COOS BAY SALE NO. ORC04-TS-2021.0031
PREACHER MAN

COOS BAY DISTRICT OFFICE
MYRTLEWOOD FIELD OFFICE

SALE DATE: May 28, 2021
SALE TIME: 10:00 a.m.

SALE NO.: ORC04-TS-2021.0031, PREACHER MAN

COOS COUNTY: OREGON: O&C: SEALED BID AUCTION: Bid deposit required: $203,300.00

All timber designated for cutting on: T. 29 S., R. 9 W., Sec. 21, W1/2NE1/4, NW1/4, N1/2SW1/4, NW1/4SE1/4, Sec. 31, SW1/4NE1/4, NW1/4NW1/4, SE1/4NW1/4.

Approx. No. Merch. Trees	Est. Vol. MBF 32' Log	Species	Est. Vol. MBF 16' Log	Appraised Price Per MBF	Estimated Vol. Times Appraised Price
6,695	3,758	Douglas-fir	4,727	$341.20	$1,612,852.40
5,791	1,766	western hemlock	2,198	$181.90	$399,816.20
1,708	100	Port-Orford cedar	133	$140.70	$18,713.10
90	8	red alder	10	$159.80	$1,598.00
14,284	**5,632**	**Total**	**7,068**		**$2,032,979.70**

SEALED BIDS WILL BE RECIVED BY THE DISTRICT MANAGER, OR DESIGANTED REPRESENTATIVE, AT THE BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OFFICE, 1300 AIRPORT LANE, NORTH BEND, OREGON 97459 BY 10:00 AM PACIFIC TIME, ON FRIDAY, MAY 28, 2021. SEALED BIDS SHOULD BE CLEARLY MARKED, "ATTN: SEALED BID PREACHER MAN TIMBER SALE."

BIDDERS MUST SUBMIT A WRITTEN BID ON FORM 5440-9 ON A PRICE PER UNIT (MBF) OF THE DOUGLAS-FIR VOLUME. THE BID MUST NOT BE LESS THAN THE APPRAISED PRICE OF $341.20/MBF. ALL OTHER SPECIES WILL BE SOLD AND THE APPRAISED PRICE PER UNIT (MBF).

THIS TIMBER SALE HAS BEEN CRUISED, APPRAISED, AND ADVERTISED BASED UPON SCRIBNER BOARD FOOT MEASURE (16 FOOT LOG). THE MINIMUM BID FIGURES SHOWN BY SPECIES ARE DOLLARS PER THOUSAND BOARD FEET (MBF). SCRIBNER BOARD FOOT VOLUMES (32 FOOT LOG) BY SPECIES ARE DISPLAYED FOR INFORMATIONAL PURPOSES.

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

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

CRUISE INFORMATION: With respect to merchantable trees of all species in all cruise strata: the average DBHOB is 19.4 inches; the average gross merchantable log contains 116 bd. ft.; the total gross volume is approximately 7,439 MBF; and 95% recovery is expected. The average DBHOB for Douglas-fir is 22.4; and the average gross merchantable log contains 134 bd. ft. None of the total sale volume is salvage material. The following cruise methods were used for volume determination.

VP: Douglas-fir, western hemlock, Port-Orford cedar, and red alder were calculated using the VP system within Units 1- 4 for a total of 190 plots to select sixty-nine (69) Douglas-fir, forty (40) western hemlock, seven (7) Port-Orford cedar, and one (1) red alder sample trees. The sample trees were cruised, and their volumes computed using form class tables for estimating board foot volume of trees in 16-foot logs. The volumes are then expanded to a total sale volume.

3P Cruise: Douglas-fir and western hemlock within Units 1-4 in the right of ways were calculated using the 3P system to select fifteen (15) Douglas-fir and sixteen (16) western hemlock sample trees. The sample trees were cruised, and their volumes computed using form class tables for estimating board foot volume of trees in 16-foot logs.

100% CRUISE: Volumes for Port-Orford cedar and red alder were based on a 100% cruise in the right-of-ways using form class tables for estimating board foot volume of trees in 16-foot logs.

CUTTING AREA: Four (4) units totaling approximately one hundred fifty-three (153) acres must be regeneration cut and three (3) acres of right-of-way must be cleared. Acreage data was collected using a Trimble Geo R1 Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

ACCESS: Access to the sale area is provided via: United States highways, privately controlled roads, and Government controlled roads.

DIRECTIONS TO SALE AREA: From Coos Bay, Oregon, travel south on Highway 101 for approximately five miles. Take slight left onto OR-42 E and travel 48.8 miles. Turn left onto Lower Signal Tree Road (29-9-36.0). Travel approximately 8.25 miles and take left onto the 29-9-21.0 road. Refer to Exhibits A and A-1 for unit locations.

ROAD USE, ROCKWEAR & MAINTENANCE: Refer to Exhibit E Summary attached. Operator maintenance required on 6.33 miles of road.

Rockwear and Road Maintenance Fees Payable to BLM: $73,756.35
Road Use, Rockwear & Road Maintenance Fees Payable to Hancock Forest Management: $0.00

ROAD CONSTRUCTION: Road Construction estimates include the following:
New Construction:
32.28 stations
Road Renovation:
334.33 stations
Road Improvement:
16.20 stations

Culverts:
- 18" CPP: 74 Lineal Feet
- 12" CMP: 40 Lineal Feet

Aggregate (All quantities are truck measurement):
- 6" minus hard rock: 1100 L.C.Y.
- 3" minus hard rock: 2543 L.C.Y.
- 3" minus maintenance hard rock: 100 L.C.Y.
- 1 ½" minus hard rock: 1413 L.C.Y.
- 1 ½" minus maintenance hard rock: 590 L.C.Y.
- ¾" minus culvert bedding: 20 L.C.Y.
- Rip Rap: 40 L.C.Y.

Soil Stabilization:
- Dry Seed, fertilizer, & mulch: 4.2 acres (Pre-haul)

Roadside Brushing:
- 334.33 stations

Road Decommissioning:
- Rip Rap Boulder Barrier: 1

DURATION OF CONTRACT: Shall be 36 months for cutting and removal of timber. The contract contains special stipulations regarding logging, road construction, road use and maintenance, fire prevention, hazard reduction and logging residue reduction, log export and substitution, optional scale check of lump sum sales, equal opportunity in employment, cultural resource protection, and sensitive, threatened, or endangered plants or animals.

SPECIAL PROVISIONS: This list is not comprehensive. Please review the entire contract.

1. A license agreement is required with Hancock Forest Management, RWA- C-344 & 048. A performance bond in the amount of $10,000 and comprehensive liability insurance will be required for this license agreement.
2. All equipment must be washed prior to entry into the contract area to control the spread of noxious weeds and Port-Orford cedar root disease.
3. All roads are designed for all-season haul.
4. No trees shall be felled into Reserve Areas, as shown on the Exhibit A. Line pulling, jacking, or other mechanical devices shall be used as necessary.
5. All trees three (3) inches DBHOB or larger and/or twenty-five (25) feet or taller designated for cutting shall be felled concurrently with all other trees designated for cutting.
6. Lift trees and intermediate support trees may be necessary.
7. One-end suspension is required in Regeneration Cut Areas.
8. Full suspension is required over any stream channels. Trees cut for yarding corridors within the Reserve Area adjacent to Stream Channels shall be felled toward the channel and left on site.
9. A forwarder, log loader, tractor, or rubber tire skidder may be used to yard logs within the Ground-Based Yarding areas. Ground-based equipment are generally restricted to areas with slopes less than 35% and soil moistures less than 25%.
10. Purchaser shall verify all landing locations with an Authorized Officer if not previously identified on Exhibit A. Required clearing limits shall be staked prior to construction.
11. Purchaser shall shape and restore all landings to a natural contour to prevent erosion.

12. Purchaser shall seed, mulch, and fertilize all landings, road cuts and fills, and waste areas.
13. Soil stabilization, water bar construction, road decommissioning, and road barrier construction shall be conducted after the completion of harvest activities but no later than October 15 of the same year.
14. BLM will assume supervisory responsibility for disposal of logging slash.
15. Machine piling of logging slash is required at all landing areas, along all roads, and within Machine Pile Areas.
16. Slashing and hand piling may be required in areas not designated for Machine Piling. Areas to be piled will be identified by the Authorized Officer.
17. Personnel supplied by the Purchaser for machine or landing pile burning shall include eight (8) people qualified at a minimum, as Type-II Firefighters (FFT2), (National Wildfire Coordinating Group (NWCG) Wildland Fire Qualifications System guide, PMS 310-1).
18. After yarding is completed, the purchaser shall top one hundred thirty-one (131) and girdle thirty (33) conifer trees marked with orange painted “S.”
19. The Purchaser shall provide signage to control traffic when conducting logging and road construction operations adjacent to and/or on the 29-9-21.0 and the 29-9-31.1 roads.
20. To minimize the risk of attracting predators to activity areas, all garbage (especially food products) will be contained and removed daily from the contract area pursuant to Section 27 of the contract.
21. Spill kits will be required to be on site during road construction and logging.

Seasonal Restriction Matrix ORC04-TS-2021.0031 PREACHERMAN Timber Sale Prospectus

***Restricted periods are Shaded; Conditional periods are hatched; See Exhibit A and C for portions of units/haul route affected.**

Sale Area	Activity	Jan		Feb		Mar		Apr		May		June		July		Aug		Sept		Oct		Nov		Dec	
		1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
General All Units	Road Construction, Renovation, or Improvement Work[1]																								
	Hauling[1]																								
	Hauling on approved rocked roads[3]																								
	Ground based yarding[2]											25 %													

[1] Wet season restrictions may be shortened or extended depending on weather conditions for all roads.
[2] Ground based yarding restricted to periods when soil moisture levels are below 25% as determined by the Authorized Officer.
[3] Wet season haul on rocked roads may be suspended during periods of heavy rain (>1" in 24 hours).

SCHEDULE I

Sec 41. TIMBER RESERVED FROM CUTTING. The following timber on the Contract Area, shown on Exhibit A, which is attached hereto and made a part hereof, is hereby reserved from cutting and removal under the terms of this contract and is retained as the property of the Government:

a. All timber in the Reserve Areas, as shown on Exhibit A, and all blazed, orange painted and/or posted trees, which are on or mark the boundaries of the Reserve Area.

b. Approximately two hundred thirty-one (231) Douglas-fir, eighty-one (81) Port-Orford cedar, eighteen (18) western hemlock, and five (5) incense cedar are each marked with an orange painted "W" above stump height and orange painted below stump height in Units 1,2,3, &4 as shown on Exhibit A. These individually selected trees are specially valued as a component of the Wildlife Habitat Management program. Reserve trees damaged or destroyed by the Purchaser shall be valued for purposes of determining damages at either current market value, or contract price, whichever is greater, of the merchantable volume plus the cost to replace the damages or destroyed trees. The Purchaser will be liable under applicable sections of this contract for the removal or destruction of these selected reserve trees, except for such trees, which are determined to be a safety hazard as defined by applicable safety codes and regulations. When selected reserve trees are determined to be danger trees, written approval to cut such trees shall be obtained from the Authorized Officer conforming to all requirements of Section 8 of this contract. The Authorized Officer can reserve trees previously designated for cutting and removal by applying orange paint as replacements for previously selected reserve and snag trees damaged or cut and removed due to harvest operations.

c. Approximately one hundred twenty-six (126) Douglas-fir and thirty-eight (38) western hemlock are each marked with an orange painted "S" above stump height and orange painted below stump height in Units 1,2,3, &4. These trees are selected snag trees and are specially valued as a component of the Wildlife Habitat Management program.

d. All existing standing dead trees within the harvest area except those trees, which must be felled to permit safe working operations. Snags felled for safety reasons shall be left on site.

e. All existing downed wood in decay classes 3-5 and all existing downed wood 20 inches or larger in diameter measured on the large end regardless of decay class.

f. All Bearing Trees with metal tags that mark property corners.

Sec 42. SPECIAL PROVISIONS. Purchaser shall comply with the special provisions, which are attached hereto and made a part hereof unless otherwise authorized, in writing, by the Authorized Officer:

a. Periodic Payment and First Installment Adjustment

(1) Notwithstanding the provisions of Sec. 3(b), the amount of the first installment may be reduced by the Government when the Contracting Officer requests the Purchaser to interrupt or delay operations for a period expected to last more than 30 days during the operating season. Such interruption or delay must be beyond the Purchaser's control. Operating Season shall be defined, for this purpose, as the time of year in which operations of the type required are normally conducted and not specifically restricted under the contract. The first installment may be reduced to 5% of the installment amount listed in Sec. 3(b), during the delay period. The Purchaser must request such a reduction in writing. When the Contracting Officer notifies the Purchaser that operations may proceed, the purchaser shall have 15 days after such notification to return the first installment to the full value specified in Sec. 3(b). Failure to return the first installment to the full value within the allotted time will be considered a material breach of contract. No timber shall be cut or removed from the contract area until the first installment is restored to the full amount.

(2) Notwithstanding the provisions of Sec. 3(b), adjustments in the due dates for periodic payments may be made by the Government if the Contracting Officer interrupts or delays contract operations for a period expected to last at least 30 days, and the interruption or delay is beyond the Purchaser’s control. Any adjustment made shall provide the Purchaser with an equal amount of operating time as would have been available without the delay. The Purchaser shall request such adjustment in writing before the due date for a periodic payment contained in Sec. 3(b).

b. Logging

(1) Before beginning operations in the contract area for the first time, or after a shutdown of ten (10) 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 ten (10) or more days.

(2) Prior to commencement of operations, the Purchaser shall obtain from the Authorized Officer written approval of a written operations and logging plan commensurate with the terms and conditions of the contract which shall include measures needed to assure protection of the environment and watershed. A pre-work conference between the Purchaser's authorized representative and the Authorized Officer's representative must be held at a location designated by the Authorized Officer before the logging plan will be approved.

(3) No trees may be felled into the Reserve Area or Basal Retention Area as shown on the Exhibit A. Line pulling, jacking, or other mechanical devices shall be used as necessary to prevent trees from falling into these areas.

(4) All trees three (3) inches DBHOB or larger and/or twenty-five (25) feet or taller designated for cutting shall be felled concurrently with all other trees designated for cutting.

(5) Trees shall be whole tree yarded when feasible to the landing areas.

(6) Yarding (except for road right-of-way and Ground-Based Yarding Area), as shown on Exhibit A, shall be done with a skyline cable system according to the following:

a. One-end log suspension is required during yarding operations. Intermediate supports and/or lift trees may be required to obtain the required suspension. Full suspension is required when yarding over Stream Channels shown on the Exhibit A.

b. The Purchaser shall make all cable road changes by completely re-spooling cables and restringing the layout from head spar to tail hold.

c. If the placement of a yarding corridor requires the cutting of a tree within the Reserve Area adjacent to a Stream Channel, the tree shall remain on-site and felled toward the direction of the channel in a manner to protect the stream bank from disturbance during yarding. Yarding corridors shall cross-stream channels perpendicular where possible to minimize cutting of trees within the Reserve Area. Yarding corridor location within the Reserve Area shall be approved by the Authorized Officer prior to cutting.

(7) All landings in the harvest unit shall be placed at the approximate locations shown on the Exhibit A. Any alternative landing sites must be approved by the Authorized Officer in the written operations and logging plan.

(8) In the Ground-Based Yarding Areas and within road rights-of-way, as shown on Exhibit A, cutting and yarding shall be done according to the following:

a. In addition to the requirements set forth in Sec. 26 of this contract, ground-based logging operations shall be restricted to the dry season, which is typically May 15 to October 15.

b. Ground-based operations shall be conducted when soil moisture content is below 25%, as determined by the Authorized Officer; unseasonably dry or wet weather may shorten or extend the operating season. The Purchaser shall be notified in writing when weather conditions extend the operating season. The Purchaser shall cease operations during periods of rain and shall be notified, after a soil-moisture assessment by the Authorized Officer, when operations may resume. Ground-based operations may be conducted when ground is frozen or adequate snow cover exists, with the approval of the Authorized Officer.

c. Trees shall be felled manually or by a mechanized harvester utilizing a “cut-to-length” system capable of directionally felling, cutting to length, and depositing slash along the harvesting path to minimize soil exposure and compaction.

d. The yarding machine must be approved by the Authorized Officer. It must be equipped with a grapple or an extendable and retractable arch and fairlead that is an

integral part of the machine capable of lifting the leading end of the turn clear of the ground. All logs in the Ground-Based Yarding Area shall be yarded with their leading end clear of the ground. A forwarder or tracked log loader may also be used to yard logs.

e. Primary skid roads/trails shall use existing trails wherever possible, designate skid trails with the objective of having less than 15 percent of a harvest area affected by compaction. Skid trails should generally be spaced 95 feet apart and be no wider than 12 feet.

f. Primary skid trails shall be blocked with cull material after completion of harvest where the Authorized Officer determines vehicle access is possible.

g. All ground-based equipment shall be restricted to operating on slopes less than 35% unless operating on previously constructed trails or accessing isolated ground-based harvest areas requiring short trails over steeper pitches. Also, limit the use of this equipment when surface displacement creates trenches, depressions, excessive removal of organic horizons, or when disturbance would channel water and sediment as overland flow.

h. Primary skid trails with a slope greater than 15% and/or are left with more than 100 feet of continuous bare ground shall have water bars installed and/or be covered with slash for erosion control prior to October 15 as directed by the Authorized Officer.

(9) Prior to attaching any logging equipment to any tree within the Reserve Area, the Purchaser shall obtain written approval from the Authorized Officer, and shall take precautions, to protect the trees from damage, as directed in writing by the Authorized Officer.

(10) During logging operations, the Purchaser shall keep BLM Road Nos. 29-9-21.0 and the 29-9-31.1, where they pass through the contract area, clear of trees, rock, dirt, and other debris so far as is practicable. These roads shall not be blocked by such operations for more than 20 minutes.

(11) The Purchaser shall provide signage to control traffic when conducting operations adjacent to any road as directed by the Authorized Officer and in accordance with Sec. 29 of the timber sale contract.

(12) To control the spread of noxious weeds and Port-Orford-cedar root disease, the purchaser shall conduct all operations involving the transportation and use of equipment and vehicles in strict accordance with the requirements shown on Exhibit F, which is attached hereto and made a part hereof. All road building and logging equipment shall be washed prior to moving into the Contract Area to control the spread of noxious weeds and Port-Orford-cedar root disease.

(13) After completion of yarding activities, the Purchaser shall top one hundred thirty-one (131) and girdle thirty-three (33) conifer trees (marked with orange painted “S”) in Unit 1,2,3, &4, as

shown on the Exhibit A and as directed by the Authorized Officer, according to the following:

The Purchaser shall top trees above the third live whorl of limbs at a minimum height of 40 feet or at 60 feet if no live limbs occur below 60 feet. Girdling will consist of removing a four (4) inch band of bark (all sapwood shall remain intact) completely around the bole of the tree after two (2) cuts are made with a chainsaw at the top and bottom into the cambium layer of the tree. Tops and limbs resulting from topping or girdling shall be left on site. Girdling will not be permitted on trees within 100 feet of open roads.

(14) To minimize the risk of attracting predators to activity areas, all garbage (especially food products) will be contained and removed daily from the contract area pursuant to Section 27 of the contract.

(15) Spill kits are required to be on site during road construction and logging operations pursuant to Section 26 of the contract.

c. Road Construction

(1) The Purchaser shall construct, renovate, and improve in strict accordance with the road plans and specifications, shown on Exhibit C, which is attached hereto and made a part hereof.

(2) Any required construction, renovation, or improvement of structures and roads shall be completed and accepted, in accordance with Section 18, prior to the removal of any timber, except right-of-way timber, over that road.

(3) In addition to the requirements set forth in Sec. 26 of this contract, the Purchaser shall complete erosion control and soil stabilization measures on all cuts, fills, waste areas, and scarified areas, as designated by the Authorized Officer, along all sections of roadway disturbed during the year prior to October 15 of each year. The Authorized Officer may set time limits for the beginning and completion of erosion control and soil stabilization measures and modify seasonal dates to conform to existing weather conditions and changes in the construction schedule. Such work shall be accomplished in accordance with Erosion Control and Soil Stabilization, 1700 and 1800 Series, contained in Exhibit C.

(4) The Purchaser, prior to construction of landings, shall stake all landing locations in accordance with the requirements set forth in Exhibit C. Concurrently with, or at the termination of logging operations, the Purchaser shall pull back and shape onto the landings all overhanging materials to prevent erosion in accordance with the requirements set forth in Exhibit C.

d. Road Use and Maintenance

(1) The Purchaser shall be required to secure written approval to use or haul forest products or equipment over Government owned or controlled structures when such vehicles or equipment exceeds the maximum allowable weights or dimensions established by the State for vehicles

operating without a permit or if vehicles meet allowable non-permitted State vehicle weights, but the haul route crosses a structure or segment of road that is posted for reduced weights. The Purchaser agrees to abide by any special requirements included in said written approval.

(2) Overweight vehicles and tracked type equipment shall not be allowed to cross over concrete bridge decks, other concrete surfaced structures or asphalt surfaced roads without the proper protection of that surface. Prior approval shall be obtained from the Authorized Officer when crossing with protective devices. Details of such equipment shall be furnished to the Authorized Officer for evaluation of load characteristics, at least 30 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; and,
h. Special features (e.g., running tracks, overhang loads, etc.).

The Purchaser shall be responsible for repair of any damage to 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.

(3) The Purchaser is authorized to use the roads shown on Exhibit E, attached hereto and made a part hereof, for the removal of Government timber sold under the terms of this contract and for haul of mineral material required under the terms of this contract; provided, that the Purchaser shall pay the road maintenance fees and rockwear fees totaling $73,756.35 as shown on Exhibit E. Unless the total maintenance and rockwear fees due BLM are paid prior to commencement of operations on the contract area, payments shall be made in installments payable in the same manner as and together with payments required by Sec. 3 of this contract.

(4) The Purchaser shall perform maintenance and repair of any required roads shown on Exhibit D in accordance with the maintenance specifications listed in Exhibit D, attached hereto, and made a part hereof.

(5) At all times during the period of his operations on the contract area, and upon completion of said operations, the Purchaser shall be liable for maintenance and repair of such roads shown on Exhibit D resulting from wear or damage in accordance with the maintenance specifications as shown on Exhibit D.

(6) In addition to the requirements set forth in Section 26 of this contract, the Purchaser shall clean road surfaces, cut banks, landings, ditch, lines, and culverts of all debris created by logging

operations.

(7) With the prior written approval of the Authorized Officer, the Purchaser may arrange for cooperative maintenance with other users of any BLM controlled road included in Sec. 42.c.(1) and 42.d.(3) of this contract; provided, that such cooperative arrangement shall not relieve the Purchaser of his liability for the maintenance and repair of such roads resulting from wear or damage, in accordance with this contract. The Purchaser shall furnish the Authorized Officer a copy of any cooperative maintenance agreements entered with other users on these roads.

(8) 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 road(s) involved. These fees will be applied to the remaining contract volume on the sale area, as determined by the Authorized Officer, to be transported over the roads listed in Sec. 42.c.(1) and 42.d.(3). If the total road maintenance fee does not exceed $500.00, the Purchaser shall pay such amount in full prior to use of such roads. If the total road maintenance fee exceeds $500.00, the Authorized Officer shall establish an installment schedule of payments of the maintenance obligation.

(9) The Purchaser shall cease winter log hauling if the ground is already saturated from winter rains and more than 1 inch of precipitation is predicted over the next 24 hours or as determined by the Authorized Officer.

(10) The Purchaser agrees that if they elect to use any other private road, 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, Purchaser shall request and agree to the modifications 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.

(11) In the use of required company roads shown on the Exhibit E, the Purchaser shall comply with the conditions of Right-of-Way and Road Use Agreement between the United States and Hancock Forest Management, RWA-C-344 & 048. The Agreements are available for inspection at the Bureau of Land Management, Coos Bay, Oregon. These conditions include the placement of 160 cubic yards of 1.5-inch minus rock upon completion of log haul on the 29-9-21.0, 29-9-31.0, and the 29-9-25.2 road(s) in lieu of the payment of rockwear fees.

Prior to commencement of operations, the Purchaser shall furnish to the Authorized Officer a copy of the executed License Agreements issued under the terms of the Right-of-Way Agreements. Default by the Purchaser of said Right-of-Way and Road Use Agreements, or any License Agreements executed pursuant thereto, for failure to pay appropriate road use, rockwear or road maintenance fees shall be considered a violation of this contract. The amount of unpaid few shall be considered as the amount of damage suffered by the Government as a result of the violation of this provision. Road maintenance fees may change during the course of the contract as determined by the Licensor. It is the responsibility of the Purchaser to pay fees current at time of haul.

e. Fire Prevention and Control

Primarily for purposes of fire prevention and control, the Purchaser shall comply with the following provisions:

(1) At least three (3) days prior to the operation of power-driven equipment during any 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 Authorized Officer.

(2) Provide and maintain on the contract area in good working order, and immediately available, the following equipment for use during the closed fire season or periods of fire danger:

a. Firefighting tools shall be kept at each landing or at such other place as the Authorized Officer shall designate whenever employees are working on the contract area. All firefighting 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 (2) 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 be not less than four (4) tools in each box nor less than one (1) tool for each employee working on the contract area. Three-fourths (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. Operations with four or fewer workers are not required to provide a fire toolbox for the operation, as long as each worker is equipped with a shovel suitable for fire suppression.

b. At each landing during periods of operation one (1) tank truck of two thousand (2,000) gallons or more capacity with enough one and one-half (1 ½) inch hose to reach from the water supply to any location in the operation area affected by power driven machinery, or one thousand (1,000) feet, whichever is greater, is required. Two (2) nozzles and a gated wye are also required for the hose lay. Two (2) one thousand (1,000) gallon tank trucks or portable tanks may be substituted for each required two thousand (2,000) gallon tank truck, provided that the total capability to pump and deliver water remains unchanged. Each tank truck shall be equipped with a pump capable of delivering a minimum of twenty (20) gallons per minute (gpm) water flow at one hundred ten (110) pounds per square inch (psi) engine pressure through fifty (50) feet of 1 ½ inch fire hose. The pump may be either power take-off driven or a truck-mounted auxiliary engine, or portable. All equipment shall be acceptable to and approved by the Authorized Officer and shall conform to the standards set forth in Oregon Revised Statutes 477.645 through 477.670. All hose couplings shall have the standard thread adopted by the BLM (1 ½ inches National Hose Thread (NH), 1” inch National Pipe Straight Hose Thread (NPSH) or be provided with suitable adapters. All tank trucks shall be filled with water and made available for immediate use.

f. Logging Residue Reduction

In addition to the requirements of Sections 15 and 25 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 Purchaser for such hazard, the Purchaser shall remain responsible to the Government for performance of the following hazard reduction and logging residue reduction measures required of them by this contract: Perform logging residue reduction and site preparation work on all one hundred fifty six (156) acres within harvest units. The required work shall consist of any treatment or combination of treatments, 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. Prior to commencement of any operation under this section 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. The number of acres of each treatment shall be determined by the Authorized Officer. All slash disposal shall be done in accordance with the plans developed at this pre-work conference.

(1) Landing pile construction and covering: Within thirty (30) feet of the edge of each landing, all tops, broken pieces, limbs and debris between two (2) and nine (9) inches in diameter at the large end and longer than three (3) feet in length shall be piled within fifteen (15) days of completion of hauling logs from that landing. Landing piles shall be kept free of dirt and located adjacent to roads at least twenty (20) feet from any Reserve Tree and/or as directed by the Authorized Officer.

Upon completion of landing piling, and no later than September 30 of the same year of piling, the Purchaser shall prepare the landing piles for burning covering each pile with a minimum 10-foot by 10-foot cover of four (4) MIL polyethylene to maintain a dry ignition point. The cover shall be firmly fixed to each pile to hold it in place. To meet ignition and combustion needs, larger piles may require larger pieces of PE sheeting. Piles with material extending more than two (2) feet beyond the general contour of the pile shall be flattened or trimmed to allow for covering in a manner that permits the piles to shed water and to prevent tearing during wind events. Pile trimming or flattening shall be done prior to pile covering. Pieces of burnable material shall be placed on top of the plastic to prevent it from blowing off during strong winds. The Purchaser is required to furnish the covering materials. The timing of this covering work shall be in accordance with instructions from the Authorized Officer. If the structure of the landing piles will not permit adequate consumption of piled debris by burning, the Purchaser shall re-pile them at the direction of the Authorized Officer.

(2) Cull decks: As directed by Authorized Officer, for a distance of 100 feet from the perimeter of each landing, all logs larger than eight (8) inches diameter at the large end and longer than eight (8) feet in length shall be decked or windrowed at the location designated by the Authorized Officer except logs removed from the contract area. If a log or a piece of a log meeting or exceeding the above specifications is bucked, all portions of that log shall be yarded and decked at the above-described location. Logging residue meeting this requirement shall not be piled for burning but shall be segregated into separate piles that are no closer than twenty (20)

feet from residue piles that will be burned.

(3) Machine Pile Slashing: In preparation for piling and as directed by the Authorized Officer, the Purchaser shall slash all brush species one (1) foot or greater in height, damaged residual conifers, hardwoods not reserved from cutting, and activity slash within the areas designated as Machine Pile Areas on the Exhibit A. All top and side branches must be cut free of the central stem such that the stem is no more than twelve (12) inches from the ground at all points. Slash shall be lopped to facilitate piling. In areas with low slash loads, slash shall be lopped and scattered so that it does not exceed twelve (12) inches in depth and is discontinuous enough to provide clear planting spots at ten (10) foot spacing. Activity slash includes all woody material (brush, limbs, tops, un-merchantable stems, or chunks) severed, uprooted, or broken from live plants as a result of Purchaser's operations under the terms of this contract. All slashing, lopping, and scattering work must be completed by October 15 for all areas where logging was completed on August 1 of each year.

(4) Machine pile construction and covering: Areas designated as Machine Pile Areas on the Exhibit A that are found to have excessive residual slash will require additional piling to prepare the site for planting. Areas to be treated will be designated by the Authorized Officer. All tops, broken pieces, limbs, and debris between two (2) and nine (9) inches in diameter and longer than three (3) feet in length will be piled. Piles will be kept free of dirt and located at least twenty (20) feet from any reserve tree or snag and as far as possible from culverts and unit boundaries. In areas with low slash loads, in lieu of piling, slash shall be scattered so that it does not exceed twelve (12) inches in depth and is discontinuous enough to provide clear planting spots at approximately ten (10) foot spacing. All slashing, piling, and covering work must be completed by October 15 for all areas where logging was completed on August 1 of each year.

a. Material exceeding the diameter limits specified may be left un-piled; however, attached limbs and tops falling within the diameter limits shall be cut off and piled. Material sixteen inches in diameter or larger (measured on the large end) shall not be piled.
b. Piles shall be constructed as upright as possible and have a solid base to prevent toppling. Piles shall be no smaller than eight (8) feet in diameter and six (6) feet in height.
c. All piled material shall be laid perpendicular to the slope. There shall be an adequate supply of finer fuels located within the interior of the pile to ensure ignition of the larger fuels.
d. Material extending more than two (2) feet beyond the general contour of the pile shall be flattened with the excavator or cut off to allow for covering in a manner that permits the piles to shed water.
e. The Purchaser shall place black polyethylene plastic, four (4) MIL thickness, over the pile to provide a barrier from winter rains. Unless otherwise directed, the size of plastic shall be no smaller than one hundred (100) square feet (10' X 10').
f. Plastic covering shall be placed on top of the pile to ensure the center of the pile remains dry, shall be weighted down with logging debris, and shall be secured on all four corners.

(5) Hand Pile Slashing: In preparation for hand piling and as directed by the Authorized Officer,

the Purchaser shall slash all brush species one (1) foot or greater in height, damaged residual conifers, hardwoods not reserved from cutting, and activity slash within the areas not designated as Machine Pile Areas on the Exhibit A. All top and side branches must be cut free of the central stem such that the stem is no more than twelve (12) inches from the ground at all points. Slash shall be lopped to facilitate piling. In areas with low slash loads, slash shall be lopped and scattered so that it does not exceed twelve (12) inches in depth and is discontinuous enough to provide clear planting spots at ten (10) foot spacing. Activity slash includes all woody material (brush, limbs, tops, un-merchantable stems, or chunks) severed, uprooted, or broken from live plants as a result of Purchaser's operations under the terms of this contract. All slashing, lopping, and scattering work must be completed by October 15 for all areas where logging was completed on August 1 of each year.

(6) Hand Pile Construction and Covering: Areas not identified as Machine Pile Areas on the Exhibit A that are found to have excessive residual slash will require additional piling to prepare the site for planting. Areas to be treated will be designated by the Authorized Officer. All tops, broken pieces, limbs, and debris between one-half (1/2) and six (6) inches in diameter and longer than two (2) feet in length will be piled. Piles will be located at least ten (10) feet from any reserve tree or snag and as far as possible from culverts and unit boundaries. In areas with low slash loads, in lieu of piling, slash shall be scattered so that it does not exceed twelve (12) inches in depth and is discontinuous enough to provide clear planting spots at approximately ten (10) foot spacing. All slashing, piling, and covering work must be completed by October 15 for all areas where logging was completed on August 1 of each year.

a. Piles shall be constructed as upright as possible with a solid base to prevent toppling. All piles shall be constructed with a compact core of smaller-diameter woody material to aid in pile ignition. Piles found without these features or with large air pockets will be rejected and shall require re-piling.

b. To prevent sliding and roll-out, all piled material shall be laid perpendicular to the slope and will be constructed as compactly as possible. Material extending more than one (1) foot beyond the general contour of the pile shall be cut off and placed on the pile.

c. Unless approved by the Authorized Officer, maximum pile dimensions shall not exceed eight (8) feet in diameter and six (6) feet in height. Piled material that is greater than eight (8) feet in length shall be cut and added back to the pile. Minimum pile dimensions shall not be less than four (4) feet in diameter and four (4) feet in height.

d. The Purchaser shall place black polyethylene plastic, four (4) MIL thickness, over the pile to provide a barrier from winter rains. Unless otherwise directed, the size of plastic shall be large enough to ensure seventy-five (75) percent coverage of the pile.

e. Plastic covering shall be placed on top of the pile to ensure the center of the pile remains dry, shall be weighted down with logging debris, and shall be secured on all four corners.

(7) Notwithstanding the provisions of Sec. 15 of this contract, the Government shall be responsible for disposing of slash created by the Purchaser's operations on Government lands except for 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, assist with landing pile burning and machine pile burning by furnishing, at their own expense, the services of personnel and equipment as follows:

a. The purchaser shall begin burning within fourteen hours (14) of notification by the Authorized Officer.

b. For each entry, the Purchaser may provide more personnel, equipment and materials than indicated, but no less than the minimum requirements listed below. Minimum personnel, equipment and materials requirements are:

    1) Landing Pile Burning:

    a. One (1) English-speaking crew supervisor (minimum FFT2)
    b. Four (4) person burn crew (minimum FFT2)
    c. Four (4) drip torches and sufficient fuel to complete all pile burning.

    2) Machine and Hand Pile Burning:

    a. One (1) English-speaking supervisor for crew (minimum FFT2).
    b. Eight (8) person burn crew (minimum FFT2).
    c. Eight (8) drip torches and sufficient fuel to complete all burning.
    d. 1 chain saw.
    e. 1 backpack pump (5-gallon).
    f. Nine (9) hand tools; 2 shovels, 3 pulaskis, 4 hazel hoes (or equivalent).

All listed personnel shall be qualified as a Type-II Firefighter (FFT2) or higher (National Wildfire Coordinating Group (NWCG) Wildland Fire Qualifications System guide, (PMS 310-1)). All personnel shall be physically fit, experienced, and fully capable of functioning as required. All personnel shall arrive at the project area with the following personal safety equipment: Lug-soled leather boots with a minimum of eight (8) inch uppers that provide ankle support; an approved hart hat; leather gloves; long-sleeve shirt and full-length trousers made of approved aramid fabric (Nomex or equivalent) and an approved fire shelter. All tools and equipment shall be in good 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.

c. A minimum of eighty (80) percent consumption of landing piles is required.

d. No mop-up of piles is required of the Purchaser.

e. Based on the time of year and sequence in which harvest and treatment of the units is completed, burning may be required over multiple seasons.

Time is of the essence in complying with burning provisions. In the event the Purchaser fails to provide the personnel, equipment and materials required herein, the Purchaser shall be responsible for all additional costs incurred by the Government in completing the logging residue reduction. Additional costs may include, but are not limited to, wages and associated expenses of providing federal employees or others as a 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 the use of additional personnel and equipment to accomplish the planned burn, the Purchaser also shall be responsible for such additional costs.

g. Buyout Securities

(1) The Purchaser shall assist in burning as described in Section 42.f.(7). The Purchaser shall have the option of completing the work, or in lieu thereof, may make a buyout security deposit to the Bureau of Land Management in the amount of nineteen thousand, two hundred ninety-nine and 90/100 dollars ($19,279.90) and upon making such contribution, the Purchaser shall be relieved of the obligations set out in this subsection. The Purchaser shall notify the Authorized Officer of their intention to make this deposit prior to the date of execution of this contract, and the Purchaser shall pay such amount in full prior to the commencement of operations.

(2) The Purchaser shall slash, hand pile, and cover areas not identified as Machine Pile Areas on the Exhibit A as described in Sections 42.f.(5) and 42.f.(6). The Purchaser shall have the option of completing the work, or in lieu thereof, may make a buyout security deposit to the Bureau of Land Management in the amount of fifty thousand six hundred ninety-nine and 0/100 dollars ($50,699.00) and upon making such contribution, the Purchaser shall be relieved of the obligations set out in these subsections. This shall not relieve the purchaser from performing slashing and machine piling on all Machine Pile Areas as identified on the Exhibit A. The Purchaser shall notify the Authorized Officer of their intention to make this deposit prior to the date of execution of this contract, and the Purchaser shall pay such amount in full prior to the commencement of operations.

h. Log Export and Substitution

All timber sales, including timber from Federal rights-of-ways, shall be subject to the restrictions relating to the export and substitution of unprocessed timber from the United States in accordance with P.L. 94165 and 43 CFR 5400 and 5424 as amended.

