

COOS BAY DISTRICT OFFICE  
MYRTLEWOOD RESOURCE AREA

SALE DATE: FEBRUARY 17, 2017  
SALE TIME: 10:00 a.m.

SALE NO.: ORC00-TS-2017.0030, SIX ONE

CURRY COUNTY: OREGON: O&C, PD: ORAL AUCTION: Bid deposit required: \$23,900.00

All timber designated for cutting on: T. 31 S., R. 14 W., Sec. 14 Lot 6, Sec. 15, Lot 9, Sec.22 E1/2NE1/4, Sec.23 W1/2 NW1/4 Will. Mer.

Approx. No. Merch. Trees	Est. Vol. MBF 32' Log	Species	Est. Vol. MBF 16' Log	Appraised Price Per MBF	Estimated Vol. Times Appraised Price
8,217	1,130	Douglas-fir	1,341	\$93.00	\$124,713.00
14,695	2,437	western hemlock	2,836	\$39.70	\$112,589.20
251	8	red alder	11	\$38.40	\$422.40
249	7	Port-Orford-cedar	8	\$108.40	\$867.20
23,412	3,582	<b>Total</b>	4,196		<b>\$238,591.80</b>

**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). THE MINIMUM BID INCREMENT WILL BE \$0.10 PER 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: Excepting Port-Orford-cedar, all timber offered for sale hereunder is restricted from export from the United States in the form of unprocessed timber and is prohibited from being used as a substitute for exported private timber.

CRUISE INFORMATION: With respect to merchantable trees of all species in all cruise strata: the average DBHOB is 13.2 inches: the average gross merchantable log contains 49 bd. ft.; the total gross volume is approximately 4,487 thousand bd. ft.; and 94 % recovery is expected. The average DBHOB for Douglas-fir is 13.5 inches; and the average gross merchantable log contains 47 bd. ft. None of the total sale volume is salvage material. The following cruise methods were used for volume determination.

3P: Timber volumes in Units 1 and 2 were calculated using the 3P system to select 140 sample trees. The sample trees were cruised and their volumes computed using form class tables for estimating board foot volumes of trees in 16-foot logs. The volumes are then expanded to a total sale volume. The sample trees have been cruised and the volumes computed using form class tables for estimating board foot volumes of trees in 16-foot logs.

CUTTING AREA: Two units totaling approximately 68 acres must be regeneration cut and 1 acre of Right of Way must be cut. Acreage data was collected using a Trimble Geo XT 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, Curry County roads, privately controlled roads, and Government controlled roads.

DIRECTIONS TO SALE AREA: From Coos Bay, Oregon, travel south on Highway 101 for approximately forty six miles. Turn east onto Sixes River County Road and travel 8.4 miles. Turn left onto Plum Trees road (Moore Mill Road No. 32-14-4.0 – a key is required for access). Travel approximately 6 miles to the sale area. Refer to Exhibits A and A-1 for unit locations.

ROAD USE, ROCKWEAR & MAINTENANCE: Refer to Exhibit E Summary attached. Operator maintenance required on 2.52 miles of road.

Rockwear Fees Payable to BLM:	\$ 1,608.10
Rockwear and Road Maintenance Fees Payable to Moore Mill:	\$39,881.30
Road Use Fees Payable to Moore Mill:	\$10,741.76

ROAD CONSTRUCTION: Road Construction estimates include the following:

New Construction:

49.42 stations

Road Renovation:

90.99 stations

Aggregate (All quantities are truck measurement):

3" minus hardrock: 1,738 L.C.Y.

1 ½" minus hardrock: 2,217 L.C.Y.

1 ½" minus maintenance hardrock: 730 L.C.Y.

Riprap Energy Dissipater: 75 L.C.Y.

Drainage:

18" CPE double wall: 600'

18" Downspout: 20'

Culvert Markers: 20

Soil Stabilization:

Dry Seed, fertilizer, & mulch: 3.84 acres (Pre-haul)

Dry Seed, fertilizer, & mulch: 1.48 acres (Post-haul)

Roadside Brushing:

3.9 acres

Road Decommissioning:

Riprap Barriers: 2 (40 L.C.Y. minimum)

Normal Decommissioning: 49.42 stations

DURATION OF CONTRACT: Shall be 36 months for cutting and removal of timber. The contract will contain 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. License agreement is required with Moore Mill, RWA- C-364. A performance bond in the amount of \$10,000.00 and comprehensive liability insurance will be required for this license agreement. Please contact Moore Mill & Lumber Company, 440 1st St SW Bandon, OR. 97411, (541) 347-2412 for access to the sale area via the Plum Trees or Crystal Creek Mainlines. A 72 hour notice and a refundable \$250 key deposit will be required.
2. License agreement is required with Pacific West, RWA- C-354. A performance bond in the amount of \$2,000.00 and comprehensive liability insurance will be required for this license agreement.
3. All equipment must be washed prior to entry into the contract area to control the spread of noxious weeds.
4. Seasonal Restrictions affect portions of Units 1 and 2. Tree felling, yarding, and road construction operations are prohibited from March 1 through August 5. Additionally, a daily timing restriction confines tree felling, yarding, and road construction operations to the period from two hours after sunrise to two hours before sunset from August 6 through September 15.
5. BLM Road Nos. 31-14-22.7, 31-14-14.2 and Spur 1B are approved for dry-season haul (June 1 through October 15) only. All other roads are approved for all-season haul.
6. No trees shall be felled into Reserve Areas or Green Tree Retention Areas, as shown on the Exhibit A. Line pulling, jacking, or other mechanical devices shall be used as necessary.
7. Lift trees and intermediate support trees may be necessary.
8. One-end suspension required in cable and ground-based yarding areas.
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 restricted to areas with slopes less than 35%.
10. Purchaser shall verify all landing locations and stake required clearing limits prior to construction.
11. Shape and restore all landings to a natural contour to prevent erosion.
12. Seed 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.
14. BLM will assume supervisory responsibility for disposal of logging slash.
15. Machine piling or scattering of logging slash are required at all landing areas and along all roads.
16. After yarding is complete the purchaser shall top or girdle 167 conifer trees and fall 236 conifer trees for Course Woody Debris in Units 1 and 2.

**Seasonal Restriction Matrix** ORC00-TS-2017.0030 SIX ONE Timber Sale Prospectus

**\*Restricted periods are Shaded; Conditional periods are hatched; See Exhibit A for portions of units affected.**

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
Road Construction, Renovation, or Improvement Work <sup>1</sup>																								
Hauling <sup>1</sup>																								
Hauling on approved rocked roads <sup>4</sup>																								
<b>General All Units</b> Ground based yarding <sup>3</sup>											25 %													
<b>All Units</b> Seasonal Restriction Area (NSO & MM) <sup>5</sup>														5 <sup>th</sup>										

<sup>1</sup> Wet season restrictions may be shortened or extended depending on weather conditions.

<sup>2</sup> Bark slip seasonal restrictions may be conditionally waived upon written request and Authorized Officer approval. Strict compliance with damage provision required for continued operations.

<sup>3</sup> Ground based yarding restricted to periods when soil moisture levels are below 25% as determined by the Authorized Officer.

<sup>4</sup> Wet season haul on rocked roads may be suspended during periods of heavy rain (>1" in 24 hours).

<sup>5</sup> In the Seasonal Restriction Area (NSO & MM), shown on Exhibit A, falling, yarding, and new road construction operations are prohibited in the period between March 1 and August 5. In addition, a daily timing restriction confines operations to the period from two hours after sunrise to two hours before sunset between August 6 and September 15 of the same calendar year, both days inclusive.

## 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. All timber marked, by the Government, with orange paint above and below stump height within the Partial Cut Units, shown on Exhibit A. Approximately 269 trees painted blue within the Right-of-Way of roads to be constructed or renovated are the property of the Purchaser. Approximately 403 trees painted orange within the harvest unit; 167 are marked for snag creation and 236 are marked for the creation of down woody debris.
- c. All existing standing dead trees, except those snags that must be felled to permit safe working operation provided that all snags felled must be retained on site;
- d. 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.
- e. Approximately 23 Western hemlock trees, 4 Port-Orford cedar trees and 9 red alder trees each marked with an orange painted "W" above stump height and orange painted below stump height in Unit 1 as shown on Exhibit A. These trees are selected wildlife trees and are specially valued as a component of the Wildlife Habitat Management program. Selected wildlife trees damaged or destroyed by the Purchaser shall be valued for purposes of determining damages at either current market value of the merchantable volume, whichever is greater, 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 wildlife trees, except for such trees which the Authorized Officer determines to be a safety hazard as defined by applicable safety codes and regulations. When selected wildlife 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.
- f. All Bearing Trees with metal tags that mark property corners as follows, notwithstanding the provisions of Section 22, 4 Bearing Trees located near the junction of 31-14-22.0 and the 31-14-15.0 roads at the corner of Sections 14, 15, 22 and 23 shall be cut on a bevel, the lowest part not less than eighteen (18) inches above the scribe marks and in such a manner that will not mutilate the markings identifying the bearing trees.

The Purchaser shall treat all such bearing tree stumps in the following manner during the dry season of the year:

Remove all bark providing there are no identifying marks on the bark. Flood the tops and sides of the stumps with a copper naphthenate solution which conforms to American Wood Preservers Association Standard P 9 (hydrocarbon solvent) and contains a minimum of two (2) percent copper metal.

Let the stump dry for one month.

Repeat the flooding operation.

Place a sheet of galvanized metal over the top of each stump, bend down the edges, and nail to the side of the stump.

A six (6) foot long steel fence post shall be driven alongside the corner monument if existent.

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) 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.

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

(3) No trees may be felled into the Reserve Area or Green Tree 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) In the Seasonal Restriction Area (NSO & MM), shown on Exhibit A, falling, yarding, and new road construction operations are prohibited in the period between March 1 and August 5. In addition, a daily timing restriction confines operations to the period from two hours after sunrise to two hours before sunset between August 6 and September 15 of the same calendar year, both days inclusive.

(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) In the Whole Tree Yarding Area, all trees when feasible shall be whole tree yarded to the landing area as shown on the Exhibit A.

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

(1) One-end log suspension is required during yarding operations. Intermediate supports and/or lift trees may be required to obtain the required suspension.

(2) The Purchaser shall make all cable sky road changes by completely re-spooling cables and restringing the layout from head spar to tailhold.

(3) Where road locations allow, yarding will be done so that corridors run parallel to each other rather than radiate from a central landing.

(8) In the Ground-based Yarding Area and within road right-of-ways, cutting and yarding shall be done according to the following:

(1) In addition to the requirements set forth in Sec. 26 of this contract, no ground-based logging operations shall be conducted on the contract area between October 15 of one calendar year and June 1 of the following calendar year, both days inclusive.

(2) 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.

(3) 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 that is capable of lifting the leading end of the turn clear of the ground. All logs in the Ground Base 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.

(4) Primary skid roads/trails shall use existing trails wherever possible, designate skid trails with the objective of having less than 12 percent of a harvest area affected by compaction.

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

(6) All ground-based equipment shall be restricted to operating on slopes less than 35%.

(7) 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, or Green Tree Retention 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. 31-14-22.0, 31-14-21.2, 31-14-22.2 and 31-14-15.0, 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. The Purchaser shall provide signage and flaggers 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.

(11) 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 in the Contract Area to minimize the spread of noxious weeds.

(12) After completion of yarding activities, the Purchaser shall top or girdle 167 conifer trees and fall 236 conifer trees in Units 1 and 2, as shown on the Exhibit A and as directed by the Authorized Officer, according to the following:

- (a) Unit 1: top 77 conifer trees (marked with "S"), girdle 76 conifer trees (marked with "S") and fall 215 conifer trees (marked with "DW").
- (b) Unit 2: top 7 conifer trees (marked with "S"), girdle 7 conifer trees (marked with "S") and fall 21 conifer trees (marked with "DW").

The Purchaser shall top or girdle 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 inch band of bark (all sapwood shall remain intact) completely around the bole of the tree. Tops and limbs resulting from topping or girdling will be left on site. Girdling will not be permitted on trees less than 100 feet from roads. Topped and girdled trees shall have a number painted at breast height with fluorescent paint such that they are visible from at least 150 feet, felled trees shall have the butt ends painted. Existing snags, windfalls and reserve trees meeting the desired characteristics including recent broken tops or logging damage may be counted towards the requirements as directed by the Authorized Officer. Number and location of existing or treated trees shall be depicted on a map such that they may be easily verified provided by the Purchaser.

### c. Road Construction

(1) The Purchaser shall construct and renovate roads 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 or renovation of structures and roads shall be completed and accepted 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 equipment over Government owned or controlled structures when that equipment exceeds the maximum allowable weights or dimensions established by the State for vehicles operating without a permit.

(2) 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 15 days prior to proposed move in. Details shall include:

- (1) Axle weights when fully loaded;
- (2) Axle spacing;
- (3) Transverse wheel spacing;
- (4) Tire size;
- (5) Outside width of vehicle;
- (6) Operating speed;
- (7) Frequency of use; and,
- (8) 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 \$1,608.10 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 such 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) 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 into with other users on these roads.

(7) 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.

(8) 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.

(9) BLM Roads 31-14-22.7, 31-14-14.2 and Spur 1B are restricted to dry season haul only between June 1 and October 15 unless dry conditions extend the hauling season, as directed by the Authorized Officer.

(10) In the use of required company roads shown on the Exhibit E, the Purchaser shall comply with the conditions of the Right-of-Way and Road Use Agreement between the United States and Moore Mill, RWA C-364. The agreement is available for inspection at the Bureau of Land Management, Coos Bay, Oregon. A performance bond in the amount of \$10,000.00 and comprehensive liability insurance will be required by Licensor. Please contact Moore Mill & Lumber Company, 440 1st St SW Bandon, OR 97411, (541) 347-2412 for access to the sale area via the Plum Trees or Crystal Creek Mainlines. A 72 hour notice and a refundable \$250 key deposit will be required.

The Purchaser shall also comply with the conditions of the Right-of-Way and Road Use Agreement between the United States and Pacific West, RWA- C-354. The agreement is available for inspection at the Bureau of Land Management, Coos Bay, Oregon. A performance bond in the amount of \$2,000.00 and comprehensive liability insurance will be required by Licensor.

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, of any License Agreements executed pursuant thereto, for failure to pay appropriate road use fees or road maintenance fees shall be considered a violation of this contract. The amount of unpaid fees shall be considered as the amount of damage suffered by the Government as a result of the violation of this provision. 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.

Rockwear and Road Maintenance Fees Payable to Moore Mill:	\$39,881.30
Road Use Fees Payable to Moore Mill:	\$10,741.76
Rockwear and Road Maintenance Fees Payable to Pacific West:	\$0.00

e. Fire Prevention, Hazard Reduction, and Logging Residue Reduction

(1) BLM will assume supervisory responsibility for disposal of logging slash. The assumption by the Government of all obligations for the disposal or reduction of fire hazard under state law does not relieve the Purchaser of the obligations to perform the fire prevention, hazard reduction, and logging residue reduction measures required by this contract.

(2) Fire Prevention and Hazard Reduction. Primarily for purposes of fire prevention and fire hazard reduction, the Purchaser shall comply with the following provisions:

- a) Prior to the operation of power driven equipment, in construction or logging operations under this contract, during the closed fire season or periods of fire danger, the Purchaser shall prepare a fire prevention and control plan to the satisfaction of the Authorized Officer.
- b) Slash shall be disposed of in accordance with the written instructions of the Authorized Officer.
- c) At each landing during periods of operation one (1) tank truck of three thousand (3,000) gallons or more capacity with one thousand five hundred (1,500) feet of one and one-half (1 ½) inch hose, two (2) nozzles and a gated-wye. Two (2) fifteen hundred (1,500) gallon tank trucks or portable tanks may be substituted for each required three thousand (3,000) 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 forty (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 either power take off driven or truck-mounted auxiliary engine driven, 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 use. All tank trucks shall be filled with water and made available for immediate use.

(3) Logging Residue Reduction. In addition to the requirements of Section 15 of this contract and for hazardous fuel reduction, watershed protection, and silvicultural purposes, the Purchaser shall be responsible for logging residue reduction at all landing sites in the sale.

- a) In lieu of burning, the Purchaser may remove landing residue for off-site utilization. If the utilization method is selected, the Purchaser shall provide information on the total tonnage of landing residue being removed from the sale area.
- b) Prior to commencement of landing residue removal, the Purchaser shall provide advanced notification to the Authorized Officer in order to arrange for on-site inspections of the removal operations. Upon completion of landing residue removal, the Purchaser shall notify the Authorized Officer to arrange for a final inspection of the landing sites.

Specifications for Slash, Lop and Scatter

The purchaser shall slash, lop and scatter and logging debris in areas designated by the Authorized Officer. Specific treatment areas will be based on post-harvest slash conditions.

1. The Purchaser shall slash all brush and stump sprouts greater than one (1) foot in height, including prostrate brush pinned down by logging debris, and all trees smaller than three (3) inches diameter at breast height. Stump heights of slashed vegetation shall not exceed six (6) inches as measured on the uphill side.
2. All slash (any material less than six (6) inches in diameter) shall be lopped to no more than eight (8) feet in length. All top and side branches must be free of the central stem so that slash is reduced to within two (2) feet of the ground at all points. All slash shall be scattered in a discontinuous pattern across the logged unit.

#### Specifications for Landing Piling

1. Unless otherwise approved in advance by the Authorized Officer, landing piling shall be completed at each yarding location (setting) concurrently with the conclusion of yarding operations while logging equipment is still on site.
2. Logging residue within the immediate vicinity of the landing, and any residue that overhangs the landing sites that can be reached by logging equipment, shall be pulled completely back up onto the landing surface and either piled for burning or segregated for other uses.
3. Logging residue at landings shall be accumulated into the fewest number of piles possible. Landing piles shall be constructed as upright as possible and have a solid base to prevent toppling. All piles with pointed, jagged tops shall be flattened or trimmed to ensure a smooth surface for the polyethylene covering. Unless directed by the Authorized Officer, no landing piles shall be constructed within fifteen (15) feet of any reserve tree.

#### Specifications for Landing Pile Covering

1. All piles shall be covered no later than September 30 of the same year of piling.
2. The purchaser shall place four (4) MIL, black polyethylene sheeting (PE) over the pile to provide maximum protection from fall/winter rains. Unless otherwise directed, the size of the plastic shall not exceed one-hundred (100) square feet (10' X 10').
3. To meet ignition and combustion needs, larger piles may require additional PE sheeting. The Purchaser shall contact the Authorized Officer before any pile covering begins. At that time, the Authorized Officer will identify all piles that are approved for covering in excess of the one-hundred (100) square foot maximum size.
4. Piles with material extending more than two (2) feet beyond the general contour of the pile shall be flattened or trimmed to create a uniform surface and to prevent the PE sheeting from tearing during wind events. Pile trimming or flattening shall be done prior to pile covering.
5. To ensure the center of the pile remains dry, all PE sheeting shall be weighted down with slash or logging debris and/or tied down with twine on all four corners in order to prevent sheeting from tearing, and blowing or sliding off of the pile. An adequate amount of anchoring material should be used, but no more than twenty (20) percent of the material to be piled may be placed on top of the

sheeting.

6. At landing sites with excessive logging residue below the landing that is out of reach of the equipment on site, the Purchaser shall place additional PE sheeting over the residue concentrations as directed by the Authorized Officer.
7. Piles of residue identified by the Authorized Officer for other uses shall not be covered with PE sheeting.

#### Specifications for Landing Pile Burning

In accordance with verbal or written instructions to be issued by the Authorized Officer at least ten (10) days in advance of the earliest date of required performance, the Purchaser shall, under supervision of the Authorized Officer or his/her designated representative, assist in burning and fire control, at his/her own expense, by providing the services of personnel and equipment as follows:

1. The purchaser shall begin pile burning within fourteen hours (14) of notification by the Authorized Officer.
2. 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:
  - a. Landing Pile Burning
    - (1) One (1) English-speaking crew supervisor
    - (2) Three (3) person burn crew
    - (3) Three (3) drip torches and sufficient fuel to complete all pile burning
3. All listed 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: Long-sleeve, natural (or nomex) fabric shirt, full-length, natural (or nomex) fabric trousers, minimum eight (8) inch tall leather boots, hardhat, and leather gloves. All equipment shall be in good condition.
4. The Purchaser shall remove and dispose of all PE sheeting exceeding the one-hundred (100) square foot maximum size. The sheeting shall not be removed until directed by the Authorized Officer. The Purchaser shall dispose of removed PE sheeting in accordance with applicable Federal, State and municipal laws. Removed PE sheeting shall not be disposed of in burn piles.
5. A minimum of eighty (80) percent consumption of landing piles is required.
6. No mop-up is required of the Purchaser.

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.

f. 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 roundwood not processed to standards and specifications suitable for end-product uses; or (4) western red cedar lumber which does not meet lumber of American Lumber Standards Grades of Number 3 dimension or better, or Pacific Lumber Inspection Bureau R-List Grades of Number 3 Common or better. Thus, timber manufactured into the following will be considered processed: (1) lumber and construction 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(n).

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

- (1) date of last export sale;
  - (2) volume of timber contained in last export sale;
  - (3) volume of timber exported in the past 12 months from the date of last export sale;
  - (4) volume of Federal timber purchased in the past 12 months from the date of last export sale;
  - (5) volume of timber exported in succeeding 12 months from date of last export sale; and,
  - (6) volume of Federal timber purchased in succeeding 12 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 12 months prior to purchasing or otherwise acquiring Federal timber sold under this contract, the Purchaser shall, upon request, obtain from the affiliate information in a form specified by the Authorized Officer and furnish the information
- 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 logs clearly and legibly branded on one end regardless of the diameter of the logs. All logs will be branded on loads of ten logs or less. One end of all branded logs to be processed domestically will be marked with a three 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.

g. Optional Scale Check of Lump Sum Sales

(11) 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 from 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.

(12) In the event that 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 \$3,147.00. In the event only a portion of the contract timber is scaled, the purchase price shall be reduced by that portion of \$3,147.00 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.

h. Cultural Resource Protection

- 1) If in connection with operations under this contract, the Purchaser, his contractors, sub-contractors, or the employees of any of them, discovers, encounters or becomes aware of any objects or sites of cultural value on the contract area such as historical or prehistorical ruins, fossils, or artifacts, the Purchaser shall immediately suspend all operations in the vicinity of the cultural value and notify the Authorized Officer of the findings. Operations may resume at the discovery site upon receipt of written instructions and authorization by the Authorized Officer.
- 2) Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the Authorized Officer, by telephone, with written confirmation, immediately upon discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the Authorized Officer.

i. 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:

- (1) 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;
- (2) when, in order to comply with the Endangered Species Act, or to protect occupied marbled murrelet sites and to prevent incidental take of northern spotted owls in accordance with the Standards and Guidelines or management direction of the Record of Decision (ROD) and Resource Management Plan (RMP), the Contracting Officer determines it may be necessary to modify or terminate the contract, or;
- (3) 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;
- (4) other active raptor nests have been discovered, and a determination is made that continued operations under this contract would adversely affect the present use of the discovered nesting area by the raptor, or;
- (5) 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;
- (6) when, in order to comply with a court order, the Contracting Officer determines it may be necessary to modify or terminate the contract, or;
- (7) species have been discovered which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, and the Contracting Officer determines that continued operations would affect the species or its habitat, or; when, in order to protect species which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, the Contracting Officer determines it may be necessary to modify or terminate the contract.



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

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 Sec. 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 Sec. 3.b. of the contract within 15 days after the bill for collection is issued, subject to Sec. 3.h. of the contract. The Purchaser shall not resume contract operations until the First Installment amount is fully restored.

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

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

The Contracting Officer may determine that it is necessary to 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 and protect occupied marbled murrelet sites in accordance with the ROD and RMP, protect species that have been discovered which were identified for protection through survey and manage and/or protection buffer standards and guidelines or management direction established in the ROD and RMP, or comply with a court order. Following the issuance of a written notice that cutting and removal rights will be terminated, the Purchaser will be permitted to remove timber cut under the contract, if allowed by the Endangered Species Act, if able to proceed without causing incidental take of northern spotted owls and

marbled murrelet occupied site protection in accordance with the ROD and RMP, consistent with survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, or court order requirements necessitating the modification or termination.

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

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

j. 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 that 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

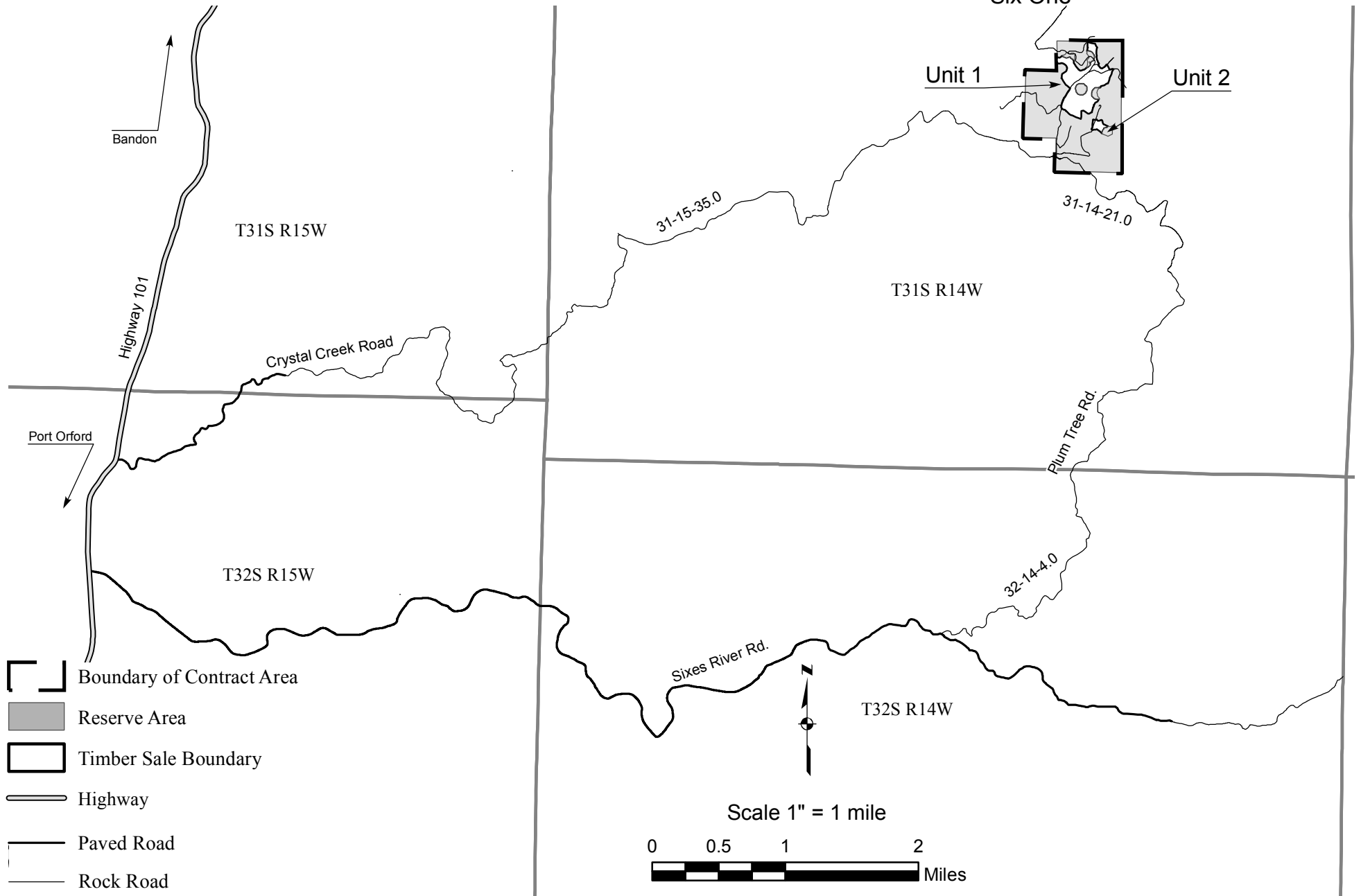
**SPECIAL PROVISIONS TO CONTROL THE SPREAD OF NOXIOUS WEEDS**

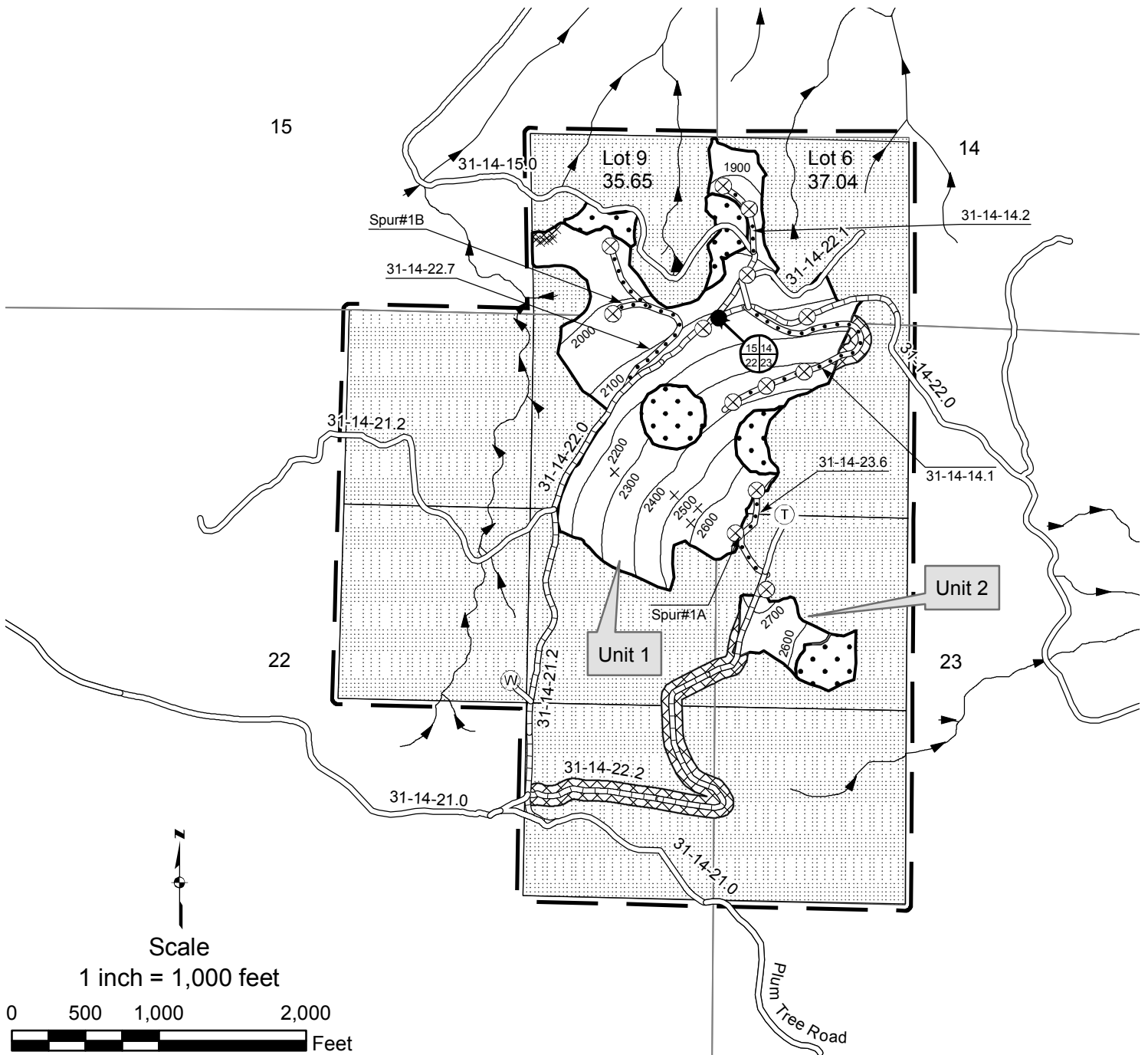
**Vehicle and Equipment Cleaning**

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 to 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.



