COOS BAY DISTRICT OFFICE
MYRTLEWOOD FIELD OFFICE

SALE DATE: June 30, 2023
SALE TIME: 10:00 a.m.

SALE NO.: ORC04-TS-2023.0032, Brownson Falls CT

LUMP SUM SET ASIDE

COOS COUNTY: OREGON: CBWR & O&C:

ORAL AUCTION: Bid deposit required: $64,600.00

All timber designated for cutting on: T. 28 S., R. 10 W., Sec. 31, Lots 3 & 4, T. 29 S., R. 11 W., Sec. 1, SE1/4NE1/4,S1/2, Sec. 2, SE1/4SE1/4, Sec. 9, Lots 1,2,3,4, S1/2NE1/4, S1/2NW1/4, SE1/4SE1/4, Sec. 10, S1/2NW1/4, W1/2SW1/4, SE1/4SW1/4, S1/2SE1/4, Sec. 11, Lots 2 & 3, SW1/4NE1/4, SE1/4NW1/4, Sec. 15, N1/2NE1/4, SE1/4NE1/4, N1/2NW1/4, Sec. 21, Lot 1, W1/2NE1/4, E1/2NW1/4, NW1/4SE1/4, 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
24,036	4,877.0	Douglas-fir	5,592.0	$110.40	$617,356.80
1,105	220.0	western hemlock	278.0	$40.70*	$11,314.60
694	237.0	grand fir	274.0	$39.30*	$10,768.20
2,581	112.0	red alder	135.0	$35.90*	$4,846.50
417	25.0	Port-Orford cedar	30.0	$42.90*	$1,287.00
302	0.1	Misc. hardwoods	0.2	$1.90*	$0.38
29,135	**5,471**	**Total**	**6,309**		$645,573.48

* = 10% of Pond Value

Product	Unit of Measure	Estimated Number of Units	Appraised Price Per Green Ton	Estimated Volume Times Appraised Price
Biomass	Green Tons	150	$0.05	$7.50

Total Appraised Value:	**$645,580.98**

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 INCREMENT WILL BE $0.50 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 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 14.5 inches: the average gross merchantable log contains 57 bd. ft.; the total gross volume is approximately 6,932 thousand bd. ft.; and 91% recovery is expected. The average DBHOB for Douglas-fir is 14.7 inches; and the average gross merchantable log contains 57 bd. ft.; and 93% recovery is expected. None of the total sale volume is salvage material. The following cruise methods were used for volume determination:

VARIABLE PLOT: Timber volumes in all harvest units were based on a variable plot cruise. Using a 20 Basal Area Factor (BAF), 227 plots were measured, and 157 trees were randomly selected to be sampled. The sample trees have been 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.

100% CRUISE: Volumes for all species were based on a 100% cruise in the right-of-ways and landing locations, using form class tables for estimating board foot volume of trees in 16-foot logs.

CUTTING AREA: Fourteen (14) units totaling 318 acres must be partial cut and three (3) acres of right-of-way. Acres shown on Exhibit A have been computed using the S1 Mobile Mapping app.

ACCESS: Access to the sale area is provided via: Oregon State highways, Coos County roads, privately controlled roads, and Government controlled roads.

DIRECTIONS TO SALE AREA: From Bridge, OR., travel west on Hwy 42 about 0.25 miles, turn right onto Big Creek Road, proceed to end of pavement, continue on gravel (Big Creek Rd) for approximately 0.25 miles. Turn left onto the 29-11-22.0 (Fall Creek Road). Follow signs to timber sale.

ROAD USE & MAINTENANCE: Refer to Exhibit E Summary attached. Operator maintenance required on 14.4 miles of road.

Rock wear and Maintenance Fees Payable to BLM: $15,478.01
Rock wear and Road Maintenance Fees Payable to Lone Rock TT Landco, LLC: $109.57
Road Use Fees Payable to Lone Rock TT Landco, LLC : $6,184.55

ROAD CONSTRUCTION:

Road Construction estimates include the following:

New Construction:

34.40 stations

Road Renovation:

686.64 stations

Road Improvement:

39.45 stations

Aggregate:

Base/Landing Rock, 6” minus hardrock:	1,610 C.Y. (Truck Measure)
Base/Landing Rock, 3” minus hardrock:	3,144 C.Y. (Truck Measure)