(1) All timber sold to the Purchaser under the terms of this contract 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 (8-3/4) inches in thickness; (3) split or round bolts or other round wood 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 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 remanufacturing of eight and three-quarters (8-3/4) inches in thickness or less; (6) shakes and shingles.

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

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 24 months from the date of last export sale.
d. volume of Federal timber purchased in the past 24 months from the date of last export sale.
e. volume of timber exported in succeeding 24 months from date of last export sale; and,
f. volume of Federal timber purchased in succeeding 24 months from date of last export sale.

(2) 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 "Certificate as to Nonsubstitution and the Domestic Processing of Timber" (Form 5460-16). 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.

(3) In the event an affiliate of the Purchaser has exported private timber within 24 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.

(4) Prior to the termination of this contract, the Purchaser shall submit to the Authorized Officer a "Log Scale and Disposition of Timber Removed Report" (Form 5460-15) 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.

(5) 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 ten inches, prior to the removal of timber from the contract area. All loads of eleven (11) logs or more will have a minimum of ten (10) logs clearly and legibly branded on one end regardless of the diameter of the logs. All logs will be branded on loads of ten (10) logs or less. One end of all branded logs to be processed domestically will be marked with a three (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.

(6) 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 Sec. 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.

i. Optional Scale Check of Lump Sum Sales

(1) The Government, at its option, may administratively check scale any portion of the timber removed from the contract area, and if necessary, conduct check scaling of independent scalers contracted to BLM for administrative check scaling purposes. The Purchaser hereby agrees to make such contract timber available for such scaling at a location or locations to be approved in writing by the Authorized Officer. At the approved location or locations, the Purchaser shall provide an area for logs to be safely rolled out for scaling, to unload logs trucks, place logs in a manner so that both ends, and three faces of each log are visible for scaling, and to reload or remove logs after scaling has been completed.

(2) In the event BLM elects to administratively check scale and if such check scaling causes a delay in log transportation time, an adjustment will be made to the purchase price as follows. If the entire sale is check scaled by yard scale, the purchase price of this contract shall be reduced by $5,301.00 In the event only a portion of the contract timber is scaled, the purchase price shall be reduced by that portion of $5,301.00 which is equal to the percentage of timber sold which was actually scaled by the Government. For purposes of computing this price reduction, the percentage of timber sold which has been scaled shall be determined by the Government. Any reduction in purchase price under the terms of this provision shall be full compensation to the Purchaser for any expense or loss incurred as a result of such scaling. Scaling shall be conducted in accordance with the Eastside Scribner Scaling Rules by BLM scalers, and/or independent scalers contracted to BLM. A copy of the scale report will be made available to the Purchaser upon request.

j. Sensitive, Threatened, or Endangered Plants or Animals

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, or to prevent incidental take of northern spotted owls in accordance with management direction in the Record of Decision (ROD) and Resource Management Plan (RMP), or to protect occupied marbled murrelet sites in accordance with the Standards and Guidelines or management direction of the ROD and RMP, 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. 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;

e. When, in order to comply with a court order, the Contracting Officer determines it may be necessary to modify or terminate the contract, or;

f. When, in order to comply with a stay or other remedy issued by the Interior Board of Land Appeals (IBLA) 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 in accordance with management direction 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 in accordance with management direction 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 Authorized 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.

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.j. 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, court-ordered injunctions, or an IBLA issued stay or remedy, 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 modify the contract or terminate the cutting and removal rights under the contract in order to comply with the Endangered Species Act, prevent incidental take of northern spotted owls in accordance with the ROD and RMP, protect occupied marbled murrelet sites in accordance with the ROD and RMP, protect species that have been identified for protection in accordance with management direction established in

the ROD and RMP, or to comply with a court order or an IBLA issued stay or remedy. 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, if able to proceed without causing incidental take of northern spotted owls in accordance with the ROD and RMP, if consistent with marbled murrelet occupied site protection in accordance with ROD and RMP, if consistent with species protection in accordance with management direction established in the ROD and RMP, or if consistent with a court order or an IBLA issued stay or remedy.

In the event the contract is modified or 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 paragraph, 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.

k. Safety

Purchaser’s operations shall facilitate BLM’s safe and practical inspection of Purchaser’s operations and BLM’s conduct of other official duties on Contract Area. Purchaser has all responsibility for compliance with safety requirements for Purchaser’s employees, contractors, and subcontractors.

In the event the Authorized Officer identifies a conflict between the requirements of this contract or agreed upon methods of proceeding hereunder and State or Federal safety requirements, the contract may be modified. If the cost of such contract modification is of a substantial nature ($2,000.00 or more), the Purchaser may request, in writing, an adjustment in the total contract purchaser price specified in Section 2 of the timber sale contract, as amended, to compensate for the changed conditions.

Unless otherwise specified in writing, when operations are in progress adjacent to or on roads and/or trails in the harvest unit area, Purchaser shall furnish, install, and maintain all temporary

traffic controls that provide the road or trail user with adequate warning of and protection from hazardous or potentially hazardous conditions associated with its operations. Purchaser shall prepare a Traffic Control Plan, which the Purchaser has determined is compliant with state and local OSHA and Transportation standards no later than the pre-work meeting and prior to commencing operations. Traffic control devices shall be appropriate to current operating and/or weather conditions and shall be covered or removed when not needed. Flagmen and devices shall be as specified in state OSHA and Transportation standards for logging roads or the "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD) published by the U.S. Department of Transportation – Federal Highway Administration. Included in the Traffic Control Plan, Purchaser shall note traffic control device locations on a Purchaser produced copy of the contract Exhibit "A" Map.

Exhibit F

SPECIAL PROVISIONS TO CONTROL THE SPREAD OF NOXIOUS WEEDS

Vehicle and Equipment Cleaning

1. Cleaning shall consist of the removal of soil and debris by washing with a high-pressure hose or steam cleaning. Cleaning and inspection sites will be agreed to by Purchaser and BLM. All petroleum product residues shall be contained at wash sites and dealt with in accordance with DEQ standards. Contractor shall provide an approved plan for the cleaning station that demonstrates that the station meets all DEQ and water quality regulations. All necessary permits shall be obtained by the contractor.

2. All equipment parts shall be cleaned as designated by the Authorized Officer, including removal of tractor belly plates, in accordance with Sec.1 above.

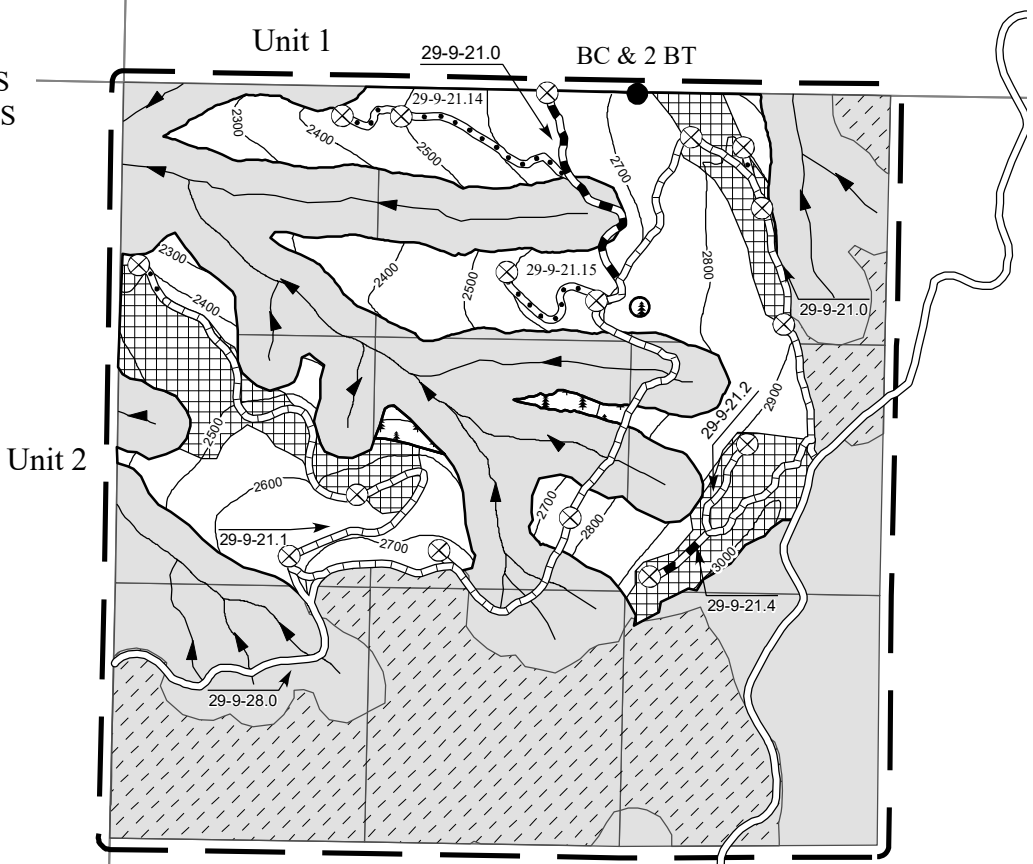
All construction, logging and slash disposal equipment shall be cleaned prior to entering the contract area. The Authorized Officer will determine if log trucks and vehicles used for transportation of personnel shall be cleaned, based upon the location of use immediately prior to current timber sale. If the vehicles have been in a weed-infested area, they shall be washed before entering Contract Area, as shown on Exhibit A.

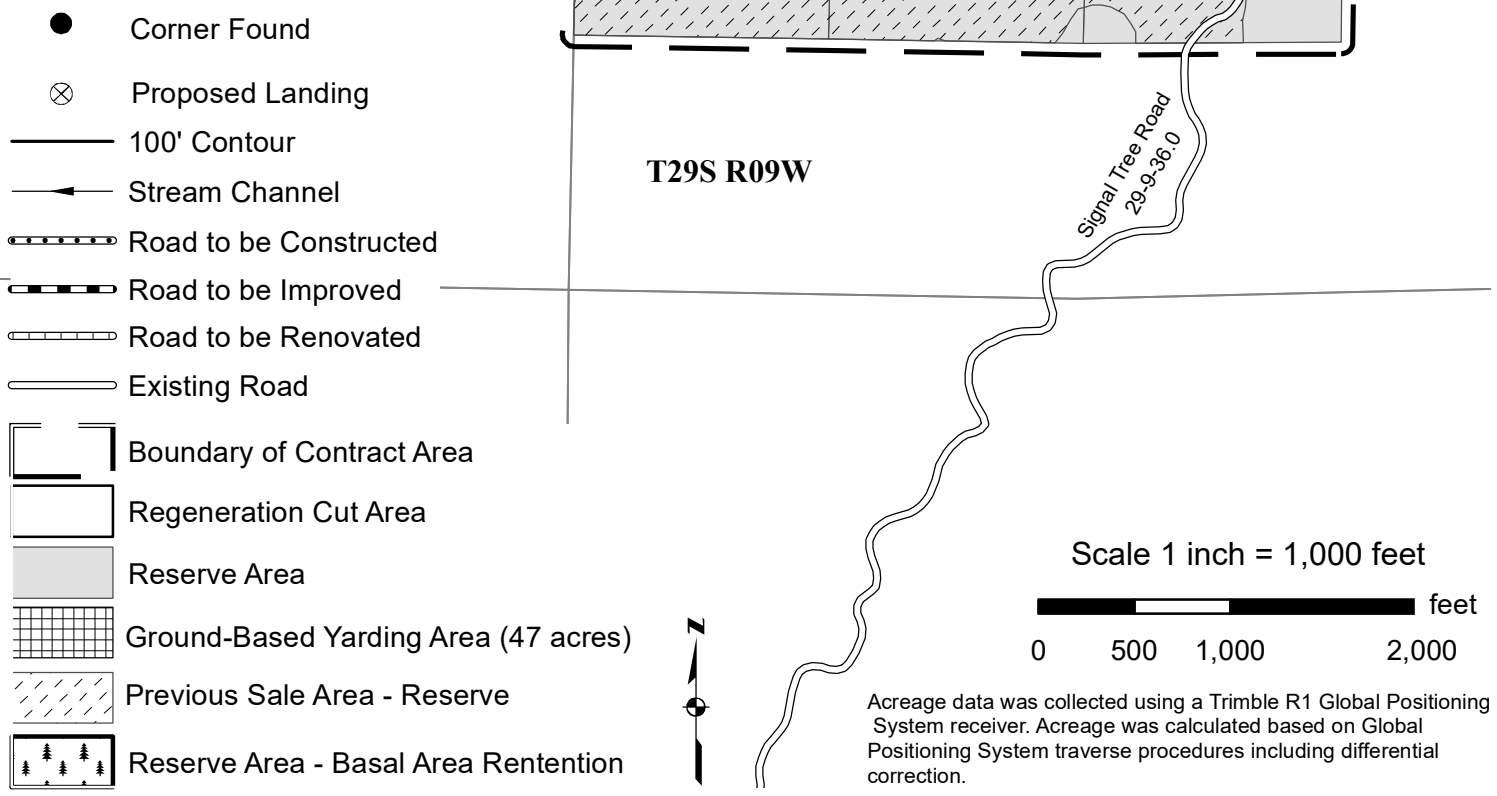
TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 29 S., R. 9 W., Secs. 21 & 31 Will. Mer.

SALE NO. ORC04-TS-2021.0031
EXHIBIT A

Preacher Man

REGENERATION HARVEST AREA
UNIT 1 _____79 ACRES
UNIT 2 _____37 ACRES
UNIT 3 _____32 ACRES
UNIT 4 _____5 ACRES
ROW _____ 3 ACRES
Total _____156 ACRES
Total Reserve Area _____ 324 ACRES
Total Contract Area _____ 480 ACRES



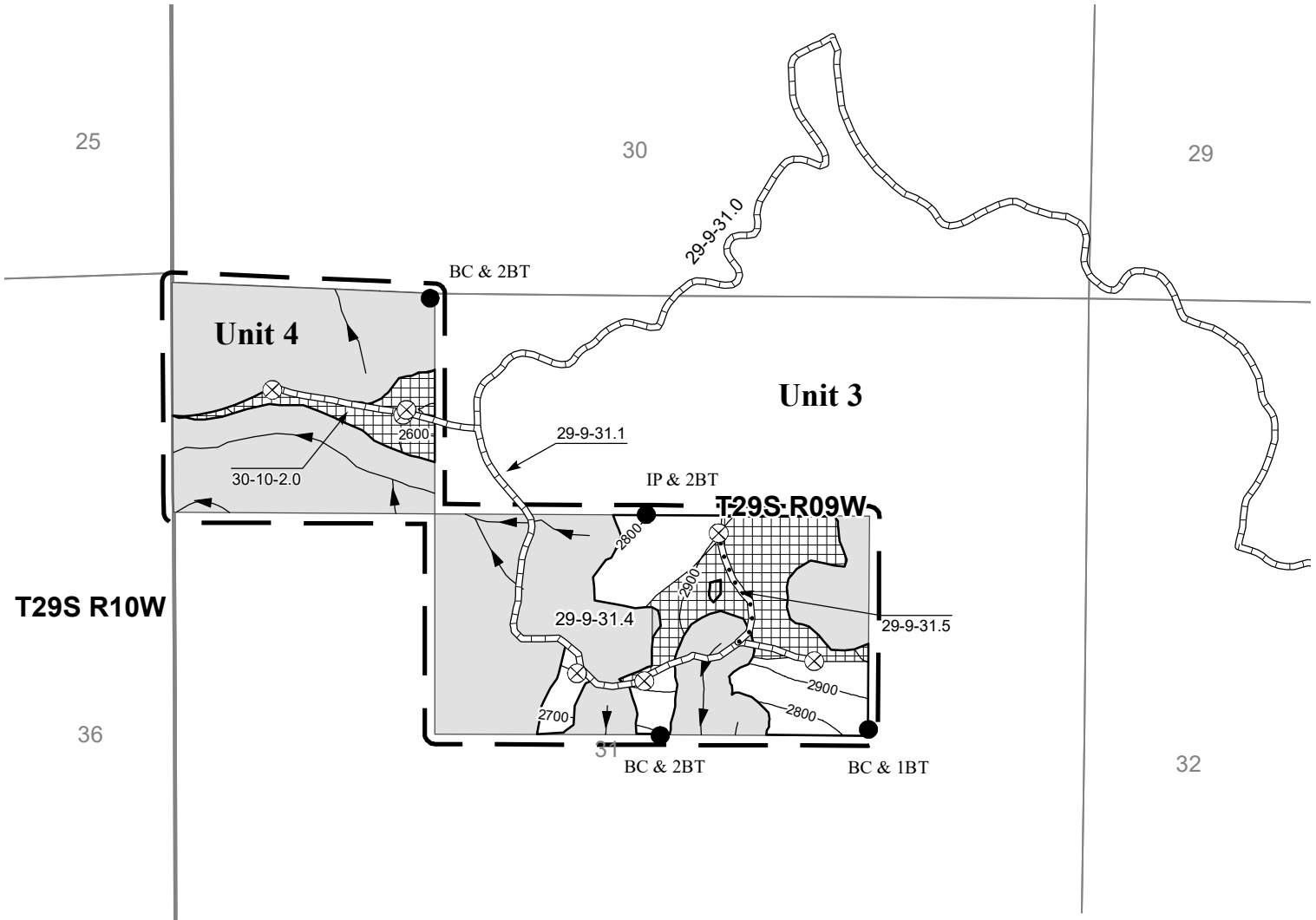


Acreage data was collected using a Trimble R1 Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 29 S., R. 9 W., Secs. 21 & 31 Will. Mer.

SALE NO. ORC04-TS-2021.0031
EXHIBIT A

Preacher Man



REGENERATION HARVEST AREA
UNIT 1 _____79 ACRES
UNIT 2 _____37 ACRES
UNIT 3 _____32 ACRES
UNIT 4 _____5 ACRES
ROW _____3 ACRES
Total _____156 ACRES

Total Reserve Area_____324 ACRES
Total Contract Area_____480 ACRES

6 T30S R09W 5

- Corner Found
- Proposed Landing
- 100' Contour
- Stream Channel
- Road to be Constructed
- Road to be Improved
- Road to be Renovated
- Boundary of Contract Area
- Regeneration Cut Area
- Reserve Area
- Ground-based Yarding Area (47 acres)
- Reserve Area - Basal Area Rentention

feet
0 250 00 1,000 1,500 2,000
Scale 1 inch = 1,000 feet

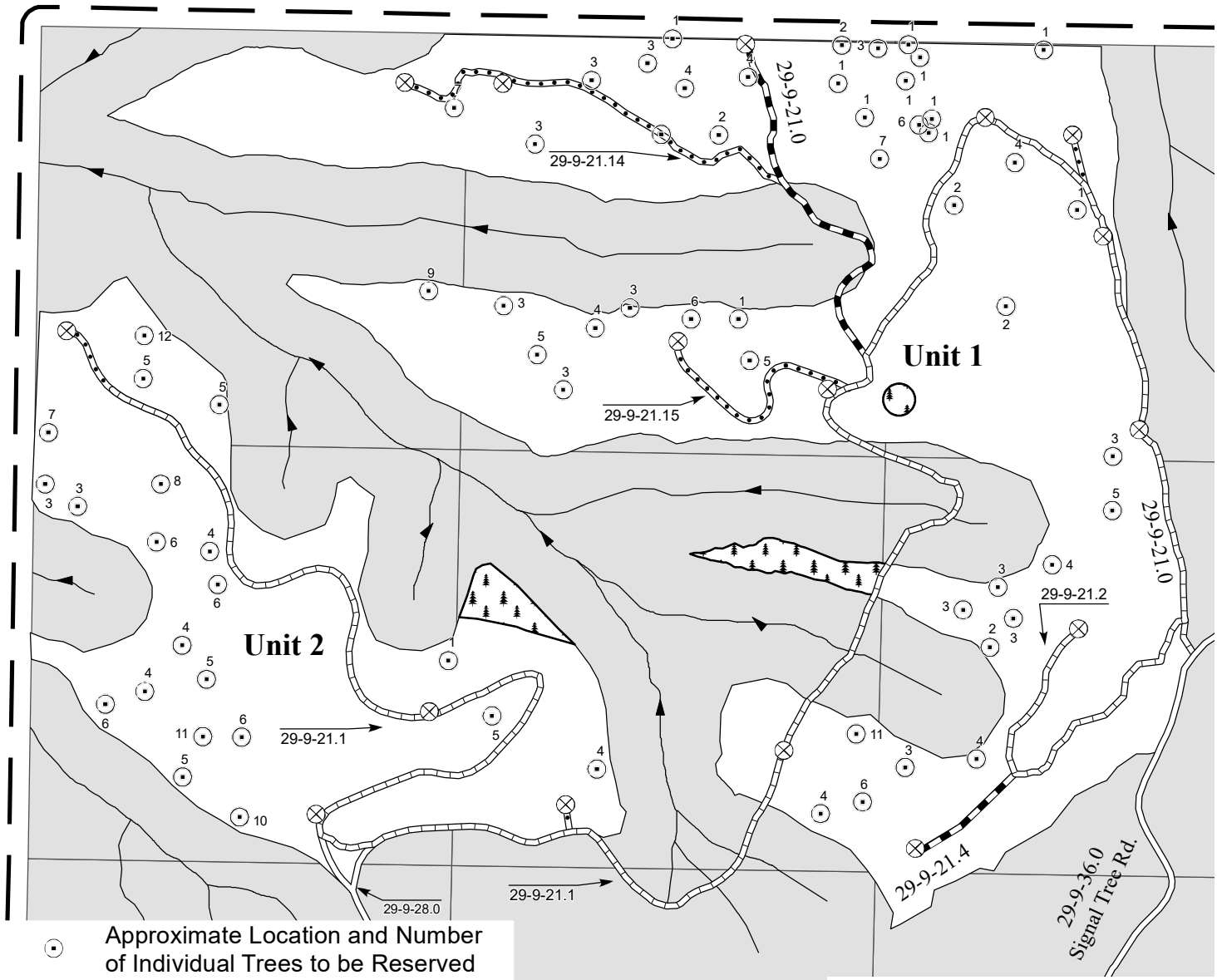
N

Acreage data was collected using a Trimble R1 Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 29 S., R. 9 W., Secs. 21 & 31 Will. Mer.

SALE NO. ORC04-TS-2021.0031
EXHIBIT A

Preacher Man



Approximate Location and Number of Individual Trees to be Reserved
Proposed Landing
Stream Channel
Existing Road
Road to be Constructed
Road to be Improved
Road to be Renovated
Boundary of Contract Area
Harvest Unit Boundary
Reserve Area
Reserve Area - Basal Area Rentention

T29S R09W

REGENERATION HARVEST AREA

UNIT 1	79 ACRES
UNIT 2	37 ACRES
UNIT 3	32 ACRES
UNIT 4	5 ACRES
ROW	3 ACRES
Total	156 ACRES
Total Reserve Area	324 ACRES
Total Contract Area	480 ACRES

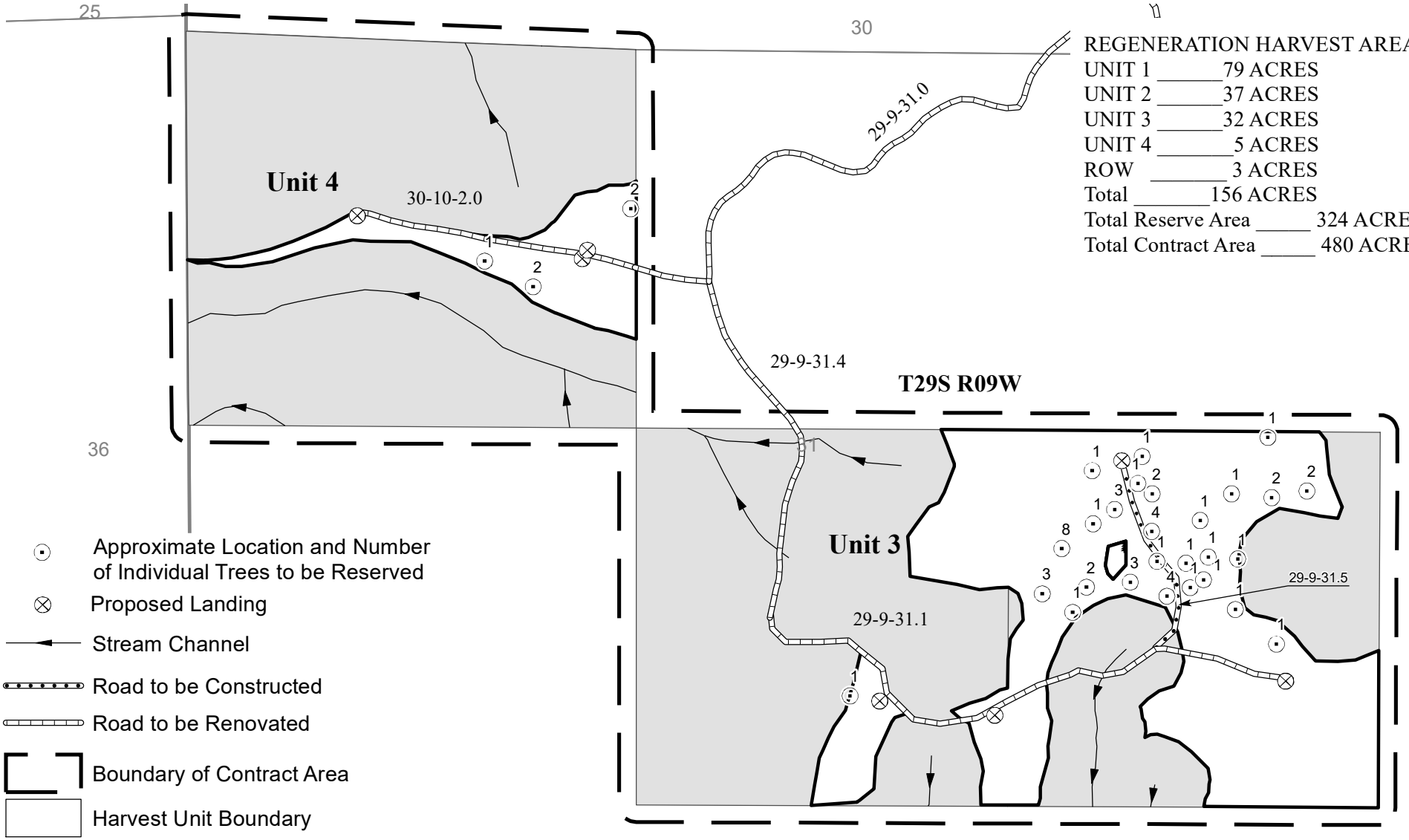
feet
0 250 500 1,000
Scale 1 inch = 500 feet

Acreage data was collected using a Trimble R1 Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 29 S., R. 9 W., Secs. 21 & 31 Will. Mer.

SALE NO. ORC04-TS-2021.0031
EXHIBIT A

Preacher Man



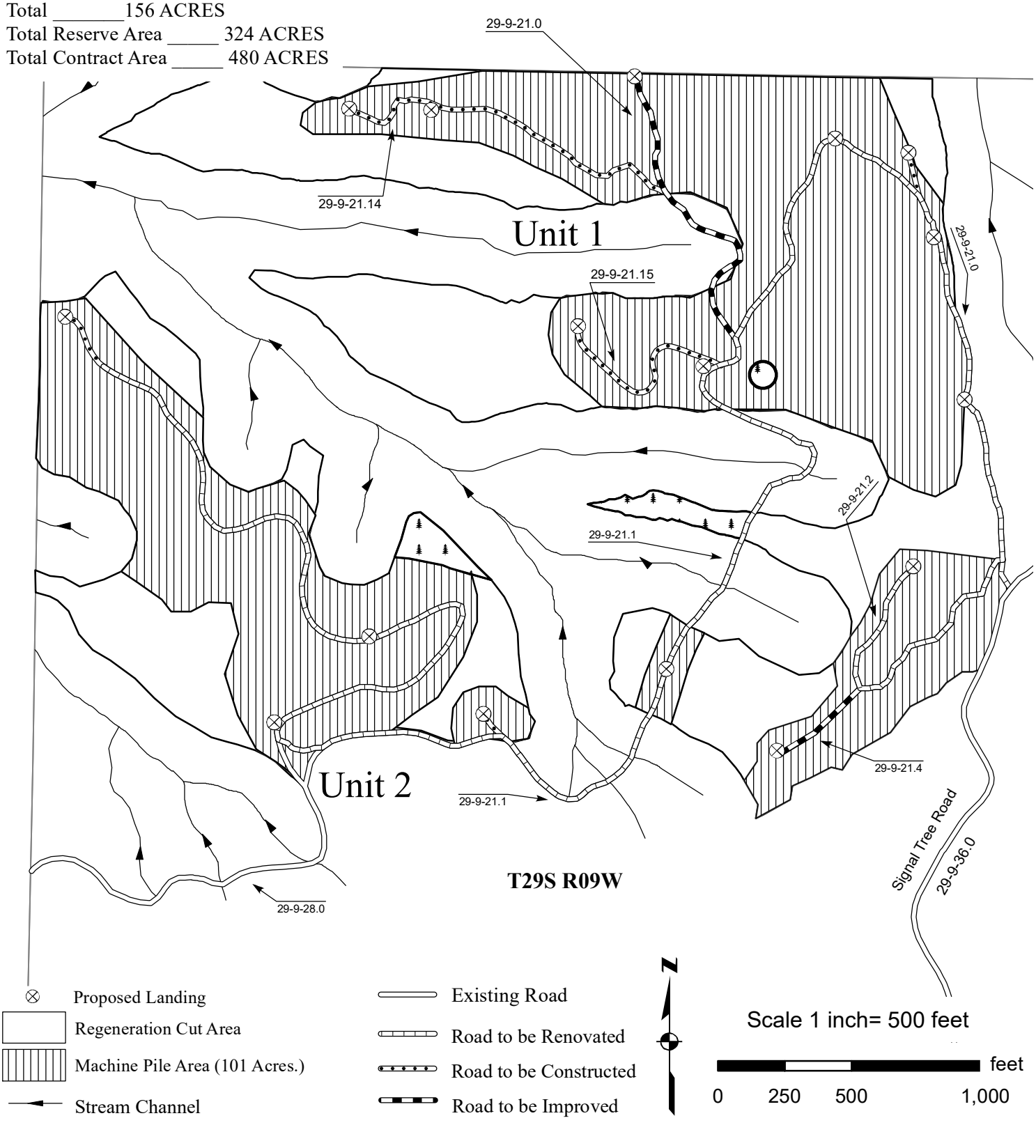
REGENERATION HARVEST AREA
UNIT 1 _____79 ACRES
UNIT 2 _____37 ACRES
UNIT 3 _____32 ACRES
UNIT 4 _____5 ACRES
ROW _____ 3 ACRES
Total _____156 ACRES
Total Reserve Area _____ 324 ACRES
Total Contract Area _____ 480 ACRES

Acreage data was collected using a Trimble R1 Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 29 S., R. 9 W., Secs. 21 & 31 Will. Mer.

ORC04-TS-2021.0031
EXHIBIT A
Page 5 of 6
PREACHER MAN

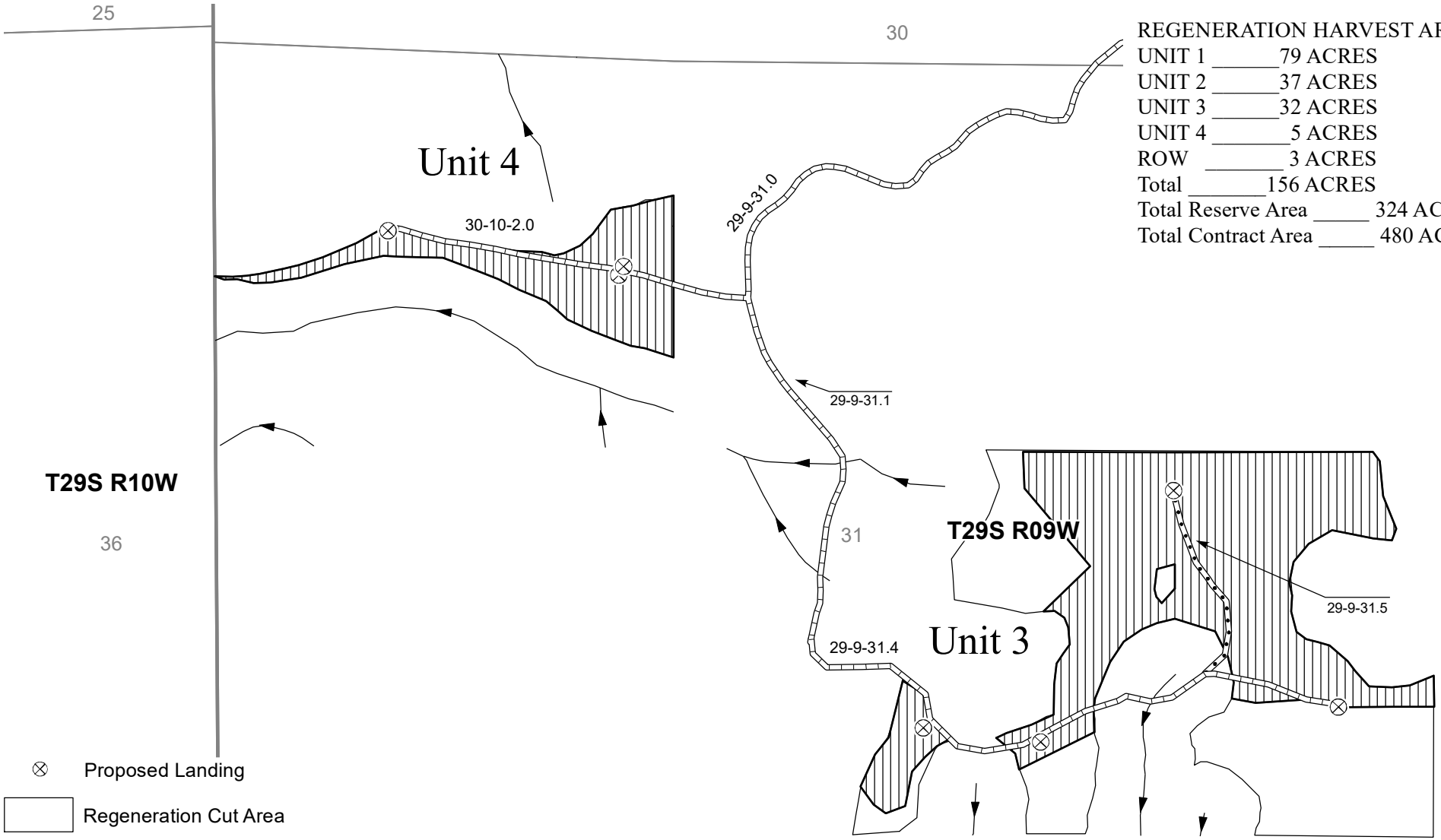
REGENERATION HARVEST AREA
UNIT 1 _____79 ACRES
UNIT 2 _____37 ACRES
UNIT 3 _____32 ACRES
UNIT 4 _____5 ACRES
ROW _____ 3 ACRES
Total _____156 ACRES
Total Reserve Area _____ 324 ACRES
Total Contract Area _____ 480 ACRES



TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 29 S., R. 9 W., Secs. 21 & 31 Will. Mer.

ORC04-TS-2021.0031
EXHIBIT A

PREACHER MAN



REGENERATION HARVEST AREA
UNIT 1 _____79 ACRES
UNIT 2 _____37 ACRES
UNIT 3 _____32 ACRES
UNIT 4 _____5 ACRES
ROW _____ 3 ACRES
Total _____156 ACRES
Total Reserve Area _____ 324 ACRES
Total Contract Area _____ 480 ACRES

⊗ Proposed Landing
Regeneration Cut Area
Machine Pile Area (101 Acres.)
Stream Channel
Road to be Renovated
Road to be Constructed

N

Scale 1 inch= 500 feet

0 250 500 1,000 feet

Acreage data was collected using a Trimble R1 Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

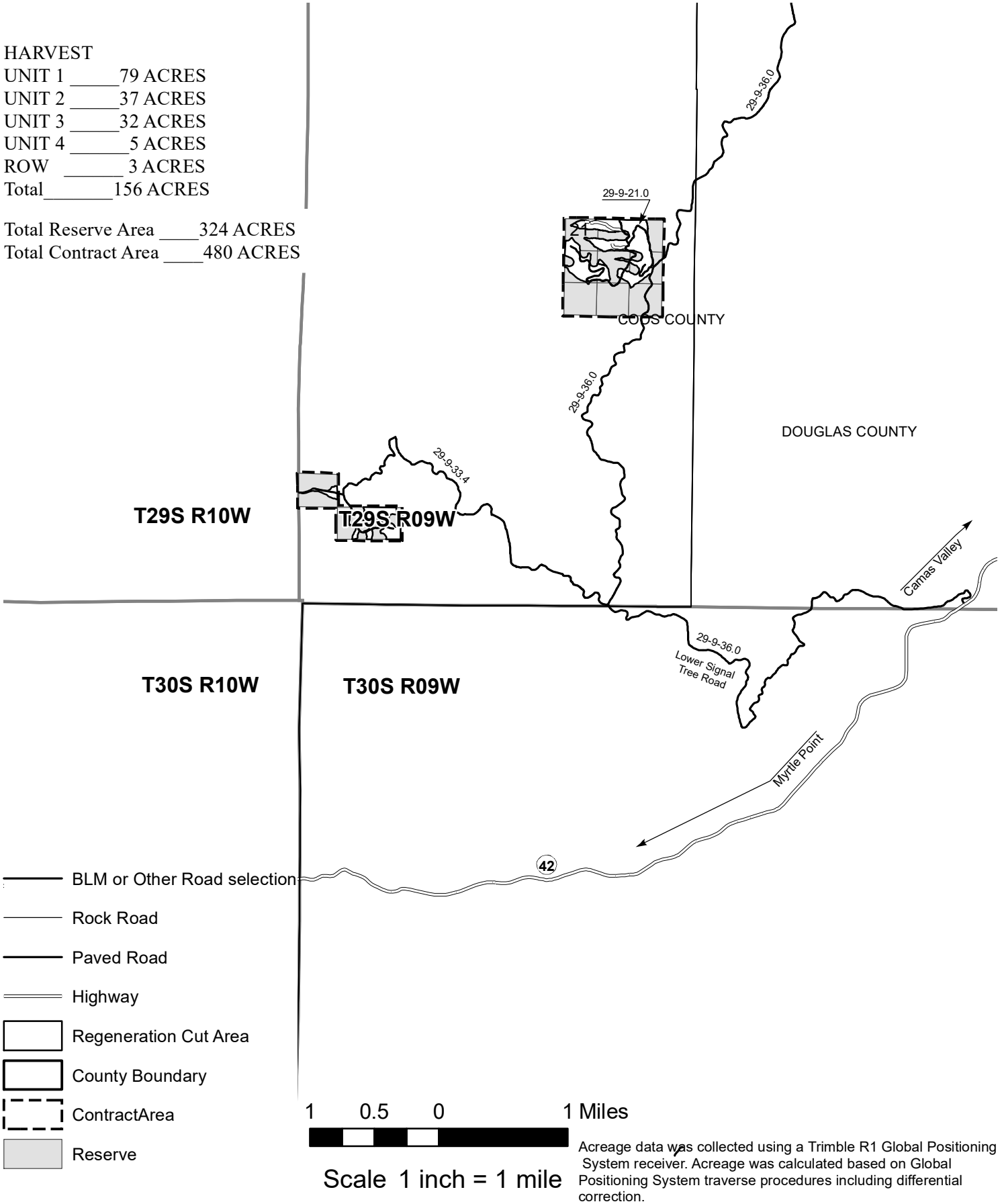
TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 29 S., R. 9 W., Secs. 21 & 31 Will. Mer.

