Road Number	Miles (Log)	Vol (mbf)	Fee x MBF/MI	= Cost
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(4.1) Subtotal \$0.00

5) Purchaser Maintenance - Rock Wear

TIMBER HAUL (5.1)

Road No and Segment	A N	Mi	RkWear x Fee	Vol x MBF	Total = RkWear
31-9-21.0(B-C)	N	0.54	0.49	52	\$13.76
31-8-31.0(G)	N	0.24	0.49	1173	\$137.94
31-8-31.0(A)	A	2.49	0.49	3058	\$3,731.07
31-8-31.0(A)	A	1.31	0.49	2835	\$1,819.79
31-8-31.0(B)	A	0.36	0.49	1963	\$346.27
31-9-10.0(B)	N	0.70	0.00	496	\$0.00
31-9-10.0(A)	N	1.00	0.49	792	\$388.08
31-9-10.1	N	0.62	0.49	303	\$92.05

31-9-10.1	N	0.21	0.49	162	\$16.67
31-9-10.1	N	1.07	0.49	21	\$11.01
31-9-11.5	N	0.08	0.00	52	\$0.00
31-9-11.0(B)	N	0.38	0.49	1095	\$203.89
31-9-11.0(A)	N	0.95	0.49	1173	\$546.03
31-8-5.0(F)	N	0.77	0.49	177	\$66.78
31-8-8.2(A-B)	N	1.43	0.49	177	\$124.02
31-8-6.1(B)	N	0.15	0.49	177	\$13.01
31-9-12.0(B)	N	0.33	0.49	17	\$2.75
31-9-12.0(B)	N	1.07	0.49	194	\$101.71
31-9-12.0(A)	N	0.51	0.49	194	\$48.48
31-9-25.3(C)	A	0.65	0.49	121	\$38.54
31-9-25.3(B)	A	0.72	0.49	147	\$51.86
31-9-25.3(A)	A	0.28	0.49	294	\$40.34
31-8-30.0(A1)	A	0.21	0.49	147	\$15.13
31-8-30.0(A2)	A	1.71	0.49	147	\$123.17
31-9-25.4	A	0.11	0.00	78	\$0.00
31-9-25.0	A	0.46	0.49	198	\$44.63
31-9-36.0	A	0.69	0.49	198	\$66.94
31-9-13.4	N	0.06	0.00	8	\$0.00
31-9-25.1(E)	N	0.58	0.00	242	\$0.00
31-9-25.1(C)	N	0.32	0.00	402	\$0.00
31-9-25.5	A	0.62	0.49	211	\$64.10
31-9-25.2	A	0.15	0.00	8	\$0.00
31-9-25.1(A)	A	0.54	0.49	872	\$230.73
31-9-25.1(A)	A	0.35	0.49	764	\$131.03
31-9-25.1(A)	A	0.32	0.49	470	\$73.70
31-8-31.0(D)	N	0.55	0.49	1554	\$418.80
31-8-31.0(D)	N	0.78	0.49	1648	\$629.87
32-8-9.1(A-C)	N	1.18	0.49	168	\$97.14
32-8-3.1	N	0.10	0.49	168	\$8.23
31-8-29.0(A)	A	0.51	0.00	126	\$0.00
31-8-29.0(B-C)	N	0.57	0.00	126	\$0.00
32-8-4.0(A)	A	0.58	0.49	356	\$101.18
32-8-4.0(A)	A	4.15	0.49	431	\$876.44
31-8-31.1(A-B)	A	2.64	0.49	17	\$21.99
31-8-31.1(A)	A	0.33	0.49	153	\$24.74
31-8-31.3	A	0.80	0.49	136	\$53.31
31-8-31.2(A)	A	0.17	0.49	136	\$11.33
31-8-31.4	A	0.17	0.00	42	\$0.00
31-8-31.1(A)	A	0.38	0.49	195	\$36.31
31-8-31.1(A)	A	0.13	0.49	236	\$15.03

(5.1) Subtotal \$10,837.85

Purchaser Operational Maintenance

Move In

Equipment	Units	No x in	Move x 50	Cost/ Mi x	Dist Factor =	Sub- total
Motor Grader:	1	4		\$483.00	1.06	\$2,047.92
Back Hoe:	1	4		\$149.00	1.06	\$631.76
Loader:				\$483.00	0.63	\$0.00
Water Truck:	1	4		\$107.00	1.06	\$453.68
Dump Truck:				\$113.00	0.63	\$0.00
Excavator:	1	4		\$483.00	1.06	\$2,047.92
Roller:	1	4		\$483.00	1.06	\$2,047.92

(5.2A) Total \$7,229.20

Culvert Maintenance - Including Catch basins and Downpipes

Miles	x	Cost/Mi	=	Subtotal
27		\$334.17		\$9,022.59

(5.2B) Total \$9,022.59**Grading (Includes Ditches and Shoulders)**

Miles	x	Cost/Mi	x	Freq	=	Subtotal
Blade w/ Ditch:	15.00	\$720.50		1		\$10,807.50
Blade w/o Ditch:	15.00	\$446.73		1		\$6,700.95

(5.2C) Total \$17,508.45**Slide and Slough removal, Slump Repair (15 sta-yds. ea.)**

Type	No Slides	Hours	Equip			
Equipment	/Slumps	x Each	x Cost	=	Subtotal	
Grader:	0		0	\$147.33		\$0.00
Loader:	0		0	\$107.45		\$0.00
Backhoe:	0		0	\$76.21		\$0.00

(5.2D) Total \$0.00**Dust Palliative (Water)**

Spreading Hours

	No	Freq	Truck						
	Miles	/	MPH	=	Hours	x	Days	x	/Day
	0.00		0				0		0
Load & Haul =					0.0		0		0
Total Hours =					0				
Truck Cost: \$89.57/Hr. x 0.0 Hours =					\$0.00				

(5.2E) Total \$0.00**Surface Repair (Aggregate)**

Production Cost:	0.0 CY x \$0.00/CY	=	\$0.00
Haul to Stockpile:	0.0 CY x ((\$2.21/CY x 0.00 Mi) + \$0.74)	=	\$0.00
Stockpile:	0.0 CY x \$1.01/CY	=	\$0.00
Load from Stockpile:	0.0 CY x \$1.11/CY	=	\$0.00
Haul from Stockpile:	0.0 CY x ((\$2.21/CY x 0.00 Mi) + \$0.74)	=	\$0.00
Process with Grader:	0.0 CY x \$0.90/CY	=	\$0.00
Compaction:	0.0 CY x \$1.34/CY	=	\$0.00

(5.2F) Total \$0.00

Other

Fallen Timber Cutting:	0.0 Hours x \$0.00/Hour	=\$0.00
Brush Cutting/Tree Trimming:	0.0 Hours x \$0.00/Hour	=\$0.00
Oil/Asphalt Materials:	Lump Sum	=\$0.00
Signing for Dust Palliatives:	Lump Sum	=\$0.00
	Lump Sum	=\$0.00
	Lump Sum	=\$0.00
	Lump Sum	=\$0.00
	Lump Sum	=\$0.00
	Lump Sum	=\$0.00

(5.2G) Total \$0.00

Decommissioning

(5.2H) Total \$0.00

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Version: 5.2.0.61
Updated: 4/13/2016

Summary of All Roads and Projects

T.S. Contract Name: Milk Dudds T.S. Tract No: 16-13 Sale Date: 09/22/2016

Prepared by: EFreeman Ph: 471-6601 Print Date: 8/16/2016 1:19:07 PM

Construction: 0.00 sta

Improve: 0.00 sta Renov: 2853.85 sta Decom: 0.00 sta Temp: 83.95 sta

200 Clearing and Grubbing: 5.2 acres	\$14,954.82
300 Excavation: 5,058 cy	\$22,416.85
Haul < 500 ft: 0 sta-yds	
Haul > 500 ft: 0 yd-mi	
400 Drainage:	\$152,929.80
Culvert: 2,527 lf	DownSpout: 90 lf
PolyPipe: 0 lf	
500 Renovation:	\$95,337.55
Blading 54.05 mi	
700-1200 Surfacing:	\$22,529.80
Commercial Quarry Name: 1-1/2" minus Commercial Source 470 LCY	
Commercial Quarry Name: 3" minus Commercial Source 30 LCY	
1400 Slope Protection:	\$13,236.75
Gradation Class 0: 116 cy	
Gradation Class 3: 105 cy	
1800 Soil Stabilization: 4.9 acres	\$4,651.31
Includes Small Quantity Factor of 1.31	
2100 RoadSide Brushing: 52.2 acres	\$32,058.96
8000 Miscellaneous:	\$28,200.66
Mobilization: Const. \$6,380.70 Surf. \$319.25.....	\$6,699.95
Quarry Development:	\$0.00

Total: 4,771 mbf @ \$82.376/mbf = \$393,016.45

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-20.1 Road Name:

Road Renovation: 0.20 mi 14 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$454.79
Blading 0.20 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.2 acres	\$115.32
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$9.42 Surf. \$0.00.....	\$9.42
Quarry Development:	\$0.00

Total: \$579.52

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-20.1 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.20 \text{ mi} = \89.35

Compaction: $\$403.47/\text{mi} \times 0.20 \text{ mi} = \80.69

Clean Culverts: $\$334.17/\text{mi} \times 0.20 \text{ mi} = \66.83

Water for Road Compaction

Water Truck 3000 Gal 0.20 hr x $\$89.57/\text{hr} = \17.91

Reshape Existing Water Bars

Reshape Existing Water Bar 2 EA x $\$100.00/\text{EA} = \200.00

Subtotal: \$454.79

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.20 \text{ acres} = \115.32

Subtotal: \$115.32

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.15% of total Costs = \$9.42

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$9.42

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$579.52

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-29.0(A-C) Road Name: Dutchman Lo Spur

Road Renovation: 1.08 mi 14 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: 0.8 acres	\$1,819.55
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$3,627.92
Blading 1.08 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.0 acres	\$1,153.20
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$109.02 Surf. \$0.00.....	\$109.02
Quarry Development:	\$0.00

Total: \$6,709.69

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-29.0(A-C) Road Name: Dutchman Lo Spur

Section 200 Clearing and Grubbing:

Clearing - Light (Clearing): Adjustment Factor (0.93)

31-45% (Avg Side Slopes): Adjustment Factor (0.2)

Pile and Burn (Slash): Adjustment Factor (1.28)

less than 20' (Avg Clearing Widths): Adjustment Factor (0.25)

Total Adjustment Factor: $0.93 + 0.2 + 1.28 + 0.25 = 2.66$

Base Cost/Acre: \$855.05 x Adjustment Factor: 2.66 x Total Acres: 0.8 = \$1,819.55

Subtotal: \$1,819.55

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Scarification: $\$893.46/\text{mi} \times 0.33 \text{ mi} = \294.84

Blading w/o Ditches: $\$446.73/\text{mi} \times 1.08 \text{ mi} = \482.47

Compaction: $\$403.47/\text{mi} \times 1.08 \text{ mi} = \435.75

Clean Culverts: $\$334.17/\text{mi} \times 1.08 \text{ mi} = \360.90

Heavy Road Blading

Excavator -Small (1.5 CY) 3 hr x \$97.09/hr = \$291.27

Tractor: D7 with rippers 6 hr x \$163.53/hr = \$981.18

Water for Road Compaction

Water Truck 3000 Gal 1.08 hr x \$89.57/hr = \$96.74

Construct Truck Turnaround

Tractor: D7 with rippers 3 hr x \$163.53/hr = \$490.59

Excavator -Small (1.5 CY) 2 hr x \$97.09/hr = \$194.18

Subtotal: \$3,627.92

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Heavy: $\$1153.20/\text{acre} \times 1.00 \text{ acres} = \$1,153.20$

Subtotal: \$1,153.20

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 1.71% of total Costs = \$109.02

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$109.02

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$6,709.69

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-29.2 Road Name: Dutchman Lo Road

Road Renovation: 0.47 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$727.42
Blading 0.47 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.5 acres	\$288.30
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$16.78 Surf. \$0.00.....	\$16.78
Quarry Development:	\$0.00

Total: \$1,032.50

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-29.2 Road Name: Dutchman Lo Road

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.47 \text{ mi} = \338.64

Compaction: $\$403.47/\text{mi} \times 0.47 \text{ mi} = \189.63

Clean Culverts: $\$334.17/\text{mi} \times 0.47 \text{ mi} = \157.06

Water for Road Compaction

Water Truck 3000 Gal 0.47 hr x $\$89.57/\text{hr} = \42.10

Subtotal: \$727.42

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.50 \text{ acres} = \288.30

Subtotal: \$288.30

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.26% of total Costs = \$16.78

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$16.78

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$1,032.50

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-30.0(A-B1) Road Name: E Fork Elk Valley

Road Renovation: 2.11 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$9,773.98
Culvert: 178 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$3,265.67
Blading 2.11 mi	
700-1200 Surfacing:	\$1,521.72
Quarry Name: 1-1/2" minus Commercial Source 36 LCY	
1400 Slope Protection:	\$2,233.31
Gradation Class 0: 30 cy	
Gradation Class 3: 8 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 2.0 acres	\$1,153.20
8000 Miscellaneous:	\$750.00
Mobilization: Const. \$308.83 Surf. \$22.99.....	\$331.81
Quarry Development:	\$0.00

Total: \$19,029.69

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-30.0(A-B1) Road Name: E Fork Elk Valley

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.11	24 inch 16 ga 50 lf x \$54.91/lf = \$2,745.50
Galvanized MP 0.40	24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 0.46	24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 1.93	24 inch 16 ga 48 lf x \$54.91/lf = \$2,635.68
	Subtotal: \$9,773.98

Section 500 Renovation:

Blading: \$720.50/mi x 2.11 mi = \$1,520.26
 Compaction: \$403.47/mi x 2.11 mi = \$851.32
 Clean Culverts: \$334.17/mi x 2.11 mi = \$705.10
 Water for Road Compaction
 Water Truck 3000 Gal 2.11 hr x \$89.57/hr = \$188.99
 Subtotal: \$3,265.67

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.11

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 23.00 mi= \$227.70

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.40

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 23.00 mi= \$227.70

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.46

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 23.00 mi= \$227.70

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.96

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 25.00 mi= \$247.50

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Subtotal: \$1,521.72

Road Number: 31-8-30.0(A-B1) E Fork Elk Valley Continued

Section 1400 Slope Protection:

Comment: MP 0.11 - Fill slope failure repair

Rock Source: Commercial Source

Sort & Load Class 0 type rock: $\$3.33/\text{cy} \times 30\text{cy} = \99.90

Basic Rock Haul cost: $\$1.35/\text{cy} \times 30\text{cy} = \40.50

Rock Haul -15% grades: $\$1.35/\text{cy-mi} \times 30\text{cy} \times 23.00\text{mi} = \931.50

Rock Haul St& Co Roads: $\$0.60/\text{cy-mi} \times 30\text{cy} \times 32.00\text{mi} = \576.00

Placement of Buttress height < 20 ft: $30\text{cy} \times (\$3.45/\text{cy} \times 1.00) = \103.50

Comment: MP 0.11 - Spalshpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: $\$5.00/\text{cy} \times 2\text{cy} = \10.00

Basic Rock Haul cost: $\$1.35/\text{cy} \times 2\text{cy} = \2.70

Rock Haul -15% grades: $\$1.35/\text{cy-mi} \times 2\text{cy} \times 23.00\text{mi} = \62.10

Rock Haul St& Co Roads: $\$0.60/\text{cy-mi} \times 2\text{cy} \times 32.00\text{mi} = \38.40

Placement on Fill slopes: $2\text{cy} \times (\$2.85/\text{cy} \times 1.04) = \5.93

Comment: MP 0.40 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: $\$5.00/\text{cy} \times 2\text{cy} = \10.00

Basic Rock Haul cost: $\$1.35/\text{cy} \times 2\text{cy} = \2.70

Rock Haul -15% grades: $\$1.35/\text{cy-mi} \times 2\text{cy} \times 23.00\text{mi} = \62.10

Rock Haul St& Co Roads: $\$0.60/\text{cy-mi} \times 2\text{cy} \times 32.00\text{mi} = \38.40

Placement on Fill slopes: $2\text{cy} \times (\$2.85/\text{cy} \times 1.04) = \5.93

Comment: MP 0.46 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: $\$5.00/\text{cy} \times 2\text{cy} = \10.00

Basic Rock Haul cost: $\$1.35/\text{cy} \times 2\text{cy} = \2.70

Rock Haul -15% grades: $\$1.35/\text{cy-mi} \times 2\text{cy} \times 23.00\text{mi} = \62.10

Rock Haul St& Co Roads: $\$0.60/\text{cy-mi} \times 2\text{cy} \times 32.00\text{mi} = \38.40

Placement on Fill slopes: $2\text{cy} \times (\$2.85/\text{cy} \times 1.04) = \5.93

Comment: MP 1.93 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: $\$5.00/\text{cy} \times 2\text{cy} = \10.00

Basic Rock Haul cost: $\$1.35/\text{cy} \times 2\text{cy} = \2.70

Rock Haul -15% grades: $\$1.35/\text{cy-mi} \times 2\text{cy} \times 25.00\text{mi} = \67.50

Rock Haul St& Co Roads: $\$0.60/\text{cy-mi} \times 2\text{cy} \times 32.00\text{mi} = \38.40

Placement on Fill slopes: $2\text{cy} \times (\$2.85/\text{cy} \times 1.04) = \5.93

Subtotal: \$2,233.31

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 2.00\text{ acres} = \$1,153.20$

Subtotal: \$1,153.20

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 6 EA x $\$125.00/\text{EA} = \750.00

Subtotal: \$750.00

Mobilization:

Construction - 4.84% of total Costs = \$308.83

Surfacing - 7.20% by rock volume = \$22.99

Subtotal: \$331.81

Total: \$19,029.69

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-30.2(A-B) Road Name:

Road Renovation: 0.76 mi 16 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,668.19
Blading 0.76 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.7 acres	\$403.62
8000 Miscellaneous:	\$300.00
Mobilization: Const. \$39.17 Surf. \$0.00.....	\$39.17
Quarry Development:	\$0.00

Total: \$2,410.99

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-30.2(A-B) Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.76 \text{ mi} = \339.51

Compaction: $\$403.47/\text{mi} \times 0.76 \text{ mi} = \306.64

Clean Culverts: $\$334.17/\text{mi} \times 0.76 \text{ mi} = \253.97

Water for Road Compaction

Water Truck 3000 Gal 0.76 hr x $\$89.57/\text{hr} = \68.07

Reshape Existing Water Bars

Reshape Existing Water Bar 7 EA x $\$100.00/\text{EA} = \700.00

Subtotal: \$1,668.19

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.70 \text{ acres} = \403.62

Subtotal: \$403.62

Section 8000 Miscellaneous:

Remove Existing Barricade

Remove Existing Barricade 1 EA x $\$150.00/\text{EA} = \150.00

Reconstruct Barricade

Reconstruct Barricade 1 EA x $\$150.00/\text{EA} = \150.00

Subtotal: \$300.00

Mobilization:

Construction - 0.61% of total Costs = \$39.17

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$39.17

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$2,410.99

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-31.0(A-D) Road Name: Elk Valley Mainline

Road Renovation: 7.04 mi 17 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$327.92
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$10,895.88
Blading 7.04 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 6.8 acres	\$3,920.88
8000 Miscellaneous:	\$1,000.00
Mobilization: Const. \$266.66 Surf. \$0.00.....	\$266.66
Quarry Development:	\$0.00

Total: \$16,411.34

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-31.0(A-D) Road Name: Elk Valley Mainline

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Jack open smashed inlet MP0.90

General Laborer 2 hr x \$33.60/hr = \$67.20

Crew Cab or 3/4 Ton Pickup 2 hr x \$48.38/hr = \$96.76

Jack open smashed inlet MP5.54

General Laborer 2 hr x \$33.60/hr = \$67.20

Crew Cab or 3/4 Ton Pickup 2 hr x \$48.38/hr = \$96.76

Subtotal: \$327.92

Section 500 Renovation:

Blading: \$720.50/mi x 7.04 mi = \$5,072.32

Compaction: \$403.47/mi x 7.04 mi = \$2,840.43

Clean Culverts: \$334.17/mi x 7.04 mi = \$2,352.56

Water for Road Compaction

Water Truck 3000 Gal 7.04 hr x \$89.57/hr = \$630.57

Subtotal: \$10,895.88

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 6.80 acres = \$3,920.88

Subtotal: \$3,920.88

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 8 EA x \$125.00/EA = \$1,000.00

Subtotal: \$1,000.00

Mobilization:

Construction - 4.18% of total Costs = \$266.66

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$266.66

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$16,411.34

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-31.0(E-G) Road Name: Elk Valley Mainline