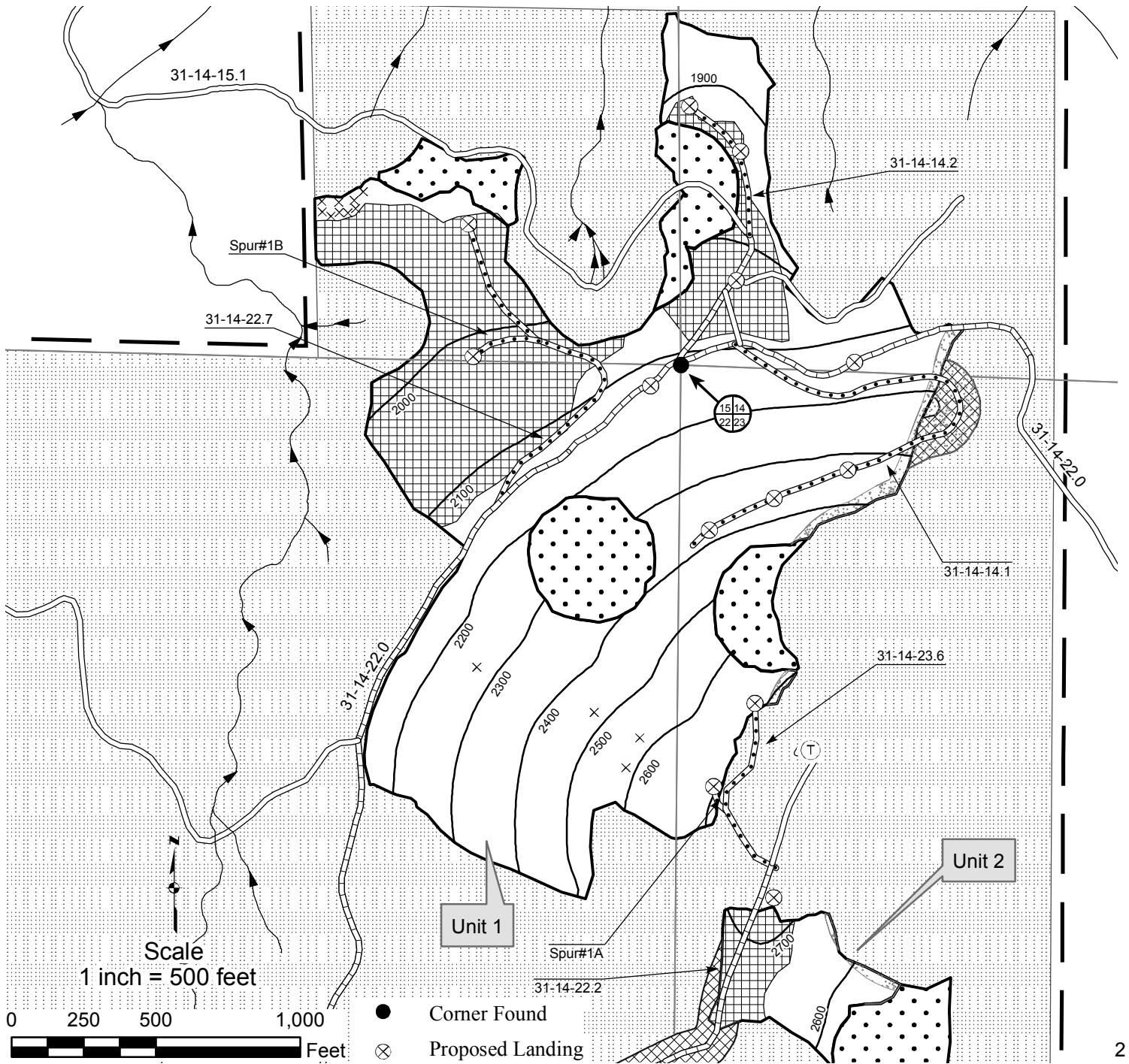


Harvest Area	
Unit 1	64 ACRES
Unit 2	4 ACRES
RW	1 ACRE
<b>Total</b>	<b>69 ACRES</b>

Total Reserve Area 158 ACRES  
 Total Contract Area 227 ACRES

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

- Corner Found
- ⊗ Proposed Landing
- Ⓣ Radio Towers
- Ⓜ Waste Area
- ▭ Boundary of Contract Area
- ▭ Harvest Area
- ▭ Reserve Area
- × Wildlife Tree
- ▭ Green Tree Retention Reserve Area
- ▭ Road Right of Way
- Stream Channel
- 100' Contour
- Existing Road
- ▭ Road to be Renovated
- ▭ Road to be Constructed

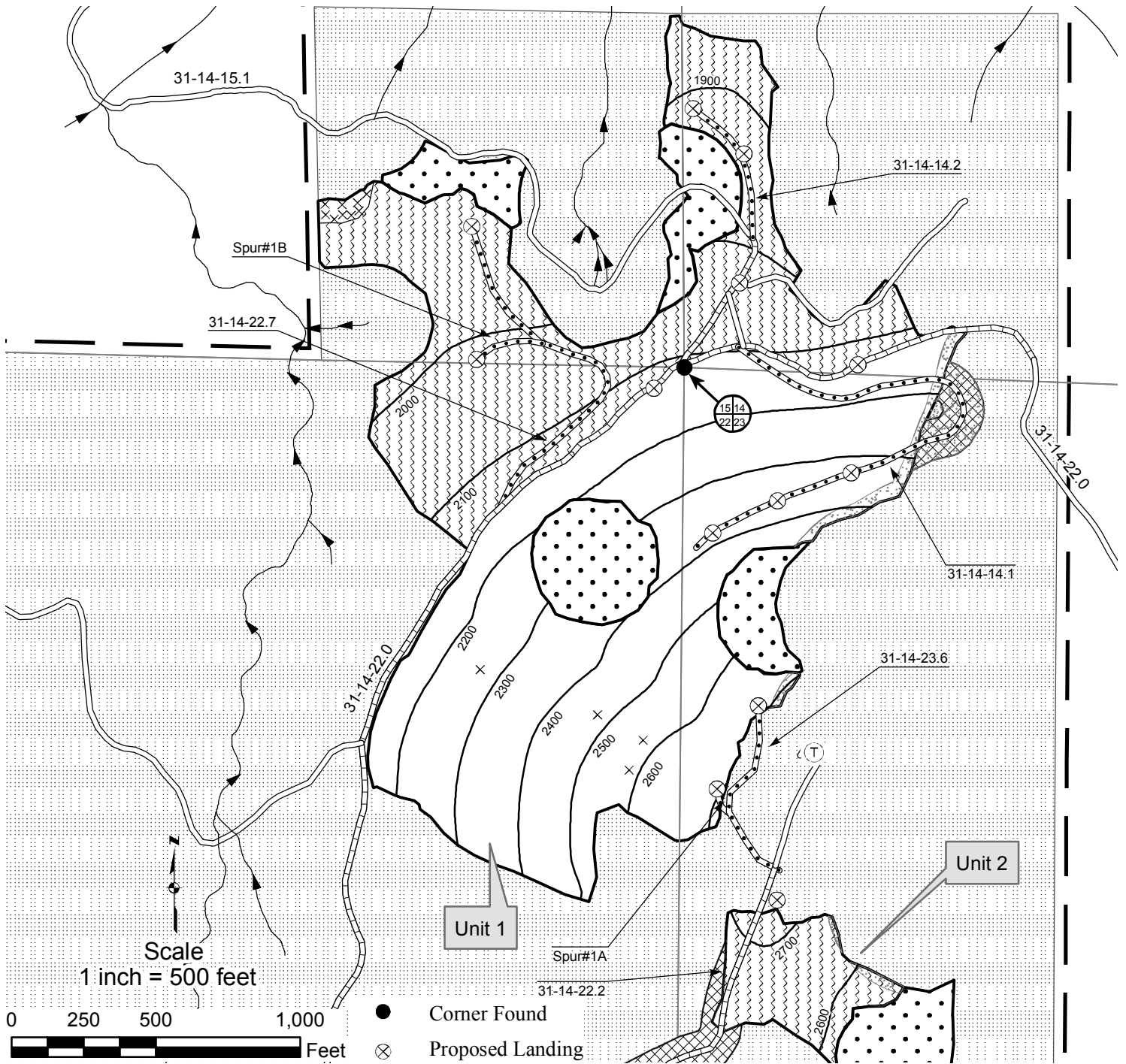


Harvest Area	
Unit 1	64 ACRES
Unit 2	4 ACRES
RW	1 ACRE
<b>Total</b>	<b>69 ACRES</b>

Total Reserve Area \_\_\_ 158 ACRES  
 Total Contract Area \_\_\_ 227 ACRES

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

- Corner Found
- ⊗ Proposed Landing
- Ⓣ Radio Tower
- × Wildlife Tree
- ⌈ Boundary of Contract Area
- Ⓜ Harvest Area
- ⋯ Reserve Area
- ⊞ Ground-based Yarding Area (18 Ac.)
- ⋯ Seasonal Restriction Area (NSO&MM)
- ▤ Green Tree Retention - Group
- ▨ Road Right of Way
- Stream Channel
- 100' Contour
- Existing Road
- ⊞ Road to be Renovated
- ⊞ Road to be Constructed



Harvest Area	
Unit 1	64 ACRES
Unit 2	4 ACRES
RW	1 ACRE
<b>Total</b>	<b>69 ACRES</b>

Total Reserve Area \_\_\_ 158 ACRES  
 Total Contract Area \_\_\_ 227 ACRES

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

- Corner Found
- ⊗ Proposed Landing
- Ⓣ Radio Tower
- × Wildlife Tree
- Boundary of Contract Area
- ▭ Harvest Area
- ▨ Reserve Area
- ▤ Whole Tree Yarding Area
- ▧ Seasonal Restricted Area
- ▣ Green Tree Retention - Group
- ▩ Road Right of Way
- Stream Channel
- 100' Contour
- Existing Road
- ▬ Road to be Renovated
- ▬ Road to be Constructed

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

Coos Bay  
Six One  
ORC00-TS-2017.0030

**Exhibit B**

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

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

**Sale Totals (16' MBF)**

Species	Net Volume	Bid Price	Sale SubTotal
Western Hemlock	2,836		
Douglas-fir	1,341		
Red Alder	11		
Port-Orford-cedar	8		
<b>Sale Totals</b>	<b>4,196</b>		

**Unit Details (16' MB)**

**Unit 1                                  64 Acres                                  Value per Acre : \$0.00**

Species	Net Volume	Bid Price	Species Value
Douglas-fir	1,114		
Port-Orford-cedar	8		
Red Alder	11		
Western Hemlock	2,818		
<b>Unit Totals</b>	<b>3,951</b>		

**Unit 2                                  4 Acres                                  Value per Acre : \$0.00**

Species	Net Volume	Bid Price	Species Value
Douglas-fir	171		
Western Hemlock	17		
<b>Unit Totals</b>	<b>188</b>		

**Unit RW                                  1 Acres                                  Value per Acre : \$0.00**

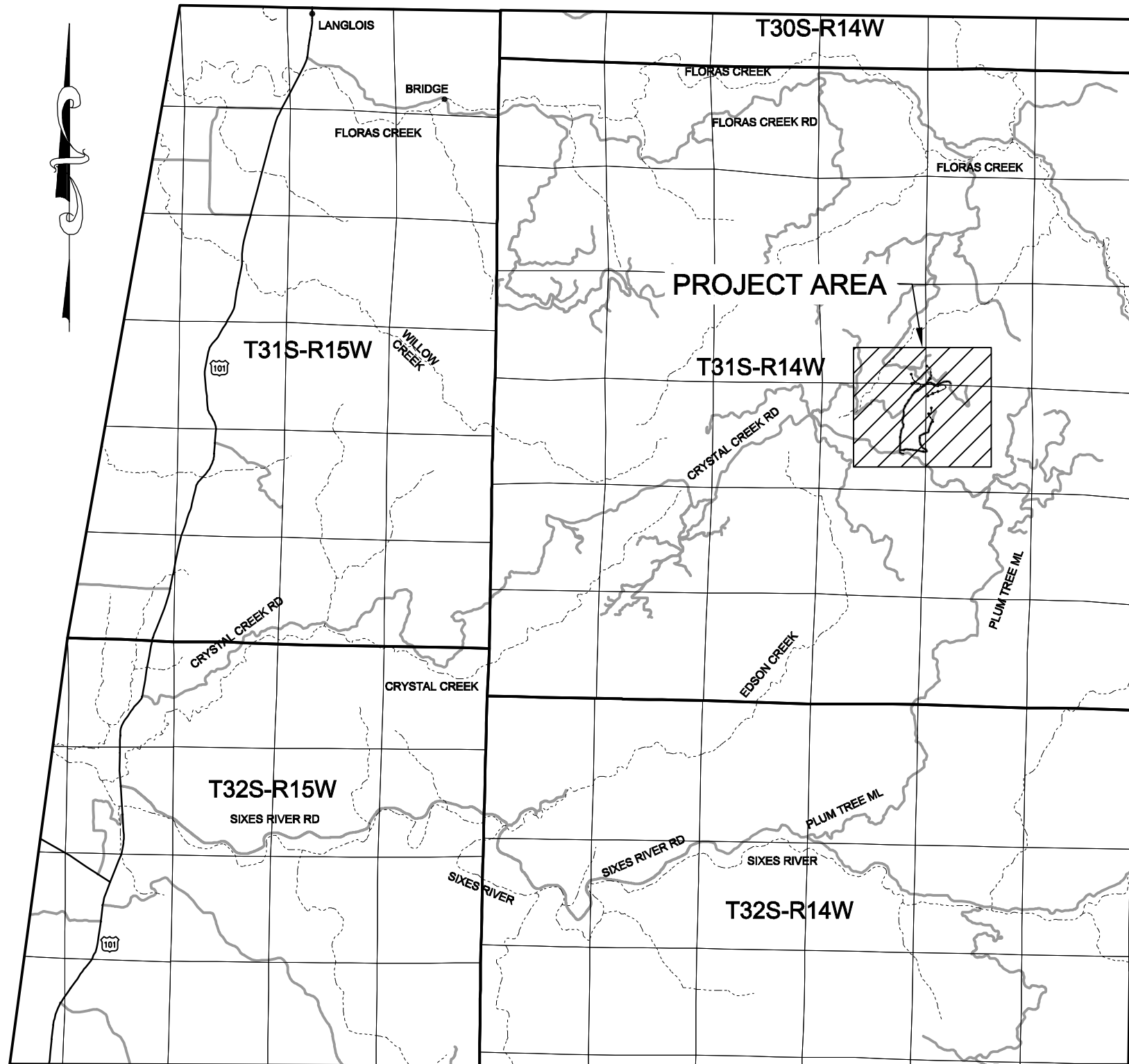
Species	Net Volume	Bid Price	Species Value
Douglas-fir	56		
Western Hemlock	1		
<b>Unit Totals</b>	<b>57</b>		



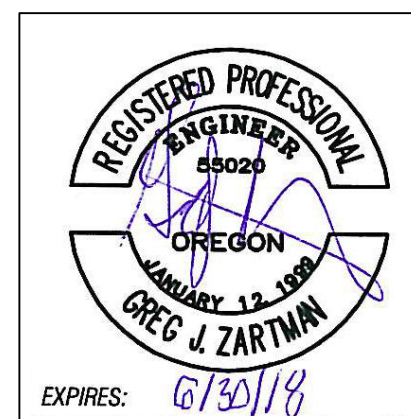
EXHIBIT C  
 TIMBER SALE NAME: SIX ONE  
 TIMBER SALE NO. ORC00-TS-2017.0030

UNITED STATES DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT

COOS BAY DISTRICT OFFICE  
 MYRTLEWOOD RESOURCE AREA



SHEET	CONTENTS
1	TITLE SHEET
2	WORK LOCATION MAPS
3	TYPICAL CROSS SECTION DETAIL
4	CULVERT INSTALLATION DETAILS
5	CULVERT CONT. & ROADSIDE BRUSHING DETAIL
6-10	PLAN & PROFILE FULL DESIGN ROADS
11	ESTIMATE OF QUANTITIES
12	SPECIAL PROVISIONS
13-17	SPECIAL DETAILS
18-23	CONSTRUCTION DETAILS
24-47	ROAD CONSTRUCTION SPECIFICATIONS



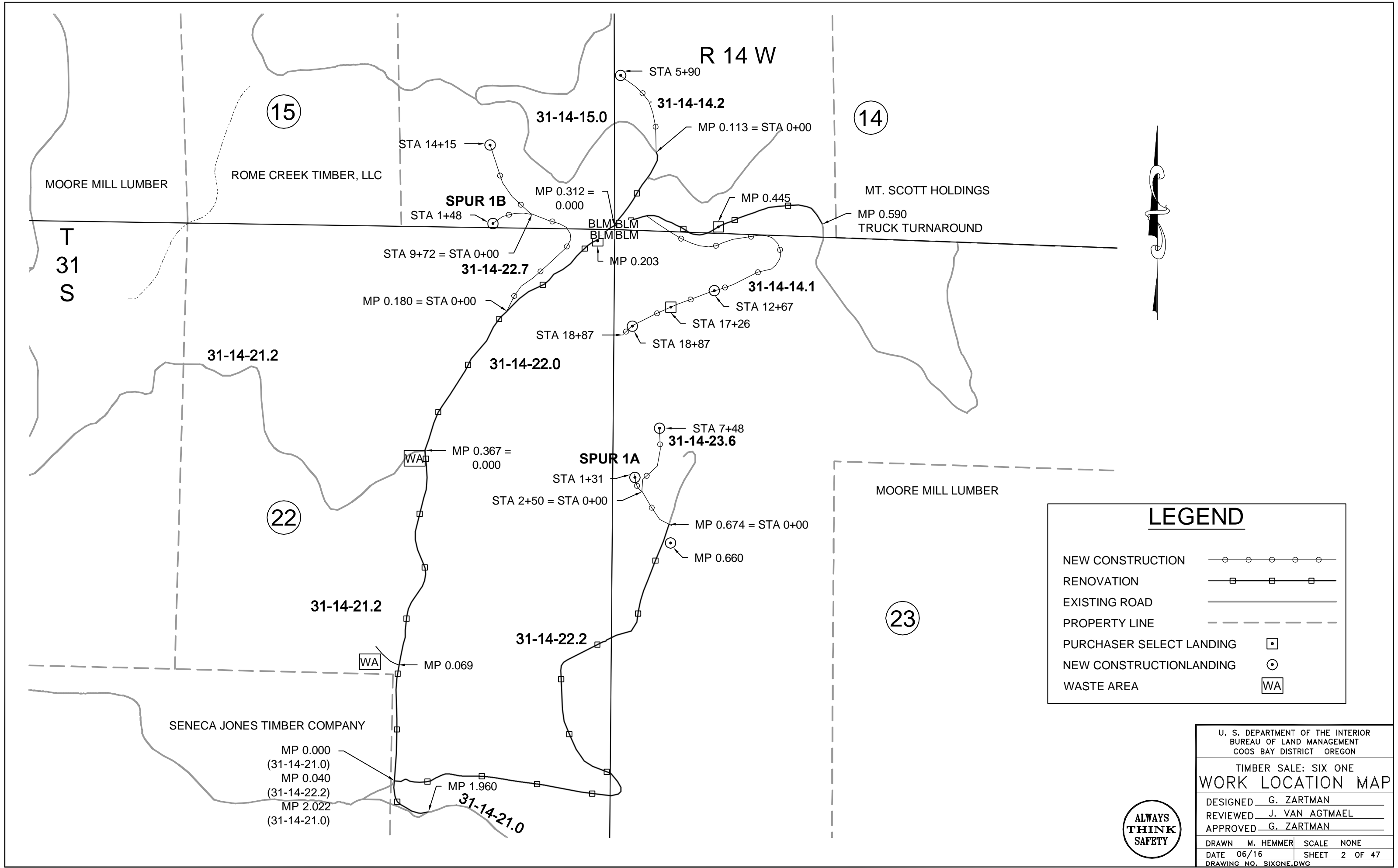
U. S. DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT  
 COOS BAY DISTRICT OREGON

**TITLE SHEET**

DESIGNED G. ZARTMAN  
 REVIEWED J. VAN AGTMAEL  
 APPROVED G. ZARTMAN

DRAWN M. HEMMER SCALE NONE  
 DATE 06/16 SHEET 1 OF 47  
 DRAWING NO. SIXONE.DWG





15

14

22

23

R 14 W

T 31 S



### LEGEND

- NEW CONSTRUCTION ○ ○ ○ ○ ○
- RENOVATION □ □ □ □ □
- EXISTING ROAD
- PROPERTY LINE
- PURCHASER SELECT LANDING □
- NEW CONSTRUCTION LANDING ○
- WASTE AREA WA

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

TIMBER SALE: SIX ONE  
**WORK LOCATION MAP**

DESIGNED G. ZARTMAN  
 REVIEWED J. VAN AGTMAEL  
 APPROVED G. ZARTMAN

DRAWN M. HEMMER SCALE NONE  
 DATE 06/16 SHEET 2 OF 47  
 DRAWING NO. SIXONE.DWG



MP 0.000  
(31-14-21.0)  
MP 0.040  
(31-14-22.2)  
MP 2.022  
(31-14-21.0)

MP 1.960  
**31-14-21.0**

MOORE MILL LUMBER

ROME CREEK TIMBER, LLC

MT. SCOTT HOLDINGS

SENECA JONES TIMBER COMPANY

MOORE MILL LUMBER

**31-14-15.0**

**31-14-14.2**

**SPUR 1B**

**SPUR 1A**

**31-14-14.1**

**31-14-23.6**

**31-14-22.7**

**31-14-22.0**

**31-14-22.2**

**31-14-21.2**

**31-14-21.2**

STA 14+15

STA 5+90

STA 1+48

STA 9+72 = STA 0+00

MP 0.180 = STA 0+00

STA 18+87

STA 18+87

STA 7+48

STA 1+31

STA 2+50 = STA 0+00

MP 0.674 = STA 0+00

MP 0.660

MP 0.069

MP 1.960

MP 0.113 = STA 0+00

MP 0.445

MP 0.590

MP 0.203

BLM  
BLM  
BLM  
BLM

WA

WA

WA

ROAD NUMBER **	FROM MILEPOST	TO MILEPOST	LENGTH MILES	TYPICAL SECTION TYPE ②	ROAD WIDTH SEE NOTES 1, 3, & 7		CLEARING WIDTH		BRUSHING WIDTH		SURFACING ⑤								REMARKS	
					SUBGRADE	DITCH	BEYOND		EXISTING ROADS		BASE COURSE				SURFACE COURSE					
							TOP CUT	TOE FILL	L	R	MIN TOP WIDTH	COMP DEPTH	TYPE ④	GRADING	MIN TOP WIDTH	COMP DEPTH	TYPE ④	GRADING		
31-14-15.0 R	0.000	0.120	0.120	4	16'	2'	*	*	10	10										2% CROWNED W/ DITCH
31-14-21.0 R	1.960	2.022	0.062	4	16'	2'	*	*	10	10										2% CROWNED W/ DITCH
31-14-21.2 R	0.000	0.367	0.367	4	16'	2'	*	*	10	10										2% CROWNED W/ DITCH
31-14-22.0 R	0.000	0.590	0.590	4	16'	2'	*	*	10	10										2% CROWNED W/ DITCH
31-14-22.2 R	0.040	0.674	0.634	4	16'	2'	*	*	10	10										2% CROWNED W/ DITCH
31-14-23.6 C	0.000	0.141	0.141	4	16'	2'	10	5			13'	8"	D	3-0"	12'	4"	D	1.5"-0"		2% CROWNED W/ DITCH
SPUR 1A C	0.000	0.024	0.024	4	16'	2'	10	5			13'	8"	D	3-0"	12'	4"	D	1.5"-0"		2% CROWNED W/ DITCH
31-14-14.1 C	0.000	0.357	0.359	4	16'	2'	10	5			13'	8"	D	3-0"	12'	4"	D	1.5"-0"		2% CROWNED W/ DITCH
31-14-22.7 C	0.000	0.268	0.268	1	14'	0'	10	5												2% OUTSLOPE W/ NO DITCH
SPUR 1B C	0.000	0.028	0.028	1	14'	0'	10	5												2% OUTSLOPE W/ NO DITCH
31-14-14.2 C	0.000	0.111	0.111	1	14'	0'	10	5												2% OUTSLOPE W/ NO DITCH

\* CLEAR BEYOND: CULVERT INSTALLATIONS, DITCHLINES, WIDENINGS, FRENCH DRAIN LANDINGS, WASTE AREAS

\*\* RENOVATION = R  
IMPROVEMENT = I  
CONSTRUCTION = C

**NOTES**

- ① **EXTRA SUBGRADE WIDTHS**  
FILL WIDENING:
- 1 FT TO SHOULDER WIDTH FOR FILLS 1-6 FT IN HEIGHT
  - 2 FT OF SHOULDER WIDTH FOR FILLS 6-10 FT IN HEIGHT
  - 3 FT OF SHOULDER WIDTH FOR FILLS > 10 FT IN HEIGHT

- CURVE WIDENING: ADD ADDITIONAL SURFACING WIDTH TO INSIDE OF CURVE FOR CURVE WIDENING AS SHOWN ON THE PLANS OR AS FOLLOWS:
- ADD 4 FT FOR CURVES 90'-120' RADIUS
  - ADD 5 FT FOR CURVES 60'-90' RADIUS

- ② **CUT AND FILL SLOPES**  
CUT AND FILL SLOPES WILL BE AS FOLLOWS BY MATERIAL TYPE AND ALSO AS SHOWN ON THE PLANS & SPECIFICATIONS:

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

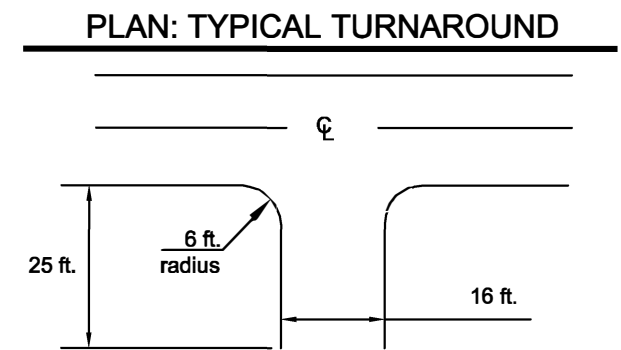
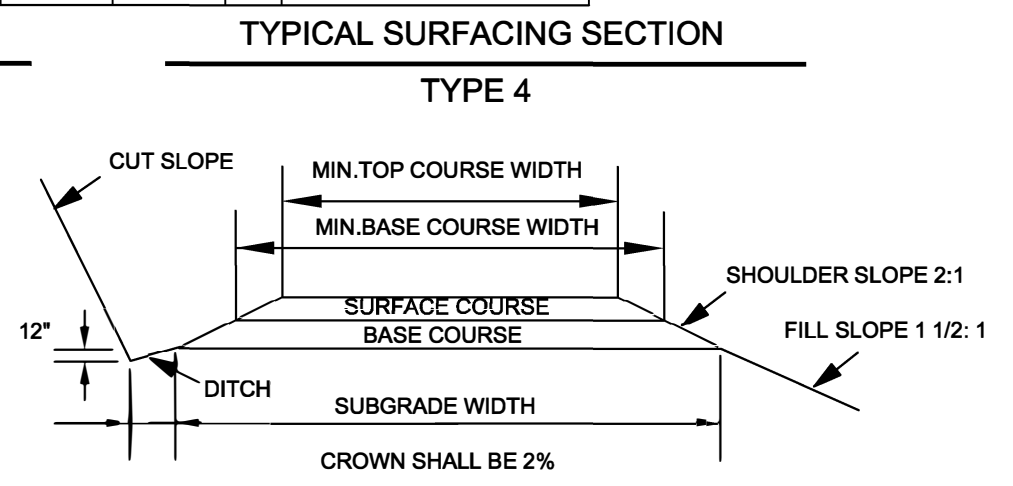
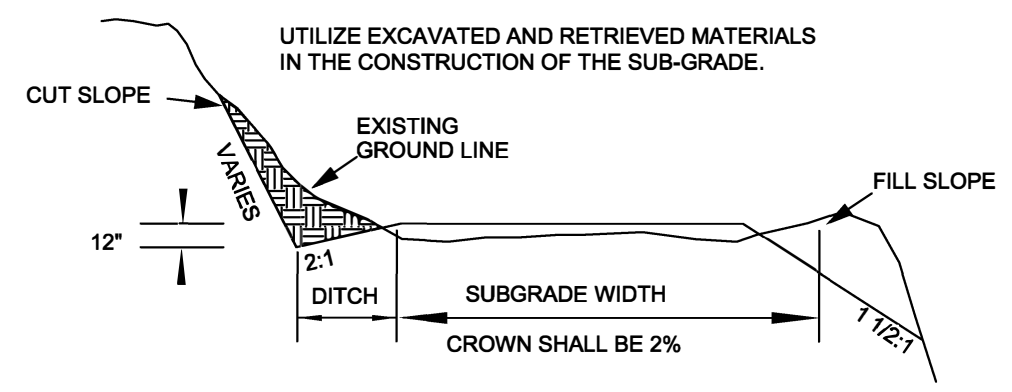
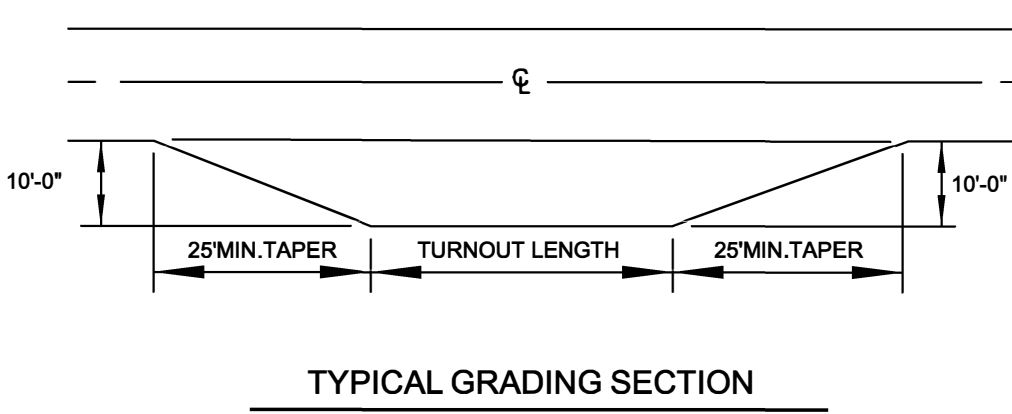
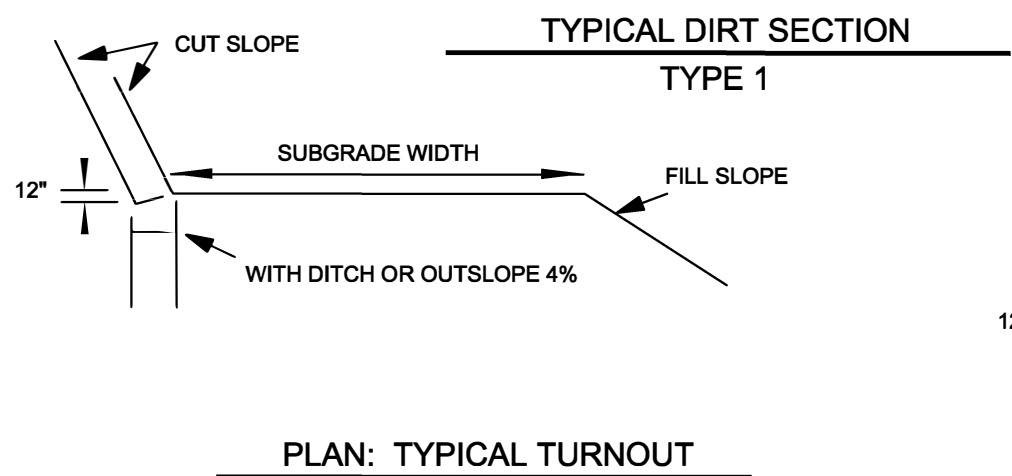
- ③ **FULL BENCH**  
FULL BENCH CONSTRUCTION IS REQUIRED ON ALL SLOPES EXCEEDING 60% UNLESS OTHERWISE SHOWN ON THE PLANS.

- ④ **SURFACING TYPE**
- PIT RUN ROCK MATERIAL
  - GRID ROLLED ROCK MATERIAL
  - SCREENED ROCK MATERIAL
  - CRUSHED ROCK MATERIAL
  - CLASS 'C' ASPHALT MIX

- ⑤ **SURFACING**  
TURNOUTS, CURVE WIDENING AND ROAD APPROACH APRONS SHALL BE SURFACED.

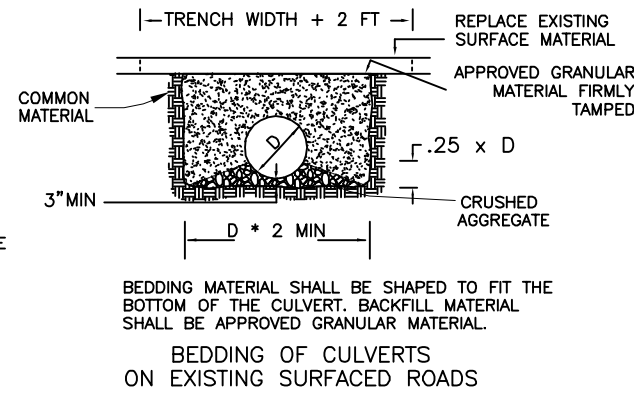
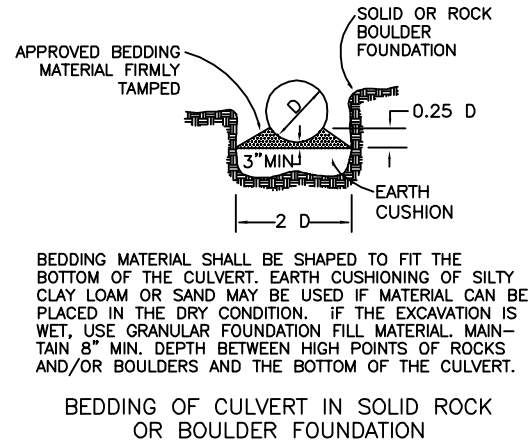
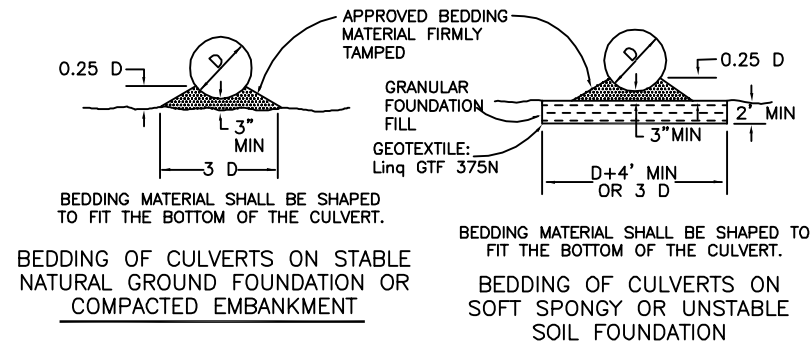
- ⑥ **DITCHES**  
2:1 INSLOPE FROM ROAD SUBGRADE. DITCH OUTSLOPE WILL BE AS SPECIFIED IN NOTE 2 ABOVE.