SALE NO. ORC04-TS-2021.0031
EXHIBIT A1

Preacher Man

HARVEST
UNIT 1 _____79 ACRES
UNIT 2 _____37 ACRES
UNIT 3 _____32 ACRES
UNIT 4 _____5 ACRES
ROW _____ 3 ACRES
Total_____156 ACRES

Total Reserve Area ____324 ACRES
Total Contract Area ____480 ACRES



Acreage data was collected using a Trimble R1 Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Contract No: **ORC04-TS-2021.0031**

Sale Name
Preacher Man

EXHIBIT B
LUMP SUM SALE

The following estimates and calculations of value of timber sold are made solely as an administrative aid for determining: (1) adjustments made or credits given in accordance with Secs. 6, 9, or 11, (2) when payments are due; and (3) value of timber subject to any special bonding provisions. Except as provided in Sec. 2, Purchaser shall be liable for total purchase price even though 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 Exhibit A.

SPECIES	ESTIMATED VOLUME in MBF		PRICE PER UNIT		AMOUNT OF ESTIMATED VOLUME OR QUANTITY x UNIT PRICE
Douglas-fir	4727	MBF	$341.20		$1,612,852.40
western hemlock	2198	MBF	$181.90		$399,816.20
Port-Orford-cedar	133	MBF	$140.70		$18,713.10
red alder	10	MBF	$159.80		$1,598.00
Totals	**7068**	**MBF**			**$2,032,979.70**

The apportionment of the total purchase price is as follows:

Approx. No. of Trees	UNIT NO. 1	EST. NET MBF VOL.			
3365	**Douglas-fir**	2381	$341.20		$812,397.20
2922	**western hemlock**	1105	$181.90		$200,999.50
844	**Port-Orford-cedar**	58	$140.70		$8,160.60
32	**red alder**	5	$159.80		$799.00
7163	**TOTALS**	**3549**			**$1,022,356.30**

79 Acres = **$12,941.22** **/Ac.**
Unit Total **$1,022,356.30**

Approx. No. of Trees	UNIT NO. 2	EST. NET MBF VOL.			
1576	**Douglas-fir**	1116	$341.20		$380,779.20
1368	**western hemlock**	512	$181.90		$93,132.80
392	**Port-Orford-cedar**	27	$140.70		$3,798.90
15	**red alder**	2	$159.80		$319.60
3351	**TOTALS**	**1657**			**$478,030.50**

37 Acres = **$12,919.74** **/Ac.**
Unit Total **$478,030.50**

Approx. No. of Trees	UNIT NO. 3	EST. NET MBF VOL.			
1363	**Douglas-fir**	965	$341.20		$329,258.00
1183	**western hemlock**	433	$181.90		$78,762.70
332	**Port-Orford-cedar**	23	$140.70		$3,236.10
13	**red alder**	2	$159.80		$319.60
2891	**TOTALS**	**1423**			**$411,576.40**

32 Acres = **$12,861.76** **/Ac.**
Unit Total **$411,576.40**

Approx. No. of Trees	UNIT NO. 4	EST. NET MBF VOL.			
213	**Douglas-fir**	151	$341.20		$51,521.20
185	**western hemlock**	69	$181.90		$12,551.10
53	**Port-Orford-cedar**	4	$140.70		$562.80
0	**red alder**	0	$159.80		$0.00
451	**TOTALS**	**224**			**$64,635.10**

5	Acres =	**$12,927.02**	**/Ac.**	
		Unit Total		**$64,635.10**

Approx. No. of Trees	RW	EST. NET MBF VOL.			
178	**Douglas-fir**	114	$341.20		$38,896.80
133	**western hemlock**	79	$181.90		$14,370.10
87	**Port-Orford-cedar**	21	$140.70		$2,954.70
30	**red alder**	1	$159.80		$159.80
428	**TOTALS**	**215**			**$56,381.40**

3	Acres =	**$18,793.80**	**/Ac.**	
		Unit Total		**$56,381.40**

SPECIAL PROVISIONS

Purchaser Responsibility

The Purchaser shall avoid damaging any bituminous and aggregate surfaced roads. The Purchaser will be responsible for the repair or the cost of repair of any road damaged as a result of the activity. Bituminous and aggregate roads shall be left in the same condition that they were prior to road construction and maintenance activity.

The Purchaser shall be required to secure written approval (BLM haul authorization) to use or haul equipment over a bridge when that equipment exceeds the maximum allowable weights or dimensions established by the State for vehicles over 80,000 lbs gross.
Contact: Marc Van Camp, P.E., Coos Bay District Engineer, (541) 751-4469, mvancamp@blm.gov. Allow up to 90 days processing time in advance of bridge use.

Seasonal Restrictions

All road construction, renovation, and decommissioning work shall be done during the dry construction season, avoiding precipitation periods, between June 1 and October 15.

Spill Containment

Spill containment kit is required on-site during work. Kit contents shall include absorbent booms (two bales, four 8” x 10” booms/bale), absorbent pads (two bales, one hundred 17” x 19” x ¼” pads/bale), heavy-duty garbage bags, gloves (PVC and latex), and goggles.

Equipment Washing

The Purchaser is responsible for vehicle/equipment entrance cleaning in accordance with the Exhibit F.

Over-wintering

All natural-surfaced new construction shall not over-winter without being either De-commissioned, as specified in the Exhibit D, or winterized, in accordance with the 1700 Erosion Control specifications, prior to the first rains of the wet season, but no later than October 15 of the year of construction.

Borrow Site

Borrow site area designated at Sta. 7+50 on BLM Road No. 29-9-21.0. Upon completion of use, borrow site area shall be sloped, shaped to drain, seeded, fertilized, and mulched in accordance with Sections 1700 and 1800 of the Timber Sale Road Specifications.

Native Seed

The Government will furnish native seed mix, when available.

Culvert Installation

Culvert lengths listed in Special Details and Estimate of Quantity sheets are estimated culvert lengths; however, individual culvert length shall be installed to fit the actual ground & site conditions of proposed work locations. “Shotgun” pipes, or short lengths with a trench, will not be acceptable.

Keep the excavation site dewatered so that the installation of culverts is completed under dry conditions.

Culvert side-fill material, meeting Timber Sale Road Specification, will be brought up evenly and simultaneously on both sides of pipe, in layers not exceeding 6” in depth with each layer compacted using approved tamper (appraised using 19.7” plate compactor).

All culverts removed under the contract become the property of the Purchaser and shall be legally disposed off BLM and private lands.

Safety

When operations are in progress adjacent to or on roads and/or trails in the harvest unit area, Purchaser shall furnish, install, and maintain all temporary traffic controls that provide the road or trail user with adequate warning of and protection from hazardous or potentially hazardous conditions associated with its operations. Purchaser shall prepare a Traffic Control Plan, which the Purchaser has determined is compliant with state and local OSHA and Transportation standards no later than the pre-work meeting and prior to commencing operations.

SPECIAL DETAILS

RENOVATION OF BLM ROAD NO. 29-9-21.0
Milepost 0.00 to Milepost 0.52

MP.	Remarks
0.00	Junction with BLM Road No. 29-9-36.0 (Lower Single Tree Road) at MP 8.46. Begin renovation, watering, surfacing, soil stabilization and roadside brushing in accordance to Sections 500, 600, 1000, 1200, 1800 and 2100 of the Timber Sale Road Specifications, Typical Cross Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.
NOTE:	From MP 0.00 to MP 0.52, apply 50 CY of 1.5-0" crushed aggregate spot rock as directed by the Authorized Officer, conforming to Section 1200 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.
.	
0.07	Repair 18" X 40' CMP culvert; remove 1' off crushed inlet pipe.
0.14	Renovate existing 40' diameter roadside landing left in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8" lift of 6-0" crushed aggregate.
0.26	Renovate existing 40' diameter roadside landing left in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8" lift of 6-0" crushed aggregate.
0.30	Construct 60' diameter landing with 75' approach right in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8" lift of 6-0" crushed aggregate.
0.36	Renovate existing 60' diameter roadside landing right in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8" lift of 6-0" crushed aggregate.
0.52	Junction, improve BLM Road No. 29-9-21.0 right. Junction, renovate BLM Road No. 29-9-21.1 left. End renovation.

IMPROVEMENT OF BLM ROAD NO. 29-9-21.0
Station 0+00 to Station 11+50

Sta.	Remarks
0+00	Junction with BLM Road No. 29-9-21.0 and 29-9-21.1 at MP 0.52. Begin clearing & grubbing, excavation, improvement, watering, surfacing, soil stabilization and roadside brushing in accordance with Sections 200, 300, 500, 600, 1000, 1800 and 2100 of the Timber Sale Road Specifications, Typical Cross Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.
NOTE:	From 0+00 to 1+00, re-align subgrade 5'-10' to the right to allow for improvement to subgrade

Sta.	Remarks
	width and inside corner for truck traffic flow.
NOTE:	From Sta. 0+00 to Sta. 11+50, apply a 12" lift of 3-0" crushed aggregate in accordance with Section 1000 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.
7+50	Junction, new construct BLM Road No. 29-9-21.14 left.
8+50	Construct truck turnaround left in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of truck turnaround with 8" lift of 6-0" crushed aggregate.
11+50	Renovate existing 60' end landing in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8" lift of 6-0" crushed aggregate. End renovation.

RENOVATION OF BLM ROAD NO. 29-9-21.1
Milepost 0.00 to Milepost 1.18

MP.	Remarks
0.00	Junction with BLM Road No. 29-9-21.0 at MP 0.52. Begin renovation, watering, surfacing, soil stabilization and roadside brushing in accordance to Section 500, 600, 1200, 1800 and 2100 of the Timber Sale Road Specifications, Typical Cross Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.
NOTE:	From MP 0.00 to MP 1.18, apply 100 CY of 1.5-0" crushed aggregate spot rock as directed by the Authorized Officer, conforming to Section 1200 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.
.	
0.05	Junction, construct BLM Road No. 29-9-21.15 right and construct 60' diameter roadside landing right in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Landing will be surfaced with 50 CY of 6-0" crushed aggregate.
0.22	Junction, renovate Truck turn around right. Surface with 20 CY of 6-0" crushed aggregate.
0.27	Repair 18" X 30' CMP culvert; remove 1' off crushed inlet pipe. Add 10 CY of Rip rap to outlet end of culvert.
0.33	Renovate existing 40' diameter roadside landing right in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8" lift of 6-0" crushed aggregate.
0.49	Add 10 CY Rip rap to outlet end of culvert.
0.53	Renovate existing 60' diameter landing with 50' approach right in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing

MP.	Remarks
	with 8” lift of 6-0” crushed aggregate.
0.68	Renovate existing 60’ diameter roadside landing left in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8” lift of 6-0” crushed aggregate.
0.84	Re-construct ditch-out right.
0.89	Construct 60’ diameter landing right in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8” lift of 6-0” crushed aggregate.
0.98	Re-construct ditch-out left.
1.08	Re-construct ditch-out left.
1.18	Begin construction of BLM Road No. 29-9-21.1 extension. End renovation.

RENOVATION OF BLM ROAD NO. 29-9-21.2
Milepost 0.00 to Milepost 0.24

MP.	Remarks
0.00	Junction with BLM Road No. 29-9-36.0 (Lower Single Tree Road) at MP 8.46. Begin renovation, watering, surfacing, soil stabilization and roadside brushing in accordance to Section 500, 600, 1200, 1800 and 2100 of the Timber Sale Road Specifications, Typical Cross Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.
NOTE:	From MP 0.00 to MP 0.24, apply 40 CY of 1.5-0” crushed aggregate spot rock as directed by the Authorized Officer, conforming to Section 1200 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.
0.14	Junction, improve BLM Road No. 29-9-21.4 left.
0.24	Renovate existing 60’ diameter end landing right in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8” lift of 6-0” crushed aggregate. End renovation.

RENOVATION OF BLM ROAD NO. 29-9-33.4
Milepost 0.00 to Milepost 0.71

MP.	Remarks
0.00	Junction with BLM Road No. 29-9-36.0 (Lower Single Tree Road) at MP 5.03. Begin renovation, watering, surfacing, soil stabilization and roadside brushing in accordance to Section 500, 600,1200, 1800 and 2100 of the Timber Sale Road Specifications, Typical Cross

MP. Remarks

Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.

NOTE: From MP 0.00 to MP 0.71, apply 50 CY of 1.5-0" crushed aggregate spot rock as directed by the Authorized Officer, conforming to Section 1200 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.

.

0.71 Junction, renovate BLM Road No. 29-10-25.2 left.
End renovation.

RENOVATION OF BLM ROAD NO. 29-10-25.2
Milepost 0.00 to Milepost 2.01

MP. Remarks

0.00 Junction with BLM Road No. 29-9-33.4 at MP 0.71.

Begin renovation, watering, surfacing, soil stabilization and roadside brushing in accordance to Section 500, 600,1200,1800 and 2100 of the Timber Sale Road Specifications, Typical Cross Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.

NOTE: From MP 0.00 to MP 2.01, apply 150 CY of 1.5-0" crushed aggregate spot rock as directed by the Authorized Officer, conforming to Section 1200 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.

.

2.01 Junction, renovate BLM Road No. 29-9-31.0 left.
End renovation.

RENOVATION OF BLM ROAD NO. 29-9-31.0
Milepost 0.00 to Milepost 0.79

MP. Remarks

0.00 Junction with BLM Road No. 29-10-25.2 at MP 2.01.

Begin renovation, watering, surfacing, soil stabilization and roadside brushing in accordance to Section 500, 600,1200, 1800 and 2100 of the Timber Sale Road Specifications, Typical Cross Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.

NOTE: Widen apron of entrance to 29-9-31.0 to allow trucks to turn right up the hill. Also add rock to outside edge of the 29-10-25.2 at intersection with the 29-9-31.0.

NOTE: From MP 0.00 to MP 0.79, apply 70 CY of 1.5-0" crushed aggregate spot rock as directed by the Authorized Officer, conforming to Section 1200 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.

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0.79 Junction, renovate BLM Road No. 30-10-2.0 right and renovate BLM Road No. 29-9-31.1 left.
End renovation

RENOVATION OF BLM ROAD NO. 30-10-2.0
Milepost 0.00 to Milepost 0.24

MP.	Remarks
0.00	Junction with BLM Road No. 29-9-31.0 at MP 0.79. Begin renovation, watering, surfacing, soil stabilization and roadside brushing in accordance to Section 500, 600, 1200, 1800 and 2100 of the Timber Sale Road Specifications, Typical Cross Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.
NOTE:	From MP 0.00 to MP 0.24, apply 30 CY of 1.5-0" crushed aggregate spot rock as directed by the Authorized Officer, conforming to Section 1200 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.
.	
0.09	Renovate existing 50' diameter roadside landings left and right in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8" lift of 6-0" crushed aggregate.
0.24	Renovate existing 60' diameter roadside landing left in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8" lift of 6-0" crushed aggregate. End renovation.

RENOVATION OF BLM ROAD NO. 29-9-31.1
Milepost 0.00 to Milepost 0.25

MP.	Remarks
0.00	Junction with BLM Road No. 29-9-31.0 at MP 0.79. Begin renovation, watering, surfacing, soil stabilization and roadside brushing in accordance with Sections 500, 600, 1200, 1800 and 2100 of the Timber Sale Road Specifications, Typical Cross Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.
NOTE:	From MP 0.00 to MP 0.25, apply 30 CY of 1.5-0" crushed aggregate spot rock as directed by the Authorized Officer, conforming to Section 1200 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.
0.23	Repair 18" X 40' CMP culvert; remove 2' off crushed inlet pipe.
0.25	Junction, renovate BLM Road No. 29-9-31.4 left. End renovation.

RENOVATION OF BLM ROAD NO. 29-9-31.4
Station 0+00 to Station 20+70

Sta.	Remarks
0+00	Junction with BLM Road No. 29-9-31.1 at MP 0.25. Begin renovation, watering, surfacing, soil stabilization and roadside brushing in accordance to Section 500, 600, 1200, 1800 and 2100 of the Timber Sale Road Specifications, Typical Cross Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.

Sta.	Remarks
	NOTE: From Sta. 0+00 to Sta. 20+70, apply an 6" lift of 1.5-0” crushed aggregate in accordance with Section 1200 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.
5+90	Construct 40’ diameter roadside landing right in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8” lift of 6-0” crushed aggregate.
9+80	Construct 40’ diameter roadside landing right in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8” lift of 6-0” crushed aggregate.
14+25	Install 18” x 40’ CPP cross drain. 10 CY of 0.75-0” crushed aggregate allocated for culvert bedding. 10 CY of 1.5-0" crushed aggregate allocated for roadway base and surface course.
16+00	Junction, new construct BLM Road No. 29-9-31.5 left.
20+70	Renovate existing 50’ end landing in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8” lift of 6-0” crushed aggregate. End renovation.

IMPROVEMENT OF BLM ROAD NO. 29-9-21.4
Station 0+00 to Station 4+70

Sta.	Remarks
0+00	Junction with BLM Road No. 29-9-21.2 at MP 0.14.
	Begin clearing & grubbing, excavation, culvert installation, improvement, watering, surfacing, soil stabilization and roadside brushing in accordance with Sections 200, 300, 400, 500, 600, 1000, 1800 and 2100 of the Timber Sale Road Specifications, Typical Cross Section Sheet No. 5 and Roadside Brushing Detail Sheet No. 9.
NOTE:	From Sta. 0+00 to Sta. 4+70, apply an 8" lift of 3-0” crushed aggregate in accordance
	with Section 1000 of the Timber Sale Road Specifications and Typical Cross Section Sheet No. 5.
NOTE:	Remove boulder barrier and replace barrier material at end of timber sale.
0+00	Install 12” x 40’ CMP in ditch-line at junction with approach.
4+70	Renovate existing 60’ diameter end landing in accordance with Sections 200, 300, 1000 and 1800 of the Timber Sale Road Specifications. Surface entire diameter of landing with 8” lift of 6-0” crushed aggregate. End renovation.

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CONSTRUCTION DETAIL SHEET
29-9-21.1 Ext.
CONTROL POINT

GENERAL
Purchaser shall construct 29-9-21.1 ext. from Sta. 0+00 to Sta. 3+50 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details Sheet No. 5.

TURNOUTS
None.

SUBGRADE
The subgrade shall be excavated and compacted in accordance with the 200 and 300 Sections of the Timber Sale Road Specifications.

DRAINAGE FEATURES
Out-slope &/or in slope at 3% with no ditch to achieve drainage.

SURFACING
Apply an 8" lift of 3-0” crushed aggregate in accordance with Section 1000 of the Road Specifications and Typical Cross Section Sheet No. 5.

ALIGNMENT
Begin construction at MP 1.18 of BLM Road No. 29-9-21.1. The roadway shall be constructed within posted or painted right-of-way boundaries. The minimum curve radius shall be sixty (60) feet.

GRADE
Grade shall not exceed 10% favorable and adverse.

TRUCK TURNAROUND
None

LANDINGS (Grade shall not exceed 5%)
Construct 60’ diameter end landing at Sta. 3+50. 50 CY of 6-0” crushed aggregate allocated for surfacing.

SOIL STABILIZATION
Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Timber Sale Road Specifications.

CONSTRUCTION DETAIL SHEET
29-9-21.14
CONTROL POINT

GENERAL

Purchaser shall construct 29-9-21.14 from Sta. 0+00 to Sta. 9+25 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

NOTE: Construction of a swing road may be necessary to facilitate yarding. From Sta. 9+25 to Sta. 13+70, the Purchaser may construct a swing road as shown on location map. Purchaser and Operator shall ensure any requirements are implemented, whether in construction or use of swing roads. Road specifications do not pertain to swing road since swing road is intended for skidding equipment (designed and manufactured for use on steep terrain).

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details Sheet No. 5.

TURNOUTS

None.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the 200 and 300 Sections of the Timber Sale Road Specifications.

DRAINAGE FEATURES

Crowned at 3% with 2’ ditch to achieve drainage. Construct ditch-out right at Sta. 1+70.

SURFACING

Apply an 8" lift of 3-0” crushed aggregate and cap with a 4” lift of 1.5-0” crushed aggregate from 0+00 to 9+25 in accordance with Section 1000 and 1200 of the Road Specifications and Typical Cross Section Sheet No. 5.

ALIGNMENT

Begin construction at Station 7+50 of BLM Road No. 29-9-21.0. The roadway shall be constructed within posted or painted right-of-way boundaries. The minimum curve radius shall be sixty (60) feet. Sta. 9+26 to Sta. 13+70 construct swing road.

GRADE

Overall grade shall not exceed 18% adverse with exception of several short segments with grades greater than 19% adverse.

TRUCK TURNAROUND

Construct truck turnaround at Sta. 7+00 in accordance with Sections 200 and 300. 30 CY of 6-0” crushed aggregate allocated for surfacing.

LANDINGS (Grade shall not exceed 5%)

Construct 60’ diameter roadside landing left at Sta. 9+25. 50 CY of 6-0” crushed aggregate allocated for surfacing.
Construct 60’ diameter end landing at Sta. 13+70; if swing road constructed by Purchaser.

SOIL STABILIZATION

Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Timber Sale Road Specifications.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-9-21.15
DESIGNED ROAD

GENERAL
Purchaser shall construct Road No. 29-9-21.15 from Sta. 0+00 to Sta. 8+20 as shown on the Plan and Profile Sheet No. 10. This work shall be accomplished in accordance with details and Timber Sale Road Specification which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Sheet No. 5. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None.

SUBGRADE
The subgrade shall be excavated and compacted in accordance with the Sections 200 and 300. All excavated material shall be utilized as fill in construction of subgrade, end landing, and truck turnaround. Full bench construction is required from Sta. 0+00 to 1+10 and 4+00 to 4+75. Additional curve widening is required from Sta. 2+00 to 5+50. Maximum cut depth is 9.0’ and the maximum fill depth is 3.8’.

DRAINAGE FEATURES
Crowned at 3% with 2’ ditch to achieve drainage.
Install 18” x 34’ corrugated plastic pipe culvert and catch basin in accordance with Section 400 and Culvert Installation Detail Sheet No. 8.
Install ditch-outs at Sta. 4+50 (left) and at end landing (right).

SURFACING
Apply a 12” lift of 3-0” crushed aggregate in accordance with Section 1000 and Typical Cross Section Details Sheet No. 5.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries.
Minimum curve radius shall be sixty (60) feet. The final L-Line location of the road has been marked. Slope staking and reference marking shall be completed by the Coos Bay BLM prior to construction.

GRADE
Overall grade shall not exceed 18% adverse with the exclusion of 19% pitch at Sta. 5+00 to 6+50.

TRUCK TURNAROUND
Construct truck turnaround at Sta. 7+50 in accordance with Sections 200 and 300. 30 CY of 6-0” crushed aggregate allocated for surfacing.

LANDINGS
Construct 60’ diameter end landing at Sta. 8+20. 50 CY of 6-0” crushed aggregate allocated for surfacing.
Grade of landings and approaches shall not exceed 5%.

SOIL STABILIZATION

Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction specifications.

CONSTRUCTION DETAIL SHEET
29-9-31.5
CONTROL POINT

GENERAL
Purchaser shall construct 29-9-31.5 from Sta. 0+00 to Sta. 6+88 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details Sheet No. 5.

TURNOUTS
None.

SUBGRADE
The subgrade shall be excavated and compacted in accordance with the 200 and 300 Sections of the Timber Sale Road Specifications.

DRAINAGE FEATURES
Crowned with 2’ ditch to achieve drainage.

SURFACING
Apply an 8" lift of 3-0” crushed aggregate in accordance with Section 1000 of the Road Specifications and Typical Cross Section Sheet No. 5.

ALIGNMENT
Begin construction at Sta. 16+00 of BLM Road No. 29-9-31.4. The roadway shall be constructed within posted or painted right-of-way boundaries. The minimum curve radius shall be sixty (60) feet.

GRADE
Grade shall not exceed 5% favorable and 12% adverse.

TRUCK TURNAROUND
None

LANDINGS (Grade shall not exceed 5%)
Construct 60’ diameter end landing at Sta. 6+88. 50 CY of 6-0” crushed aggregate allocated for surfacing.

SOIL STABILIZATION
Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Timber Sale Road Specifications.

TIMBER SALE ROAD SPECIFICATIONS

TABLE OF CONTENTS

Asterisks (*) on following pages, indicate those Subsections always included for Sections.

Please note, while the Timber Road Specifications is tailored to individual projects, some Subsections are included for the purpose of addressing site conditions, situations, and road work activities that may be encountered or determined during active operations.

TIMBER SALE ROAD SPECIFICATIONS

GENERAL – 100

101* - Prework Conference(s):

A prework conference will be held prior to the start of 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.

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.

TIMBER SALE ROAD SPECIFICATIONS

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 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.

TIMBER SALE ROAD SPECIFICATIONS

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 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.

TIMBER SALE ROAD SPECIFICATIONS

Slope ratio notation (horizontal: vertical) – Slope ratios for constructed cut and fill slopes are expressed as a ratio of horizontal units to vertical units.

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.

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.

TIMBER SALE ROAD SPECIFICATIONS

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:

AASHTO T 11	Quantity of rock finer than No. 200 sieve.
AASHTO T 27	Sieve analysis of fine and coarse aggregate using sieves with square openings; gradation.
AASHTO T 89	Liquid limit of material passing the No. 40 sieve. Water content at which the soil passes from a plastic to a liquid state.
AASHTO T 90	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.
AASHTO T 96	Resistance to abrasion of small size coarse aggregate by use of the Los Angeles machine.
AASHTO T 99	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.
AASHTO T 119	Slump of hydraulic cement concrete.
AASHTO T 152	Air content of freshly mixed concrete.
AASHTO T 166	Specific Gravity of compacted Bituminous Mixtures.
AASHTO T 176	Shows relative portions of fine dust or claylike materials in soil or graded aggregate.

TIMBER SALE ROAD SPECIFICATIONS

AASHTO T 180 (OSHD 106-71) moisture density relationship of soil same as AASHTO T 99 proctor but uses a 10-lb rammer & 18-in drop height.

AASHTO T 191 Sand Cone. 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.

AASHTO T 205 Rubber balloon. Density of soil in place. Use for compacted or firmly bonded soil.

AASHTO T 209 Maximum Specific Gravity of Bituminous Paving Mixtures.

AASHTO T 210 Durability of aggregates based on resistance to produce fines.

AASHTO T 224 Correction for coarse particles in the soil.

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

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

ASTM D 4564 Determination of relative density of cohensionless soils.

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

103* - Compaction equipment shall meet the following requirements:

103a - Padded Drum Rollers. The unit shall consist of a drum with pads, be either self propelled or towed by a tractor, and capable of operating at a speed of 6 mph. The drum shall be no less than 48 inches in diameter over the pads and not less than 60 inches in width. The pads shall have a minimum height of 3 inches, and a face area of not less than 14 square inches. The weight at drum shall be no less than 8000 lb.

103b - Sheepfoot rollers. A tamping roller unit shall consist of two watertight metal drums mounted in frames in such manner as to be fully oscillating, together with a tractor having sufficient weight and power under actual working conditions to pull the roller drums at a minimum speed of 2.5 miles per hour. The drums shall be no less than 60 inches in diameter and no less than 54 inches in length, measured at the drum's surface, and shall be studded with tamping feet projecting not less than 7 inches from the face of the drums.

The distance between circumferential rows of tamper feet shall be such that the diagonal distance from any foot to the nearest foot in each adjacent row shall be not more than 12 inches. The cross-sectional area of the face of each tamper foot, measured perpendicular to the axis of the stud, shall be not less than 5-1/2 square inches nor more than 8 square

inches.

The weight of the tamping-roller unit shall be such as to exert a minimum pressure of 250 pounds per square inch on the ground area in contact with the tamping feet, and the roller shall be so designed that the weight may be increased to exert a pressure up to 500 pounds per square inch on the ground area in contact with the tamping feet. The ground pressure shall be determined by dividing the total weight of the roller unit, not including the weight of the tractor, by the total cross-sectional area of the tamping feet in one row of tamping feet parallel to the axis of the roller.

103c - Smooth-wheel power rollers. Smooth-wheel power rollers shall either be of the 3-wheel type, weighing not less than 10 tons, or of the tandem type, 2-wheel or 3-wheel, weighing not less than 8 tons. Smooth-wheel roller shall provide compression of 325 pounds per linear inch of width of rear wheels or drum.

103d - Pneumatic-tired rollers. Pneumatic-tired rollers shall be of the double-axle type equipped with pneumatic tires each of equal size and type. The spacing between the sidewalls of adjacent tires shall not exceed 5 inches and the rear tires shall be staggered in relation to the front tires. The rolling width of the unit shall be not less than 60 inches, exclusive of the power unit. The roller shall be so constructed that the contact pressure is uniformly distributed on all of the tires, and the tires shall be inflated to maintain the air pressure in the several tires within a total tolerance of 5 pounds per square inch. The roller shall be so constructed that the total weight shall be between 1,000 and 2,000 pounds per tire. The actual operating weight of the rollers shall be as ordered by the Authorized Officer.

Each pneumatic-tired roller shall be drawn by equipment having sufficient power and weight under normal working condition to pull the roller at a minimum speed of 5 miles per hour, or it may be self-propelled to obtain a minimum speed of 5 miles per hour.

103e - Grid roller. A grid roller shall consist of two or more cylindrical drums independently mounted on a common shaft in a rigid frame. Each drum shall have a minimum outside diameter of 5 feet and a minimum width of 2 feet 6 inches. The overall width of the roller exclusive of frame shall be not less than 5 feet 6 inches of which not more than 6 inches shall be used for center spacing between two roller drums. The face of the drums shall have the appearance of woven open-mesh made by interlacing bars of not less than 1-1/4 inches nor more than 1-3/4 inches diameter space spaced on 4-1/2 inches to 5-1/2 inches center. Net opening between the bars shall be not less than 3 inches nor more than 4 inches. The roller shall be so constructed that counterweights can be used to adjust the gross weight of the roller to not less than 27,000 pounds. The grid roller shall be drawn by a power unit capable of propelling the fully loaded roller through 6 inches of loose embankment material at a speed of at least 4 miles per hour.

TIMBER SALE ROAD SPECIFICATIONS

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.

103h - Drum drive self-propelled vibratory grid roller. The unit shall consist of one cylindrical drum with a drum diameter of not less than 56 inches, nor more than 66 inches and the drum width shall be 84 inches. Vibratory frequency shall be regulated in seeps from 1200 to 1800 vibrations per minute (VPM), and the centrifugal force developed shall be at least 40,000 pounds at 1800 RPM. The vibratory grid roller shall be self-propelled and have a power unit of not less than 112 horsepower. The "grid" design shall be a herringbone or z-bar pattern around the circumference of the drum. The grid bars shall be 1 inch in height and spaced not more than 8-1/2 inches apart.

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.

201a - This work shall consist of clearing, grubbing, removing and disposing of vegetation, debris, surface objects, and protruding obstructions from borrow pits, quarries, channel changes, stockpile sites, etc., in accordance with these specifications.

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

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

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

203c - Disposal of logs from private timber cleared within the limits established as shown on the plans shall consist of decking at a location designated by the Authorized Officer.

204* - Grubbing shall consist of the removal and disposal of stumps, roots, and other wood material embedded in the ground and protruding obstacles remaining as a result of the clearing operation in accordance with Subsections 204a, 204b, 204c, 204d and 204e between the top of the cut slope and the toe of the fill slope. When authorized, undisturbed stumps, roots and other solid objects which will be a minimum of 3 feet below subgrades or slope surfaces or embankments are excluded.

204a - Stumps, including those overhanging cut banks, shall be removed within the required excavation limits.

204b - Stumps and other protruding objects shall be completely removed within the limits of required embankments having heights of less than 4 feet. When authorized, stumps and other nonperishable objects may be left provided they do not extend more than 6 inches above the existing ground line.

204c - On excavated areas, roots and embedded wood shall be removed to a depth not less than 6 inches below the subgrade.

TIMBER SALE ROAD SPECIFICATIONS

204d - On areas to be occupied by embankments having heights greater than 4 feet, no stump or portion thereof shall remain within 3 feet of embankment subgrades or slope surfaces after grubbing is completed.

204e - Roots and embedded wood material shall be removed to a depth not less than 1 foot below embankment subgrades or slope surfaces.

205 - Clearing and grubbing debris shall not be placed or permitted to remain in or under road embankment sections.

210 - Disposal of clearing and grubbing debris shall be by piling or scattering over government owned lands outside of established clearing limits in a manner acceptable to the Authorized Officer. **The areas for such piling or scattering shall have the prior approval of the Authorized Officer.** Piled slash may be used as mulch during road decommissioning.

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, borrowing, leveling, ditching, grading, insloping, outsloping, crowning and scarification of the subgrade, compaction, disposal of excess and unsuitable materials, and other earth-moving work in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.

302* - Excavation shall also consist of the excavation of road and landing cut sections, borrow sites, backfilling, leveling, ditching, grading, compaction, and other earth moving work necessary for the construction of the roadway in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.

303 - Suitable material removed from the excavation shall be used in the formation of embankment subgrade, shoulders, slopes, bedding, backfill for structures, and for other purposes as shown on the plans.

303a - **Excavated material shall not be wasted as sidecast or perched. All material perched or sidecast as waste shall be retrieved and disposed of at the Purchaser's expense and at the direction of the Authorized Officer.**

305* - Embankment construction shall consist of the placement of excavated and borrowed materials, backfilling, leveling, grading, compaction, and other earth-moving work necessary for the construction of the roadway and landings in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.

305a - Material used in the construction of embankment sections shall be free of stumps, cull logs, brush, muck, sod, roots, frozen material, and other deleterious materials and shall be placed and compacted as specified.

305b - Embankment materials shall be placed in successive parallel layers on areas cleared of stumps, cull logs, brush, sod, and other vegetative and deleterious materials, except as provided under Subsection 204. Roadway embankments of earth material shall be placed in horizontal layers not exceeding 8 inches in depth.

TIMBER SALE ROAD SPECIFICATIONS

305c - Embankments formed of material containing less than 25 percent rock not larger than 8 inches in the greatest dimension shall be placed in 12-inch layers. Material containing more than 25 percent rock not larger than 12 inches in the greatest dimension shall be placed in successive layers not exceeding 2 feet in thickness. Individual rocks and boulders greater than 12 inches in diameter may be used to construct 2-foot embankment layers, provided they are carefully distributed, with interstices filled with fine material to form a dense and compact mass.

305d - Where embankments are constructed predominantly of blasted rock material, depth of layers shall not exceed 4 feet. Rock fragments having dimensions greater than 4 feet will be permitted provided that they have no dimensions greater than 6 feet and that clearance between adjacent fragments is adequate for the placing and compacting of material in horizontal layers as specified, and that no part of the larger fragments comes within 4 feet of subgrade.

306* - Layers of embankment, selected borrow, final subgrade, and selected roadway excavation material as specified under Subsections 305a and 305b shall be moistened or dried to a uniform optimum moisture content suitable for maximum density and compacted to full width with compacting equipment conforming to requirements of Subsections 103f and 103i and in accordance with the following table:

Road No.	From Sta./M.P.	To Sta./M.P.
29-9-21.1 ext.	0+00	3+50
29-9-21.14	0+00	13+70
29-9-21.15	0+00	8+20
29-9-31.5	0+00	6+88

306a - Optimum moisture content shall be determined by hand clump test i.e., where a soil sample forms a firm ball by hand that does not crumble, free moisture is not visible on the surface, and material does not squeeze between fingers.

306b - Minimum compaction for each layer of embankment, selected borrow, and selected roadway excavation material placed at optimum moisture shall be 1 hour of continuous compacting for each 4 stations of road or fraction thereof.

TIMBER SALE ROAD SPECIFICATIONS

306e - The final subgrade including landings, truck turnouts, and truck turnarounds shall be compacted to full width with compacting equipment conforming to the requirements of Subsections 103f and 103i. Minimum compaction shall be 1 hour of continuous compacting for each 4 stations of road (as measured along the center line of the constructed road) and/or until visual displacement ceases.

306g - **All fill slopes shall be compacted to 85 percent of maximum density, either by walking with cat/excavator or by pressing with excavator bucket, to prevent surface erosion and raveling.**

311 - In solid rock cuts where pockets that will not drain are formed by blasting below the subgrade elevation, drainage shall be provided by ditching to the edge of the subgrade and backfilling to grade, and compacting the pockets and the ditch with rock fragments, gravel, or other suitable porous material.