Road Renovation: 1.59 mi 15 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,460.86
Blading 1.59 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.5 acres	\$864.90
8000 Miscellaneous:	\$250.00
Mobilization: Const. \$59.06 Surf. \$0.00.....	\$59.06
Quarry Development:	\$0.00

Total: \$3,634.82

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-31.0(E-G) Road Name: Elk Valley Mainline

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 1.59 \text{ mi} = \$1,145.60$

Compaction: $\$403.47/\text{mi} \times 1.59 \text{ mi} = \641.52

Clean Culverts: $\$334.17/\text{mi} \times 1.59 \text{ mi} = \531.33

Water for Road Compaction

Water Truck 3000 Gal 1.59 hr x $\$89.57/\text{hr} = \142.42

Subtotal: \$2,460.86

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 1.50 \text{ acres} = \864.90

Subtotal: \$864.90

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 2 EA x $\$125.00/\text{EA} = \250.00

Subtotal: \$250.00

Mobilization:

Construction - 0.93% of total Costs = \$59.06

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$59.06

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$3,634.82

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-31.1(A-C) Road Name: Hayes Creek

Road Renovation: 3.59 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$3,404.42
Culvert: 62 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$7,522.41
Blading 3.59 mi	
700-1200 Surfacing:	\$935.28
Quarry Name: 1-1/2" minus Commercial Source 24 LCY	
1400 Slope Protection:	\$2,024.85
Gradation Class 0: 33 cy	
Gradation Class 3: 4 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 3.5 acres	\$2,306.40
8000 Miscellaneous:	\$625.00
Mobilization: Const. \$277.78 Surf. \$15.32.....	\$293.11
Quarry Development:	\$0.00

Total: \$17,111.46

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-31.1(A-C) Road Name: Hayes Creek

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 2.80 24 inch 16 ga 30 lf x \$54.91/lf = \$1,647.30
Galvanized MP 3.31 24 inch 16 ga 32 lf x \$54.91/lf = \$1,757.12
Subtotal: \$3,404.42

Section 500 Renovation:

Blading: \$720.50/mi x 3.59 mi = \$2,586.60
Compaction: \$403.47/mi x 3.59 mi = \$1,448.46
Clean Culverts: \$334.17/mi x 3.59 mi = \$1,199.67
Water for Road Compaction
Water Truck 3000 Gal 3.59 hr x \$89.57/hr = \$321.56
Fill slope repair - MP 2.78
Excavator -Small (1.5 CY) 2 hr x \$97.09/hr = \$194.18
Tamper - handheld 2 hr x \$43.09/hr = \$86.18
Fill slope repair - MP 2.85
Excavator -Small (1.5 CY) 3 hr x \$97.09/hr = \$291.27
Tamper - handheld 3 hr x \$43.09/hr = \$129.27
Fill slope repair -MP3.31-3.33
Excavator -Small (1.5 CY) 6 hr x \$97.09/hr = \$582.54
Tamper - handheld 6 hr x \$43.09/hr = \$258.54
Heavy road blading/renovation
Tractor: D7 with rippers 2 hr x \$163.53/hr = \$327.06
Excavator -Small (1.5 CY) 1 hr x \$97.09/hr = \$97.09
Subtotal: \$7,522.41

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 2.80

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 20.00 mi= \$198.00

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 2.85

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									3 LCY

Rock Volume = 3 LCY

Basic Rock Haul cost: \$0.74/LCY x 3 LCY = \$2.22

Rock Haul -15% grades: \$1.10/LCY-mi x 3 LCY x 20.00 mi= \$66.00

Rock Haul St& Co Roads: \$0.49/LCY-mi x 3 LCY x 32.00 mi= \$47.04

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 3.31

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 21.00 mi= \$207.90

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Road Number: 31-8-31.1(A-C) Hayes Creek Continued

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 3.32

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									3 LCY

Rock Volume = 3 LCY

Basic Rock Haul cost: \$0.74/LCY x 3 LCY = \$2.22

Rock Haul -15% grades: \$1.10/LCY-mi x 3 LCY x 21.00 mi= \$69.30

Rock Haul St& Co Roads: \$0.49/LCY-mi x 3 LCY x 32.00 mi= \$47.04

Subtotal: \$935.28

Section 1400 Slope Protection:

Comment: MP 2.85 - Fill slope failure repair

Rock Source: Commercial Source

Sort & Load Class 0 type rock: \$3.33/cy x 8cy = \$26.64

Basic Rock Haul cost: \$1.35/cy x 8cy = \$10.80

Rock Haul -15% grades: \$1.35/cy-mi x 8cy x 20.00 mi= \$216.00

Rock Haul St& Co Roads: \$0.60/cy-mi x 8cy x 32.00 mi= \$153.60

Placement of Buttress height < 10 ft: 8cy x (\$2.85/cy x 1.00) = \$22.80

Comment: MP 2.80 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 20.00 mi= \$54.00

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 2.78 - Fill slope failure repair

Rock Source: Commercial Source

Sort & Load Class 0 type rock: \$3.33/cy x 5cy = \$16.65

Basic Rock Haul cost: \$1.35/cy x 5cy = \$6.75

Rock Haul -15% grades: \$1.35/cy-mi x 5cy x 20.00 mi= \$135.00

Rock Haul St& Co Roads: \$0.60/cy-mi x 5cy x 32.00 mi= \$96.00

Placement of Buttress height < 10 ft: 5cy x (\$2.85/cy x 1.00) = \$14.25

Comment: MP 3.31 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 21.00 mi= \$56.70

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 3.31-3.33 - Fill slope failure

Rock Source: Commercial Source

Sort & Load Class 0 type rock: \$3.33/cy x 20cy = \$66.60

Basic Rock Haul cost: \$1.35/cy x 20cy = \$27.00

Rock Haul -15% grades: \$1.35/cy-mi x 20cy x 21.00 mi= \$567.00

Rock Haul St& Co Roads: \$0.60/cy-mi x 20cy x 32.00 mi= \$384.00

Placement of Buttress height < 10 ft: 20cy x (\$2.85/cy x 1.00) = \$57.00

Subtotal: \$2,024.85

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 3.00 acres = \$1,729.80

RoadSide Brushing Heavy: \$1153.20/acre x 0.50 acres = \$576.60

Subtotal: \$2,306.40

Road Number: 31-8-31.1(A-C) Hayes Creek Continued

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 5 EA x \$125.00/EA = \$625.00

Subtotal: \$625.00

Mobilization:

Construction - 4.35% of total Costs = \$277.78

Surfacing - 4.80% by rock volume = \$15.32

Subtotal: \$293.11

Quarry Development:

Based on 4.80% of total rock volume

Subtotal: \$0.00

Total: \$17,111.46

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-31.2(A) Road Name: Hayes Creek Sp

Road Renovation: 0.17 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$263.11
Blading 0.17 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.2 acres	\$115.32
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$6.25 Surf. \$0.00.....	\$6.25
Quarry Development:	\$0.00

Total: \$384.68

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-31.2(A) Road Name: Hayes Creek Sp

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.17 \text{ mi} = \122.49

Compaction: $\$403.47/\text{mi} \times 0.17 \text{ mi} = \68.59

Clean Culverts: $\$334.17/\text{mi} \times 0.17 \text{ mi} = \56.81

Water for Road Compaction

Water Truck 3000 Gal 0.17 hr x $\$89.57/\text{hr} = \15.23

Subtotal: \$263.11

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.20 \text{ acres} = \115.32

Subtotal: \$115.32

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.10% of total Costs = \$6.25

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$6.25

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$384.68

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-31.3 Road Name: Hayes Ridge Sp

Road Renovation: 0.80 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,238.17
Blading 0.80 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.8 acres	\$461.28
8000 Miscellaneous:	\$790.75
Mobilization: Const. \$41.13 Surf. \$0.00.....	\$41.13
Quarry Development:	\$0.00

Total: \$2,531.33

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-31.3 Road Name: Hayes Ridge Sp

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.80 \text{ mi} = \576.40

Compaction: $\$403.47/\text{mi} \times 0.80 \text{ mi} = \322.78

Clean Culverts: $\$334.17/\text{mi} \times 0.80 \text{ mi} = \267.34

Water for Road Compaction

Water Truck 3000 Gal 0.80 hr x $\$89.57/\text{hr} = \71.66

Subtotal: \$1,238.17

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.80 \text{ acres} = \461.28

Subtotal: \$461.28

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 4 EA x $\$125.00/\text{EA} = \500.00

Construct Truck Turnaround

Excavator -Small (1.5 CY) 1 hr x $\$97.09/\text{hr} = \97.09

Tractor: D5 with winch 2 hr x $\$96.83/\text{hr} = \193.66

Subtotal: \$790.75

Mobilization:

Construction - 0.64% of total Costs = \$41.13

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$41.13

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$2,531.33

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-31.4 Road Name: Overend

Road Renovation: 0.17 mi 15 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$147.66
Blading 0.17 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.2 acres	\$230.64
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$6.25 Surf. \$0.00.....	\$6.25
Quarry Development:	\$0.00

Total: \$384.55

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-31.4 Road Name: Overend

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.17 \text{ mi} = \75.94

Compaction: $\$403.47/\text{mi} \times 0.14 \text{ mi} = \56.49

Water for Road Compaction

Water Truck 3000 Gal 0.17 hr x $\$89.57/\text{hr} = \15.23

Subtotal: \$147.66

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Heavy: $\$1153.20/\text{acre} \times 0.20 \text{ acres} = \230.64

Subtotal: \$230.64

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.10% of total Costs = \$6.25

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$6.25

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$384.55

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-5.0(E-F) Road Name: Dutchman Rd

Road Renovation: 0.90 mi 16 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,692.94
Blading 0.90 mi	
700-1200 Surfacing:	\$1,515.60
Quarry Name: 3" minus Commercial Source 30 LCY	
1400 Slope Protection:	\$211.09
Gradation Class 3: 3 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.9 acres	\$518.94
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$65.05 Surf. \$19.16.....	\$84.21
Quarry Development:	\$0.00

Total: \$4,022.78

Notes:

Quantities shown are estimates only and not pay items.
 Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-5.0(E-F) Road Name: Dutchman Rd

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.90 \text{ mi} = \648.45

Compaction: $\$403.47/\text{mi} \times 0.90 \text{ mi} = \363.12

Clean Culverts: $\$334.17/\text{mi} \times 0.90 \text{ mi} = \300.75

Water for Road Construction

Water Truck 3000 Gal 0.90 hr x $\$89.57/\text{hr} = \80.61

Construct Armored Water Dip

Construct Armored Water Dip (Shape Rd)

1 EA x $\$300.00/\text{EA} = \300.00

Subtotal: \$1,692.94

Section 700-1200 Surfacing:

Commercial Quarry Name: 3" minus Commercial Source

Comment: MP 1.76 - Armored Water Dip

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									30 LCY

Rock Volume = 30 LCY

Basic Rock Haul cost: $\$0.74/\text{LCY} \times 30 \text{ LCY} = \22.20

Rock Haul -15% grades: $\$1.10/\text{LCY-mi} \times 30 \text{ LCY} \times 31.00 \text{ mi} = \$1,023.00$

Rock Haul St& Co Roads: $\$0.49/\text{LCY-mi} \times 30 \text{ LCY} \times 32.00 \text{ mi} = \470.40

Subtotal: \$1,515.60

Section 1400 Slope Protection:

Comment: MP 1.76 - Armored apron at water dip

Rock Source: Commercial Source

Sort & Load Class 3 type rock: $\$5.00/\text{cy} \times 3\text{cy} = \15.00

Basic Rock Haul cost: $\$1.35/\text{cy} \times 3\text{cy} = \4.05

Rock Haul -15% grades: $\$1.35/\text{cy-mi} \times 3\text{cy} \times 31.00 \text{ mi} = \125.55

Rock Haul St& Co Roads: $\$0.60/\text{cy-mi} \times 3\text{cy} \times 32.00 \text{ mi} = \57.60

Placement on Fill slopes: $3\text{cy} \times (\$2.85/\text{cy} \times 1.04) = \8.89

Subtotal: \$211.09

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.90 \text{ acres} = \518.94

Subtotal: \$518.94

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 1.02% of total Costs = \$65.05

Surfacing - 6.00% by rock volume = \$19.16

Subtotal: \$84.21

Total: \$4,022.78

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-6.1(B) Road Name: Hunter Poi Sp

Road Renovation: 0.15 mi 16 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$232.16
Blading 0.15 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$57.66
8000 Miscellaneous:	\$125.00
Mobilization: Const. \$6.85 Surf. \$0.00.....	\$6.85
Quarry Development:	\$0.00

Total: \$421.67

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-6.1(B) Road Name: Hunter Poi Sp

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.15 \text{ mi} = \108.08

Compaction: $\$403.47/\text{mi} \times 0.15 \text{ mi} = \60.52

Clean Culverts: $\$334.17/\text{mi} \times 0.15 \text{ mi} = \50.13

Water for Road Compaction

Water Truck 3000 Gal 0.15 hr x $\$89.57/\text{hr} = \13.44

Subtotal: \$232.16

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.10 \text{ acres} = \57.66

Subtotal: \$57.66

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 1 EA x $\$125.00/\text{EA} = \125.00

Subtotal: \$125.00

Mobilization:

Construction - 0.11% of total Costs = \$6.85

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$6.85

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$421.67

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-8-8.2(A-B) Road Name: Elk Valley Sp

Road Renovation: 1.43 mi 16 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,213.23
Blading 1.43 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.4 acres	\$807.24
8000 Miscellaneous:	\$301.52
Mobilization: Const. \$54.87 Surf. \$0.00.....	\$54.87
Quarry Development:	\$0.00

Total: \$3,376.85

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-8-8.2(A-B) Road Name: Elk Valley Sp

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 1.43 \text{ mi} = \$1,030.32$

Compaction: $\$403.47/\text{mi} \times 1.43 \text{ mi} = \576.96

Clean Culverts: $\$334.17/\text{mi} \times 1.43 \text{ mi} = \477.86

Water for Road Compaction

Water Truck 3000 Gal 1.43 hr x $\$89.57/\text{hr} = \128.09

Subtotal: \$2,213.23

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 1.40 \text{ acres} = \807.24

Subtotal: \$807.24

Section 8000 Miscellaneous:

Remove Ex Earthen Berm

Tractor: D5 with winch 2 hr x $\$96.83/\text{hr} = \193.66

Motor Grader 12M 1 hr x $\$107.86/\text{hr} = \107.86

Subtotal: \$301.52

Mobilization:

Construction - 0.86% of total Costs = \$54.87

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$54.87

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$3,376.85

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-10.0(A-B) Road Name: Panther Ridge

Road Renovation: 1.70 mi 16 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$6,199.98
Culvert: 120 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,205.55
Blading 1.70 mi	
700-1200 Surfacing:	\$1,453.14
Quarry Name: 1-1/2" minus Commercial Source 27 LCY	
1400 Slope Protection:	\$446.48
Gradation Class 3: 6 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.6 acres	\$922.56
8000 Miscellaneous:	\$590.75
Mobilization: Const. \$195.20 Surf. \$17.24.....	\$212.44
Quarry Development:	\$0.00

Total: \$12,030.91

Notes:

Quantities shown are estimates only and not pay items.
 Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-10.0(A-B) Road Name: Panther Ridge

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.16 18 inch 16 ga 40 lf x \$49.02/lf = \$1,960.80
Galvanized MP 0.25 24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 0.76 18 inch 16 ga 40 lf x \$49.02/lf = \$1,960.80
Cut Damaged CMP
General Laborer 1 hr x \$33.60/hr = \$33.60
Crew Cab or 3/4 Ton Pickup 1 hr x \$48.38/hr = \$48.38

Subtotal: \$6,199.98

Section 500 Renovation:

Comment: Seg A has an inboard ditch; Seg B does not have a ditch
Blading: \$720.50/mi x 1.00 mi = \$720.50
Blading w/o Ditches: \$446.73/mi x 0.70 mi = \$312.71
Compaction: \$403.47/mi x 1.70 mi = \$685.90
Clean Culverts: \$334.17/mi x 1.00 mi = \$334.17
Water for Road Compaction
Water Truck 3000 Gal 1.70 hr x \$89.57/hr = \$152.27

Subtotal: \$2,205.55

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.16

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY
Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66
Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 34.00 mi= \$336.60
Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.25

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY
Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66
Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 34.00 mi= \$336.60
Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.76

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY
Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66
Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 34.00 mi= \$336.60
Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Subtotal: \$1,453.14

Road Number: 31-9-10.0(A-B) Panther Ridge Continued

Section 1400 Slope Protection:

Comment: MP 0.16 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 34.00 mi= \$91.80

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 0.25 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 34.00 mi= \$91.80

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 0.76 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 34.00 mi= \$91.80

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Subtotal: \$446.48

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 1.60 acres = \$922.56

Subtotal: \$922.56

Section 8000 Miscellaneous:

Construct Truck Turnaround

Tractor: D5 with winch 2 hr x \$96.83/hr = \$193.66

Excavator -Small (1.5 CY) 1 hr x \$97.09/hr = \$97.09

Remove Existing Barricade

Remove Existing Barricade 1 EA x \$150.00/EA = \$150.00

Reconstruct Barricade

Reconstruct Barricade 1 EA x \$150.00/EA = \$150.00

Subtotal: \$590.75

Mobilization:

Construction - 3.06% of total Costs = \$195.20

Surfacing - 5.40% by rock volume = \$17.24

Subtotal: \$212.44

Quarry Development:

Based on 5.40% of total rock volume

Subtotal: \$0.00

Total: \$12,030.91

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-10.1 Road Name: Panther Creek Sp

Road Renovation: 1.90 mi 16 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$55,826.00
Culvert: 900 lf	
DownSpout: 20 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,940.65
Blading 1.90 mi	
700-1200 Surfacing:	\$7,476.66
Quarry Name: 1-1/2" minus Commercial Source 138 LCY	
1400 Slope Protection:	\$2,396.10
Gradation Class 3: 32 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.8 acres	\$1,037.88
8000 Miscellaneous:	\$1,760.37
Mobilization: Const. \$1,179.92 Surf. \$88.11.....	\$1,268.03
Quarry Development:	\$0.00

Total: \$72,705.69

Notes:

Quantities shown are estimates only and not pay items.
 Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-10.1 Road Name: Panther Creek Sp

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.07	36 inch 16 ga 50 lf x \$67.54/lf = \$3,377.00
Galvanized MP 0.34	24 inch 16 ga 30 lf x \$54.91/lf = \$1,647.30
Galvanized MP 0.43	24 inch 16 ga 80 lf x \$54.91/lf = \$4,392.80
Galvanized MP 0.49	36 inch 16 ga 80 lf x \$67.54/lf = \$5,403.20
Galvanized MP 0.58	24 inch 16 ga 70 lf x \$54.91/lf = \$3,843.70
Galvanized MP 0.73	24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 0.78	36 inch 16 ga 120 lf x \$67.54/lf = \$8,104.80
Galvanized MP 0.89	36 inch 16 ga 70 lf x \$67.54/lf = \$4,727.80
Galvanized MP 0.98	36 inch 16 ga 80 lf x \$67.54/lf = \$5,403.20
Galvanized MP 1.09	24 inch 16 ga 60 lf x \$54.91/lf = \$3,294.60
Galvanized MP 1.13	24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 1.72	24 inch 16 ga 70 lf x \$54.91/lf = \$3,843.70
Galvanized MP 1.76	36 inch 16 ga 60 lf x \$67.54/lf = \$4,052.40
Galvanized MP 1.82	24 inch 16 ga 50 lf x \$54.91/lf = \$2,745.50
Full Round MP 0.34	24 inch 20 lf x \$29.86/lf = \$597.20
	Subtotal: \$55,826.00

Section 500 Renovation:

Blading: \$720.50/mi x 1.90 mi = \$1,368.95
 Compaction: \$403.47/mi x 1.90 mi = \$766.59
 Clean Culverts: \$334.17/mi x 1.90 mi = \$634.92
 Water for Road Compaction
 Water Truck 3000 Gal 1.90 hr x \$89.57/hr = \$170.18
 Subtotal: \$2,940.65

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.07

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY
 Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66
 Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 34.00 mi= \$336.60
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.34

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY
 Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66
 Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 34.00 mi= \$336.60
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.43

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									11 LCY

Rock Volume = 11 LCY
 Basic Rock Haul cost: \$0.74/LCY x 11 LCY = \$8.14
 Rock Haul -15% grades: \$1.10/LCY-mi x 11 LCY x 34.00 mi= \$411.40
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 11 LCY x 32.00 mi= \$172.48