Bedding/Surfacing Rock, 1 ½" minus hardrock:	1,819 C.Y. (Truck Measure)
Surfacing Rock, 0.75" minus hardrock:	128 C.Y. (Truck Measure)
Riprap:	60 C.Y. (Truck Measure)
Maintenance Rock, 1 ½" minus hardrock:	900 C.Y. (Truck Measure)
Maintenance Rock, 3" minus hardrock:	200 C.Y. (Truck Measure)

Drainage:

18" Corrugated Polyethylene Pipe:	950 Lineal Feet
24" Corrugated Polyethylene Pipe:	320 Lineal Feet
12" Corrugated Metal Pipe:	60 Lineal Feet

Soil Stabilization:

Dry Seed, fertilizer, & mulch:	23.9 acres (Pre Haul)
Dry Seed, fertilizer, & mulch:	3.0 acres (Post Haul)
Other Sediment Control Devices:	8 Check Dams

Roadside Brushing:

24.43 acres

Road Decommissioning:

Earthen Barriers:	10
Rip Rap Barrier:	20 C.Y.

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, SBA, Buyout Securities, vehicle cleaning, and snag creation.

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

1. A license agreement is required with Lone Rock TT LandCo, LLC, a performance bond in the amount of $10,000.00 and comprehensive liability insurance will be required for this license agreement.
2. All equipment shall be washed prior to entering and exiting the contract area to control the spread of noxious weeds and Port-Orford cedar root disease in accordance with Exhibit F.
3. No trees shall be felled into the Reserve Area, shown on the Exhibit A. Line pulling, jacking, or other mechanical devices shall be used, as necessary.
4. Seasonal Timing Restriction (MM) apply to all units except Units 4 & 7: chainsaw operations, falling, yarding, heavy equipment, and new road construction operations are prohibited from April 1st through August 5th. Daily timing restrictions apply between August 6th and September 15th.
5. Tree damage shall affect less than 5% of reserve trees.
6. Lift trees and intermediate support trees may be necessary and will be identified during corridor layout.
7. One-end suspension required in cable and ground-based yarding areas as shown on Exhibit A.
8. Full suspension required over any stream channels. Trees cut for yarding corridors within the Reserve Area adjacent to stream channels shall be felled toward the channel and left on-site.
9. Log lengths shall not exceed 41 feet.
10. Shape and restore all landings per Exhibit D to prevent erosion.
11. Seed, fertilize, and mulch all landings, road cuts and fills, and waste areas prior to the wet season.

12. 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 15th.
13. BLM will assume supervisory responsibility for disposal of logging slash.
14. Machine piling of logging slash is required at all landing areas.
15. Within one (1) year following the completion of yarding operations, create 1,832 snags as shown on the Exhibit I and as directed by the Authorized Officer.
16. The Purchaser shall provide signage and flaggers to control traffic when conducting operations adjacent to any road.
17. To minimize the risk of attracting predators to activity areas, all garbage (especially food products) will be contained or removed daily form the contract area pursuant to Section 27 of this contract.

Seasonal Restriction Matrix ORC04-TS-2023.0032 BROWNSON FALLS CT Timber Sale Prospectus

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

Sale Area	Activity	Jan		Feb		Mar		Apr		May		June		July		Aug		Sept		Oct		Nov		Dec	
		1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
General All Units	Falling and bucking[2]																								
	Cable yarding[2]																								
	Road Construction, Renovation, or Improvement Work[1]																								
	Hauling[1]																								
	Hauling on approved rocked roads[4]																								
	Ground based yarding[3]											25 %													
Units 1,2,3,5,6,8,9,10,11 12,13,14	Seasonal Restriction Area (MM)[5]															5 th									

[1] Wet season restrictions may be shortened or extended depending on weather conditions.
[2] Bark slip seasonal restrictions may be conditionally waived upon written request and Authorized Officer approval. Strict compliance with damage provision required for continued operations.
[3] Ground based yarding restricted to periods when soil moisture levels are below 25% as determined by the Authorized Officer.
[4] Wet season haul on rocked roads may be suspended during periods of heavy rain.
[5] In the Seasonal Restriction Area (MM) shown on Exhibit A, chainsaw operations, falling, yarding, heavy equipment operation, and new road construction operations are prohibited in the period between April 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 43. WOOD PRODUCTS RESERVED FROM CUTTING. The following timber in the Contract Area, shown on Exhibit A, which is attached hereto and made a part thereof, is hereby reserved from cutting and removal under the terms of this contract and is retained as property of the Government:

a. All timber in the Reserve Area, 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;
c. All existing standing dead trees, except those snags that must be felled to permit safe working operations 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. All Bearing Trees with metal tags that mark property corners;
f. All trees greater than forty (40) inches DBH within the Partial Cut Units;
g. All hardwoods greater than sixteen (16) inches DBH within the Partial Cut Units;
h. All western red cedar greater than twelve (12) inches DBH within the Partial Cut Units.