312 - When material, except solid rock, encountered in cuts at subgrade, is suitable for use in forming the finished roadbed, the top 6-inch layer of the subgrade shall be thoroughly scarified for the full width of the roadbed. Roots, sod, and other deleterious material or stones that will not pass a 6-inch square opening shall be removed. The scarified material shall be processed to the optimum moisture content suitable for maximum density and compacted in accordance with Subsection 306.

313 - In cut areas where solid rock is encountered at, or near subgrade, the rock shall be excavated to a minimum depth of 6 inches below subgrade elevation and the excavated area backfilled with suitable material. The backfill material shall be processed to the optimum moisture content suitable for maximum density and compacted to full width in accordance with the requirements of Subsection 306.

314 - When heavy clays, muck, clay shale, or other deleterious material for forming the roadbed is encountered in cuts at subgrade, it shall be excavated to a minimum depth of 2 feet below the subgrade elevation and the excavated area backfilled with a selected borrow material approved by the Authorized Officer. The backfill material shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density in accordance with the requirements of Subsection 306. Unsuitable material shall be disposed of as directed by the Authorized Officer.

NOTE: Additional material excavated in accordance with Subsections 313 and/or 314 should not be viewed as a design change.

TIMBER SALE ROAD SPECIFICATIONS

320 - Ditches shall conform to the slope, grade, dimensions, and shape of the required cross section shown on the plans. Roots, stumps, rocks, and other projections shall be removed to form smooth, even slopes.

321 - Excess excavated, unsuitable, or slide materials shall not be disposed of on areas where the material will encroach on a stream course or other body of water. Such materials shall be disposed of in accordance with Subsections 321a and/or 321c. Materials not disposed of in this manner shall be retrieved and disposed of at the Purchaser's expense and at the direction of the Authorized Officer.

NOTE: Any material being hauled over gravel or bituminous surfaced roads will be transported in vehicles which meet legal highway weight requirements while hauling.

321a - Excess construction materials specified under Subsection 321 shall be loaded, hauled, and disposed of at a designated disposal site or placed as embankment for designated roadbeds as shown on plans.

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. 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.

327* - The finished grading shall be approved in writing by the Authorized Officer. The Purchaser shall give the Authorized Officer 3 days' notice prior to final inspection of the grading operations and start of surfacing operations.

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.

403 - Grade culverts shall have a gradient of from 2 percent to 4 percent greater than the adjacent road grade. Grade culverts shall be skewed down grade 30 degrees as measured from the perpendicular to the 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 36 and AASHTO M 218, AASHTO M 274, or AASHTO M 289 as specified on the plans.

405e - Corrugated-polyethylene pipe for culverts 18-inch through 36-inch diameter shall meet the requirements of AASHTO M 294, Type S.

Corrugated-polyethylene pipe for culverts to be used for downspouts 18-inch through 24-inch diameter shall meet the requirements of AASHTO M 294, Type C. Installation will be subject to the same specification as other pipe materials.

406* - Coupling bands shall conform to the requirements of AASHTO M 36 and AASHTO M 218 or AASHTO M 274 with the exception of band widths and the "Hugger"-type band which shall conform to the details, dimensions, and typical diagram shown on the plans.

TIMBER SALE ROAD SPECIFICATIONS

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.

407 - Special sections, such as elbows, branch connections, and flared-end sections, shall be of the same gauge as the pipe to which they are joined, and shall conform to the requirements of AASHTO M 36 and AASHTO M 218 or AASHTO M 274.

407b - Full round culvert downspouts conforming to the material and construction requirements shall be anchored in accordance with details, dimensions, and typical diagrams as shown on plans. Downspouts will be anchored with two six-foot steel fence posts (one on each side of the pipe) wired together with No. 12 galvanized wire. These anchors will be placed every ten feet along the pipe beginning at outlet of culvert.

408* - Pipe culverts and pipe-arch culverts shall be placed on the bed starting at the downstream end with the inside circumferential laps pointing downstream and with the longitudinal laps at the side or quarter points. Coupling bands of the type required under these specifications shall be installed so as to provide the circumferential and longitudinal strength necessary to preserve the pipe alignment, prevent separation of the pipe sections, and minimize infiltration of fill material.

410* - 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 lines, grades, dimensions, and typical diagram that are shown on the Culvert Installation Detail Sheet.

412 - Where ledge rock or boulders are encountered, they shall be excavated a minimum of 10 inches below the invert grade for a width of at least 2 feet on each side of the pipe and shall be backfilled, as directed by the Authorized Officer, with selected granular or fine readily compactable soil material or crushed rock material in accordance with Section 1200 gradation.

TIMBER SALE ROAD SPECIFICATIONS

412a - Where 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, as directed by the Authorized Officer, with selected granular or fine readily compactable soil material or crushed rock material in accordance with Section 1200 gradation.

413* - Pipe culverts and pipe-arch culverts shall be bedded on a selected granular, crushed rock material in accordance with Section 1200 gradation (E-1), or fine readily compactable soil material, as directed by Authorized Officer, having a depth of not less than 6 inches as shown on plans. Foundation material shall be of uniform density throughout the length of the structure and shall be shaped to fit the pipe.

415 - Inspection of pipe culverts having a diameter of 48 inches or larger shall be made before backfill is placed. Culverts found to be out of alignment or damaged shall be replaced, reinstalled or repaired as directed by the Authorized Officer at the Purchaser's expense.

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 crushed rock material in accordance with Section 1200 gradation (E-1), 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.

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, or a minimum of 2 feet in width each side of, and adjacent to, the full length of the pipe barrel. Each layer shall be moistened or dried to a uniform moisture content suitable for maximum compaction and immediately compacted by approved hand or pneumatic tampers until a uniform density of 85 percent of the maximum density, is attained as determined by AASHTO T 99, Method C.

418 - Side fills beyond the compaction limits specified under Subsection 417 shall be compacted as specified under Section 300.

TIMBER SALE ROAD SPECIFICATIONS

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.

423 - Construction of catch basins and ditch dams conforming to lines, grades, dimensions and typical diagrams shown on the plans, shall be required for culverts.

424 - Construction of energy dissipaters (splash pads) conforming to lines, grades, dimensions and typical diagram shown on the plans, shall be required for culverts as indicated on Road Details Sheets.

425 - Where pervious materials are used for backfill and bedding, collars consisting of selected impervious material shall be placed at the inlet and at various intervals along the pipe barrel as shown on the plans and as directed by the Authorized Officer.

426 - Culvert markers consisting of 1/2-inch round steel bars 4 feet in length bolted to the culvert at the inlet or 6 foot steel fence posts painted white, shall be furnished, fabricated, and installed by the Purchaser at culverts as shown on the plans and as directed by the Authorized Officer.

428 - Remove and dispose of old culverts in a legal manner, and for any fees required. The Purchaser shall remove the old culverts from the work site prior to road acceptance.

429 - Keep the excavation site dewatered so that the installation of culverts is completed under dry conditions. Dispose of excess water by using pumping or natural drainage ways near the site in a manner that will avoid damage to adjacent property. Provide for downstream waterflow with no more 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, minor excavation and/or embankment, cleaning and shaping drainage ditches, installing culverts and energy dissipators, brushing vegetation from cut and embankment slopes, and cleaning and repairing drainage structures of existing roads in accordance with these specifications and as shown on the plans.

501a - This work shall include the removal and disposal of slides in accordance with these specifications.

502 - The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections shown on the plans at the following location(s):

Road No.	From Sta./M.P.	To Sta./M.P.
29-9-21.0	0.00	0.74
29-9-21.1	0.00	1.18
29-9-21.2	0.00	0.24
29-9-21.4	0+00	4+70
29-9-33.4	0.00	0.71
29-9-31.0	0.00	0.79
29-9-31.1	0.00	0.25
29-9-31.4	0+00	20+70
29-10-25.2	0.00	2.01
30-10-2.0	0.00	0.24

502a - Rocks larger than 4 inches in maximum dimension shall be removed from the scarified layers of the roadbed. Material so removed will not be permitted to remain on road shoulders or in ditches.

502b - Drainage ditches shall be bladed and shaped in accordance with the lines, grades, dimensions, and typical cross sections shown on the plans.

TIMBER SALE ROAD SPECIFICATIONS

503 - Debris from slides shall be disposed of as directed by the Authorized Officer.

TIMBER SALE ROAD SPECIFICATIONS

504 - Scarified material and 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 103f and 103i.

504a - Minimum compaction required shall be 1 hour of continuous rolling for each 4 stations of road, or fraction thereof, as measured along the centerline, or until visual displacement ceases per layer of material.

506 - The inlet end of existing drainage structures shall be cleared of vegetative debris and boulders that are of sufficient size to obstruct normal stream flow. Pipe inverts shall be cleared of sediment and other debris lodged in the barrel of the pipe. The outflow area of pipe structures shall be cleared of rock and vegetative obstructions which will impede the structure's designed outflow configuration. Catch basins shall conform to the lines, grade, dimensions, and typical diagram shown on the plans.

507 - Existing and new drainage structures shall be replaced or placed with structures of the type, gauge, diameter, and length shown on 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 shall be removed by cutting and disposed of in accordance with Section 2100 of these specifications.

509 - The finished grading shall be approved in writing by the Authorized Officer 3 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 embankments, roadbeds, backfills, base courses, surface courses, finishing and reconditioning of existing roadbeds, laying dust, or for other uses in accordance with these specifications.

602 - Water, when needed for compaction or laying dust, shall be applied at the locations, in the amounts, and during the hours as directed by the Authorized Officer. Amounts of water to be provided will be the minimum needed to properly execute the compaction requirements in conformance with these specifications.

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 for use of water sources selected by the Purchaser and approved by the Authorized Officer.

TIMBER SALE ROAD SPECIFICATIONS

AGGREGATE BASE COURSE - 1000
CRUSHED ROCK MATERIAL

*1001 - This work shall consist of furnishing, hauling, and placing one or more lifts of crushed rock material on roadbeds and landings approved for placing crushed rock material, in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans. Material not conforming to these specifications will be rejected and shall be removed from the road at the purchaser's expense.

1002a - Crushed rock materials may be obtained from a commercial sources selected by the Purchaser at his option and expense providing that the rock materials selected comply with the specifications in this section.

*1003 - Crushed rock material produced from gravel shall have 3 manufactured fractured faces on 75 percent, by weight, of the material retained on the No. 4 sieve.

TIMBER SALE ROAD SPECIFICATIONS

*1004 - Crushed rock materials shall consist of hard durable rock fragments conforming to the following gradation requirements:

TABLE 1004

AGGREGATE BASE COURSE
CRUSHED ROCK MATERIAL
Percentage by Weight Passing Square Mesh Sieves
(AASHTO T 11 & T 27)

GRADATION

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

TIMBER SALE ROAD SPECIFICATIONS

1005 - Crushed rock material shall not exceed (35) percent loss as determined by AASHTO T 96.

1006 - Crushed rock material shall show durability value of not less than 35, as determined by AASHTO T 210.

1007 - That portion of crushed rock material passing the No. 40 sieve, including blending filler, shall have liquid limits of not more than 35, and a plasticity index of not less than 4 and not more than 12 as determined by AASHTO T 89 and AASHTO T 90.

1007a - 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 equivalent of less than 35, the aggregate will be accepted if it complies with the additional requirement as follows:

TABLE 1007a

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

1008 - If additional binder or filler is necessary in order to meet the grading or plasticity requirements, or for satisfactory bonding of the material, it shall be uniformly blended with the crushed rock material at the crushing and screening plant prior to placing on the road, unless otherwise agreed. The material for such purposes shall be obtained from sources approved by the Authorized Officer and shall be free from stones, vegetative matter, and other deleterious materials.

TIMBER SALE ROAD SPECIFICATIONS

1008a - Each layer of crushed rock material shall be thoroughly mixed on the roadbed by alternately blading, to full depth, until a uniform mixture has been obtained. The mixture shall then be spread to full width. When completed, the spreading shall produce a surface which is smooth, presents uniform shoulder lines, and conforms to the specified cross section.

*1009 - The roadbed, as shaped and compacted under Sections 300 and 500 of these specifications, shall be approved in writing by the Authorized Officer prior to placement of crushed rock materials. Notification for final inspection prior to rocking shall be 3 days prior to that inspection and shall be 6 days prior to start of rocking operations.

*1010 - Crushed rock materials shall be placed and processed on the approved roadbed in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and compacted in layers not to exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted, before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and adding or removing crushed rock material until the surface is smooth and uniform.

1010a - Crushed rock material used to repair or reinforce a soft, muddy, frozen, yielding, or rutted roadbed shall not be construed as surfacing under this specification unless approved as such by the Authorized Officer prior to placement.

1012 - Each layer of crushed rock material shall be placed, processed, shaped, moistened or dried to a uniform moisture content suitable for maximum compaction, and compacted to full width by compaction equipment conforming to the requirements of Subsection 103f and 103i. Minimum compaction shall be one (1) hour of continuous compacting for each 150 cubic yards, or fraction thereof, of crushed rock material placed per layer.

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 and base courses approved for placing crushed rock material in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans. Material not conforming to these specifications will be rejected, and shall be removed from the road at the purchaser's expense.

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 75 percent by weight of the particles retained on the No. 4 sieve will have 3 manufactured fractured faces.

TIMBER SALE ROAD SPECIFICATIONS

*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 shall not exceed 35 percent loss 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.

1206a - The crushed rock material shall show a loss of not more than 20 percent by weight, when submerged in DMSO, dimethyl sulfoxide, for five days, according to Federal Highway Administration Region 10 Accelerated Weathering Test Procedure.

TIMBER SALE ROAD SPECIFICATIONS

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:

TABLE 1207a

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

1208 - If additional binder or filler material is necessary to meet the grading or plasticity requirements or for satisfactory bonding of the material, it shall be uniformly blended with the crushed rock material at the crushing and screening plant prior to placing on the road, unless otherwise agreed. The material for such purposes shall be obtained from sources approved by the Authorized Officer and shall be free from stones, vegetative matter, and other deleterious materials.

1208a - Each layer of crushed rock material shall be thoroughly mixed on the roadbed by alternately blading, to full depth, until a uniform mixture has been obtained. The mixture shall then be spread to full width. When completed, the spreading shall produce a surface which is smooth, presents uniform shoulder lines, and conforms to the specified cross section.

TIMBER SALE ROAD SPECIFICATIONS

*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 500 for placing on the roadbed and landings. Notification for final inspection prior to rocking shall be 3 days prior to the inspection and shall be 6 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, and landings 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 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 Subsection103f. Minimum compaction shall be one (1) hour of continuous compacting for each 150 cubic yards of crushed rock material placed per layer, or fraction thereof.

TIMBER SALE ROAD SPECIFICATIONS

SLOPE PROTECTION - 1400

*1401 - This work shall consist of furnishing, hauling, and placing stone materials (rip rap) for slope protection structures and energy dissipaters (splash pads) 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 as directed by the Authorized Officer.

*1402 - Stone material shall consist of hard angular quarry rock of such quality that it will not disintegrate on exposure to water or weathering, and shall be graded in accordance with these specifications.

1404 - The material shall be well graded from the smallest to the maximum size specified. Stones smaller than the specified 10 percent size shall consist of spalls and fine rock fragments so distributed as to provide a stable compact mass.

1405 - Rip rap shall conform to the following gradations:

TABLE 1405[1]

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

TIMBER SALE ROAD SPECIFICATIONS

	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

[1]Gradation includes spalls and rock fragments to provide a stable, dense mass.
[2]The 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.
[3]Rock 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.

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.

*1407 - Determination of the acceptability of the slope protection material gradation will be through visual inspection, and/or physical measurements by the Authorized Officer.

TIMBER SALE ROAD SPECIFICATIONS

1408 - Trenches for slope protection structures shall be excavated to the lines, elevations, and typical diagram shown on the plans or directed by the Authorized Officer. 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.

1408b - The Purchaser shall excavate unsuitable roadway material as shown on the plans or directed by the Authorized Officer prior to the placement of the required energy dissipater(s) or structure(s).

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.

1704 - The erosion control provisions specified under this Subsection shall be coordinated with the Soil Stabilization requirements of Section 1800.

1705 - The surface area of erodible earth material exposed at any one time by clearing and grubbing shall not exceed 25,000 square feet without prior approval by the Authorized Officer.

1706 - The surface area of erodible earth material exposed at one time by excavation, borrow, or fill within the right-of-way shall not exceed 25,000 square feet without prior approval by the Authorized Officer.

1707 - Completed and partially completed segments of roads carried over the winter and early spring periods shall be stabilized by mulching and as directed by Authorized Officer. Mulching shall be in accordance with Section 1800.

1708 - Newly constructed or graded roads to be carried over the winter period, shall be blocked to vehicular traffic.

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.

TIMBER SALE ROAD SPECIFICATIONS

SOIL STABILIZATION – 1800

*1801 - This work shall consist of seeding, fertilizing, 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 not required for road acceptance under Section 18 of this contract.

1802a - Soil stabilization work consisting of seeding, fertilizing, and mulching shall be performed on new road construction, road renovation, improvements, landings, disturbed areas, borrow sites, disposal sites, and specials areas in accordance with these specifications and as shown on the plans.

1803 - Soil stabilization work as specified under Subsection 1802a shall be performed during the following seasonal periods:

From: March 15	To: April 30
From: September 1	To: October 15

If soil stabilization of disturbed areas is not completed by the specified fall date, the Purchaser shall treat disturbed areas in accordance with Subsection 1700 and then complete the requirements of Section 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.

1804 - The BLM shall provide native grass/forb seed or other plant materials (plugs, waddles, bulbs, etc.) for this project.

1806 - The Purchaser shall apply the seed mixtures specified under Subsection 1804 to the corresponding seeding projects as shown on **Sheet No. 7**.

TIMBER SALE ROAD SPECIFICATIONS

1806a - Additional soil stabilization work consisting of seeding, fertilizing, 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.

1807 - Fertilizer shall be a standard commercial grade of fertilizer conforming to all State and Federal regulations and to the standards of the Association of Official Agricultural Chemists. Fertilizer furnished shall provide the minimum percentage of available nutrients as specified below:

Available nitrogen	16 %
Available phosphoric acid	20 %
Potassium	16 %

The Authorized Officer will take what samples he deems necessary for determining compliance with the above requirements.

Fertilizer shall be furnished in new sealed and properly labeled containers with name, weight, and guaranteed analysis of contents clearly marked. Material failing to meet these requirements, or that which has become wet or otherwise damaged in transit or storage, will be subject to rejection by the Authorized Officer.

1808 - Mulch materials conforming to the requirements of Subsections 1808a shall be furnished by the Purchaser in the amounts specified under Subsection 1811 and applied in accordance with Subsection 1812.

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.

TIMBER SALE ROAD SPECIFICATIONS

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.

1810 - Bulk mulching material required under these specifications shall be delivered to the work area bound either by twine, string or hemp rope. Wire binding will not be permitted.

1811 - The Purchaser shall furnish and apply to approximately **4.2** acres designated for treatment as shown on the plans and as specified under Subsections 1802a and 1806, grass seed, fertilizer, and mulch material at the following rate of application:

b. Dry Application:

Grass & Legume Seed	30 lbs./acre
Fertilizer	200 lbs./acre
Mulch	3000 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 1806, grass seed, fertilizer, and mulch material at the application rate to be determined by the Authorized Officer based on visual observation.

Mulches shall be spread/placed in treatment areas to a depth of 2 inches 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.

TIMBER SALE ROAD SPECIFICATIONS

1815 - The seed, fertilizer, and mulch materials shall be placed by dry method in accordance with the requirements set forth in Subsection 1815b.

1815b - Dry Method - Blowers, mechanical seeders, seed drills, landscape seeders, cultipaker seeders, fertilizer spreaders, or other approved mechanical seeding equipment may be used when seed and fertilizer are to be applied in dry form.

1818 - The maximum distance to be seeded, fertilized, and mulched from the road centerline shall be 100 feet for the cut slopes and 150 feet for the fill slopes.

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 operation 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 and/or manually with hand tools, including chain saws.

*2103 - Vegetation cut manually and/or mechanically less than 6 inches in diameter when measured at D.B.H.O.B. shall be cut to a maximum height of 2 inches above the ground surface or above obstructions such as rocks or stumps on cut and fill slopes and all limbs below the 2 inch area will be severed from the trunk.

2103a - Vegetation shall be cut and removed from the roadbed between the outside shoulders and the ditch centerline and such vegetation shall be cut to a maximum height of 2 inches above the ground and running surface. Limbs below the 2 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 D.B.H.O.B 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 12 feet in elevation above the running surface shall be cut, to within 1 inch of the trunk to produce a smooth vertical face.

2106 - Vegetatation 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.

TIMBER SALE ROAD SPECIFICATIONS

2107 - Inside curves shall be brushed out for a sight distance of 200 feet chord distance or a middle ordinate distance of 25 feet, whichever is achieved first. Overhanging limbs and vegetation in excess of 1 foot in height, shall be cut within these areas.

2108 - Self propelled equipment shall not be permitted on cut and fill slopes or in ditches.

2109 - Debris resulting from this operation shall be scattered downslope from the roadway. Debris shall not be allowed to accumulate in concentrations or be placed against trees. Debris in excess of 1 foot in length and 2 inches in diameter shall not be allowed to remain on cut slopes, ditches, roadways or water courses, or as directed by the Authorized Officer.

2115 - Mechanical brush cutters shall not be operated when there are people and occupied vehicles within 400 feet of the immediate operating area.

2116 - Traffic warning signs shall be required at each end of the work area. Signs shall meet the requirements of the Manual on Uniform Traffic Devices.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Version: 6.1.0.39

Summary of All Roads and Projects Updated: 11/20/2019

T.S. Contract Name: Preacher Man Tract No: 2021.0031 Sale Date: 26 Feb 21
Prepared by: M. Russell Ph: 5417514275 Print Date: 1/27/2021 2:53:00 PM
Construction: 32.28 sta
Improve: 16.20 sta Renov: 334.33 sta Decom: 0.00 sta Temp: 0.00 sta

200 Clearing and Grubbing**: 5.2 acres $17,996.52

300 Excavation: 1,230 cy $21,322.94
Haul < 500 ft: 0 sta-yds
Haul > 500 ft: 0 yd-mi

400 Drainage: $4,825.78
Culvert: 40 lf DownSpout: 0 lf
PolyPipe: 74 lf

500 Renovation: $14,760.70
Blading 6.33 mi

700-1200 Surfacing: $199,115.26
Commercial Quarry Name: B&B Roads 1.5-0" Spo 530 LCY
Commercial Quarry Name: B&B Roads 1.5-0" 883 LCY
Commercial Quarry Name: B&B Roads 3-0" 2,543 LCY
Commercial Quarry Name: B&B Roads 6-0" 1,100 LCY
Commercial Quarry Name: B&B Roads Rip Rap 20 LCY
Commercial Quarry Name: B&B Roads Bedding 20 LCY

1300 Geotextiles: $0.00

1400 Slope Protection: $0.00

1800 Soil Stabilization: 4.2 acres $3,600.51
Includes Small Quantity Factor of 1.35

1900 Cattleguards: $0.00

2100 RoadSide Brushing: $3,126.43
Mechanical Brushing: 9.6 acres

2300 Engineering: 0.00 sta. $0.00

2400 Minor Concrete: $0.00

2500 Gabions: $0.00

8000 Miscellaneous: $0.00

Mobilization: Const. $4,553.50 Surf. $0.00..... $4,553.50

Quarry Development: $0.00

Total: = $269,301.64

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities are loose cubic yards.
** If Clearing & Grubbing is not shown, may be included in Section 300 (Excavation) as time & equipment.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-10-25.2 R Road Name:
Road Renovation: 2.01 mi 16 ft Subgrade 2 ft ditch

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:	$4,604.99
Blading 2.01 mi	
700-1200 Surfacing:	$6,120.00
Quarry Name: B&B Roads 1.5-0" Spo 150 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.2 acres	$175.63
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):2.0 acres	$488.50
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $195.89 Surf. $0.00.....	$195.89
Quarry Development:	$0.00
Total:	$11,585.01

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-10-25.2 R 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: $708.54/mi x 2.01 mi = $1,424.17
  Scarification: $868.38/mi x 2.01 mi = $1,745.44
  Compaction: $330.78/mi x 2.01 mi = $664.87
  Clean Culverts: $383.34/mi x 2.01 mi = $770.51

Subtotal: $4,604.99

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 1.5-0" Spo
 Comment: spot rock

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									150 LCY

  Rock Volume = 150 LCY
  Purchase Price / Royalty: $12.00/LCY x 150 LCY = $1,800.00
  Processing: $0.90/LCY x 150 LCY = $135.00
  Compaction: $1.10/LCY x 150 LCY = $165.00
  Basic Rock Haul cost: $0.59/LCY x 150 LCY = $88.50
  Rock Haul +15% grades: $1.78/LCY-mi x 150 LCY x 4.00 mi= $1,068.00
  Rock Haul -15% grades: $0.89/LCY-mi x 150 LCY x 13.00 mi= $1,735.50
  Rock Haul St& Co Roads: $0.39/LCY-mi x 150 LCY x 11.00 mi= $643.50
  Basic Water Haul cost: $0.54/LCY x 150 LCY = $81.00
  Water Haul +15% grades: $0.25/LCY-mi x 150 LCY x 4.00 mi= $150.00
  Water Haul -15% grades: $0.13/LCY-mi x 150 LCY x 13.00 mi= $253.50

Subtotal: $6,120.00

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
 Comment: cut banks and catch basins
  Dry Method with Mulch: $524.17/acre x 0.20 acres = $104.83
        Includes Small Quantity Factor of 1.35
        + Fertilizer Cost: $34.00/acre x 0.20 acres = $6.80
        + Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $175.63

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $244.25/acre x 2.00 acres = $488.50

Subtotal: $488.50

Road Number: 29-10-25.2 R Continued

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 4.30% of total Costs = $195.89
  Surfacing - 2.94% by rock volume = $0.00

Subtotal: $195.89

Quarry Development:
  Based on 2.94% of total rock volume

Subtotal: $0.00

Total: $11,585.01

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-21.0 I Road Name:
Road Improvement: 0.22 mi 16 ft Subgrade ft ditch

200 Clearing and Grubbing: 1.3 acres	$4,720.37
300 Excavation:	$3,101.84
400 Drainage:	$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$32,282.46
Quarry Name: B&B Roads 3-0" 833 LCY	
Quarry Name: B&B Roads 6-0" 70 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.6 acres	$526.90
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.0 acres	$0.00
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $698.84 Surf. $0.00	$698.84
Quarry Development:	$0.00
Total:	$41,330.42

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-21.0 I Road Name:

Section 200 Clearing and Grubbing:
Clearing - Heavy (Clearing): Adjustment Factor (2.54)
1-15% (Avg Side Slopes): Adjustment Factor (0)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:2.54 + 0 + 1.28 + 0.1 = 3.92
Base Cost/Acre: $926.29 x Adjustment Factor: 3.92 x Total Acres: 1.3 = $4,720.37
Subtotal: $4,720.37

Section 300 Excavation:
Subgrade Compaction: 4 Sta/hr $27.57/sta. x 13.0 sta = $358.41
Blading with ditch: $14.27/station x 13.00 stations = $185.51
subgrade improvement
Tractor: D7 with rippers 12 hr x $159.87/hr = $1,918.44
LDNG and turn around
Tractor: D7 with rippers 4 hr x $159.87/hr = $639.48
Subtotal: $3,101.84

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 3-0"
Comment: 12' lift surfacing

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.22mi	12ft	16ft	12in	5%					

Rock Volume = 833 LCY
Purchase Price / Royalty: $11.50/LCY x 833 LCY = $9,579.50
Processing: $0.90/LCY x 833 LCY = $749.70
Compaction: $1.10/LCY x 833 LCY = $916.30
Basic Rock Haul cost: $0.59/LCY x 833 LCY = $491.47
Rock Haul +15% grades: $1.78/LCY-mi x 833 LCY x 3.20 mi= $4,744.77
Rock Haul -15% grades: $0.89/LCY-mi x 833 LCY x 10.20 mi= $7,561.97
Rock Haul St& Co Roads: $0.39/LCY-mi x 833 LCY x 11.00 mi= $3,573.57
Basic Water Haul cost: $0.54/LCY x 833 LCY = $449.82
Water Haul +15% grades: $0.25/LCY-mi x 833 LCY x 3.20 mi= $666.40
Water Haul -15% grades: $0.13/LCY-mi x 833 LCY x 10.20 mi= $1,104.56

Commercial Quarry Name: B&B Roads 6-0"
Comment: 2 LDNGs

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									70 LCY

Rock Volume = 70 LCY
Purchase Price / Royalty: $10.60/LCY x 70 LCY = $742.00
Processing: $0.90/LCY x 70 LCY = $63.00
Compaction: $1.10/LCY x 70 LCY = $77.00
Basic Rock Haul cost: $0.59/LCY x 70 LCY = $41.30
Rock Haul +15% grades: $1.78/LCY-mi x 70 LCY x 3.20 mi= $398.72
Rock Haul -15% grades: $0.89/LCY-mi x 70 LCY x 10.20 mi= $635.46
Rock Haul St& Co Roads: $0.39/LCY-mi x 70 LCY x 11.00 mi= $300.30
Basic Water Haul cost: $0.54/LCY x 70 LCY = $37.80
Water Haul +15% grades: $0.25/LCY-mi x 70 LCY x 3.20 mi= $56.00
Water Haul -15% grades: $0.13/LCY-mi x 70 LCY x 10.20 mi= $92.82
Subtotal: $32,282.46

Road Number: 29-9-21.0 I Continued

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $524.17/acre x 0.60 acres = $314.50
    Includes Small Quantity Factor of 1.35
    + Fertilizer Cost: $34.00/acre x 0.60 acres = $20.40
    + Mulch Cost: $320.00/acre x 0.60 acres = $192.00

Subtotal: $526.90

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 15.35% of total Costs = $698.84
  Surfacing - 17.72% by rock volume = $0.00

Subtotal: $698.84

Quarry Development:
  Based on 17.72% of total rock volume

Subtotal: $0.00

Total: $41,330.42

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-21.0 R Road Name:
Road Renovation: 0.52 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.1 acres	$305.68
300 Excavation:	$997.10
400 Drainage:	$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$1,277.48
Blading 0.52 mi	
700-1200 Surfacing:	$7,962.80
Quarry Name: B&B Roads 1.5-0" Spo 50 LCY	
Quarry Name: B&B Roads 6-0" 175 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.3 acres	$219.54
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.7 acres	$284.96
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $190.01 Surf. $0.00	$190.01
Quarry Development:	$0.00
Total:	$11,237.57

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-21.0 R Road Name:

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: $926.29 x Adjustment Factor: 3.30 x Total Acres: .1 = $305.68

Subtotal: $305.68

Section 300 Excavation:
Comment: 4 LDNGs
Subgrade Compaction: 4 Sta/hr $27.57/sta. x 5.0 sta = $137.85
Blading without ditch: $11.98/station x 5.00 stations = $59.90
LDNGs
Tractor: D7 with rippers 5 hr x $159.87/hr = $799.35

Subtotal: $997.10

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Blading: $708.54/mi x 0.52 mi = $368.44
Scarification: $868.38/mi x 0.52 mi = $451.56
Compaction: $330.78/mi x 0.52 mi = $172.01
Clean Culverts: $383.34/mi x 0.52 mi = $199.34
Repair culvert inlet
Chainsaw 1 hr x $47.97/hr = $47.97
General Laborer 1 hr x $38.17/hr = $38.17

Subtotal: $1,277.48

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 1.5-0" Spo
Comment: spot rock for surface

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50 LCY

Rock Volume = 50 LCY
Purchase Price / Royalty: $12.00/LCY x 50 LCY = $600.00
Processing: $0.90/LCY x 50 LCY = $45.00
Compaction: $1.10/LCY x 50 LCY = $55.00
Basic Rock Haul cost: $0.59/LCY x 50 LCY = $29.50
Rock Haul +15% grades: $1.78/LCY-mi x 50 LCY x 3.00 mi= $267.00
Rock Haul -15% grades: $0.89/LCY-mi x 50 LCY x 9.90 mi= $440.55
Rock Haul St& Co Roads: $0.39/LCY-mi x 50 LCY x 11.00 mi= $214.50
Basic Water Haul cost: $0.54/LCY x 50 LCY = $27.00
Water Haul +15% grades: $0.25/LCY-mi x 50 LCY x 3.00 mi= $37.50
Water Haul -15% grades: $0.13/LCY-mi x 50 LCY x 9.90 mi= $64.35

Commercial Quarry Name: B&B Roads 6-0"
Comment: 4 LDNGs: 1 approach

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									175 LCY

Rock Volume = 175 LCY
Purchase Price / Royalty: $10.60/LCY x 175 LCY = $1,855.00
Processing: $0.90/LCY x 175 LCY = $157.50
Compaction: $1.10/LCY x 175 LCY = $192.50
Basic Rock Haul cost: $0.59/LCY x 175 LCY = $103.25
Rock Haul +15% grades: $1.78/LCY-mi x 175 LCY x 3.20 mi= $996.80
Rock Haul -15% grades: $0.89/LCY-mi x 175 LCY x 10.60 mi= $1,650.95

Road Number: 29-9-21.0 R Continued

Rock Haul St& Co Roads: $0.39/LCY-mi x 175 LCY x 11.00 mi= $750.75
Basic Water Haul cost: $0.54/LCY x 175 LCY = $94.50
Water Haul +15% grades: $0.25/LCY-mi x 175 LCY x 3.20 mi= $140.00
Water Haul -15% grades: $0.13/LCY-mi x 175 LCY x 10.60 mi= $241.15

Subtotal: $7,962.80

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: 4 LDNGs and catch basins
Dry Method with Mulch: $524.17/acre x 0.25 acres = $131.04
Includes Small Quantity Factor of 1.35
+ Fertilizer Cost: $34.00/acre x 0.25 acres = $8.50
+ Mulch Cost: $320.00/acre x 0.25 acres = $80.00

Subtotal: $219.54

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
RoadSide Brushing Medium: $407.09/acre x 0.70 acres = $284.96

Subtotal: $284.96

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 4.17% of total Costs = $190.01
Surfacing - 4.42% by rock volume = $0.00

Subtotal: $190.01

Quarry Development:
Based on 4.42% of total rock volume

Subtotal: $0.00

Total: $11,237.57

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-21.1 Ext C Road Name:
Road Construction: 0.07 mi 14 ft Subgrade ft ditch

200 Clearing and Grubbing: 0.2 acres	$653.59
300 Excavation:	$1,437.16
400 Drainage:	$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$7,665.13
Quarry Name: B&B Roads 3-0" 157 LCY	
Quarry Name: B&B Roads 6-0" 50 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.2 acres	$175.63
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.0 acres	$0.00
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $170.82 Surf. $0.00	$170.82
Quarry Development:	$0.00
Total:	$10,102.33

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-21.1 Ext C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Heavy (Clearing): Adjustment Factor (2.54)
1-15% (Avg Side Slopes): Adjustment Factor (0)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:2.54 + 0 + 1.28 + 0.1 = 3.92
Base Cost/Acre: $926.29 x Adjustment Factor: 3.92 x Total Acres: .18 = $653.59

Subtotal: $653.59

Section 300 Excavation:
Subgrade Compaction: 4 Sta/hr $27.57/sta. x 4.0 sta = $110.28
Blading without ditch: $11.98/station x 4.00 stations = $47.92
LDNG and subgrade
Tractor: D7 with rippers 8 hr x $159.87/hr = $1,278.96

Subtotal: $1,437.16

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 3-0"
Comment: 8" surfacing

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.07mi	12ft	14ft	8in	5%					

Rock Volume = 157 LCY
Purchase Price / Royalty: $11.50/LCY x 157 LCY = $1,805.50
Processing: $0.90/LCY x 157 LCY = $141.30
Compaction: $1.10/LCY x 157 LCY = $172.70
Basic Rock Haul cost: $0.59/LCY x 157 LCY = $92.63
Rock Haul +15% grades: $1.78/LCY-mi x 157 LCY x 3.30 mi= $922.22
Rock Haul -15% grades: $0.89/LCY-mi x 157 LCY x 11.40 mi= $1,592.92
Rock Haul St& Co Roads: $0.39/LCY-mi x 157 LCY x 11.00 mi= $673.53
Basic Water Haul cost: $0.54/LCY x 157 LCY = $84.78
Water Haul +15% grades: $0.25/LCY-mi x 157 LCY x 3.30 mi= $129.53
Water Haul -15% grades: $0.13/LCY-mi x 157 LCY x 11.40 mi= $232.67

Commercial Quarry Name: B&B Roads 6-0"
Comment: LDNG

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50 LCY

Rock Volume = 50 LCY
Purchase Price / Royalty: $10.60/LCY x 50 LCY = $530.00
Processing: $0.90/LCY x 50 LCY = $45.00
Compaction: $1.10/LCY x 50 LCY = $55.00
Basic Rock Haul cost: $0.59/LCY x 50 LCY = $29.50
Rock Haul +15% grades: $1.78/LCY-mi x 50 LCY x 3.30 mi= $293.70
Rock Haul -15% grades: $0.89/LCY-mi x 50 LCY x 11.40 mi= $507.30
Rock Haul St& Co Roads: $0.39/LCY-mi x 50 LCY x 11.00 mi= $214.50
Basic Water Haul cost: $0.54/LCY x 50 LCY = $27.00
Water Haul +15% grades: $0.25/LCY-mi x 50 LCY x 3.30 mi= $41.25
Water Haul -15% grades: $0.13/LCY-mi x 50 LCY x 11.40 mi= $74.10

Subtotal: $7,665.13

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $524.17/acre x 0.20 acres = $104.83
        Includes Small Quantity Factor of 1.35
        + Fertilizer Cost: $34.00/acre x 0.20 acres = $6.80
        + Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $175.63

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 3.75% of total Costs = $170.82
  Surfacing - 4.06% by rock volume = $0.00