Road Number: 31-9-10.1 Panther Creek Sp Continued

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.49

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									11 LCY

Rock Volume = 11 LCY

Basic Rock Haul cost: \$0.74/LCY x 11 LCY = \$8.14

Rock Haul -15% grades: \$1.10/LCY-mi x 11 LCY x 34.00 mi= \$411.40

Rock Haul St& Co Roads: \$0.49/LCY-mi x 11 LCY x 32.00 mi= \$172.48

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.58

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									11 LCY

Rock Volume = 11 LCY

Basic Rock Haul cost: \$0.74/LCY x 11 LCY = \$8.14

Rock Haul -15% grades: \$1.10/LCY-mi x 11 LCY x 34.00 mi= \$411.40

Rock Haul St& Co Roads: \$0.49/LCY-mi x 11 LCY x 32.00 mi= \$172.48

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.73

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 34.00 mi= \$336.60

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.78

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									11 LCY

Rock Volume = 11 LCY

Basic Rock Haul cost: \$0.74/LCY x 11 LCY = \$8.14

Rock Haul -15% grades: \$1.10/LCY-mi x 11 LCY x 34.00 mi= \$411.40

Rock Haul St& Co Roads: \$0.49/LCY-mi x 11 LCY x 32.00 mi= \$172.48

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.89

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									11 LCY

Rock Volume = 11 LCY

Basic Rock Haul cost: \$0.74/LCY x 11 LCY = \$8.14

Rock Haul -15% grades: \$1.10/LCY-mi x 11 LCY x 34.00 mi= \$411.40

Rock Haul St& Co Roads: \$0.49/LCY-mi x 11 LCY x 32.00 mi= \$172.48

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.98

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									11 LCY

Rock Volume = 11 LCY

Basic Rock Haul cost: \$0.74/LCY x 11 LCY = \$8.14

Rock Haul -15% grades: \$1.10/LCY-mi x 11 LCY x 34.00 mi= \$411.40

Rock Haul St& Co Roads: \$0.49/LCY-mi x 11 LCY x 32.00 mi= \$172.48

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.09

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 35.00 mi= \$346.50

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Road Number: 31-9-10.1 Panther Creek Sp Continued

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.13

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 35.00 mi= \$346.50

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.72

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 35.00 mi= \$346.50

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.76

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 35.00 mi= \$346.50

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.82

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 35.00 mi= \$346.50

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Subtotal: \$7,476.66

Section 1400 Slope Protection:

Comment: MP 0.07 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 34.00 mi= \$91.80

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 0.47 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 3cy = \$15.00

Basic Rock Haul cost: \$1.35/cy x 3cy = \$4.05

Rock Haul -15% grades: \$1.35/cy-mi x 3cy x 34.00 mi= \$137.70

Rock Haul St& Co Roads: \$0.60/cy-mi x 3cy x 32.00 mi= \$57.60

Placement on Fill slopes: 3cy x (\$2.85/cy x 1.04) = \$8.89

Comment: MP 0.49 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 3cy = \$15.00

Basic Rock Haul cost: \$1.35/cy x 3cy = \$4.05

Rock Haul -15% grades: \$1.35/cy-mi x 3cy x 34.00 mi= \$137.70

Rock Haul St& Co Roads: \$0.60/cy-mi x 3cy x 32.00 mi= \$57.60

Placement on Fill slopes: 3cy x (\$2.85/cy x 1.04) = \$8.89

Road Number: 31-9-10.1 Panther Creek Sp Continued

Comment: MP 0.58 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 34.00 mi= \$91.80

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 0.73 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 34.00 mi= \$91.80

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 0.78 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 3cy = \$15.00

Basic Rock Haul cost: \$1.35/cy x 3cy = \$4.05

Rock Haul -15% grades: \$1.35/cy-mi x 3cy x 34.00 mi= \$137.70

Rock Haul St& Co Roads: \$0.60/cy-mi x 3cy x 32.00 mi= \$57.60

Placement on Fill slopes: 3cy x (\$2.85/cy x 1.04) = \$8.89

Comment: MP 0.89 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 3cy = \$15.00

Basic Rock Haul cost: \$1.35/cy x 3cy = \$4.05

Rock Haul -15% grades: \$1.35/cy-mi x 3cy x 34.00 mi= \$137.70

Rock Haul St& Co Roads: \$0.60/cy-mi x 3cy x 32.00 mi= \$57.60

Placement on Fill slopes: 3cy x (\$2.85/cy x 1.04) = \$8.89

Comment: MP 0.98 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 3cy = \$15.00

Basic Rock Haul cost: \$1.35/cy x 3cy = \$4.05

Rock Haul -15% grades: \$1.35/cy-mi x 3cy x 34.00 mi= \$137.70

Rock Haul St& Co Roads: \$0.60/cy-mi x 3cy x 32.00 mi= \$57.60

Placement on Fill slopes: 3cy x (\$2.85/cy x 1.04) = \$8.89

Comment: MP 1.09 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 35.00 mi= \$94.50

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 1.13 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 35.00 mi= \$94.50

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 1.72 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 35.00 mi= \$94.50

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Road Number: 31-9-10.1 Panther Creek Sp Continued

Comment: MP 1.76 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 3cy = \$15.00

Basic Rock Haul cost: \$1.35/cy x 3cy = \$4.05

Rock Haul -15% grades: \$1.35/cy-mi x 3cy x 35.00 mi= \$141.75

Rock Haul St& Co Roads: \$0.60/cy-mi x 3cy x 32.00 mi= \$57.60

Placement on Fill slopes: 3cy x (\$2.85/cy x 1.04) = \$8.89

Comment: MP 1.82 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 35.00 mi= \$94.50

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Subtotal: \$2,396.10

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 1.80 acres = \$1,037.88

Subtotal: \$1,037.88

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 10 EA x \$125.00/EA = \$1,250.00

Reconstruct Truck Turnaround

Tractor: D5 with winch 2 hr x \$96.83/hr = \$193.66

Excavator -Small (1.5 CY) 1 hr x \$97.09/hr = \$97.09

Remove Existing Gate MP 0.27

General Laborer 2 hr x \$33.60/hr = \$67.20

Backhoe 2 hr x \$76.21/hr = \$152.42

Subtotal: \$1,760.37

Mobilization:

Construction - 18.49% of total Costs = \$1,179.92

Surfacing - 27.60% by rock volume = \$88.11

Subtotal: \$1,268.03

Quarry Development:

Based on 27.60% of total rock volume

Subtotal: \$0.00

Total: \$72,705.69

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-11.0(A-C) Road Name: Upper 6 Mile Ridge

Road Renovation: 3.19 mi 15 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$4,832.08
Culvert: 88 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$4,937.19
Blading 3.19 mi	
700-1200 Surfacing:	\$869.76
Quarry Name: 1-1/2" minus Commercial Source 18 LCY	
1400 Slope Protection:	\$270.66
Gradation Class 3: 4 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 3.1 acres	\$1,787.46
8000 Miscellaneous:	\$250.00
Mobilization: Const. \$213.85 Surf. \$11.49.....	\$225.34
Quarry Development:	\$0.00

Total: \$13,172.49

Notes:

Quantities shown are estimates only and not pay items.
 Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-11.0(A-C) Road Name: Upper 6 Mile Ridge

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 1.27	24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 1.29	24 inch 16 ga 48 lf x \$54.91/lf = \$2,635.68
	Subtotal: \$4,832.08

Section 500 Renovation:

Blading: \$720.50/mi x 3.19 mi = \$2,298.40	
Compaction: \$403.47/mi x 3.19 mi = \$1,287.07	
Clean Culverts: \$334.17/mi x 3.19 mi = \$1,066.00	
Water for Road Compaction	
Water Truck 3000 Gal 3.19 hr x \$89.57/hr = \$285.73	
	Subtotal: \$4,937.19

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.27

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
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9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 29.00 mi= \$287.10

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.29

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
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9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 29.00 mi= \$287.10

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Subtotal: \$869.76

Section 1400 Slope Protection:

Comment: MP 1.27 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 29.00 mi= \$78.30

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 1.29 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 29.00 mi= \$78.30

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Subtotal: \$270.66

Road Number: 31-9-11.0(A-C) Upper 6 Mile Ridge Continued

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 3.10 acres = \$1,787.46

Subtotal: \$1,787.46

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 2 EA x \$125.00/EA = \$250.00

Subtotal: \$250.00

Mobilization:

Construction - 3.35% of total Costs = \$213.85

Surfacing - 3.60% by rock volume = \$11.49

Subtotal: \$225.34

Quarry Development:

Based on 3.60% of total rock volume

Subtotal: \$0.00

Total: \$13,172.49

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-11.5 Road Name: E Panther Ridge

Road Renovation: 0.08 mi 17 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$123.82
Blading 0.08 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$57.66
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$3.00 Surf. \$0.00.....	\$3.00
Quarry Development:	\$0.00

Total: \$184.47

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-11.5 Road Name: E Panther Ridge

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.08 \text{ mi} = \57.64

Compaction: $\$403.47/\text{mi} \times 0.08 \text{ mi} = \32.28

Clean Culverts: $\$334.17/\text{mi} \times 0.08 \text{ mi} = \26.73

Water for Road Compaction

Water Truck 3000 Gal 0.08 hr x $\$89.57/\text{hr} = \7.17

Subtotal: \$123.82

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.10 \text{ acres} = \57.66

Subtotal: \$57.66

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.05% of total Costs = \$3.00

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$3.00

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$184.47

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-11.6 Road Name:

Road Renovation: 0.02 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$30.95
Blading 0.02 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$57.66
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$1.46 Surf. \$0.00.....	\$1.46
Quarry Development:	\$0.00

Total: \$90.08

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-11.6 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.02 \text{ mi} = \14.41

Compaction: $\$403.47/\text{mi} \times 0.02 \text{ mi} = \8.07

Clean Culverts: $\$334.17/\text{mi} \times 0.02 \text{ mi} = \6.68

Water for Road Compaction

Water Truck 3000 Gal 0.02 hr x $\$89.57/\text{hr} = \1.79

Subtotal: \$30.95

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.10 \text{ acres} = \57.66

Subtotal: \$57.66

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.02% of total Costs = \$1.46

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$1.46

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$90.08

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-12.0(A-B) Road Name: Elk Creek

Road Renovation: 1.90 mi 17 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$4,691.40
Culvert: 80 lf	
DownSpout: 10 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,940.65
Blading 1.90 mi	
700-1200 Surfacing:	\$820.26
Quarry Name: 1-1/2" minus Commercial Source 18 LCY	
1400 Slope Protection:	\$127.23
Gradation Class 3: 2 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.8 acres	\$1,037.88
8000 Miscellaneous:	\$625.00
Mobilization: Const. \$169.17 Surf. \$11.49.....	\$180.66
Quarry Development:	\$0.00

Total: \$10,423.08

Notes:

Quantities shown are estimates only and not pay items.
 Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-12.0(A-B) Road Name: Elk Creek

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.47	24 inch 16 ga 45 lf x \$54.91/lf = \$2,470.95
Galvanized MP 1.15	24 inch 16 ga 35 lf x \$54.91/lf = \$1,921.85
Full Round MP 1.15	24 inch 10 lf x \$29.86/lf = \$298.60
	Subtotal: \$4,691.40

Section 500 Renovation:

Blading: \$720.50/mi x 1.90 mi = \$1,368.95	
Compaction: \$403.47/mi x 1.90 mi = \$766.59	
Clean Culverts: \$334.17/mi x 1.90 mi = \$634.92	
Water for Road Compaction	
Water Truck 3000 Gal 1.90 hr x \$89.57/hr = \$170.18	
	Subtotal: \$2,940.65

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.47

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
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9 LCY

Rock Volume = 9 LCY
Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66
Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 26.00 mi= \$257.40
Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.15

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
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9 LCY

Rock Volume = 9 LCY
Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66
Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 27.00 mi= \$267.30
Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Subtotal: \$820.26

Section 1400 Slope Protection:

Comment: MP 0.47 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00
Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70
Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 26.00 mi= \$70.20
Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40
Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Subtotal: \$127.23

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 1.80 acres = \$1,037.88

Subtotal: \$1,037.88

Road Number: 31-9-12.0(A-B) Elk Creek Continued

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 5 EA x \$125.00/EA = \$625.00

Subtotal: \$625.00

Mobilization:

Construction - 2.65% of total Costs = \$169.17

Surfacing - 3.60% by rock volume = \$11.49

Subtotal: \$180.66

Quarry Development:

Based on 3.60% of total rock volume

Subtotal: \$0.00

Total: \$10,423.08

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-12.2(A-B) Road Name:

Road Renovation: 1.01 mi 14 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,563.19
Blading 1.01 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.0 acres	\$576.60
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$35.34 Surf. \$0.00.....	\$35.34
Quarry Development:	\$0.00

Total: \$2,175.13

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-12.2(A-B) Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 1.01 \text{ mi} = \727.71

Compaction: $\$403.47/\text{mi} \times 1.01 \text{ mi} = \407.50

Clean Culverts: $\$334.17/\text{mi} \times 1.01 \text{ mi} = \337.51

Water for Road Compaction

Water Truck 3000 Gal 1.01 hr x $\$89.57/\text{hr} = \90.47

Subtotal: \$1,563.19

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 1.00 \text{ acres} = \576.60

Subtotal: \$576.60

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.55% of total Costs = \$35.34

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$35.34

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$2,175.13

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-12.4(A-B) Road Name:

Road Renovation: 0.60 mi 16 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$764.36
Blading 0.60 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.6 acres	\$345.96
8000 Miscellaneous:	\$425.00
Mobilization: Const. \$25.36 Surf. \$0.00.....	\$25.36
Quarry Development:	\$0.00

Total: \$1,560.68

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-12.4(A-B) Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.60 \text{ mi} = \268.04

Compaction: $\$403.47/\text{mi} \times 0.60 \text{ mi} = \242.08

Clean Culverts: $\$334.17/\text{mi} \times 0.60 \text{ mi} = \200.50

Water for Road Compaction

Water Truck 3000 Gal 0.60 hr x $\$89.57/\text{hr} = \53.74

Subtotal: \$764.36

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.60 \text{ acres} = \345.96

Subtotal: \$345.96

Section 8000 Miscellaneous:

Remove Existing Barricade

Remove Existing Barricade 1 EA x $\$150.00/\text{EA} = \150.00

Reconstruct Barricade

Reconstruct Barricade 1 EA x $\$150.00/\text{EA} = \150.00

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 1 EA x $\$125.00/\text{EA} = \125.00

Subtotal: \$425.00

Mobilization:

Construction - 0.40% of total Costs = \$25.36

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$25.36

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$1,560.68

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-13.3 Road Name:

Road Renovation: 0.24 mi 16 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$305.75
Blading 0.24 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.2 acres	\$115.32
8000 Miscellaneous:	\$125.00
Mobilization: Const. \$9.02 Surf. \$0.00.....	\$9.02
Quarry Development:	\$0.00

Total: \$555.08

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-13.3 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.24 \text{ mi} = \107.22

Compaction: $\$403.47/\text{mi} \times 0.24 \text{ mi} = \96.83

Clean Culverts: $\$334.17/\text{mi} \times 0.24 \text{ mi} = \80.20

Water for Road Compaction

Water Truck 3000 Gal 0.24 hr x $\$89.57/\text{hr} = \21.50

Subtotal: \$305.75

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.20 \text{ acres} = \115.32

Subtotal: \$115.32

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 1 EA x $\$125.00/\text{EA} = \125.00

Subtotal: \$125.00

Mobilization:

Construction - 0.14% of total Costs = \$9.02

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$9.02

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$555.08

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-13.4 Road Name: Elk Valley Sp

Road Renovation: 0.06 mi 14 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$475.16
Blading 0.06 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$115.32
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$9.75 Surf. \$0.00.....	\$9.75
Quarry Development:	\$0.00

Total: \$600.23

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-13.4 Road Name: Elk Valley Sp

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.06 \text{ mi} = \26.80

Compaction: $\$403.47/\text{mi} \times 0.06 \text{ mi} = \24.21

Heavy Road Renovation

Tractor: D7 with rippers 2 hr x $\$163.53/\text{hr} = \327.06

Excavator -Small (1.5 CY) 1 hr x $\$97.09/\text{hr} = \97.09

Subtotal: \$475.16

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Heavy: $\$1153.20/\text{acre} \times 0.10 \text{ acres} = \115.32

Subtotal: \$115.32

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.15% of total Costs = \$9.75

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$9.75

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$600.23

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-15.0 Road Name: E Panther Crk Rd

Road Renovation: 0.32 mi 17 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$495.27
Blading 0.32 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.3 acres	\$172.98
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$11.04 Surf. \$0.00.....	\$11.04
Quarry Development:	\$0.00

Total: \$679.28

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-15.0 Road Name: E Panther Crk Rd

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.32 \text{ mi} = \230.56

Compaction: $\$403.47/\text{mi} \times 0.32 \text{ mi} = \129.11

Clean Culverts: $\$334.17/\text{mi} \times 0.32 \text{ mi} = \106.93

Water for Road Compaction

Water Truck 3000 Gal 0.32 hr x $\$89.57/\text{hr} = \28.66

Subtotal: \$495.27

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.30 \text{ acres} = \172.98

Subtotal: \$172.98

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.17% of total Costs = \$11.04

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$11.04

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$679.28

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-21.0(A-C) Road Name: Gold Mountain Spur

Road Renovation: 1.10 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,702.48
Blading 1.10 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.1 acres	\$634.26
8000 Miscellaneous:	\$424.15
Mobilization: Const. \$45.60 Surf. \$0.00.....	\$45.60
Quarry Development:	\$0.00

Total: \$2,806.49

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-21.0(A-C) Road Name: Gold Mountain Spur

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 1.10 \text{ mi} = \792.55

Compaction: $\$403.47/\text{mi} \times 1.10 \text{ mi} = \443.82

Clean Culverts: $\$334.17/\text{mi} \times 1.10 \text{ mi} = \367.59

Water for Road Compaction

Water Truck 3000 Gal 1.10 hr x $\$89.57/\text{hr} = \98.53

Subtotal: \$1,702.48

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 1.10 \text{ acres} = \634.26

Subtotal: \$634.26

Section 8000 Miscellaneous:

Construct Truck Turnaround

Excavator -Small (1.5 CY) 1 hr x $\$97.09/\text{hr} = \97.09

Tractor: D7 with rippers 2 hr x $\$163.53/\text{hr} = \327.06

Subtotal: \$424.15

Mobilization:

Construction - 0.71% of total Costs = \$45.60

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$45.60

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$2,806.49

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-21.4(A-B) Road Name: Panther Tie

Road Renovation: 0.29 mi 14 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$272.53
Blading 0.29 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.3 acres	\$172.98
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$7.36 Surf. \$0.00.....	\$7.36
Quarry Development:	\$0.00

Total: \$452.87

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-21.4(A-B) Road Name: Panther Tie

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.29 \text{ mi} = \129.55

Compaction: $\$403.47/\text{mi} \times 0.29 \text{ mi} = \117.01

Water for Road Compaction

Water Truck 3000 Gal 0.29 hr x $\$89.57/\text{hr} = \25.98

Subtotal: \$272.53

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.30 \text{ acres} = \172.98

Subtotal: \$172.98

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.12% of total Costs = \$7.36

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$7.36

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$452.87

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-21.5 Road Name: Pvt PC-W

Road Renovation: 0.26 mi 14 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$221.05
Blading 0.26 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.3 acres	\$172.98
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$6.51 Surf. \$0.00.....	\$6.51
Quarry Development:	\$0.00

Total: \$400.54

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-21.5 Road Name: Pvt PC-W

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.26 \text{ mi} = \116.15

Compaction: $\$403.47/\text{mi} \times 0.26 \text{ mi} = \104.90

Subtotal: \$221.05

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.30 \text{ acres} = \172.98

Subtotal: \$172.98

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.10% of total Costs = \$6.51

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$6.51

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$400.54

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-25.0 Road Name: Elk Hayes Spl

Road Renovation: 0.46 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$711.95
Blading 0.46 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.4 acres	\$461.28
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$19.38 Surf. \$0.00.....	\$19.38
Quarry Development:	\$0.00

Total: \$1,192.60

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-25.0 Road Name: Elk Hayes Sp1

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.46 \text{ mi} = \331.43

Compaction: $\$403.47/\text{mi} \times 0.46 \text{ mi} = \185.60

Clean Culverts: $\$334.17/\text{mi} \times 0.46 \text{ mi} = \153.72

Water for Road Compaction

Water Truck 3000 Gal 0.46 hr x $\$89.57/\text{hr} = \41.20

Subtotal: \$711.95

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Heavy: $\$1153.20/\text{acre} \times 0.40 \text{ acres} = \461.28

Subtotal: \$461.28

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.30% of total Costs = \$19.38

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$19.38

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$1,192.60

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-25.1(A) Road Name: Upper Panther Creek

Road Renovation: 1.14 mi 16 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$11,110.20
Culvert: 170 lf	
DownSpout: 40 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,514.39
Blading 1.14 mi	
700-1200 Surfacing:	\$1,218.60
Quarry Name: 1-1/2" minus Commercial Source 30 LCY	
1400 Slope Protection:	\$2,009.47
Gradation Class 0: 30 cy	
Gradation Class 3: 5 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.1 acres	\$634.26
8000 Miscellaneous:	\$500.00
Mobilization: Const. \$297.09 Surf. \$19.16.....	\$316.24
Quarry Development:	\$0.00