Sec 44. SPECIAL PROVISIONS. Purchaser shall comply with the special provisions which are attached hereto and made part hereof unless otherwise authorized, in writing, by the Authorized Officer:

a. 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 is approved.

(2) Before beginning operations in 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) Due to bark slippage, felling or yarding may be restricted by the Authorized Officer within the contract area between March 31 and June 30 of each calendar year, both days inclusive.

(4) No trees may be felled into the Reserve Area. Line pulling, jacking, or other mechanical devices shall be used as necessary to prevent trees from falling into these areas.

(5) Damage to residual trees shall affect less than 5% of reserve trees. Bark removed from the cambium three (3) inches or wide or wider, top broken at three (3) inches diameter or greater, root sprung trees, or any root collar damage shall constitute damage. Damage levels will be determined by the Authorized Officer using a government sample of an affected area. Failure to resolve excess damage to reserve trees may result in suspension of operations and recovery of the value of the damaged timber in accordance with Sec. 13.

(6) Seasonal Timing Restriction Areas (MM) apply to all units except Units 4 & 7 as shown on the Exhibit A – chainsaw operations, falling, yarding, heavy equipment, and new road construction operations are prohibited in the period between April 1 and August 5. In addition, a daily timing restriction confines operations to the period from two (2) hours after sunrise to two (2) hours before sunset between August 6 and September 15 of the same calendar year, both days inclusive.

(7) Conifer trees shall be felled and bucked into lengths not to exceed forty-one (41) feet prior to yarding within the Partial Cut Units as shown on Exhibit A. Hardwood trees shall be whole tree yarded wherever possible.

(8) In the Partial Cut Units, yarding (except for road right-of-way and ground-based areas, shown on Exhibit A) shall be done with a skyline cable system according to the following:

(a) The skyline cable system shall be capable of being rigged in a multi-span configuration utilizing a carriage capable of yarding seventy-five (75) feet laterally from the skyline. Skyline roads shall not be spaced closer than one hundred fifty (150) feet apart, unless approved by the Authorized Officer and be no wider than twelve (12) feet as measured between reserve trees.
(b) One-end suspension is required during yarding operations. Intermediate supports and/or lift trees may be required to obtain the required suspension. Full suspension is required when yarding over stream channels as shown on the Exhibit A.
(c) If placement of the yarding corridor requires the cutting of a tree in the Reserve Area adjacent to a stream channel, the tree shall remain on-site and felled toward the direction of the channel in a manner to protect the stream bank from disturbance during yarding. Yarding corridors shall cross stream channels perpendicular where possible to minimize cutting of trees within the Reserve Area. Yarding corridor location within the Reserve Area shall be approved by the Authorized Officer prior to cutting.
(d) Where road locations allow, yarding will be done so that corridors run parallel to each other rather than radiate from a central landing.

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

(a) In addition to the requirements set forth in Sec. 26 of this contract, ground-based operations shall be restricted to the dry season which is typically June through October. Unseasonably dry or wet weather may shorten or extend the operating season.
(b) Ground-based operations shall be conducted when soil moisture content is below twenty-five (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 be notified, after a soil-moisture assessment by the Authorized Officer, when operations may resume.
(c) 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-Based Yarding Area shall be yarded with their leading end clear of the ground. A forwarder or tracked log loader may also be used to yard logs.
(d) Primary skid trails shall use existing trails wherever possible, be space ninety-five (95) feet apart, and be no wider than twelve (12) feet as measured between reserve trees.
(e) Primary skid trails shall be blocked with cull material after completion of harvest where the Authorized Officer determines vehicle access is possible.
(f) All ground-based equipment shall be restricted to operating on slopes less than thirty-five percent (35%), except when previously constructed trails or accessing isolated ground-based harvest areas requiring short trails over steeper pitches. Also, limit the use of this equipment when surface displacement creates trenches, depressions, excessive removal of organic horizons, or when disturbance would channel water and sediment as overland flow.
(g) Primary skid trails with a slope greater than fifteen percent (15%) and/or are left with more than one hundred (100) feet of continuous bare ground shall have water bars installed and/or be covered with slash for erosion control prior to October 31 as directed by the Authorized Officer.