Subtotal: $170.82

Quarry Development:
  Based on 4.06% of total rock volume

Subtotal: $0.00

Total: $10,102.33

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-21.1 R Road Name:
Road Renovation: 1.18 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.2 acres	$565.04
300 Excavation:	$1,070.99
400 Drainage:	$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$2,789.57
Blading 1.18 mi	
700-1200 Surfacing:	$14,174.96
Quarry Name: B&B Roads 1.5-0" Spo 100 LCY	
Quarry Name: B&B Roads 6-0" 265 LCY	
Quarry Name: B&B Roads Rip Rap 20 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.3 acres	$263.45
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):3.0 acres	$1,221.27
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $345.45 Surf. $0.00	$345.45
Quarry Development:	$0.00
Total:	$20,430.73

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-21.1 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
1-15% (Avg Side Slopes): Adjustment Factor (0)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0 + 1.28 + 0.1 = 3.05
Base Cost/Acre: $926.29 x Adjustment Factor: 3.05 x Total Acres: .2 = $565.04

Subtotal: $565.04

Section 300 Excavation:
Comment: 5 LDNGs and TTA
Blading without ditch: $11.98/station x 6.00 stations = $71.88
5 LDNGs and TTA
Tractor: D7 with rippers 5 hr x $159.87/hr = $799.35
Excavator -Small (1.5 CY) 2 hr x $99.88/hr = $199.76

Subtotal: $1,070.99

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Blading: $708.54/mi x 1.18 mi = $836.08
Scarification: $868.38/mi x 1.18 mi = $1,024.69
Compaction: $330.78/mi x 1.18 mi = $390.32
Clean Culverts: $383.34/mi x 1.18 mi = $452.34
Repair culvert inlet
Chainsaw 1 hr x $47.97/hr = $47.97
General Laborer 1 hr x $38.17/hr = $38.17

Subtotal: $2,789.57

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 1.5-0" Spo
Comment: spot rock for surface

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									100 LCY

Rock Volume = 100 LCY
Purchase Price / Royalty: $12.00/LCY x 100 LCY = $1,200.00
Processing: $0.90/LCY x 100 LCY = $90.00
Compaction: $1.10/LCY x 100 LCY = $110.00
Basic Rock Haul cost: $0.59/LCY x 100 LCY = $59.00
Rock Haul +15% grades: $1.78/LCY-mi x 100 LCY x 3.20 mi= $569.60
Rock Haul -15% grades: $0.89/LCY-mi x 100 LCY x 10.40 mi= $925.60
Rock Haul St& Co Roads: $0.39/LCY-mi x 100 LCY x 11.00 mi= $429.00
Basic Water Haul cost: $0.54/LCY x 100 LCY = $54.00
Water Haul +15% grades: $0.25/LCY-mi x 100 LCY x 3.20 mi= $80.00
Water Haul -15% grades: $0.13/LCY-mi x 100 LCY x 10.40 mi= $135.20

Commercial Quarry Name: B&B Roads 6-0"
Comment: 5 LDNGs and 1 TTA

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									265 LCY

Rock Volume = 265 LCY
Purchase Price / Royalty: $10.60/LCY x 265 LCY = $2,809.00
Processing: $0.90/LCY x 265 LCY = $238.50
Compaction: $1.10/LCY x 265 LCY = $291.50
Basic Rock Haul cost: $0.59/LCY x 265 LCY = $156.35
Rock Haul +15% grades: $1.78/LCY-mi x 265 LCY x 3.20 mi= $1,509.44
Rock Haul -15% grades: $0.89/LCY-mi x 265 LCY x 10.40 mi= $2,452.84

Road Number: 29-9-21.1 R Continued

Rock Haul St& Co Roads: $0.39/LCY-mi x 265 LCY x 11.00 mi= $1,136.85
Basic Water Haul cost: $0.54/LCY x 265 LCY = $143.10
Water Haul +15% grades: $0.25/LCY-mi x 265 LCY x 3.20 mi= $212.00
Water Haul -15% grades: $0.13/LCY-mi x 265 LCY x 10.40 mi= $358.28

Commercial Quarry Name: B&B Roads Rip Rap
Comment: Culvert outlets

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									20 LCY

Rock Volume = 20 LCY
Purchase Price / Royalty: $25.00/LCY x 20 LCY = $500.00
Processing: $0.90/LCY x 20 LCY = $18.00
Compaction: $1.10/LCY x 20 LCY = $22.00
Basic Rock Haul cost: $0.59/LCY x 20 LCY = $11.80
Rock Haul +15% grades: $1.78/LCY-mi x 20 LCY x 3.30 mi= $117.48
Rock Haul -15% grades: $0.89/LCY-mi x 20 LCY x 11.40 mi= $202.92
Rock Haul St& Co Roads: $0.39/LCY-mi x 20 LCY x 11.00 mi= $85.80
Basic Water Haul cost: $0.54/LCY x 20 LCY = $10.80
Water Haul +15% grades: $0.25/LCY-mi x 20 LCY x 3.30 mi= $16.50
Water Haul -15% grades: $0.13/LCY-mi x 20 LCY x 11.40 mi= $29.64
energy dissapters
Excavator -Small (1.5 CY) 2 hr x $99.88/hr = $199.76

Subtotal: $14,174.96

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: 5 LDNGs, TTO and catch basins
Dry Method with Mulch: $524.17/acre x 0.30 acres = $157.25
Includes Small Quantity Factor of 1.35
+ Fertilizer Cost: $34.00/acre x 0.30 acres = $10.20
+ Mulch Cost: $320.00/acre x 0.30 acres = $96.00

Subtotal: $263.45

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
RoadSide Brushing Medium: $407.09/acre x 3.00 acres = $1,221.27

Subtotal: $1,221.27

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 7.59% of total Costs = $345.45
Surfacing - 7.55% by rock volume = $0.00

Subtotal: $345.45

Quarry Development:
Based on 7.55% of total rock volume

Subtotal: $0.00

Total: $20,430.73

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-21.14 C Road Name:
Road Construction: 0.26 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 1.1 acres	$4,096.05
300 Excavation:	$5,829.41
400 Drainage:	$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$28,345.31
Quarry Name: B&B Roads 1.5-0" 203 LCY	
Quarry Name: B&B Roads 3-0" 469 LCY	
Quarry Name: B&B Roads 6-0" 80 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.6 acres	$526.90
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.0 acres	$0.00
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $667.30 Surf. $0.00	$667.30
Quarry Development:	$0.00
Total:	$39,464.97

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-21.14 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Heavy (Clearing): Adjustment Factor (2.54)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:2.54 + 0.1 + 1.28 + 0.1 = 4.02
Base Cost/Acre: $926.29 x Adjustment Factor: 4.02 x Total Acres: 1.1 = $4,096.05

Subtotal: $4,096.05

Section 300 Excavation:
Subgrade Compaction: 4 Sta/hr $27.57/sta. x 14.0 sta = $385.98
Blading without ditch: $11.98/station x 14.00 stations = $167.72
Subgrade, LDNG, TTA
Tractor: D7 with rippers 33 hr x $159.87/hr = $5,275.71

Subtotal: $5,829.41

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 1.5-0"
Comment: Road surfacing

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.18mi	12ft	13.4ft	4in	5%					

Rock Volume = 203 LCY
Purchase Price / Royalty: $12.00/LCY x 203 LCY = $2,436.00
Processing: $0.90/LCY x 203 LCY = $182.70
Compaction: $1.10/LCY x 203 LCY = $223.30
Basic Rock Haul cost: $0.59/LCY x 203 LCY = $119.77
Rock Haul +15% grades: $1.78/LCY-mi x 203 LCY x 3.40 mi= $1,228.56
Rock Haul -15% grades: $0.89/LCY-mi x 203 LCY x 11.60 mi= $2,095.77
Rock Haul St& Co Roads: $0.39/LCY-mi x 203 LCY x 11.00 mi= $870.87
Basic Water Haul cost: $0.54/LCY x 203 LCY = $109.62
Water Haul +15% grades: $0.25/LCY-mi x 203 LCY x 3.40 mi= $172.55
Water Haul -15% grades: $0.13/LCY-mi x 203 LCY x 11.60 mi= $306.12

Commercial Quarry Name: B&B Roads 3-0"
Comment: Base Course - surfacing

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.18mi	13.4ft	16ft	8in	5%					

Rock Volume = 469 LCY
Purchase Price / Royalty: $11.50/LCY x 469 LCY = $5,393.50
Processing: $0.90/LCY x 469 LCY = $422.10
Compaction: $1.10/LCY x 469 LCY = $515.90
Basic Rock Haul cost: $0.59/LCY x 469 LCY = $276.71
Rock Haul +15% grades: $1.78/LCY-mi x 469 LCY x 3.40 mi= $2,838.39
Rock Haul -15% grades: $0.89/LCY-mi x 469 LCY x 11.60 mi= $4,841.96
Rock Haul St& Co Roads: $0.39/LCY-mi x 469 LCY x 11.00 mi= $2,012.01
Basic Water Haul cost: $0.54/LCY x 469 LCY = $253.26
Water Haul +15% grades: $0.25/LCY-mi x 469 LCY x 3.40 mi= $398.65
Water Haul -15% grades: $0.13/LCY-mi x 469 LCY x 11.60 mi= $707.25

Commercial Quarry Name: B&B Roads 6-0"
Comment: LDNG & TTA

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									80 LCY

Road Number: 29-9-21.14 C Continued

Rock Volume = 80 LCY
Purchase Price / Royalty: $10.60/LCY x 80 LCY = $848.00
Processing: $0.90/LCY x 80 LCY = $72.00
Compaction: $1.10/LCY x 80 LCY = $88.00
Basic Rock Haul cost: $0.59/LCY x 80 LCY = $47.20
Rock Haul +15% grades: $1.78/LCY-mi x 80 LCY x 3.40 mi= $484.16
Rock Haul -15% grades: $0.89/LCY-mi x 80 LCY x 11.60 mi= $825.92
Rock Haul St& Co Roads: $0.39/LCY-mi x 80 LCY x 11.00 mi= $343.20
Basic Water Haul cost: $0.54/LCY x 80 LCY = $43.20
Water Haul +15% grades: $0.25/LCY-mi x 80 LCY x 3.40 mi= $68.00
Water Haul -15% grades: $0.13/LCY-mi x 80 LCY x 11.60 mi= $120.64

Subtotal: $28,345.31

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $524.17/acre x 0.60 acres = $314.50
Includes Small Quantity Factor of 1.35
+ Fertilizer Cost: $34.00/acre x 0.60 acres = $20.40
+ Mulch Cost: $320.00/acre x 0.60 acres = $192.00

Subtotal: $526.90

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 14.65% of total Costs = $667.30
Surfacing - 14.76% by rock volume = $0.00

Subtotal: $667.30

Quarry Development:
Based on 14.76% of total rock volume

Subtotal: $0.00

Total: $39,464.97

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-21.15 C Road Name:
Road Construction: 0.16 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 1.0 acres	$3,537.50
300 Excavation: 1,230 cy	$3,869.76
400 Drainage:	$1,440.58
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 34 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$23,682.53
Quarry Name: B&B Roads 3-0" 565 LCY	
Quarry Name: B&B Roads 6-0" 80 LCY	
Quarry Name: B&B Roads Bedding 10 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.6 acres	$526.90
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.0 acres	$0.00
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $568.56 Surf. $0.00	$568.56
Quarry Development:	$0.00
Total:	$33,625.84

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-21.15 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Heavy (Clearing): Adjustment Factor (2.54)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:2.54 + 0.1 + 1.28 + 0.1 = 4.02
Base Cost/Acre: $926.29 x Adjustment Factor: 4.02 x Total Acres: 0.95 = $3,537.50
Subtotal: $3,537.50

Section 300 Excavation:
Excavation - Common: $2.03/cy x 1,230 cy = $2,496.90
Subgrade Compaction: 4 Sta/hr $27.57/sta. x 9.0 sta = $248.13
Embankment Placement & Compaction 306.a - Common: $0.81/cy x 1,230 cy = $996.30
Blading with ditch: $14.27/station x 9.00 stations = $128.43
Subtotal: $3,869.76

Section 400 Drainage:
Poly Pipe 18 inch 34 lf x $42.37/lf = $1,440.58
Subtotal: $1,440.58

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 3-0"
Comment: 12" surfacing

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.16mi	12ft	16ft	12in						

Rock Volume = 565 LCY
Purchase Price / Royalty: $11.50/LCY x 565 LCY = $6,497.50
Processing: $0.90/LCY x 565 LCY = $508.50
Compaction: $1.10/LCY x 565 LCY = $621.50
Basic Rock Haul cost: $0.59/LCY x 565 LCY = $333.35
Rock Haul +15% grades: $1.78/LCY-mi x 565 LCY x 3.20 mi= $3,218.24
Rock Haul -15% grades: $0.89/LCY-mi x 565 LCY x 10.60 mi= $5,330.21
Rock Haul St& Co Roads: $0.39/LCY-mi x 565 LCY x 11.00 mi= $2,423.85
Basic Water Haul cost: $0.54/LCY x 565 LCY = $305.10
Water Haul +15% grades: $0.25/LCY-mi x 565 LCY x 3.20 mi= $452.00
Water Haul -15% grades: $0.13/LCY-mi x 565 LCY x 10.60 mi= $778.57

Commercial Quarry Name: B&B Roads 6-0"
Comment: LDNG & TTA

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									80 LCY

Rock Volume = 80 LCY
Purchase Price / Royalty: $10.60/LCY x 80 LCY = $848.00
Processing: $0.90/LCY x 80 LCY = $72.00
Compaction: $1.10/LCY x 80 LCY = $88.00
Basic Rock Haul cost: $0.59/LCY x 80 LCY = $47.20
Rock Haul +15% grades: $1.78/LCY-mi x 80 LCY x 3.20 mi= $455.68
Rock Haul -15% grades: $0.89/LCY-mi x 80 LCY x 10.60 mi= $754.72
Rock Haul St& Co Roads: $0.39/LCY-mi x 80 LCY x 11.00 mi= $343.20
Basic Water Haul cost: $0.54/LCY x 80 LCY = $43.20
Water Haul +15% grades: $0.25/LCY-mi x 80 LCY x 3.20 mi= $64.00
Water Haul -15% grades: $0.13/LCY-mi x 80 LCY x 10.60 mi= $110.24

Commercial Quarry Name: B&B Roads Bedding
Comment: Culvert bedding

Road Number: 29-9-21.15 C Continued

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									10 LCY

Rock Volume = 10 LCY
Purchase Price / Royalty: $13.00/LCY x 10 LCY = $130.00
Processing: $0.90/LCY x 10 LCY = $9.00
Compaction: $1.10/LCY x 10 LCY = $11.00
Basic Rock Haul cost: $0.59/LCY x 10 LCY = $5.90
Rock Haul +15% grades: $1.78/LCY-mi x 10 LCY x 3.30 mi= $58.74
Rock Haul -15% grades: $0.89/LCY-mi x 10 LCY x 11.40 mi= $101.46
Rock Haul St& Co Roads: $0.39/LCY-mi x 10 LCY x 11.00 mi= $42.90
Basic Water Haul cost: $0.54/LCY x 10 LCY = $5.40
Water Haul +15% grades: $0.25/LCY-mi x 10 LCY x 3.30 mi= $8.25
Water Haul -15% grades: $0.13/LCY-mi x 10 LCY x 11.40 mi= $14.82

Subtotal: $23,682.53

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $524.17/acre x 0.60 acres = $314.50
Includes Small Quantity Factor of 1.35
+ Fertilizer Cost: $34.00/acre x 0.60 acres = $20.40
+ Mulch Cost: $320.00/acre x 0.60 acres = $192.00

Subtotal: $526.90

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 12.49% of total Costs = $568.56
Surfacing - 12.85% by rock volume = $0.00

Subtotal: $568.56

Quarry Development:
Based on 12.85% of total rock volume

Subtotal: $0.00

Total: $33,625.84

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-21.2 R Road Name:
Road Renovation: 0.24 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.1 acres	$137.09
300 Excavation:	$23.96
400 Drainage:	$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$549.85
Blading 0.24 mi	
700-1200 Surfacing:	$3,134.72
Quarry Name: B&B Roads 1.5-0" Spo 40 LCY	
Quarry Name: B&B Roads 6-0" 50 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$87.82
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.6 acres	$244.25
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $71.85 Surf. $0.00	$71.85
Quarry Development:	$0.00
Total:	$4,249.55

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-21.2 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Brush (Clearing): Adjustment Factor (0)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:0 + 0.1 + 1.28 + 0.1 = 1.48
Base Cost/Acre: $926.29 x Adjustment Factor: 1.48 x Total Acres: .1 = $137.09

Subtotal: $137.09

Section 300 Excavation:
Comment: LDNG
Blading without ditch: $11.98/station x 2.00 stations = $23.96

Subtotal: $23.96

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Blading: $708.54/mi x 0.24 mi = $170.05
Scarification: $868.38/mi x 0.24 mi = $208.41
Compaction: $330.78/mi x 0.24 mi = $79.39
Clean Culverts: $383.34/mi x 0.24 mi = $92.00

Subtotal: $549.85

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 1.5-0" Spo
Comment: Spot rock - Surface

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									40 LCY

Rock Volume = 40 LCY
Purchase Price / Royalty: $12.00/LCY x 40 LCY = $480.00
Processing: $0.90/LCY x 40 LCY = $36.00
Compaction: $1.10/LCY x 40 LCY = $44.00
Basic Rock Haul cost: $0.59/LCY x 40 LCY = $23.60
Rock Haul +15% grades: $1.78/LCY-mi x 40 LCY x 3.00 mi= $213.60
Rock Haul -15% grades: $0.89/LCY-mi x 40 LCY x 9.90 mi= $352.44
Rock Haul St& Co Roads: $0.39/LCY-mi x 40 LCY x 11.00 mi= $171.60
Basic Water Haul cost: $0.54/LCY x 40 LCY = $21.60
Water Haul +15% grades: $0.25/LCY-mi x 40 LCY x 3.00 mi= $30.00
Water Haul -15% grades: $0.13/LCY-mi x 40 LCY x 9.90 mi= $51.48

Commercial Quarry Name: B&B Roads 6-0"
Comment: LDNG

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50 LCY

Rock Volume = 50 LCY
Purchase Price / Royalty: $10.60/LCY x 50 LCY = $530.00
Processing: $0.90/LCY x 50 LCY = $45.00
Compaction: $1.10/LCY x 50 LCY = $55.00
Basic Rock Haul cost: $0.59/LCY x 50 LCY = $29.50
Rock Haul +15% grades: $1.78/LCY-mi x 50 LCY x 3.00 mi= $267.00
Rock Haul -15% grades: $0.89/LCY-mi x 50 LCY x 9.90 mi= $440.55
Rock Haul St& Co Roads: $0.39/LCY-mi x 50 LCY x 11.00 mi= $214.50
Basic Water Haul cost: $0.54/LCY x 50 LCY = $27.00
Water Haul +15% grades: $0.25/LCY-mi x 50 LCY x 3.00 mi= $37.50
Water Haul -15% grades: $0.13/LCY-mi x 50 LCY x 9.90 mi= $64.35

Subtotal: $3,134.72

Road Number: 29-9-21.2 R Continued

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: LDNG and catch basins
Dry Method with Mulch: $524.17/acre x 0.10 acres = $52.42
Includes Small Quantity Factor of 1.35
+ Fertilizer Cost: $34.00/acre x 0.10 acres = $3.40
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $87.82

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
RoadSide Brushing Medium: $407.09/acre x 0.60 acres = $244.25

Subtotal: $244.25

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.58% of total Costs = $71.85
Surfacing - 1.77% by rock volume = $0.00

Subtotal: $71.85

Quarry Development:
Based on 1.77% of total rock volume

Subtotal: $0.00

Total: $4,249.55

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-21.4 I Road Name:
Road Improvement: 0.09 mi 14 ft Subgrade ft ditch

200 Clearing and Grubbing: 0.7 acres	$2,541.74
300 Excavation:	$997.10
400 Drainage:	$1,690.40
Culvert: 40 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$9,144.81
Quarry Name: B&B Roads 3-0" 211 LCY	
Quarry Name: B&B Roads 6-0" 50 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$87.82
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.0 acres	$0.00
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $248.73 Surf. $0.00	$248.73
Quarry Development:	$0.00
Total:	$14,710.60

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-21.4 I Road Name:

Section 200 Clearing and Grubbing:
Clearing - Heavy (Clearing): Adjustment Factor (2.54)
1-15% (Avg Side Slopes): Adjustment Factor (0)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:2.54 + 0 + 1.28 + 0.1 = 3.92
Base Cost/Acre: $926.29 x Adjustment Factor: 3.92 x Total Acres: .7 = $2,541.74
Subtotal: $2,541.74

Section 300 Excavation:
Subgrade Compaction: 4 Sta/hr $27.57/sta. x 5.0 sta = $137.85
Blading without ditch: $11.98/station x 5.00 stations = $59.90
subgrade improve and LDNG
Tractor: D7 with rippers 5 hr x $159.87/hr = $799.35
Subtotal: $997.10

Section 400 Drainage:
Galvanized 12 inch 16 ga 40 lf x $42.26/lf = $1,690.40
Subtotal: $1,690.40

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 3-0"
Comment: 8" surfacing

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.09mi	12ft	14ft	8in	5%					

Rock Volume = 211 LCY
Purchase Price / Royalty: $11.50/LCY x 211 LCY = $2,426.50
Processing: $0.90/LCY x 211 LCY = $189.90
Compaction: $1.10/LCY x 211 LCY = $232.10
Basic Rock Haul cost: $0.59/LCY x 211 LCY = $124.49
Rock Haul +15% grades: $1.78/LCY-mi x 211 LCY x 3.00 mi= $1,126.74
Rock Haul -15% grades: $0.89/LCY-mi x 211 LCY x 10.00 mi= $1,877.90
Rock Haul St& Co Roads: $0.39/LCY-mi x 211 LCY x 11.00 mi= $905.19
Basic Water Haul cost: $0.54/LCY x 211 LCY = $113.94
Water Haul +15% grades: $0.25/LCY-mi x 211 LCY x 3.00 mi= $158.25
Water Haul -15% grades: $0.13/LCY-mi x 211 LCY x 10.00 mi= $274.30

Commercial Quarry Name: B&B Roads 6-0"
Comment: LDNG

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50 LCY

Rock Volume = 50 LCY
Purchase Price / Royalty: $10.60/LCY x 50 LCY = $530.00
Processing: $0.90/LCY x 50 LCY = $45.00
Compaction: $1.10/LCY x 50 LCY = $55.00
Basic Rock Haul cost: $0.59/LCY x 50 LCY = $29.50
Rock Haul +15% grades: $1.78/LCY-mi x 50 LCY x 3.00 mi= $267.00
Rock Haul -15% grades: $0.89/LCY-mi x 50 LCY x 10.00 mi= $445.00
Rock Haul St& Co Roads: $0.39/LCY-mi x 50 LCY x 11.00 mi= $214.50
Basic Water Haul cost: $0.54/LCY x 50 LCY = $27.00
Water Haul +15% grades: $0.25/LCY-mi x 50 LCY x 3.00 mi= $37.50
Water Haul -15% grades: $0.13/LCY-mi x 50 LCY x 10.00 mi= $65.00
Subtotal: $9,144.81

Section 1300 Geotextiles:

Road Number: 29-9-21.4 I Continued

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $524.17/acre x 0.10 acres = $52.42
        Includes Small Quantity Factor of 1.35
        + Fertilizer Cost: $34.00/acre x 0.10 acres = $3.40
        + Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $87.82

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 5.46% of total Costs = $248.73
  Surfacing - 5.12% by rock volume = $0.00

Subtotal: $248.73

Quarry Development:
  Based on 5.12% of total rock volume

Subtotal: $0.00

Total: $14,710.60

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-31.0 R Road Name:
Road Renovation: 0.79 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.0 acres	$0.00
300 Excavation:	$57.08
400 Drainage:	$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$1,809.92
Blading 0.79 mi	
700-1200 Surfacing:	$3,069.50
Quarry Name: B&B Roads 1.5-0" Spo 70 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.2 acres	$175.63
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):1.5 acres	$366.38
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $94.23 Surf. $0.00	$94.23
Quarry Development:	$0.00
Total:	$5,572.74

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-31.0 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Light (Clearing): Adjustment Factor (0.93)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:0.93 + 0.1 + 1.28 + 0.1 = 2.41

Subtotal: $0.00

Section 300 Excavation:
Comment: Widening junction -31.0 & -25.2
Blading with ditch: $14.27/station x 4.00 stations = $57.08

Subtotal: $57.08

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Blading: $708.54/mi x 0.79 mi = $559.75
Scarification: $868.38/mi x 0.79 mi = $686.02
Compaction: $330.78/mi x 0.79 mi = $261.32
Clean Culverts: $383.34/mi x 0.79 mi = $302.84

Subtotal: $1,809.92

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 1.5-0" Spo
Comment: spot rock for surface

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									70 LCY

Rock Volume = 70 LCY
Purchase Price / Royalty: $12.00/LCY x 70 LCY = $840.00
Processing: $0.90/LCY x 70 LCY = $63.00
Compaction: $1.10/LCY x 70 LCY = $77.00
Basic Rock Haul cost: $0.59/LCY x 70 LCY = $41.30
Rock Haul +15% grades: $1.78/LCY-mi x 70 LCY x 5.00 mi= $623.00
Rock Haul -15% grades: $0.89/LCY-mi x 70 LCY x 14.00 mi= $872.20
Rock Haul St& Co Roads: $0.39/LCY-mi x 70 LCY x 11.00 mi= $300.30
Basic Water Haul cost: $0.54/LCY x 70 LCY = $37.80
Water Haul +15% grades: $0.25/LCY-mi x 70 LCY x 5.00 mi= $87.50
Water Haul -15% grades: $0.13/LCY-mi x 70 LCY x 14.00 mi= $127.40

Subtotal: $3,069.50

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: cut banks & catch basins
Dry Method with Mulch: $524.17/acre x 0.20 acres = $104.83
Includes Small Quantity Factor of 1.35
+ Fertilizer Cost: $34.00/acre x 0.20 acres = $6.80
+ Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $175.63

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $244.25/acre x 1.50 acres = $366.38

Subtotal: $366.38

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 2.07% of total Costs = $94.23
  Surfacing - 1.37% by rock volume = $0.00

Subtotal: $94.23

Quarry Development:
  Based on 1.37% of total rock volume

Subtotal: $0.00

Total: $5,572.74

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-31.1 R Road Name:
Road Renovation: 0.25 mi 16 ft Subgrade 2 ft ditch

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:	$658.90
Blading 0.25 mi	
700-1200 Surfacing:	$1,346.10
Quarry Name: B&B Roads 1.5-0" Spo 30 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$87.82
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.5 acres	$203.55
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $39.50 Surf. $0.00.....	$39.50
Quarry Development:	$0.00
Total:	$2,335.86

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-31.1 R 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: $708.54/mi x 0.25 mi = $177.14
Scarification: $868.38/mi x 0.25 mi = $217.10
Compaction: $330.78/mi x 0.25 mi = $82.70
Clean Culverts: $383.34/mi x 0.25 mi = $95.84
culvert fix
Chainsaw 1 hr x $47.97/hr = $47.97
General Laborer 1 hr x $38.17/hr = $38.17

Subtotal: $658.90

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 1.5-0" Spo
Comment: spot rock for surface

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									30 LCY

Rock Volume = 30 LCY
Purchase Price / Royalty: $12.00/LCY x 30 LCY = $360.00
Processing: $0.90/LCY x 30 LCY = $27.00
Compaction: $1.10/LCY x 30 LCY = $33.00
Basic Rock Haul cost: $0.59/LCY x 30 LCY = $17.70
Rock Haul +15% grades: $1.78/LCY-mi x 30 LCY x 5.00 mi= $267.00
Rock Haul -15% grades: $0.89/LCY-mi x 30 LCY x 15.00 mi= $400.50
Rock Haul St& Co Roads: $0.39/LCY-mi x 30 LCY x 11.00 mi= $128.70
Basic Water Haul cost: $0.54/LCY x 30 LCY = $16.20
Water Haul +15% grades: $0.25/LCY-mi x 30 LCY x 5.00 mi= $37.50
Water Haul -15% grades: $0.13/LCY-mi x 30 LCY x 15.00 mi= $58.50

Subtotal: $1,346.10

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: cut banks & catch basins
Dry Method with Mulch: $524.17/acre x 0.10 acres = $52.42
Includes Small Quantity Factor of 1.35
+ Fertilizer Cost: $34.00/acre x 0.10 acres = $3.40
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $87.82

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
RoadSide Brushing Medium: $407.09/acre x 0.50 acres = $203.55

Subtotal: $203.55

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.87% of total Costs = $39.50
  Surfacing - 0.59% by rock volume = $0.00

Subtotal: $39.50

Quarry Development:
  Based on 0.59% of total rock volume

Subtotal: $0.00

Total: $2,335.86

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-31.4 R Road Name:
Road Renovation: 0.39 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.2 acres	$446.47
300 Excavation:	$637.81
400 Drainage:	$1,694.80
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 40 lf	
500 Renovation:	$893.51
Blading 0.39 mi	
700-1200 Surfacing:	$36,602.30
Quarry Name: B&B Roads 1.5-0" Spo 10 LCY	
Quarry Name: B&B Roads 1.5-0" 680 LCY	
Quarry Name: B&B Roads 6-0" 100 LCY	
Quarry Name: B&B Roads Bedding 10 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.3 acres	$263.45
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.5 acres	$122.13
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $699.33 Surf. $0.00	$699.33
Quarry Development:	$0.00
Total:	$41,359.80

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-31.4 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Light (Clearing): Adjustment Factor (0.93)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:0.93 + 0.1 + 1.28 + 0.1 = 2.41
Base Cost/Acre: $926.29 x Adjustment Factor: 2.41 x Total Acres: .2 = $446.47
Subtotal: $446.47

Section 300 Excavation:
Subgrade Compaction: 4 Sta/hr $27.57/sta. x 4.0 sta = $110.28
Blading without ditch: $11.98/station x 4.00 stations = $47.92
3 LDNGs
Tractor: D7 with rippers 3 hr x $159.87/hr = $479.61
Subtotal: $637.81

Section 400 Drainage:
Poly Pipe 18 inch 40 lf x $42.37/lf = $1,694.80
Subtotal: $1,694.80

Section 500 Renovation:
Blading: $708.54/mi x 0.39 mi = $276.33
Scarification: $868.38/mi x 0.39 mi = $338.67
Compaction: $330.78/mi x 0.39 mi = $129.00
Clean Culverts: $383.34/mi x 0.39 mi = $149.50
Subtotal: $893.51

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 1.5-0" Spo
Comment: Culvert surfacing

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									10 LCY

Rock Volume = 10 LCY
Purchase Price / Royalty: $12.00/LCY x 10 LCY = $120.00
Processing: $0.90/LCY x 10 LCY = $9.00
Compaction: $1.10/LCY x 10 LCY = $11.00
Basic Rock Haul cost: $0.59/LCY x 10 LCY = $5.90
Rock Haul +15% grades: $1.78/LCY-mi x 10 LCY x 5.50 mi= $97.90
Rock Haul -15% grades: $0.89/LCY-mi x 10 LCY x 16.00 mi= $142.40
Rock Haul St& Co Roads: $0.39/LCY-mi x 10 LCY x 11.00 mi= $42.90
Basic Water Haul cost: $0.54/LCY x 10 LCY = $5.40
Water Haul +15% grades: $0.25/LCY-mi x 10 LCY x 5.50 mi= $13.75
Water Haul -15% grades: $0.13/LCY-mi x 10 LCY x 16.00 mi= $20.80

Commercial Quarry Name: B&B Roads 1.5-0"
Comment: road surface

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.39mi	12ft	13.4ft	6in	5%					

Rock Volume = 680 LCY
Purchase Price / Royalty: $12.00/LCY x 680 LCY = $8,160.00
Processing: $0.90/LCY x 680 LCY = $612.00
Compaction: $1.10/LCY x 680 LCY = $748.00
Basic Rock Haul cost: $0.59/LCY x 680 LCY = $401.20
Rock Haul +15% grades: $1.78/LCY-mi x 680 LCY x 5.00 mi= $6,052.00
Rock Haul -15% grades: $0.89/LCY-mi x 680 LCY x 16.00 mi= $9,683.20
Rock Haul St& Co Roads: $0.39/LCY-mi x 680 LCY x 11.00 mi= $2,917.20
Basic Water Haul cost: $0.54/LCY x 680 LCY = $367.20
Water Haul +15% grades: $0.25/LCY-mi x 680 LCY x 5.00 mi= $850.00

Road Number: 29-9-31.4 R Continued

Water Haul -15% grades: $0.13/LCY-mi x 680 LCY x 16.00 mi= $1,414.40

Commercial Quarry Name: B&B Roads 6-0"
Comment: 3 LDNGs

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									100 LCY

Rock Volume = 100 LCY
Purchase Price / Royalty: $10.60/LCY x 100 LCY = $1,060.00
Processing: $0.90/LCY x 100 LCY = $90.00
Compaction: $1.10/LCY x 100 LCY = $110.00
Basic Rock Haul cost: $0.59/LCY x 100 LCY = $59.00
Rock Haul +15% grades: $1.78/LCY-mi x 100 LCY x 5.00 mi= $890.00
Rock Haul -15% grades: $0.89/LCY-mi x 100 LCY x 16.00 mi= $1,424.00
Rock Haul St& Co Roads: $0.39/LCY-mi x 100 LCY x 11.00 mi= $429.00
Basic Water Haul cost: $0.54/LCY x 100 LCY = $54.00
Water Haul +15% grades: $0.25/LCY-mi x 100 LCY x 5.00 mi= $125.00
Water Haul -15% grades: $0.13/LCY-mi x 100 LCY x 16.00 mi= $208.00

Commercial Quarry Name: B&B Roads Bedding
Comment: Culvert Bedding

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									10 LCY

Rock Volume = 10 LCY
Purchase Price / Royalty: $13.00/LCY x 10 LCY = $130.00
Processing: $0.90/LCY x 10 LCY = $9.00
Compaction: $1.10/LCY x 10 LCY = $11.00
Basic Rock Haul cost: $0.59/LCY x 10 LCY = $5.90
Rock Haul +15% grades: $1.78/LCY-mi x 10 LCY x 5.50 mi= $97.90
Rock Haul -15% grades: $0.89/LCY-mi x 10 LCY x 16.00 mi= $142.40
Rock Haul St& Co Roads: $0.39/LCY-mi x 10 LCY x 11.00 mi= $42.90
Basic Water Haul cost: $0.54/LCY x 10 LCY = $5.40
Water Haul +15% grades: $0.25/LCY-mi x 10 LCY x 5.50 mi= $13.75
Water Haul -15% grades: $0.13/LCY-mi x 10 LCY x 16.00 mi= $20.80

Subtotal: $36,602.30

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: 3 LDNGs & catch basins
Dry Method with Mulch: $524.17/acre x 0.30 acres = $157.25
Includes Small Quantity Factor of 1.35
+ Fertilizer Cost: $34.00/acre x 0.30 acres = $10.20
+ Mulch Cost: $320.00/acre x 0.30 acres = $96.00

Subtotal: $263.45

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $244.25/acre x 0.50 acres = $122.13

Subtotal: $122.13

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 15.36% of total Costs = $699.33
  Surfacing - 15.70% by rock volume = $0.00

Subtotal: $699.33

Quarry Development:
  Based on 15.70% of total rock volume

Subtotal: $0.00

Total: $41,359.80

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-31.5 C Road Name:
Road Construction: 0.13 mi 14 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.2 acres	$565.04
300 Excavation:	$2,674.90
400 Drainage:	$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$16,567.99
Quarry Name: B&B Roads 3-0" 308 LCY	
Quarry Name: B&B Roads 6-0" 50 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.2 acres	$131.73
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.0 acres	$0.00
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $342.95 Surf. $0.00	$342.95
Quarry Development:	$0.00
Total:	$20,282.60

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-31.5 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
1-15% (Avg Side Slopes): Adjustment Factor (0)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0 + 1.28 + 0.1 = 3.05
Base Cost/Acre: $926.29 x Adjustment Factor: 3.05 x Total Acres: .2 = $565.04

Subtotal: $565.04

Section 300 Excavation:
Subgrade Compaction: 4 Sta/hr $27.57/sta. x 7.0 sta = $192.99
Blading without ditch: $11.98/station x 7.00 stations = $83.86
subgrade and LDNG
Tractor: D7 with rippers 15 hr x $159.87/hr = $2,398.05

Subtotal: $2,674.90

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 3-0"
Comment: 8" surfacing

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.13mi	12ft	14ft	8in	5%					

Rock Volume = 308 LCY
Purchase Price / Royalty: $11.50/LCY x 308 LCY = $3,542.00
Processing: $0.90/LCY x 308 LCY = $277.20
Compaction: $1.10/LCY x 308 LCY = $338.80
Basic Rock Haul cost: $0.59/LCY x 308 LCY = $181.72
Rock Haul +15% grades: $1.78/LCY-mi x 308 LCY x 5.50 mi= $3,015.32
Rock Haul -15% grades: $0.89/LCY-mi x 308 LCY x 16.00 mi= $4,385.92
Rock Haul St& Co Roads: $0.39/LCY-mi x 308 LCY x 11.00 mi= $1,321.32
Basic Water Haul cost: $0.54/LCY x 308 LCY = $166.32
Water Haul +15% grades: $0.25/LCY-mi x 308 LCY x 5.50 mi= $423.50
Water Haul -15% grades: $0.13/LCY-mi x 308 LCY x 16.00 mi= $640.64

Commercial Quarry Name: B&B Roads 6-0"
Comment: LDNG

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50 LCY

Rock Volume = 50 LCY
Purchase Price / Royalty: $10.60/LCY x 50 LCY = $530.00
Processing: $0.90/LCY x 50 LCY = $45.00
Compaction: $1.10/LCY x 50 LCY = $55.00
Basic Rock Haul cost: $0.59/LCY x 50 LCY = $29.50
Rock Haul +15% grades: $1.78/LCY-mi x 50 LCY x 5.50 mi= $489.50
Rock Haul -15% grades: $0.89/LCY-mi x 50 LCY x 16.00 mi= $712.00
Rock Haul St& Co Roads: $0.39/LCY-mi x 50 LCY x 11.00 mi= $214.50
Basic Water Haul cost: $0.54/LCY x 50 LCY = $27.00
Water Haul +15% grades: $0.25/LCY-mi x 50 LCY x 5.50 mi= $68.75
Water Haul -15% grades: $0.13/LCY-mi x 50 LCY x 16.00 mi= $104.00