Total: \$18,303.16

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-25.1(A) Road Name: Upper Panther Creek

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.13	24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 0.29	24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 0.36	36 inch 16 ga 60 lf x \$67.54/lf = \$4,052.40
Galvanized MP 4.75	18 inch 16 ga 30 lf x \$49.02/lf = \$1,470.60
Full Round MP 0.13	24 inch 20 lf x \$29.86/lf = \$597.20
Full Round MP 0.29	24 inch 20 lf x \$29.86/lf = \$597.20
	Subtotal: \$11,110.20

Section 500 Renovation:

Blading: \$720.50/mi x 1.14 mi = \$821.37
 Compaction: \$403.47/mi x 1.14 mi = \$459.96
 Clean Culverts: \$334.17/mi x 1.14 mi = \$380.95
 Water for Road Compaction
 Water Truck 3000 Gal 1.14 hr x \$89.57/hr = \$102.11
 Reconstruct Ex. Water Dip
 Reconstruct Ex. Water Dip 6 EA x \$125.00/EA = \$750.00
 Subtotal: \$2,514.39

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.13

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									9 LCY

Rock Volume = 9 LCY
 Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66
 Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 22.00 mi= \$217.80
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.29

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									9 LCY

Rock Volume = 9 LCY
 Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66
 Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 22.00 mi= \$217.80
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.33

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									3 LCY

Rock Volume = 3 LCY
 Basic Rock Haul cost: \$0.74/LCY x 3 LCY = \$2.22
 Rock Haul -15% grades: \$1.10/LCY-mi x 3 LCY x 22.00 mi= \$72.60
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 3 LCY x 32.00 mi= \$47.04

Road Number: 31-9-25.1(A) Upper Panther Creek Continued

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.36

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 22.00 mi= \$217.80

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Subtotal: \$1,218.60

Section 1400 Slope Protection:

Comment: MP 0.33 - Fill slope failure repair

Rock Source: Commercial Source

Sort & Load Class 0 type rock: \$3.33/cy x 10cy = \$33.30

Basic Rock Haul cost: \$1.35/cy x 10cy = \$13.50

Rock Haul -15% grades: \$1.35/cy-mi x 10cy x 22.00 mi= \$297.00

Rock Haul St& Co Roads: \$0.60/cy-mi x 10cy x 32.00 mi= \$192.00

Placement of Buttress height < 10 ft: 10cy x (\$2.85/cy x 1.00) = \$28.50

Comment: MP 0.36 - Fill slope failure repair

Rock Source: Commercial Source

Sort & Load Class 0 type rock: \$3.33/cy x 20cy = \$66.60

Basic Rock Haul cost: \$1.35/cy x 20cy = \$27.00

Rock Haul -15% grades: \$1.35/cy-mi x 20cy x 22.00 mi= \$594.00

Rock Haul St& Co Roads: \$0.60/cy-mi x 20cy x 32.00 mi= \$384.00

Placement of Buttress height < 20 ft: 20cy x (\$3.45/cy x 1.00) = \$69.00

Comment: MP 0.36 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 3cy = \$15.00

Basic Rock Haul cost: \$1.35/cy x 3cy = \$4.05

Rock Haul -15% grades: \$1.35/cy-mi x 3cy x 22.00 mi= \$89.10

Rock Haul St& Co Roads: \$0.60/cy-mi x 3cy x 32.00 mi= \$57.60

Placement on Fill slopes: 3cy x (\$2.85/cy x 1.04) = \$8.89

Comment: MP 4.75 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 27.00 mi= \$72.90

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Subtotal: \$2,009.47

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 1.10 acres = \$634.26

Subtotal: \$634.26

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 4 EA x \$125.00/EA = \$500.00

Subtotal: \$500.00

Mobilization:

Construction - 4.66% of total Costs = \$297.09

Surfacing - 6.00% by rock volume = \$19.16

Subtotal: \$316.24

Total: \$18,303.16

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-25.1(B-E) Road Name: Upper Panther Creek

Road Renovation: 3.95 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$4,938.34
Blading 3.95 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 3.8 acres	\$2,191.08
8000 Miscellaneous:	\$375.00
Mobilization: Const. \$123.95 Surf. \$0.00.....	\$123.95
Quarry Development:	\$0.00

Total: \$7,628.37

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-25.1(B-E) Road Name: Upper Panther Creek

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Comment: Blading w/ ditch added for culverts on outsloped road.

Blading: \$720.50/mi x 0.95 mi = \$684.48

Blading w/o Ditches: \$446.73/mi x 3.00 mi = \$1,340.19

Compaction: \$403.47/mi x 3.95 mi = \$1,593.71

Clean Culverts: \$334.17/mi x 3.95 mi = \$1,319.97

Subtotal: \$4,938.34

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 3.80 acres = \$2,191.08

Subtotal: \$2,191.08

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 3 EA x \$125.00/EA = \$375.00

Subtotal: \$375.00

Mobilization:

Construction - 1.94% of total Costs = \$123.95

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$123.95

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$7,628.37

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-25.2 Road Name: W Elk Valley Rd

Road Renovation: 0.15 mi 16 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$1,960.80
Culvert: 40 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$191.09
Blading 0.15 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$119.13
Gradation Class 3: 2 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$57.66
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$38.46 Surf. \$0.00.....	\$38.46
Quarry Development:	\$0.00

Total: \$2,367.14

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-25.2 Road Name: W Elk Valley Rd

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.04

18 inch 16 ga 40 lf x \$49.02/lf = \$1,960.80

Subtotal: \$1,960.80

Section 500 Renovation:

Blading w/o Ditches: \$446.73/mi x 0.15 mi = \$67.01

Compaction: \$403.47/mi x 0.15 mi = \$60.52

Clean Culverts: \$334.17/mi x 0.15 mi = \$50.13

Water for Road Compaction

Water Truck 3000 Gal 0.15 hr x \$89.57/hr = \$13.44

Subtotal: \$191.09

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Comment: MP 0.04 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 23.00 mi= \$62.10

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Subtotal: \$119.13

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 0.10 acres = \$57.66

Subtotal: \$57.66

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.60% of total Costs = \$38.46

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$38.46

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$2,367.14

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-25.3(A-C) Road Name: Elk Vly Ck Rd

Road Renovation: 1.65 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: 0.8 acres	\$2,257.33
300 Excavation:	\$0.00
400 Drainage:	\$15,192.66
Culvert: 236 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$6,103.52
Blading 1.65 mi	
700-1200 Surfacing:	\$2,105.80
Quarry Name: 1-1/2" minus Commercial Source 50 LCY	
1400 Slope Protection:	\$720.17
Gradation Class 3: 12 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.6 acres	\$922.56
8000 Miscellaneous:	\$1,290.75
Mobilization: Const. \$472.26 Surf. \$31.93.....	\$504.19
Quarry Development:	\$0.00

Total: \$29,096.98

Notes:

Quantities shown are estimates only and not pay items.
 Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-25.3(A-C) Road Name: Elk Vly Ck Rd

Section 200 Clearing and Grubbing:

Clearing - Medium (Clearing): Adjustment Factor (1.67)

16-30% (Avg Side Slopes): Adjustment Factor (0.1)

Pile and Burn (Slash): Adjustment Factor (1.28)

less than 20' (Avg Clearing Widths): Adjustment Factor (0.25)

Total Adjustment Factor: $1.67 + 0.1 + 1.28 + 0.25 = 3.30$

Base Cost/Acre: \$855.05 x Adjustment Factor: 3.30 x Total Acres: 0.8 = \$2,257.33

Subtotal: \$2,257.33

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.46 24 inch 16 ga 36 lf x \$54.91/lf = \$1,976.76

Galvanized MP 0.68 36 inch 16 ga 60 lf x \$67.54/lf = \$4,052.40

Galvanized MP 0.80 36 inch 16 ga 40 lf x \$67.54/lf = \$2,701.60

Galvanized MP 1.24 24 inch 16 ga 50 lf x \$54.91/lf = \$2,745.50

Galvanized MP 1.35 24 inch 16 ga 50 lf x \$54.91/lf = \$2,745.50

Deep Fill Excavation - MP 0.68

Excavator -Small (1.5 CY) 10 hr x \$97.09/hr = \$970.90

Subtotal: \$15,192.66

Section 500 Renovation:

Blading: \$720.50/mi x 1.65 mi = \$1,188.83

Scarification: \$893.46/mi x 0.65 mi = \$580.75

Compaction: \$403.47/mi x 1.65 mi = \$665.73

Clean Culverts: \$334.17/mi x 1.65 mi = \$551.38

Water for Road Compaction

Water Truck 3000 Gal 1.65 hr x \$89.57/hr = \$147.79

Heavy Road Renovation

Excavator -Small (1.5 CY) 6 hr x \$97.09/hr = \$582.54

Tractor: D7 with rippers 12 hr x \$163.53/hr = \$1,962.36

Construct Truck Turnaround

Tractor: D7 with rippers 2 hr x \$163.53/hr = \$327.06

Excavator -Small (1.5 CY) 1 hr x \$97.09/hr = \$97.09

Subtotal: \$6,103.52

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.46

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
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9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 23.00 mi= \$227.70

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.68

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
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14 LCY

Rock Volume = 14 LCY

Basic Rock Haul cost: \$0.74/LCY x 14 LCY = \$10.36

Rock Haul -15% grades: \$1.10/LCY-mi x 14 LCY x 23.00 mi= \$354.20

Rock Haul St& Co Roads: \$0.49/LCY-mi x 14 LCY x 32.00 mi= \$219.52

Road Number: 31-9-25.3(A-C) Elk Vly Ck Rd Continued

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.80

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 23.00 mi= \$227.70

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.24

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 24.00 mi= \$237.60

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.35

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 24.00 mi= \$237.60

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Subtotal: \$2,105.80

Section 1400 Slope Protection:

Comment: MP 0.80 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 3cy = \$15.00

Basic Rock Haul cost: \$1.35/cy x 3cy = \$4.05

Rock Haul -15% grades: \$1.35/cy-mi x 3cy x 23.00 mi= \$93.15

Rock Haul St& Co Roads: \$0.60/cy-mi x 3cy x 32.00 mi= \$57.60

Placement on Fill slopes: 3cy x (\$2.85/cy x 1.04) = \$8.89

Comment: MP 0.68 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 3cy = \$15.00

Basic Rock Haul cost: \$1.35/cy x 3cy = \$4.05

Rock Haul -15% grades: \$1.35/cy-mi x 3cy x 23.00 mi= \$93.15

Rock Haul St& Co Roads: \$0.60/cy-mi x 3cy x 32.00 mi= \$57.60

Placement on Fill slopes: 3cy x (\$2.85/cy x 1.04) = \$8.89

Comment: MP 0.46 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 23.00 mi= \$62.10

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 1.24 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 24.00 mi= \$64.80

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Road Number: 31-9-25.3(A-C) Elk Vly Ck Rd Continued

Comment: MP 1.35 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 24.00 mi= \$64.80

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Subtotal: \$720.17

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 1.60 acres = \$922.56

Subtotal: \$922.56

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 8 EA x \$125.00/EA = \$1,000.00

Construct Truck Turnaround

Tractor: D5 with winch 2 hr x \$96.83/hr = \$193.66

Excavator -Small (1.5 CY) 1 hr x \$97.09/hr = \$97.09

Subtotal: \$1,290.75

Mobilization:

Construction - 7.40% of total Costs = \$472.26

Surfacing - 10.00% by rock volume = \$31.93

Subtotal: \$504.19

Quarry Development:

Based on 10.00% of total rock volume

Subtotal: \$0.00

Total: \$29,096.98

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-25.4 Road Name: Elk Hayes P2 Spur

Road Renovation: 0.11 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$160.40
Blading 0.11 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$57.66
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$3.60 Surf. \$0.00.....	\$3.60
Quarry Development:	\$0.00

Total: \$221.66

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-25.4 Road Name: Elk Hayes P2 Spur

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.11 \text{ mi} = \79.26

Compaction: $\$403.47/\text{mi} \times 0.11 \text{ mi} = \44.38

Clean Culverts: $\$334.17/\text{mi} \times 0.11 \text{ mi} = \36.76

Subtotal: \$160.40

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.10 \text{ acres} = \57.66

Subtotal: \$57.66

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.06% of total Costs = \$3.60

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$3.60

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$221.66

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-25.5 Road Name: Bull Elk

Road Renovation: 0.62 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$2,745.50
Culvert: 50 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,691.97
Blading 0.62 mi	
700-1200 Surfacing:	\$513.84
Quarry Name: 1-1/2" minus Commercial Source 12 LCY	
1400 Slope Protection:	\$1,017.78
Gradation Class 0: 15 cy	
Gradation Class 3: 2 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.6 acres	\$345.96
8000 Miscellaneous:	\$250.00
Mobilization: Const. \$124.95 Surf. \$7.66.....	\$132.61
Quarry Development:	\$0.00

Total: \$7,697.66

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-25.5 Road Name: Bull Elk

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.36 24 inch 16 ga 50 lf x \$54.91/lf = \$2,745.50
Subtotal: \$2,745.50

Section 500 Renovation:

Blading: \$720.50/mi x 0.62 mi = \$446.71
Compaction: \$403.47/mi x 0.62 mi = \$250.15
Clean Culverts: \$334.17/mi x 0.62 mi = \$207.19
Water for Road Compaction
Water Truck 3000 Gal 0.62 hr x \$89.57/hr = \$55.53
Heavy Road Blading/Renovation
Tractor: D7 with rippers 8 hr x \$163.53/hr = \$1,308.24
Construct Truck Turnaround
Tractor: D7 with rippers 2 hr x \$163.53/hr = \$327.06
Excavator -Small (1.5 CY) 1 hr x \$97.09/hr = \$97.09
Subtotal: \$2,691.97

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.16

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									3 LCY
Rock Volume = 3 LCY									
Basic Rock Haul cost: \$0.74/LCY x 3 LCY = \$2.22									
Rock Haul -15% grades: \$1.10/LCY-mi x 3 LCY x 24.00 mi= \$79.20									
Rock Haul St& Co Roads: \$0.49/LCY-mi x 3 LCY x 32.00 mi= \$47.04									

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.36

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY
Rock Volume = 9 LCY									
Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66									
Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 24.00 mi= \$237.60									
Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12									
									Subtotal: \$513.84

Section 1400 Slope Protection:

Comment: MP 0.16 - Fill slope failure repair

Rock Source: Commercial Source
Sort & Load Class 0 type rock: \$3.33/cy x 15cy = \$49.95
Basic Rock Haul cost: \$1.35/cy x 15cy = \$20.25
Rock Haul -15% grades: \$1.35/cy-mi x 15cy x 24.00 mi= \$486.00
Rock Haul St& Co Roads: \$0.60/cy-mi x 15cy x 32.00 mi= \$288.00
Placement of Buttress height < 20 ft: 15cy x (\$3.45/cy x 1.00) = \$51.75

Comment: MP 0.36 - Splashpad at outlet

Rock Source: Commercial Source
Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00
Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70
Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 24.00 mi= \$64.80
Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40
Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93
Subtotal: \$1,017.78

Road Number: 31-9-25.5 Bull Elk Continued

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.60 \text{ acres} = \345.96

Subtotal: \$345.96

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 2 EA x $\$125.00/\text{EA} = \250.00

Subtotal: \$250.00

Mobilization:

Construction - 1.96% of total Costs = \$124.95

Surfacing - 2.40% by rock volume = \$7.66

Subtotal: \$132.61

Quarry Development:

Based on 2.40% of total rock volume

Subtotal: \$0.00

Total: \$7,697.66

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-26.0(A) Road Name: Panther Peak Rd

Road Renovation: 0.40 mi 16 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$619.08
Blading 0.40 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.4 acres	\$230.64
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$14.03 Surf. \$0.00.....	\$14.03
Quarry Development:	\$0.00

Total: \$863.76

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-26.0(A) Road Name: Panther Peak Rd

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.40 \text{ mi} = \288.20

Compaction: $\$403.47/\text{mi} \times 0.40 \text{ mi} = \161.39

Clean Culverts: $\$334.17/\text{mi} \times 0.40 \text{ mi} = \133.67

Water for Road Compaction

Water Truck 3000 Gal 0.40 hr x $\$89.57/\text{hr} = \35.83

Subtotal: \$619.08

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.40 \text{ acres} = \230.64

Subtotal: \$230.64

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.22% of total Costs = \$14.03

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$14.03

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$863.76

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-26.3 Road Name:

Road Renovation: 0.56 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,726.11
Blading 0.56 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.5 acres	\$288.30
8000 Miscellaneous:	\$800.00
Mobilization: Const. \$46.48 Surf. \$0.00.....	\$46.48
Quarry Development:	\$0.00

Total: \$2,860.90

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-26.3 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.56 \text{ mi} = \250.17

Compaction: $\$403.47/\text{mi} \times 0.56 \text{ mi} = \225.94

Reconstruct Ex. Water Bar

Reconstruct Ex. Water Bar 10 EA x $\$125.00/\text{EA} = \$1,250.00$

Subtotal: \$1,726.11

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.50 \text{ acres} = \288.30

Subtotal: \$288.30

Section 8000 Miscellaneous:

Reconstruct Water Bar

Reconstruct water bar after completion of haul

4 EA x $\$200.00/\text{EA} = \800.00

Subtotal: \$800.00

Mobilization:

Construction - 0.73% of total Costs = \$46.48

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$46.48

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$2,860.90

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-27.0(D) Road Name: Panther Creek Rd

Road Renovation: 1.62 mi 17 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,507.29
Blading 1.62 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.6 acres	\$922.56
8000 Miscellaneous:	\$125.00
Mobilization: Const. \$58.71 Surf. \$0.00.....	\$58.71
Quarry Development:	\$0.00

Total: \$3,613.56

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-27.0(D) Road Name: Panther Creek Rd

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 1.62 \text{ mi} = \$1,167.21$

Compaction: $\$403.47/\text{mi} \times 1.62 \text{ mi} = \653.62

Clean Culverts: $\$334.17/\text{mi} \times 1.62 \text{ mi} = \541.36

Water for Road Compaction

Water Truck 3000 Gal 1.62 hr x $\$89.57/\text{hr} = \145.10

Subtotal: \$2,507.29

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 1.60 \text{ acres} = \922.56

Subtotal: \$922.56

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 1 EA x $\$125.00/\text{EA} = \125.00

Subtotal: \$125.00

Mobilization:

Construction - 0.92% of total Costs = \$58.71

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$58.71

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$3,613.56

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 31-9-36.0 Road Name: Elk Hayes

Road Renovation: 0.69 mi 16 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$14,015.90
Culvert: 215 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,067.92
Blading 0.69 mi	
700-1200 Surfacing:	\$1,017.54
Quarry Name: 1-1/2" minus Commercial Source 27 LCY	
1400 Slope Protection:	\$383.20
Gradation Class 3: 7 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.7 acres	\$403.62
8000 Miscellaneous:	\$375.00
Mobilization: Const. \$285.13 Surf. \$17.24.....	\$302.37
Quarry Development:	\$0.00

Total: \$17,565.55

Notes:

Quantities shown are estimates only and not pay items.
 Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 31-9-36.0 Road Name: Elk Hayes

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.15	24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 0.27	36 inch 16 ga 75 lf x \$67.54/lf = \$5,065.50
Galvanized MP 0.64	36 inch 16 ga 100 lf x \$67.54/lf = \$6,754.00
	Subtotal: \$14,015.90

Section 500 Renovation:

Blading: \$720.50/mi x 0.69 mi = \$497.15
Compaction: \$403.47/mi x 0.69 mi = \$278.39
Clean Culverts: \$334.17/mi x 0.69 mi = \$230.58
Water for Road Compaction
Water Truck 3000 Gal 0.69 hr x \$89.57/hr = \$61.80
Subtotal: \$1,067.92

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.15

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 19.00 mi= \$188.10

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.27

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 19.00 mi= \$188.10

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.64

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 20.00 mi= \$198.00

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Subtotal: \$1,017.54

Section 1400 Slope Protection:

Comment: MP 0.15 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 19.00 mi= \$51.30

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Road Number: 31-9-36.0 Elk Hayes Continued

Comment: MP 0.27 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 19.00 mi= \$51.30

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 0.64 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 3cy = \$15.00

Basic Rock Haul cost: \$1.35/cy x 3cy = \$4.05

Rock Haul -15% grades: \$1.35/cy-mi x 3cy x 20.00 mi= \$81.00

Rock Haul St& Co Roads: \$0.60/cy-mi x 3cy x 32.00 mi= \$57.60

Placement on Fill slopes: 3cy x (\$2.85/cy x 1.04) = \$8.89

Subtotal: \$383.20

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 0.70 acres = \$403.62

Subtotal: \$403.62

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 3 EA x \$125.00/EA = \$375.00