- ⑦ **TURNOUTS**
- WIDTH 10 FT. IN ADDITION TO SUBGRADE WIDTH, OR AS SHOWN ON THE PLANS
  - LOCATED APPROXIMATELY AS SHOWN ON THE PLANS

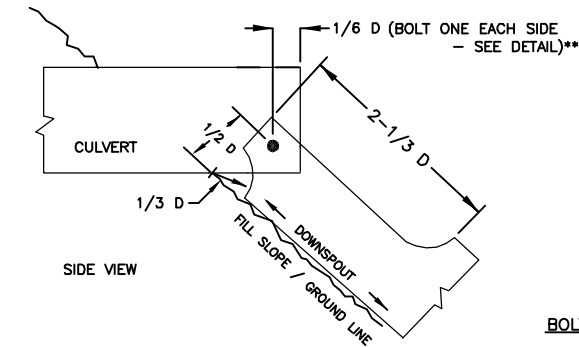


U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
TIMBER SALE: SIX ONE	
TYPICAL SECTIONS DETAILS	
DESIGNED	G. ZARTMAN
REVIEWED	J. VAN AGTMAEL
APPROVED	G. ZARTMAN
DRAWN	M. HEMMER
SCALE	NONE
DATE	06/16
SHEET	3 OF 47
DRAWING NO. SIXONE.DWG	

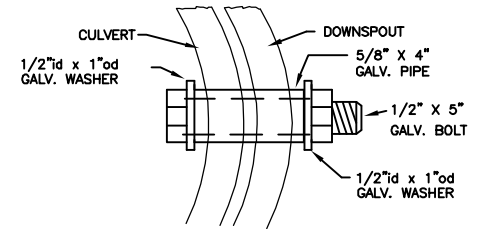
**BEDDING OF CULVERTS**



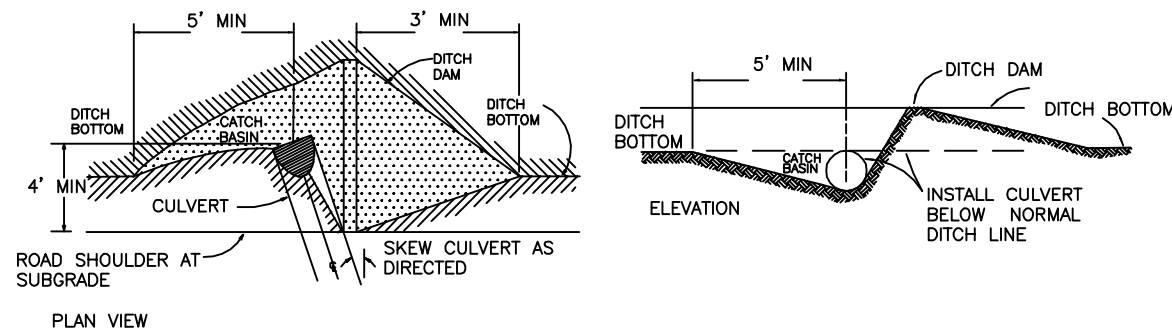
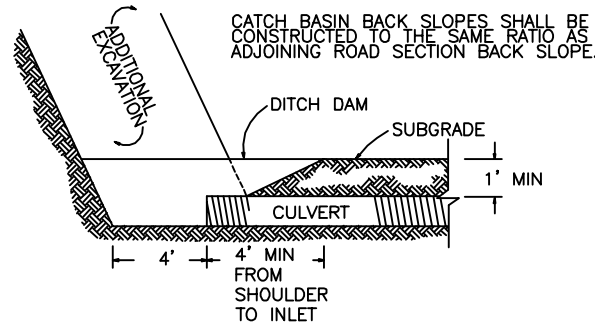
**USE "ADJUSTABLE ELBOW" FOR CPE AND CMP DOWNSPOUTS**



**BOLT ASSEMBLY DETAIL\*\***

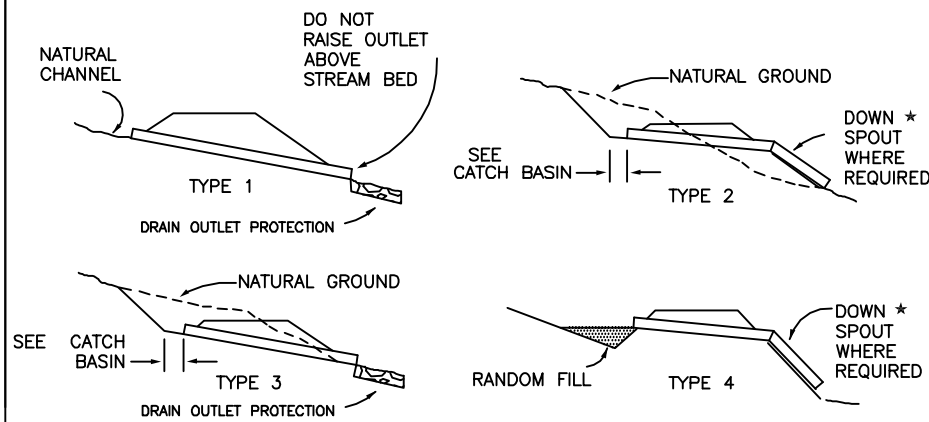


★ NOTE: ANCHOR DOWNSPOUTS ACCORDING TO SECTION 407b OF THE ROAD CONSTRUCTION SPECIFICATIONS



BANDS SHALL MEET MANUFACTURER'S SPECIFICATIONS

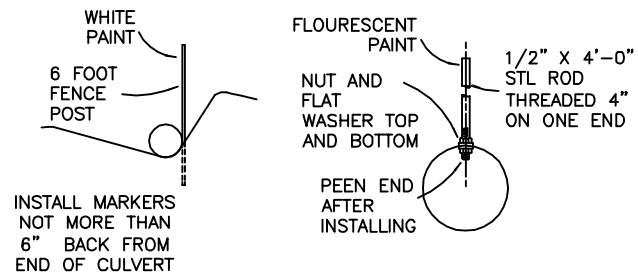
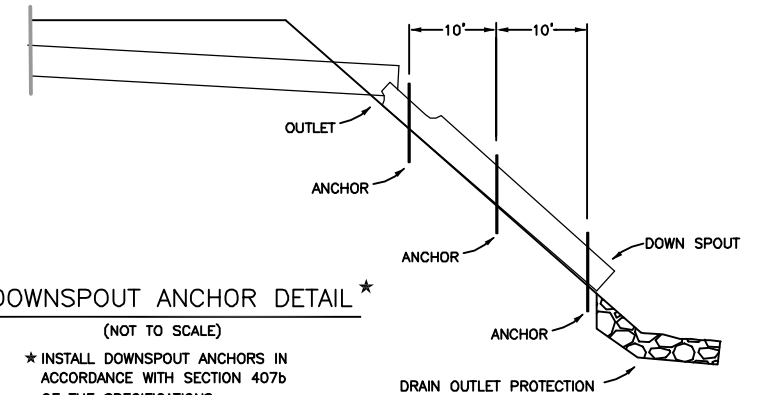
**CULVERT INSTALLATION TYPES**



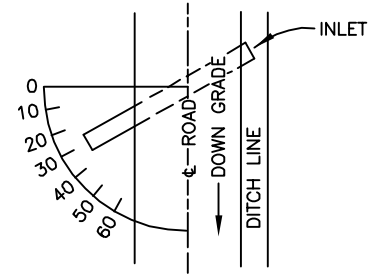
**DOWNSPOUT ANCHOR DETAIL \***

(NOT TO SCALE)

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



**CULVERT MARKERS**



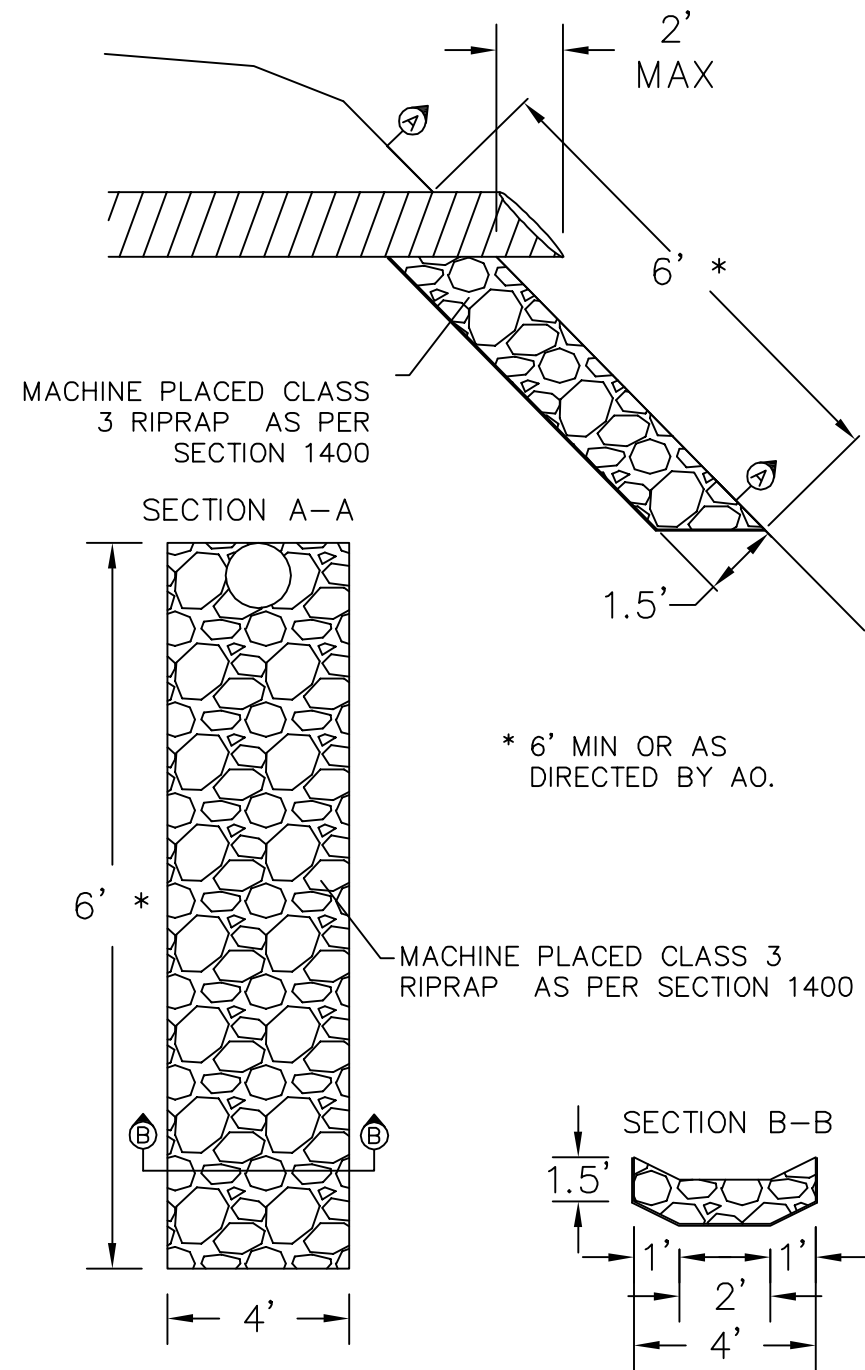
**SKEW DIAGRAM**

HORIZONTAL SKEW SHALL BE AS SHOWN, OR PERPENDICULAR 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%.

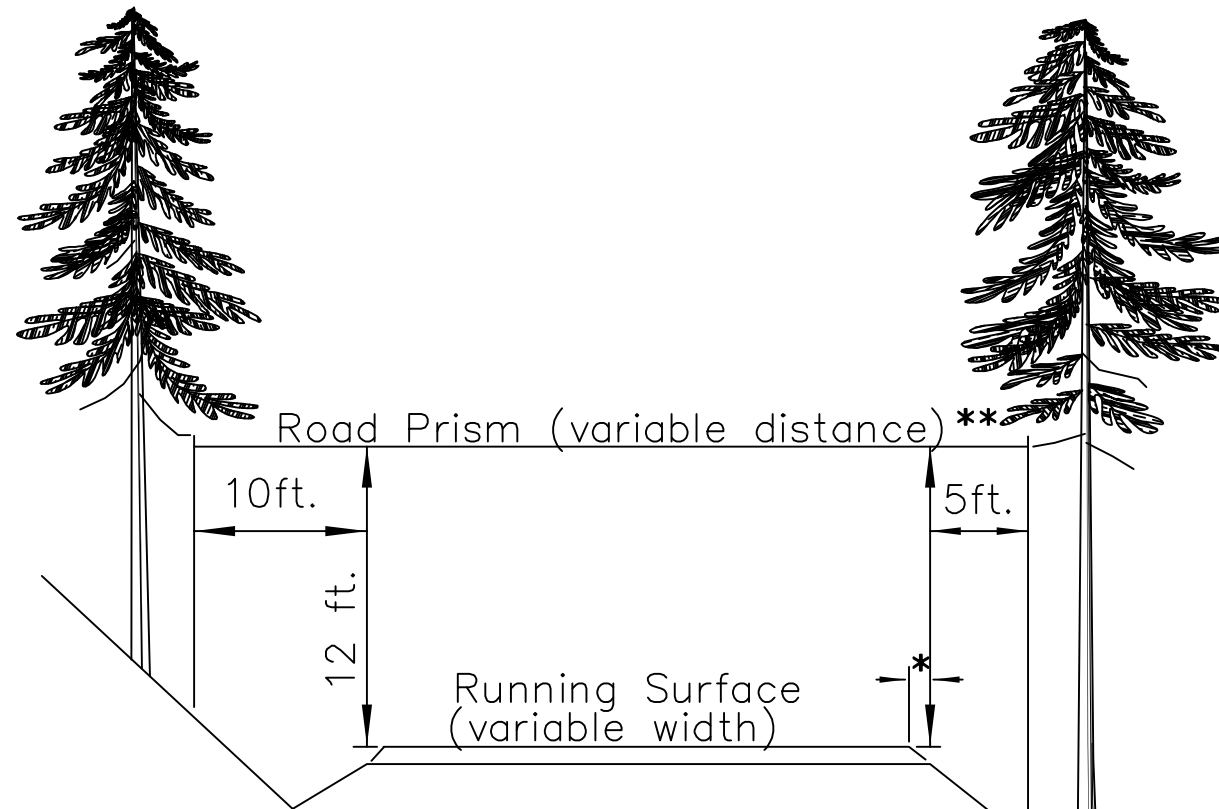


U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
TIMBER SALE: SIX ONE	
CULVERT INSTALLATION DETAILS	
DESIGNED	G. ZARTMAN
REVIEWED	J. VAN AGTMAEL
APPROVED	G. ZARTMAN
DRAWN	M. HEMMER
DATE	06/16
SCALE	NONE
SHEET	4 OF 47
DRAWING NO.	SIXONE.DWG

CROSS DRAIN OUTLET PROTECTION DETAIL



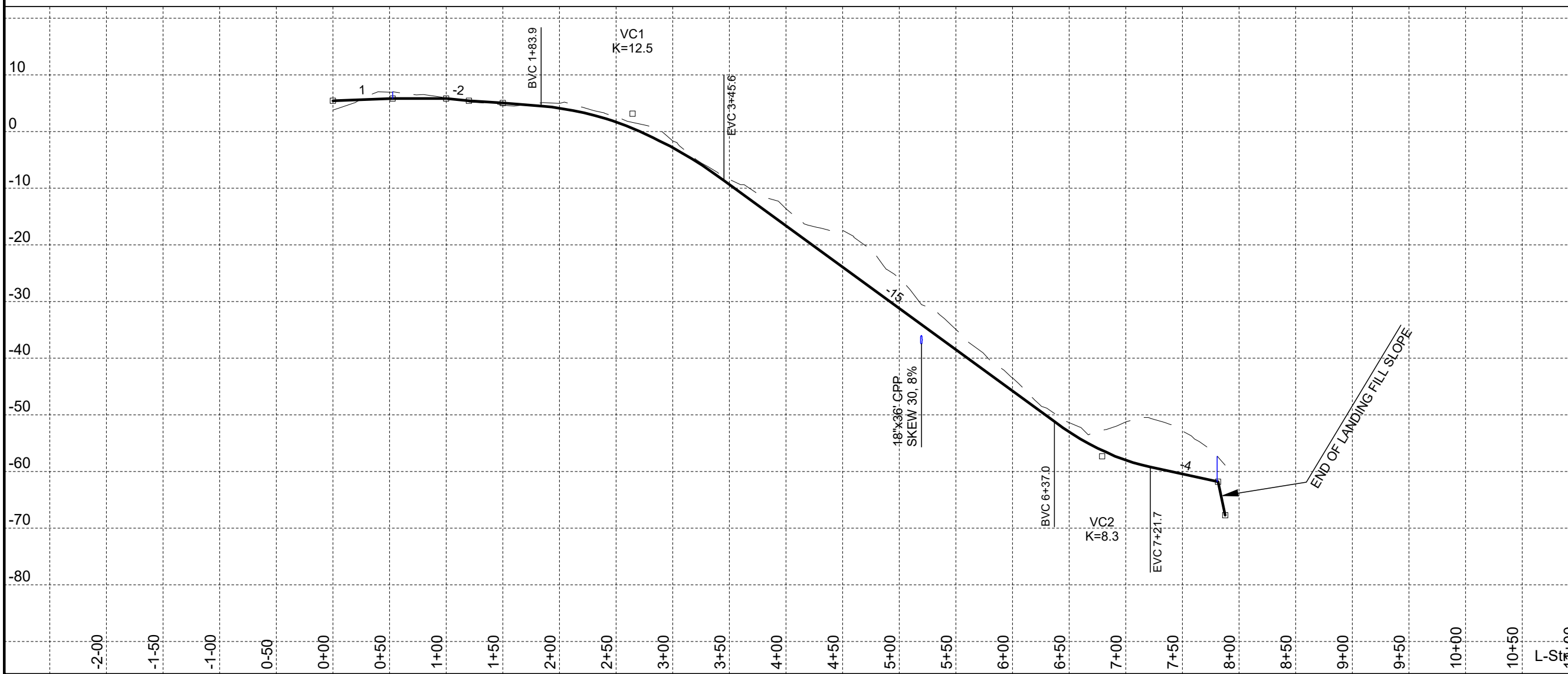
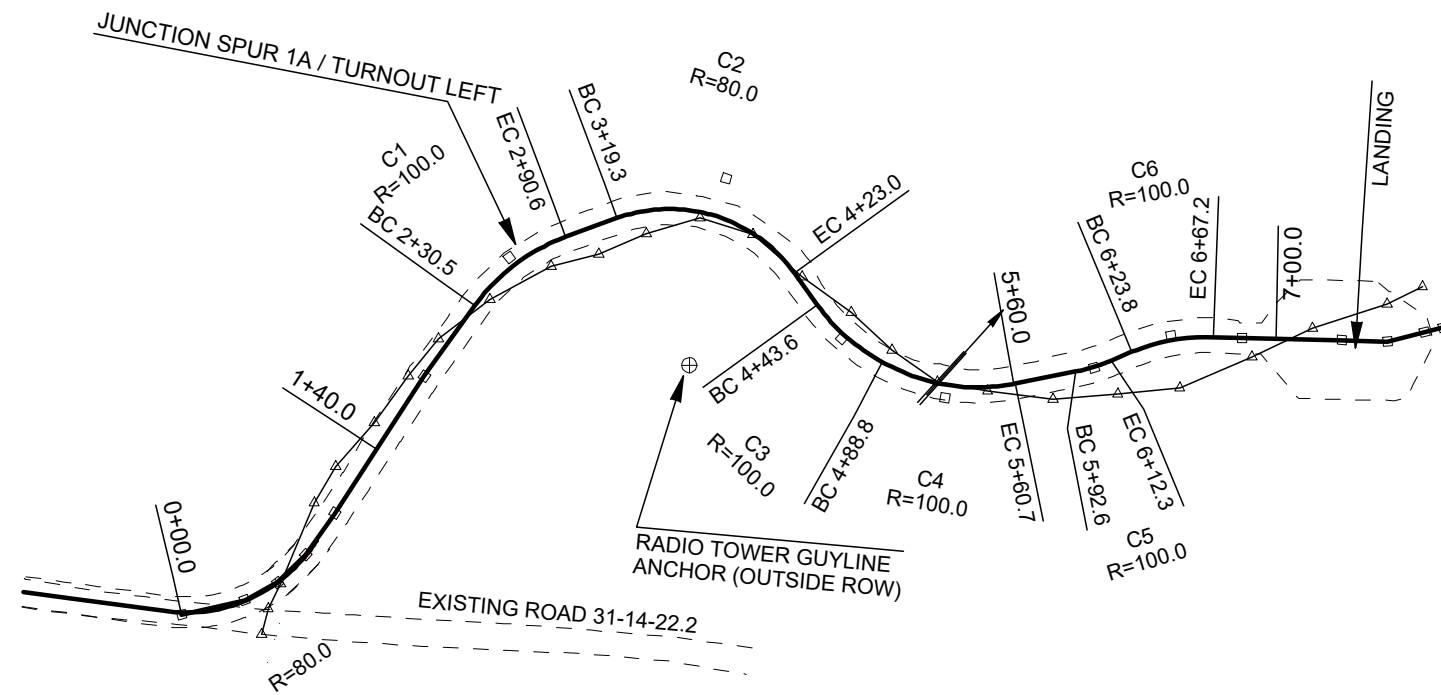
ROADSIDE BRUSHING DIAGRAM



- \* 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 overhanging limbs and branches 12 feet in elevation above the running surface.



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
TIMBER SALE: SIX ONE ROAD BRUSHING DIAGRAM	
DESIGNED	G. ZARTMAN
REVIEWED	J. VAN AGTMAEL
APPROVED	G. ZARTMAN
DRAWN	M. HEMMER
DATE	06/16
SCALE	NONE
SHEET	5 OF 47
DRAWING NO. SIXONE.DWG	



**LEGEND**

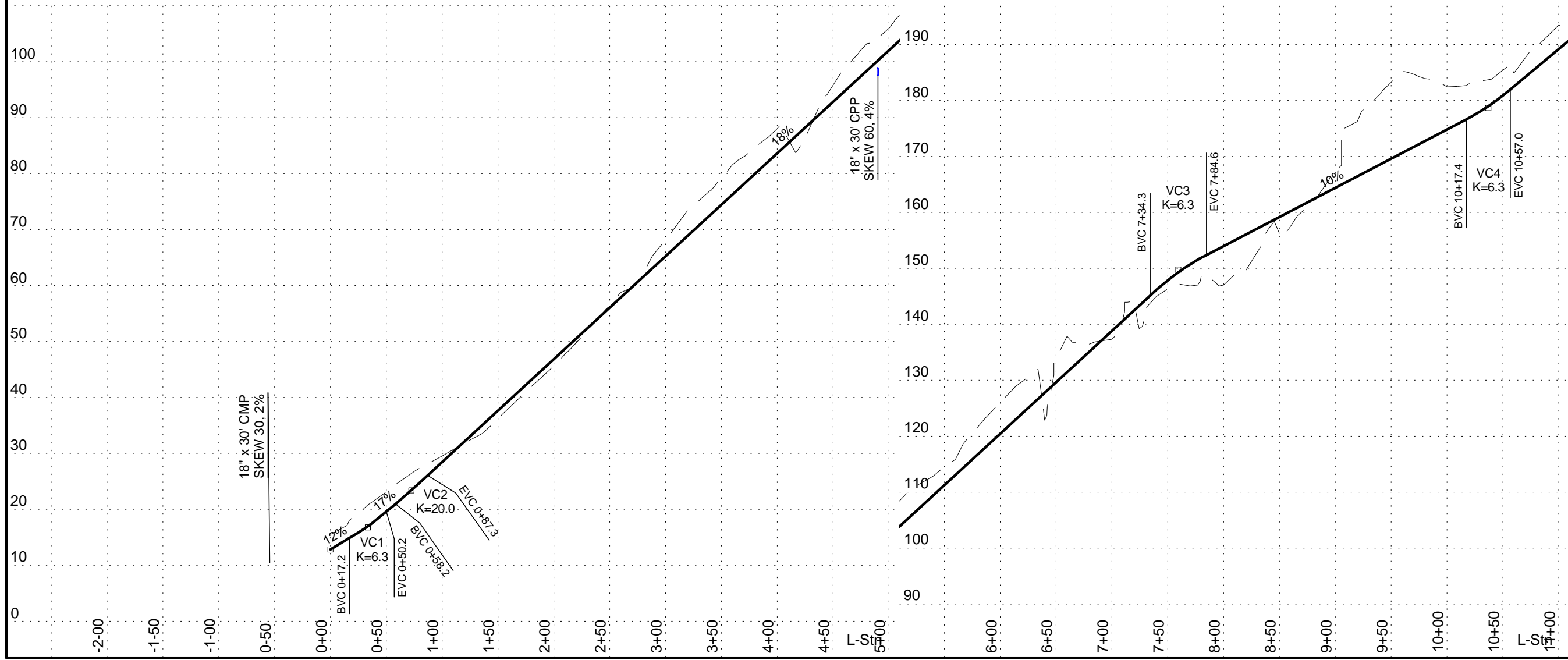
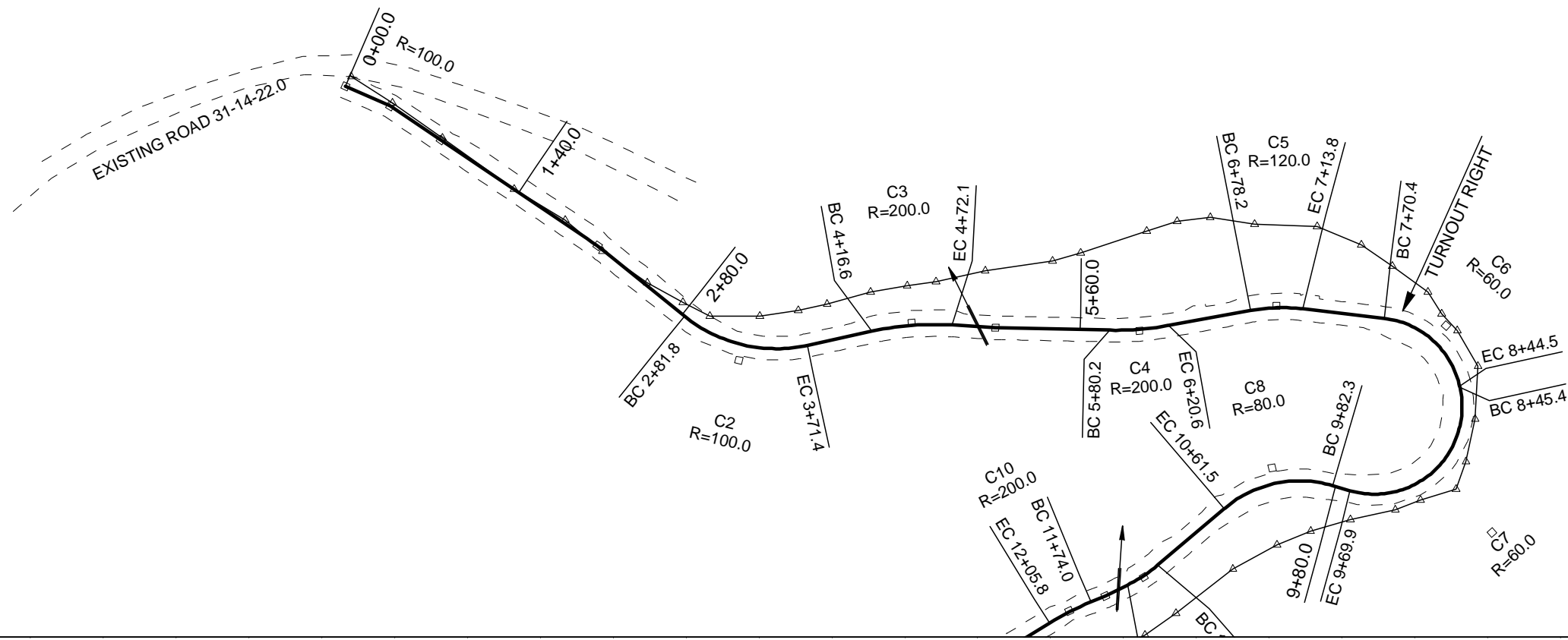
- PLAN P-LINE
- PLAN ROAD EDGES
- DESIGN ALIGNMENT
- PROFILE TOPO
- CULVERT

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

TIMBER SALE: SIX ONE  
 PLAN & PROFILE ROAD  
 NO. 31-14-23.6

DESIGNED G. ZARTMAN  
 REVIEWED J. VAN AGTMAEL  
 APPROVED G. ZARTMAN

DRAWN: M. HEMMER | Plan Scale 1:1200  
 DATE 6/30 | Sheet 6 of 47  
 DRAWING NO. PL16-1-Design\_061016.dsn



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

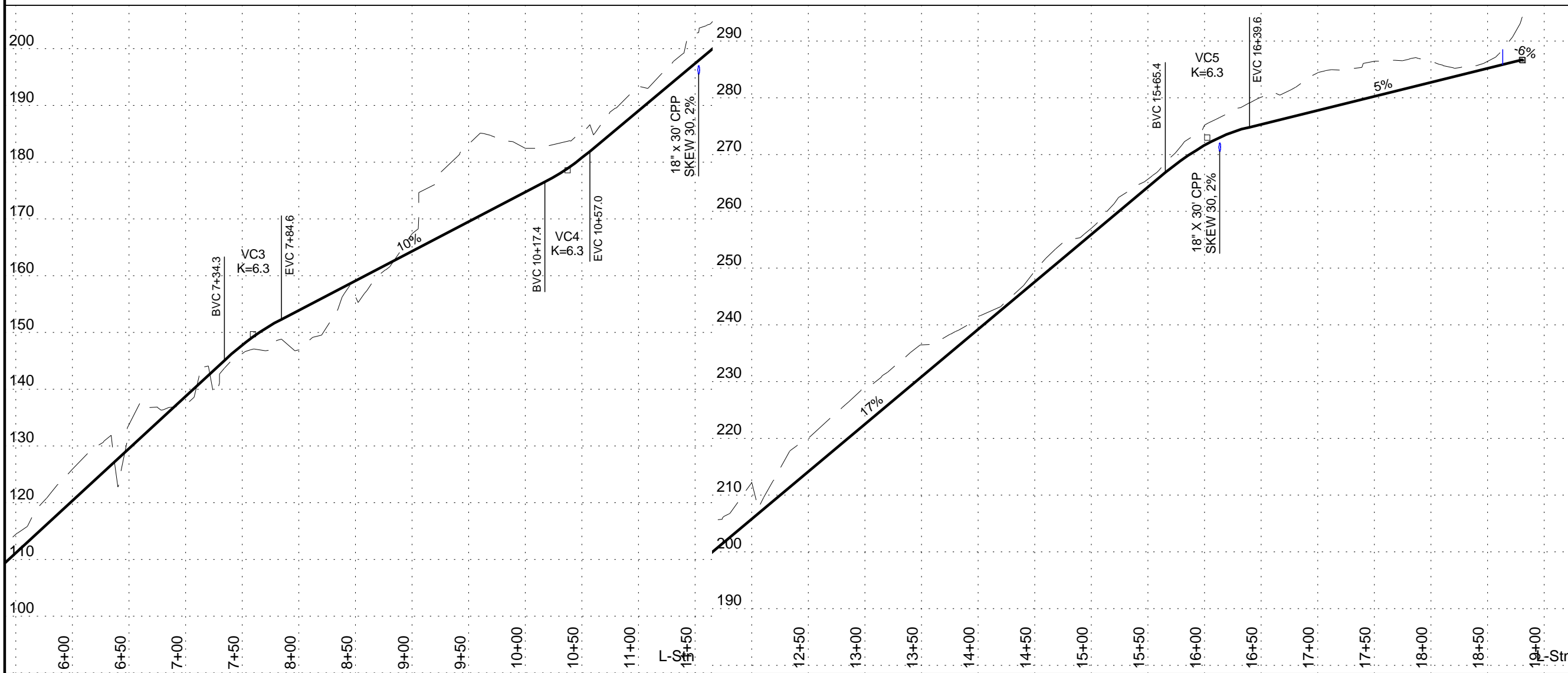
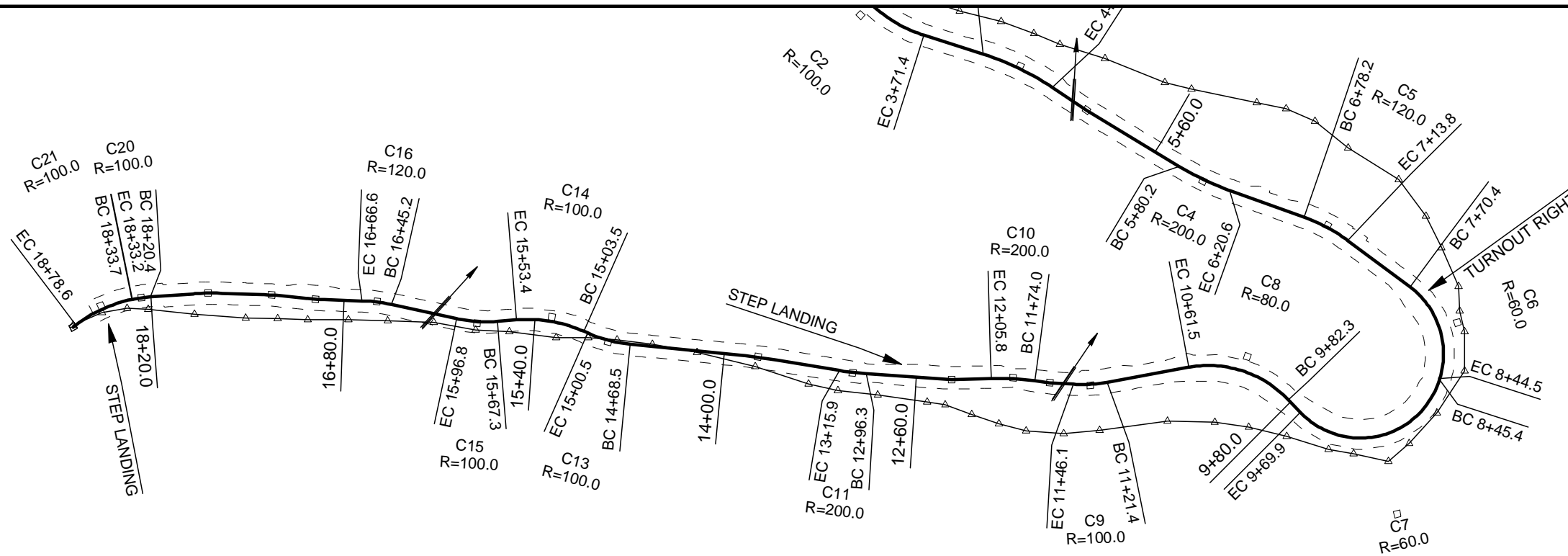
  

U.S. DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT  
 COOS BAY DISTRICT, OREGON

**TIMBER SALE: SIX ONE**  
**PLAN & PROFILE ROAD**  
**NO. 31-14-14.1**

DESIGNED G. ZARTMAN  
 REVIEWED J. VAN AGTMAEL  
 APPROVED G. ZARTMAN

DRAWN: M. HEMMER	Plan Scale 1:1200
DATE 6/30	Sheet 7 OF 47
DRAWING NO. 16-3_Design_062916.dsn	