Subtotal: $16,567.99

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $524.17/acre x 0.15 acres = $78.63
    Includes Small Quantity Factor of 1.35
    + Fertilizer Cost: $34.00/acre x 0.15 acres = $5.10
    + Mulch Cost: $320.00/acre x 0.15 acres = $48.00

Subtotal: $131.73

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 7.53% of total Costs = $342.95
  Surfacing - 7.03% by rock volume = $0.00

Subtotal: $342.95

Quarry Development:
  Based on 7.03% of total rock volume

Subtotal: $0.00

Total: $20,282.60

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 29-9-33.4 R Road Name:
Road Renovation: 0.71 mi 16 ft Subgrade 2 ft ditch

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:	$1,626.64
Blading 0.71 mi	
700-1200 Surfacing:	$2,019.45
Quarry Name: B&B Roads 1.5-0" Spo 50 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.2 acres	$175.63
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.5 acres	$122.13
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $67.83 Surf. $0.00.....	$67.83
Quarry Development:	$0.00
Total:	$4,011.68

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 29-9-33.4 R 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: $708.54/mi x 0.71 mi = $503.06
  Scarification: $868.38/mi x 0.71 mi = $616.55
  Compaction: $330.78/mi x 0.71 mi = $234.85
  Clean Culverts: $383.34/mi x 0.71 mi = $272.17

Subtotal: $1,626.64

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 1.5-0" Spo
 Comment: spot rock for surface

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50 LCY

  Rock Volume = 50 LCY
  Purchase Price / Royalty: $12.00/LCY x 50 LCY = $600.00
  Processing: $0.90/LCY x 50 LCY = $45.00
  Compaction: $1.10/LCY x 50 LCY = $55.00
  Basic Rock Haul cost: $0.59/LCY x 50 LCY = $29.50
  Rock Haul +15% grades: $1.78/LCY-mi x 50 LCY x 4.30 mi= $382.70
  Rock Haul -15% grades: $0.89/LCY-mi x 50 LCY x 12.00 mi= $534.00
  Rock Haul St& Co Roads: $0.39/LCY-mi x 50 LCY x 11.00 mi= $214.50
  Basic Water Haul cost: $0.54/LCY x 50 LCY = $27.00
  Water Haul +15% grades: $0.25/LCY-mi x 50 LCY x 4.30 mi= $53.75
  Water Haul -15% grades: $0.13/LCY-mi x 50 LCY x 12.00 mi= $78.00

Subtotal: $2,019.45

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $524.17/acre x 0.20 acres = $104.83
        Includes Small Quantity Factor of 1.35
        + Fertilizer Cost: $34.00/acre x 0.20 acres = $6.80
        + Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $175.63

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $244.25/acre x 0.50 acres = $122.13

Subtotal: $122.13

Section 2300 Engineering:

Subtotal:	$0.00

Section 2400 Minor Concrete:

Subtotal:	$0.00

Section 2500 Gabions:

Subtotal:	$0.00

Section 8000 Miscellaneous:

Subtotal:	$0.00

Mobilization:
  Construction - 1.49% of total Costs = $67.83
  Surfacing - 0.98% by rock volume = $0.00

Subtotal:	$67.83

Quarry Development:
  Based on 0.98% of total rock volume

Subtotal:	$0.00
Total:	$4,011.68

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21
Road Number: 30-10-2.0 R Road Name:
Road Renovation: 0.24 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.2 acres	$427.95
300 Excavation:	$625.83
400 Drainage:	$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$549.85
Blading 0.24 mi	
700-1200 Surfacing:	$6,997.20
Quarry Name: B&B Roads 1.5-0" Spo 30 LCY	
Quarry Name: B&B Roads 6-0" 130 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.2 acres	$175.63
Includes Small Quantity Factor of 1.35	
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.3 acres	$73.28
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $152.21 Surf. $0.00	$152.21
Quarry Development:	$0.00
Total:	$9,001.95

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 30-10-2.0 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Light (Clearing): Adjustment Factor (0.93)
1-15% (Avg Side Slopes): Adjustment Factor (0)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:0.93 + 0 + 1.28 + 0.1 = 2.31
Base Cost/Acre: $926.29 x Adjustment Factor: 2.31 x Total Acres: .2 = $427.95

Subtotal: $427.95

Section 300 Excavation:
Subgrade Compaction: 4 Sta/hr $27.57/sta. x 4.0 sta = $110.28
Blading without ditch: $11.98/station x 3.00 stations = $35.94
3 LDNGs
Tractor: D7 with rippers 3 hr x $159.87/hr = $479.61

Subtotal: $625.83

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Blading: $708.54/mi x 0.24 mi = $170.05
Scarification: $868.38/mi x 0.24 mi = $208.41
Compaction: $330.78/mi x 0.24 mi = $79.39
Clean Culverts: $383.34/mi x 0.24 mi = $92.00

Subtotal: $549.85

Section 700-1200 Surfacing:

Commercial Quarry Name: B&B Roads 1.5-0" Spo
Comment: spot rock - surfacing

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									30 LCY

Rock Volume = 30 LCY
Purchase Price / Royalty: $12.00/LCY x 30 LCY = $360.00
Processing: $0.90/LCY x 30 LCY = $27.00
Compaction: $1.10/LCY x 30 LCY = $33.00
Basic Rock Haul cost: $0.59/LCY x 30 LCY = $17.70
Rock Haul +15% grades: $1.78/LCY-mi x 30 LCY x 5.00 mi= $267.00
Rock Haul -15% grades: $0.89/LCY-mi x 30 LCY x 15.00 mi= $400.50
Rock Haul St& Co Roads: $0.39/LCY-mi x 30 LCY x 11.00 mi= $128.70
Basic Water Haul cost: $0.54/LCY x 30 LCY = $16.20
Water Haul +15% grades: $0.25/LCY-mi x 30 LCY x 5.00 mi= $37.50
Water Haul -15% grades: $0.13/LCY-mi x 30 LCY x 15.00 mi= $58.50

Commercial Quarry Name: B&B Roads 6-0"
Comment: 3 LDNGs

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									130 LCY

Rock Volume = 130 LCY
Purchase Price / Royalty: $10.60/LCY x 130 LCY = $1,378.00
Processing: $0.90/LCY x 130 LCY = $117.00
Compaction: $1.10/LCY x 130 LCY = $143.00
Basic Rock Haul cost: $0.59/LCY x 130 LCY = $76.70
Rock Haul +15% grades: $1.78/LCY-mi x 130 LCY x 5.00 mi= $1,157.00
Rock Haul -15% grades: $0.89/LCY-mi x 130 LCY x 15.00 mi= $1,735.50
Rock Haul St& Co Roads: $0.39/LCY-mi x 130 LCY x 11.00 mi= $557.70
Basic Water Haul cost: $0.54/LCY x 130 LCY = $70.20
Water Haul +15% grades: $0.25/LCY-mi x 130 LCY x 5.00 mi= $162.50
Water Haul -15% grades: $0.13/LCY-mi x 130 LCY x 15.00 mi= $253.50

Subtotal: $6,997.20

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: 3 LDNGs
Dry Method with Mulch: $524.17/acre x 0.20 acres = $104.83
Includes Small Quantity Factor of 1.35
+ Fertilizer Cost: $34.00/acre x 0.20 acres = $6.80
+ Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $175.63

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $244.25/acre x 0.30 acres = $73.28

Subtotal: $73.28

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 3.34% of total Costs = $152.21
Surfacing - 3.14% by rock volume = $0.00

Subtotal: $152.21

Quarry Development:
Based on 3.14% of total rock volume

Subtotal: $0.00

Total: $9,001.95

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Mobilization Costs - Construction and Surfacing

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21

Average Mobilization distance = 50 miles Factor = 1.00

Mobilization: Construction

Hydro-Mulcher:	1 ea x (1.00 x $75.00/ea +	10 mi x $4.16/mi)= $116.60
Fire Equipment:	1 ea x (1.00 x $75.00/ea +	10 mi x $4.16/mi)= $116.60
Graders-all:	1 ea x (1.00 x $414.00/ea +	10 mi x $14.27/mi)= $556.70
Rollers & Comp:	1 ea x (1.00 x $414.00/ea +	10 mi x $22.05/mi)= $634.50
Excavators:	1 ea x (1.00 x $896.00/ea = $896.00	
Tractors <= D7:	1 ea x (1.00 x $655.00/ea +	10 mi x $31.35/mi)= $968.50
Dump Truck<=15cy:	1 ea x (1.00 x $91.00/ea +	10 mi x $3.77/mi)= $128.70
Water Truck:	1 ea x (1.00 x $96.00/ea +	10 mi x $3.99/mi)= $135.90
Equipment Washing:	4 ea x ($250.00) /ea = $1,000.00	

Subtotal: $4,553.50

Mobilization: Surfacing

Subtotal: $0.00

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Summary of Construction Quantities

T.S. Contract Name: Preacher Man Sale Date: 26 Feb 21

Road Number	Const	Improv	Renov	Decomm	Temp
29-10-25.2 R			106.13		
29-9-21.0 I		11.50			
29-9-21.0 R			27.46		
29-9-21.1 Ext C	3.50				
29-9-21.1 R			62.30		
29-9-21.14 C	13.70				
29-9-21.15 C	8.20				
29-9-21.2 R			12.67		
29-9-21.4 I		4.70			
29-9-31.0 R			41.71		
29-9-31.1 R			13.20		
29-9-31.4 R			20.70		
29-9-31.5 C	6.88				
29-9-33.4 R			37.49		
30-10-2.0 R			12.67		
Total Sta:	32.28	16.20	334.33		

200 Clearing and Grubbing**	Clearing acres
29-10-25.2 R	0.0
29-9-21.0 I	1.3
29-9-21.0 R	0.1
29-9-21.1 Ext C	0.2
29-9-21.1 R	0.2
29-9-21.14 C	1.1
29-9-21.15 C	1.0
29-9-21.2 R	0.1
29-9-21.4 I	0.7
29-9-31.0 R	0.0
29-9-31.1 R	0.0
29-9-31.4 R	0.2
29-9-31.5 C	0.2
29-9-33.4 R	0.0
30-10-2.0 R	0.2
Totals:	5.2

** If not shown, may be included in Section 300 (Excavation) as Time & Equipment.

300 Excavation	Excav LCY.s	Haul sta-yds	Haul yd-mi
29-9-21.15 C	1,230	0	0
Totals:	1,230	0	0

3 LDNGs 30-10-2.0 R
  Tractor: D7 with rippers . . . . . 3 hr
3 LDNGs 29-9-31.4 R
  Tractor: D7 with rippers . . . . . 3 hr
5 LDNGs and TTA 29-9-21.1 R
  Tractor: D7 with rippers . . . . . 5 hr
  Excavator -Small (1.5 CY) . . . . . 2 hr
LDNG and subgrade 29-9-21.1 Ext C
  Tractor: D7 with rippers . . . . . 8 hr

Continuation of Construction Quantities

LDNG and turn around 29-9-21.0 I
Tractor: D7 with rippers . . . . . 4 hr
LDNGs 29-9-21.0 R
Tractor: D7 with rippers . . . . . 5 hr
subgrade and LDNG 29-9-31.5 C
Tractor: D7 with rippers . . . . . 15 hr
subgrade improve and LDNG 29-9-21.4 I
Tractor: D7 with rippers . . . . . 5 hr
subgrade improvement 29-9-21.0 I
Tractor: D7 with rippers . . . . . 12 hr
Subgrade, LDNG, TTA 29-9-21.14 C
Tractor: D7 with rippers . . . . . 33 hr

400 Drainage

Road Number	CMP Culvert	Polypipes	Downspouts
29-9-21.15 C	0 lf	34 lf	0 lf
29-9-21.4 I	40 lf	0 lf	0 lf
29-9-31.4 R	0 lf	40 lf	0 lf
Total Drainage:	40 lf	74 lf	

Culvert Qty	Aluminized	Galvanized	Poly Pipe
12 inch	0 lf	40 lf	
18 inch	0 lf	0 lf	74 lf
24 inch	0 lf	0 lf	0 lf
30 inch	0 lf	0 lf	0 lf
36 inch	0 lf	0 lf	0 lf
42 inch	0 lf	0 lf	
48 inch	0 lf	0 lf	

Downspout Qty	Half Round	Full (poly)	Full (galv)
18 inch	0 lf	0 lf	0 lf
21 inch	0 lf		
24 inch	0 lf	0 lf	0 lf
30 inch		0 lf	

500 Renovation

	Blade Miles	Slide cy
29-10-25.2 R	2.01	0
29-9-21.0 R	0.52	0
29-9-21.1 R	1.18	0
29-9-21.2 R	0.24	0
29-9-31.0 R	0.79	0
29-9-31.1 R	0.25	0
29-9-31.4 R	0.39	0
29-9-33.4 R	0.71	0
30-10-2.0 R	0.24	0
Totals:	6.33	0

culvert fix 29-9-31.1 R
Chainsaw . . . . . 1 hr
General Laborer . . . . . 1 hr
Repair culvert inlet 29-9-21.1 R
Chainsaw . . . . . 1 hr
General Laborer . . . . . 1 hr
Repair culvert inlet 29-9-21.0 R
Chainsaw . . . . . 1 hr
General Laborer . . . . . 1 hr

Continuation of Construction Quantities

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: kincheloe 1.5-0"

Commercial	Roadway	Turnouts	Other	
Totals:	0	0	0	0

Quarry Name: kincheloe 3-0"

Commercial	Roadway	Turnouts	Other	
Totals:	0	0	0	0

Quarry Name: kincheloe 6-0"

Commercial	Roadway	Turnouts	Other	
Totals:	0	0	0	0

Quarry Name: kincheloe 1.5-0 spot

Commercial	Roadway	Turnouts	Other	
Totals:	0	0	0	0

Quarry Name: Kincheloe Rip Rap

Commercial	Roadway	Turnouts	Other	
Totals:	0	0	0	0

Quarry Name: Kincheloe Bedding

Commercial	Roadway	Turnouts	Other	
Totals:	0	0	0	0

Quarry Name: B&B Roads 1.5-0" Spo

Commercial	Roadway	Turnouts	Other	
29-10-25.2 R	0	0	150	150
29-9-21.0 R	0	0	50	50
29-9-21.1 R	0	0	100	100
29-9-21.2 R	0	0	40	40
29-9-31.0 R	0	0	70	70
29-9-31.1 R	0	0	30	30
29-9-33.4 R	0	0	50	50
30-10-2.0 R	0	0	30	30
29-9-31.4 R	0	0	10	10
Totals:	0	0	530	530

Quarry Name: B&B Roads 1.5-0"

Commercial	Roadway	Turnouts	Other	
29-9-31.4 R	680	0	0	680
29-9-21.14 C	203	0	0	203
Totals:	883	0	0	883

Quarry Name: B&B Roads 3-0"

Commercial	Roadway	Turnouts	Other	
29-9-21.0 I	833	0	0	833
29-9-21.1 Ext C	157	0	0	157
29-9-21.4 I	211	0	0	211
29-9-31.5 C	308	0	0	308

29-9-21.15 C	565	0	0	565
29-9-21.14 C	469	0	0	469
Totals:	2,543	0	0	2,543

Quarry Name: B&B Roads 6-0"

Commercial	Roadway	Turnouts	Other	
29-9-21.1 R	0	0	265	265
29-9-21.2 R	0	0	50	50
29-9-31.4 R	0	0	100	100
30-10-2.0 R	0	0	130	130
29-9-21.0 I	0	0	70	70
29-9-21.1 Ext C	0	0	50	50
29-9-21.4 I	0	0	50	50
29-9-31.5 C	0	0	50	50
29-9-21.15 C	0	0	80	80
29-9-21.14 C	0	0	80	80
29-9-21.0 R	0	0	175	175
Totals:	0	0	1,100	1,100

Quarry Name: B&B Roads Rip Rap

Commercial	Roadway	Turnouts	Other	
29-9-21.1 R	0	0	20	20
Totals:	0	0	20	20

Quarry Name: B&B Roads Bedding

Commercial	Roadway	Turnouts	Other	
29-9-21.15 C	0	0	10	10
29-9-31.4 R	0	0	10	10
Totals:	0	0	20	20

energy dissapters 29-9-21.1 R
Excavator -Small (1.5 CY) . . . . . 2 hr

1300 Geotextiles

Totals: No Quantities

1400 Slope Protection

Totals: 0 cy

Totals: 0

1800 Soil stabilization - acres	Dry W/O Mulch	Dry/with Mulch	Hydro Mulch
29-10-25.2 R	0.0	0.2	
29-9-21.0 I	0.0	0.6	
29-9-21.0 R	0.0	0.3	
29-9-21.1 Ext C	0.0	0.2	
29-9-21.1 R	0.0	0.3	
29-9-21.14 C	0.0	0.6	
29-9-21.15 C	0.0	0.6	
29-9-21.2 R	0.0	0.1	
29-9-21.4 I	0.0	0.1	
29-9-31.0 R	0.0	0.2	
29-9-31.1 R	0.0	0.1	

29-9-31.4 R	0.0	0.3	
29-9-31.5 C	0.0	0.2	
29-9-33.4 R	0.0	0.2	
30-10-2.0 R	0.0	0.2	
Totals:	0.0	4.2	0.0

Small Quantity Factor of 1.35 used

1900 Cattleguards

Totals: No Quantities

2100 RoadSide Brushing — acres

29-10-25.2 R - Mechanical Brushing	2.0
29-9-21.0 R - Mechanical Brushing	0.7
29-9-21.1 R - Mechanical Brushing	3.0
29-9-21.2 R - Mechanical Brushing	0.6
29-9-31.0 R - Mechanical Brushing	1.5
29-9-31.1 R - Mechanical Brushing	0.5
29-9-31.4 R - Mechanical Brushing	0.5
29-9-33.4 R - Mechanical Brushing	0.5
30-10-2.0 R - Mechanical Brushing	0.3
Totals:	9.6

2300 Engineering — stations

Totals: 0.00

2400 Minor Concrete

Totals: No Quantities

2500 Gabions

Totals: No Quantities

8000 Miscellaneous

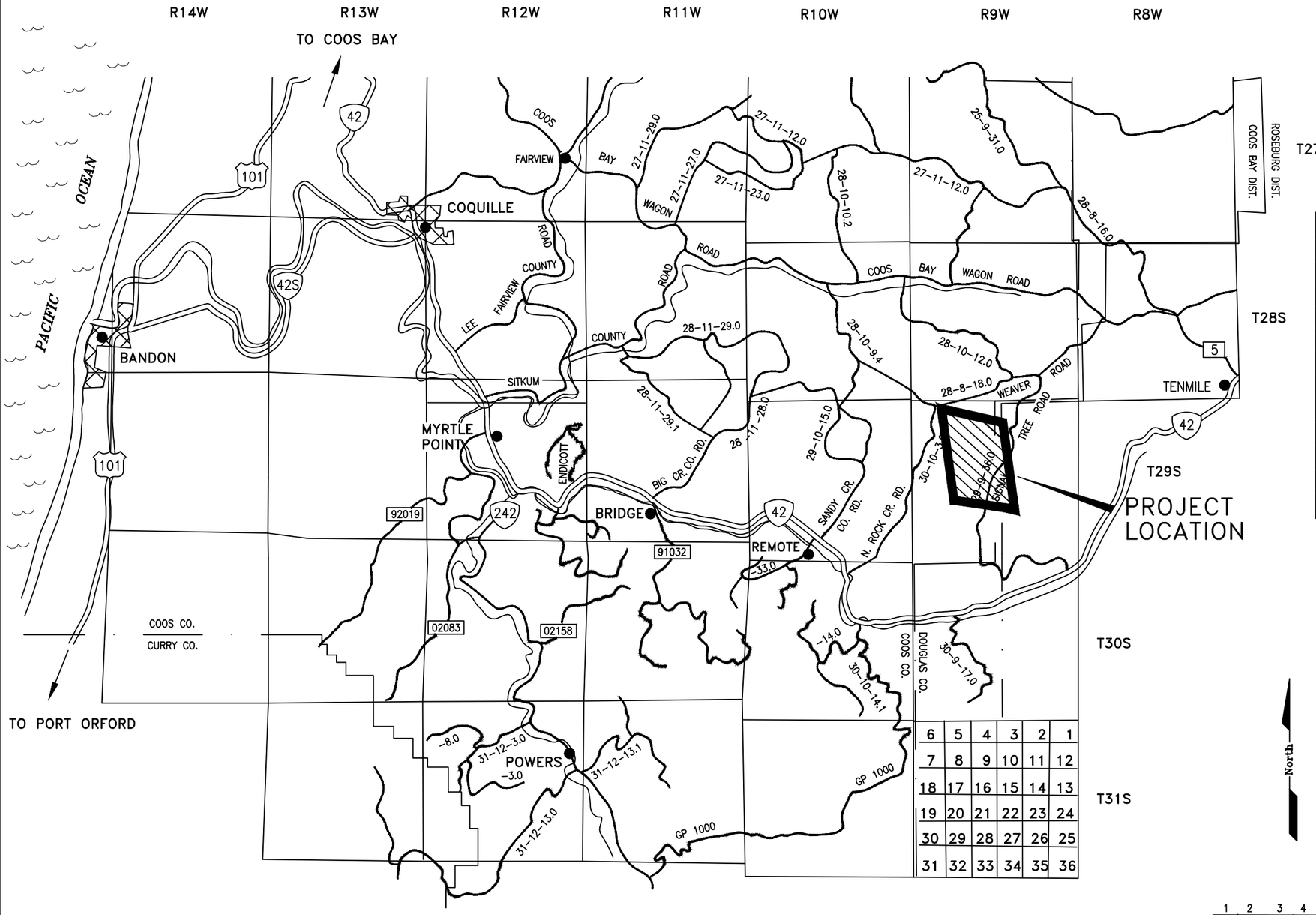
Totals: No Quantities

EXHIBIT C

PREACHER MAN

ORC04–TS–2021.0031

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OFFICE
MYRTLEWOOD FIELD OFFICE



SHEET	CONTENTS
1	TITLE SHEET
2–4	WORK LOCATION MAP
5	TYPICAL CROSS SECTION DETAILS
6–7	ESTIMATE OF QUANTITIES
8	CULVERT INSTALLATION DETAILS
9	ROADSIDE BRUSHING DETAILS
10	PLAN & PROFILE 29–9–21.15
11–12	SPECIAL PROVISIONS
13–18	SPECIAL DETAILS
19–24	CONSTRUCTION DETAILS
25–64	TIMBER SALE ROAD SPECIFICATIONS

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

TITLE SHEET

DESIGNED M. RUSSELL
REVIEWED J. AGUILAR
APPROVED J. DAVIS

DRAWN MDR	SCALE AS SHOWN
DATE 12 / 2020	SHEET 1 OF 64

EXHIBIT C

LEGEND

- NEW CONSTRUCTION
- IMPROVEMENT
- RENOVATION
- EXISTING ROAD
- PAVED ROAD
- ROAD SEGIMENT
- TRUCK TURNOUT (TO)
- WASTE SITE (W)

R 9 W

T 29 S

AREA OF DETAIL SEE SHEET NO. 3

AREA OF DETAIL SEE SHEET NO. 4

29-9-19.0

MP 8.46
0.00

29-9-36.0

UPPER ROCK CR.

30-10-3.0

29-9-31.0

29-10-25.2

MP 2.01
0.00

Lower Single Tree Road

29-9-36.0

29-9-33.4

MP 5.03
0.00

Lower Single Tree Road

HWY. 42

MP 51.25
0.00

HWY. 42

North

U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
WORK LOCATION MAP ORC04-TS- 2021.0031 PREACHER MAN	
DESIGNED	M. RUSSELL
REVIEWED	J. AGUILAR
APPROVED	J. DAVIS
DRAWN	MDR
SCALE	NONE
DATE	12 / 2020
SHEET	2 OF 64
DRAWING NO.	

EXHIBIT C

LEGEND

- NEW CONSTRUCTION
- IMPROVEMENT
- RENOVATION
- EXISTING ROAD
- PAVED ROAD
- LANDING
- TRUCK TURNOUT (TO)
- ROAD SEGMENT

R 9 W

T 29 S

30

31

32

North

MP 2.01 = 0.00

29-10-25.2

WEYERHAEUSER CO.

BLM

WEYERHAEUSER CO.

MP 0.24

30-10-2.0

MP 0.09

MP 0.09

MP 0.79 = 0.00

29-9-31.0

29-9-31.1

MP 0.25 = 0+00

5+90

9+80

29-9-31.4

6+88

29-9-31.5

16+00 = 0+00

20+70

29-10-25.2

ALWAYS THINK SAFETY

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

WORK LOCATION MAP
ORC04-TS- 2021.0031
PREACHER MAN

DESIGNED	M. RUSSELL
REVIEWED	J. AGUILAR
APPROVED	J. DAVIS
DRAWN MDR	SCALE NONE
DATE 12/2020	SHEET 4 OF 64
DRAWING NO.	

R 9 W

T 29 S

North

WEYERHAEUSER CO.

BLM

11+50

29-9-21.0

13+70

Swing Road

9+25

29-9-21.14

7+00

8+50

Sta. 7+50 = 0+00

MP 0.36

MP 0.30

MP 0.26

29-9-21.0

MP 0.14

3+50

-21.1 Ext.

MP 1.18 0+00

29-9-21.1

8+20

7+50

29-9-21.15

MP 0.52 = 0.00

MP 0.52 = 0+00

MP 0.05 = 0+00

21

MP 0.22

29-9-21.1

MP 0.24

29-9-21.2

MP 8.46 = 0.00

MP 0.89

MP 0.33

MP 0.68

MP 0.53

29-9-21.4

MP 0.14 = 0+00

4+70

29-9-28.0

29-9-36.0

Lower Signal Tree

22

EXHIBIT C

LEGEND

NEW CONSTRUCTION	
IMPROVEMENT	
RENOVATION	
EXISTING ROAD	
PAVED ROAD	
LANDING	
TRUCK TURNOUT	TO
BORROW SITE	BS
SWING ROAD	

ALWAYS THINK SAFETY

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

WORK LOCATION MAP
ORC04-TS- 2021.0031
PREACHER MAN

DESIGNED M. RUSSELL
REVIEWED J. AGUILAR
APPROVED J. DAVIS

DRAWN MDR | SCALE NONE
DATE 12/2020 | SHEET 3 OF 64
DRAWING NO.

ROAD NUMBER **	FROM MILEPOST/STATION	TO MILEPOST/STATION	LENGTH MILES/ STATIONS	TYPICAL SECTION TYPE	ROAD WIDTH[1]		CLEARING WIDTH		BRUSHING WIDTH		SURFACING									REMARKS
					SUBGRADE	DITCH	BEYOND		EXISTING ROADS		BASE COURSE					SURFACE COURSE				
							TOP CUT	TOE FILL	L	R	Min Top Width	Comp. Depth	Type[2]	Grading		Min Top Width	Comp. Depth	Type[2]	Grading	
29-9-21.0 R	0.00	0.52	0.52	5	16'	2'			10'	10'						Apply 50 CY Spot Rock				3% CROWNED W/ DITCH
29-9-21.0 I	0+00	11+50	11.50	2	16'	0'	10'	5'			12'	12"	D	3-0"						3% OUTSLOPE/INSLOPE
29-9-21.1 R	0.00	1.18	1.18	5	16'	2'			10'	10'						Apply 100 CY Spot Rock				3% CROWNED W/ DITCH
29-9-21.1 ext C	0+00	3+50	3.5	2	14'	0'	10'	5'			12'	8"	D	3-0"						3% OUTSLOPE/INSLOPE
29-9-21.2 R	0.00	0.24	0.24	5	16'	2'			10'	10'						Apply 40 CY Spot Rock				3% CROWNED W/ DITCH
29-9-21.4 I	0+00	4+70	4.70	2	14'	0'			10'	10'	12'	8"	D	3-0"						3% OUTSLOPE/INSLOPE
29-9-21.14 C	0+00	13+70	13.70	5	16'	2'	10'	5'			13' 4"	8"	D	3-0"		12'	4"	D	1.5-0"	3% CROWNED W/ DITCH
29-9-21.15 C	0+00	8+20	8.20	4	16'	2'	10'	5'			12'	12"	D	3-0"						3% CROWNED W/ DITCH
29-9-33.4 R	0.00	0.71	0.71	5	16'	2'			10'	10'						Apply 50 CY Spot Rock				3% CROWNED W/ DITCH
29-10-25.2 R	0.00	2.01	2.01	5	16'	2'			10'	10'						Apply 150 CY Spot Rock				3% CROWNED W/ DITCH
29-9-31.0 R	0.00	0.79	0.79	5	16'	2'			10'	10'						Apply 70 CY Spot Rock				3% CROWNED W/ DITCH
29-9-31.1 R	0.00	0.25	0.25	5	16'	2'			10'	10'						Apply 30 CY Spot Rock				3% CROWNED W/ DITCH
29-9-31.4 R	0+00	20+70	20.70	5	16'	2'			10'	10'						12'	6"	D	1.5-0"	3% CROWNED W/ DITCH
30-10-2.0 R	0.00	0.24	0.24	5	16'	2'			10'	10'						Apply 30 CY Spot Rock				3% CROWNED W/ DITCH
29-9-31.5 C	0+00	6+88	6.88	4	14'	2'	10'	5'			12'	8"	D	3-0"						3% CROWNED W/ DITCH

** RENOVATION = R
IMPROVEMENT = I
CONSTRUCTION = C

*NOTES

1. EXTRA SUBGRADE WIDTHS

   ADD TO EACH FILL SHOULDER 1 FT. FOR FILLS OF 1–6 FT. AND 2 FT. FOR FILLS OVER 6 FT.

   WIDEN THE INSIDE SHOULDER OF ALL CURVES AS FOLLOWS:

   WHEN THE RADIUS OF CURVE EQUALS
   270–800 ADD 1FT.
   165–270 ADD 2FT.
   120–165 ADD 3FT.
   90–120 ADD 4FT.
   60–90 ADD 5FT.

CUT SLOPES AND FILL SLOPES AS FOLLOWS OR AS SHOWN ON PLANS:

MATERIALS	CUT SLOPES	FILL SLOPES
COMMON	3/4:1	1 1/2:1
SOFT ROCK & SHALE	1/2:1	1 1/2:1
SOLID ROCK	1/4:1	REPOSE

FULL BENCH CONSTRUCTION IS REQUIRED ON SIDE SLOPES EXCEEDING 60%.

2. SURFACING TYPE
   A. PIT RUN ROCK MATERIAL.
   B. GRID ROLLED ROCK MATERIAL
   C. SCREENED ROCK MATERIAL.
   D. CRUSHED ROCK MATERIAL.
   E. CLASS 'C' ASPHALT MIX.

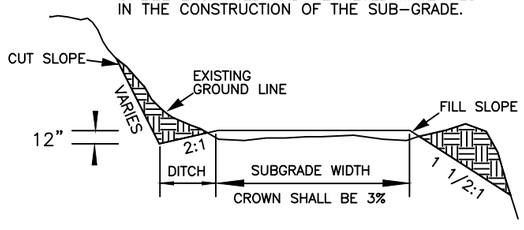
3. SURFACING
   A. TURNOUTS, CURVE WIDENING, AND ROAD APPROACH APRONS SHALL BE SURFACED FOR ALL ROAD STATIONING REQUIRING SURFACING AS LISTED OR AS SHOWN ON PLANS.

4. DITCHES
   A. 2:1 SLOPE FROM SUBGRADE, OR AS OTHERWISE NOTED. DEPTH MAY BE EXCEEDED TO OBTAIN REQUIRED DRAINAGE.

5. TURNOUTS
   A. WIDTH 10 FT. IN ADDITION TO SUBGRADE WIDTH, OR AS SHOWN ON THE PLANS.
   B. INTERVISIBLE OR LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS AND/OR NARRATIVE.

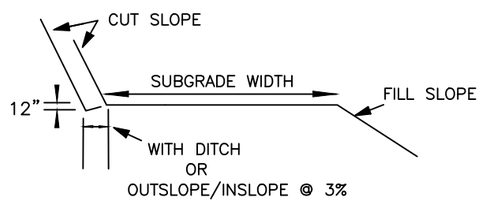
TYPICAL GRADING SECTION

UTILIZE EXCAVATED AND RETRIEVED MATERIALS IN THE CONSTRUCTION OF THE SUB–GRADE.



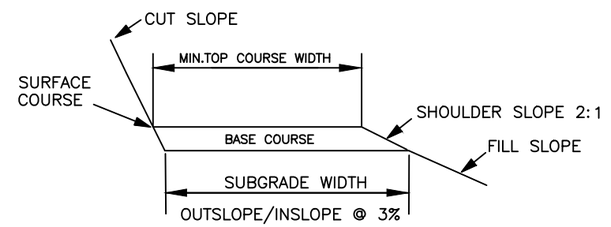
TYPICAL DIRT SECTION

TYPE 1



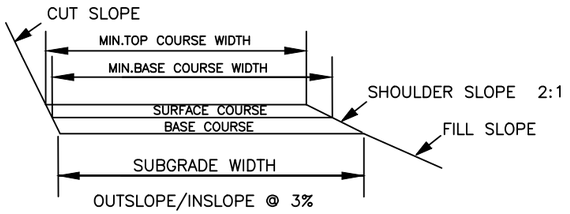
TYPICAL SURFACING SECTION

TYPE 2



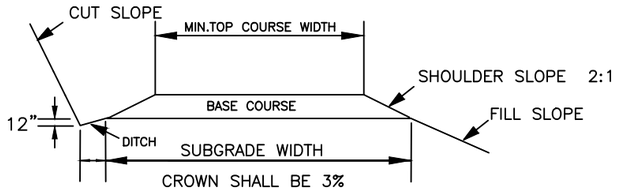
TYPICAL SURFACING SECTION

TYPE 3



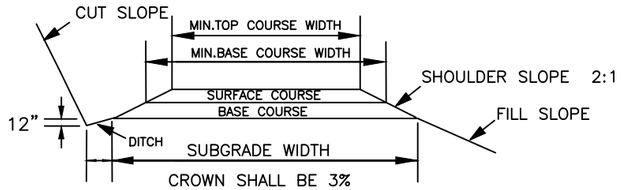
TYPICAL SURFACING SECTION

TYPE 4



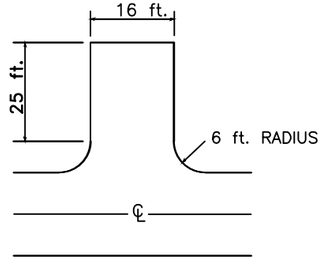
TYPICAL SURFACING SECTION

TYPE 5

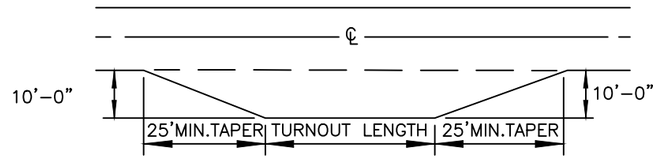


NOTE: FOR TYPE 1–3 TYPICAL SECTIONS, OUTSLOPING NOT TO BE USED WHERE GRADE EXCEEDS 6%

PLAN – TYPICAL TRUCK TURNAROUND



PLAN – TYPICAL TURNOUT



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U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT – OREGON

ORC04–TS–2021.0031
PREACHER MAN
TYPICAL CROSS SECTION DETAILS

DESIGNED	M. RUSSELL
REVIEWED	J. AGUILAR
APPROVED	J. DAVIS
DRAWN MDR	SCALE NONE
DATE 12/2020	SHEET 5 OF 64

ROAD NUMBER	NEW ROAD CONSTRUCTION	RENOVATION	IMPROVEMENT	NEW LANDING CONSTRUCTION	SLASH TREATMENT	GRUBBING	ROADSIDE BRUSHING	SLOPE STAKING	EARTHWORK (DESIGNED)						CPP *1		CMP *2		DOWNSPOUTS *3				CULVERT MARKER
									COMMON	RIPPABLE ROCK	ROCK CUT	FILL	SHORT HAUL 200–5000'	LONG HAUL 5000'+	18"	24"	12"	24"	FULL ROUND				
																			CPP		CMP		
																			18"	24"	18"	24"	
SECTION NO.	300	500	500	300	200	200	2100	2300	300	300	300	300	300	300	400	400	400	400	400	400	400	400	400
UNITS	STA.	STA.	STA.	EA.	AC.	AC.	STA.	STA.	C.Y.	C.Y.	C.Y.	YDS.	STA.YD.	YD.MI.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.
29–9–21.0		27.46		1	0.1	0.1	27.46																
29–9–21.0 I			11.50		1.3	1.3																	
29–9–21.1		62.30		2	0.2	0.2	62.30																
29–9–21.1 ext	3.50			1	0.2	0.2																	
29–9–21.2		12.67			0.1	0.1	12.67																
29–9–21.4			4.70		0.7	0.7											40						
29–9–21.14	13.70			2	1.1	1.1																	
29–9–21.15	8.20			1	1.0	1.0			1230						34								
29–9–33.4		37.49					37.49																
29–10–25.2		106.13					106.13																
29–9–31.0		41.71					41.71																
29–9–31.1		13.20					13.20																
29–9–31.4		20.70		2	0.2	0.2	20.70								40								
30–10–2.0		12.67			0.2	0.2	12.67																
29–9–31.5	6.88			1	0.2	0.2																	
Totals:	32.28	334.33	16.20	10	5.3	5.3	334.33		1230						74		40						

*1 CPP – CORRUGATED POLYETHYLENE PIPE
*2 CMP – CORRUGATED METAL PIPE
*3 SEE DOWNSPOUT INSTALLATION SHEET

ESTIMATE OF QUANTITIES *

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

ALWAYS THINK SAFETY

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

ESTIMATE OF QUANTITIES
ORC04–TS– 2021.0031
PREACHER MAN

DESIGNED M. RUSSELL
REVIEWED J. AGUILAR
APPROVED J. DAVIS

DRAWN MDR | SCALE NONE
DATE 12/2020 | SHEET 6 OF 64
DRAWING NO.