(10) Sec. 44.a(11) shall be the primary method for the identification, cutting, and removal of additional timber required for skyline corridors, yarding trails, and guy-line trees. Sec. 44.b (11) may be used at the discretion of the Authorized Officer. The Purchaser shall be notified in writing when Sec. 44.a(11) is authorized for use.

(11) Before cutting and removing any reserve tree necessary to facilitate logging in the Partial Cut Units the Purchaser shall identify the location of the cable yarding roads, tail hold, tieback, guyline, lift, intermediate support, and danger trees on the ground in a manner approved by the Authorized Officer at the pre-work conference and documented in the Logging Plan. Said Purchaser identification of trees to be cut and removed does not constitute authority to proceed with cutting and removal. In addition, before proceeding the following condition must be met:

(a) All cable yarding roads upon which timber is identified by the Purchaser to be cut and removed in accordance with this special provision must be necessary for the removal of timber sold under this contract and shall be limited to the minimum width necessary for yarding of logs with a minimum of damage to reserve trees, however, unless otherwise approved in writing by the Authorized Officer, the width of each yarding road shall be limited to twelve (12) feet.

(b) The Purchaser may immediately cut and remove additional timber to provide tail hold, tieback, guyline, lift, and intermediate support trees; and clear danger trees when the trees have been marked with blue paint above and below stump height by the Authorized Officer and thereby approved for cutting and removal by the Authorized Officer. The volume of the timber will be determined by the Authorized Officer in accordance with Bureau of Land Management prescribed procedures. No timber may be cut or removed under this provision unless sufficient installment payments have been made in accordance with Sec.3.(b) of the contract or sufficient bonding has been provided in accordance with Sec. 3.(f) of the contract.

(c) The Purchaser agrees that sale of this additional timber shall be accomplished by a unilateral modification of the contract executed by the Contracting Officer and that such timber shall be sold at the unit prices shown in Exhibit B of this contract unless: the value of the timber must be reappraised subject to the terms for contract extension set forth in Sec. 9 of the contract; or, the Authorized Officer determines that any tree that exceeds twenty-four (24") inches diameter at breast height shall be appraised and sold by bilateral modification of the contract at current market value in accordance with Sec. 8 of the contract.

(d) This authorization for the Purchaser to cut and remove additional timber prior to the execution of a modification may be withdrawn by the Contracting Officer if the Authorized Officer determines that the Purchaser has cut and removed any tree not previously marked and approved for cutting by the Authorized Officer, which under Sec. 10 of the contract constitutes a violation of the contract and under Sec. 13 of the contract may constitute a trespass rendering the Purchaser liable for damages under applicable law.

(e) If authorization is withdrawn, the Contracting Officer shall issue a written notice to the Purchaser that the sale of additional timber under this provision is no longer approved. In this case, the Purchaser shall inform the Authorized Officer at least two (2) days working days prior to the need for cutting and removing any additional timber and execute a bilateral modification prior to cutting for such additional approved timber at the unit prices shown in Exhibit B of the contract or in accordance with Sec. 8 or 9 of the contract as determined by the Authorized Officer in accordance with this provision. The Contracting Officer may issue a written order to the Purchaser to suspend, delay, or interrupt any or all contract work for the period of time deemed necessary.

(f) The Government may reserve trees previously designated for cutting and removal by applying orange paint as replacements for additional trees cut and removed for skid roads and/or cable yarding roads when the Authorized Officer determines such reservation is necessary to maintain stand densities consistent with objectives set forth in the management prescription. This may include the replacement of trees damaged by storm events, or insects or disease. The volume of this timber to be

reserved will be determined by the Authorized Officer in accordance Bureau of Land Management prescribed procedures and the value shall be based on the unit prices shown in Exhibit B of the contract. The Purchaser agrees that the Total Purchase Price shall be reduced accordingly through a unilateral modification to the contract executed by the Contracting Officer.