**LEGEND**

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

---

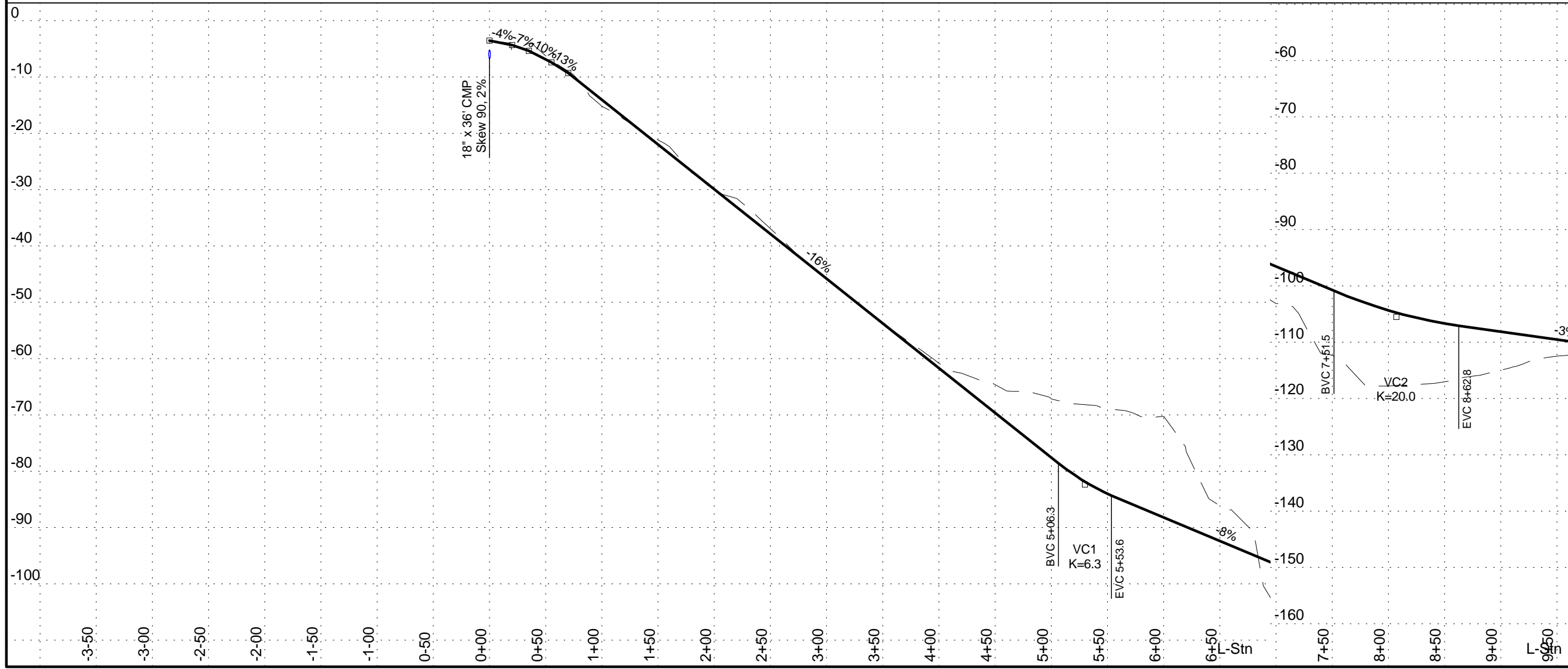
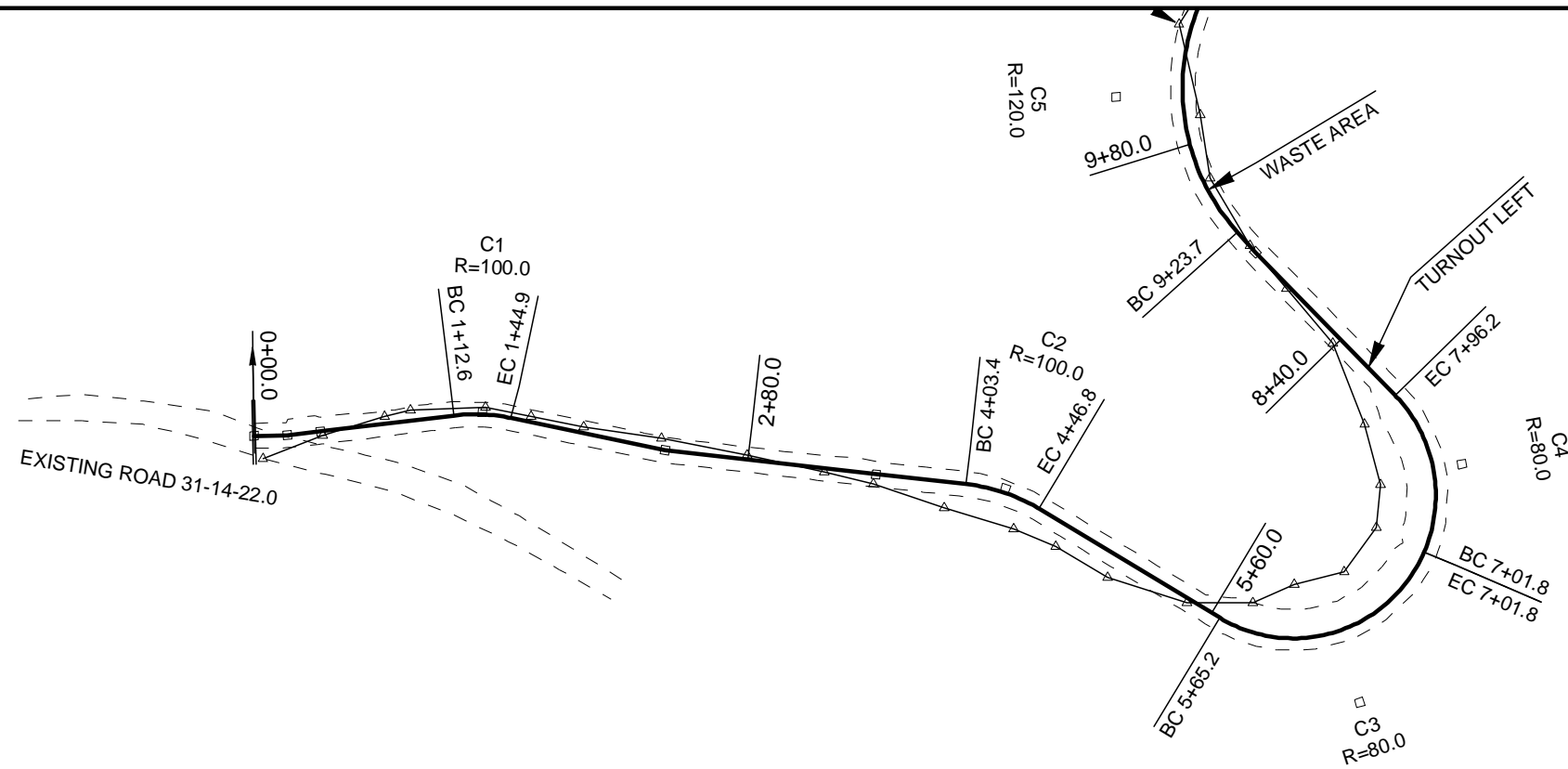
U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
COOS BAY DISTRICT, OREGON

**TIMBER SALE: SIX ONE**  
**PLAN & PROFILE ROAD**  
**NO. 31-14-14.1**

DESIGNED G. ZARTMAN  
REVIEWED J. VAN AGTMAEL  
APPROVED G. ZARTMAN

DRAWN: M. HEMMER	Plan Scale 1:1200
DATE 6/30	Sheet 8 of 47
DRAWING NO. 16-3_Design_062916.dsn	





### LEGEND

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

---

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

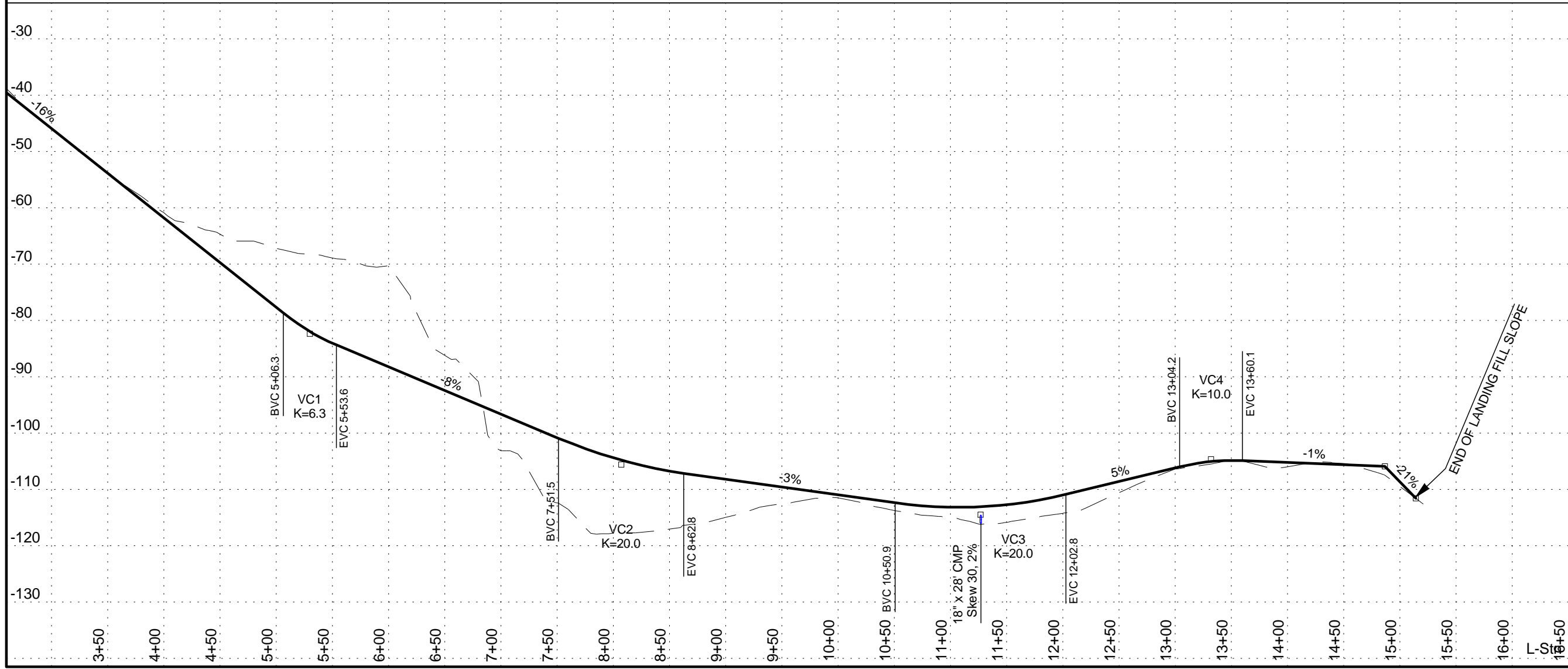
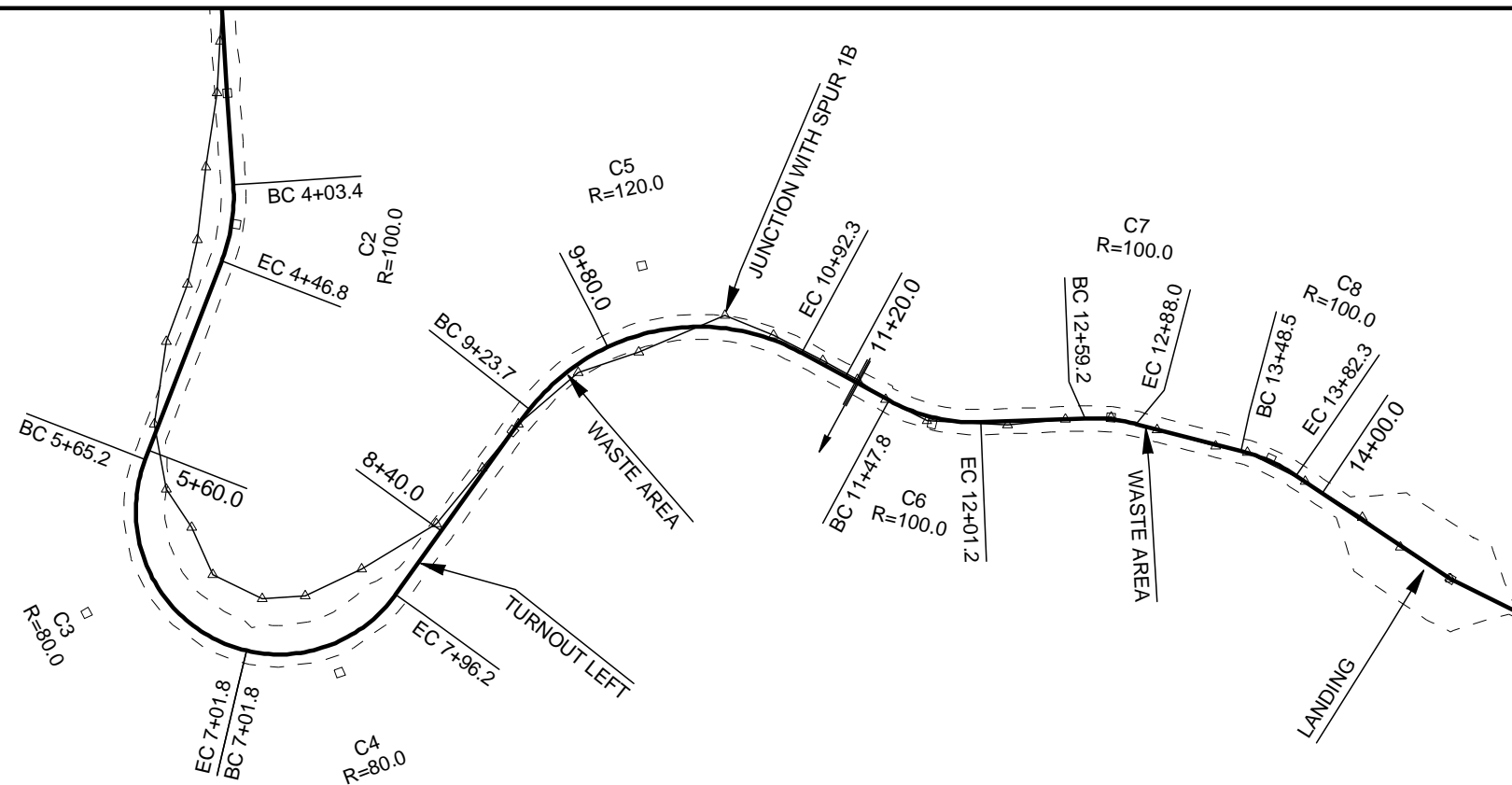
**TIMBER SALE: SIX ONE**  
**PLAN & PROFILE ROAD**  
**NO. 31-14-22.7**

DESIGNED G. ZARTMAN  
REVIEWED J. VAN AGTMAEL  
APPROVED G. ZARTMAN

DRAWN: M. HEMMER	Plan Scale 1:1200
DATE 6/30	SHEET 9 OF 47
DRAWING NO. 17-1_Design-062716.dsn	

GENERAL NOTES

1. REMOVE 18" X 30' CMP AFTER LOGGING IS COMPLETE AND PROPERLY DISPOSE OF OFF GOVERNMENT PROPERTY.
2. EXCAVATE EMBANKMENT FOR CULVERT REMOVAL AT A SLOPE OF NOT GREATER THAN 1 1/2:1. PLACE EXCAVATED EMBANKMENT IN THE WASTE AREA OR THE LANDING AND SLOPED TO DRAIN.



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

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

**TIMBER SALE: SIX ONE**  
**PLAN & PROFILE ROAD**  
**NO. 31-14-22.7**

DESIGNED G. ZARTMAN  
 REVIEWED J. VAN AGTMAEL  
 APPROVED G. ZARTMAN

DRAWN: M. HEMMER	Plan Scale 1:1200
DATE 6/30	SHEET 10 OF 47
DRAWING NO. 17-1_Design-062716.dsn	

ROAD NUMBER	NEW CONSTRUCTION	RENOVATION	GRUBBING	ROADSIDE BRUSHING	EARTHWORK (DESIGNED) *4							SURFACING					CPE *1		DOWNSPOUTS *3			OTHER		SEEDING	OTHER (SEDIMENT CONTROL DEVICES)					
					COMMON	RIPPABLE ROCK	FILL	WASTE AREA	MATERIAL DRIFTED 100-500'	SHORT HAUL 100-500'	LONG HAUL >500'	3"-0" BASE ROCK *5 ROADWAY	3"-0" BASE ROCK *5 TURNOUT LANDING JUNCTION	1.5-0" SURFACE ROCK *5 ROADWAY	1.5-0" SURFACE ROCK *5 TURNOUT JUNCTION	1.5"-0" SPOT ROCK	18"	24"	FULL ROUND		MARKERS	RIPRAP	1.5"-0" CULVERT BEDDING ROCK	SEED, FERTILIZE & MULCH (DRY)						
SECTION NO.	300	500	200	2100	300	300	300	300	300	300	300	1000		1200		1200	400	400	18" CPE	24" CPE	400	400	400	400	400	1400	400/1200	1800	1700	
UNITS	STA.	STA.	AC	AC	C.Y.	C.Y.	YDS.	YDS.	STA.YD.	STA.YD.	YD.MI.	C.Y.		C.Y.		C.Y.	L.F.	L.F.	L.F.	L.F.	EA.	C.Y.	C.Y.	EA.	C.Y.	C.Y.	ACRES	EACH		
31-14-15.0 R		6.34		0.30										80																
31-14-21.0 R		3.17		0.20										40																
31-14-21.2 R		19.38		0.90										265			100				3	18	5.5							
31-14-22.0 R		28.20		1.30										350				20			6									
31-14-22.2 R		33.90	1.15	1.20	1,910		1,910				1,910 *6	247	135	922			300				11	33	16		0.45					
31-14-23.6 C	6.81		0.93		3,391	1,345	500	4,236	500		4,236 *6	282	119	130	20		40				1	3	2.5		0.45					
SPUR 1A C	1.16		0.21		262		1,207		262			95	75	27												0.06				
31-14-14.1 C	18.59		2.10		8,303	2,650	2,408	8,545	2,408		8,545 *7	703	182	331	19		90				3	9	5		1.48					
31-14-22.7 C	15.14		2.21		4,199		12,750		4,199								70				2	6	4		1.21					
SPUR 1B C	1.96		0.20		62		83		62																	0.03				
31-14-14.2 C	5.76		0.47		690		792		690																	0.16				

\*1 CPE - CORRUGATED POLYETHYLENE PIPE

\*2 CMP - CORRUGATED METAL PIPE

\*3 SEE DOWNSPOUT INSTALLATION SHEET

\*4 VOLUMES ARE TRUCK (LOOSE) YARDS.

\*5 INCLUDES TURNOUTS, LANDINGS, & JUNCTIONS

\*6 WASTE MATERIAL WILL BE HAULED TO WASTE AREAS DESIGNATED ON SHEET 2. WASTE MATERIAL WILL BE PLACED IN THE WASTE AREA IN A STABLE MANNER AND SLOPED TO DRAIN, PURSUANT TO THE SPECIFICATIONS OR AS DIRECTED BY THE AUTHORIZED OFFICER.

\*7 WASTE MATERIAL WILL BE HAULED TO NEW CONSTRUCTION ROAD 31-14-22.7 AND PLACED IN THE WASTE AREAS DESIGNATED ON SHEETS 8 & 9. WASTE MATERIAL WILL BE PLACED IN THE WASTE AREA IN A STABLE MANNER AND SLOPED TO DRAIN, PURSUANT TO THE SPECIFICATIONS OR AS DIRECTED BY THE AUTHORIZED OFFICER.

SECTION	GRADE	SIZE
400/1200	(C)	1.5"-0"
700	(PR)	PITRUN
900	(DR)	3"-1"
1000	(A)	3"-0"
1200	(C)	1.5"-0"
1400	(3)	Class 3
1400	(5)	Class 5

GRADE INDICATED IN CIRCLE ○



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
TIMBER SALE: SIX ONE ESTIMATE OF QUANTITIES	
DESIGNED	G. ZARTMAN
REVIEWED	J. VAN AGTMAEL
APPROVED	G. ZARTMAN
DRAWN	M. HEMMER
SCALE	NONE
DATE	06/16
SHEET	11 OF 47
DRAWING NO. SIXONE.DWG	

## **SPECIAL PROVISIONS**

### Purchaser Responsibility

The Purchaser shall avoid damaging any aggregate surfaced roads, and will be responsible for the repair of any road damaged as a result of the activity. Aggregate roads shall be left in the same condition that they were prior to logging operations.

### 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.

Seasonal restrictions apply to summer haul roads.

### Over-wintering

All natural-surfaced new construction shall not over-winter without being either decommissioned, 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 in the year of construction.

### Waste Areas

All waste areas shall be sloped, shaped to drain, seeded, fertilized, and mulched in accordance with Sections 200, 300, and 1800 of the Road Construction Specifications.

SPECIAL DETAILS RENOVATION OF ROAD NO. 31-14-15.0  
Milepost 0.000 to Milepost 0.120

<u>Milepost</u>	<u>Remarks</u>
General	Road is to be brushed, graded, and compacted prior to the placement of surfacing rock. All excavated material from the re-establishing of ditch lines shall be bunched and end-hauled to waste areas. All existing culverts removed for replacement shall be removed from government property and disposed of in a legal manner. Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction Specifications on all exposed soils.
0.000	JCT with 31-14-22.0. Begin 2" lift of crushed rock surfacing. Begin grading. Establish ditch line.
0.120	Construct road 31-14-14.2 – Right. End 2" lift of crushed rock. End renovation.

SPECIAL DETAILS RENOVATION OF ROAD NO. 31-14-21.0  
Milepost 1.960 to Milepost 2.022

<u>Milepost</u>	<u>Remarks</u>
General	Road is to be brushed, graded, and compacted prior to the placement of surfacing rock. All excavated material from the re-establishing of ditch lines shall be bunched and end-hauled to waste areas. All existing culverts removed for replacement shall be removed from government property and disposed of in a legal manner. Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction Specifications on all exposed soils.
1.960	JCT. Begin 2" lift of crushed rock surfacing. Begin grading. Establish ditch line.
2.022	JCT 4-way (31-14-21.2, 31-14-22.2). End 2" lift of crushed rock. End renovation.

SPECIAL DETAILS

RENOVATION OF ROAD NO. 31-14-21.2  
Milepost 0.000 to Milepost 0.367

<u>Milepost</u>	<u>Remarks</u>
General	Road is to be brushed, graded, and compacted prior to the placement of surfacing rock. Some clearing and grubbing will be required in culvert installation or replacement areas. All excavated material from the re-establishing of ditch lines shall be bunched and end-hauled to waste areas. All existing culverts removed for replacement shall be removed from government property and disposed of in a legal manner. Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction Specifications on all exposed soils.
0.000	Begin grading. Begin 4" lift of crushed rock surfacing. Establish/clean ditch line. JCT (31-14-21.0, 31-14-22.2). End 4" lift of crushed rock surfacing. Begin 2" lift of crushed rock surfacing. Begin standard grading. Continue ditch cleaning / re-establish ditch line.
0.034	Top of grade break.
0.069	Renovate existing closed spur left for Waste Area.
0.091	Install 18"x30' CPP, skew 30, and catch basin. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
0.138	Existing 18" CMP. Clean Inlet.
0.222	Natural drainage. Install 18" x 40' CPP, skew 30, and catch basin. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
0.267	Road surfacing rutting. Begin reshaping subgrade to establish 2% crown. Begin 4" lift of crushed rock surfacing. Continue ditch cleaning / re-establish ditch line.
0.367	JCT with 31-14-22.0. Waste area 2 left, adjacent to junction. Existing damaged 12" CMP. Replace CMP with 18" x 30' CPP, 90-degree skew. Clean catch basin. Clean downhill outlet channel. End renovation.

SPECIAL DETAILS

RENOVATION OF ROAD NO. 31-14-22.0  
Milepost 0.000 to Milepost 0.590

<u>Milepost</u>	<u>Remarks</u>
General	Road is to be brushed, graded, and compacted prior to the placement of surfacing rock. All excavated material from the re-establishing of ditch lines shall be bunched and end-hauled to waste areas. All existing culverts removed for replacement shall be removed from government property and disposed of in a legal manner. Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction Specifications on all exposed soils.
0.000	JCT with Road 34-1-21.2 at MP 0.367. Begin grading of surfacing. Begin 2" lift of crushed rock surfacing. Begin clean ditch line.
0.139	Existing 18" CMP with shotgun outlet. Clean CMP inlet. Cut back shotgun outlet and install downspout per the standard details. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
0.180	Construct Road 31-14-22.7 left.
0.312	JCT with Road 34-14-15.0 right, Existing 18" CMP (no issues). Brass survey cap on right side cut bank. Contractor will protect and preserve survey monument.
0.362	JCT with Road 31-14-14.1 right, End 2" lift of crushed rock surfacing.
0.590	Truck Turnaround Left. End Renovation.



SPECIAL DETAILS

RENOVATION OF ROAD NO. 31-14-22.2  
Milepost 0.040 to Milepost 0.674

<u>Milepost</u>	<u>Remarks</u>
General	Road is to be brushed, graded, and compacted prior to the placement of surfacing rock. Some clearing and grubbing will be required in culvert installation or replacement areas. All excavated material from the re-establishing of ditch lines shall be bunched and end-hauled to waste areas. All existing culverts removed for replacement shall be removed from government property and disposed of in a legal manner. Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction Specifications on all exposed soils.
0.040	JCT 31-44-21.0 and 31-44-21.2. Clean inlet and outlet of existing 18" CMP at junction. Install inlet marker. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation. Begin reshaping of subgrade per detail type 4 on sheet 3. Begin scarification of surfacing. Begin 6" lift crushed rock. Begin steep pitch of favorable grade.
0.051	Remove existing water dip.
0.073	Pull back outer 2' of over-steepened shoulder.
0.081	Pull back outer 2' of over-steepened shoulder. Remove existing water dip.
0.108	Remove existing water dip. Install 18" x 30' CPP, skew 30, with downspout and catch basin. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
0.119	Remove 30" DBH Douglas Fir in right shoulder.
0.136	Remove existing water dip.
0.169	Remove existing water dip. Install 18" x 30' CPP with downspout and catch basin. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
0.194	End steep pitch of favorable grade.
0.212	Remove existing step landing left (5 CU YD common embankment). Haul waste to designated waste area. Install 18" x 30' CPP, skew 30. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
0.274	End full bench, spur right, begin switchback. Install 18" x 30' CPP, skew 90. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
0.329	Existing spur right, end switchback. Install 18" x 30' CPP, skew 90. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
0.375	Remove existing water dip.
0.402	Remove existing water dip. Install 18" x 30' CPP, skew 90. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
0.447	Remove existing water dip. Install 18" x 30' CPP, skew 90. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.

- 0.472 Remove existing water dip. Existing turnout left. Install 18" x 30' CPP, skew 90. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
- 0.463 Remove existing water dip. Install 18" x 30' CPP, skew 90. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation.
- 0.526 Existing turnout/truck turn-around right.
- 0.564 JCT existing spur right with existing barrier (tank trap).
- 0.577 Install 18" x 30' CPP, skew 90. Place 3 CU YD of Class 3 rip rap at outlet for erosion control and energy dissipation
- 0.650 End young timber stand, enter clearing.
- 0.660 Existing ditch out right. Clean ditch out. Construct roadside landing with 100' approach right. Place 12" depth compacted lift of 3" minus surfacing in accordance with Section 1000 on landing and approach.
- 0.674 Construct Road 31-14-23.6 left. End 6" lift of crushed rock surfacing. End renovation.

CONSTRUCTION DETAIL SHEET  
ROAD NO. 31-14-23.6

GENERAL

Purchaser shall construct Road No. 31-14-23.6 from Sta. 0+00 to Sta. 7+48 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 Sheet No. 3 (16' subgrade w/ 2' ditch; 12' surfaced width), type 4 standard detail. Cut slopes shall be 1H:1V and the fill slopes shall be 1 1/2H:1V, or as shown on the plans.

TURNOUTS

Turnout left at junction with Spur 1A. Sta. 5+20.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections. All excavated material shall be used as fill in the subgrade and compacted in accordance with the Road Specifications, 200 and 300 Sections. Maximum Fill depth is 2ft at road centerline and Maximum Cut depth is 9 ft at road centerline.

DRAINAGE FEATURES

Crowned at 2% with 2 ft. ditch to achieve drainage (double ditch through-cuts).

Install Cross Drains at the following locations:

Sta. 5+20: 18"x 36' CPP with 3 CY Class 3 Riprap energy dissipation outfall, conforming to Section 1400, as directed by the Authorized Officer. Install a culvert inlet marker

SURFACING

Base: 8" lift of 3"-0" Crushed Base Rock, conforming to Section 1000, as directed by the Authorized Officer  
Cap: 4" lift of 1-1/2"-0" Crushed Surfacing Rock, conforming to Section 1200, as directed by the Authorized Officer  
All surfacing shall be spread and compacted in accordance with the Road Specifications, 1000 and 1200 Sections.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet. Road has been slope staked and L-Line locations marked.

Sta. 0+00: Junction with Road No. 31-14-22.2 at MP 0.674.

Sta. 4+27 Radio tower guyline anchor approximately 65' uphill, but outside road right-of-way. Operator shall not disturb guyline anchor or tower guy wire.

GRADE

Grade shall not exceed 1% favorable and 15% adverse.

LANDINGS

Construct end landing (60ft diameter) at Sta. 7+48. Grade of landings shall not exceed 5%.

SOIL STABILIZATION

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

CONSTRUCTION DETAIL SHEET  
Spur 1A

GENERAL

Purchaser shall construct Spur 1A from Sta. 0+00 to Sta. 1+31 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 Sheet No. 3 (16' subgrade w/ 2' ditch; 12' surfaced width), type 4 standard detail. Cut slopes shall be 1H:1V and the fill slopes shall be 1 1/2H:1V, or as shown on the plans.

TURNOUTS

None.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections. All excavated material shall be used as fill in the subgrade and compacted in accordance with the Road Specifications, 200 and 300 Sections. Maximum Fill depth is 7ft at road centerline and Maximum Cut depth is 2ft at road centerline.

DRAINAGE FEATURES

Crowned at 2% with 2 ft. ditch to achieve drainage (double ditch through-cuts).

SURFACING

Base: 8" lift of 3"-0" Crushed Base Rock, conforming to Section 1000, as directed by the Authorized Officer  
Cap: 4" lift of 1-1/2"-0" Crushed Surfacing Rock, conforming to Section 1200, as directed by the Authorized Officer  
All surfacing shall be spread and compacted in accordance with the Road Specifications, 1000 and 1200 Sections.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet. Road has been slope staked and L-Line locations marked.

Sta. 0+00: Junction with Road 31-14-23.6 at STA 2+50.

GRADE

Grade shall not exceed and 17% adverse.

LANDINGS

Construct end landing (60ft diameter) at Sta. 1+31.  
Grade of landings shall not exceed 5%.

SOIL STABILIZATION

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

CONSTRUCTION DETAIL SHEET  
ROAD NO. 31-14-14.1

GENERAL

Purchaser shall construct Road No. 31-14-14.1 from Sta. 0+00 to Sta. 18+87 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 Sheet No. 3 (16' subgrade w/ 2' ditch; 12' surfaced width), type 4 standard detail. Cut slopes shall be 1/2H:1V and the fill slopes shall be 1 1/2H:1V, or as shown on the plans.

TURNOUTS

Turnout right at Sta 7+80.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections. All excavated material shall be used as fill in the subgrade and compacted in accordance with the Road Specifications, 200 and 300 Sections. Maximum Fill depth is 7ft at road centerline and Maximum Cut depth is 13ft at road centerline.

DRAINAGE FEATURES

Crowned at 2% with 2 ft. ditch to achieve drainage (double ditch through-cuts).

Install Cross Drains at the following locations:

- Sta. 4+84: 18"x 30' CPP with 3 CY Class 3 Riprap energy dissipation outfall, conforming to Section 1400, as directed by the Authorized Officer. Install a culvert inlet marker
- Sta. 12+12: 18"x 30' CPP with 3 CY Class 3 Riprap energy dissipation outfall, conforming to Section 1400, as directed by the Authorized Officer. Install a culvert inlet marker
- Sta. 16+13: 18"x 30' CPP with 3 CY Class 3 Riprap energy dissipation outfall, conforming to Section 1400, as directed by the Authorized Officer. Install a culvert inlet marker

SURFACING

Base: 8" lift of 3"-0" Crushed Base Rock, conforming to Section 1000, as directed by the Authorized Officer  
Cap: 4" lift of 1-1/2"-0" Crushed Surfacing Rock, conforming to Section 1200, as directed by the Authorized Officer  
All surfacing shall be spread and compacted in accordance with the Road Specifications, 1000 and 1200 Sections.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet. Road has been slope staked and L-Line locations marked.

Sta. 0+00: Junction with Road No. 31-14-22.0 at MP 0.362.

GRADE

Grade shall not exceed 18% favorable.

LANDINGS

Construct roadside stepped landing (16' subgrade, 15' equipment pad 8'-10' vertically above subgrade) at Sta.12+67 and 18+40.

SOIL STABILIZATION

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

CONSTRUCTION DETAIL SHEET  
ROAD NO. 31-14-22.7

GENERAL

Purchaser shall construct Road No. 31-14-22.7 from Sta. 0+00 to Sta. 14+15 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 Sheet No. 3 (14' subgrade w/ 0' ditch; 10' surfaced width), type 1 standard detail. Cut slopes shall be 1H:1V and the fill slopes shall be 1 1/2H:1V, or as shown on the plans.

TURNOUTS

Turnout left at Sta 8+18.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections. All excavated material shall be used as fill in the subgrade and compacted in accordance with the Road Specifications, 200 and 300 Sections. Maximum Fill depth is 15ft at road centerline and Maximum Cut depth is 17ft at road centerline.

DRAINAGE FEATURES

4% outslope to achieve drainage.

Install Cross Drains at the following locations:

Sta. 0+00: 18"x 36' CPP with 3 CY Class 3 Riprap energy dissipation outfall, conforming to Section 1400, as directed by the Authorized Officer. Install a culvert inlet marker.

Sta. 11+27: 18"x 28' CPP with 3 CY Class 3 Riprap energy dissipation outfall, conforming to Section 1400, as directed by the Authorized Officer. Install a culvert inlet marker.

SURFACING

None.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet. Road has been slope staked and L-Line locations marked.

Sta. 0+00: Junction with Road No. 31-14-22.0 at MP 0.180.

GRADE

Grade shall not exceed 5% favorable and 16% adverse.

LANDINGS

Construct end landing (60ft diameter) at Sta. 14+15.  
Grade of landings shall not exceed 5%.