Subtotal: \$375.00

Mobilization:

Construction - 4.47% of total Costs = \$285.13

Surfacing - 5.40% by rock volume = \$17.24

Subtotal: \$302.37

Quarry Development:

Based on 5.40% of total rock volume

Subtotal: \$0.00

Total: \$17,565.55

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 32-8-10.2(A-B) Road Name: Honeysuckle

Road Renovation: 1.88 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,909.69
Blading 1.88 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.8 acres	\$1,037.88
8000 Miscellaneous:	\$375.00
Mobilization: Const. \$71.39 Surf. \$0.00.....	\$71.39
Quarry Development:	\$0.00

Total: \$4,393.97

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 32-8-10.2(A-B) Road Name: Honeysuckle

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 1.88 \text{ mi} = \$1,354.54$

Compaction: $\$403.47/\text{mi} \times 1.88 \text{ mi} = \758.52

Clean Culverts: $\$334.17/\text{mi} \times 1.88 \text{ mi} = \628.24

Water for Road Compaction

Water Truck 3000 Gal 1.88 hr x $\$89.57/\text{hr} = \168.39

Subtotal: \$2,909.69

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 1.80 \text{ acres} = \$1,037.88$

Subtotal: \$1,037.88

Section 8000 Miscellaneous:

Install Hay Bale Check Dam

Install Hay Bale Check Dam(s) 3 EA x $\$125.00/\text{EA} = \375.00

Subtotal: \$375.00

Mobilization:

Construction - 1.12% of total Costs = \$71.39

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$71.39

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$4,393.97

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 32-8-11.0(A) Road Name: Multnomah W Fk Ridge

Road Renovation: 0.14 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$216.68
Blading 0.14 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$57.66
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$4.53 Surf. \$0.00.....	\$4.53
Quarry Development:	\$0.00

Total: \$278.87

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 32-8-11.0(A) Road Name: Multnomah W Fk Ridge

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.14 \text{ mi} = \100.87

Compaction: $\$403.47/\text{mi} \times 0.14 \text{ mi} = \56.49

Clean Culverts: $\$334.17/\text{mi} \times 0.14 \text{ mi} = \46.78

Water for Road Compaction

Water Truck 3000 Gal 0.14 hr x $\$89.57/\text{hr} = \12.54

Subtotal: \$216.68

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.10 \text{ acres} = \57.66

Subtotal: \$57.66

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.07% of total Costs = \$4.53

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$4.53

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$278.87

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 32-8-3.1 Road Name: Cow Overlook Pl Sp

Road Renovation: 0.10 mi 16 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$127.39
Blading 0.10 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$57.66
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$3.06 Surf. \$0.00.....	\$3.06
Quarry Development:	\$0.00

Total: \$188.11

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 32-8-3.1 Road Name: Cow Overlook P1 Sp

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.10 \text{ mi} = \44.67

Compaction: $\$403.47/\text{mi} \times 0.10 \text{ mi} = \40.35

Clean Culverts: $\$334.17/\text{mi} \times 0.10 \text{ mi} = \33.42

Water for Road Compaction

Water Truck 3000 Gal 0.10 hr x $\$89.57/\text{hr} = \8.96

Subtotal: \$127.39

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.10 \text{ acres} = \57.66

Subtotal: \$57.66

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.05% of total Costs = \$3.06

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$3.06

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$188.11

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 32-8-4.0(A-C) Road Name: Slotted Pen

Road Renovation: 5.87 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$20,324.64
Culvert: 348 lf	
DownSpout: 20 lf	
PolyPipe: 0 lf	
500 Renovation:	\$9,085.06
Blading 5.87 mi	
700-1200 Surfacing:	\$2,785.32
Quarry Name: 1-1/2" minus Commercial Source 81 LCY	
1400 Slope Protection:	\$799.12
Gradation Class 3: 16 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 5.6 acres	\$3,228.96
8000 Miscellaneous:	\$750.00
Mobilization: Const. \$610.68 Surf. \$51.72.....	\$662.39
Quarry Development:	\$0.00

Total: \$37,635.50

Notes:

Quantities shown are estimates only and not pay items.
 Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 32-8-4.0(A-C) Road Name: Slotted Pen

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.93	24 inch 16 ga 38 lf x \$54.91/lf = \$2,086.58
Galvanized MP 1.07	24 inch 16 ga 38 lf x \$54.91/lf = \$2,086.58
Galvanized MP 1.32	24 inch 16 ga 46 lf x \$54.91/lf = \$2,525.86
Galvanized MP 1.45	24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 1.56	24 inch 16 ga 36 lf x \$54.91/lf = \$1,976.76
Galvanized MP 1.62	36 inch 16 ga 50 lf x \$67.54/lf = \$3,377.00
Galvanized MP 2.53	24 inch 16 ga 30 lf x \$54.91/lf = \$1,647.30
Galvanized MP 2.62	24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40
Galvanized MP 3.66	18 inch 16 ga 30 lf x \$49.02/lf = \$1,470.60
Full Round MP 2.53	24 inch 20 lf x \$29.86/lf = \$597.20
Jack open smashed inlet	
General Laborer 2 hr x \$33.60/hr = \$67.20	
Crew Cab or 3/4 Ton Pickup 2 hr x \$48.38/hr = \$96.76	

Subtotal: \$20,324.64

Section 500 Renovation:

Blading: \$720.50/mi x 5.87 mi = \$4,229.34
 Compaction: \$403.47/mi x 5.87 mi = \$2,368.37
 Clean Culverts: \$334.17/mi x 5.87 mi = \$1,961.58
 Water for Road Compaction
 Water Truck 3000 Gal 5.87 hr x \$89.57/hr = \$525.78

Subtotal: \$9,085.06

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.93

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY
Rock Volume = 9 LCY									
Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66									
Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 15.00 mi= \$148.50									
Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12									

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.07

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY
Rock Volume = 9 LCY									
Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66									
Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 16.00 mi= \$158.40									
Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12									

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.32

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY
Rock Volume = 9 LCY									
Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66									
Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 16.00 mi= \$158.40									
Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12									

Road Number: 32-8-4.0(A-C) Slotted Pen Continued

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.45

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 16.00 mi= \$158.40

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.56

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 16.00 mi= \$158.40

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 1.62

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 16.00 mi= \$158.40

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 2.53

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 17.00 mi= \$168.30

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 2.62

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 17.00 mi= \$168.30

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 3.66

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 18.00 mi= \$178.20

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Subtotal: \$2,785.32

Section 1400 Slope Protection:

Comment: MP 0.93 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 15.00 mi= \$40.50

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Road Number: 32-8-4.0(A-C) Slotted Pen Continued

Comment: MP 1.07 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 16.00 mi= \$43.20

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 1.32 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 16.00 mi= \$43.20

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 1.45 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 16.00 mi= \$43.20

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 1.56 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 16.00 mi= \$43.20

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 1.62 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 16.00 mi= \$43.20

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 2.62 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 17.00 mi= \$45.90

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 3.66 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 15.00 mi= \$40.50

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Subtotal: \$799.12

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Road Number: 32-8-4.0(A-C) Slotted Pen Continued

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 5.60 acres = \$3,228.96

Subtotal: \$3,228.96

Section 8000 Miscellaneous:

Install Hay Bale Check Dams

Install Hay Bale Check Dam(s) 6 EA x \$125.00/EA = \$750.00

Subtotal: \$750.00

Mobilization:

Construction - 9.57% of total Costs = \$610.68

Surfacing - 16.20% by rock volume = \$51.72

Subtotal: \$662.39

Quarry Development:

Based on 16.20% of total rock volume

Subtotal: \$0.00

Total: \$37,635.50

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 32-8-4.3 Road Name:

Road Renovation: 0.33 mi 14 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$510.74
Blading 0.33 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.3 acres	\$172.98
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$11.29 Surf. \$0.00.....	\$11.29
Quarry Development:	\$0.00

Total: \$695.02

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 32-8-4.3 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.33 \text{ mi} = \237.77

Compaction: $\$403.47/\text{mi} \times 0.33 \text{ mi} = \133.15

Clean Culverts: $\$334.17/\text{mi} \times 0.33 \text{ mi} = \110.28

Water for Road Compaction

Water Truck 3000 Gal 0.33 hr x $\$89.57/\text{hr} = \29.56

Subtotal: \$510.74

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 0.30 \text{ acres} = \172.98

Subtotal: \$172.98

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.18% of total Costs = \$11.29

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$11.29

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$695.02

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 32-8-4.4 Road Name:

Road Renovation: 0.07 mi 14 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$65.78
Blading 0.07 mi	
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$115.32
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$2.99 Surf. \$0.00.....	\$2.99
Quarry Development:	\$0.00

Total: \$184.10

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 32-8-4.4 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.07 \text{ mi} = \31.27

Compaction: $\$403.47/\text{mi} \times 0.07 \text{ mi} = \28.24

Water for Road Compaction

Water Truck 3000 Gal 0.07 hr x $\$89.57/\text{hr} = \6.27

Subtotal: \$65.78

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Heavy: $\$1153.20/\text{acre} \times 0.10 \text{ acres} = \115.32

Subtotal: \$115.32

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.05% of total Costs = \$2.99

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$2.99

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$184.10

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: 32-8-9.1(A-C) Road Name: Jackass Prairie Rd

Road Renovation: 1.18 mi 16 ft Subgrade 3 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$2,524.32
Culvert: 40 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,246.84
Blading 1.18 mi	
700-1200 Surfacing:	\$296.28
Quarry Name: 1-1/2" minus Commercial Source 9 LCY	
1400 Slope Protection:	\$478.17
Gradation Class 0: 8 cy	
Gradation Class 3: 2 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
2100 RoadSide Brushing: 1.1 acres	\$1,268.52
8000 Miscellaneous:	\$125.00
Mobilization: Const. \$114.61 Surf. \$5.75.....	\$120.36
Quarry Development:	\$0.00

Total: \$7,059.48

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 32-8-9.1(A-C) Road Name: Jackass Prairie Rd

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Galvanized MP 0.68 24 inch 16 ga 40 lf x \$54.91/lf = \$2,196.40

Jack open crushed inlet

General Laborer 2 hr x \$33.60/hr = \$67.20

Crew Cab or 3/4 Ton Pickup 2 hr x \$48.38/hr = \$96.76

Jack open crushed outlet

General Laborer 2 hr x \$33.60/hr = \$67.20

Crew Cab or 3/4 Ton Pickup 2 hr x \$48.38/hr = \$96.76

Subtotal: \$2,524.32

Section 500 Renovation:

Blading: \$720.50/mi x 1.18 mi = \$850.19

Compaction: \$403.47/mi x 1.18 mi = \$476.09

Clean Culverts: \$334.17/mi x 1.18 mi = \$394.32

Water for Road Compaction

Water Truck 3000 Gal 1.18 hr x \$89.57/hr = \$105.69

Fill Slope Failure - MP 1.12

Excavator -Small (1.5 CY) 3 hr x \$97.09/hr = \$291.27

Tamper - handheld 3 hr x \$43.09/hr = \$129.27

Subtotal: \$2,246.84

Section 700-1200 Surfacing:

Commercial Quarry Name: 1-1/2" minus Commercial Source

Comment: MP 0.68

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									9 LCY

Rock Volume = 9 LCY

Basic Rock Haul cost: \$0.74/LCY x 9 LCY = \$6.66

Rock Haul -15% grades: \$1.10/LCY-mi x 9 LCY x 15.00 mi= \$148.50

Rock Haul St& Co Roads: \$0.49/LCY-mi x 9 LCY x 32.00 mi= \$141.12

Subtotal: \$296.28

Section 1400 Slope Protection:

Comment: MP 0.68 - Splashpad at outlet

Rock Source: Commercial Source

Sort & Load Class 3 type rock: \$5.00/cy x 2cy = \$10.00

Basic Rock Haul cost: \$1.35/cy x 2cy = \$2.70

Rock Haul -15% grades: \$1.35/cy-mi x 2cy x 15.00 mi= \$40.50

Rock Haul St& Co Roads: \$0.60/cy-mi x 2cy x 32.00 mi= \$38.40

Placement on Fill slopes: 2cy x (\$2.85/cy x 1.04) = \$5.93

Comment: MP 1.12 - Fill Slope Failure

Rock Source: Commercial Source

Sort & Load Class 0 type rock: \$3.33/cy x 8cy = \$26.64

Basic Rock Haul cost: \$1.35/cy x 8cy = \$10.80

Rock Haul -15% grades: \$1.35/cy-mi x 8cy x 15.00 mi= \$162.00

Rock Haul St& Co Roads: \$0.60/cy-mi x 8cy x 32.00 mi= \$153.60

Placement of Buttress height < 20 ft: 8cy x (\$3.45/cy x 1.00) = \$27.60

Subtotal: \$478.17

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Road Number: 32-8-9.1(A-C) Jackass Prairie Rd Continued

Section 2100 Roadside Brushing:

RoadSide Brushing Heavy: \$1153.20/acre x 1.10 acres = \$1,268.52

Subtotal: \$1,268.52

Section 8000 Miscellaneous:

Install Hay Bale Check Dam(s)

Install Hay Bale Check Dam(s) 1 EA x \$125.00/EA = \$125.00

Subtotal: \$125.00

Mobilization:

Construction - 1.80% of total Costs = \$114.61

Surfacing - 1.80% by rock volume = \$5.75

Subtotal: \$120.36

Quarry Development:

Based on 1.80% of total rock volume

Subtotal: \$0.00

Total: \$7,059.48

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: TR 07-02 Road Name: Temp Route

Temporary Road: 0.12 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: 0.3 acres	\$959.37
300 Excavation: 343 cy	\$1,685.42
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.3 acres	\$284.77
Includes Small Quantity Factor of 1.31	
2100 RoadSide Brushing: 0.0 acres	\$0.00
8000 Miscellaneous:	\$1,340.59
Mobilization: Const. \$70.53 Surf. \$0.00.....	\$70.53
Quarry Development:	\$0.00

Total: \$4,340.68

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: TR 07-02 Road Name: Temp Route

Section 200 Clearing and Grubbing:

Clearing - Heavy (Clearing): Adjustment Factor (2.54)

16-30% (Avg Side Slopes): Adjustment Factor (0.1)

Scatter (Slash): Adjustment Factor (1)

20-40' (Avg Clearing Widths): Adjustment Factor (0.1)

Total Adjustment Factor: $2.54 + 0.1 + 1 + 0.1 = 3.74$

Base Cost/Acre: \$855.05 x Adjustment Factor: 3.74 x Total Acres: 0.3 = \$959.37

Subtotal: \$959.37

Section 300 Excavation:

Excavation - Common: $\$1.93/\text{cy} \times 343 \text{ cy} = \661.99

Subgrade Compaction: 4 Sta/hr $\$33.62/\text{sta.} \times 6.4 \text{ sta} = \213.49

Embankment Placement & Compaction 306.a - Common: $\$0.90/\text{cy} \times 343 \text{ cy} = \308.70

Blading without ditch: $\$12.14/\text{station} \times 6.35 \text{ stations} = \77.09

Construct Truck Turnaround

Tractor: D7 with rippers 2 hr x $\$163.53/\text{hr} = \327.06

Excavator -Small (1.5 CY) 1 hr x $\$97.09/\text{hr} = \97.09

Subtotal: \$1,685.42

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$497.25/\text{acre} \times 0.30 \text{ acres} = \149.17

Includes Small Quantity Factor of 1.31

+ Seed Cost: $\$132.00/\text{acre} \times 0.30 \text{ acres} = \39.60

+ Mulch Cost: $\$320.00/\text{acre} \times 0.30 \text{ acres} = \96.00

Subtotal: \$284.77

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Rip Subgrade (Decom)

Tractor: D7 with rippers 3 hr x $\$163.53/\text{hr} = \490.59

Construct Water Bars (Decom)

Construct Water Bar 6 EA x $\$100.00/\text{EA} = \600.00

Construct Barricade (Decom)

Construct Barricade (Earthen or Log) 1 EA x $\$250.00/\text{EA} = \250.00

Subtotal: \$1,340.59

Mobilization:

Construction - 1.11% of total Costs = \$70.53

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$70.53

Total: \$4,340.68

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: TR 11-08A Road Name: Temp Route

Temporary Road: 0.07 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: 0.2 acres	\$639.58
300 Excavation: 189 cy	\$1,379.80
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.2 acres	\$189.85
Includes Small Quantity Factor of 1.31	
2100 RoadSide Brushing: 0.0 acres	\$0.00
8000 Miscellaneous:	\$877.06
Mobilization: Const. \$50.98 Surf. \$0.00.....	\$50.98
Quarry Development:	\$0.00

Total: \$3,137.26

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: TR 11-08A Road Name: Temp Route

Section 200 Clearing and Grubbing:

Clearing - Heavy (Clearing): Adjustment Factor (2.54)

16-30% (Avg Side Slopes): Adjustment Factor (0.1)

Scatter (Slash): Adjustment Factor (1)

20-40' (Avg Clearing Widths): Adjustment Factor (0.1)

Total Adjustment Factor: $2.54 + 0.1 + 1 + 0.1 = 3.74$

Base Cost/Acre: \$855.05 x Adjustment Factor: 3.74 x Total Acres: 0.2 = \$639.58

Subtotal: \$639.58

Section 300 Excavation:

Excavation - Common: $\$1.93/\text{cy} \times 189 \text{ cy} = \364.77

Subgrade Compaction: 4 Sta/hr $\$33.62/\text{sta.} \times 3.5 \text{ sta} = \117.67

Embankment Placement & Compaction 306.a - Common: $\$0.90/\text{cy} \times 189 \text{ cy} = \170.10

Blading without ditch: $\$12.14/\text{station} \times 3.50 \text{ stations} = \42.49

Construct Truck Turnaround

Tractor: D7 with rippers 3 hr x $\$163.53/\text{hr} = \490.59

Excavator -Small (1.5 CY) 2 hr x $\$97.09/\text{hr} = \194.18

Subtotal: \$1,379.80

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$497.25/\text{acre} \times 0.20 \text{ acres} = \99.45

Includes Small Quantity Factor of 1.31

+ Seed Cost: $\$132.00/\text{acre} \times 0.20 \text{ acres} = \26.40

+ Mulch Cost: $\$320.00/\text{acre} \times 0.20 \text{ acres} = \64.00

Subtotal: \$189.85

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Rip Subgrade (Decom)

Tractor: D7 with rippers 2 hr x $\$163.53/\text{hr} = \327.06

Construct Water Bars (Decom)

Construct Water Bar 3 EA x $\$100.00/\text{EA} = \300.00

Construct Barricade (Decom)

Construct Barricade (Earthen or Log) 1 EA x $\$250.00/\text{EA} = \250.00

Subtotal: \$877.06

Mobilization:

Construction - 0.80% of total Costs = \$50.98

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$50.98

Total: \$3,137.26

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: TR 15-19A-N Road Name: Temp Route

Temporary Road: 0.33 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: 0.6 acres	\$1,918.73
300 Excavation: 591 cy	\$2,734.82
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$490.59
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 1.2 acres	\$1,139.10
Includes Small Quantity Factor of 1.31	
2100 RoadSide Brushing: 0.0 acres	\$0.00
8000 Miscellaneous:	\$3,094.71
Mobilization: Const. \$154.89 Surf. \$0.00.....	\$154.89
Quarry Development:	\$0.00

Total: \$9,532.84

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: TR 15-19A-N Road Name: Temp Route

Section 200 Clearing and Grubbing:

Clearing - Heavy (Clearing): Adjustment Factor (2.54)

16-30% (Avg Side Slopes): Adjustment Factor (0.1)

Scatter (Slash): Adjustment Factor (1)

20-40' (Avg Clearing Widths): Adjustment Factor (0.1)

Total Adjustment Factor: $2.54 + 0.1 + 1 + 0.1 = 3.74$

Base Cost/Acre: \$855.05 x Adjustment Factor: 3.74 x Total Acres: 0.6 = \$1,918.73

Subtotal: \$1,918.73

Section 300 Excavation:

Excavation - Common: $\$1.93/\text{cy} \times 591 \text{ cy} = \$1,140.63$

Subgrade Compaction: 4 Sta/hr $\$33.62/\text{sta.} \times 8.3 \text{ sta} = \277.37

Embankment Placement & Compaction 306.a - Common: $\$0.90/\text{cy} \times 591 \text{ cy} = \531.90

Blading without ditch: $\$12.14/\text{station} \times 8.25 \text{ stations} = \100.16

Construct Truck Turnaround

Tractor: D7 with rippers 3 hr x $\$163.53/\text{hr} = \490.59

Excavator -Small (1.5 CY) 2 hr x $\$97.09/\text{hr} = \194.18

Subtotal: \$2,734.82

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Comment: Reconstruction of ex. temp route footprint (915lf) under T&E