ESTIMATE OF QUANTITIES*

ROAD NUMBER	SURFACING					OTHER			SEEDING		
	(6-0") ROCK	(3-0") ROCK	(3-0") SPOT ROCK	(1.5-0") SURFACE ROCK	(1.5-0") SPOT ROCK	(0.75-0") CULVERT BEDDING	RIP RAP	CLASS C ASPHALT	SEED, FERTILIZE AND MULCH		OTHER (SEDIMENT CONTROL DEVICES)
									DRY	HYDRO	
SECTION NO.	1000	1000	1000	1200	1200	1200	1400	2600	1800	1800	
UNITS	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	TONS	ACRES	ACRES	EACH
29-9-21.0	175				50				0.3		
29-9-21.0 I	70	833							0.6		
29-9-21.1	265				100		20		0.3		
29-9-21.1 ext	50	157							0.2		
29-9-21.2	50				40				0.1		
29-9-21.4	50	211							0.1		
29-9-21.14	80	469		203					0.6		
29-9-21.15	80	565				10			0.6		
29-9-33.4					50				0.2		
29-10-25.2					150				0.2		
29-9-31.0					70				0.2		
29-9-31.1					30				0.1		
29-9-31.4	100			680	10	10			0.3		
30-10-2.0	130				30				0.2		
29-9-31.5	50	308							0.2		
TOTALS	1100	2543	0	883	530	20	20		4.2		

* FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.
ALL ROCK QUANTITIES ARE TRUCK (LOOSE) MEASUREMENT QUANTITIES.

SECTION	GRADE	SIZE
1000	(A)	3”
1000	(I)	6”
1200	(C)	1 ½ ”
1200	(E)	¾ ”
1400	(A)	27”–8”
2600	CLASS C ASPHALT	

GRADE INDICATED IN CIRCLE ◯

ALWAYS THINK SAFETY

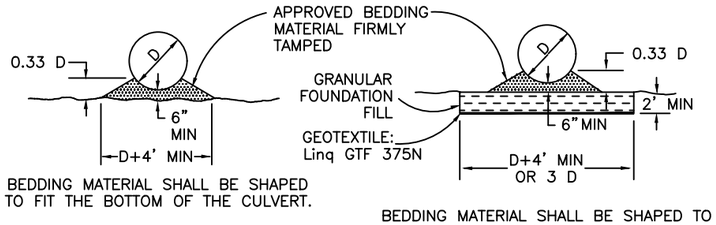
U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

ESTIMATE OF QUANTITIES
ORC04–TS– 2021.0031
PREACHER MAN

DESIGNED M. RUSSELL
REVIEWED J. AGUILAR
APPROVED J. DAVIS

DRAWN MDR | SCALE NONE
DATE 12/2020 | SHEET 7 OF 64
DRAWING NO.

BEDDING OF CULVERTS

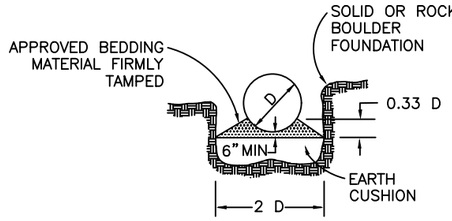


BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT.

BEDDING OF CULVERTS ON STABLE NATURAL GROUND FOUNDATION OR COMPACTED EMBANKMENT

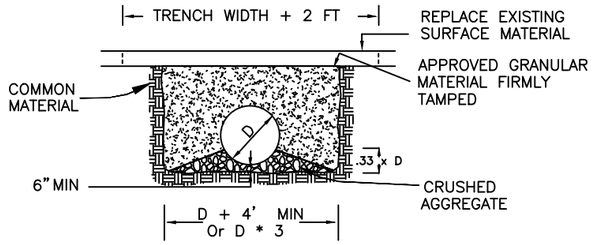
BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT.

BEDDING OF CULVERTS ON SOFT SPONGY OR UNSTABLE SOIL FOUNDATION



BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT. EARTH CUSHIONING OF SILTY CLAY LOAM OR SAND MAY BE USED IF MATERIAL CAN BE PLACED IN THE DRY CONDITION. iF THE EXCAVATION IS WET, USE GRANULAR FOUNDATION FILL MATERIAL. MAINTAIN 8" MIN. DEPTH BETWEEN HIGH POINTS OF ROCKS AND/OR BOULDERS AND THE BOTTOM OF THE CULVERT.

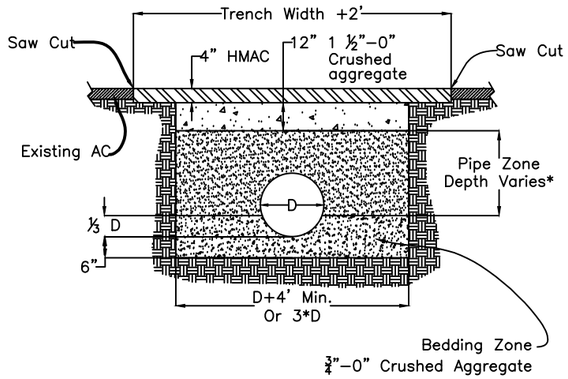
BEDDING OF CULVERT IN SOLID ROCK OR BOULDER FOUNDATION



BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT. BACKFILL MATERIAL SHALL BE APPROVED GRANULAR MATERIAL.

BEDDING OF CULVERTS ON EXISTING AGGREGATE SURFACED ROADS

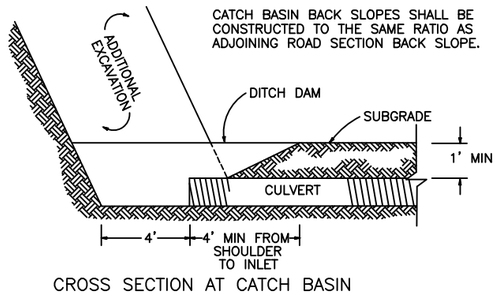
PAVED ROAD TRENCH DETAIL



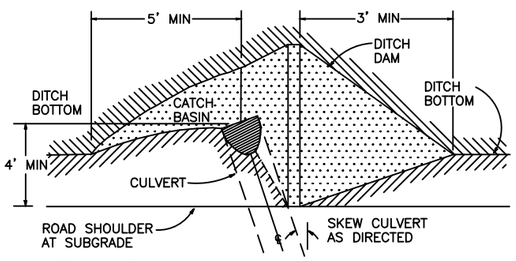
*Pipe zone bedding shall be select common material (4–0").

HMAC = Hot Mix Asphalt Concrete

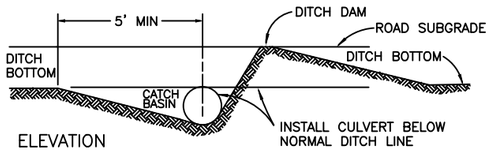
AC = Asphalt Concrete



CROSS SECTION AT CATCH BASIN

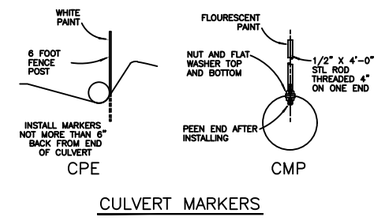


PLAN VIEW

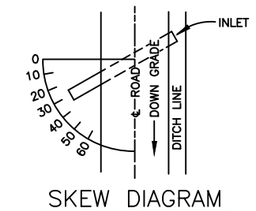


ELEVATION

CATCH BASIN



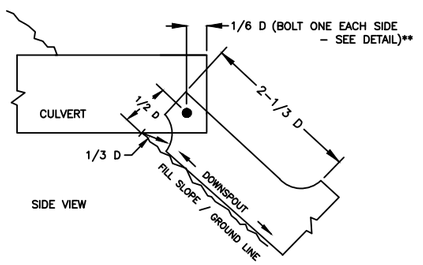
CULVERT MARKERS



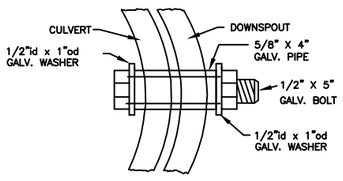
SKEW DIAGRAM

HORIZONTAL SKEW SHALL BE AS SHOWN, OR PERPINDICULAR TO DITCH LINE IN GRADE DIPS.
THE GRADE OF CROSSDRAINS SHALL BE AT LEAST 2% GREATER THAN THE GRADE OF THE DITCH, WITH A MAXIMUM GRADIENT OF 5%.

USE "ADJUSTABLE ELBOW" FOR CPE AND CMP DOWNSPOUTS

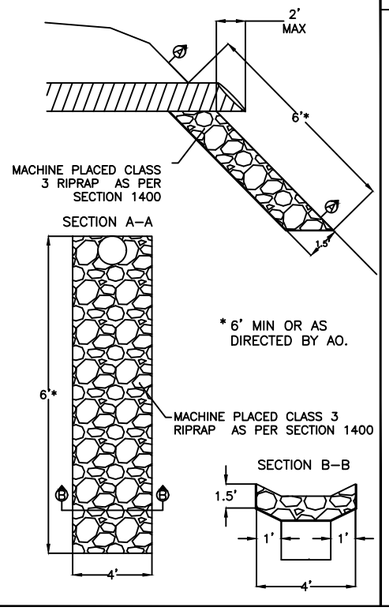


BOLT ASSEMBLY DETAIL**



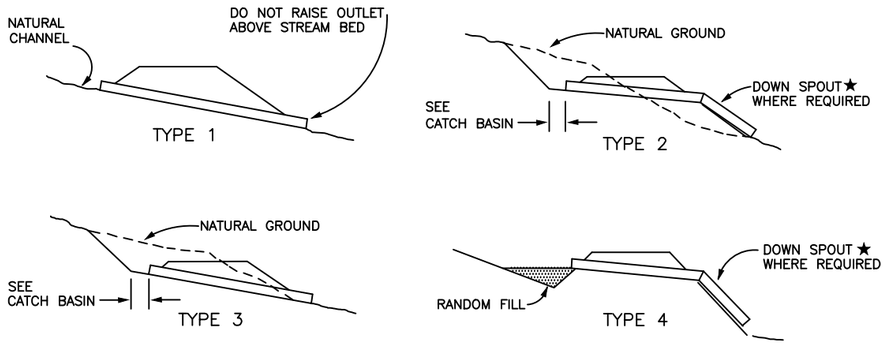
★ NOTE: ANCHOR DOWNSPOUTS ACCORDING TO SECTION 407b OF THE ROAD CONSTRUCTION SPECIFICATIONS

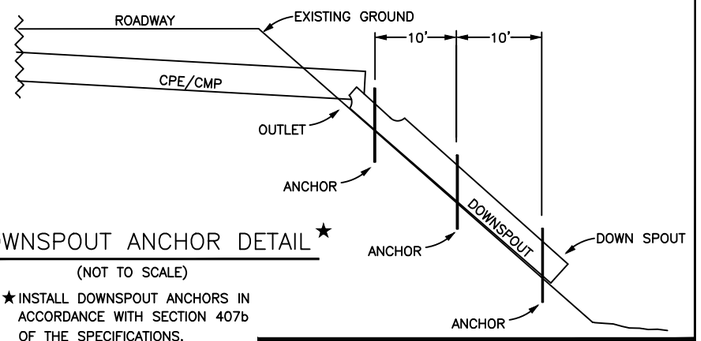
CROSS DRAIN OUTLET PROTECTION DETAIL



BANDS SHALL MEET MANUFACTURER'S SPECIFICATIONS

CULVERT INSTALLATION TYPES





DOWNSPOUT ANCHOR DETAIL ★

(NOT TO SCALE)

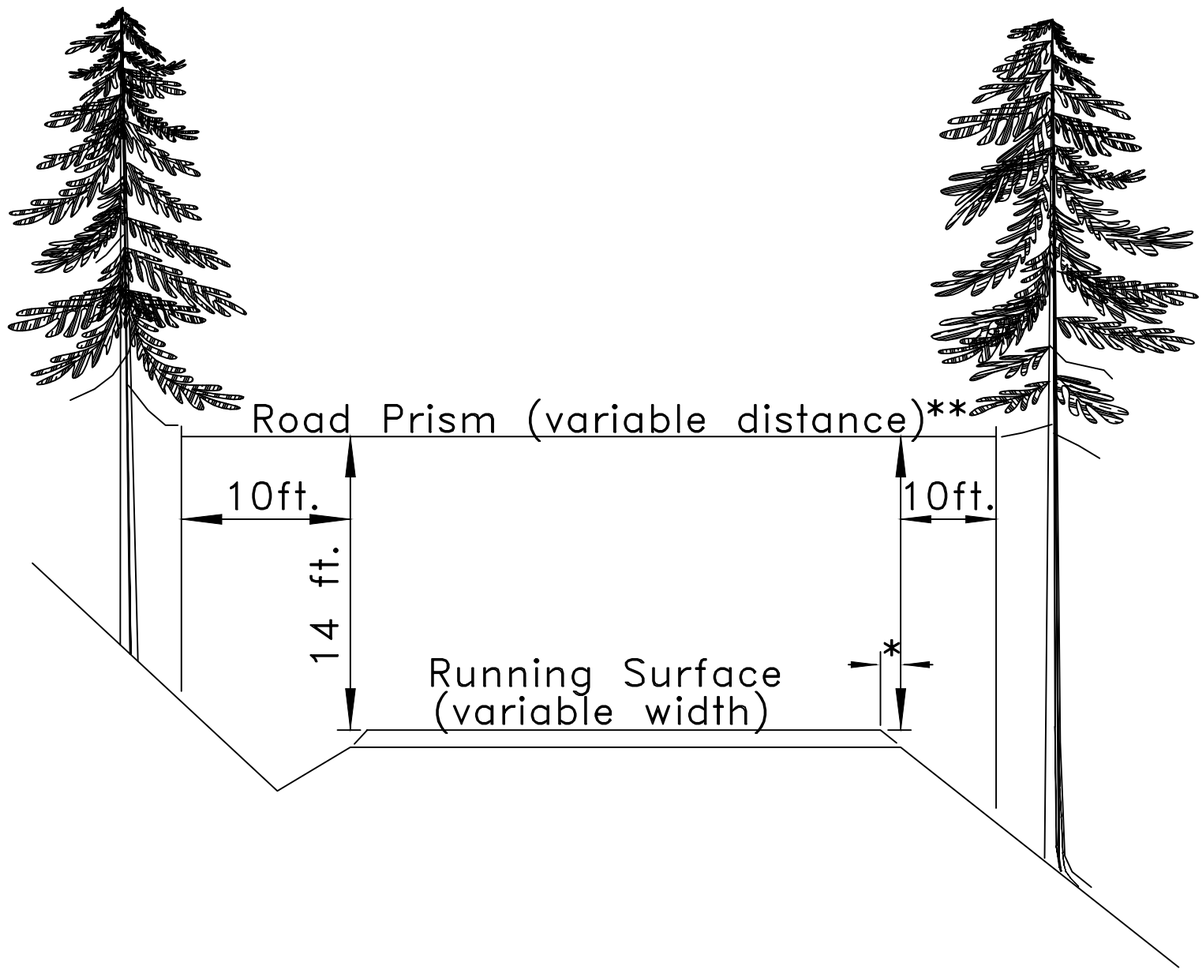
★ INSTALL DOWNSPOUT ANCHORS IN ACCORDANCE WITH SECTION 407b OF THE SPECIFICATIONS.

ALWAYS THINK SAFETY

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

CULVERT INSTALLATION DETAILS
ORC04–TS– 2021.0031
PREACHER MAN

DESIGNED	M. RUSSELL
REVIEWED	J. AGUILAR
APPROVED	J. DAVIS
DRAWN MDR	SCALE NONE
DATE 12/2020	SHEET 8 OF 64
DRAWING NO.	

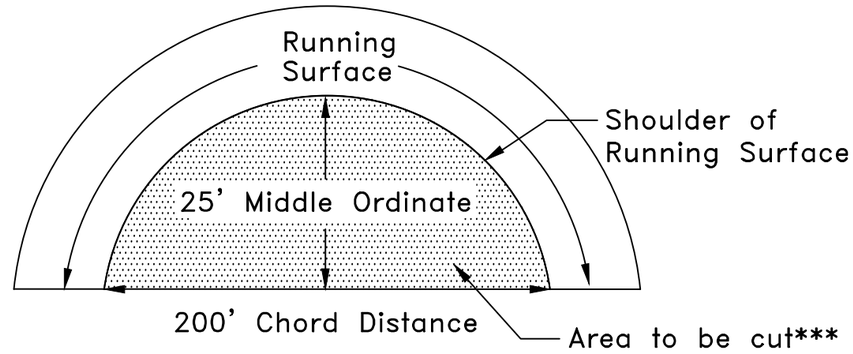


* Variable distance between running surface and start of fill slope.

** All areas within the variable distance shall be free of all vegetation capable of growing one (1) foot in height or higher, and free of all over–hanging limbs and branches 14 feet in elevation above the running surface.

Roadside Brushing – Inside Corner

Sight Distance Diagram



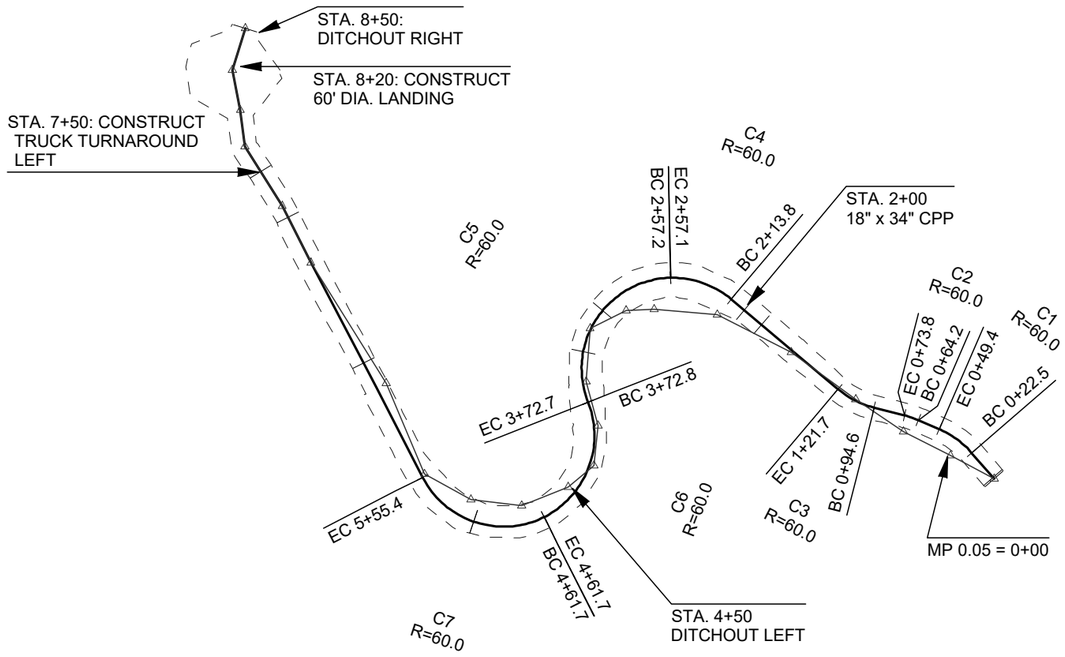
*** Inside curves, upon BLM lands or in coordination with private landowners, shall be brushed out for a sight distance of 200 feet chord distance or a middle ordinate distance of 25 feet, whichever is achieved first. Overhanging limbs and vegetation in excess of 1 foot height, shall be cut within this area.

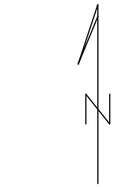
ALWAYS THINK SAFETY

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT – OREGON

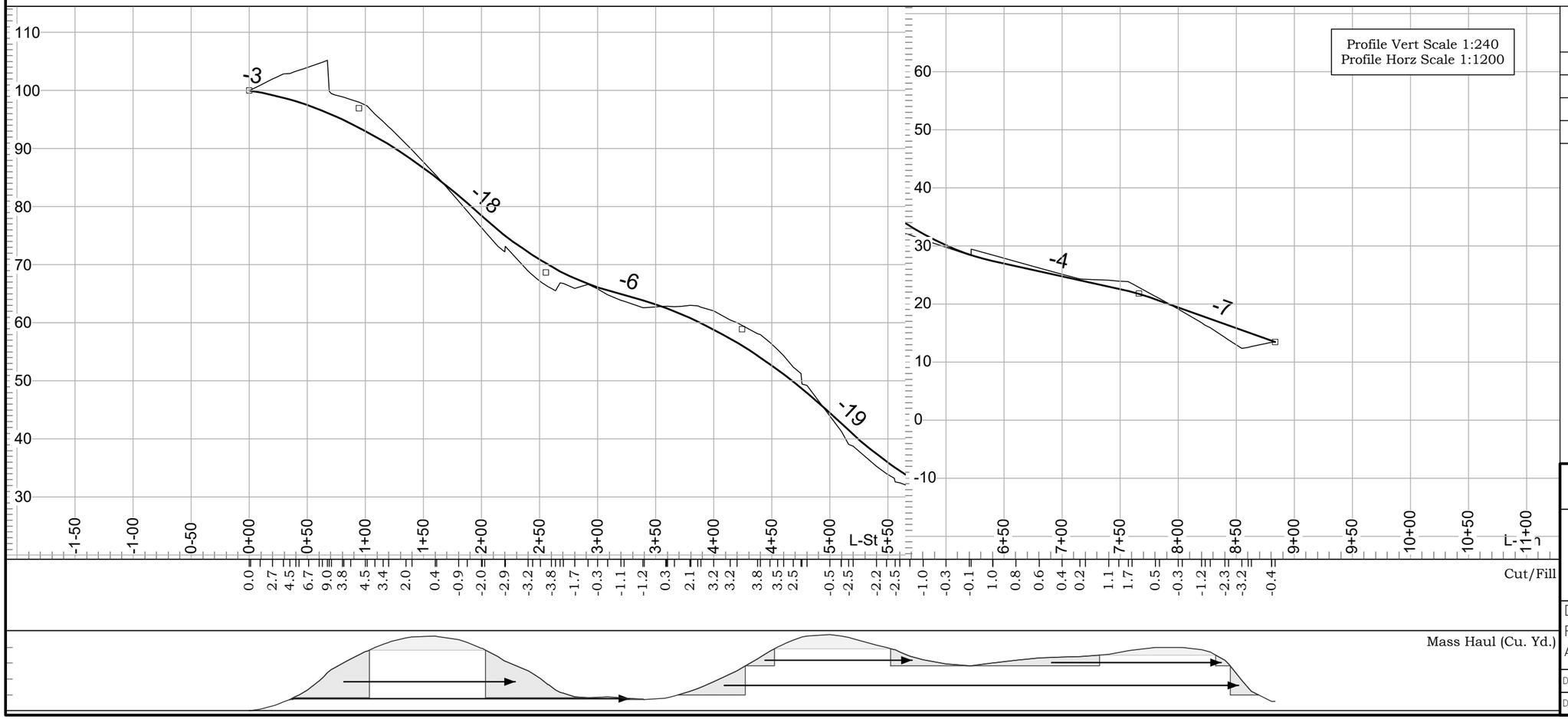
ORC04–TS–2021.0031
PREACHER MAN
ROADSIDE BRUSHING DETAILS

DESIGNED	M. RUSSELL
REVIEWED	J. AGUILAR
APPROVED	J. DAVIS
DRAWN MDR	SCALE NONE
DATE 12/2020	SHEET 9 OF 64





Plan Scale 1:1200



LEGEND

- PLAN P-LINE
- DESIGN ALIGNMENT
- PLAN ROAD EDGES
- PROFILE TOPO

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT – OREGON

ORC04–TS–2021.0031
PREACHER MAN
PLAN & PROFILE
BLM ROAD NO. 29–9–21.15

DESIGNED: J. AGUILAR
REVIEWED: M. RUSSELL
APPROVED: J. DAVIS

DRAWN: J. AGUILAR	SCALE: AS SHOWN
DATE: 12/2020	SHEET 10

ROAD MAINTENANCE SPECIFICATIONS

General road maintenance specifications are designated by numeric symbols according to the type of road work to be performed, as follows:

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

GENERAL - 3000

3001 The Purchaser shall be required to maintain all roads as shown on the Exhibit D map of this contract in accordance with Sections 3000, 3100, 3200, 3300, and 3400 of this exhibit.

3002 The Purchaser shall maintain the cross section of existing dirt or graveled roads to the existing geometric standards. Any roads required to be constructed, improved, or renovated under terms of this contract shall be maintained to the 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. 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 patrol grader. Banks shall not be undercut. Back blading with tractors or similar equipment will be allowed only around landings and other areas when approved by the Authorized Officer.

3102 The Purchaser shall place 590 CY of 1.5-0” crushed aggregate surfacing, conforming to the requirements in Section 1200 of Exhibit C of this contract and 100 CY of 3-0” crushed aggregate surfacing, conforming to the requirements in Section 1000 of Exhibit C of this contract, on the roadway at locations and in the amounts designated by the Exhibit D location maps and by the Authorized Officer.

This crushed aggregate shall be used to repair surface failures, and areas of depleted surface depth, excluding damages covered by Section 12 of this contract. The aggregate shall be furnished, hauled, placed, spread, and compacted by use of dump trucks, water trucks, motor patrol grader, and roller compactor.

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 patrol 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 suitable turnout or 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.

3104b The Purchaser shall be responsible for removal of all slides or slough, up to fifteen (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 removal of any slough or slide material exceeding fifteen (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 work, based on current BLM Timber Appraisal Production Cost Schedules. Adjustments in purchase price for completed work shall be made as necessary as 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 fifteen (15) station yards in quantity, at any one site. The work includes unlimited multiple sites on all roads required to be maintained by the Purchaser. Prior to repair and replacement of eroded material exceeding fifteen (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 Timber Sale Appraisal Production Cost Schedules. 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 cut trees or brush encroaching on the road prism that are a result of his activities or winter damage during the contract period. Disposal of such vegetative material shall be by scattering below the road.

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

3108a The Purchaser shall perform logging operations on gravel and/or bituminous 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 preventive 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 cross ditching, blockage, removing ruts or other surface irregularities, and all other requirements specified in Section 3100.

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

3203 The Purchaser shall complete road cleanup and maintenance, as specified in Section 3100, at the completion of logging operations on any road(s) 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 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 Section 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 Subsections 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.

3420 The Purchaser shall perform the following work:

Road No.	Roadwork

NOTE: Rock tickets for any maintenance rock utilized, shall be provided to Authorized Officer within 3 days of placement of rock.

NOTE: Any water bars, earthen berm barriers, and boulder barriers shall be constructed in accordance with Barrier and Erosion Control Detail Sheet No. 2.

29-9-21.0 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 90 CY of 1.5-0” maintenance rock for damaged road surfaces, conforming to Section 1200 of the Exhibit C.

29-9-21.0 I ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 30 CY of 3.0-0” maintenance rock for damaged road surfaces, conforming to Section 1000 of the Exhibit C.

29-9-21.1 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 70 CY of 1.5-0” maintenance rock for damaged road surfaces, conforming to Section 1200 of the Exhibit C.

29-9-21.1 ext ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 10 CY of 3.0-0” maintenance rock for damaged road surfaces, conforming to Section 1000 of the Exhibit C.

29-9-21.2 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 10 CY of 1.5-0” maintenance rock for damaged road surfaces, conforming to Section 1200 of the Exhibit C.

29-9-21.4 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 10 CY of 3.0-0” maintenance rock for damaged road surfaces, conforming to Section 1000 of the Exhibit C.

29-9-33.4 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 30 CY of 1.5-0” maintenance rock for damaged road surfaces,

conforming to Section 1200 of the Exhibit C.

29-10-25.2 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 80 CY of 1.5-0" maintenance rock for damaged road surfaces, conforming to Section 1200 of the Exhibit C.

~ Place 80 CY of 1.5-0" maintenance rock conforming to Section 1200 of the Exhibit C. (In agreement with road owner, this rock is being placed in lieu of rock wear fees).

~ At the direction of the Authorized Officer, construct water bars associated with roadway and landings in accordance with Sheet No. 2 of the Exhibit D.

29-9-31.0 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 30 CY of 1.5-0" maintenance rock for damaged road surfaces, conforming to Section 1200 of the Exhibit C.

~ Place 80 CY of 1.5-0" maintenance rock conforming to Section 1200 of the Exhibit C. (In agreement with road owner, this rock is being placed in lieu of rock wear fees).

29-9-31.1 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 30 CY of 1.5-0" maintenance rock for damaged road surfaces, conforming to Section 1200 of the Exhibit C.

29-9-31.4 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 40 CY of 1.5-0" maintenance rock for damaged road surfaces, conforming to Section 1200 of the Exhibit C.

~ At the direction of the Authorized Officer, construct water bars associated with roadway and landing in accordance with Sheet No. 2 of the Exhibit D.

30-10-2.0 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 30 CY of 1.5-0" maintenance rock for damaged road surfaces, conforming to Section 1200 of the Exhibit C.

29-9-21.14 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 20 CY of 1.5-0" maintenance rock for damaged road surfaces, conforming to Section 1200 of the Exhibit C.

~ At the direction of the Authorized Officer, construct water bars associated with roadway

and landing in accordance with Sheet No. 2 of the Exhibit D.

29-9-21.15 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 30 CY of 3.0-0" maintenance rock for damaged road surfaces, conforming to Section 1000 of the Exhibit C.

~ At the direction of the Authorized Officer, construct water bars associated with roadway and landing in accordance with Sheet No. 2 of the Exhibit D.

29-9-31.5 ~Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ As needed, utilize 20 CY of 3.0-0" maintenance rock for damaged road surfaces, conforming to Section 1000 of the Exhibit C.

~ Construct Rip rap Barrier at approximately Sta. 0+25 in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.

ROAD MAINTENANCE APPRAISAL

SALE NO.
ORC04-TS-2021.0031

SALE NAME:
Preacher Man

ROAD NUMBERS	MILES (Rnd.)
29-9-21.0	0.52
29-9-21.0 I	0.22
29-9-21.1	1.18
29-9-21.1 ext	0.07
29-9-21.2	0.24
29-9-21.4	0.09
29-9-21.14	0.26
29-9-21.15	0.16
29-9-33.4	0.71
29-10-25.2	2.01
29-9-31.0	0.79
29-9-31.1	0.25
29-9-31.4	0.39
30-10-2.0	0.24
29-9-31.5	0.13
Total	**7.3**

-SUMMARY-

1.	MOVE IN:	$2,939.00
2.	CULVERTS, SLOUGH, SLUMPS, & MISC	$2,655.85
3.	GRADING FOR TIMBER HAUL	$5,042.07
4.	GRADING FOR AGGREGATE HAUL	$0.00
5.	MAINTENANCE ROCK	$22,021.60
6.	OTHER MAINTENANCE	$1,846.05
	TOTAL MAINTENANCE:	**$34,504.57**

ROAD MAINTENANCE APPRAISAL

SALE NO. ORC04-TS-2021.0031

SALE NAME: Preacher Man

-APPRAISAL WORKSHEET-

1. MOVE-IN:

EQUIPMENT	MOVE-INS	COST/MOVE	
FIRE EQUIPMENT	1	$74.00	$74.00
WATER TRUCK	1	$95.00	$95.00
DUMP TRUCK	1	$89.00	$89.00
COMPACTOR	1	$410.00	$410.00
GRADER	1	$410.00	$410.00
Excavators	1	$861.00	$861.00
EQUIPMENT WASHING	4	$250.00	$1,000.00
		TOTAL =	**$2,939.00**

2. CULVERT MAINT., SLOUGH REMOVAL, SLUMP REPAIRS, ETC.

MAINT. OBLIGATION 7.3 MILES @ AVE. COST $365.82 / MILE = **$2,655.85**

3. GRADING FOR TIMBER HAUL

FREQUENCY 1
MILES/FREQ. 7.3
TOTAL MILES 7.3
7.3 MILES @ $694.50 / MILE = **$5,042.07**

4. GRADING FOR AGGREGATE HAUL:

MILES @ / MILE =

5. MAINTENANCE ROCK:

SIZE 1.5-0"

			APPR FROM	B&B Roads MILES	
ROYALTY	590	CU. YDS. @	$10.25		$6,047.50
PROCESSING	590	CU. YDS. @	$0.88		$519.20
COMPACTION	590	CU. YDS. @	$1.08		$637.20
BASIC ROCK HAUL	590	CU. YDS. @	$0.59		$348.10
SLOW HAUL	590	CU. YDS. @	$1.75	5.5	$3,245.00
MED. HAUL	590	CU. YDS. @	$0.88	10.0	$5,192.00
FAST HAUL	590	CU. YDS. @	$0.39	11.0	$2,531.10
				TOTAL =	**$18,520.10**

MAINTENANCE ROCK:

SIZE 3-0"

			APPR FROM	B&B Roads MILES	
ROYALTY	100	CU. YDS. @	$9.75		$975.00
PROCESSING	100	CU. YDS. @	$0.88		$88.00
COMPACTION	100	CU. YDS. @	$1.08		$108.00
BASIC ROCK HAUL	100	CU. YDS. @	$0.59		$59.00
SLOW HAUL	100	CU. YDS. @	$1.75	5.5	$962.50
MED. HAUL	100	CU. YDS. @	$0.88	10.0	$880.00
FAST HAUL	100	CU. YDS. @	$0.39	11.0	$429.00
				TOTAL =	**$3,501.50**

MAINTENANCE ROCK:

SIZE Rip Rap

			APPR FROM	B&B Roads MILES	
ROYALTY	0	CU. YDS. @	$25.00		$0.00
PROCESSING	0	CU. YDS. @	$0.88		$0.00
COMPACTION	0	CU. YDS. @	$1.08		$0.00
BASIC ROCK HAUL	0	CU. YDS. @	$0.59		$0.00
SLOW HAUL	0	CU. YDS. @	$1.75	5.5	$0.00
MED. HAUL	0	CU. YDS. @	$0.88	16.0	$0.00
FAST HAUL	0	CU. YDS. @	$0.39	11.0	$0.00
				TOTAL =	**$0.00**

ROAD MAINTENANCE APPRAISAL

SALE NO.
ORC04-TS-2021.0031

SALE NAME:
Preacher Man

6. OTHER MAINTENANCE:

29-10-25.2		
Water bar	$275.00	
29-9-31.4		
Water bar	$275.00	
29-9-31.5		
Construct Rip rap barrier	$750.00	
29-9-21.4		
Remove inline culvert	$106.05	
29-9-21.14		
Water bar	$220.00	
29-9-21.15		
Water bar	$220.00	
		$1,846.05
	TOTAL =	**$1,846.05**

EXHIBIT D

R 9 W

T 29 S

North

11+50

13+70

9+25

29-9-21.14

29-9-21.0

MP 0.36

MP 0.30

MP 0.26

MP 1.25

29-9-21.1

8+20

29-9-21.15

MP 0.05

21

MP 0.14

MP 0.24

29-9-21.2

MP 0.89

29-9-21.1

MP 0.33

MP 0.68

MP 0.53

29-9-21.4

5+50

29-9-28.0

29-9-36.0

Lower Signal Tree

22

LEGEND

- Operator Maintained – B.L.M. Road
- Operator Maintained – Private Road
- Existing Road
- Paved Road
- Construct Barrier
- Swing Road

Maintenance Rock:

430 CY 1.5–0"Aggregate*

**1.5–0" Aggregate Surfaced Roads ONLY*

100 CY 3.0–0"Aggregate*

**3.0–0" Aggregate Surfaced Roads ONLY*

160 CY 1.5–0"Aggregate*

**1.5–0" Rock in lieu of rock wear fees*

ALWAYS THINK SAFETY

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

WORK LOCATION MAP
ORC04–TS– 2021.0031
PREACHER MAN

DESIGNED	M. RUSSELL
REVIEWED	J. AGUILAR
APPROVED	J. DAVIS
DRAWN MDR	SCALE NONE
DATE 12/2020	SHEET 1 OF 11
DRAWING NO.	

EXHIBIT D

LEGEND

- *Operator Maintained – B.L.M. Road*
- *Operator Maintained – Private Road*
- Existing Road
- Paved Road
- Construct Barrier
- Road Segment

R 9 W

T 29 S

30

31

32

29-10-25.2

29-9-31.0

29-9-31.1

29-9-31.5

29-9-31.4

29-10-25.2

MP 0.24 → 30-10-2.0 ← MP 0.09

MP 0.09

6+88

5+90

9+80

20+70

North

Maintenance Rock:

430 CY 1.5-0"Aggregate*

**1.5-0" Aggregate Surfaced Roads ONLY*

100 CY 3.0-0"Aggregate*

**3.0-0" Aggregate Surfaced Roads ONLY*

160 CY 1.5-0"Aggregate*

**1.5-0" Rock in lieu of rock wear fees*

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U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

WORK LOCATION MAP
ORC04-TS- 2021.0031
PREACHER MAN

DESIGNED	M. RUSSELL
REVIEWED	J. AGUILAR
APPROVED	J. DAVIS
DRAWN MDR	SCALE NONE
DATE 12/2020	SHEET 2 OF 11
DRAWING NO.	