SOIL STABILIZATION

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

CONSTRUCTION DETAIL SHEET  
Spur 1B

GENERAL

Purchaser shall construct Spur 1B from Sta. 0+00 to Sta. 1+48 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 Sheet No. 3 (14' subgrade w/ 0' ditch; 0' surfaced width), type 1 standard detail. Cut slopes shall be 1H:1V and the fill slopes shall be 1 1/2H:1V, or as shown on the plans.

TURNOUTS

None.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections. All excavated material shall be used as fill in the subgrade and compacted in accordance with the Road Specifications, 200 and 300 Sections. Maximum Fill depth is 2ft at road centerline and Maximum Cut depth is 2ft at road centerline.

DRAINAGE FEATURES

4% outslope to achieve drainage.

SURFACING

NONE.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

Sta. 0+00: Junction with Road No. 31-14-22.7 at Sta 9+72.

GRADE

Grade shall not exceed 5% favorable.

LANDINGS

Construct end landing (60ft diameter) at Sta. 1+48.  
Grade of landings shall not exceed 5%.

SOIL STABILIZATION

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

CONSTRUCTION DETAIL SHEET  
ROAD NO. 31-14-14.2

GENERAL

Purchaser shall construct Road No. 31-14-14.2 from Sta. 0+00 to Sta. 5+90 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 Sheet No. 1 (14' subgrade w/ 0' ditch; 0' surfaced width), type 1 standard detail. Cut slopes shall be 1H:1V and the fill slopes shall be 1 1/2H:1V, or as shown on the plans.

TURNOUTS

None.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections. All excavated material shall be used as fill in the subgrade and compacted in accordance with the Road Specifications, 200 and 300 Sections. Maximum Fill depth is 4ft at road centerline and Maximum Cut depth is 4ft at road centerline.

DRAINAGE FEATURES

4% outslope to achieve drainage.

SURFACING

NONE.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

Sta. 0+00: Junction with Road No. 31-14-15.0 at MP 0.113

GRADE

Grade shall not exceed 18% favorable and 18% adverse.

LANDINGS

Construct end landing (60ft diameter) at Sta. 5+90.  
Grade of landings shall not exceed 6%.

SOIL STABILIZATION

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



ROAD CONSTRUCTION SPECIFICATIONS

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

<u>Section</u>	
100	GENERAL
200	CLEARING AND GRUBBING
300	EXCAVATION AND EMBANKMENT
400	PIPE CULVERTS
500	RENOVATION AND IMPROVEMENT OF EXISTING ROADS
600	WATERING
700	AGGREGATE BASE COURSE (PIT-RUN ROCK)
900	AGGREGATE BASE COURSE (SCREENED ROCK)
1000	AGGREGATE BASE COURSE (CRUSHED ROCK)
1200	AGGREGATE SURFACE COURSE (CRUSHED ROCK)
1400	SLOPE PROTECTION
1700	EROSION CONTROL
1800	SOIL STABILIZATION
2100	ROADSIDE BRUSHING

GENERAL - 100

101 - Pre-work Conference(s):

A pre-work 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 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. 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.

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.

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

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.

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

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

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

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

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

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

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

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

Road Centerline - Longitudinal center of 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.

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 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.

Tackifier - A compound which penetrates into the earth and assists in creating a crust through the cohesive bonding of the surface materials to a depth sufficient to stabilize the soil surface and/or a compound used to mat together mulching material.

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, or portions thereof, which are capable of being measured in board feet.

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

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

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

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

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

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

102a - Tests Used in These Specifications:

<u>AASHTO T 11</u>	Quantity of rock finer than No. 200 sieve.
<u>AASHTO T 27</u>	Sieve analysis of fine and coarse aggregate using sieves with square openings; gradation.
<u>AASHTO T 89</u>	Liquid limit of material passing the No. 40 sieve. Water content at which the soil passes from a plastic to a liquid state.
<u>AASHTO T 90</u>	Plastic limits and plasticity index of soil. a. Plastic limit - lowest water content at which the soil remains plastic. b. Plasticity index - range of water content, within which the material is in a plastic state. Numerical difference between the liquid and plastic limits of the soil.
<u>AASHTO T 96</u>	Resistance to abrasion of small size coarse aggregate by use of the Los Angeles machine.
<u>AASHTO T 99</u>	Relationship between soil moisture and maximum density of soil. Method A - 4" mold, soil passing a No. 4 Sieve. 25 blows/layer & 3 layers. Method D - 6" mold, soil passing a 19.00 mm (3/4 inches) sieve. 56 blows/layer & 5 layers.
<u>AASHTO T 176</u>	Shows relative portions of fine dust or clay-like materials in soil or graded aggregate.

<u>AASHTO T 180</u>	(OSHD 106-71) moisture density relationship of soil same as AASHTO T 99 proctor but uses a 10-lb rammer & 18-in drop.
<u>AASHTO T 191</u>	<u>Sand Cone.</u> Density of soil in place: For subgrade use 6-inch or 12-inch cone. For rock surfacing for 1-1/2-inch minus to 3-inch minus use 12-inch cone.
<u>AASHTO T 205</u>	<u>Rubber balloon.</u> Density of soil in place. Use for compacted or firmly bonded soil.
<u>AASHTO T 210</u>	Durability of aggregates based on resistance to produce fines.
<u>AASHTO T 224</u>	Correction for coarse particles in the soil.
<u>AASHTO T 238</u>	Determination of density of soil and soil-aggregates in place by nuclear methods.
<u>AASHTO T 248</u>	Reducing field samples of aggregate to testing size by mechanical splitter, quartering, or miniature stockpile sampling.
<u>DES. E-12</u>	Determination of relative density of cohesionless soils. <u>DMSO (dimethyl sulfide)</u> - Determines volume of expanding clays in aggregates. Usually associated with marine basalts.

103 - Compaction equipment shall meet the following requirements:

103b - Sheepfoot roller. 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.

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 at a speed of at least 4 miles per hour.

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.

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

CLEARING AND GRUBBING - 200

- 201 - This work shall consist of clearing, grubbing, removing and disposing of vegetation, debris, surface objects, and protruding obstructions within the clearing limits in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections as shown on the plans.
- 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 and as shown on the plans.
- 203a - Brush under 2 feet in height need not be cut within the limits established for clearing.
- 203b - Standing trees and snags to be cleared shall be felled within the limits established for clearing unless otherwise authorized.
- 204 - Grubbing shall consist of the removal and disposal of stumps, roots, and other wood material embedded in the ground and protruding obstacles remaining as a result of the clearing operation in accordance with Subsection(s) 204a, 204b, 204c, 204d, 204e between the top of the cut slope and the toe of the fill slope. Undisturbed stumps, roots and other solid objects which will be a minimum of 3 feet below subgrades or slope surfaces or embankments are excepted.
- 204a - Stumps, including those overhanging cut banks, shall be removed within the required excavation limits.
- 204b - Stumps and other protruding objects shall be completely removed within the limits of required embankments having heights of less than 4 feet. When authorized, stumps and other nonperishable objects may be left provided they do not extend more than 6 inches above the existing ground line.
- 204c - On excavated areas, roots and embedded wood shall be removed to a depth not less than 6 inches below the subgrade.
- 204d - On areas to be occupied by embankments having heights greater than 4 feet, no stump or portion thereof shall remain within 3 feet of embankment subgrades or slope surfaces after grubbing is completed.
- 204e - Roots and embedded wood material shall be removed to a depth not less than 1 foot below embankment subgrades or slope surfaces.
- 205 - Clearing and grubbing debris shall not be placed or permitted to remain in or under road embankment sections.
- 206 - Clearing and grubbing debris shall be disposed of by scattering in accordance with Subsection 210.
- 210 - Disposal of clearing and grubbing debris shall be by scattering over government owned lands outside of established clearing limits in a manner acceptable to the Authorized Officer. The areas for such scattering shall have the prior approval of the Authorized Officer.
- 213 - No clearing or grubbing debris shall be left lodged against standing trees.

EXCAVATION AND EMBANKMENT - 300

- 301 - This work shall consist of excavating, overhaul, placement of embankments, backfilling, borrowing, leveling, ditching, grading, insloping, outsloping, crowning and scarification of the subgrade, compaction, disposal of excess and unsuitable materials, and other earth-moving work in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.
- 302 - Excavation shall also consist of the excavation of road and landing cut sections, borrow sites, backfilling, leveling, ditching, grading, compaction, and other earth moving work necessary for the construction of the roadway in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.
- 303 - Suitable material removed from the excavation shall be used in the formation of embankment subgrade, shoulders, slopes, bedding, backfill for structures, and for other purposes as shown on the plans.
- 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.
- 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 and final subgrade material as specified under Subsection(s) 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 Subsection 103b or 103f, as directed by the Authorized Officer, and in accordance with the following table:

Road No.	From Sta./M.P.	To Sta./M.P.
31-14-15.0	0.000	0.120
31-14-21.2	0.000	0.407
31-14-22.0	0.000	0.534
31-14-22.2	0.000	0.634
31-14-23.6	0+00	7+48
Spur 1A	0+00	1+31
31-14-14.1	0+00	18+87
31-14-22.7	0+00	14+15
Spur 1B	0+00	1+48
31-14-14.2	0+00	5+90

- 306d - Compacted materials within 1 foot of the established subgrade elevation shall have a density in place of not less than 95 percent of maximum density, and below the 1-foot limit, these materials shall have a density in place of not less than 90 percent of maximum density. Maximum density shall be determined by AASHTO T 99, Method A or Method D.
- 306f - Compaction of embankment layers placed as specified under Subsection 305b above shall be accomplished by routing construction equipment over full width of embankment structures except as specified in Subsection 306.
- 306g** - The face of all fill slopes shall be compacted to 85% of maximum density, either by walking with cat/excavator or by pressing with excavator bucket, to prevent surface erosion and raveling.
- 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 both 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.
- 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 Subsection 321c.

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

- 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. Placement in layers is required. Materials placed shall be sloped, shaped, and otherwise brought to a neat and sightly 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.

- 328 - The Purchaser shall adopt methods and procedures in using explosives which will prevent damage to adjacent landscape features and which will minimize scattering rocks and other debris outside the road prism.

#### PIPE CULVERTS - 400

- 401 - This work shall consist of furnishing and installing pipe culverts, pipe arch culverts, full rounds, flume(s), perforated pipe culverts, downspout(s), elbow(s), and other erosion control device(s) 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 and 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.

- 405 - Corrugated steel riveted and helical pipe culverts and pipe-arch culverts and special sections shall conform to the requirements of AASHTO M 36 and AASHTO M 218 or AASHTO M 274 as specified on the plans.

- 405a - Corrugated-steel-welded pipe culverts and pipe-arch culverts and special sections shall conform to the requirements of AASHTO M 36 and AASHTO M 218 or AASHTO M 274 as specified on the plans.

- 405e - Corrugated-polyethylene pipe for culverts 12-inch through 24-inch diameter shall meet the requirements of AASHTO M 294 for type S. Installation will be subject to the same specification as other pipe materials.

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

- 406a - "Hugger"-type coupling bands shall only be used with annular corrugated pipe and pipe-arch culverts or helically corrugated pipe and pipe-arch culverts having annular reformed ends. Annular reformed ends shall consist of 2 annular corrugations.

- 406b - Coupling bands produced from flat galvanized steel sheets with impressed dimples will be permitted only for connecting annular corrugated steel pipe to helically corrugated steel pipe. Such coupling bands shall conform to the width requirements shown on the plans
- 406f - Channel-type or flanged-end coupling bands may be used on helical pipe with reformed rolled ends and flanged specifically to receive these bands. Such coupling bands shall conform to the requirements shown on the plans.
- 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 as shown on the plans shall be anchored with two six-foot steel fence posts (one on each side of the pipe) wired together with No. 12 galvanized wire in a manner approved by the Authorized Officer. These anchors shall be placed every ten feet along the pipe beginning at the outlet of the culvert pipe.
- 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.
- 409 - Structural-plate pipe culverts and pipe-arch culverts shall be installed in accordance with the plans and detailed erection instructions furnished by the manufacturer. One copy of the erection instructions shall be furnished to the Authorized Officer prior to erection.
- 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 included in the plans shown on Exhibit C and the Culvert Installation Detail Sheet.
- 412 - Where ledge rock, boulders, soft, or spongy soils are encountered, they shall be excavated a minimum of 24 inches below the invert grade for a width of at least one pipe diameter or span on each side of the pipe and shall be backfilled with selected granular or fine readily compactable soil material.
- 413 - Pipe culverts and pipe-arch culverts shall be bedded on a selected granular or fine readily compactable soil material. Foundation material shall be of uniform density throughout the length of the structure and shall be shaped to fit the pipe.
- 413a - Bedding material for pipe culverts on existing surfaced roads shall be 1½ inch minus crushed aggregate meeting the requirements of Sections 1204, 1205, 1206, 1207, and 1208 of these specifications.
- 414a - The invert grade of the bedding shall be cambered at the middle ordinate a minimum of 1 percent of the total length of the drainage structure. Camber shall be developed on a parabolic curve.
- 415 - Inspection of pipe culverts having a diameter of 48 inches and pipe-arch culverts having a height of 40 inches or a cross sectional area of 13 square feet 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 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 culvert(s) side-fill material conforming to the requirements of Subsection 416 shall be placed and compacted under the haunches of the pipe and shall be brought up evenly and simultaneously on both sides of the pipe to 1 foot above the pipe in layers not exceeding 6 inches in depth and 1 pipe diameter/span or a minimum of 2 feet in width each side of, and adjacent to, the full length of the pipe barrel. Each layer shall be moistened or dried to a uniform moisture content suitable for maximum compaction and immediately compacted by approved hand or pneumatic tampers until a uniform density of 95 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.
- 423 - Construction of catch basins and ditch dams conforming to lines, grades, dimensions and typical diagrams shown on the plans, shall be required for grade culverts.
- 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 marker(s) consisting of ½-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 all grade culverts.

RENOVATION AND IMPROVEMENT OF EXISTING ROADS - 500

- 501 - This work shall consist of reconditioning and preparing the roadbed and shoulders, cleaning and shaping drainage ditches, trimming vegetation from cut and embankment slopes, and cleaning and repairing drainage structures of existing roads in accordance with these specifications and as 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 sufficient 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.
31-14-22.2	0.000	0.634

- 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.  
 Drainage ditches that are vegetated, capable of adequate water flow, and are in accordance with the lines, grades, dimensions, and typical cross sections shown on the plans shall not be bladed.
- 503 - Debris from slides shall be disposed of as directed by the Authorized Officer.
- 504 - Scarified material and existing road surface shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width with equipment conforming to requirements of Subsection 103f and in accordance with the following table:

Road No.	From Sta./M.P.	To Sta./M.P.
31-14-15.0	0.000	0.120
31-14-21.2	0.000	0.407
31-14-22.0	0.000	0.534
31-14-22.2	0.000	0.634

- 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 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 designated pipe structures shall be cleared of rock and vegetative obstructions which will impede the structure's designed outflow configuration. Catch basins shall conform to the lines, grade, dimensions, and typical diagram shown on the plans.
- 507 - 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.

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 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.

AGGREGATE BASE COURSE - 700  
PITRUN ROCK MATERIAL

- 701 - This work shall consist of furnishing, hauling and placing one or more layers of pitrun rock material on roadbeds and landing(s) approved for placing pitrun materials in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans.
- 702a - Pitrun rock materials used in this work may be obtained from source(s) selected by the Purchaser at his option, providing the materials furnished comply with these specifications and the source is approved in writing by the Authorized Officer prior to use.
- 703 - Pitrun rock materials shall consist of talus rock, bank run or river run gravels, partly decomposed granite or basalt, cinders, or other approved materials. The materials shall be reasonably free from vegetative matter or other deleterious material.
- 704 - Pitrun rock material shall consist of native materials of such a size and grading that it can be taken directly from the source and placed on the road without crushing or screening. The material shall contain only occasional oversize particles to be removed. The term "oversize" shall be construed to mean material greater than ((2/3) the compacted thickness of the layer in which it is placed) ((6) inches).
- 705 - Pitrun rock material shall be placed in layers of sufficient thickness to accommodate the material, except that the maximum thickness of any layer shall not exceed (6) inches. Where the total specified thickness is greater than (6) inches the material shall be placed in two or more layers of equal thickness.

- 706 - Oversize material that cannot be accommodated in the layer shall be removed at the source or on the road, and shall be disposed of (as shown on the plans) (or) (as directed by the Authorized Officer).
- 707 - When so indicated by the plans, filler or binder obtained from the source(s) shown on the plans shall be uniformly blended with pitrun rock material on the road.
- 708 - The roadbed as shaped and compacted under section(s) (300) (500) of these specifications shall be approved (in writing) by the Authorized Officer prior to placement of pitrun rock material. (Notification for final inspection prior to rocking shall be (72) hours prior to the inspection and shall be (10) days prior to start of surfacing operations.)
- 709 - Pitrun rock material shall be placed on roadbed, blade processed and spread to required dimensions.
- 710 - Pitrun rock material shall be compacted by routing construction and hauling equipment over the full width of each layer placed.
- 711 - Layers of pitrun rock material placed and shaped as specified shall be uniformly moistened or dried to the optimum moisture content for maximum density and compacted to full width by compacting equipment conforming to the requirements of Subsections(s) 103a, 103b, 103d, 103e, 103g, 103h, and 103i. Minimum compaction shall be [(1) hour of continuous compacting for each (250) cubic yards of pitrun rock material placed per layer] [(6) passes over each full-width layer], or fraction thereof.
- 712 - Pitrun rock material shall be surface bladed during the compaction operation to remove irregularities and to produce a smooth running surface.
- 713 - Pitrun rock material used to repair or reinforce soft, muddy, frozen, yielding, or rutted subgrades shall not be construed as surfacing required under this specification (unless approved in writing by the Authorized Officer prior to placement).

AGGREGATE BASE COURSE - 900  
DRAIN ROCK MATERIAL

- 901 - This work shall consist of furnishing, hauling, and placing one or more lifts of drain rock material on roadbed(s) and landing(s) approved for placing drain rock material in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans.
- 902a - Drain rock materials to be used in this work may be obtained from a source selected by the Purchaser, at his option, providing the rock materials furnished comply with these specifications (and the source(s) is approved in writing by the Authorized Officer prior to use).
- 903 - Drain rock material shall conform to the following gradation requirements:

Table 903  
 DRAIN ROCK MATERIAL GRADATION REQUIREMENTS  
 Percentage by Weight Passing Square Mesh Sieves  
 (AASHTO T 27)

Sieve Designation	A
4 inch	-
3 inch	100
2 inch	95-100

- 904a - Drain rock material shall show a durability value of not less than 35 as determined by AASHTO T210.
- 905 - The roadbed as shaped and compacted under section(s) (300) (and) (500) of these specifications, shall be approved (in writing) by the Authorized Officer prior to placement of drain rock materials. Notification for final inspection, prior to rocking, shall be (72) hours prior to that inspection and shall be (10) days prior to start of rock operations.
- 906 - Drain rock material shall be placed in layers not to exceed (6) inches in thickness. Where the required total thickness is more than (6) inches, the rock material shall be shaped and compacted in two or more layers of approximately equal thickness.
- 906a - Drain rock materials used to repair or reinforce a soft, muddy, frozen, yielding, or rutted subgrade(s) shall not be construed as surfacing under this specification.
- 907 - Drain rock shall be free from vegetative matter and other deleterious materials.
- 908 - Drain rock material shall be blade-processed and spread to required dimensions. Processing shall be performed in such a manner as to minimize aggregate segregation.
- 912 - Acceptance tests will be made at the source from samples taken of drain rock materials being produced. Test data obtained by BLM from testing screened rock materials shall be made available to the Purchaser.

AGGREGATE BASE COURSE AND LANDING ROCK - 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.
- 1002a - Crushed rock materials may be obtained from commercial sources selected by the Purchaser at his option and expense providing that the rock materials selected comply with the specifications in this section.
- 1003 - Crushed rock material produced from gravel shall have 3 manufactured fractured face(s) on 75 percent, by weight, of the material retained on the No. 4 sieve.
- 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
4-inch	-
3-inch	100
2-inch	90-95
1½-inch	-
1-inch	45-75
¾-inch	-
½-inch	-
⅜-inch	-
No. 4	15-45
No. 8	-
No. 10	-
No. 30	-
No. 40	5-25
No. 200	2-15

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

Sand Equivalent AASHTO T 176 Maximum	Percentage Passing No. 200 Sieve AASHTO T 27 Maximum
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.
- 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 subgrade approval prior to rocking shall be 3 days prior to that approval 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, and 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.
- 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. 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.



AGGREGATE SURFACE COURSE, SPOT, AND MAINTENANCE ROCK - 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.
- 1202a - Crushed rock materials used in this work may be obtained from commercial source(s) selected by the Purchaser at his option and expense, providing rock materials furnished comply with the specifications in this section.
- 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 face(s).
- 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	A
1-1/2-inch	100
1-inch	-
3/4-inch	50-90
1/2-inch	-
No. 4	25-50
No. 8	-
No. 30	-
No. 40	5-25
No. 200	2-15

- 1205 - Crushed rock material retained on the No. 4 sieve shall have a percentage of loss of not more than 35 at 500 revolutions, as determined by AASHTO T 96.
- 1206 - Crushed rock material shall show a durability value of not less than 35 as determined by AASHTO T 210.
- 1207 - 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.
- 1207a - That portion of crushed rock material passing No. 4 sieve, including blending filler, shall have a sand equivalent of not less than 35, as determined by AASHTO T 176, except where that portion exhibits a sand equivalence of less than 35, the aggregate will be accepted if it complies with the additional requirement as follows:

Sand Equivalent AASHTO T 176 Maximum	Liquid Limit AASHTO T 89 Maximum	Plasticity Index AASHTO T 90 Maximum	Percentage Passing No. 200 Sieve AASHTO T 27 Maximum
34	25	9	9
33	25	8	8
32	25	7	7
31	25	6	6
30	25	5	5
29 or less	25	4	4

- 1208 - If additional binder or filler material is necessary to meet the grading or plasticity requirements or for satisfactory bonding of the material, it shall be uniformly blended with the crushed rock material at the crushing and screening plant prior to placing on the road, unless otherwise agreed. The material for such purposes shall be obtained from sources approved by the Authorized Officer and shall be free from stones, vegetative matter, and other deleterious materials.
- 1208a - Each layer of crushed rock material shall be thoroughly mixed on the roadbed by alternately blading, to full depth, until a uniform mixture has been obtained. The mixture shall then be spread to full width. When completed, the spreading shall produce a surface which is smooth, presents uniform shoulder lines, and conforms to the specified cross section.
- 1209 - Shaping and compacting of roadbed 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 roadbeds. Notification for roadbed inspection, prior to rocking, shall be 3 days prior to that inspection and shall be 6 days prior to start of rocking operations.
- 1210 - Crushed rock material conforming to the requirements of these specifications shall be placed on the approved roadbed in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Compacted layers shall not exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted, and approved by the Authorized Officer before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and then adding or removing crushed rock material until the surface is smooth and uniform.
- 1210a - Crushed rock material used to repair or reinforce soft, muddy, frozen, yielding, or 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 Subsection 103i. Minimum compaction shall be 1 hour of continuous compacting for each 150 cubic yards or fraction thereof, of crushed rock material placed per layer.

SLOPE PROTECTION – 1400

- 1401 - This work shall consist of furnishing, hauling, and placing stone materials (riprap) for slope protection structures (energy dissipaters at culvert outlets) in accordance with these specifications. Material not conforming to these specifications will be rejected, and shall be removed from the slope protection structure as directed by the Authorized Officer.
- 1402 - Riprap shall be hard, durable, angular in shape, and resistant to weathering and water action. Thickness of a single stone should be more than one-third its length. Do not use rounded rock or boulders. Stone shall be free from overburden, spoil, shale, and organic material and conforming to the following:
  - a. Apparent Specific Gravity (AASHTO T85)                      2.50 Min.
  - b. Absorption (AASHTO T85)    4.2% Max.
  - c. Coarse Durability Index (AASHTO T210)                      20 Min.
- 1403 - Loose riprap shall meet the following gradation:
 

<u>Equivalent Cubic Dimensions</u>	<u>Total Size Smaller Than Given</u>
34 inches	100
27 inches	80
22 inches	50
10 inches	10
- 1404 - The placement of slope protection riprap by the end dumping method is not permitted.
- 1405 - Riprap shall be placed to produce a well keyed mass of rock with the least practical amount of void spaces. The foundation course is the course placed in contact with the ground surface, and shall be placed on a stable key bench. Bearing shall not be on smaller rocks that may be used for filling voids.
- 1405a - Riprap shall be placed directly under the culvert outlet and extend to the point where a 45-degree angle from the outlet invert intersects the key bench. Riprap shall extend a minimum distance equal to the culvert diameter on all sides.
- 1406 - Determination of the acceptability of the slope protection structure will be by visual inspection and /or physical measurements by the Authorized Officer.

EROSION CONTROL - 1700

- 1701 - This work shall consist of measures to control soil erosion or water pollution during the construction operation through the use of berms, dikes dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains and other erosion control devices or methods in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.
- 1702 - The Purchaser shall construct dike(s), dam(s), diversion channel(s), settling basin(s) and other erosion control structure(s) as directed by the Authorized Officer.
- 1704 - The erosion control provisions specified under this subsection shall be coordinated with the soil stabilization requirement(s) 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.
- 1706a - The Purchaser shall perform, during the same construction season, erosion control measures specified in the plans on all exposed excavation, borrow, and embankment areas.
- 1707 - Completed and partially completed segments of road(s) to be carried over the winter and early spring periods shall be stabilized by mulching exposed areas at the rate of 2,000 pounds per acre.
- 1708a - Road segments not completed during dry weather periods shall be winterized, by providing a well-drained roadway by waterbarring, 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.

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 and disturbed 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 Section 1707 and then complete the requirements of Soil Stabilization 1800 the next construction season.

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

- 1806 - The Purchaser shall apply the seed mixtures specified under Subsection 1805 to the corresponding seeding projects as shown on Sheet No. 11.
- 1806a - Additional soil stabilization work consisting of seeding, fertilizing and mulching may be required at the option of the Authorized Officer. Providing the additional stabilization is not due to Purchaser negligence as specified in Section 12 of the contract, a reduction in the total purchased price shall be made to offset the cost of furnishing and applying such additional stabilization material. Cost shall be based upon the unit price set forth in the current BLM Timber Appraisal Production Cost Schedule.
- 1808 - 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.

- 1809 - Mulch materials conforming to the requirements of Subsections 1809b, 1809d or 1809e shall be furnished by the Purchaser in the amounts specified under Subsection 1812.
- 1809b - Natural wood cellulose or grass fiber shall have the property of dispersing readily in water and shall have no toxic effect when combined with seed or other materials. The homogeneous slurry or mixture shall be capable of application with power spray equipment. A green colored dye which is noninjurious to plant growth shall be used. Processed wood cellulose or grass fiber shall be packaged in new, labeled containers in an air dry condition. Processed wood cellulose or grass fiber furnished by the Purchaser shall be one of the following brand names or approved equal:
  - Silva Fiber - Weyerhaeuser Timber Co.
  - Conweb Fiber - Wood Conversion Co.
  - Spra-Mulch - Spra-Mulch Industries, Inc.
  - Grass-Mulch - Grass Mulch, Inc.

If the Purchaser proposes using a wood or grass fiber other than those listed above, he shall furnish a sample and descriptive literature to the Authorized Officer for approval prior to application. Processed wood cellulose or grass fiber furnished by the Purchaser which has become wet or otherwise damaged in transit or storage will not be accepted.

- 1809d - Straw mulch shall be from oats, wheat, rye, or other approved grain crops which are free from noxious weeds, mold, or other objectionable materials. Straw mulch shall be in an air-dry condition and suitable for placing with power spray equipment.
- 1809e - Grass straw mulch shall be from perennial grass or, if specified, an annual rye grass, from which the seed has been removed. The straw shall be free from noxious weed seed, mold, or other objectionable materials.
- 1810 - 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 be maintained in a dry state and has the approval of the Authorized Officer.
- 1811 - Bulk mulching material required under these specifications shall be delivered to the work area bound either by twine, string, or hemp rope. Wire binding and plastic twine will not be permitted.
- 1812 - The Purchaser shall furnish and apply to approximately 3.84 acres designated for treatment as shown on the plans and as specified under Subsection 1806, a mixture of water, grass seed, fertilizer and mulch material, or a mixture of grass seed and fertilizer material at the following rate of application:

a. Single Stage (Hydraulic):

Water	3,000
gals./acre Grass Seed	60
lbs./acre Fertilizer	200 lbs./acre
Mulch	3,000 lbs./acre

b. Dry Application:

Grass Seed	60 lbs./acre
Fertilizer	200 lbs./acre
Mulch/Straw	3,000 lbs./acre

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

- 1815 - The Purchaser may reduce the application rate on partially covered slopes and no application on areas already well stocked with grass or on rock surfaces.
- 1816 - The seed, fertilizer and mulch materials shall be placed by the hydraulic or dry method in accordance with the requirements set forth in Subsection 1816a and 1816b.
- 1816a - Hydraulic Method - The seed, fertilizer and mulch materials shall be mixed with water to form a slurry and then applied under pressure by hydroseeder.  
When processed wood cellulose or grass fiber mulch material is to be incorporated as an integral part of the slurry mix, it shall be added after the seed and fertilizer have been thoroughly mixed.
- 1816b - Dry Method - Blowers, mechanical seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders, or other approved mechanical seeding equipment may be used when seed and fertilizer are to be applied in dry form.
- 1817 - Hydraulic equipment used for the application of slurry shall meet the following requirements:  

The equipment shall have a built-in agitation system. The slurry distribution lines shall be large enough to prevent stoppage. Discharge line shall be equipped with a set of hydraulic spray nozzles which will provide even distribution of the slurry on the various slopes to be treated. The slurry tank shall have a minimum operation capacity of 1,300 gallons and shall be mounted on a traveling unit which will place the slurry tank and spray nozzles within sufficient proximity to the areas to be treated so as to provide uniform distribution without waste. Lug- or track type units are not authorized. The hydro seeder must be capable of spraying the slurry a minimum distance of 100 feet. The nozzle, mounted on a stand, must be capable of traversing 360 degrees on a horizontal plane and a minimum of 70 degrees on a vertical plane.
- 1817a - Hydromulch slurry mixing shall be with water and seed first, followed by fertilizer, and finally fiber. The time between mixing and application shall not exceed 1 hour.
- 1819 - 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.
- 1820 - The Purchaser shall notify the Authorized Officer at least 3 days in advance of date he intends to commence the specified soil stabilization work.
- 1822 - 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.
- 1823 - No materials shall be applied when wind velocities would prevent a uniform application of the mix or slurry or when winds would drift the mix or slurry spray outside of the designated treatment area.
- 1826 - 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.