(12) In accordance with the requirements of Sec. 8 of the contract it has been determined that it is in the best interest of the Government and within the provisions of 43 CFR 5402.0-6 to sell additional timber located in the contract area which, is obstructing needed cable yarding roads, hazardous to workers, needed for guyline, tail hold, and/or tieback trees to meet all applicable State safety laws, codes or regulations. This timber must be cut and removed so that the Purchaser can continue active falling and yarding operations. The Purchaser is, therefore, authorized to cut and remove such additional timber in accordance with the provisions of Sec. 8 of the contract: provided, however, that:

(a) Seed trees, bearing trees, trees larger than twenty-four (24") inches at breast height, and trees located within the Reserve Areas are not included in this authorization;

(b) The Purchaser shall identify each tree sold and cut in accordance with this provision by marking the surface of the stump immediately after cutting with a large "X", cut with a chainsaw, and by painting the stump with florescent red paint so that the stump can be visually located from a distance of not less than one hundred (100) feet;

(c) Concurrently with falling, paint the end of the butt log of each tree with florescent red paint. When butt logs are yarded, deck separately for inspection by Authorized Officer;

(d) The Purchaser conforms to all requirements of Sec. 8 of this contract; provided that (1) the unit prices for additional timber within unit boundaries shall be unit prices shown in Exhibit B of this contract, or the reappraised unit prices arrived at in accordance with Sec. 9 of this contract, and (2) timber outside of unit boundaries shall be sold at fair market value;

(e) No timber may be cut or removed under the terms of this provision if all contract payments required by Sec. 3(b) or 3.(f) have not been made; and,

(f) Permission to cut and remove additional timber contained in this provision may be withdrawn by the Contracting Officer if the Authorized Officer determines that the Purchaser:

1. Fails to properly mark any stump with the "X" cut and florescent red paint.
2. Fails to properly mark any butt log with florescent red paint.
3. Cuts any tree that was reserved for tree improvement and/or wildlife habitat.
4. Cuts any tree in or adjacent to cable yarding corridors that was not necessary to facilitate cable yarding.
5. Cuts any reserve tree in or adjacent to tractor skid roads that was not necessary to facilitate ground-based yarding.
6. Fails to properly segregate any pulled over tree that was yarded to the landing.
7. Cuts any reserve tree that was not severely (as defined during the prework conference and documented in the approved logging plan) damaged from felling and yarding operations.

8. Cuts more than the minimum number of trees necessary to properly serve as guyline anchor stumps.
9. Cuts or topped more than the minimum number of trees necessary to properly serve as tail hold trees.
10. Cuts more than the minimum number of trees necessary to properly serve as tie-back for topped tail hold trees.

Failure to perform any of the conditions listed above may be considered a trespass.

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

If the permission to cut and remove additional timber provision is withdrawn, the Contracting Officer shall issue a written notice to the Purchaser that the sale of additional timber under this special provision is no longer approved. In this case, the Purchaser shall inform the Authorized Officer at least two (2) working days prior to the need for cutting and removing additional approved timber at the unit prices shown in Exhibit B of the contract or in accordance with Sec. 8 or 9 of the contract as determined by the Authorized Officer in accordance with this provision. The Authorized Officer may issue a written order to the Purchaser to suspend, delay, or interrupt any or all contract work for the period of time deemed necessary.

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

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

(14) During logging operations, the Purchaser shall keep BLM road Nos. 29-11-15.1, 29-11-22.0, 29-11-11.1, 29-11-10.0, where they pass through the contract area, clear of trees, rock, dirt, and other debris so far as practicable. These roads shall not be blocked for more than twenty (20) minutes.

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

(16) 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 part hereof. All road building and logging equipment shall be washed prior to moving in and moving out of the Contract Area to control the spread of noxious weeds and Port-Orford cedar root disease.

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

(18) Maintain and refuel heavy equipment a minimum of 150 feet away from streams and other water bodies. Refuel small equipment at least 100 feet from waterbodies to prevent direct delivery of contaminants into a waterbody. Refuel small equipment from no more than 5-gallon containers. A small spill kit is required to be on-site during operations. In the event of a spill or release, take all reasonable and safe actions to contain the material. Specific actions are dependent on the nature of the material spilled. If more than 42 gallons of fuel or combined quantity of petroleum product and chemical substances would be transported to a project site as project materials, a spill kit that can absorb and contain 55 gallons of petroleum product and chemical substances shall be readily available. Purchaser shall be responsible for the clean-up, removal, and proper disposal of contaminated materials from the site in accordance with Section 28 of the contract.