"EXHIBIT D" ESTIMATE OF QUANTITIES*

ROAD NUMBER	SURFACING				OTHER			SOIL STABILIZATION		OTHER	
	TOP **	AGG. MAINT. ROCK **	AGG. MAINT. ROCK **	WATER DIP ARMOR. **	RIPRAP BARRIER **	CLASS C ASPHALT **	JAWRUN ROCK **	DRY	HYDRO-MULCH		
SPEC. NO.	1200	1200	1000	1000	1400	2600		1800	1800		
UNITS	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	TONS	C.Y.	ACRES	ACRES		
29-9-21.0	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-21.0I	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-21.1	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-21.1E	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-21.2	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-21.4	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-21.14	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-21.15	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-33.4	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-10-25.2	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-31.0	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-31.1	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-31.4	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
30-10-2.0	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
29-9-31.5	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
	Ⓒ	Ⓒ	Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓐ				
TOTALS	Ⓒ	590 Ⓒ	100 Ⓐ	Ⓑ	20 Ⓐ	Ⓑ	Ⓐ				

ITEM	SIZE	GRADE
1000 (Base)	3"	Ⓐ
1200 (Top)	1 ½"	Ⓒ
1400 (RIPRAP)	28-34"	Ⓐ

GRADE INDICATED IN CIRCLE ◯

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

** ROCK QUANTITES ARE TRUCK MEASUREMENT.

ALWAYS THINK SAFETY

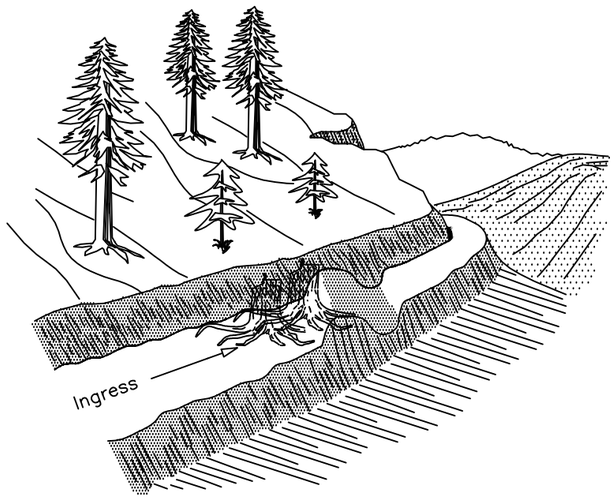
U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

WORK LOCATION MAP
ORC04-TS-2021.0031
PREACHER MAN

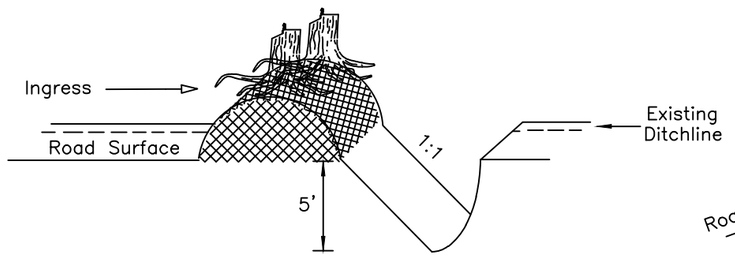
DESIGNED M. RUSSELL
REVIEWED J. AGUILAR
APPROVED J. DAVIS

DRAWN MDR | SCALE NONE
DATE 12/2020 | SHEET 4 OF 11
DRAWING NO.

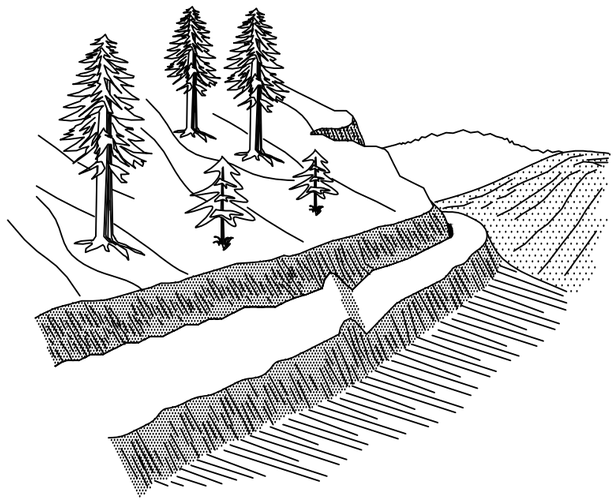
EXHIBIT D



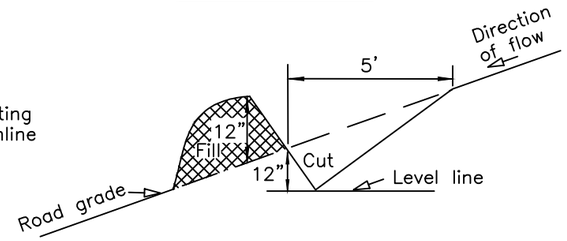
EARTHEN BERM BARRIER



(NOT TO SCALE)



WATER BAR



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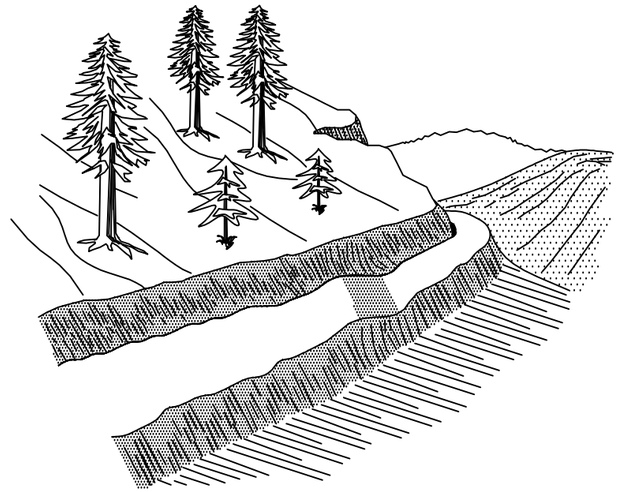
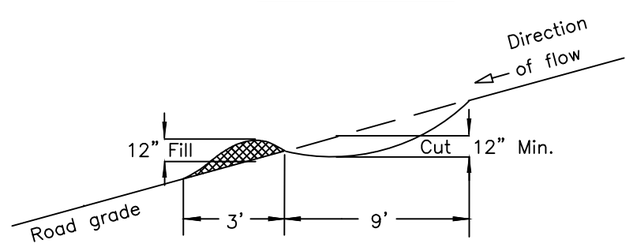


WATER DIP

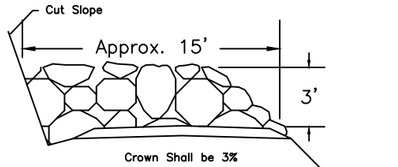


(NOT TO SCALE)

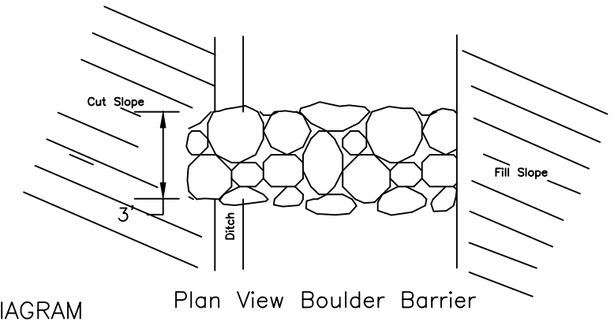
WATER DIP/BAR SPACING

ROAD GRADE	Road Class	
	Maximum Spacing (in feet)	
%	Natural	Rocked
3-5	200	400
6-10	150	300
11-15	100	200
16-20	75	150
21-35	50	100
36+	50	50

* ON GRADES IN EXCESS OF 14% CONSTRUCT WATER BARS.



Typical Boulder Barrier

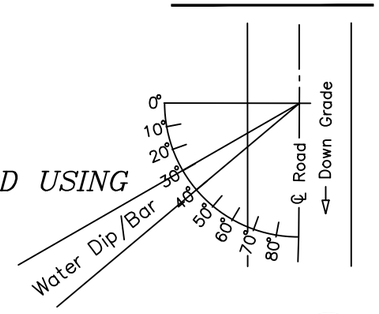


Plan View Boulder Barrier

NOTES

1. *ALL BARRIERS, WATER BARS, AND WATER DIPS AS REQUIRED SHALL BE CONSTRUCTED AS SHOWN.*
2. *LOCATIONS WILL BE AS DIRECTED BY THE AUTHORIZED OFFICER PRIOR TO CONSTRUCTION.*
3. *ALL WATER DIPS AND WATER BARS SHALL BE SKEWED 30° – 40°.*
4. *INVERT GRADE OF WATER DIPS AND WATER BARS SHALL BE OUTSLOPED A MINIMUM OF 2–5%.*
5. *ALL WATER BARS AND WATER DIPS SHALL BE CUT INTO THE ROADBED FROM THE DITCHLINE.*
6. *DITCHLINES SHALL BE BLOCKED WITH EXCAVATED MATERIAL (DITCH DAM) DOWNGRADE FROM ALL WATER BARS AND WATER DIPS.*
7. *EXCAVATED MATERIAL FROM BARRIER TRENCH (TANK TRAP) SHALL BE PLACED ON THE SIDE NEAREST THE BEGINNING OF THE ROAD.*
8. *ALL BERMS INCLUDING WATER BARS, WATER DIPS, AND EARTHEN BARRIERS SHALL BE COMPACTED TO 85% OF MAXIMUM DENSITY.*
9. *RIP RAP BARRIERS SHALL BE AT LEAST 3' HIGH, 3' DEEP, AND OF SUFFICIENT WIDTH TO COMPLETELY BLOCK THE ROADWAY AND ANY ADJACENT SHOULDERS THAT CAN BE TRAVELED WITH A VEHICLE.*
10. *RIP RAP BARRIERS SHALL BE CONSTRUCTED USING A MINIMUM OF 20 CY OF RIP RAP.*
11. *RIP RAP SHALL BE DURABLE (NOT LESS THAN 50 AS DETERMINED BY AASHTO T210), AND RANGE FROM 28"–34" IN DIAMETER.*

SKEW DIAGRAM



ALWAYS THINK SAFETY

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

BARRIER AND EROSION CONTROL DETAIL

DESIGNED	M. RUSSELL
REVIEWED	J. AGUILAR
APPROVED	J. DAVIS
DRAWN MDR	SCALE NONE
DATE 12 / 2020	SHEET 3 OF 11

=

EXHIBIT E

Sale Name **Preacher Man**

SALE VOLUME: 7068 NET MBF Sale Number **ORC04-TS-2021.0031**

A. ROAD USE FEES - Payable to Private Company:

COMPANY NAME	AGREEMENT NUMBER	ROAD NUMBER	NET MBF	USE FEE per MBF	TOTAL FEES
Hancock Timber	C-344	29-9-21.0 A1	4568	free use	$0.00
Hancock Timber	C-344	29-9-21.0 A2	889	free use	$0.00
Hancock Timber	C-344	29-10-25.2 D	1646	free use	$0.00
Hancock Timber	C-344	29-10-25.2 E	1646	free use	$0.00
Hancock Timber	C-344	29-9-31.0	1646	free use	$0.00
				TOTAL USE FEE:	$0.00

B. MAINTENANCE FEES:

1. Maintenance and Rockwear Fees Payable to the U.S. (BLM Maintained Roads):

a. Timber Haul:

Surface Type	ROAD NUMBER	NET MBF	ROAD MILES	ROCKWEAR /MBF/Mile	Subtotal	MAINT+Rock $/MBF/Mile	Subtotal	TOTAL FEES
BST	29-9-36.0 A-C	7068	4.1	$0.00	$0.00	$0.92	$26,660.50	$26,660.50
BST	29-9-36.0 D	7068	0.93	$0.00	$0.00	$1.63	$10,714.38	$10,714.38
BST	29-9-36.0 E-F	5420	3.43	$0.00	$0.00	$1.63	$30,302.68	$30,302.68
			8.46		$0.00		$67,677.56	$67,677.56

2. ROCKWEAR Fees Payable to the U.S. (OPERATOR Maintained Roads):

a. Timber Haul:

Surface Type	ROAD NUMBER	NET MBF	ROAD MILES	SURFACE REPLACEMENT /MBF/Mile			TOTAL FEES
ASC	29-9-21.1 EXT.	358	0.07	$0.73			$18.31
ASC	29-9-21.1	358	0.29	$0.73			$75.85
ASC	29-9-21.1	806	0.21	$0.73			$123.58
ASC	29-9-21.1	1433	0.15	$0.73			$156.92
ASC	29-9-21.1	1657	0.20	$0.73			$241.92
ASC	29-9-21.1	1747	0.28	$0.73			$357.09
ASC	29-9-21.15	270	0.16	$0.73			$31.48
ASC	29-9-21.1	2421	0.05	$0.73			$88.36
ASC	29-9-21.14	270	0.08	$0.73			$15.74
ASC	29-9-21.14	665	0.18	$0.73			$87.32
ASC	29-9-21.0	225	0.05	$0.00			$0.00
ASC	29-9-21.0	889	0.14	$0.00			$0.00
ASC	29-9-21.0	3310	0.16	$0.00			$0.00
ASC	29-9-21.0	3580	0.06	$0.00			$0.00
ASC	29-9-21.0	3804	0.04	$0.00			$0.00
ASC	29-9-21.0	4119	0.12	$0.00			$0.00
ASC	29-9-21.0	4568	0.14	$0.00			$0.00
ASC	29-9-31.0	1646	0.79	$0.73			$949.25
ASC	29-10-25.2	1646	1.32	$0.73			$1,586.09
ASC	29-10-25.2	1646	0.69	$0.73			$829.09
ASC	29-9-31.4	445	0.09	$0.73			$29.24
ASC	29-9-31.5	711	0.13	$0.73			$67.47
ASC	29-9-31.4	1156	0.12	$0.73			$101.27
ASC	29-9-31.4	1334	0.07	$0.73			$68.17
ASC	29-9-31.4	1423	0.11	$0.73			$114.27
ASC	29-9-31.1	1423	0.25	$0.73			$259.70
ASC	30-10-2.0	90	0.15	$0.73			$9.86
ASC	30-10-2.0	224	0.09	$0.73			$14.72
ASC	29-9-33.4	1646	0.71	$0.73			$853.12
			6.90				$6,078.79

3. ROAD MAINTENANCE AND/OR ROCKWEAR FEES - Payable to Private Company:

Surface Type	COMPANY NAME	AGREEMENT NUMBER	ROAD NUMBER	NET MBF	ROAD MILES	MAINT+Rock $/MBF/Mile	TOTAL FEES
ASC	Hancock Timber	C-344	29-9-21.0	225	.05	Operator Maint. / Place rock in lieu of rockwear fee	$0.00
ASC	Hancock Timber	C-344	29-9-21.0	889	0.14	Operator Maint. / Place rock in lieu of rockwear fee	$0.00
ASC	Hancock Timber	C-344	29-9-21.0	3310	0.16	Operator Maint. / Place rock in lieu of rockwear fee	$0.00
ASC	Hancock Timber	C-344	29-9-21.0	3580	0.06	Operator Maint. / Place rock in lieu of rockwear fee	$0.00
ASC	Hancock Timber	C-344	29-9-21.0	3804	0.04	Operator Maint. / Place rock in lieu of rockwear fee	$0.00
ASC	Hancock Timber	C-344	29-9-21.0	4119	0.12	Operator Maint. / Place rock in lieu of rockwear fee	$0.00
ASC	Hancock Timber	C-344	29-9-21.0	4568	0.14	Operator Maint. / Place rock in lieu of rockwear fee	$0.00
ASC	Hancock Timber	C-344	29-9-31.0	1646	0.79	Operator Maint. / Place rock in lieu of rockwear fee	$0.00
ASC	Hancock Timber	C-344	29-10-25.2	1646	1.3	Operator Maint. / Place rock in lieu of rockwear fee	$0.00
ASC	Hancock Timber	C-344	29-10-25.2	1646	0.7	Operator Maint. / Place rock in lieu of rockwear fee	$0.00
							$0.00

4. OPERATOR MAINTENANCE WILL BE REQUIRED ON APPROX. 7.3 MILES OF ROAD. (SEE EXHIBIT D)

SUMMARY OF ROAD USE & ROAD MAINTENANCE FEES	ROAD USE FEES TOTAL	ROAD USE FEES $/MBF	ROCKWEAR & MAINTENANCE FEES TOTAL	ROCKWEAR & MAINTENANCE FEES $/MBF	MAINTENANCE FEES TOTAL	MAINTENANCE FEES $/MBF
1. COMPANY-OWNED ROADS:	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
2. BLM MAINTAINED ROADS:	$0.00	$0.00	$0.00	$0.00	$67,677.56	$9.58
3. BLM OPERATOR-MAINTAINED ROADS:	$0.00	$0.00	$6,078.79	$0.86	$0.00	$0.00
	$0.00	$0.00	$6,078.79	$0.86	$67,677.56	$9.58

	TOTAL	$/MBF
MAINTENANCE OBLIGATION PAYABLE TO BLM:	**$73,756.35**	$10.44

United States
Department of the Interior
Bureau of Land Management

Timber Appraisal

Sale Name:	Preacher Man	**Sale Date:**	Friday, May 28, 2021
BLM District:	Coos Bay DO	**Unit of Measure:**	16' MBF
Contract #:	ORC04-TS-2021.0031	**Contract Term:**	36 months
Sale Type:	Advertised	**Contract Mechanism:**	5450-3 Sale of Timber - Lump Sum

Content

Prepared By: Stover, Douglas R - 3/30/2021
Approved By: Davis, Brian P - 4/15/2021

Legal Description of Contract Area

Land Status	County	Township	Range	Section	Subdivision	Meridian
O&C	Coos	29S	9W	21	W1/2NE1/4,NW1/4,N1/2SW1/4,NW1/4SE1/4	Willamette
O&C	Coos	29S	9W	31	SW1/4NE1/4,NW1/4NW1/4, SE1/4NW1/4	Willamette

Species Totals

Species	Net	Gross Merch	Gross	# of Merch Logs	# of Cull Logs	# of Trees
Douglas Fir	4,727.0	4,928.0	4,958.0	36,700	1,425	6,695
Western Hemlock	2,198.0	2,309.0	2,315.0	23,612	276	5,791
Port Orford Cedar	133.0	148.0	156.0	3,133	448	1,708
Red Alder	10.0	10.0	10.0	216	0	90
Totals	**7,068.0**	**7,395.0**	**7,439.0**	**63,661**	**2,149**	**14,284**

Cutting Area Acres

Regeneration Harvest Acres	Partial Cut Acres	Right of Way Acres	Total Acres	Net Volume per Acre
153.0	0.0	3.0	156.0	45.3

Logging Costs

Stump to Truck	$786,507.99
Transportation	$246,179.55
Road Construction	$269,301.64
Maintenance/Rockwear	$108,260.92
Road Use	$0.00
Other Allowances	$132,736.20
Total:	**$1,542,986.30**
Total Logging Cost per MBF:	**$218.31**

Utilization Centers

Location	Distance	% of Net Volume
Dillard	27.5 miles	100 %

Profit & Risk

Profit	8 %
Risk	0 %
Total Profit & Risk	**8 %**

Tract Features

Quadratic Mean DBH	19.4 in
Average GM Log	116 bf
Average Volume per Acre	45.3 mbf
Recovery	95 %
Net MBF volume:	
Green	7,068.0 mbf
Salvage	0 mbf
Export	133 mbf
Ground Base Logging:	
Percent of Sale Volume	33 %
Average Yarding Slope	10 %
Average Yarding Distance	250 ft
Cable Logging:	
Percent of Sale Volume	67 %
Average Yarding Slope	40 %
Average Yarding Distance	346 ft
Aerial Logging:	
Percent of Sale Volume	0 %
Average Yarding Slope	0 %
Average Yarding Distance	0 ft

Cruise

Cruise Completed November 2020

Cruised By Stover,Kirkland,Herron,Murphy,Blum,Felker

Cruise Method

3P Douglas fir and Hemlock in the right of ways BLM 100 the Minors with 15 Doug Fir samples and 16 Hemlock samples, VP the rest of the units using a 40BAF. 190 plots and 117 sample trees.

Stumpage Computation

Species	# of Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Costs	(+) Marginal Log Value	Appraised Price/MBF	Appraised Value
Douglas Fir	6,695	4,727.0	$608.20	$48.66	$218.31	$0.00	$341.20	$1,612,852.40
Western Hemlock	5,791	2,198.0	$434.98	$34.80	$218.31	$0.00	$181.90	$399,816.20
Port Orford Cedar	1,708	133.0	$390.24	$31.22	$218.31	$0.00	$140.70	$18,713.10
Red Alder	90	10.0	$410.99	$32.88	$218.31	$0.00	$159.80	$1,598.00
Totals	**14,284**	**7,068.0**						**$2,032,979.70**

Percent of Volume By Log Grade

Species	No. 1 & 2 Peeler	No. 3 Peeler	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Douglas Fir				89.0 %	10.0 %	1.0 %	

Species	Peeler	No. 1 Sawmill	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Western Hemlock				81.0 %	16.0 %	3.0 %	

Species	No. 1 & 2 Peeler	No. 3 Peeler	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Port Orford Cedar				40.0 %	50.0 %	10.0 %	

Species	No. 1 Sawmill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	No. 5 Sawmill		Camp Run
Red Alder		46.0 %	34.0 %	20.0 %			

Unit: 1

Net Volume/Acre: 44.9 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	2,381.0	2,484.0	2,498.0	3,365
Western Hemlock	1,105.0	1,150.0	1,152.0	2,922
Port Orford Cedar	58.0	66.0	70.0	844
Red Alder	5.0	5.0	5.0	32
Totals:	**3,549.0**	**3,705.0**	**3,725.0**	**7,163**

Regeneration Harvest	79.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**79.0**

Unit: 2

Net Volume/Acre: 44.8 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	1,116.0	1,163.0	1,169.0	1,576
Western Hemlock	512.0	538.0	539.0	1,368
Port Orford Cedar	27.0	30.0	32.0	392
Red Alder	2.0	2.0	2.0	15
Totals:	**1,657.0**	**1,733.0**	**1,742.0**	**3,351**

Regeneration Harvest	37.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**37.0**

Unit: 3

Net Volume/Acre: 44.5 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	965.0	1,006.0	1,011.0	1,363
Western Hemlock	433.0	465.0	467.0	1,183
Port Orford Cedar	23.0	26.0	27.0	332
Red Alder	2.0	2.0	2.0	13
Totals:	**1,423.0**	**1,499.0**	**1,507.0**	**2,891**

Regeneration Harvest	32.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**32.0**

Unit: 4

Net Volume/Acre: 44.8 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	151.0	157.0	158.0	213
Western Hemlock	69.0	73.0	73.0	185
Port Orford Cedar	4.0	4.0	4.0	53
Totals:	**224.0**	**234.0**	**235.0**	**451**

Regeneration Harvest	5.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**5.0**

Unit: RW

Net Volume/Acre: 71.7 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	114.0	118.0	122.0	178
Western Hemlock	79.0	83.0	84.0	133
Port Orford Cedar	21.0	22.0	23.0	87
Red Alder	1.0	1.0	1.0	30
Totals:	**215.0**	**224.0**	**230.0**	**428**

Regeneration Harvest	0.0
Partial Cut	0.0
Right of Way	3.0
Total Acres:	**3.0**

Total Stump To Truck	Net Volume	$/MBF
$786,507.99	7,068.0	$111.28

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

Yarding System	Unit of Measure	# of Units of Measure	$/Unit of Measure	Total Cost	Remarks
Cable: Large Yarder	GM MBF	4,977.0	$114.69	$570,812.13	Stroke Delimber,Fuel@$3.00,4,500 per load, saws@$400,8 loads per day
Wheel Skidder	GM MBF	2,418.0	$88.77	$214,645.86	Feller Buncher,fuel@$3.00,4500 per load,8 loads per day
Subtotal				**$785,457.99**	

Additional Costs

Item	Unit of Measure	# of Units of Measure	$/Unit of Measure	Total Cost	Remarks
Subtotal				**$0.00**	

Additional Moves

Equipment	Unit of Measure	# of Units of Measure	$/Unit of Measure	Total Cost	Remarks
Cable: Large Yarder	Hour	2.5	$150.00	$375.00	moving to additional units
Shovel	Hour	1.5	$150.00	$225.00	moving to additional units
Stroke Delimber	Hour	1.5	$150.00	$225.00	moving to addititional units
Wheel Skidder	Hour	1.5	$150.00	$225.00	moving to addititional units
Subtotal				**$1,050.00**	

Total	Net Volume	$/MBF
$246,179.55	7,068.0	$34.83

Utilization Center	One Way Mileage	Description	Unit of Measure	# of Units	$/Unit of Measure	Total Cost	% of Sale Volume
Dillard	27.5	Saw Logs	GM MBF	7,395.0	$33.29	$246,179.55	100 %

Engineering Allowances

Total	Net Volume	$/MBF
$377,562.56	7,068.0	$53.42

Cost Item	Total Cost
Road Construction:	$269,301.64
Road Maintenance/Rockwear:	$108,260.92
Road Use Fees:	$0.00

Comments:
Road maintenance ex D=$34504.57 + Rockwear= $73,756.35
=$108,260.92

Total	Net Volume	$/MBF
$132,736.20	7,068.0	$18.78

Environmental Protection

Cost item	Total Cost
Tree Girdling	$825.00
Tree Topping	$6,550.00
Equipment Washing-Yarder	$350.00
Equipment Washing-Shovel	$350.00
Equipment Washing-Delimber	$350.00
Equipment Washing-Cat	$350.00
Equipment Washing-Skidder	$350.00
Subtotal	**$9,125.00**

Slash Disposal & Site Prep

Cost item	Total Cost
Landing pullback	$2,455.20
Landing Pile Burn	$2,004.54
Landing Pile cover	$4,282.51
Machine Pile Burn	$9,278.52
Hand pile	$14,333.12
Slash/Lop	$43,857.68
Machine Pile cover	$47,399.63
Subtotal	**$123,611.20**

Form 5430-11
(November 2011)
(formerly 1140-6)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Timber Sale Number
ORC04-TS-2021.0031

Timber Sale Name
Preacher Man

Sale date
May 28, 2021

INDEPENDENT PRICE DETERMINATION CERTIFICATE

Bidder or Offeror (Name)	Address *(include zip code)*

A. By submission of this bid or proposal, each bidder or offeror certifies, and in the case of a joint bid or proposal, each party thereto certifies as to its own organization, that in connection with this sale:

1. The prices in this bid or proposal have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices, with any other bidder or offeror or with any competitor;

2. Unless otherwise required by law, the prices which have been quoted in this bid or proposal have not been knowingly disclosed by the bidder or offeror and will not knowingly be disclosed by the bidder or offeror prior to opening, in the case of a bid, or prior to award, in the case of a proposal, directly or indirectly to any other bidder or offeror or to any competitor; and

3. No attempt has been made or will be made by the bidder or offeror to induce any other person or firm to submit or not to submit a bid or proposal for the purpose of restricting competition.

B. Each person signing this bid or proposal certifies that:

1. He is the person in the bidder's or offeror's organization responsible within that organization for the decision as to the prices being bid or offered herein and that he has not participated, and will not participate, in any action contrary to A. 1 through 3 above; or

2. (i) He is not the person in the bidder's or offeror's organization responsible within that organization for the decision as to the prices being bid or offered herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to A. 1 through 3, above, and as their agent does hereby so certify; and

(ii) He has not participated, and will not participate, in any action contrary to A. 1 through 3, above.

C. This certification is not applicable to a foreign bidder or offeror submitting a bid or proposal for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

D. A bid or proposal will not be considered for award where A. 1, 3, or B., above, has been deleted or modified. Where A. 2, above, has been deleted or modified, the bid or proposal will not be considered for award unless the bidder or offeror furnishes with the bid or proposal a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, determines that such disclosure was not made for the purpose of restricting competition.

(Authorized Signature of Bidder)	Name and Title *(type or print)*

INSTRUCTIONS

Submit a properly completed and signed original copy of this form, with offers or bids for sales of all government-owned property to Bureau of Land Management as follows:

A. Include with sealed bids, written quotations and written offers.
B. At auction, at close of bidding and before award of spot bid sale.

Form 5440-9
(January 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Name of Bidder

Tract Number ORC04-TS-2021.0031

Sale Name Preacher Man

Sale Notice *(dated)* 04/27/2021

BLM District Coos Bay District
1300 Airport Lane
North Bend, Oregon, 97459

DEPOSIT AND BID FOR: (Check One):

☑ **Timber and/or Other Wood Products or**
(Examples of Other Wood Products: biomass, firewood, posts, poles, etc…)

☐ **Vegetative Resources**
(Examples of Vegetative Resources: boughs, pinyon nuts, cones, plants, etc…)

☑ Sealed Bid for Sealed Bid Sale	☐ Written Bid for Oral Auction Sale
Time for opening sealed bids 10:00 ☑ a.m. ☐ p.m.	Sale commences ☐ a.m. ☐ p.m.
On *(date)* 05/28/2021 Place Coos Bay District Office	On *(date)* Place

In response to the above dated Sale Notice, the required deposit and bid are hereby submitted for the purchase of designated Timber and/or Other Wood Products or Vegetative Resources on the tract specified above.

Required bid deposit is $ 203,300.00 and is enclosed in the form of:

☐ cash ☐ money order ☐ cashier's check ☐ certified check ☐ bank draft

☐ 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 product and species will be considered. If the bid is rejected the deposit will be returned.

BID SCHEDULE – **TIMBER AND/OR OTHER WOOD PRODUCTS OR VEGETATIVE RESOURCES**
NOTE: Bidders should carefully check computations in completing the Bid Schedule

BID SUBMITTED					**ORAL BID MADE**	
PRODUCT & SPECIES	UNIT	ESTIMATED VOLUME OR QUANITY	UNIT PRICE	TOTAL VALUE	UNIT PRICE	TOTAL VALUE
Douglas-fir	MBF	4,727	X	=	X	=
western hemlock	MBF	2,198	X $181.90	= $399,816.20	X	=
Port-Orford cedar	MBF	133	X $140.70	= $18,713.10	X	=
red alder	MBF	10	X $159.80	= $1,598.00	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
		TOTAL PURCHASE PRICE				

(Continued on Page 2)

If sale contract is executed, undersigned is liable for total purchase price including all modifications executed under the terms of the contract. Timber and/or Other Wood Products or Vegetative Resources designated for taking may be less or more than 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)

☐ Signature, if firm is individually owned	Name of firm *(type or print)*
☐ Signatures, if firm is a partnership or L.L.C.	Business address, include zip code *(type or print)*
☐ Corporation organized under the state laws of	*(To be completed following oral bidding)*
Signature of Authorized Corporate Signing Officer	I HEREBY confirm the above oral bid By *(signature)*
Title	Date
Submit bid, in *duplicate*, 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. Oral Auction – Submit to Sales Supervisor prior to closing of qualifying period for tract.	Sealed Bid – Send to District Manager, who issued the sale notice, in a sealed envelope marked on the outside: (1) "Bid for Timber and/or Other Wood Products or (1a) "Vegetative Resources " (2) Time bids are to be opened (3) Legal description

NOTICES

The PrivacyAct and the regulations in 43 CFR 2.223(d) require that you be furnished with the following information:

AUTHORITY: 38 FR 6280 and 43 CFR 5442.1

PRINCIPAL PURPOSE: To qualify an oral auction bidder, and then if successful, to bind bidder to certain contract conditions.

ROUTINE USES: 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 and/or Other Wood Products or Vegetative Resources.

(Continued on Page 3)

Form 5440-9
(January 2018)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Name of Bidder

Tract Number ORC04-TS-2021.0031

Sale Name Preacher Man

Sale Notice *(dated)* 04/27/2021

BLM District Coos Bay District
1300 Airport Lane
North Bend, Oregon, 97459

DEPOSIT AND BID FOR: (Check One):

☑ **Timber and/or Other Wood Products or**
(Examples of Other Wood Products: biomass, firewood, posts, poles, etc…)

☐ **Vegetative Resources**
(Examples of Vegetative Resources: boughs, pinyon nuts, cones, plants, etc…)

☑ Sealed Bid for Sealed Bid Sale	☐ Written Bid for Oral Auction Sale
Time for opening sealed bids 10:00 ☑ a.m. ☐ p.m.	Sale commences ☐ a.m. ☐ p.m.
On *(date)* 05/28/2021 Place Coos Bay District Office	On *(date)* Place

In response to the above dated Sale Notice, the required deposit and bid are hereby submitted for the purchase of designated Timber and/or Other Wood Products or Vegetative Resources on the tract specified above.

Required bid deposit is $ 203,300.00 and is enclosed in the form of:

☐ cash ☐ money order ☐ cashier's check ☐ certified check ☐ bank draft

☐ 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 product and species will be considered. If the bid is rejected the deposit will be returned.

BID SCHEDULE – **TIMBER AND/OR OTHER WOOD PRODUCTS OR VEGETATIVE RESOURCES**
NOTE: Bidders should carefully check computations in completing the Bid Schedule

BID SUBMITTED					**ORAL BID MADE**	
PRODUCT & SPECIES	UNIT	ESTIMATED VOLUME OR QUANITY	UNIT PRICE	TOTAL VALUE	UNIT PRICE	TOTAL VALUE
Douglas-fir	MBF	4,727	X	=	X	=
western hemlock	MBF	2,198	X $181.90	= $399,816.20	X	=
Port-Orford cedar	MBF	133	X $140.70	= $18,713.10	X	=
red alder	MBF	10	X $159.80	= $1,598.00	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
		TOTAL PURCHASE PRICE				

(Continued on Page 2)

If sale contract is executed, undersigned is liable for total purchase price including all modifications executed under the terms of the contract. Timber and/or Other Wood Products or Vegetative Resources designated for taking may be less or more than 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)

☐ Signature, if firm is individually owned	Name of firm *(type or print)*
☐ Signatures, if firm is a partnership or L.L.C.	Business address, include zip code *(type or print)*
☐ Corporation organized under the state laws of	*(To be completed following oral bidding)*
Signature of Authorized Corporate Signing Officer	I HEREBY confirm the above oral bid By *(signature)*
Title	Date
Submit bid, in *duplicate*, 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. Oral Auction – Submit to Sales Supervisor prior to closing of qualifying period for tract.	Sealed Bid – Send to District Manager, who issued the sale notice, in a sealed envelope marked on the outside: (1) "Bid for Timber and/or Other Wood Products or (1a) "Vegetative Resources " (2) Time bids are to be opened (3) Legal description

NOTICES

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AUTHORITY: 38 FR 6280 and 43 CFR 5442.1

PRINCIPAL PURPOSE: To qualify an oral auction bidder, and then if successful, to bind bidder to certain contract conditions.

ROUTINE USES: 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 and/or Other Wood Products or Vegetative Resources.

(Continued on Page 3)

INSTRUCTIONS TO BIDDERS

1. *AUTHORITY* – Timber and/or Other Wood Products or Vegetative Resources, 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 and/or Other Wood Products or Vegetative Resources located on other 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 and/or Other Wood Products or Vegetative Resources, are codified in 43 CFR Group 5400.

2. *QUALIFICATIONS OF BIDDERS* – A bidder for sale of Timber and/or Other Wood Products or 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 and/or Other Wood Products or Vegetative Resources are located.

3. *INSPECTION OF TIMBER AND/OR OTHER WOOD PRODUCTS OR VEGETATIVE RESOURCES* – Bidder is invited, urged, and cautioned to inspect the Timber and/or Other Wood Products or Vegetative Resources prior to submitting a bid. By executing the Timber and/or Other Wood Products or Vegetative Resources sale contract, bidder warrants that the contract is accepted on the basis of his examination and inspection of the Timber and/or Other Wood Products or Vegetative Resources and his opinion of its value.

4. *DISCLAIMER OF WARRANTY* – Government expressly disclaims any warranty of the fitness of the designated Timber and/or Other Wood Products or Vegetative Resources for any purpose of the bidder; all Timber and/or Other Wood Products or 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 and/or Other Wood Products or Vegetative Resources to be sold is expressly disclaimed by Government.

5. *BIDS* – Sealed or written bids for not less than the advertised appraised price, per Timber and/or Other Wood Products or Vegetative Resources must be submitted in duplicate to the District Manager who issued *Timber and/or Other Wood Products or Vegetative Resources 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 and/or Other Wood Products or Vegetative Resources*, time bid is to be opened, tract number, and legal description of land on which Timber and/or Other Wood Products or Vegetative Resources are 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 and/or Other Wood Products or Vegetative Resources 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) *Timber and/or Other Wood Products or Vegetative Resources Sales* – For each product and species, bids shall specify (1) Bureau of Land Management estimated unit volume or quantity, (2) bidder's price per unit and total value, and (3) bidder's total purchase price. Estimated volume and price per unit are to be used for administrative and appraisal purposes only. Upon award of contract, the high bidder agrees to pay the Government for the Timber and/or Other Wood Products or Vegetative Resources designated for removal in accordance with the terms of the contract. Timber and/or Other Wood Products or Vegetative designated for taking may be less or more than total estimated volume or quantity shown above.

7. *BID DEPOSIT* – All bidders must make a deposit of not less than the amount specified in the *Timber and/or Other Wood Products or Vegetative Resources 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 (*Applies To Timber Only*), or any approved guaranteed remittance approved by the Contracting 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 AND/OR OTHER WOOD PRODUCTS OR VEGETATIVE RESOURCES SALE CONTRACTS* – To be executed by purchaser, has been prepared by Government, and may be examined in the District or Field Manager's office.

10. *PERFORMANCE BOND – (Primarily Used For Timber Sales)*

(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 Contracting Officer.

(b) If purchaser elects to cut Timber and/or Other Wood Products or Vegetative Resources 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 and/or Other Wood Products or Vegetative Resources 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 and/or Other Wood Products or Vegetative Resources covered by the bond increase. This increased amount of bond shall be used to assure payment for Timber and/or Other Wood Products or Vegetative Resources cut in advance of payment.

11. *PAYMENT BOND— (Primarily Used For Timber Sales)*

If purchaser elects to (a) cut and remove Timber and/or Other Wood Products or Vegetative Resources, or (b) remove Timber and/or Other Wood Products or Vegetative Resources 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 and/or Other Wood Products or Vegetative Resources covered by the bond. Payment bond shall be used to assure payment for Timber and/or Other Wood Products or Vegetative Resources 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 and/or Other Wood Products or Vegetative Resources 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 and/or Other Wood Products or Vegetative Resources 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 and/or Other Wood Products or Vegetative Resources, it may, in its discretion, keep the sale open, not to exceed ninety (90) days.

(Continued on Page 4)

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 saw logs, 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 dimensions 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.