ROADSIDE BRUSHING - 2100

- 2101 - This work shall consist of cutting and the removal of vegetation from the road prism - variable distance and inside curves in accordance with these specifications. This work shall conform to the lines, grades, dimensions, and typical cross sections shown on the Roadside Brushing Detail Sheet, 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 chainsaws.
- 2103 - Vegetation cut manually or mechanically less than 6 inches in diameter at D.B.H. shall be cut to a maximum height of 6 inches above the ground surface or above obstructions such as rocks or stumps on cut and fill sloped and all limbs will be severed from the trunk.
- 2103a - Vegetation shall be cut and removed from the road bed between the outside shoulders and the ditch centerline and such vegetation shall be cut to a maximum height of 1 inch above the ground and running surface. All limbs 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. shall be limbed, so that no limbs extend into the treated area or over the roadbed to a height of 12 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 - Vegetative growth capable of growing 1 foot in height or higher shall be cut within the road prism/variable distance or as directed by the Authorized Officer.
- 2108 - Self-propelled equipment shall not be permitted on cut and fill slopes or in ditches.
- 2109 - Debris resulting from roadside brushing shall be scattered downslope from the roadway. Debris shall not be allowed to accumulate in concentrations. Debris in excess of 1 foot in length and 2 inches in diameter shall not be allowed to remain on cut slopes, ditches, roadways or water courses, or as directed by the Authorized Officer.
- 2113 - Roadside brushing shall be accomplished as specified on the roads listed on Sheet No. 11.
- 2116 - Mechanical brush cutters shall not be operated when there are people and occupied vehicles within 400 feet of the immediate operating area.
- 2117 - 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: 5.2.0.64  
Updated: 4/13/2016

Summary of All Roads and Projects

T.S. Contract Name: Six One Tract No: 2017.0030 Sale Date: 02/17/16  
Prepared by: M. Bailey Ph: 5417514234 Print Date: 11/3/2016 1:53:33 PM  
Construction: 48.94 sta  
Improve: 0.00 sta Renov: 90.99 sta Decom: 0.00 sta Temp: 0.00 sta

200 Clearing and Grubbing: 7.8 acres .....	\$23,420.09
300 Excavation: 22,932 cy .....	\$98,828.43
Haul < 500 ft: 0 sta-yds	
Haul > 500 ft: 15,651 yd-mi	
400 Drainage: .....	\$29,588.11
Culvert: 0 lf                      DownSpout: 20 lf	
PolyPipe: 600 lf	
500 Renovation: .....	\$15,685.93
Blading 1.72 mi	
700-1200 Surfacing: .....	\$147,370.10
Commercial Quarry Name: S. Floras CR-Base 1,838 LCY	
Commercial Quarry Name: S. Floras CR-SURFACE 2,184 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$2,959.41
Gradation Class 3: 75 cy	
1800 Soil Stabilization: 4.4 acres .....	\$4,367.60
Includes Small Quantity Factor of 1.34	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 3.9 acres .....	\$1,124.37
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$9,876.16 Surf. \$1,580.21.....	\$11,456.37
Quarry Development: .....	\$0.00

Total: 4,432 mbf @ \$75.542/mbf = \$334,800.42

Notes:

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



ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

Road Number: 31-14-14.1 Road Name: 31-14-14.1

Road Construction: 0.37 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: 2.1 acres .....	\$5,638.20
300 Excavation: 10,953 cy .....	\$45,193.94
Haul > 500 ft: 8,545 yd-mi	
400 Drainage: .....	\$4,323.20
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 90 lf	
500 Renovation: .....	\$0.00
700-1200 Surfacing: .....	\$45,251.64
Quarry Name: S. Floras CR-Base 885 LCY	
Quarry Name: S. Floras CR-SURFACE 350 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$348.83
Gradation Class 3: 9 cy	
1800 Soil Stabilization: 1.5 acres .....	\$1,472.45
Includes Small Quantity Factor of 1.34	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 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. \$3,122.44 Surf. \$485.22.....	\$3,607.66
Quarry Development: .....	\$0.00
	Total: \$105,835.91

Notes:

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

Road Construction Worksheet

Road Number: 31-14-14.1 Road Name: 31-14-14.1

Section 200 Clearing and Grubbing:

Clearing - Medium (Clearing): Adjustment Factor (1.67)  
 46+% (Avg Side Slopes): Adjustment Factor (0.3)  
 Windrow (Slash): Adjustment Factor (1.07)  
 20-40' (Avg Clearing Widths): Adjustment Factor (0.1)  
 Total Adjustment Factor: 1.67 + 0.3 + 1.07 + 0.1 = 3.14  
 Base Cost/Acre: \$855.05 x Adjustment Factor: 3.14 x Total Acres: 2.1 = \$5,638.20  
 Subtotal: \$5,638.20

Section 300 Excavation:

Excavation - Common: \$1.93/cy x 8,303 cy = \$16,024.79  
 Excavation - Rippable: \$3.90/cy x 2,650 cy = \$10,335.00  
 Embankment Placement & Compaction 306.f - Common: \$0.26/cy x 2,408 cy = \$626.08  
 Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 19.7 sta = \$661.98  
 End Hauling > 500 ft and 10 mph: \$2.69/yd-mi x 4,273 yd-mi = \$11,494.37  
 End Hauling > 500 ft and 20 mph: \$1.35/yd-mi x 4,272 yd-mi = \$5,767.20  
 Blading with ditch: \$14.45/station x 19.69 stations = \$284.52  
 Subtotal: \$45,193.94

Section 400 Drainage:

Poly Pipe 11+53.1 18 inch 30 lf x \$44.98/lf = \$1,349.40  
 Poly Pipe 16+13.4 18 inch 30 lf x \$44.98/lf = \$1,349.40  
 Poly Pipe 4+90.2 18 inch 30 lf x \$44.98/lf = \$1,349.40  
 Culvert Bedding  
 Culvert Bedding 5 LCY x \$25.00/LCY = \$125.00  
 Culvert Markers  
 Culvert Markers 3 EA x \$50.00/EA = \$150.00  
 Subtotal: \$4,323.20

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: S. Floras CR-Base

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									885 LCY
Rock Volume = 885 LCY									
Purchase Price / Royalty: \$12.50/LCY x 885 LCY = \$11,062.50									
Processing: \$0.90/LCY x 885 LCY = \$796.50									
Compaction: \$1.34/LCY x 885 LCY = \$1,185.90									
Basic Rock Haul cost: \$0.74/LCY x 885 LCY = \$654.90									
Rock Haul +15% grades: \$2.21/LCY-mi x 885 LCY x 3.50 mi = \$6,845.48									
Rock Haul -15% grades: \$1.10/LCY-mi x 885 LCY x 3.40 mi = \$3,309.90									
Rock Haul St& Co Roads: \$0.49/LCY-mi x 885 LCY x 17.40 mi = \$7,545.51									
Basic Water Haul cost: \$0.60/LCY x 885 LCY = \$531.00									
Water Haul +15% grades: \$0.28/LCY-mi x 885 LCY x 1.00 mi = \$247.80									
Water Haul -15% grades: \$0.14/LCY-mi x 885 LCY x 2.00 mi = \$247.80									
Water Haul St&Co Roads: \$0.08/LCY-mi x 885 LCY x 0.00 mi = \$0.00									

Commercial Quarry Name: S. Floras CR-SURFACE

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									350 LCY
Rock Volume = 350 LCY									
Purchase Price / Royalty: \$12.50/LCY x 350 LCY = \$4,375.00									
Processing: \$0.90/LCY x 350 LCY = \$315.00									
Compaction: \$1.34/LCY x 350 LCY = \$469.00									
Basic Rock Haul cost: \$0.74/LCY x 350 LCY = \$259.00									
Rock Haul +15% grades: \$2.21/LCY-mi x 350 LCY x 3.50 mi = \$2,707.25									

Rock Haul -15% grades: \$1.10/LCY-mi x 350 LCY x 3.40 mi= \$1,309.00  
Rock Haul St& Co Roads: \$0.49/LCY-mi x 350 LCY x 17.40 mi= \$2,984.10  
Basic Water Haul cost: \$0.60/LCY x 350 LCY = \$210.00  
Water Haul +15% grades: \$0.28/LCY-mi x 350 LCY x 1.00 mi= \$98.00  
Water Haul -15% grades: \$0.14/LCY-mi x 350 LCY x 2.00 mi= \$98.00  
Water Haul St&Co Roads: \$0.08/LCY-mi x 350 LCY x 0.00 mi= \$0.00

Subtotal: \$45,251.64

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Rock Source: S. Floras CR-RIPRAP  
Purchase Price / Royalty: \$10.00/cy x 9cy = \$90.00  
Furnish Class 3 type rock  
Basic Rock Haul cost: \$1.35/cy x 9cy = \$12.15  
Rock Haul +15% grades: \$2.69/cy-mi x 9cy x 3.50 mi= \$84.74  
Rock Haul -15% grades: \$1.35/cy-mi x 9cy x 3.40 mi= \$41.31  
Rock Haul St& Co Roads: \$0.60/cy-mi x 9cy x 17.40 mi= \$93.96  
Placement on Fill slopes: 9cy x (\$2.85/cy x 1.04) = \$26.68

Subtotal: \$348.83

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$508.90/acre x 1.48 acres = \$753.17  
Includes Small Quantity Factor of 1.34  
+ Seed Cost: \$132.00/acre x 1.48 acres = \$195.36  
+ Fertilizer Cost: \$34.00/acre x 1.48 acres = \$50.32  
+ Mulch Cost: \$320.00/acre x 1.48 acres = \$473.60

Subtotal: \$1,472.45

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 2300 Engineering:

Comment: Government Provided

Subtotal: \$0.00

Section 2400 Minor Concrete:

Subtotal: \$0.00

Section 2500 Gabions:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 31.62% of total Costs = \$3,122.44  
Surfacing - 30.71% by rock volume = \$485.22

Subtotal: \$3,607.66

Quarry Development:

Based on 30.71% of total rock volume

Subtotal: \$0.00

Total: \$105,835.91

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

Road Number: 31-14-14.2 Road Name: 31-14-14.2

Road Construction: 0.10 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: 0.5 acres .....	\$1,261.88
300 Excavation: 690 cy .....	\$2,772.61
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$0.00
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$116.28
Gradation Class 3: 3 cy	
1800 Soil Stabilization: 0.2 acres .....	\$159.18
Includes Small Quantity Factor of 1.34	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 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. \$131.64 Surf. \$0.00.....	\$131.64
Quarry Development: .....	\$0.00
Total:	\$4,441.60

Notes:

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

Road Construction Worksheet

Road Number: 31-14-14.2 Road Name: 31-14-14.2

Section 200 Clearing and Grubbing:

Clearing - Medium (Clearing): Adjustment Factor (1.67)  
46+% (Avg Side Slopes): Adjustment Factor (0.3)  
Windrow (Slash): Adjustment Factor (1.07)  
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)  
Total Adjustment Factor:  $1.67 + 0.3 + 1.07 + 0.1 = 3.14$   
Base Cost/Acre:  $\$855.05 \times$  Adjustment Factor:  $3.14 \times$  Total Acres:  $0.47 = \$1,261.88$   
Subtotal: \$1,261.88

Section 300 Excavation:

Excavation - Common:  $\$1.93/\text{cy} \times 690 \text{ cy} = \$1,331.70$   
Embankment Placement & Compaction 306.f - Common:  $\$0.26/\text{cy} \times 792 \text{ cy} = \$205.92$   
Subgrade Compaction: 4 Sta/hr  $\$33.62/\text{sta.} \times 5.3 \text{ sta} = \$177.51$   
Blading with ditch:  $\$14.45/\text{station} \times 5.28 \text{ stations} = \$76.30$   
Prepare Subgrade  
Tractor: D7 with rippers 6 hr  $\times \$163.53/\text{hr} = \$981.18$   
Subtotal: \$2,772.61

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:  
Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Rock Source: S. Floras CR-RIPRAP  
Purchase Price / Royalty:  $\$10.00/\text{cy} \times 3\text{cy} = \$30.00$   
Furnish Class 3 type rock  
Basic Rock Haul cost:  $\$1.35/\text{cy} \times 3\text{cy} = \$4.05$   
Rock Haul +15% grades:  $\$2.69/\text{cy-mi} \times 3\text{cy} \times 3.50 \text{ mi} = \$28.25$   
Rock Haul -15% grades:  $\$1.35/\text{cy-mi} \times 3\text{cy} \times 3.40 \text{ mi} = \$13.77$   
Rock Haul St& Co Roads:  $\$0.60/\text{cy-mi} \times 3\text{cy} \times 17.40 \text{ mi} = \$31.32$   
Placement on Fill slopes:  $3\text{cy} \times (\$2.85/\text{cy} \times 1.04) = \$8.89$   
Subtotal: \$116.28

Section 1800 Soil Stabilization:

Dry Method with Mulch:  $\$508.90/\text{acre} \times 0.16 \text{ acres} = \$81.42$   
Includes Small Quantity Factor of 1.34  
+ Seed Cost:  $\$132.00/\text{acre} \times 0.16 \text{ acres} = \$21.12$   
+ Fertilizer Cost:  $\$34.00/\text{acre} \times 0.16 \text{ acres} = \$5.44$   
+ Mulch Cost:  $\$320.00/\text{acre} \times 0.16 \text{ acres} = \$51.20$   
Subtotal: \$159.18

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 2300 Engineering:

Road Number: 31-14-14.2 31-14-14.2 Continued

Comment: Government Provided	Subtotal:	\$0.00
Section 2400 Minor Concrete:	Subtotal:	\$0.00
Section 2500 Gabions:	Subtotal:	\$0.00
Section 8000 Miscellaneous:	Subtotal:	\$0.00
Mobilization:		
Construction - 1.33% of total Costs = \$131.64		
Surfacing - 0.00% by rock volume = \$0.00		
	Subtotal:	\$131.64
Quarry Development:		
Based on 0.00% of total rock volume		
	Subtotal:	\$0.00
	Total:	\$4,441.60

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

**Road Number: 31-14-15.0** Road Name: 31-14-15.0

Road Renovation: 0.12 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$174.98
Blading 0.12 mi	
700-1200 Surfacing: .....	\$2,931.28
Quarry Name: S. Floras CR-SURFACE 80 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 0.3 acres .....	\$86.49
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$97.52 Surf. \$31.43.....	\$128.95
Quarry Development: .....	\$0.00

Total: \$3,321.70

Notes:

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

Road Construction Worksheet

Road Number: 31-14-15.0 Road Name: 31-14-15.0

Section 200 Clearing and Grubbing: Subtotal: \$0.00

Section 300 Excavation: Subtotal: \$0.00

Section 400 Drainage: Subtotal: \$0.00

Section 500 Renovation:  
 Blading: \$720.50/mi x 0.12 mi = \$86.46  
 Compaction: \$403.47/mi x 0.12 mi = \$48.42  
 Clean Culverts: \$334.17/mi x 0.12 mi = \$40.10  
Subtotal: \$174.98

Section 700-1200 Surfacing:

Commercial Quarry Name: S. Floras CR-SURFACE

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									80 LCY
Rock Volume = 80 LCY									
Purchase Price / Royalty: \$12.50/LCY x 80 LCY = \$1,000.00									
Processing: \$0.90/LCY x 80 LCY = \$72.00									
Compaction: \$1.34/LCY x 80 LCY = \$107.20									
Basic Rock Haul cost: \$0.74/LCY x 80 LCY = \$59.20									
Rock Haul +15% grades: \$2.21/LCY-mi x 80 LCY x 3.50 mi= \$618.80									
Rock Haul -15% grades: \$1.10/LCY-mi x 80 LCY x 3.40 mi= \$299.20									
Rock Haul St& Co Roads: \$0.49/LCY-mi x 80 LCY x 17.40 mi= \$682.08									
Basic Water Haul cost: \$0.60/LCY x 80 LCY = \$48.00									
Water Haul +15% grades: \$0.28/LCY-mi x 80 LCY x 1.00 mi= \$22.40									
Water Haul -15% grades: \$0.14/LCY-mi x 80 LCY x 2.00 mi= \$22.40									
Water Haul St&Co Roads: \$0.08/LCY-mi x 80 LCY x 0.00 mi= \$0.00									
									Subtotal: \$2,931.28

Section 1300 Geotextiles: Subtotal: \$0.00

Section 1400 Slope Protection: Subtotal: \$0.00

Section 1800 Soil Stabilization: Subtotal: \$0.00

Section 1900 Cattleguards: Subtotal: \$0.00

Section 2100 Roadside Brushing:  
 Brushing width Left: 10ft. Right: 10ft.  
 RoadSide Brushing Light: \$288.30/acre x 0.30 acres = \$86.49  
Subtotal: \$86.49

Section 2300 Engineering: Subtotal: \$0.00

Section 2400 Minor Concrete: Subtotal: \$0.00

Section 2500 Gabions:



Road Number: 31-14-15.0 31-14-15.0 Continued

Subtotal: \$0.00

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.99% of total Costs = \$97.52

Surfacing - 1.99% by rock volume = \$31.43

Subtotal: \$128.95

Quarry Development:

Based on 1.99% of total rock volume

Subtotal: \$0.00

Total: \$3,321.70

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

Road Number: 31-14-21.0 Road Name:

Road Renovation: 0.06 mi 16 ft Subgrade ft ditch 4/13/2016

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$87.49
Blading 0.06 mi	
700-1200 Surfacing: .....	\$1,465.64
Quarry Name: S. Floras CR-SURFACE 40 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 0.2 acres .....	\$57.66
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$49.20 Surf. \$15.72.....	\$64.92
Quarry Development: .....	\$0.00
	Total: \$1,675.70

Notes:

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

Road Construction Worksheet

Road Number: 31-14-21.0 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$720.50/mi x 0.06 mi = \$43.23  
 Compaction: \$403.47/mi x 0.06 mi = \$24.21  
 Clean Culverts: \$334.17/mi x 0.06 mi = \$20.05

Subtotal: \$87.49

Section 700-1200 Surfacing:

Commercial Quarry Name: S. Floras CR-SURFACE

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

Rock Volume = 40 LCY  
 Purchase Price / Royalty: \$12.50/LCY x 40 LCY = \$500.00  
 Processing: \$0.90/LCY x 40 LCY = \$36.00  
 Compaction: \$1.34/LCY x 40 LCY = \$53.60  
 Basic Rock Haul cost: \$0.74/LCY x 40 LCY = \$29.60  
 Rock Haul +15% grades: \$2.21/LCY-mi x 40 LCY x 3.50 mi= \$309.40  
 Rock Haul -15% grades: \$1.10/LCY-mi x 40 LCY x 3.40 mi= \$149.60  
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 40 LCY x 17.40 mi= \$341.04  
 Basic Water Haul cost: \$0.60/LCY x 40 LCY = \$24.00  
 Water Haul +15% grades: \$0.28/LCY-mi x 40 LCY x 1.00 mi= \$11.20  
 Water Haul -15% grades: \$0.14/LCY-mi x 40 LCY x 2.00 mi= \$11.20  
 Water Haul St&Co Roads: \$0.08/LCY-mi x 40 LCY x 0.00 mi= \$0.00

Subtotal: \$1,465.64

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Brushing width Left: 10ft. Right: 10ft.  
 RoadSide Brushing Light: \$288.30/acre x 0.20 acres = \$57.66

Subtotal: \$57.66

Section 2300 Engineering:

Subtotal: \$0.00

Section 2400 Minor Concrete:

Subtotal: \$0.00

Section 2500 Gabions:

Road Number: 31-14-21.0 Continued

	Subtotal:	\$0.00
Section 8000 Miscellaneous:		
	Subtotal:	\$0.00
Mobilization:		
Construction - 0.50% of total Costs = \$49.20		
Surfacing - 0.99% by rock volume = \$15.72		
	Subtotal:	\$64.92
Quarry Development:		
Based on 0.99% of total rock volume		
	Subtotal:	\$0.00
	Total:	\$1,675.70

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

**Road Number: 31-14-21.2** Road Name:

Road Renovation: 0.37 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: 0.5 acres .....	\$1,964.49
300 Excavation: .....	\$1,962.36
400 Drainage: .....	\$4,835.50
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 100 lf	
500 Renovation: .....	\$12,869.50
Blading 0.37 mi	
700-1200 Surfacing: .....	\$9,709.87
Quarry Name: S. Floras CR-SURFACE 265 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$744.30
Gradation Class 3: 18 cy	
1800 Soil Stabilization: 0.6 acres .....	\$547.19
Includes Small Quantity Factor of 1.34	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 0.9 acres .....	\$259.47
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$1,004.67 Surf. \$104.12.....	\$1,108.78
Quarry Development: .....	\$0.00

Total: \$34,001.46

Notes:

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

Road Construction Worksheet

Road Number: 31-14-21.2 Road Name:

Section 200 Clearing and Grubbing:

Clearing - Light (Clearing): Adjustment Factor (0.93)  
 31-45% (Avg Side Slopes): Adjustment Factor (0.2)  
 Windrow (Slash): Adjustment Factor (1.07)  
 20-40' (Avg Clearing Widths): Adjustment Factor (0.1)  
 Total Adjustment Factor: 0.93 + 0.2 + 1.07 + 0.1 = 2.30  
 Base Cost/Acre: \$855.05 x Adjustment Factor: 2.30 x Total Acres: 0.5 = \$983.31  
 Prepare Waste Area  
 Tractor: D7 with rippers 6 hr x \$163.53/hr = \$981.18

Subtotal: \$1,964.49

Section 300 Excavation:

Waste Area Construction  
 Tractor: D7 with rippers 12 hr x \$163.53/hr = \$1,962.36

Subtotal: \$1,962.36

Section 400 Drainage:

Poly Pipe 13+83 18 inch 40 lf x \$44.98/lf = \$1,799.20  
 Poly Pipe 21+50 18 inch 30 lf x \$44.98/lf = \$1,349.40  
 Poly Pipe 6+92 18 inch 30 lf x \$44.98/lf = \$1,349.40  
 Culverts  
 Culvert Markers 4 EA x \$50.00/EA = \$200.00  
 Culvert Bedding 5.5 LCY x \$25.00/LCY = \$137.50

Subtotal: \$4,835.50

Section 500 Renovation:

Blading: \$720.50/mi x 0.37 mi = \$266.59  
 Scarification: \$893.46/mi x 0.10 mi = \$89.35  
 Compaction: \$403.47/mi x 0.37 mi = \$149.28  
 Clean Culverts: \$334.17/mi x 37.00 mi = \$12,364.29

Subtotal: \$12,869.50

Section 700-1200 Surfacing:

Commercial Quarry Name: S. Floras CR-SURFACE

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

Rock Volume = 265 LCY  
 Purchase Price / Royalty: \$12.50/LCY x 265 LCY = \$3,312.50  
 Processing: \$0.90/LCY x 265 LCY = \$238.50  
 Compaction: \$1.34/LCY x 265 LCY = \$355.10  
 Basic Rock Haul cost: \$0.74/LCY x 265 LCY = \$196.10  
 Rock Haul +15% grades: \$2.21/LCY-mi x 265 LCY x 3.50 mi = \$2,049.78  
 Rock Haul -15% grades: \$1.10/LCY-mi x 265 LCY x 3.40 mi = \$991.10  
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 265 LCY x 17.40 mi = \$2,259.39  
 Basic Water Haul cost: \$0.60/LCY x 265 LCY = \$159.00  
 Water Haul +15% grades: \$0.28/LCY-mi x 265 LCY x 1.00 mi = \$74.20  
 Water Haul -15% grades: \$0.14/LCY-mi x 265 LCY x 2.00 mi = \$74.20  
 Water Haul St&Co Roads: \$0.08/LCY-mi x 265 LCY x 0.00 mi = \$0.00

Subtotal: \$9,709.87

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Rock Source: S. Floras CR-RIPRAP  
 Purchase Price / Royalty: \$10.00/cy x 18cy = \$180.00  
 Furnish Class 3 type rock

Basic Rock Haul cost: \$1.35/cy x 18cy = \$24.30	
Rock Haul +15% grades: \$2.69/cy-mi x 18cy x 3.90 mi= \$188.84	
Rock Haul -15% grades: \$1.35/cy-mi x 18cy x 8.70 mi= \$211.41	
Rock Haul St& Co Roads: \$0.60/cy-mi x 18cy x 8.00 mi= \$86.40	
Placement on Fill slopes: 18cy x (\$2.85/cy x 1.04) = \$53.35	
	Subtotal: \$744.30
Section 1800 Soil Stabilization:	
Dry Method with Mulch: \$508.90/acre x 0.55 acres = \$279.89	
Includes Small Quantity Factor of 1.34	
+ Seed Cost: \$132.00/acre x 0.55 acres = \$72.60	
+ Fertilizer Cost: \$34.00/acre x 0.55 acres = \$18.70	
+ Mulch Cost: \$320.00/acre x 0.55 acres = \$176.00	
	Subtotal: \$547.19
Section 1900 Cattleguards:	
	Subtotal: \$0.00
Section 2100 Roadside Brushing:	
Brushing width Left: 10ft. Right: 10ft.	
RoadSide Brushing Light: \$288.30/acre x 0.90 acres = \$259.47	
	Subtotal: \$259.47
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 - 10.17% of total Costs = \$1,004.67	
Surfacing - 6.59% by rock volume = \$104.12	
	Subtotal: \$1,108.78
Quarry Development:	
Based on 6.59% of total rock volume	
	Subtotal: \$0.00
	Total: \$34,001.46

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

Road Number: 31-14-22.0 Road Name: 31-14-22.0

Road Renovation: 0.53 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$725.11
Culvert: 0 lf	
DownSpout: 20 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$772.81
Blading 0.53 mi	
700-1200 Surfacing: .....	\$12,824.35
Quarry Name: S. Floras CR-SURFACE 350 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$234.35
Gradation Class 3: 6 cy	
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 1.3 acres .....	\$374.79
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$456.06 Surf. \$137.51.....	\$593.57
Quarry Development: .....	\$0.00
Total:	\$15,524.99

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.



Road Construction Worksheet

Road Number: 31-14-22.0 Road Name: 31-14-22.0

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Full Round 7+36 add to EX CMP 18 inch 20 lf x \$21.73/lf = \$434.60  
 Cut Back EX CMP add Downspout  
 Foreman 3 hr x \$46.57/hr = \$139.71  
 General Laborer 3 hr x \$33.60/hr = \$100.80  
 Add Marker 1 ea x \$50.00/ea = \$50.00

Subtotal: \$725.11

Section 500 Renovation:

Blading: \$720.50/mi x 0.53 mi = \$381.87  
 Compaction: \$403.47/mi x 0.53 mi = \$213.84  
 Clean Culverts: \$334.17/mi x 0.53 mi = \$177.11

Subtotal: \$772.81

Section 700-1200 Surfacing:

Commercial Quarry Name: S. Floras CR-SURFACE

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									350 LCY

Rock Volume = 350 LCY  
 Purchase Price / Royalty: \$12.50/LCY x 350 LCY = \$4,375.00  
 Processing: \$0.90/LCY x 350 LCY = \$315.00  
 Compaction: \$1.34/LCY x 350 LCY = \$469.00  
 Basic Rock Haul cost: \$0.74/LCY x 350 LCY = \$259.00  
 Rock Haul +15% grades: \$2.21/LCY-mi x 350 LCY x 3.50 mi= \$2,707.25  
 Rock Haul -15% grades: \$1.10/LCY-mi x 350 LCY x 3.40 mi= \$1,309.00  
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 350 LCY x 17.40 mi= \$2,984.10  
 Basic Water Haul cost: \$0.60/LCY x 350 LCY = \$210.00  
 Water Haul +15% grades: \$0.28/LCY-mi x 350 LCY x 1.00 mi= \$98.00  
 Water Haul -15% grades: \$0.14/LCY-mi x 350 LCY x 2.00 mi= \$98.00  
 Water Haul St&Co Roads: \$0.08/LCY-mi x 350 LCY x 0.00 mi= \$0.00

Subtotal: \$12,824.35

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Rock Source: S. Floras CR-RIPRAP  
 Purchase Price / Royalty: \$10.00/cy x 6cy = \$60.00  
 Furnish Class 3 type rock  
 Basic Rock Haul cost: \$1.35/cy x 6cy = \$8.10  
 Rock Haul +15% grades: \$2.69/cy-mi x 6cy x 3.50 mi= \$56.49  
 Rock Haul -15% grades: \$1.35/cy-mi x 6cy x 7.80 mi= \$63.18  
 Rock Haul St& Co Roads: \$0.60/cy-mi x 6cy x 8.00 mi= \$28.80  
 Placement on Fill slopes: 6cy x (\$2.85/cy x 1.04) = \$17.78

Subtotal: \$234.35

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Brushing width Left: 10ft. Right: 10ft.

RoadSide Brushing Light: \$288.30/acre x 1.30 acres = \$374.79

Subtotal: \$374.79

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 - 4.62% of total Costs = \$456.06

Surfacing - 8.70% by rock volume = \$137.51

Subtotal: \$593.57

Quarry Development:

Based on 8.70% of total rock volume

Subtotal: \$0.00

Total: \$15,524.99

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

Road Number: 31-14-22.2 Road Name: 31-14-22.2

Road Renovation: 0.64 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: 1.2 acres .....	\$5,138.00
300 Excavation: 2,030 cy .....	\$9,105.60
Haul > 500 ft: 2,030 yd-mi	
400 Drainage: .....	\$14,444.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 300 lf	
500 Renovation: .....	\$1,781.15
Blading 0.64 mi	
700-1200 Surfacing: .....	\$47,779.86
Quarry Name: S. Floras CR-Base 382 LCY	
Quarry Name: S. Floras CR-SURFACE 922 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$1,166.82
Gradation Class 3: 30 cy	
1800 Soil Stabilization: 0.5 acres .....	\$447.70
Includes Small Quantity Factor of 1.34	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 1.2 acres .....	\$345.96
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$2,449.89 Surf. \$512.33.....	\$2,962.22
Quarry Development: .....	\$0.00
Total:	\$83,171.32

Notes:

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

Road Construction Worksheet

Road Number: 31-14-22.2 Road Name: 31-14-22.2

Section 200 Clearing and Grubbing:

Clearing - Heavy (Clearing): Adjustment Factor (2.54)  
 46+% (Avg Side Slopes): Adjustment Factor (0.3)  
 Pile and Burn (Slash): Adjustment Factor (1.28)  
 less than 20' (Avg Clearing Widths): Adjustment Factor (0.25)  
 Total Adjustment Factor: 2.54 + 0.3 + 1.28 + 0.25 = 4.37  
 Base Cost/Acre: \$855.05 x Adjustment Factor: 4.37 x Total Acres: 1.20 = \$4,483.88  
 Landing MP 0.620  
 Tractor: D7 with rippers 4 hr x \$163.53/hr = \$654.12

Subtotal: \$5,138.00

Section 300 Excavation:

Excavation - Common: \$1.93/cy x 2,030 cy = \$3,917.90  
 Subgrade Compaction: 6 Sta/hr \$22.42/sta. x 33.9 sta = \$760.04  
 End Hauling > 500 ft and 10 mph: \$2.69/yd-mi x 1,015 yd-mi = \$2,730.35  
 End Hauling > 500 ft and 20 mph: \$1.35/yd-mi x 1,015 yd-mi = \$1,370.25  
 LDG @ MP 0.620  
 Tractor: D7 with rippers 2 hr x \$163.53/hr = \$327.06

Subtotal: \$9,105.60

Section 400 Drainage:

Poly Pipe	12+36	18 inch 30 lf x \$44.98/lf = \$1,349.40
Poly Pipe	15+27	18 inch 30 lf x \$44.98/lf = \$1,349.40
Poly Pipe	19+10	18 inch 30 lf x \$44.98/lf = \$1,349.40
Poly Pipe	21+47	18 inch 30 lf x \$44.98/lf = \$1,349.40
Poly Pipe	22+80	18 inch 30 lf x \$44.98/lf = \$1,349.40
Poly Pipe	24+43	18 inch 30 lf x \$44.98/lf = \$1,349.40
Poly Pipe	28+34	18 inch 30 lf x \$44.98/lf = \$1,349.40
Poly Pipe	3+61	18 inch 30 lf x \$44.98/lf = \$1,349.40
Poly Pipe	6+79	18 inch 30 lf x \$44.98/lf = \$1,349.40
Poly Pipe	9+10	18 inch 30 lf x \$44.98/lf = \$1,349.40

Culverts

Culvert Markers 11 EA x \$50.00/EA = \$550.00  
 Culvert Bedding 16 LCY x \$25.00/LCY = \$400.00

Subtotal: \$14,444.00

Section 500 Renovation:

Blading: \$720.50/mi x 0.64 mi = \$461.12  
 Scarification: \$893.46/mi x 0.64 mi = \$571.81  
 Compaction: \$403.47/mi x 0.64 mi = \$258.22  
 Const. landing w/app MP 0.660  
 Tractor: D7 with winch 3 hr x \$163.33/hr = \$489.99

Subtotal: \$1,781.15

Section 700-1200 Surfacing:

Commercial Quarry Name: S. Floras CR-Base

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#Tos</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									382 LCY

Rock Volume = 382 LCY  
 Purchase Price / Royalty: \$12.50/LCY x 382 LCY = \$4,775.00  
 Processing: \$0.90/LCY x 382 LCY = \$343.80  
 Compaction: \$1.34/LCY x 382 LCY = \$511.88  
 Basic Rock Haul cost: \$0.74/LCY x 382 LCY = \$282.68  
 Rock Haul +15% grades: \$2.21/LCY-mi x 382 LCY x 3.50 mi = \$2,954.77  
 Rock Haul -15% grades: \$1.10/LCY-mi x 382 LCY x 3.40 mi = \$1,428.68  
 Rock Haul St & Co Roads: \$0.49/LCY-mi x 382 LCY x 17.40 mi = \$3,256.93  
 Basic Water Haul cost: \$0.60/LCY x 382 LCY = \$229.20

Water Haul +15% grades: \$0.28/LCY-mi x 382 LCY x 1.00 mi= \$106.96  
 Water Haul -15% grades: \$0.14/LCY-mi x 382 LCY x 2.00 mi= \$106.96  
 Water Haul St&Co Roads: \$0.08/LCY-mi x 382 LCY x 0.00 mi= \$0.00

Commercial Quarry Name: S. Floras CR-SURFACE

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									922 LCY

Rock Volume = 922 LCY  
 Purchase Price / Royalty: \$12.50/LCY x 922 LCY = \$11,525.00  
 Processing: \$0.90/LCY x 922 LCY = \$829.80  
 Compaction: \$1.34/LCY x 922 LCY = \$1,235.48  
 Basic Rock Haul cost: \$0.74/LCY x 922 LCY = \$682.28  
 Rock Haul +15% grades: \$2.21/LCY-mi x 922 LCY x 3.50 mi= \$7,131.67  
 Rock Haul -15% grades: \$1.10/LCY-mi x 922 LCY x 3.40 mi= \$3,448.28  
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 922 LCY x 17.40 mi= \$7,860.97  
 Basic Water Haul cost: \$0.60/LCY x 922 LCY = \$553.20  
 Water Haul +15% grades: \$0.28/LCY-mi x 922 LCY x 1.00 mi= \$258.16  
 Water Haul -15% grades: \$0.14/LCY-mi x 922 LCY x 2.00 mi= \$258.16  
 Water Haul St&Co Roads: \$0.08/LCY-mi x 922 LCY x 0.00 mi= \$0.00

Subtotal: \$47,779.86

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Rock Source: S. Floras CR-RIPRAP  
 Purchase Price / Royalty: \$10.00/cy x 30cy = \$300.00  
 Furnish Class 3 type rock  
 Basic Rock Haul cost: \$1.35/cy x 30cy = \$40.50  
 Rock Haul +15% grades: \$2.69/cy-mi x 30cy x 3.50 mi= \$282.45  
 Rock Haul -15% grades: \$1.35/cy-mi x 30cy x 3.50 mi= \$141.75  
 Rock Haul St& Co Roads: \$0.60/cy-mi x 30cy x 17.40 mi= \$313.20  
 Placement on Fill slopes: 30cy x (\$2.85/cy x 1.04) = \$88.92

Subtotal: \$1,166.82

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$508.90/acre x 0.45 acres = \$229.00  
 Includes Small Quantity Factor of 1.34  
 + Seed Cost: \$132.00/acre x 0.45 acres = \$59.40  
 + Fertilizer Cost: \$34.00/acre x 0.45 acres = \$15.30  
 + Mulch Cost: \$320.00/acre x 0.45 acres = \$144.00

Subtotal: \$447.70

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Brushing width Left: 5ft. Right: 10ft.  
 RoadSide Brushing Light: \$288.30/acre x 1.20 acres = \$345.96

Subtotal: \$345.96

Section 2300 Engineering:

Subtotal: \$0.00

Section 2400 Minor Concrete:

Subtotal: \$0.00

Section 2500 Gabions:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Road Number: 31-14-22.2 31-14-22.2 Continued

Subtotal: \$0.00

Mobilization:

Construction - 24.81% of total Costs = \$2,449.89

Surfacing - 32.42% by rock volume = \$512.33

Subtotal: \$2,962.22

Quarry Development:

Based on 32.42% of total rock volume

Subtotal: \$0.00

Total: \$83,171.32

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

Road Number: 31-14-22.7 Road Name: 31-14-22.7

Road Construction: 0.26 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: 2.2 acres .....	\$5,933.53
300 Excavation: 4,199 cy .....	\$15,341.98
400 Drainage: .....	\$3,348.60
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 70 lf	
500 Renovation: .....	\$0.00
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$232.55
Gradation Class 3: 6 cy	
1800 Soil Stabilization: 1.2 acres .....	\$1,203.83
Includes Small Quantity Factor of 1.34	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 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. \$795.99 Surf. \$0.00.....	\$795.99
Quarry Development: .....	\$0.00
Total:	\$26,856.48

Notes:

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

Road Construction Worksheet

Road Number: 31-14-22.7 Road Name: 31-14-22.7

Section 200 Clearing and Grubbing:

Clearing - Medium (Clearing): Adjustment Factor (1.67)  
 46+% (Avg Side Slopes): Adjustment Factor (0.3)  
 Windrow (Slash): Adjustment Factor (1.07)  
 20-40' (Avg Clearing Widths): Adjustment Factor (0.1)  
 Total Adjustment Factor: 1.67 + 0.3 + 1.07 + 0.1 = 3.14  
 Base Cost/Acre: \$855.05 x Adjustment Factor: 3.14 x Total Acres: 2.21 = \$5,933.53  
 Subtotal: \$5,933.53

Section 300 Excavation:

Excavation - Common: \$1.93/cy x 4,199 cy = \$8,104.07  
 Embankment Placement & Compaction 306.f - Common: \$0.26/cy x 12,750 cy = \$3,315.00  
 Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 13.6 sta = \$456.22  
 Blading with ditch: \$14.45/station x 13.57 stations = \$196.09  
 Prepare Subgrade  
 Tractor: D7 with rippers 20 hr x \$163.53/hr = \$3,270.60  
 Subtotal: \$15,341.98

Section 400 Drainage:

Poly Pipe STA 0+00 18 inch 40 lf x \$44.98/lf = \$1,799.20  
 Poly Pipe STA 11+27.2 18 inch 30 lf x \$44.98/lf = \$1,349.40  
 Culverts  
 Culvert Bedding 4 LCY x \$25.00/LCY = \$100.00  
 Culvert Markers 2 EA x \$50.00/EA = \$100.00  
 Subtotal: \$3,348.60

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:  
 Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Rock Source: S. Floras CR-RIPRAP  
 Purchase Price / Royalty: \$10.00/cy x 6cy = \$60.00  
 Furnish Class 3 type rock  
 Basic Rock Haul cost: \$1.35/cy x 6cy = \$8.10  
 Rock Haul +15% grades: \$2.69/cy-mi x 6cy x 3.50 mi = \$56.49  
 Rock Haul -15% grades: \$1.35/cy-mi x 6cy x 3.40 mi = \$27.54  
 Rock Haul St& Co Roads: \$0.60/cy-mi x 6cy x 17.40 mi = \$62.64  
 Placement on Fill slopes: 6cy x (\$2.85/cy x 1.04) = \$17.78  
 Subtotal: \$232.55

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$508.90/acre x 1.21 acres = \$615.77  
 Includes Small Quantity Factor of 1.34  
 + Seed Cost: \$132.00/acre x 1.21 acres = \$159.72  
 + Fertilizer Cost: \$34.00/acre x 1.21 acres = \$41.14  
 + Mulch Cost: \$320.00/acre x 1.21 acres = \$387.20  
 Subtotal: \$1,203.83

Section 1900 Cattleguards:

Subtotal: \$0.00



Section 2100 Roadside Brushing:	Subtotal:	\$0.00
Section 2300 Engineering: Comment: Government Provided	Subtotal:	\$0.00
Section 2400 Minor Concrete:	Subtotal:	\$0.00
Section 2500 Gabions:	Subtotal:	\$0.00
Section 8000 Miscellaneous:	Subtotal:	\$0.00
Mobilization: Construction - 8.06% of total Costs = \$795.99 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$795.99
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$26,856.48

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

Road Number: 31-14-23.6 Road Name: 31-14-23.6

Road Construction: 0.13 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: 0.9 acres .....	\$2,417.40
300 Excavation: 4,736 cy .....	\$22,501.01
Haul > 500 ft: 5,076 yd-mi	
400 Drainage: .....	\$1,911.70
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 40 lf	
500 Renovation: .....	\$0.00
700-1200 Surfacing: .....	\$20,189.19
Quarry Name: S. Floras CR-Base 401 LCY	
Quarry Name: S. Floras CR-SURFACE 150 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$116.28
Gradation Class 3: 3 cy	
1800 Soil Stabilization: 0.5 acres .....	\$447.70
Includes Small Quantity Factor of 1.34	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 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. \$1,453.37 Surf. \$216.48.....	\$1,669.86
Quarry Development: .....	\$0.00
Total:	\$49,253.13

Notes:

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

Road Construction Worksheet

Road Number: 31-14-23.6 Road Name: 31-14-23.6

Section 200 Clearing and Grubbing:

Clearing - Medium (Clearing): Adjustment Factor (1.67)  
 31-45% (Avg Side Slopes): Adjustment Factor (0.2)  
 Windrow (Slash): Adjustment Factor (1.07)  
 20-40' (Avg Clearing Widths): Adjustment Factor (0.1)  
 Total Adjustment Factor: 1.67 + 0.2 + 1.07 + 0.1 = 3.04  
 Base Cost/Acre: \$855.05 x Adjustment Factor: 3.04 x Total Acres: 0.93 = \$2,417.40  
 Subtotal: \$2,417.40

Section 300 Excavation:

Excavation - Common: \$1.93/cy x 3,391 cy = \$6,544.63  
 Excavation - Rippable: \$3.90/cy x 1,345 cy = \$5,245.50  
 Embankment Placement & Compaction 306.f - Common: \$0.26/cy x 500 cy = \$130.00  
 Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 6.8 sta = \$228.95  
 End Hauling > 500 ft and 10 mph: \$2.69/yd-mi x 2,538 yd-mi = \$6,827.22  
 End Hauling > 500 ft and 20 mph: \$1.35/yd-mi x 2,538 yd-mi = \$3,426.30  
 Blading with ditch: \$14.45/station x 6.81 stations = \$98.40  
 Subtotal: \$22,501.01

Section 400 Drainage:

Poly Pipe 5+19.7 18 inch 40 lf x \$44.98/lf = \$1,799.20  
 Culvert Bedding  
 Culvert Bedding 2.5 LCY x \$25.00/LCY = \$62.50  
 Culvert Markers  
 Culvert Markers 1 EA x \$50.00/EA = \$50.00  
 Subtotal: \$1,911.70

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: S. Floras CR-Base

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									401 LCY
Rock Volume = 401 LCY									
Purchase Price / Royalty: \$12.50/LCY x 401 LCY = \$5,012.50									
Processing: \$0.90/LCY x 401 LCY = \$360.90									
Compaction: \$1.34/LCY x 401 LCY = \$537.34									
Basic Rock Haul cost: \$0.74/LCY x 401 LCY = \$296.74									
Rock Haul +15% grades: \$2.21/LCY-mi x 401 LCY x 3.50 mi= \$3,101.74									
Rock Haul -15% grades: \$1.10/LCY-mi x 401 LCY x 3.40 mi= \$1,499.74									
Rock Haul St& Co Roads: \$0.49/LCY-mi x 401 LCY x 17.40 mi= \$3,418.93									
Basic Water Haul cost: \$0.60/LCY x 401 LCY = \$240.60									
Water Haul +15% grades: \$0.28/LCY-mi x 401 LCY x 1.00 mi= \$112.28									
Water Haul -15% grades: \$0.14/LCY-mi x 401 LCY x 2.00 mi= \$112.28									
Water Haul St&Co Roads: \$0.08/LCY-mi x 401 LCY x 0.00 mi= \$0.00									

Commercial Quarry Name: S. Floras CR-SURFACE

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									150 LCY
Rock Volume = 150 LCY									
Purchase Price / Royalty: \$12.50/LCY x 150 LCY = \$1,875.00									
Processing: \$0.90/LCY x 150 LCY = \$135.00									
Compaction: \$1.34/LCY x 150 LCY = \$201.00									
Basic Rock Haul cost: \$0.74/LCY x 150 LCY = \$111.00									
Rock Haul +15% grades: \$2.21/LCY-mi x 150 LCY x 3.50 mi= \$1,160.25									
Rock Haul -15% grades: \$1.10/LCY-mi x 150 LCY x 3.40 mi= \$561.00									
Rock Haul St& Co Roads: \$0.49/LCY-mi x 150 LCY x 17.40 mi= \$1,278.90									

Road Number: 31-14-23.6 31-14-23.6 Continued

Basic Water Haul cost:  $\$0.60/\text{LCY} \times 150 \text{ LCY} = \$90.00$   
Water Haul +15% grades:  $\$0.28/\text{LCY-mi} \times 150 \text{ LCY} \times 1.00 \text{ mi} = \$42.00$   
Water Haul -15% grades:  $\$0.14/\text{LCY-mi} \times 150 \text{ LCY} \times 2.00 \text{ mi} = \$42.00$   
Water Haul St&Co Roads:  $\$0.08/\text{LCY-mi} \times 150 \text{ LCY} \times 0.00 \text{ mi} = \$0.00$

Subtotal: \$20,189.19

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Rock Source: S. Floras CR-RIPRAP  
Purchase Price / Royalty:  $\$10.00/\text{cy} \times 3\text{cy} = \$30.00$   
Furnish Class 3 type rock  
Basic Rock Haul cost:  $\$1.35/\text{cy} \times 3\text{cy} = \$4.05$   
Rock Haul +15% grades:  $\$2.69/\text{cy-mi} \times 3\text{cy} \times 3.50 \text{ mi} = \$28.25$   
Rock Haul -15% grades:  $\$1.35/\text{cy-mi} \times 3\text{cy} \times 3.40 \text{ mi} = \$13.77$   
Rock Haul St& Co Roads:  $\$0.60/\text{cy-mi} \times 3\text{cy} \times 17.40 \text{ mi} = \$31.32$   
Placement on Fill slopes:  $3\text{cy} \times (\$2.85/\text{cy} \times 1.04) = \$8.89$

Subtotal: \$116.28

Section 1800 Soil Stabilization:

Dry Method with Mulch:  $\$508.90/\text{acre} \times 0.45 \text{ acres} = \$229.00$   
Includes Small Quantity Factor of 1.34  
+ Seed Cost:  $\$132.00/\text{acre} \times 0.45 \text{ acres} = \$59.40$   
+ Fertilizer Cost:  $\$34.00/\text{acre} \times 0.45 \text{ acres} = \$15.30$   
+ Mulch Cost:  $\$320.00/\text{acre} \times 0.45 \text{ acres} = \$144.00$

Subtotal: \$447.70

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 2300 Engineering:

Comment: Government Provided

Subtotal: \$0.00

Section 2400 Minor Concrete:

Subtotal: \$0.00

Section 2500 Gabions:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 14.72% of total Costs = \$1,453.37  
Surfacing - 13.70% by rock volume = \$216.48

Subtotal: \$1,669.86

Quarry Development:

Based on 13.70% of total rock volume

Subtotal: \$0.00

Total: \$49,253.13

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

Road Number: Spur 1A Road Name: Spur 1A

Road Construction: 0.02 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: 0.2 acres .....	\$563.82
300 Excavation: 262 cy .....	\$1,202.30
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$0.00
700-1200 Surfacing: .....	\$7,218.28
Quarry Name: S. Floras CR-Base 170 LCY	
Quarry Name: S. Floras CR-SURFACE 27 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.1 acres .....	\$59.69
Includes Small Quantity Factor of 1.34	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 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. \$276.24 Surf. \$77.40.....	\$353.64
Quarry Development: .....	\$0.00
Total:	\$9,397.73

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: Spur 1A Road Name: Spur 1A

Section 200 Clearing and Grubbing:

Clearing - Medium (Clearing): Adjustment Factor (1.67)  
 46+% (Avg Side Slopes): Adjustment Factor (0.3)  
 Windrow (Slash): Adjustment Factor (1.07)  
 20-40' (Avg Clearing Widths): Adjustment Factor (0.1)  
 Total Adjustment Factor: 1.67 + 0.3 + 1.07 + 0.1 = 3.14  
 Base Cost/Acre: \$855.05 x Adjustment Factor: 3.14 x Total Acres: .21 = \$563.82  
 Subtotal: \$563.82

Section 300 Excavation:

Excavation - Common: \$1.93/cy x 262 cy = \$505.66  
 Embankment Placement & Compaction 306.f - Common: \$0.26/cy x 1,207 cy = \$313.82  
 Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 1.2 sta = \$39.00  
 Blading with ditch: \$14.45/station x 1.16 stations = \$16.76  
 Prepare Subgrade  
 Tractor: D7 with rippers 2 hr x \$163.53/hr = \$327.06  
 Subtotal: \$1,202.30

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: S. Floras CR-Base

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									170 LCY

Rock Volume = 170 LCY  
 Purchase Price / Royalty: \$12.50/LCY x 170 LCY = \$2,125.00  
 Processing: \$0.90/LCY x 170 LCY = \$153.00  
 Compaction: \$1.34/LCY x 170 LCY = \$227.80  
 Basic Rock Haul cost: \$0.74/LCY x 170 LCY = \$125.80  
 Rock Haul +15% grades: \$2.21/LCY-mi x 170 LCY x 3.50 mi= \$1,314.95  
 Rock Haul -15% grades: \$1.10/LCY-mi x 170 LCY x 3.40 mi= \$635.80  
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 170 LCY x 17.40 mi= \$1,449.42  
 Basic Water Haul cost: \$0.60/LCY x 170 LCY = \$102.00  
 Water Haul +15% grades: \$0.28/LCY-mi x 170 LCY x 1.00 mi= \$47.60  
 Water Haul -15% grades: \$0.14/LCY-mi x 170 LCY x 2.00 mi= \$47.60  
 Water Haul St&Co Roads: \$0.08/LCY-mi x 170 LCY x 0.00 mi= \$0.00

Commercial Quarry Name: S. Floras CR-SURFACE

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									27 LCY

Rock Volume = 27 LCY  
 Purchase Price / Royalty: \$12.50/LCY x 27 LCY = \$337.50  
 Processing: \$0.90/LCY x 27 LCY = \$24.30  
 Compaction: \$1.34/LCY x 27 LCY = \$36.18  
 Basic Rock Haul cost: \$0.74/LCY x 27 LCY = \$19.98  
 Rock Haul +15% grades: \$2.21/LCY-mi x 27 LCY x 3.50 mi= \$208.85  
 Rock Haul -15% grades: \$1.10/LCY-mi x 27 LCY x 3.40 mi= \$100.98  
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 27 LCY x 17.40 mi= \$230.20  
 Basic Water Haul cost: \$0.60/LCY x 27 LCY = \$16.20  
 Water Haul +15% grades: \$0.28/LCY-mi x 27 LCY x 1.00 mi= \$7.56  
 Water Haul -15% grades: \$0.14/LCY-mi x 27 LCY x 2.00 mi= \$7.56  
 Water Haul St&Co Roads: \$0.08/LCY-mi x 27 LCY x 0.00 mi= \$0.00

Subtotal: \$7,218.28

Road Number: Spur 1A Spur 1A Continued

Section 1300 Geotextiles:	Subtotal:	\$0.00
Section 1400 Slope Protection:	Subtotal:	\$0.00
Section 1800 Soil Stabilization: Dry Method with Mulch: \$508.90/acre x 0.06 acres = \$30.53 Includes Small Quantity Factor of 1.34 + Seed Cost: \$132.00/acre x 0.06 acres = \$7.92 + Fertilizer Cost: \$34.00/acre x 0.06 acres = \$2.04 + Mulch Cost: \$320.00/acre x 0.06 acres = \$19.20	Subtotal:	\$59.69
Section 1900 Cattleguards:	Subtotal:	\$0.00
Section 2100 Roadside Brushing:	Subtotal:	\$0.00
Section 2300 Engineering: Comment: Government Provided	Subtotal:	\$0.00
Section 2400 Minor Concrete:	Subtotal:	\$0.00
Section 2500 Gabions:	Subtotal:	\$0.00
Section 8000 Miscellaneous:	Subtotal:	\$0.00
Mobilization: Construction - 2.80% of total Costs = \$276.24 Surfacing - 4.90% by rock volume = \$77.40	Subtotal:	\$353.64
Quarry Development: Based on 4.90% of total rock volume	Subtotal:	\$0.00
	Total:	\$9,397.73

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Six One Sale Date: 02/17/16

Road Number: Spur 1B Road Name: Spur 1B

Road Construction: 0.05 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: 0.2 acres .....	\$502.77
300 Excavation: 62 cy .....	\$748.64
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$0.00
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$29.85
Includes Small Quantity Factor of 1.34	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: 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. \$39.13 Surf. \$0.00.....	\$39.13
Quarry Development: .....	\$0.00
Total:	\$1,320.39

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.



Road Construction Worksheet

Road Number: Spur 1B Road Name: Spur 1B

Section 200 Clearing and Grubbing:

Clearing - Medium (Clearing): Adjustment Factor (1.67)

16-30% (Avg Side Slopes): Adjustment Factor (0.1)

Windrow (Slash): Adjustment Factor (1.07)

20-40' (Avg Clearing Widths): Adjustment Factor (0.1)

Total Adjustment Factor: 1.67 + 0.1 + 1.07 + 0.1 = 2.94

Base Cost/Acre: \$855.05 x Adjustment Factor: 2.94 x Total Acres: .20 = \$502.77

Subtotal: \$502.77

Section 300 Excavation:

Excavation - Common: \$1.93/cy x 62 cy = \$119.66

Embankment Placement & Compaction 306.f - Common: \$0.26/cy x 83 cy = \$21.58

Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 2.4 sta = \$81.70

Blading with ditch: \$14.45/station x 2.43 stations = \$35.11

Prepare Subgrade

Tractor: D7 with rippers 3 hr x \$163.53/hr = \$490.59

Subtotal: \$748.64

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$508.90/acre x 0.03 acres = \$15.27

Includes Small Quantity Factor of 1.34

+ Seed Cost: \$132.00/acre x 0.03 acres = \$3.96

+ Fertilizer Cost: \$34.00/acre x 0.03 acres = \$1.02

+ Mulch Cost: \$320.00/acre x 0.03 acres = \$9.60

Subtotal: \$29.85

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 2300 Engineering:

Comment: GOVERNMENT PROVIDED

Subtotal: \$0.00

Section 2400 Minor Concrete:

Subtotal: \$0.00

Section 2500 Gabions:

Subtotal: \$0.00

Road Number: Spur 1B Spur 1B Continued

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 0.40% of total Costs = \$39.13

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$39.13

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$1,320.39

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**Mobilization Costs - Construction and Surfacing**

T.S. Contract Name: Six One Sale Date: 02/17/16

Average Mobilization distance = 50 miles Factor = 1.00

Mobilization: Construction

Hydro-Mulcher: 1 ea x (1.00 x \$65.00/ea + 11 mi x \$3.64/mi)= \$105.04  
Fire Equipment: 1 ea x (1.00 x \$65.00/ea + 11 mi x \$3.64/mi)= \$105.04  
Brush Cutter: 1 ea x (1.00 x \$483.00/ea) = \$483.00  
Loaders < 3cy: 1 ea x (1.00 x \$483.00/ea + 11 mi x \$9.21/mi)= \$584.31  
Rollers & Comp: 1 ea x (1.00 x \$483.00/ea + 11 mi x \$26.90/mi)= \$778.90  
Excavators: 1 ea x (1.00 x \$861.00/ea = \$861.00  
Tractors >= D8: 1 ea x (1.00 x \$861.00/ea + 11 mi x \$46.13/mi)= \$1,368.43  
Dump Truck<=15cy: 6 ea x (1.00 x \$113.00/ea + 11 mi x \$4.69/mi)= \$987.54  
Water Truck: 1 ea x (1.00 x \$107.00/ea + 11 mi x \$4.48/mi)= \$156.28  
Excavators(Small): 1 ea x (1.00 x \$483.00/ea + 11 mi x \$19.42/mi)= \$696.62  
Equipment Washing: 15 ea x (\$250.00) /ea = \$3,750.00

Subtotal: \$9,876.16

Mobilization: Surfacing

Graders-all: 1ea x (1.00 x \$483.00/ea + 11 mi x \$14.73/mi)= \$645.03  
Rollers & Comp: 1ea x (1.00 x \$483.00/ea + 11 mi x \$26.90/mi)= \$483.00  
Water Truck: 1ea x (1.00 x \$107.00/ea + 11 mi x \$4.48/mi)= \$156.28

Subtotal: \$1,580.21

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**Summary of Construction Quantities**

T.S. Contract Name: Six One Sale Date: 02/17/16

Road Number	Const	Improv	Renov	Decomm	Temp
31-14-14.1	19.69				
31-14-14.2	5.28				
31-14-15.0			6.34		
31-14-21.0			3.17		
31-14-21.2			19.38		
31-14-22.0			28.20		
31-14-22.2			33.90		
31-14-22.7	13.57				
31-14-23.6	6.81				
Spur 1A	1.16				
Spur 1B	2.43				
<b>Total Sta:</b>	<b>48.94</b>		<b>90.99</b>		

200 Clearing and Grubbing	Clearing acres
31-14-14.1	2.1
31-14-14.2	0.5
31-14-15.0	0.0
31-14-21.0	0.0
31-14-21.2	0.5
31-14-22.0	0.0
31-14-22.2	1.2
31-14-22.7	2.2
31-14-23.6	0.9
Spur 1A	0.2
Spur 1B	0.2

Totals: 7.8

Landing MP 0.620 31-14-22.2  
 Tractor: D7 with rippers . . . . . 4 hr  
 Prepare Waste Area 31-14-21.2  
 Tractor: D7 with rippers . . . . . 6 hr

300 Excavation	Excav LCY.s	Haul sta-yds	Haul yd-mi
31-14-14.1	10,953	0	8,545
31-14-14.2	690	0	0
31-14-22.2	2,030	0	2,030
31-14-22.7	4,199	0	0
31-14-23.6	4,736	0	5,076
Spur 1A	262	0	0
Spur 1B	62	0	0
<b>Totals:</b>	<b>22,932</b>	<b>0</b>	<b>15,651</b>

LDG @ MP 0.620 31-14-22.2  
 Tractor: D7 with rippers . . . . . 2 hr  
 Prepare Subgrade 31-14-22.7  
 Tractor: D7 with rippers . . . . . 20 hr  
 Prepare Subgrade 31-14-14.2  
 Tractor: D7 with rippers . . . . . 6 hr  
 Prepare Subgrade Spur 1B

Continuation of Construction Quantities

Tractor: D7 with rippers . . . . .	3 hr
Prepare Subgrade Spur 1A	
Tractor: D7 with rippers . . . . .	2 hr
Waste Area Construction 31-14-21.2	
Tractor: D7 with rippers . . . . .	12 hr

400 Drainage

Road Number	Culvert	Polypipe	Downspout
31-14-14.1	0 lf	90 lf	0 lf
31-14-21.2	0 lf	100 lf	0 lf
31-14-22.0	0 lf	0 lf	20 lf
31-14-22.2	0 lf	300 lf	0 lf
31-14-22.7	0 lf	70 lf	0 lf
31-14-23.6	0 lf	40 lf	0 lf
Total Drainage:		600 lf	20 lf

Culvert Bedding 31-14-14.1			
Culvert Bedding . . . . .			5 LCY
Culvert Bedding 31-14-23.6			
Culvert Bedding . . . . .			2.5 LCY
Culvert Markers 31-14-14.1			
Culvert Markers . . . . .			3 EA
Culvert Markers 31-14-23.6			
Culvert Markers . . . . .			1 EA
Culverts 31-14-22.2			
Culvert Markers . . . . .			11 EA
Culvert Bedding . . . . .			16 LCY
Culverts 31-14-21.2			
Culvert Markers . . . . .			4 EA
Culvert Bedding . . . . .			5.5 LCY
Culverts 31-14-22.7			
Culvert Bedding . . . . .			4 LCY
Culvert Markers . . . . .			2 EA
Cut Back EX CMP add Downspout 31-14-22.0			
Foreman . . . . .			3 hr
General Laborer . . . . .			3 hr
Add Marker . . . . .			1 ea

500 Renovation	Blade Miles	Slide cy
31-14-15.0	0.12	0
31-14-21.0	0.06	0
31-14-21.2	0.37	0
31-14-22.0	0.53	0
31-14-22.2	0.64	0

Totals: 1.72 0

Const. landing w/app MP 0.660 31-14-22.2	
Tractor: D7 with winch . . . . .	3 hr

Surfacing (Loose Cubic Yards)

Note: Due to slight rounding differences between total LCY vs. subtotaled LCY, Totals shown here may not be exactly as shown in the road summaries and worksheets.

Quarry Name: S. Floras CR-Base

Commercial	Roadway	Turnouts	Other	
31-14-23.6	0	0	401	401
Spur 1A	0	0	170	170
31-14-14.1	0	0	885	885

Continuation of Construction Quantities

31-14-22.2	0	0	382	382
Totals:	<u>0</u>	<u>0</u>	<u>1,838</u>	<u>1,838</u>

Quarry Name: S. Floras CR-RIPRAP  
Commercial

	Roadway	Turnouts	Other	
Totals:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Quarry Name: S. Floras CR-SURFACE  
Commercial

	Roadway	Turnouts	Other	
31-14-23.6	0	0	150	150
Spur 1A	0	0	27	27
31-14-14.1	0	0	350	350
31-14-15.0	0	0	80	80
31-14-21.2	0	0	265	265
31-14-22.0	0	0	350	350
31-14-22.2	0	0	922	922
31-14-21.0	0	0	40	40
Totals:	<u>0</u>	<u>0</u>	<u>2,184</u>	<u>2,184</u>

1300 Geotextiles

Totals: No Quantities

1400 Slope Protection

Slope Protection Class	4	L.C.Y.s
31-14-14.1		9
31-14-14.2		3
31-14-21.2		18
31-14-22.0		6
31-14-22.2		30
31-14-22.7		6
31-14-23.6		3
Totals:		<u>75</u>

1800 Soil stabilization - acres

	Dry W/O Mulch	Dry/with Mulch	Hydro Mulch
31-14-14.1	0.0	1.5	
31-14-14.2	0.0	0.2	
31-14-21.2	0.0	0.6	
31-14-22.2	0.0	0.5	
31-14-22.7	0.0	1.2	
31-14-23.6	0.0	0.5	
Spur 1A	0.0	0.1	
Spur 1B	0.0	0.0	
Totals:	<u>0.0</u>	<u>4.4</u>	<u>0.0</u>

Small Quantity Factor of 1.34 used

1900 Cattleguards

Totals: No Quantities

2100 RoadSide Brushing

	acres
31-14-15.0	0.3
31-14-21.0	0.2

Continuation of Construction Quantities

31-14-21.2	0.9
31-14-22.0	1.3
31-14-22.2	1.2

Totals:	<u>3.9</u>
---------	------------

2300 Engineering stations

Totals:	<u>0.00</u>
---------	-------------

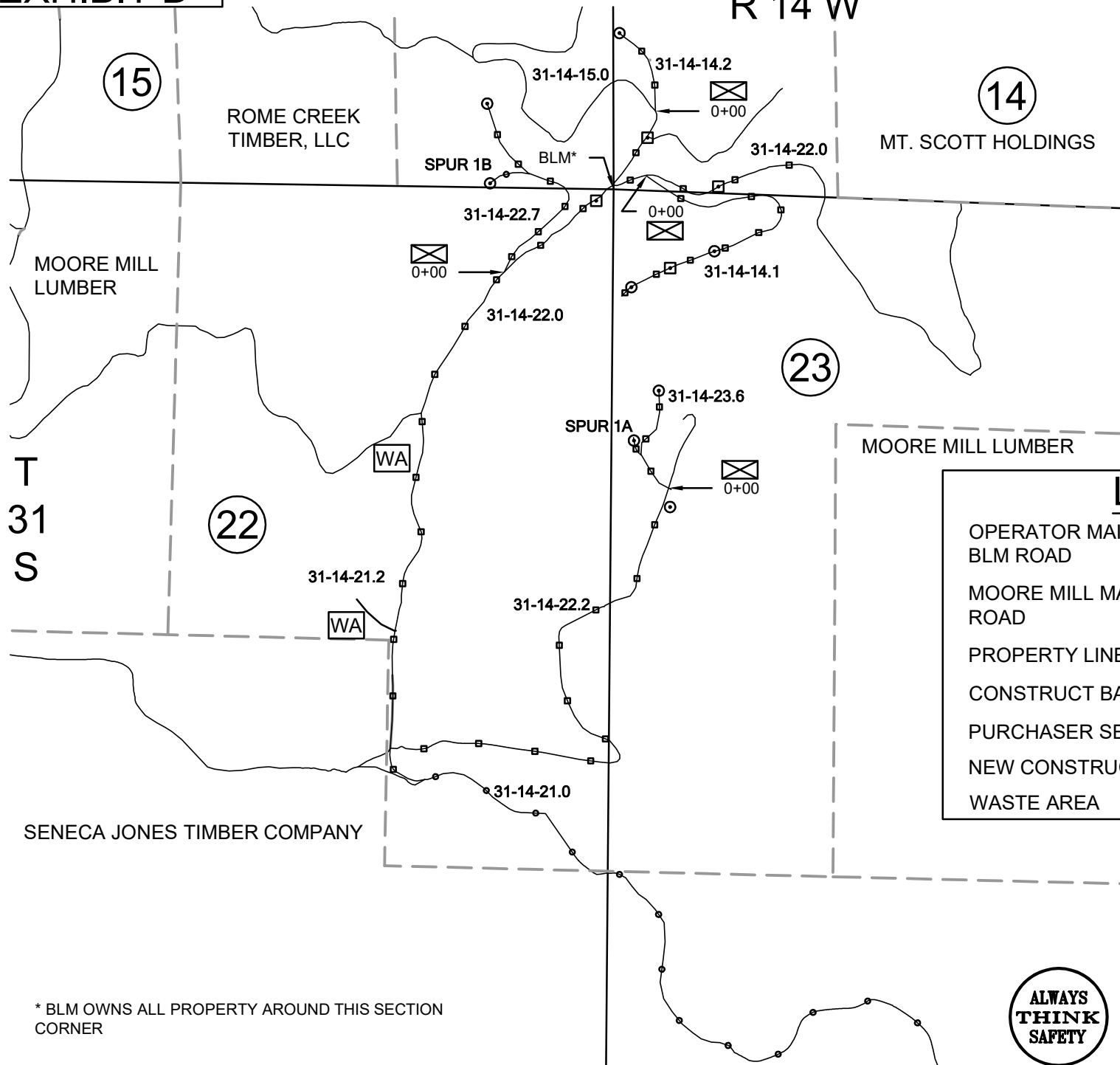
2400 Minor Concrete  
Totals: No Quantities

2500 Gabions  
Totals: No Quantities

8000 Miscellaneous  
Totals: No Quantities

# EXHIBIT D

R 14 W



14

15

23

22

T  
31  
S



### LEGEND

- OPERATOR MAINTAINED
- BLM ROAD
- MOORE MILL MAINTAINED ROAD
- PROPERTY LINE
- CONSTRUCT BARRIER
- PURCHASER SELECT LANDING
- NEW CONSTRUCTION LANDING
- WASTE AREA

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

## TIMBER SALE: SIX ONE WORK LOCATION MAP

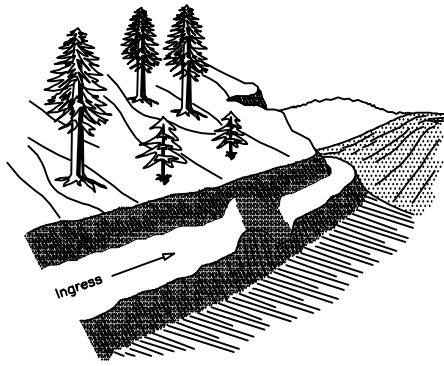
DESIGNED G. ZARTMAN  
REVIEWED J. VAN AGTMAEL  
APPROVED G. ZARTMAN

DRAWN M. HEMMER	SCALE NONE
DATE 08/16	SHEET 1 OF 8
DRAWING NO. SIX ONE EXHIBIT D.DWG	

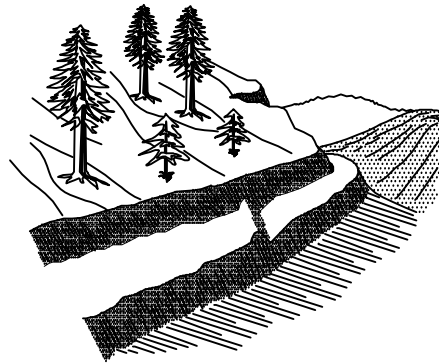


\* BLM OWNS ALL PROPERTY AROUND THIS SECTION CORNER

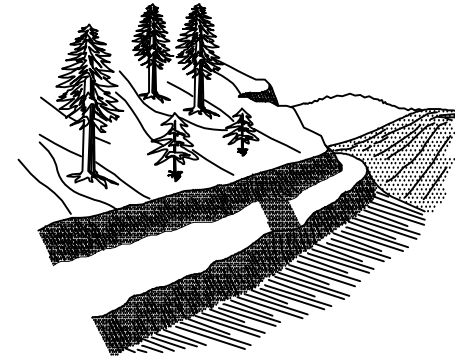




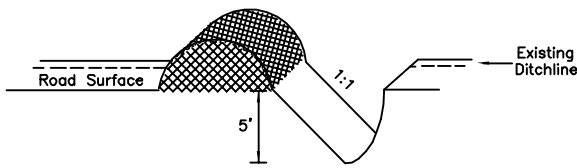
BARRIERS



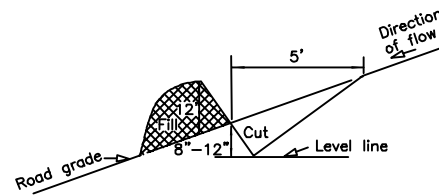
WATER BAR



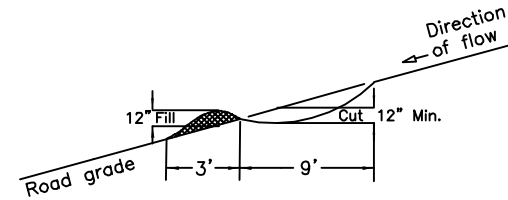
WATER DIP



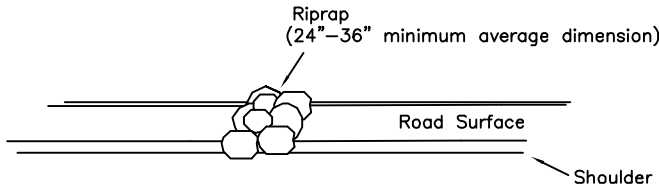
(NOT TO SCALE)



(NOT TO SCALE)



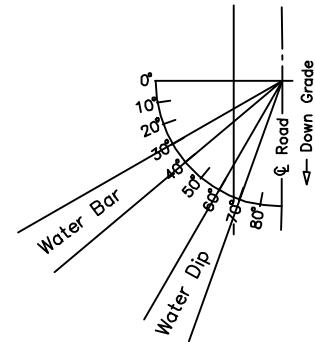
(NOT TO SCALE)



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 BARS SHALL BE SKEWED 30° - 40°.
4. ALL WATER DIPS SHALL BE SKEWED 60° - 70°.
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 SHALL BE PLACED ON THE SIDE NEAREST THE BEGINNING OF THE ROAD.
8. OUTLETS OF WATER DIPS MUST BE ROCKED ON FILL SLOPE.
9. RIPRAP BARRIERS SHALL BE AT LEAST 4' HIGH, 4' DEEP, AND OF SUFFICIENT WIDTH TO COMPLETELY BLOCK THE ROADWAY AND ANY ADJACENT SHOULDERS THAT CAN BE TRAVELED WITH A VEHICLE.
10. ALL BERMS INCLUDING WATER BARS, WATER DIPS, AND EARTHEN BARRIERS SHALL BE COMPACTED TO 85% OF MAXIMUM DENSITY.