(19) 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 (10) inches, prior to the removal of timber from the contract area. All loads of eleven (11) logs or more will have a minimum of ten (10) logs clearly and legibly branded on one end regardless of the diameter of the logs. All logs will be branded on loads of ten (10) logs or less. One end of all branded logs to be processed domestically will be marked with a three (3) square inch spot of highway yellow paint. The purchaser will stop trucks for accountability monitoring at mutually agreed upon locations when notified by the Authorized Officer. If multiple trailers (mule trains) are used, each bunked load shall be considered an individual load, and these guidelines will apply to each bunked load. If a flatbed stake trailer is used, each bundle will be treated as a separate load. At the discretion of the Contracting Officer, the Purchaser may be required to brand and paint all logs. Any increased costs for log branding and painting shall be the responsibility of the Purchaser.

(20) Seasonal and daily timing restrictions would be applied to any use of tailhold, guyline, or lift trees within a murrelet occupied site. Selection of tailhold trees would be subject to the following specifications:

(a) Select the smallest acceptable tree.
(b) As operationally feasible, avoid trees that:
    1. Have a DBH >34” inches
    2. Have visible nests, or nesting structures (e.g. platforms).
    3. Are the only large conifer present in a visible area.

(c) If the tailhold tree(s) would remain standing, prevent damage by using appropriate protection (i.e. tree plates, tires, or nylon straps) where possible to avoid girdling of the tree. Girdling or notching should not exceed sixty percent (60%) of the tree circumference.

b. Snag Creation:

(1) The Purchaser shall, within one (1) year following the completion of yarding operations, create one thousand eight hundred thirty-two (1832) snags total. Nine hundred sixteen (916) shall be created between 10-20 inches in diameter and nine hundred sixteen (916) shall be created greater than twenty (20) inches in diameter, if sufficient trees are available in the size class specified, use trees from the next largest size class available, as directed by the Authorized Officer and in accordance with Exhibit I the following stipulations:

(a) The Purchaser shall create 1402 snags in the Partial Cut Area, locations and quantities indicated on the Exhibit I map, and as directed by the Authorized Officer.
(b) The Purchaser shall create 130 snags dispersed in the Snag Creation Area, locations and quantities indicated on the Exhibit I map, and as directed by the Authorized Officer. Snags shall be created in the size class specified above (a); shall be no closer than two hundred (200) feet slope distance from streams.
(c) The Purchaser shall create 300 snags dispersed in the Riparian Reserve Snag Creation Area, locations and quantities indicated on the Exhibit I map. The Riparian Reserve Snag Creation Area is the distance between fifty (50) feet and two hundred (200) feet slope distance from the stream. Snags shall be created in the size class specified above (1) and shall be no closer than two (2) live green trees apart.
(d) The Purchaser shall create a variety arrangement across the timber sale area of scattered single snags and groups of snags.
(e) The Purchaser may meet snag creation requirements with trees of any species, except western redcedar (Thuja plicata).
(f) Snags shall generally be created by girdling live, green trees at three and one-half ($3^{1/2}$) feet above the root collar, girdling will consist of severing the cambial tissue at least ¾ of the circumference around the bole of the tree, without cutting into the sapwood more than one and one-half ($1^{1/2}$) inches and removing a four (4) inch band of bark. Alternatively, girdling may be achieved through use of three (3) parallel cuts into the cambial tissue around the tree as specified within the Exhibit I.
(g) The Purchaser shall not girdle trees for snag creation within one hundred (100) feet (minimum slope distance) of any open or unblocked roads, unless approved by the Authorized Officer.
(h) The Purchaser shall number each snag created; the number shall be pained on the bole of the snag using high visibility paint such that the number is visible.
(i) The Purchase shall submit created snag location registers in the form of legible and complete maps and/or submit GPS coordinates (</= 20-meter accuracy) representing snag group and individual scattered tree locations. Electronic GPS files shall be submitted in ".gpx" format unless an alternative format is approved by the Authorized Officer. Girdled trees shall have a number painted at breast height with

high visibility paint such that they are visible from at least one hundred (100) feet. Number and location of treated trees shall be depicted on a map by the Purchaser such that they may be easily verified.