Reconstruct Temp Route

Tractor: D7 with rippers 3 hr x $\$163.53/\text{hr} = \490.59

Subtotal: \$490.59

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$497.25/\text{acre} \times 1.20 \text{ acres} = \596.70

Includes Small Quantity Factor of 1.31

+ Seed Cost: $\$132.00/\text{acre} \times 1.20 \text{ acres} = \158.40

+ Mulch Cost: $\$320.00/\text{acre} \times 1.20 \text{ acres} = \384.00

Subtotal: \$1,139.10

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Rip Subgrade (Decom)

Tractor: D7 with rippers 7 hr x $\$163.53/\text{hr} = \$1,144.71$

Construct Water Bars (Decom)

Construct Water Bar 17 EA x $\$100.00/\text{EA} = \$1,700.00$

Construct Barricade (Decom)

Construct Barricade (Earthen or Log) 1 EA x $\$250.00/\text{EA} = \250.00

Subtotal: \$3,094.71

Mobilization:

Construction - 2.43% of total Costs = \$154.89

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$154.89

Total: \$9,532.84

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: TR 15-19A-S Road Name: Temp Route

Temporary Road: 0.30 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: 1.1 acres	\$3,611.73
300 Excavation: 1,692 cy	\$6,207.58
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 1.1 acres	\$1,044.17
Includes Small Quantity Factor of 1.31	
2100 RoadSide Brushing: 0.0 acres	\$0.00
8000 Miscellaneous:	\$2,731.18
Mobilization: Const. \$224.54 Surf. \$0.00.....	\$224.54
Quarry Development:	\$0.00

Total: \$13,819.20

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: TR 15-19A-S Road Name: Temp Route

Section 200 Clearing and Grubbing:

Clearing - Heavy (Clearing): Adjustment Factor (2.54)

31-45% (Avg Side Slopes): Adjustment Factor (0.2)

Scatter (Slash): Adjustment Factor (1)

20-40' (Avg Clearing Widths): Adjustment Factor (0.1)

Total Adjustment Factor: $2.54 + 0.2 + 1 + 0.1 = 3.84$

Base Cost/Acre: \$855.05 x Adjustment Factor: 3.84 x Total Acres: 1.1 = \$3,611.73

Subtotal: \$3,611.73

Section 300 Excavation:

Excavation - Common: $\$1.93/\text{cy} \times 1,692 \text{ cy} = \$3,265.56$

Subgrade Compaction: 4 Sta/hr $\$33.62/\text{sta.} \times 16.1 \text{ sta} = \539.60

Embankment Placement & Compaction 306.a - Common: $\$0.90/\text{cy} \times 1,692 \text{ cy} = \$1,522.80$

Blading without ditch: $\$12.14/\text{station} \times 16.05 \text{ stations} = \194.85

Construct Truck Turnaround

Tractor: D7 with rippers 3 hr x $\$163.53/\text{hr} = \490.59

Excavator -Small (1.5 CY) 2 hr x $\$97.09/\text{hr} = \194.18

Subtotal: \$6,207.58

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$497.25/\text{acre} \times 1.10 \text{ acres} = \546.97

Includes Small Quantity Factor of 1.31

+ Seed Cost: $\$132.00/\text{acre} \times 1.10 \text{ acres} = \145.20

+ Mulch Cost: $\$320.00/\text{acre} \times 1.10 \text{ acres} = \352.00

Subtotal: \$1,044.17

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Rip Subgrade (Decom)

Tractor: D7 with rippers 6 hr x $\$163.53/\text{hr} = \981.18

Construct Water Bars (Decom)

Construct Water Bar 15 EA x $\$100.00/\text{EA} = \$1,500.00$

Construct Barricade (Decom)

Construct Barricade (Earthen or Log) 1 EA x $\$250.00/\text{EA} = \250.00

Subtotal: \$2,731.18

Mobilization:

Construction - 3.52% of total Costs = \$224.54

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$224.54

Total: \$13,819.20

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: TR 19-06B Road Name: Temp Route

Temporary Road: 0.29 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: 0.8 acres	\$2,031.60
300 Excavation: 1,388 cy	\$5,308.36
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.8 acres	\$759.40
Includes Small Quantity Factor of 1.31	
2100 RoadSide Brushing: 0.0 acres	\$0.00
8000 Miscellaneous:	\$2,240.59
Mobilization: Const. \$170.78 Surf. \$0.00.....	\$170.78
Quarry Development:	\$0.00

Total: \$10,510.73

Notes:

Quantities shown are estimates only and not pay items.
 Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: TR 19-06B Road Name: Temp Route

Section 200 Clearing and Grubbing:

Clearing - Medium (Clearing): Adjustment Factor (1.67)

31-45% (Avg Side Slopes): Adjustment Factor (0.2)

Scatter (Slash): Adjustment Factor (1)

20-40' (Avg Clearing Widths): Adjustment Factor (0.1)

Total Adjustment Factor: $1.67 + 0.2 + 1 + 0.1 = 2.97$

Base Cost/Acre: \$855.05 x Adjustment Factor: 2.97 x Total Acres: 0.8 = \$2,031.60

Subtotal: \$2,031.60

Section 300 Excavation:

Excavation - Common: $\$1.93/\text{cy} \times 1,388 \text{ cy} = \$2,678.84$

Subgrade Compaction: 4 Sta/hr $\$33.62/\text{sta.} \times 15.2 \text{ sta} = \511.02

Embankment Placement & Compaction 306.a - Common: $\$0.90/\text{cy} \times 1,388 \text{ cy} = \$1,249.20$

Blading without ditch: $\$12.14/\text{station} \times 15.20 \text{ stations} = \184.53

Construct Truck Turnaround

Tractor: D7 with rippers 3 hr x $\$163.53/\text{hr} = \490.59

Excavator -Small (1.5 CY) 2 hr x $\$97.09/\text{hr} = \194.18

Subtotal: \$5,308.36

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$497.25/\text{acre} \times 0.80 \text{ acres} = \397.80

Includes Small Quantity Factor of 1.31

+ Seed Cost: $\$132.00/\text{acre} \times 0.80 \text{ acres} = \105.60

+ Mulch Cost: $\$320.00/\text{acre} \times 0.80 \text{ acres} = \256.00

Subtotal: \$759.40

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Rip Subgrade (Decom)

Tractor: D7 with rippers 3 hr x $\$163.53/\text{hr} = \490.59

Construct Water Bars (Decom)

Construct Water Bar 15 EA x $\$100.00/\text{EA} = \$1,500.00$

Construct Barricade (Decom)

Construct Barricade (Earthen or Log) 1 EA x $\$250.00/\text{EA} = \250.00

Subtotal: \$2,240.59

Mobilization:

Construction - 2.68% of total Costs = \$170.78

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$170.78

Total: \$10,510.73

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: TR 21-04 Road Name: Temp Route

Temporary Road: 0.22 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$684.77
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,063.71
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.7 acres	\$664.47
Includes Small Quantity Factor of 1.31	
2100 RoadSide Brushing: 0.0 acres	\$0.00
8000 Miscellaneous:	\$2,004.12
Mobilization: Const. \$72.96 Surf. \$0.00.....	\$72.96
Quarry Development:	\$0.00

Total: \$4,490.03

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: TR 21-04 Road Name: Temp Route

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Construct Truck Turnaround

Tractor: D7 with rippers 3 hr x \$163.53/hr = \$490.59

Excavator -Small (1.5 CY) 2 hr x \$97.09/hr = \$194.18

Subtotal: \$684.77

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Comment: Reconstruction of ex. temp route footprint under T&E

Reconstruct Temp Route

Tractor: D7 with rippers 2 hr x \$163.53/hr = \$327.06

Motor Grader 14M 5 hr x \$147.33/hr = \$736.65

Subtotal: \$1,063.71

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$497.25/acre x 0.70 acres = \$348.07

Includes Small Quantity Factor of 1.31

+ Seed Cost: \$132.00/acre x 0.70 acres = \$92.40

+ Mulch Cost: \$320.00/acre x 0.70 acres = \$224.00

Subtotal: \$664.47

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Construct Water Bars (Decom)

Construct Water Bar 11 EA x \$100.00/EA = \$1,100.00

Rip Subgrade (Decom)

Tractor: D7 with rippers 4 hr x \$163.53/hr = \$654.12

Construct Barricade (Decom)

Construct Barricade (Earthen or Log) 1 EA x \$250.00/EA = \$250.00

Subtotal: \$2,004.12

Mobilization:

Construction - 1.14% of total Costs = \$72.96

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$72.96

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$4,490.03

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: TR 25-11 Road Name: Temp Route

Temporary Road: 0.04 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: 0.1 acres	\$328.34
300 Excavation: 206 cy	\$685.94
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.1 acres	\$94.92
Includes Small Quantity Factor of 1.31	
2100 RoadSide Brushing: 0.0 acres	\$0.00
8000 Miscellaneous:	\$613.53
Mobilization: Const. \$28.45 Surf. \$0.00.....	\$28.45
Quarry Development:	\$0.00

Total: \$1,751.19

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: TR 25-11 Road Name: Temp Route

Section 200 Clearing and Grubbing:

Clearing - Heavy (Clearing): Adjustment Factor (2.54)

31-45% (Avg Side Slopes): Adjustment Factor (0.2)

Scatter (Slash): Adjustment Factor (1)

20-40' (Avg Clearing Widths): Adjustment Factor (0.1)

Total Adjustment Factor: $2.54 + 0.2 + 1 + 0.1 = 3.84$

Base Cost/Acre: \$855.05 x Adjustment Factor: 3.84 x Total Acres: 0.1 = \$328.34

Subtotal: \$328.34

Section 300 Excavation:

Excavation - Common: $\$1.93/\text{cy} \times 206 \text{ cy} = \397.58

Subgrade Compaction: 4 Sta/hr $\$33.62/\text{sta.} \times 2.3 \text{ sta} = \75.65

Embankment Placement & Compaction 306.a - Common: $\$0.90/\text{cy} \times 206 \text{ cy} = \185.40

Blading without ditch: $\$12.14/\text{station} \times 2.25 \text{ stations} = \27.32

Subtotal: \$685.94

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$497.25/\text{acre} \times 0.10 \text{ acres} = \49.72

Includes Small Quantity Factor of 1.31

+ Seed Cost: $\$132.00/\text{acre} \times 0.10 \text{ acres} = \13.20

+ Mulch Cost: $\$320.00/\text{acre} \times 0.10 \text{ acres} = \32.00

Subtotal: \$94.92

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Rip Subgrade (Decom)

Tractor: D7 with rippers 1 hr x $\$163.53/\text{hr} = \163.53

Construct Water Bars (Decom)

Construct Water Bar 2 EA x $\$100.00/\text{EA} = \200.00

Construct Barricade (Decom)

Construct Barricade (Earthen or Log) 1 EA x $\$250.00/\text{EA} = \250.00

Subtotal: \$613.53

Mobilization:

Construction - 0.45% of total Costs = \$28.45

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$28.45

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$1,751.19

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: TR 27-01 Road Name: Temp Route

Temporary Road: 0.15 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: 0.3 acres	\$749.02
300 Excavation: 306 cy	\$1,903.10
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.3 acres	\$284.77
Includes Small Quantity Factor of 1.31	
2100 RoadSide Brushing: 0.0 acres	\$0.00
8000 Miscellaneous:	\$1,277.06
Mobilization: Const. \$69.60 Surf. \$0.00.....	\$69.60
Quarry Development:	\$0.00

Total: \$4,283.56

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: TR 27-01 Road Name: Temp Route

Section 200 Clearing and Grubbing:

Clearing - Medium (Clearing): Adjustment Factor (1.67)

1-15% (Avg Side Slopes): Adjustment Factor (0)

Scatter (Slash): Adjustment Factor (1)

less than 20' (Avg Clearing Widths): Adjustment Factor (0.25)

Total Adjustment Factor: $1.67 + 0 + 1 + 0.25 = 2.92$

Base Cost/Acre: \$855.05 x Adjustment Factor: 2.92 x Total Acres: 0.3 = \$749.02

Subtotal: \$749.02

Section 300 Excavation:

Excavation - Common: $\$1.93/\text{cy} \times 306 \text{ cy} = \590.58

Subgrade Compaction: 4 Sta/hr $\$33.62/\text{sta.} \times 7.7 \text{ sta} = \258.87

Embankment Placement & Compaction 306.a - Common: $\$0.90/\text{cy} \times 306 \text{ cy} = \275.40

Blading without ditch: $\$12.14/\text{station} \times 7.70 \text{ stations} = \93.48

Construct Truck Turnaround

Tractor: D7 with rippers 3 hr x $\$163.53/\text{hr} = \490.59

Excavator -Small (1.5 CY) 2 hr x $\$97.09/\text{hr} = \194.18

Subtotal: \$1,903.10

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$497.25/\text{acre} \times 0.30 \text{ acres} = \149.17

Includes Small Quantity Factor of 1.31

+ Seed Cost: $\$132.00/\text{acre} \times 0.30 \text{ acres} = \39.60

+ Mulch Cost: $\$320.00/\text{acre} \times 0.30 \text{ acres} = \96.00

Subtotal: \$284.77

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Rip Subgrade (Decom)

Tractor: D7 with rippers 2 hr x $\$163.53/\text{hr} = \327.06

Construct Water Dips (Decom)

Construct Water Bar 7 EA x $\$100.00/\text{EA} = \700.00

Construct Barricade (Decom)

Construct Barricade (Earthen or Log) 1 EA x $\$250.00/\text{EA} = \250.00

Subtotal: \$1,277.06

Mobilization:

Construction - 1.09% of total Costs = \$69.60

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$69.60

Total: \$4,283.56

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number: TR 29-03 Road Name: Temp Route

Temporary Road: 0.07 mi 12 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: 0.2 acres	\$639.58
300 Excavation: 343 cy	\$1,827.06
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.2 acres	\$189.85
Includes Small Quantity Factor of 1.31	
2100 RoadSide Brushing: 0.0 acres	\$0.00
8000 Miscellaneous:	\$713.53
Mobilization: Const. \$55.66 Surf. \$0.00.....	\$55.66
Quarry Development:	\$0.00

Total: \$3,425.68

Notes:

Quantities shown are estimates only and not pay items.
 Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: TR 29-03 Road Name: Temp Route

Section 200 Clearing and Grubbing:

Clearing - Heavy (Clearing): Adjustment Factor (2.54)

16-30% (Avg Side Slopes): Adjustment Factor (0.1)

Scatter (Slash): Adjustment Factor (1)

20-40' (Avg Clearing Widths): Adjustment Factor (0.1)

Total Adjustment Factor: $2.54 + 0.1 + 1 + 0.1 = 3.74$

Base Cost/Acre: \$855.05 x Adjustment Factor: 3.74 x Total Acres: 0.2 = \$639.58

Subtotal: \$639.58

Section 300 Excavation:

Excavation - Common: $\$1.93/\text{cy} \times 343 \text{ cy} = \661.99

Subgrade Compaction: 4 Sta/hr $\$33.62/\text{sta.} \times 3.8 \text{ sta} = \126.08

Embankment Placement & Compaction 306.a - Common: $\$0.90/\text{cy} \times 343 \text{ cy} = \308.70

Blading without ditch: $\$12.14/\text{station} \times 3.75 \text{ stations} = \45.53

Construct Truck Turnaround

Tractor: D7 with rippers 3 hr x $\$163.53/\text{hr} = \490.59

Excavator -Small (1.5 CY) 2 hr x $\$97.09/\text{hr} = \194.18

Subtotal: \$1,827.06

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$497.25/\text{acre} \times 0.20 \text{ acres} = \99.45

Includes Small Quantity Factor of 1.31

+ Seed Cost: $\$132.00/\text{acre} \times 0.20 \text{ acres} = \26.40

+ Mulch Cost: $\$320.00/\text{acre} \times 0.20 \text{ acres} = \64.00

Subtotal: \$189.85

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Rip Subgrade (Decom)

Tractor: D7 with rippers 1 hr x $\$163.53/\text{hr} = \163.53

Construct Water Bars (Decom)

Construct Water Bar 3 EA x $\$100.00/\text{EA} = \300.00

Construct Barricade (Decom)

Construct Barricade (Earthen or Log) 1 EA x $\$250.00/\text{EA} = \250.00

Subtotal: \$713.53

Mobilization:

Construction - 0.87% of total Costs = \$55.66

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$55.66

Total: \$3,425.68

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Mobilization Costs - Construction and Surfacing

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Average Mobilization distance = 35 miles Factor = 0.75

Mobilization: Construction

Graders-all: 1 ea x (0.75 x \$483.00/ea + 80 mi x \$14.73/mi)= \$1,540.65
Rollers & Comp: 1 ea x (0.75 x \$483.00/ea + 80 mi x \$26.90/mi)= \$2,514.25
Tractors <= D7: 1 ea x (0.75 x \$672.00/ea + 10 mi x \$32.67/mi)= \$830.70
Water Truck: 1 ea x (0.75 x \$107.00/ea + 80 mi x \$4.48/mi)= \$438.65
Excavators(Small): 1 ea x (0.75 x \$483.00/ea + 10 mi x \$19.42/mi)= \$556.45
Equipment Washing: 2 ea x (\$250.00) /ea = \$500.00

Subtotal: \$6,380.70

Mobilization: Surfacing

Dump Truck<=15cy: 1ea x (0.75 x \$113.00/ea + 50 mi x \$4.69/mi)= \$319.25
Equipment Washing: 0 ea x (\$250.00) /ea = \$0.00

Subtotal: \$319.25

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Summary of Construction Quantities

T.S. Contract Name: Milk Dudds T.S. Sale Date: 09/22/2016

Road Number	Const	Improv	Renov	Decomm	Temp
31-8-20.1			10.56		
31-8-29.0(A-C)			57.02		
31-8-29.2			24.82		
31-8-30.0(A-B1)			111.41		
31-8-30.2(A-B)			40.13		
31-8-31.0(A-D)			371.71		
31-8-31.0(E-G)			83.95		
31-8-31.1(A-C)			189.55		
31-8-31.2(A)			8.98		
31-8-31.3			42.24		
31-8-31.4			8.98		
31-8-5.0(E-F)			47.52		
31-8-6.1(B)			7.92		
31-8-8.2(A-B)			75.50		
31-9-10.0(A-B)			89.76		
31-9-10.1			100.32		
31-9-11.0(A-C)			168.43		
31-9-11.5			4.22		
31-9-11.6			1.06		
31-9-12.0(A-B)			100.32		
31-9-12.2(A-B)			53.33		
31-9-12.4(A-B)			31.68		
31-9-13.3			12.67		
31-9-13.4			3.17		
31-9-15.0			16.90		
31-9-21.0(A-C)			58.08		
31-9-21.4(A-B)			15.31		
31-9-21.5			13.73		
31-9-25.0			24.29		
31-9-25.1(A)			60.19		
31-9-25.1(B-E)			208.56		
31-9-25.2			7.92		
31-9-25.3(A-C)			87.12		
31-9-25.4			5.81		
31-9-25.5			32.74		
31-9-26.0(A)			21.12		
31-9-26.3			29.57		
31-9-27.0(D)			85.54		
31-9-36.0			36.43		
32-8-10.2(A-B)			99.26		
32-8-11.0(A)			7.39		
32-8-3.1			5.28		
32-8-4.0(A-C)			309.94		
32-8-4.3			17.42		
32-8-4.4			3.70		
32-8-9.1(A-C)			62.30		
TR 07-02					6.35
TR 11-08A					3.50
TR 15-19A-N					17.40
TR 15-19A-S					16.05
TR 19-06B					15.20
TR 21-04					11.75
TR 25-11					2.25
TR 27-01					7.70
TR 29-03					3.75
Total Sta:			2,853.85		83.95

Continuation of Construction Quantities

200 Clearing and Grubbing	Clearing acres
31-8-20.1	0.0
31-8-29.0(A-C)	0.8
31-8-29.2	0.0
31-8-30.0(A-B1)	0.0
31-8-30.2(A-B)	0.0
31-8-31.0(A-D)	0.0
31-8-31.0(E-G)	0.0
31-8-31.1(A-C)	0.0
31-8-31.2(A)	0.0
31-8-31.3	0.0
31-8-31.4	0.0
31-8-5.0(E-F)	0.0
31-8-6.1(B)	0.0
31-8-8.2(A-B)	0.0
31-9-10.0(A-B)	0.0
31-9-10.1	0.0
31-9-11.0(A-C)	0.0
31-9-11.5	0.0
31-9-11.6	0.0
31-9-12.0(A-B)	0.0
31-9-12.2(A-B)	0.0
31-9-12.4(A-B)	0.0
31-9-13.3	0.0
31-9-13.4	0.0
31-9-15.0	0.0
31-9-21.0(A-C)	0.0
31-9-21.4(A-B)	0.0
31-9-21.5	0.0
31-9-25.0	0.0
31-9-25.1(A)	0.0
31-9-25.1(B-E)	0.0
31-9-25.2	0.0
31-9-25.3(A-C)	0.8
31-9-25.4	0.0
31-9-25.5	0.0
31-9-26.0(A)	0.0
31-9-26.3	0.0
31-9-27.0(D)	0.0
31-9-36.0	0.0
32-8-10.2(A-B)	0.0
32-8-11.0(A)	0.0
32-8-3.1	0.0
32-8-4.0(A-C)	0.0
32-8-4.3	0.0
32-8-4.4	0.0
32-8-9.1(A-C)	0.0
TR 07-02	0.3
TR 11-08A	0.2
TR 15-19A-N	0.6
TR 15-19A-S	1.1
TR 19-06B	0.8
TR 21-04	0.0
TR 25-11	0.1
TR 27-01	0.3
TR 29-03	0.2