SKEW DIAGRAM



WATER DIP/BAR SPACING

ROAD GRADE	MAXIMUM SPACING
%	FEET
0-4	500
5-6	400
7-9	300
10-14	100
15-20	50



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

TIMBER SALE: SIX ONE BARRIER AND EROSION CONTROL DETAIL

DESIGNED G. ZARTMAN  
REVIEWED J. VAN AGTMAEL  
APPROVED G. ZARTMAN

DRAWN MH SCALE NONE  
DATE 06/16 SHEET 2 OF 8  
DRAWING NO. SIX ONE EXHIBIT D.DWG

ROAD NUMBER	SURFACING				OTHER			SOIL STABILIZATION		OTHER		
	TOP **	AGG. MAINT. ROCK **	AGG. MAINT. ROCK **	BASE	RIPRAP BARRIER	RIPRAP ARMOR	JAWRUN ROCK	DRY	HYDRO-MULCH			
SPEC. NO.	1200	1200	1000	1000	1400			1800	1800			
UNITS	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	ACRES	ACRES			
GRADE	C	C	B	B	A	B	A					
31-14-15.0 R		40										
31-14-21.0 R		20										
31-14-21.2 R		130										
31-14-22.0 R		170										
31-14-22.2 R		200										
31-14-23.6 C		40			20							
SPUR 1A C		10										
<b>31-14-14.1 C</b>		120			20							
<b>31-14-22.7 C</b>								1.00				
SPUR 1B C								0.17				
31-14-14.2 C								0.31				
TOTALS		730			40			1.48				

\* FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NPT PAY ITEMS.

\*\* ROCK QUANTITIES ARE TRUCK MEASUREMENT.

ITEM	SIZE	GRADE
PITRUN		
1000 (BASE)	3"	8
1100	4"	B
1200 (TOP)	1 1/2"	C
1400 (RIPRAP)	34"	A
	28"	B
CHIP SEAL ROCK	3/4"	S



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
TIMBER SALE: SIX ONE ESTIMATE OF QUANTITIES	
DESIGNED <u>G. ZARTMAN</u>	
REVIEWED <u>J. VAN AGTMAEL</u>	
APPROVED <u>G. ZARTMAN</u>	
DRAWN MH	SCALE NONE
DATE 06/16	SHEET 3 OF 8
DRAWING NO. SIX ONE EXHIBIT D	

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 furnish and place 730 cu. yds. of aggregate conforming to the requirements in Section 1200 of Exhibit C of this contract on the roadway at locations and in the amounts designated 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 dumptrucks, 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 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 waterbars 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 nonhauling 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.	Work
31-14-23.6	<p>Construct riprap barrier at Sta. 0+00 in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.</p> <p>Construct waterbars in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.</p> <p>Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.</p>
Spur 1A	<p>Construct waterbars in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.</p> <p>Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C</p>
31-14-14.1	<p>Construct riprap barrier at Sta. 0+00 in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.</p> <p>Construct waterbars in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.</p> <p>Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.</p>
31-14-22.7	<p>Construct earthen barrier at Sta. 0+00 in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.</p>

Construct waterbars in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.

Remove culvert at Sta. 11+27.2 and legally dispose off of Government lands. Construct a drainage channel through the subgrade and pull back fillslopes to 1 1/2 : 1. Excavated material shall be embanked on the subgrade of the 31-14-22.7 road.

Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.

Spur 1B Construct waterbars in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.

Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.

31-14-14.2 Construct earthen barrier at Sta. 0+00 in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.

Construct waterbars in accordance with Sheet No. 2 of the Exhibit D and as directed by the Authorized Officer.

Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.

31-14-15.0 None.

31-14-21.2 None.

31-14-22.0 None.

31-14-22.2 None.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Sale: Six One  
Sale Date: 08/16/16  
Prep. By : M. Bailey  
Tract No: 2017.0030

ROAD MAINTENANCE AND ROAD USE APPRAISAL WORK SHEET

Summary of Costs

Purchaser Maintenance Allowances:

(5.2A) Move In . . . . .	\$1,051.47
(5.2B) Culverts, Catch Basins, Downspouts . . . . .	\$882.21
(5.2C) Grading, Ditching . . . . .	\$3,804.24
(5.2D) Slide Removal and Slump Repair . . . . .	\$0.00
(5.2E) Dust Palliative (Water) . . . . .	\$0.00
(5.2F) Surface Repair (Aggregate) . . . . .	\$26,437.61
(5.2G) Other . . . . .	\$2,800.00
Total Purchaser Maintenance Allowances (5.2A-5.2G)	<u>\$34,975.53</u>
(2.1-5.2G) Cost/MBF ( \$0.00 + \$34,975.53 ) /4432 MBF =	<u>\$7.89/MBF</u>
(5.2H) Decommissioning . . . . .	\$4,432.15
(5.2H) Cost/MBF \$4,432.15/4432 MBF =	<u>\$1.00/MBF</u>
Total Cost/MBF (Excluding Road Use) \$39,407.67/4432 MBF =	<u>\$8.89/MBF</u>



**Purchaser Operational Maintenance**

**Move In**

Equipment	No	Move	Cost/	Dist	Sub-
	Units	in	50 Mi	Factor	total
Motor Grader:	1	1	\$483.00	0.63	\$304.29
Back Hoe:			\$149.00	0.63	\$0.00
Loader:			\$483.00	0.63	\$0.00
Water Truck:	1	1	\$107.00	0.63	\$67.41
Dump Truck:	1	1	\$113.00	0.63	\$71.19
Excavator:	1	1	\$483.00	0.63	\$304.29
Roller:	1	1	\$483.00	0.63	\$304.29

(5.2A) Total \$1,051.47

**Culvert Maintenance - Including Catch basins and Downpipes**

Miles	x	Cost/Mi	=	Subtotal
2.64		\$334.17		\$882.21

(5.2B) Total \$882.21

**Grading (Includes Ditches and Shoulders)**

Miles	x	Cost/Mi	x	Freq	=	Subtotal
Blade w/ Ditch:	2.64	\$720.50		2		\$3,804.24
Blade w/o Ditch:	0.00	\$446.73		0		\$0.00

(5.2C) Total \$3,804.2

**Surface Repair (Aggregate)**

Production Cost:	730.0 CY x \$12.50/CY	=	9,125.00
Haul to Stockpile:	730.0 CY x ((\$0.49/CY x 17.40 Mi) + \$0.74)	=	6,764.18
Stockpile:	0.0 CY x \$1.01/CY	=	\$0.00
Load from Stockpile:	0.0 CY x \$1.11/CY	=	\$0.00
Haul from Stockpile:	730.0 CY x ((\$2.21/CY x 5.19 Mi) + \$0.74)	=	8,913.23
Process with Grader:	730.0 CY x \$0.90/CY	=	\$657.00
Compaction:	730.0 CY x \$1.34/CY	=	\$978.20

(5.2F) Total \$26,437.61

**Other**

Barriers (riprap) - (2)20cyd ea	Lump Sum	=	\$1,500.00
Barriers (earth) - (2) ea	Lump Sum	=	\$300.00
Soil Stab. -22.7, -14.2, & Spur 1B	Lump Sum	=	\$1,000.00

(5.2G) Total \$2,800.00

**Decommissioning**

31-14-23.6	Excavator -Small	(1.5 CY): 3 hr @ \$97.09/hr	=\$291.27
Spur 1A	Excavator -Small	(1.5 CY): 1.5 hr @ \$97.09/h	=\$145.64
31-14-14.1	Excavator -Small	(1.5 CY): 12 hr @ \$97.09/hr	=\$1,165.08
Spur 1B	Excavator -Small	(1.5 CY): 1 hr @ \$97.09/hr	=\$97.09
31-14-22.7	Excavator -Small	(1.5 CY): 12 hr @ \$97.09/hr	=\$1,165.08
31-14-14.2	Excavator -Small	(1.5 CY): 9 hr @ \$97.09/hr	=\$873.81
31-14-22.7	Remove and Disposal of Culvert:	1 EA @ \$500.00/EA	=\$500.00
31-14-22.7	Excavator-Small	(1.5 CY): 2 hr @ \$97.09/hr	=\$194.18

(5.2H) Total \$4,432.15

EXHIBIT E  
ROAD USE AND MAINTENANCE FEES

SALE VOLUME: 4196 NET MBF

A. ROAD USE FEES - Payable to Private Company:

COMPANY NAME	AGREEMENT NUMBER	ROAD NUMBER	NET MBF	USE FEE per MBF	TOTAL FEES
Moore Mill	C-364	31-14-21.0 C-D	4196	\$0.00	\$0.00
Pacific West Timber Co.	C-354	32-14-4.0 B	4196	\$0.00	\$0.00
Moore Mill	C-364	32-14-4.0 A	4196	\$2.56	\$10,741.76
					\$0.00
					\$0.00
TOTAL USE FEE:					\$10,741.76

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. /MBF/Mile	Subtotal	TOTAL FEES
					\$0.00		\$0.00	\$0.00
					\$0.00		\$0.00	\$0.00
					\$0.00		\$0.00	\$0.00
					\$0.00		\$0.00	\$0.00
					\$0.00		\$0.00	\$0.00
					\$0.00		\$0.00	\$0.00
					\$0.00		\$0.00	\$0.00
					\$0.00		\$0.00	\$0.00
					\$0.00		\$0.00	\$0.00
			0.00		\$0.00		\$0.00	\$0.00

2. ROCKWEAR Fees Payable to the U.S. (OPERATOR Maintained Roads):

a. Timber Haul:

Surface Type	ROAD NUMBER	NET MBF	ROAD MILES	ROCKWEAR /MBF/Mile	TOTAL FEES
Dirt	31-14-14.2	123	0.05	\$0.00	\$0.00
Dirt	31-14-14.2	246	0.06	\$0.00	\$0.00
Rock	31-14-15.0	246	0.04	\$0.49	\$4.82
Rock	31-14-15.0	431	0.08	\$0.49	\$16.90
Rock	31-14-22.0	185	0.19	\$0.49	\$17.22
Rock	31-14-14.1	309	0.08	\$0.49	\$12.11
Rock	31-14-14.1	556	0.07	\$0.49	\$19.07
Rock	31-14-14.1	803	0.20	\$0.49	\$78.69
Rock	31-14-22.0	988	0.05	\$0.49	\$24.21
Rock	31-14-22.0	1419	0.02	\$0.49	\$13.91
Rock	31-14-22.0	1542	0.22	\$0.49	\$166.23
Dirt	31-14-22.7	309	0.08	\$0.00	\$0.00
Dirt	Spur 1B	556	0.03	\$0.00	\$0.00
Dirt	31-14-22.7	865	0.19	\$0.00	\$0.00
Rock	31-14-22.0	2469	0.18	\$0.49	\$217.77
Rock	31-14-21.2	2469	0.37	\$0.49	\$447.63
Rock	31-14-23.6	247	0.08	\$0.49	\$9.68
Rock	Spur1A	1235	0.02	\$0.49	\$12.10
Rock	31-14-23.6	1482	0.05	\$0.49	\$36.31
Rock	31-14-22.2	1482	0.01	\$0.49	\$7.26
Rock	31-14-22.2	1670	0.16	\$0.49	\$130.93
Rock	31-14-22.2	1689	0.16	\$0.49	\$132.42
Rock	31-14-22.2	1708	0.16	\$0.49	\$133.91
Rock	31-14-22.2	1727	0.15	\$0.49	\$126.93
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
				2.70	\$1,608.10

**EXHIBIT E  
ROAD USE AND MAINTENANCE FEES**

3. ROAD MAINTENANCE AND/OR ROCKWEAR FEES - Payable to Private Company:

Surface Type	COMPANY NAME	AGREEMENT NUMBER	ROAD NUMBER	NET MBF	ROAD MILES	& MAINT. /MBF/Mile	TOTAL FEES
Rock	Moore Mill	C-364	31-14-21.0 C-D	4196	1.90	\$1.46	\$11,639.70
Rock	Pacific West Timber Co. Payable to Moore Mill	C-354	32-14-4.0 B	4196	0.69	\$1.46	\$4,227.05
Rock	Moore Mill	C-364	32-14-4.0 A	4196	3.92	\$1.46	\$24,014.55
6.51							\$39,881.30

4. OPERATOR MAINTENANCE WILL BE REQUIRED ON APPROX. 2.52 MILES OF ROAD. (SEE EXHIBIT D)

SUMMARY OF ROAD USE & ROAD MAINTENANCE FEES	ROAD USE FEES		ROCKWEAR & MAINTENANCE FEES		MAINTENANCE FEES	
	TOTAL	\$/MBF	TOTAL	\$/MBF	TOTAL	\$/MBF
1. COMPANY-OWNED ROADS:	\$10,741.76	\$2.56	\$39,881.30	\$9.50		\$0.00
2. BLM MAINTAINED ROADS:			\$0.00	\$0.00	\$0.00	\$0.00
3. BLM OPERATOR-MAINTAINED ROADS:			\$1,608.10	\$0.38		\$0.00
	\$10,741.76	\$2.56	\$41,489.40	\$9.89	\$0.00	\$0.00

	TOTAL	\$/MBF
MAINTENANCE OBLIGATION PAYABLE TO BLM:	\$1,608.10	\$0.38

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 to 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.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Coos Bay  
Six One  
ORC00-TS-2017.0030

**Prospectus**

Appraisal Method : (16' MBF)

Species	Trees	Net Volume 16' MBF	Net Volume 32' MBF	Net Volume CCF
Western Hemlock	14,695	2,836	2,437	
Douglas-fir	8,217	1,341	1,130	
Red Alder	251	11	8	
Port-Orford-cedar	249	8	7	
<b>Total</b>	<b>23,412</b>	<b>4,196</b>	<b>3,582</b>	

**All Species**

Gross Volume	Number Trees	Avg bf Volume Per Tree	DBH	Gross Merch Volume	Merch Logs	Avg bf Gross Merch Log
4,487	23,412	191	13.2	4,432	90,505	49

Merch Logs	Cull Logs	Total Logs	Logs per Tree	Net Volume	Gross Volume	Recovery
90,505	1,311	91,816	3.9	4,196	4,487	94 %

**Western Hemlock**

Gross Volume	Number Trees	Avg bf Volume Per Tree	DBH	Gross Merch Volume	Merch Logs	Avg bf Gross Merch Log
3,045	14,695	207	13.2	2,994	59,574	50

Merch Logs	Cull Logs	Total Logs	Logs per Tree	Net Volume	Gross Volume	Recovery
59,574	1,204	60,778	4.1	2,836	3,045	93 %

**Cutting Areas**

Unit	Regen Acres	Partial Cut Acres	Right Of Way Acres	Total Acres
1	64			64
2	4			4
RW	1			1
<b>Totals :</b>	<b>69</b>			<b>69</b>

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Coos Bay  
Six One  
ORC00-TS-2017.0030

**Stumpage Summary**

**Stumpage Computation (16' MBF)**

Species	Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Cost	(+) Marginal Log Value	(-) Back Off	Appraised Price	Appraised Value
WH	14,695	2,836	\$ 396.55	\$ 43.62	\$ 328.06			\$ 39.70	\$ 112,589.20
DF	8,217	1,341	\$ 473.05	\$ 52.04	\$ 328.06			\$ 93.00	\$ 124,713.00
RA	251	11	\$ 384.35	\$ 42.28	\$ 328.06			\$ 38.40	\$ 422.40
POC	249	8	\$ 490.35	\$ 53.94	\$ 328.06			\$ 108.40	\$ 867.20
<b>Totals</b>	<b>23,412</b>	<b>4,196</b>							<b>\$ 238,591.80</b>

**Log Code by Percent**

Species	Code #1	Code #2	Code #3	Code #4	Code #5	Code #6
Port-Orford-cedar				1.0	35.0	64.0
Douglas-fir				42.0	47.0	11.0
Western Hemlock				37.0	54.0	9.0
Red Alder		6.0	5.0	89.0		

**Marginal Log Volume**

Species	Grade #7	Grade #8
Port-Orford-cedar		
Douglas-fir		
Western Hemlock		
Red Alder		

**Appraised By :** Stover, Douglas                      **Date :** 09/13/2016  
**Area Approval By :** Wooley, Michael                      **Date :** 09/19/2016  
**District Approval By :** Davis, Brian                      **Date :** 01/09/2017

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

Coos Bay  
Six One  
ORC00-TS-2017.0030

**Timber - Sale - Summary**

**Legal Description**

Forest Type	Township	Range	Section	Subdivision
PD	31S	14W	14	Lot 6
PD	31S	14W	15	Lot 9
PD	31S	14W	22	E1/2NE1/4
PD	31S	14W	23	W1/2NW1/4

**Cutting Volume (16' MBF)**

Unit	WH	DF	RA	POC					Total	Regen	Partial	ROW
1	2,818	1,114	11	8					3,951	64	0	0
2	17	171							188	4	0	0
RW	1	56							57	1	0	0
<b>Totals</b>	<b>2,836</b>	<b>1,341</b>	<b>11</b>	<b>8</b>					<b>4,196</b>	<b>69</b>	<b>0</b>	<b>0</b>

**Logging Costs per 16' MBF**

Stump to Truck	\$	103.12
Transportation	\$	117.69
Road Construction	\$	79.79
Road Amortization	\$	2.56
Road Maintenance	\$	18.22
Other Allowances :		

Habitat Creation	\$ 1.67
Landing pullback	\$ 0.39
Misc	\$ 2.51
Slash Disposal	\$ 1.49
Vehicle Washing	\$ 0.62
<b>Total Other Allowances :</b>	<b>\$ 6.68</b>

Total Logging Costs per 16' MBF

**\$ 328.06**

**Utilization Centers**

Center #1 : Coquille 56 Miles  
Center #1 : Roseburg 119 Miles  
Weighted distance to Utilization Centers 105

**Length of Contract**

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

**Profit & Risk**

Total Profit & Risk 11 %  
Basic Profit & Risk 8 % + Additional Risk 3 %  
Back Off 0 %

**Tract Features**

Avg Log	Western Hemlock : 50 bf	All : 49 bf
Recovery	Western Hemlock : 93 %	All : 94 %
Salvage	Western Hemlock : 0 %	All : 0 %
Avg Volume ( 16' MBF per Acre)		61
Avg Yarding Slope		30 %
Avg Yarding Distance (feet)		290
Avg Age		72
Volume Cable		68 %
Volume Ground		32 %
Volume Aerial		0 %
Road Construction Stations		49.42
Road Improvement Stations		0.00
Road Renovation Stations		90.99
Road Decommission Stations		49.19

**Cruise**

Cruised By Wooley,Stover,Davis  
Date  
Type of Cruise 3P,BLM 100  
County, State Curry, OR

**Net Volume**

Green (16' MBF)	4,196
Salvage (16' MBF)	0
Western Hemlock Peeler	0
Export Volume	0
Scaling Allowance (\$0.75 per 16' MBF)	\$3,147.00



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

EQUAL OPPORTUNITY IN EMPLOYMENT  
CERTIFICATION OF NONSEGREGATED FACILITIES

Bid, offer, or contract number or  
other identification

By the submission of this bid or offer and/or by entering into this contract, the bidder, offeror, lessee, subcontractor, or applicant certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means, but is not limited to, any waiting rooms, work areas, rest rooms and wash rooms, restaurants and

other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT  
FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

A Certification of Nonsegregated Facilities, as required by the May 9, 1967, order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the

provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

In accordance with 41 CFR 60, as amended May 19, 1967, and Executive Order No. 11246 of September 24, 1965, as amended, this certification is applicable to all bids, offers, contracts and subcontracts as well as agreements with applicants who are themselves performing federally assisted contracts, which may exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity clause of the Order.

---

---

INSTRUCTIONS TO BIDDERS

1. **AUTHORITY** – Timber located on the revested Oregon and California Railroad Grant Lands and on the reconveyed Coos Bay Wagon Road Grant Lands is administered and sold pursuant to authority of the Act of August 28, 1937 (50 Stat. 874; 43 U.S.C. 1181a); timber located on other lands and other vegetative resources on all public lands of the United States under jurisdiction of the Bureau of Land Management are administered and sold pursuant to authority of the Act of July 31, 1947 (61 Stat. 681), as amended, by the Act of July 23, 1955 (69 Stat. 367; 30 U.S.C. 601 et. seq.). Regulations of the Secretary of the Interior governing sale of timber are codified in 43 CFR Group 5400.

2. **QUALIFICATIONS OF BIDDERS** – A bidder for sale of timber/vegetative resources must be either (a) a citizen of the United States, (b) a partnership composed wholly of such citizens, (c) an unincorporated association composed wholly of such citizens, or (d) a corporation authorized to transact business in the State in which the timber/vegetative resource is located.

3. **INSPECTION OF TIMBER/VEGETATIVE RESOURCES** – Bidder is invited, urged, and cautioned to inspect the timber/vegetative resource prior to submitting a bid. By executing the timber/vegetative resource sale contract, bidder warrants that the contract is accepted on the basis of his examination and inspection of the timber/vegetative resource and his opinion of its value.

4. **DISCLAIMER OF WARRANTY** – Government expressly disclaims any warranty of the fitness of the designated timber/vegetative resource for any purpose of the bidder; all timber/vegetative resources are to be sold “As Is” without any warranty of merchantability by Government. Any warranty as to the quantity or quality of timber/vegetative resource to be sold is expressly disclaimed by Government.

5. **BIDS** – Sealed or written bids for not less than the advertised appraised price, per timber/vegetative resource must be submitted in duplicate to the District Manager who issued *Timber/Vegetative Resource Sale Notice*.

(a) **Sealed Bid Sales** – Bids will be received until time for opening which is set out in the Notice. Enclose both copies of bid with required bid deposit in a sealed envelope marked on the outside *Bid for Timber/Vegetative Resources*, time bid is to be opened, tract number, and legal description of land on which timber/vegetative resource is located. In event of a tie, the high bidder shall be determined by lot from among those who submitted the tie bids.

(b) **Auction Sales** – Submission of the required bid deposit and a written bid is required to qualify for oral bidding. Oral bidding shall begin from the highest written bid. No oral bid will be considered which is not higher than the preceding bid. In the event there is a tie in high written bids, and no oral bidding occurs, the bidder who was the first to submit his bid deposit and written bid shall be declared the high bidder. If the officer conducting the sale cannot determine who made the first submission of high tie written bids, the high bidder shall be determined by lot. High bidder must confirm his bid, in writing, immediately upon being declared high bidder.

(c) Except as otherwise provided in 43 CFR 5442.2, bids will not be considered in resale of timber/vegetative resource remaining from an uncompleted contract from any person or affiliate of such person who failed to complete the original contract because of (1) cancellation for the purchaser’s breach or (2) through failure to complete payment by expiration date.

(d) When it is in the interest of the Government to do so, it may reject any and all bids and may waive minor deficiencies in bids or in sale advertisement.

6. **BID FORMS** – All sealed, written bids, and confirmation of oral bids shall be submitted on forms provided by Government.

(a) **Lump Sum Sales** – Bids shall specify (1) Bureau of Land Management estimated volume, (2) price per unit, and (3) total purchase price. Estimated volume and price per unit are to be used for administrative and appraisal purposes only. Upon award of contract, high bidder shall be liable for total purchase price, including any adjustment which may be made as a result of reappraisal if an extension of time is granted, even though quantity of timber/vegetative resource actually cut, removed, or designated for taking is more or less than the estimated volume or quantity listed.

(b) **Timber Scale Sales** – Bids must state price per thousand board feet that will be paid for each species. High bidder will be determined by multiplying bid price per thousand board feet per species by Bureau of Land Management

estimate of volume of each species. Purchaser shall be liable for purchase price of all merchantable timber sold under contract even though all such timber is not actually cut and removed prior to expiration of time for cutting and removal as specified in contract.\*

7. **BID DEPOSIT** – All bidders must make a deposit of not less than the amount specified in the *Timber/Vegetative Resource Notice*. Deposit may be in the form of cash, money orders, bank drafts, cashiers or certified checks made payable to the Department of the Interior – BLM, bid bonds of a corporate surety shown on the approved list of the United States Treasury Department\*, or any approved guaranteed remittance approved by the 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/VEGETATIVE RESOURCE SALE CONTRACT** – To be executed by purchaser, has been prepared by Government, and may be examined in the District Manager’s office.

10. **PERFORMANCE BOND** –

(a) A performance bond in an amount of not less than 20 percent of total purchase price is required, but the amount of the bond shall not be in excess of \$500,000, except when the purchaser opts to increase the minimum bond to permit cutting prior to payment as provided in 43 CFR 5451.2, or in the event the purchaser is a holder of an unresolved default the bond may be increased as provided in 43 CFR 5450.1(b). Performance bond may be (1) bond of a corporate surety shown on approval list issued by the United States Treasury Department and executed on an approved standard form, (2) personal surety bond executed on an approved standard form if Government determines principals and bondsmen 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 without skidding or yarding it to a loading point or removing it prior to the payment of the second or subsequent installments, Government shall require an increase in amount of performance bond initially required by an amount equal to the value of timber to be cut. Such increase must be on a bond rider form supplied by Government and be approved, in writing, by Government prior to cutting timber covered by the bond increase. This increased amount of bond shall be used to assure payment for timber cut in advance of payment.\*

11. **PAYMENT BOND** – If purchaser elects to (a) cut and remove timber, or (b) remove timber already cut which has been secured by an increased performance bond as provided in paragraph 10(b) above, before payment of the second or subsequent installments, Government shall require a payment bond on a form supplied by Government. Purchaser shall obtain written approval from Government of payment bond prior to cutting and/or removal of timber covered by the bond. Payment bond shall be used to assure payment for timber cut and/or removed in advance of payment.\*

12. **PAYMENT OF PURCHASE PRICE** – For sales of \$500 or more, Government may allow payment by installments. Except as discussed in paragraphs 10 and 11 above, no part of any timber/vegetative resource sold may be severed, cut, or removed unless advance payment has been made as provided in contract.

13. **LIQUIDATED DAMAGES** – Within thirty (30) days from receipt of *Timber/Vegetative 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/vegetative resource, it may, in its discretion, keep the sale open, not to exceed ninety (90) days.

15. **UNAUTHORIZED USE OF GOVERNMENT PROPERTY** – A sale may be refused to high bidder who has been notified that he has failed to make satisfactory arrangements for payment of damages resulting from unauthorized use of, or injury to, property of the United States.

16. **EQUAL OPPORTUNITY CLAUSE** – This contract is subject to the provisions of Executive Order No. 11246 of September 24, 1965, as amended, which sets forth the nondiscrimination clauses. Copies of this order may be obtained from the District Manager. 43 CFR 60-1.7(b) requires that the Equal Opportunity Compliance Report Certification will be completed by prospective contractors. Certification may be obtained from District Manager.

17. **LOG EXPORT** – All timber offered for sale except as noted in the *Timber Sale Notice* is restricted from export from the United States in the form of unprocessed timber and cannot be used as a substitute for exported private timber. For the purpose of this contract, unprocessed timber is defined as: (1) any logs except those of utility grade or below, such as sawlogs, peeler logs, and pulp logs; (2)

cants or squares to be subsequently remanufactured exceeding eight and three quarters (8-3/4) inches in thickness; (3) split or round bolts or other roundwood not processed to standards and specifications suitable for end product use; or (4) western red cedar lumber which does not meet lumber of American Lumber Standards Grades of Number 3 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.

Save

Print

Clear

Form 5440-9  
(November 2011)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

TIMBER or  
TIMBER AND OTHER WOOD PRODUCTS

DEPOSIT AND BID FOR

VEGETATIVE RESOURCES  
(Other Than Timber)

Name of Bidder
Tract Number ORC00-TS-2017.0030
Sale Name Six One
Sale Notice (dated) January 19, 2017
BLM District Coos Bay District

<input type="checkbox"/> Sealed Bid for Sealed Bid Sale		<input type="checkbox"/> Written Bid for Oral Auction Sale	
Time for opening sealed bids	<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Sale commences	<input type="checkbox"/> .m. <input type="checkbox"/> p.m.
On (date)	Place	On (date)	Place
		2/17/2017	Coos Bay District Conf. Rm A

In response to the above dated Sale Notice, the required deposit and bid are hereby submitted for the purchase of designated timber/vegetative resource on the tract specified above.

Required bid deposit is \$23,900.00 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 species will be considered. If the bid is rejected the deposit will be returned.

BID SCHEDULE – LUMP SUM SALE

NOTE: Bidders should carefully check computations in completing the Bid Schedule

BID SUBMITTED					ORAL BID MADE	
PRODUCT SPeCIeS	UNIT	eSTIMATeD VOLUMe OR QUANTITY	UNIT PRICe	TOTAL VALUe	UNIT PRICe	TOTAL VALUe
Douglas-fir	MBF	1,341	X	=	X	=
western hemlock	MBF	2,836	X	=	X	=
red alder	MBF	11	X	=	X	=
Port-Orford-cedar	MBF	8	X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
TOTAL PURCHASE PRICE						

If sale contract is executed, undersigned is liable for total purchase price even though the quantity cut, removed, or designated for taking is more or less than the total estimated volume or quantity shown above. Undersigned certifies bid was arrived at by bidder or offeror independently, and was tendered without collusion with any other bidder or offeror. In submitting or confirming this bid, undersigned agrees to the foregoing provisions, applicable regulations, and certifies that he is authorized to act as, or on behalf of, the bidder.

Bid submitted on *(date)*

*(Check appropriate box, sign in ink, and complete the following)*

<input type="checkbox"/> Signature, if firm is individually owned	Name of firm <i>(type or print)</i>
<input type="checkbox"/> Signatures, if firm is a partnership or L.L.C.	Business address, include zip code <i>(type or print)</i>
<input type="checkbox"/> Corporation organized under the state laws of	<i>(To be completed following oral bidding)</i>
Signature of Authorized Corporate Signing Officer	I HEREBY confirm the above oral bid By <i>(signature)</i>
Title	Date
Submit bid, in <i>duplicate</i> , to qualify for either an oral auction or sealed bid sale together with the required bid deposit made payable to the Department of the Interior – BLM.  Oral Auction – Submit to Sales Supervisor prior to closing of qualifying period for tract.	<b>Sealed Bid</b> – Send to District Manager, who issued the sale notice, in a sealed envelope marked on the outside: (1) “Bid for Timber” or (1a) “Vegetative Resources Other Than Timber” (2) Time bids are to be opened (3) Legal description

### NOTICES

The Privacy Act and 43 CFR 2.48(d) require that you be furnished with the following information in connection with the information required by this form.

**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 or vegetative resources.

(Continued on page 3)

(Form 5440-9, page 2)

Save

Print

Clear

Form 5440-9  
(November 2011)

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

**TIMBER or  
TIMBER AND OTHER WOOD PRODUCTS**

**DEPOSIT AND BID FOR**

**VEGETATIVE RESOURCES  
(Other Than Timber)**

Name of Bidder
Tract Number ORC00-TS-2017.0030
Sale Name Six One
Sale Notice (dated) January 19, 2017
BLM District Coos Bay District

<input type="checkbox"/> Sealed Bid for Sealed Bid Sale	<input type="checkbox"/> Written Bid for Oral Auction Sale
Time for opening sealed bids <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Sale commences <input type="checkbox"/> .m. <input type="checkbox"/> p.m.
On (date)                                  Place	On (date)    2/17/2017 Place        Coos Bay District Conf. Rm A

In response to the above dated Sale Notice, the required deposit and bid are hereby submitted for the purchase of designated timber/vegetative resource on the tract specified above.

Required bid deposit is                \$23,900.00                                  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 species will be considered. If the bid is rejected the deposit will be returned.

**BID SCHEDULE – LUMP SUM SALE**

*NOTE: Bidders should carefully check computations in completing the Bid Schedule*

BID SUBMITTED					ORAL BID MADE	
PRODUCT SPeCieS	UNIT	eSTIMATeD VOLUMe OR QUANTITY	UNIT PRICe	TOTAL VALUe	UNIT PRICe	TOTAL VALUe
Douglas-fir	MBF	1,341	X	=	X	=
western hemlock	MBF	2,836	X	=	X	=
red alder	MBF	11	X	=	X	=
Port-Orford-cedar	MBF	8	X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	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 even though the quantity cut, removed, or designated for taking is more or less than the total estimated volume or quantity shown above. Undersigned certifies bid was arrived at by bidder or offeror independently, and was tendered without collusion with any other bidder or offeror. In submitting or confirming this bid, undersigned agrees to the foregoing provisions, applicable regulations, and certifies that he is authorized to act as, or on behalf of, the bidder.

Bid submitted on *(date)*

*(Check appropriate box, sign in ink, and complete the following)*

<input type="checkbox"/> Signature, if firm is individually owned	Name of firm <i>(type or print)</i>
<input type="checkbox"/> Signatures, if firm is a partnership or L.L.C.	Business address, include zip code <i>(type or print)</i>
<input type="checkbox"/> Corporation organized under the state laws of	<i>(To be completed following oral bidding)</i>
Signature of Authorized Corporate Signing Officer	I HEREBY confirm the above oral bid By <i>(signature)</i>
Title	Date
Submit bid, in <i>duplicate</i> , to qualify for either an oral auction or sealed bid sale together with the required bid deposit made payable to the Department of the Interior – BLM.  Oral Auction – Submit to Sales Supervisor prior to closing of qualifying period for tract.	<b>Sealed Bid</b> – Send to District Manager, who issued the sale notice, in a sealed envelope marked on the outside: (1) “Bid for Timber” or (1a) “Vegetative Resources Other Than Timber” (2) Time bids are to be opened (3) Legal description

### NOTICES

The Privacy Act and 43 CFR 2.48(d) require that you be furnished with the following information in connection with the information required by this form.

**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 or vegetative resources.

(Continued on page 3)

(Form 5440-9, page 2)