Totals:

 5.2

Continuation of Construction Quantities

300 Excavation	Excav LCY.s	Haul sta-yds	Haul yd-mi
TR 07-02	343	0	0
TR 11-08A	189	0	0
TR 15-19A-N	591	0	0
TR 15-19A-S	1,692	0	0
TR 19-06B	1,388	0	0
TR 25-11	206	0	0
TR 27-01	306	0	0
TR 29-03	343	0	0
Totals:	5,058	0	0

Construct Truck Turnaround	TR 21-04	
Tractor: D7 with rippers		3 hr
Excavator -Small (1.5 CY)		2 hr
Construct Truck Turnaround	TR 15-19A-S	
Tractor: D7 with rippers		3 hr
Excavator -Small (1.5 CY)		2 hr
Construct Truck Turnaround	TR 15-19A-N	
Tractor: D7 with rippers		3 hr
Excavator -Small (1.5 CY)		2 hr
Construct Truck Turnaround	TR 27-01	
Tractor: D7 with rippers		3 hr
Excavator -Small (1.5 CY)		2 hr
Construct Truck Turnaround	TR 11-08A	
Tractor: D7 with rippers		3 hr
Excavator -Small (1.5 CY)		2 hr
Construct Truck Turnaround	TR 07-02	
Tractor: D7 with rippers		2 hr
Excavator -Small (1.5 CY)		1 hr
Construct Truck Turnaround	TR 19-06B	
Tractor: D7 with rippers		3 hr
Excavator -Small (1.5 CY)		2 hr
Construct Truck Turnaround	TR 29-03	
Tractor: D7 with rippers		3 hr
Excavator -Small (1.5 CY)		2 hr

400 Drainage

Road Number	Culvert	Polypipe	Downspout
31-8-30.0(A-B1)			
	178 lf	0 lf	0 lf
31-8-31.1(A-C)	62 lf	0 lf	0 lf
31-9-10.0(A-B)	120 lf	0 lf	0 lf
31-9-10.1	900 lf	0 lf	20 lf
31-9-11.0(A-C)	88 lf	0 lf	0 lf
31-9-12.0(A-B)	80 lf	0 lf	10 lf
31-9-25.1(A)	170 lf	0 lf	40 lf
31-9-25.2	40 lf	0 lf	0 lf
31-9-25.3(A-C)	236 lf	0 lf	0 lf
31-9-25.5	50 lf	0 lf	0 lf
31-9-36.0	215 lf	0 lf	0 lf
32-8-4.0(A-C)	348 lf	0 lf	20 lf
32-8-9.1(A-C)	40 lf	0 lf	0 lf
Total Drainage:	2,527 lf		90 lf

Cut Damaged CMP	31-9-10.0(A-B)	
General Laborer		1 hr
Crew Cab or 3/4 Ton Pickup		1 hr

Continuation of Construction Quantities

Deep Fill Excavation - MP 0.68	31-9-25.3(A-C)	
Excavator -Small (1.5 CY)		10 hr
Jack open crushed inlet	32-8-9.1(A-C)	
General Laborer		2 hr
Crew Cab or 3/4 Ton Pickup		2 hr
Jack open crushed outlet	32-8-9.1(A-C)	
General Laborer		2 hr
Crew Cab or 3/4 Ton Pickup		2 hr
Jack open smashed inlet	32-8-4.0(A-C)	
General Laborer		2 hr
Crew Cab or 3/4 Ton Pickup		2 hr
Jack open smashed inlet MP0.90	31-8-31.0(A-D)	
General Laborer		2 hr
Crew Cab or 3/4 Ton Pickup		2 hr
Jack open smashed inlet MP5.54	31-8-31.0(A-D)	
General Laborer		2 hr
Crew Cab or 3/4 Ton Pickup		2 hr

500 Renovation	Blade Miles	Slide cy
31-8-20.1	0.20	0
31-8-29.0(A-C)	1.08	0
31-8-29.2	0.47	0
31-8-30.0(A-B1)	2.11	0
31-8-30.2(A-B)	0.76	0
31-8-31.0(A-D)	7.04	0
31-8-31.0(E-G)	1.59	0
31-8-31.1(A-C)	3.59	0
31-8-31.2(A)	0.17	0
31-8-31.3	0.80	0
31-8-31.4	0.17	0
31-8-5.0(E-F)	0.90	0
31-8-6.1(B)	0.15	0
31-8-8.2(A-B)	1.43	0
31-9-10.0(A-B)	1.70	0
31-9-10.1	1.90	0
31-9-11.0(A-C)	3.19	0
31-9-11.5	0.08	0
31-9-11.6	0.02	0
31-9-12.0(A-B)	1.90	0
31-9-12.2(A-B)	1.01	0
31-9-12.4(A-B)	0.60	0
31-9-13.3	0.24	0
31-9-13.4	0.06	0
31-9-15.0	0.32	0
31-9-21.0(A-C)	1.10	0
31-9-21.4(A-B)	0.29	0
31-9-21.5	0.26	0
31-9-25.0	0.46	0
31-9-25.1(A)	1.14	0
31-9-25.1(B-E)	3.95	0
31-9-25.2	0.15	0
31-9-25.3(A-C)	1.65	0
31-9-25.4	0.11	0
31-9-25.5	0.62	0
31-9-26.0(A)	0.40	0
31-9-26.3	0.56	0
31-9-27.0(D)	1.62	0
31-9-36.0	0.69	0
32-8-10.2(A-B)	1.88	0
32-8-11.0(A)	0.14	0
32-8-3.1	0.10	0
32-8-4.0(A-C)	5.87	0

Continuation of Construction Quantities

32-8-4.3	0.33	0
32-8-4.4	0.07	0
32-8-9.1(A-C)	1.18	0
Totals:	54.05	0
Construct Armored Water Dip 31-8-5.0(E-F)		
Construct Armored Water Dip (Shape Rd)		1 EA
Construct Truck Turnaround 31-9-25.3(A-C)		
Tractor: D7 with rippers		2 hr
Excavator -Small (1.5 CY)		1 hr
Construct Truck Turnaround 31-9-25.5		
Tractor: D7 with rippers		2 hr
Excavator -Small (1.5 CY)		1 hr
Construct Truck Turnaround 31-8-29.0(A-C)		
Tractor: D7 with rippers		3 hr
Excavator -Small (1.5 CY)		2 hr
Fill Slope Failure - MP 1.12 32-8-9.1(A-C)		
Excavator -Small (1.5 CY)		3 hr
Tamper - handheld		3 hr
Fill slope repair - MP 2.78 31-8-31.1(A-C)		
Excavator -Small (1.5 CY)		2 hr
Tamper - handheld		2 hr
Fill slope repair - MP 2.85 31-8-31.1(A-C)		
Excavator -Small (1.5 CY)		3 hr
Tamper - handheld		3 hr
Fill slope repair -MP3.31-3.33 31-8-31.1(A-C)		
Excavator -Small (1.5 CY)		6 hr
Tamper - handheld		6 hr
Heavy Road Blading 31-8-29.0(A-C)		
Excavator -Small (1.5 CY)		3 hr
Tractor: D7 with rippers		6 hr
Heavy road blading/renovation 31-8-31.1(A-C)		
Tractor: D7 with rippers		2 hr
Excavator -Small (1.5 CY)		1 hr
Heavy Road Blading/Renovation 31-9-25.5		
Tractor: D7 with rippers		8 hr
Heavy Road Renovation 31-9-13.4		
Tractor: D7 with rippers		2 hr
Excavator -Small (1.5 CY)		1 hr
Heavy Road Renovation 31-9-25.3(A-C)		
Excavator -Small (1.5 CY)		6 hr
Tractor: D7 with rippers		12 hr
Reconstruct Ex. Water Bar 31-9-26.3		
Reconstruct Ex. Water Bar		10 EA
Reconstruct Ex. Water Dip 31-9-25.1(A)		
Reconstruct Ex. Water Dip		6 EA
Reconstruct Temp Route TR 21-04		
Tractor: D7 with rippers		2 hr
Motor Grader 14M		5 hr
Reconstruct Temp Route TR 15-19A-N		
Tractor: D7 with rippers		3 hr
Reshape Existing Water Bars 31-8-20.1		
Reshape Existing Water Bar		2 EA
Reshape Existing Water Bars 31-8-30.2(A-B)		
Reshape Existing Water Bar		7 EA
Water for Road Compaction 31-9-36.0		
Water Truck 3000 Gal		0.69 hr
Water for Road Compaction 31-8-31.0(E-G)		
Water Truck 3000 Gal		1.59 hr
Water for Road Compaction 31-8-31.0(A-D)		
Water Truck 3000 Gal		7.04 hr

Continuation of Construction Quantities

Water for Road Compaction	31-8-31.4	
Water Truck 3000 Gal		0.17 hr
Water for Road Compaction	31-8-31.3	
Water Truck 3000 Gal		0.80 hr
Water for Road Compaction	32-8-4.4	
Water Truck 3000 Gal		0.07 hr
Water for Road Compaction	31-8-31.2(A)	
Water Truck 3000 Gal		0.17 hr
Water for Road Compaction	31-8-31.1(A-C)	
Water Truck 3000 Gal		3.59 hr
Water for Road Compaction	31-8-29.2	
Water Truck 3000 Gal		0.47 hr
Water for Road Compaction	31-8-29.0(A-C)	
Water Truck 3000 Gal		1.08 hr
Water for Road Compaction	31-8-20.1	
Water Truck 3000 Gal		0.20 hr
Water for Road Compaction	31-8-30.2(A-B)	
Water Truck 3000 Gal		0.76 hr
Water for Road Compaction	32-8-4.0(A-C)	
Water Truck 3000 Gal		5.87 hr
Water for Road Compaction	32-8-3.1	
Water Truck 3000 Gal		0.10 hr
Water for Road Compaction	31-9-25.0	
Water Truck 3000 Gal		0.46 hr
Water for Road Compaction	32-8-9.1(A-C)	
Water Truck 3000 Gal		1.18 hr
Water for Road Compaction	31-8-6.1(B)	
Water Truck 3000 Gal		0.15 hr
Water for Road Compaction	32-8-4.3	
Water Truck 3000 Gal		0.33 hr
Water for Road Compaction	32-8-10.2(A-B)	
Water Truck 3000 Gal		1.88 hr
Water for Road Compaction	32-8-11.0(A)	
Water Truck 3000 Gal		0.14 hr
Water for Road Compaction	31-9-12.2(A-B)	
Water Truck 3000 Gal		1.01 hr
Water for Road Compaction	31-9-21.0(A-C)	
Water Truck 3000 Gal		1.10 hr
Water for Road Compaction	31-9-21.4(A-B)	
Water Truck 3000 Gal		0.29 hr
Water for Road Compaction	31-9-10.0(A-B)	
Water Truck 3000 Gal		1.70 hr
Water for Road Compaction	31-9-10.1	
Water Truck 3000 Gal		1.90 hr
Water for Road Compaction	31-9-27.0(D)	
Water Truck 3000 Gal		1.62 hr
Water for Road Compaction	31-9-15.0	
Water Truck 3000 Gal		0.32 hr
Water for Road Compaction	31-9-11.6	
Water Truck 3000 Gal		0.02 hr
Water for Road Compaction	31-9-11.5	
Water Truck 3000 Gal		0.08 hr
Water for Road Compaction	31-9-13.3	
Water Truck 3000 Gal		0.24 hr
Water for Road Compaction	31-9-11.0(A-C)	
Water Truck 3000 Gal		3.19 hr
Water for Road Compaction	31-9-25.1(A)	
Water Truck 3000 Gal		1.14 hr
Water for Road Compaction	31-8-8.2(A-B)	
Water Truck 3000 Gal		1.43 hr
Water for Road Compaction	31-9-12.0(A-B)	
Water Truck 3000 Gal		1.90 hr

Continuation of Construction Quantities

Water for Road Compaction	31-9-12.4(A-B)	
Water Truck 3000 Gal		0.60 hr
Water for Road Compaction	31-8-30.0(A-B1)	
Water Truck 3000 Gal		2.11 hr
Water for Road Compaction	31-9-25.3(A-C)	
Water Truck 3000 Gal		1.65 hr
Water for Road Compaction	31-9-26.0(A)	
Water Truck 3000 Gal		0.40 hr
Water for Road Compaction	31-9-25.5	
Water Truck 3000 Gal		0.62 hr
Water for Road Compaction	31-9-25.2	
Water Truck 3000 Gal		0.15 hr
Water for Road Construction	31-8-5.0(E-F)	
Water Truck 3000 Gal		0.90 hr

Surfacing (Loose Cubic Yards)

Note: Due to slight rounding differences between total LCY vs. subtotaled LCY,
Totals shown here may not be exactly as shown in the road summaries and worksheets.

Quarry Name: 1-1/2" minus Commercial Source

Commercial	Roadway	Turnouts	Other	
32-8-9.1(A-C)	0	0	9	9
32-8-4.0(A-C)	0	0	9	9
32-8-4.0(A-C)	0	0	9	9
32-8-4.0(A-C)	0	0	9	9
32-8-4.0(A-C)	0	0	9	9
32-8-4.0(A-C)	0	0	9	9
32-8-4.0(A-C)	0	0	9	9
32-8-4.0(A-C)	0	0	9	9
32-8-4.0(A-C)	0	0	9	9
32-8-4.0(A-C)	0	0	9	9
31-8-31.1(A-C)	0	0	9	9
31-8-31.1(A-C)	0	0	3	3
31-8-31.1(A-C)	0	0	9	9
31-9-36.0	0	0	9	9
31-9-36.0	0	0	9	9
31-9-36.0	0	0	9	9
31-9-25.1(A)	0	0	9	9
31-9-25.1(A)	0	0	9	9
31-9-25.1(A)	0	0	3	3
31-9-25.1(A)	0	0	9	9
31-9-25.5	0	0	3	3
31-9-25.5	0	0	9	9
31-9-25.3(A-C)	0	0	9	9
31-9-25.3(A-C)	0	0	14	14
31-9-25.3(A-C)	0	0	9	9
31-9-25.3(A-C)	0	0	9	9
31-9-25.3(A-C)	0	0	9	9
31-8-30.0(A-B1)	0	0	9	9
31-8-30.0(A-B1)	0	0	9	9
31-8-30.0(A-B1)	0	0	9	9
31-8-30.0(A-B1)	0	0	9	9
31-9-12.0(A-B)	0	0	9	9
31-9-12.0(A-B)	0	0	9	9
31-9-11.0(A-C)	0	0	9	9
31-9-11.0(A-C)	0	0	9	9
31-9-10.1	0	0	9	9
31-9-10.1	0	0	9	9
31-9-10.1	0	0	11	11
31-9-10.1	0	0	11	11
31-9-10.1	0	0	11	11
31-9-10.1	0	0	9	9

Continuation of Construction Quantities

31-9-10.1	0	0	11	11
31-9-10.1	0	0	11	11
31-9-10.1	0	0	11	11
31-9-10.1	0	0	9	9
31-9-10.1	0	0	9	9
31-9-10.1	0	0	9	9
31-9-10.1	0	0	9	9
31-9-10.1	0	0	9	9
31-9-10.1	0	0	9	9
31-9-10.0(A-B)	0	0	9	9
31-9-10.0(A-B)	0	0	9	9
31-9-10.0(A-B)	0	0	9	9
31-8-31.1(A-C)	0	0	3	3
Totals:	0	0	470	470

Quarry Name: 3" minus Commercial Source

Commercial	Roadway	Turnouts	Other	
31-8-5.0(E-F)	0	0	30	30
Totals:	0	0	30	30

1400 Slope Protection

Slope Protection Class 1	L.C.Y.s
31-8-30.0(A-B1)	30
31-8-31.1(A-C)	20
31-8-31.1(A-C)	5
31-8-31.1(A-C)	8
31-9-25.1(A)	20
31-9-25.1(A)	10
31-9-25.5	15
32-8-9.1(A-C)	8
Totals:	116

Slope Protection Class 4	L.C.Y.s
31-8-30.0(A-B1)	2
31-8-30.0(A-B1)	2
31-8-30.0(A-B1)	2
31-8-30.0(A-B1)	2
31-8-31.1(A-C)	2
31-8-31.1(A-C)	2
31-8-5.0(E-F)	3
31-9-10.0(A-B)	2
31-9-10.0(A-B)	2
31-9-10.0(A-B)	2
31-9-10.1	2
31-9-10.1	2
31-9-10.1	3
31-9-10.1	2
31-9-10.1	3
31-9-10.1	2
31-9-10.1	3
31-9-10.1	3
31-9-10.1	3
31-9-10.1	3
31-9-10.1	2
31-9-10.1	2
31-9-10.1	2
31-9-10.1	3
31-9-11.0(A-C)	2
31-9-11.0(A-C)	2
31-9-12.0(A-B)	2

Continuation of Construction Quantities

31-9-25.1(A)	3
31-9-25.1(A)	2
31-9-25.2	2
31-9-25.3(A-C)	2
31-9-25.3(A-C)	2
31-9-25.3(A-C)	3
31-9-25.3(A-C)	3
31-9-25.3(A-C)	2
31-9-25.5	2
31-9-36.0	3
31-9-36.0	2
31-9-36.0	2
32-8-4.0(A-C)	2
32-8-4.0(A-C)	2
32-8-4.0(A-C)	2
32-8-4.0(A-C)	2
32-8-4.0(A-C)	2
32-8-4.0(A-C)	2
32-8-4.0(A-C)	2
32-8-4.0(A-C)	2
32-8-9.1(A-C)	2

Totals: 105

1800 Soil stabilization - acres	Dry W/O Mulch	Dry/with Mulch	Hydro Mulch
TR 07-02	0.0	0.3	
TR 11-08A	0.0	0.2	
TR 15-19A-N	0.0	1.2	
TR 15-19A-S	0.0	1.1	
TR 19-06B	0.0	0.8	
TR 21-04	0.0	0.7	
TR 25-11	0.0	0.1	
TR 27-01	0.0	0.3	
TR 29-03	0.0	0.2	

Totals: 0.0 4.9 0.0
Small Quantity Factor of 1.31 used

2100 RoadSide Brushing	acres
31-8-20.1	0.2
31-8-29.0(A-C)	1.0
31-8-29.2	0.5
31-8-30.0(A-B1)	2.0
31-8-30.2(A-B)	0.7
31-8-31.0(A-D)	6.8
31-8-31.0(E-G)	1.5
31-8-31.1(A-C)	3.5
31-8-31.2(A)	0.2
31-8-31.3	0.8
31-8-31.4	0.2
31-8-5.0(E-F)	0.9
31-8-6.1(B)	0.1
31-8-8.2(A-B)	1.4
31-9-10.0(A-B)	1.6
31-9-10.1	1.8
31-9-11.0(A-C)	3.1
31-9-11.5	0.1
31-9-11.6	0.1
31-9-12.0(A-B)	1.8
31-9-12.2(A-B)	1.0

Continuation of Construction Quantities

31-9-12.4(A-B)	0.6
31-9-13.3	0.2
31-9-13.4	0.1
31-9-15.0	0.3
31-9-21.0(A-C)	1.1
31-9-21.4(A-B)	0.3
31-9-21.5	0.3
31-9-25.0	0.4
31-9-25.1(A)	1.1
31-9-25.1(B-E)	3.8
31-9-25.2	0.1
31-9-25.3(A-C)	1.6
31-9-25.4	0.1
31-9-25.5	0.6
31-9-26.0(A)	0.4
31-9-26.3	0.5
31-9-27.0(D)	1.6
31-9-36.0	0.7
32-8-10.2(A-B)	1.8
32-8-11.0(A)	0.1
32-8-3.1	0.1
32-8-4.0(A-C)	5.6
32-8-4.3	0.3
32-8-4.4	0.1
32-8-9.1(A-C)	1.1

Totals: 52.2

8000 Miscellaneous

Construct Barricade (Decom) TR 15-19A-N	
Construct Barricade (Earthen or Log)	1 EA
Construct Barricade (Decom) TR 21-04	
Construct Barricade (Earthen or Log)	1 EA
Construct Barricade (Decom) TR 15-19A-S	
Construct Barricade (Earthen or Log)	1 EA
Construct Barricade (Decom) TR 29-03	
Construct Barricade (Earthen or Log)	1 EA
Construct Barricade (Decom) TR 19-06B	
Construct Barricade (Earthen or Log)	1 EA
Construct Barricade (Decom) TR 07-02	
Construct Barricade (Earthen or Log)	1 EA
Construct Barricade (Decom) TR 27-01	
Construct Barricade (Earthen or Log)	1 EA
Construct Barricade (Decom) TR 11-08A	
Construct Barricade (Earthen or Log)	1 EA
Construct Barricade (Decom) TR 25-11	
Construct Barricade (Earthen or Log)	1 EA
Construct Truck Turnaround 31-9-25.3(A-C)	
Tractor: D5 with winch	2 hr
Excavator -Small (1.5 CY)	1 hr
Construct Truck Turnaround 31-9-21.0(A-C)	
Excavator -Small (1.5 CY)	1 hr
Tractor: D7 with rippers	2 hr
Construct Truck Turnaround 31-8-31.3	
Excavator -Small (1.5 CY)	1 hr
Tractor: D5 with winch	2 hr
Construct Truck Turnaround 31-9-10.0(A-B)	
Tractor: D5 with winch	2 hr
Excavator -Small (1.5 CY)	1 hr
Construct Water Bars (Decom) TR 19-06B	
Construct Water Bar	15 EA

Continuation of Construction Quantities

Construct Water Bars (Decom)	TR 29-03	
Construct Water Bar		3 EA
Construct Water Bars (Decom)	TR 25-11	
Construct Water Bar		2 EA
Construct Water Bars (Decom)	TR 15-19A-N	
Construct Water Bar		17 EA
Construct Water Bars (Decom)	TR 07-02	
Construct Water Bar		6 EA
Construct Water Bars (Decom)	TR 11-08A	
Construct Water Bar		3 EA
Construct Water Bars (Decom)	TR 21-04	
Construct Water Bar		11 EA
Construct Water Bars (Decom)	TR 15-19A-S	
Construct Water Bar		15 EA
Construct Water Dips (Decom)	TR 27-01	
Construct Water Bar		7 EA
Install Hay Bale Check Dam	32-8-10.2(A-B)	
Install Hay Bale Check Dam(s)		3 EA
Install Hay Bale Check Dam(s)	31-9-10.1	
Install Hay Bale Check Dam(s)		10 EA
Install Hay Bale Check Dam(s)	31-9-27.0(D)	
Install Hay Bale Check Dam(s)		1 EA
Install Hay Bale Check Dam(s)	31-9-11.0(A-C)	
Install Hay Bale Check Dam(s)		2 EA
Install Hay Bale Check Dam(s)	31-9-25.3(A-C)	
Install Hay Bale Check Dam(s)		8 EA
Install Hay Bale Check Dam(s)	31-9-12.0(A-B)	
Install Hay Bale Check Dam(s)		5 EA
Install Hay Bale Check Dam(s)	31-9-13.3	
Install Hay Bale Check Dam(s)		1 EA
Install Hay Bale Check Dam(s)	31-9-12.4(A-B)	
Install Hay Bale Check Dam(s)		1 EA
Install Hay Bale Check Dam(s)	32-8-9.1(A-C)	
Install Hay Bale Check Dam(s)		1 EA
Install Hay Bale Check Dam(s)	31-8-6.1(B)	
Install Hay Bale Check Dam(s)		1 EA
Install Hay Bale Check Dam(s)	31-9-25.5	
Install Hay Bale Check Dam(s)		2 EA
Install Hay Bale Check Dam(s)	31-8-31.0(A-D)	
Install Hay Bale Check Dam(s)		8 EA
Install Hay Bale Check Dam(s)	31-9-25.1(A)	
Install Hay Bale Check Dam(s)		4 EA
Install Hay Bale Check Dam(s)	31-8-31.3	
Install Hay Bale Check Dam(s)		4 EA
Install Hay Bale Check Dam(s)	31-9-36.0	
Install Hay Bale Check Dam(s)		3 EA
Install Hay Bale Check Dam(s)	31-8-31.0(E-G)	
Install Hay Bale Check Dam(s)		2 EA
Install Hay Bale Check Dam(s)	31-8-30.0(A-B1)	
Install Hay Bale Check Dam(s)		6 EA
Install Hay Bale Check Dam(s)	31-8-31.1(A-C)	
Install Hay Bale Check Dam(s)		5 EA
Install Hay Bale Check Dam(s)	31-9-25.1(B-E)	
Install Hay Bale Check Dam(s)		3 EA
Install Hay Bale Check Dams	32-8-4.0(A-C)	
Install Hay Bale Check Dam(s)		6 EA
Reconstruct Barricade	31-8-30.2(A-B)	
Reconstruct Barricade		1 EA
Reconstruct Barricade	31-9-12.4(A-B)	
Reconstruct Barricade		1 EA
Reconstruct Barricade	31-9-10.0(A-B)	
Reconstruct Barricade		1 EA

Continuation of Construction Quantities

Reconstruct Truck Turnaround	31-9-10.1	
Tractor: D5 with winch		2 hr
Excavator -Small (1.5 CY)		1 hr
Reconstruct Water Bar	31-9-26.3	
Reconstruct water bar after completion of haul		4 EA
Remove Ex Earthen Berm	31-8-8.2(A-B)	
Tractor: D5 with winch		2 hr
Motor Grader 12M		1 hr
Remove Existing Barricade	31-9-12.4(A-B)	
Remove Existing Barricade		1 EA
Remove Existing Barricade	31-9-10.0(A-B)	
Remove Existing Barricade		1 EA
Remove Existing Barricade	31-8-30.2(A-B)	
Remove Existing Barricade		1 EA
Remove Existing Gate MP 0.27	31-9-10.1	
General Laborer		2 hr
Backhoe		2 hr
Rip Subgrade (Decom)	TR 19-06B	
Tractor: D7 with rippers		3 hr
Rip Subgrade (Decom)	TR 21-04	
Tractor: D7 with rippers		4 hr
Rip Subgrade (Decom)	TR 15-19A-S	
Tractor: D7 with rippers		6 hr
Rip Subgrade (Decom)	TR 15-19A-N	
Tractor: D7 with rippers		7 hr
Rip Subgrade (Decom)	TR 11-08A	
Tractor: D7 with rippers		2 hr
Rip Subgrade (Decom)	TR 07-02	
Tractor: D7 with rippers		3 hr
Rip Subgrade (Decom)	TR 25-11	
Tractor: D7 with rippers		1 hr
Rip Subgrade (Decom)	TR 29-03	
Tractor: D7 with rippers		1 hr
Rip Subgrade (Decom)	TR 27-01	
Tractor: D7 with rippers		2 hr

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DEPOSIT AND BID FOR ☒ **TIMBER***
☐ **VEGETATIVE RESOURCE**
(Other Than Timber)

DxP SCALE SALE

Name of Bidder
Tract Number ORM07-TS-2016.0013
Sale Name Milk Dudds
Sale Notice (dated) 9/22/2016
BLM District Medford

<input type="checkbox"/> Sealed Bid for Sealed Bid Sale	<input checked="" type="checkbox"/> Written Bid for Oral Auction Sale
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In response to the above dated Sale Notice, the required deposit and bid are hereby submitted for the purchase of designated timber/vegetative resource on the tract specified above.

Required bid deposited is \$ **80,200.00** and is enclosed in the form of ☐ cash ☐ money order ☐ bank draft ☐ cashier's check ☐ certified check ☐ bid bond of corporate surety on approved list of the United States Treasury ☐ guaranteed remittance approved by the authorized officer.

IT IS AGREED That the bid deposit shall be retained by the United States as liquidated damages if the bid is accepted and the undersigned fails to execute and return the contract, together with any required performance bond and any required payment within 30 days after the contract is received by the successful bidder. It is understood that no bid for less than the appraised price on a unit basis per species will be considered. If the bid is rejected the deposit will be returned.

BID SCHEDULE – LUMP SUM SALE

NOTE: Bidders should carefully check computations in completing the Bid Schedule

BID SUBMITTED					ORAL BID MADE	
PRODUCT SPECIES	UNIT	ESTIMATED VOLUME OR QUANTITY (MBF)	UNIT PRICE	TOTAL VALUE	UNIT PRICE	TOTAL VALUE
Douglas-fir	MBF	3,470	X \$99.00	= \$343,530.00	X	=
White Fir	MBF	415	X \$36.50	= \$15,147.50	X	=
Ponderosa Pine	MBF	349	X \$25.90	= \$9,039.10	X	=
Western Hemlock	MBF	311	X \$43.50	= \$13,528.50	X	=
Incense-cedar	MBF	202	X \$41.30	= \$8,342.60	X	=
Western red-cedar	MBF	24	X \$455.50	= \$10,932.00	X	=
Total		4,771		= \$400,519.70	X	=
TOTAL PURCHASE PRICE						

(Continued on reverse)

If sale contract is executed, undersigned is liable for total purchase price even though the quantity cut, removed, or designated for taking is more or less than the total estimated volume or quantity shown above. Undersigned certifies bid was arrived at by bidder or offeror independently, and was tendered without collusion with any other bidder or offeror. In submitting or confirming this bid, undersigned agrees to the foregoing provisions, applicable regulations, and certifies that he is authorized to act as, or on behalf of, the bidder.

Bid submitted on *(date)*

(Check appropriate box, sign in ink, and complete the following)

<input type="checkbox"/>	Signature, if firm is individually owned	Name of firm <i>(type or print)</i>
<input type="checkbox"/>	Signatures, if firm is a partnership or L.L.C.	Business address, include zip code <i>(type or print)</i>
<input type="checkbox"/>	Corporation organized under the state laws of	<i>(To be completed following oral bidding)</i>
Signature of Authorized Corporate Signing Officer		I HEREBY confirm the above oral bid By <i>(signature)</i>
Title		Date
Submit bid, in <i>duplicate</i> , to qualify for either an oral auction or sealed bid sale together with the required bid deposit made payable to the Department of the Interior – BLM.		Sealed Bid – Send to District Manager, who issued the sale notice, in a sealed envelope marked on the outside: (1) “Bid for Timber” (2) Vegetative Resource Other Than Timber (3) Time bids are to be opened (4) Legal description
Oral Auction – Submit to Sales Supervisor prior to closing of qualifying period for tract.		

NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 38 FR 6280 and 43 CFR 5442.1

PURPOSE: To qualify an oral auction bidder, and then if successful, to bind bidder to certain contract conditions.

ROUTINE USE: To determine that an individual is qualified to participate in oral auction bidding, and, as surety that bidder will fulfill contract requirements.

EFFECT OF NOT PROVIDING INFORMATION: Filing this deposit and bid information is necessary only when an individual wishes to participate in a sealed or auction bid sale for timber or vegetative resources.

INSTRUCTIONS TO BIDDERS

1. **AUTHORITY** – Timber located on the revested Oregon and California Railroad Grant Lands and on the reconveyed Coos Bay Wagon Road Grant Lands is administered and sold pursuant to authority of the Act of August 28, 1937 (50 Stat. 874; 43 U.S.C. 1181a); timber located on other lands and other vegetative resources on all public lands of the United States under jurisdiction of the Bureau of Land Management are administered and sold pursuant to authority of the Act of July 31, 1947 (61 Stat. 681), as amended, by the Act of July 23, 1955 (69 Stat. 367; 30 U.S.C. 601 et. seq.). Regulations of the Secretary of the Interior governing sale of timber are codified in 43 CFR Group 5400.

2. **QUALIFICATIONS OF BIDDERS** – A bidder for sale of timber/vegetative resources must be either (a) a citizen of the United States, (b) a partnership composed wholly of such citizens, (c) an unincorporated association composed wholly of such citizens, or (d) a corporation authorized to transact business in the State in which the timber/vegetative resource is located.

3. **INSPECTION OF TIMBER/VEGETATIVE RESOURCES** – Bidder is invited, urged, and cautioned to inspect the timber/vegetative resource prior to submitting a bid. By executing the timber/vegetative resource sale contract, bidder warrants that the contract is accepted on the basis of his examination and inspection of the timber/vegetative resource and his opinion of its value.

4. **DISCLAIMER OF WARRANTY** – Government expressly disclaims any warranty of the fitness of the designated timber/vegetative resource for any purpose of the bidder; all timber/vegetative resources are to be sold “As Is” without any warranty of merchantability by Government. Any warranty as to the quantity or quality of timber/vegetative resource to be sold is expressly disclaimed by Government.

5. **BIDS** – Sealed or written bids for not less than the advertised appraised price, per timber/vegetative resource must be submitted in duplicate to the District Manager who issued *Timber/Vegetative Resource Sale Notice*.

(a) **Sealed Bid Sales** – Bids will be received until time for opening which is set out in the Notice. Enclose both copies of bid with required bid deposit in a sealed envelope marked on the outside *Bid for Timber/Vegetative Resource*, time bid is to be opened, tract number, and legal description of land on which timber/vegetative resource is located. In event of a tie, the high bidder shall be determined by lot from among those who submitted the tie bids.

(b) **Auction Sales** – Submission of the required bid deposit and a written bid is required to qualify for oral bidding. Oral bidding shall begin from the highest written bid. No oral bid will be considered which is not higher than the preceding bid. In the event there is a tie in high written bids, and no oral bidding occurs, the bidder who was the first to submit his bid deposit and written bid shall be declared the high bidder. If the officer conducting the sale cannot determine who made the first submission of high tie written bids, the high bidder shall be determined by lot. High bidder must confirm his bid, in writing, immediately upon being declared high bidder.

(c) Except as otherwise provided in 43 CFR 5442.2, bids will not be considered in resale of timber/vegetative resource remaining from an uncompleted contract from any person or affiliate of such person who failed to complete the original contract because of (1) cancellation for the purchaser's breach or (2) through failure to complete payment by expiration date.

(d) When it is in the interest of the Government to do so, it may reject any and all bids and may waive minor deficiencies in bids or in sale advertisement.

6. **BID FORMS** – All sealed, written bids, and confirmation of oral bids shall be submitted on forms provided by Government.

(a) **Lump Sum Sales** – Bids shall specify (1) Bureau of Land Management estimated volume, (2) price per unit, and (3) total purchase price. Estimated volume and price per unit are to be used for administrative and appraisal purposes only. Upon award of contract, high bidder shall be liable for total purchase price, including any adjustment which may be made as a result of reappraisal if an extension of time is granted, even though quantity of timber/vegetative resource actually cut, removed, or designated for taking is more or less than the estimated volume or quantity listed.

(b) **Timber Scale Sales** – Bids must state price per thousand board feet that will be paid for each species. High bidder will be determined by multiplying bid price per thousand board feet per species by Bureau of Land Management estimate of volume of each species. Purchaser shall be liable for purchase price of all merchantable timber sold under contract even though all such timber is not actually cut

and removed prior to expiration of time for cutting and removal as specified in contract.*

7. **BID DEPOSIT** – All bidders must make a deposit of not less than the amount specified in the *Timber/Vegetative Resource Notice*. Deposit may be in the form of cash, money orders, bank drafts, cashiers or certified checks made payable to the Department of the Interior – BLM, bid bonds of a corporate surety shown on the approved list of the United States Treasury Department*, or any approved guaranteed remittance approved by the Authorized Officer. Upon conclusion of bidding, the bid deposit of all bidders, except high bidder, will be returned. The cash deposit of the successful bidder may be applied toward the required sale deposit and/or the purchase price. Cash not applied to the sale deposit or the purchase price, or a corporate surety bid bond, will be returned at the time the contract is signed by the Government.

8. **AWARD OF CONTRACT** – Government may require high bidder to furnish such information as is necessary to determine the ability of bidder to perform the obligation of contract. Contract will be awarded to high bidder, unless he is not qualified or responsible or unless all bids are rejected. If high bidder is not qualified or responsible or fails to sign and return the contract together with required performance bond and any required payment, contract may be offered and awarded to the highest bidders qualified, responsible, and willing to accept the contract.

9. **TIMBER/VEGETATIVE RESOURCE SALE CONTRACT** – To be executed by purchaser, has been prepared by Government, and may be examined in the District Manager's office.

10. PERFORMANCE BOND -

(a) A performance bond in an amount of not less than 20 percent of total purchase price is required, but the amount of the bond shall not be in excess of \$500,000, except when the purchaser opts to increase the minimum bond to permit cutting prior to payment as provided in 43 CFR 5451.2, or in the event the purchaser is a holder of an unresolved default the bond may be increased as provided in 43 CFR 5450.1(b). Performance bond may be (1) bond of a corporate surety shown on approval list issued by the United States Treasury Department and executed on an approved standard form, (2) personal surety bond executed on an approved standard form if Government determines principals and bondsman are capable of carrying out the terms of the contract, (3) cash bonds, (4) negotiable securities of the United States, or (5) any guaranteed remittance approved by the Authorized Officer.

(b) If purchaser elects to cut timber without skidding or yarding it to a loading point or removing it prior to the payment of the second or subsequent installments, Government shall require an increase in amount of performance bond initially required by an amount equal to the value of timber to be cut. Such increase must be on a bond rider form supplied by Government and be approved, in writing, by Government prior to cutting timber covered by the bond increase. This increased amount of bond shall be used to assure payment for timber cut in advance of payment.*

11. **PAYMENT BOND** – If purchaser elects to (a) cut and remove timber, or (b) remove timber already cut which has been secured by an increased performance bond as provided in paragraph 10(b) above, before payment of the second or subsequent installments, Government shall require a payment bond on a form supplied by Government. Purchaser shall obtain written approval from Government of payment bond prior to cutting and/or removal of timber covered by the bond. Payment bond shall be used to assure payment for timber cut and/or removed in advance of payment.*

12. **PAYMENT OF PURCHASE PRICE** – For sales of \$500 or more, Government may allow payment by installments. Except as discussed in paragraphs 10 and 11 above, no part of any timber/vegetative resource sold may be severed, cut, or removed unless advance payment has been made as provided in contract.

13. **LIQUIDATED DAMAGES** – Within thirty (30) days from receipt of *Timber/Vegetative Resource Sale Contract*, the successful bidder shall sign contract and return it to Government, together with required bond and any required payment. If successful bidder fails to comply within the stipulated time, his bid deposit shall be retained by Government as liquidated damages.

14. **NINETY-DAY SALES** – If no bid is received within time specified in the advertisement of sale and if Government determines that there has been no significant rise in the market value of timber/vegetative resource, it may, in its discretion, keep the sale open, not to exceed ninety (90) days.

*Applies to Timber Only

15. **UNAUTHORIZED USE OF GOVERNMENT PROPERTY** – A sale may be refused to high bidder who has been notified that he has failed to make satisfactory arrangements for payment of damages resulting from unauthorized use of, or injury to, property of the United States.

16. **EQUAL OPPORTUNITY CLAUSE** – This contract is subject to the provisions of Executive Order No. 11246 of September 24, 1965, as amended, which sets forth the nondiscrimination clauses. Copies of this order may be obtained from the District Manager. 43 CFR 60-1.7(b) requires that the Equal Opportunity *Compliance Report Certification* will be completed by prospective contractors. Certification may be obtained from District Manager.

17. **LOG EXPORT** – All timber offered for sale except as noted in the *Timber Sale Notice* is restricted from export from the United States in the form of unprocessed timber and cannot be used as a substitute for exported private timber. For the purpose of this contract, unprocessed timber is defined as: (1) any logs except those of utility grade or below, such as sawlogs, peeler logs, and pulp logs; (2) cants or squares to be subsequently remanufactured exceeding eight and three quarters (8-3/4) inches in thickness; (3) split or round bolts or other roundwood not processed to standards and specifications suitable for end product use; or (4) western

red cedar lumber which does not meet lumber of American Lumber Standards Grades of Number 3 dimension or better, or Pacific Lumber Inspection Bureau R-List Grades of Number 3 common or better. Timber manufactured into the following will be considered processed: (1) lumber and construction timbers, regardless of size, manufactured to standards and specifications suitable for end product uses; (2) chips, pulp and pulp products; (3) green or dry veneer and plywood; (4) poles and piling cut or treated for use as such; (5) cants, squares, and lumber cut for remanufacture of eight and three quarters (8-3/4) inches in thickness or less; or (6) shakes and shingles. In event purchaser wishes to sell any or all of timber restricted from export in the form of unprocessed timber, the buyer, exchanges, or recipient shall be required to comply with contractual provisions relating to “*unprocessed timber*”. Special reporting, branding and painting of logs may be included in contract provisions.*

18. **DETAILED INFORMATION** – Detailed information concerning contract provisions, bid, performance bond forms, tract location maps, and access conditions may be obtained from the District Manager. All persons interested in bidding on the products listed are encouraged to familiarize themselves with all such detailed information.