(j) Any tree with the following characteristics shall be avoided for snag creation treatment:

i. Existing broken tops (live or dead trees), multiple-top, or dead-top trees.
ii. Trees exhibiting severe mechanical damage, fire scars, obvious disease, or decay (Example: root rot fungi at base or large mistletoe platforms).
iii. Any tagged tree (bearing tree or designated genetic/research tree).
iiii. Any tree greater than thirty (30") inches diameter at breast height

c. Road Construction

(1) The Purchaser shall construct, improve, and renovate road 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, improvement, or renovation of structures and roads shall be completed and accepted prior to 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 typically prior to October 15th 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, which is attached hereto and made part hereof.

(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 thirty (30) days prior to proposed move in. Details shall include:

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

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

(3) The Purchaser is authorized to use the roads shown on Exhibit E, attached hereto and made a part hereof, for the removal of Government timber sold under the terms of this contract and for haul of mineral material required under the terms of this contract; provided, that the Purchaser shall pay the Government a maintenance and rockwear obligation totaling $15,478.01, 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 in Sec 3 of this contract. Timber volume added by modification will be assessed at a rate of $2.45/MBF for removal of timber over Government controlled roads.

(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 part hereof.

(5) At all times during the period of 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 approval of the Authorized Officer, the Purchaser may arrange for cooperative maintenance with other users of any BLM controlled road included in Sec. 44.d.(1,2,3) of this contract; provided that such a 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 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 (BLM) 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. 44.d.(1,2,3). 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) In the use of required company roads shown on the Exhibit E, the Purchaser shall comply with the conditions of Right-of-Way and Road Use Agreements between the United States and Lone Rock TT LandCo, LLC, RWA-C-418A. The Purchaser shall pay a road use fee of $6,184.55 and a rockwear and maintenance fee of $109.57 to Lone Rock TT LandCo, LLC TT pursuant to RWA-C-418A. The agreements are 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.

Prior to commencement of operations, the Purchaser shall furnish to the Authorized Officer a copy of the executed License Agreement 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.

If a Licensor is the Purchaser, allowances have been made for amortization of capital investment of the roads covered by the Licensor's Agreement in accordance with 43 CFR 2812.6-2(a)(5); it is understood that the purchase price stated in Sec. 2 of this contract is the net price and that no deduction will be made from the contract price because of such allowance.

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

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

(a) At least three (3) days prior to power driven equipment during any operations under this contract during the closed fire season or periods of fire danger, prepare a fire prevention and control plan to the satisfaction of the Authorized Officer.

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

Firefighting tools shall be kept at each landing or at such other place as the Authorized Officer shall designate whenever employees are working on the contract area. All firefighting tools shall be kept in a sturdily constructed box which shall be painted red and lettered on the front or top in large letters, "For Fire Only." The box shall have a hinged lid and a hasp by which the lid can be sealed. One box may serve two (2) landings not over six hundred (600) feet apart. When filled, the box shall not weigh over two hundred (200) pounds. The fire tools shall be in good condition, be tight on strong handles, and have sharp cutting edges. There shall be not less than four (4) tools in each box nor less than one (1) tool for each employee working on the contract area. Three-fourths (3/4) of all fire tools shall be shovels, hazel hoes, or other scraping tools. The fire tools shall be used only for fighting fire. Operations with four (4) or less workers are not required to provide a fire toolbox as long as each worker is equipped with a shovel suitable for fire suppression.

At each landing during periods of operation one (1) tank truck of two thousand (2,000) gallons or more capacity with enough one and a half inch (1 ½") hose to reach from the water supply to any location in the operation area affected by power driven machinery, or one thousand (1,000) feet, whichever is greater. Two (2) nozzles and one (1) gated wye are required to support this hose lay. Two (2) one thousand (1,000) gallon tank trucks or portable tanks may be substituted for each required two thousand (2,000) gallon tank truck, provided that the total capacity to pump and deliver water remains unchanged. Each tank truck shall be equipped with a pump capable of delivering a minimum of twenty (20) gallons per minute (gpm) water flow at one hundred ten (110) pounds per square inch (psi) engine pressure. The pump may be 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.

Where blocks and cables are used on the contract area during periods of fire danger, the Purchaser shall remove all flammable material for at least ten (10') feet in diameter from the place where the tail or any other block will hang when the cable is tight. Such clearings shall be inspected periodically by the Purchaser and shall be kept free of flammable material.

(2) In addition to the requirements of Section 15 of this contract, and notwithstanding the Purchaser's satisfactory compliance with State laws and regulations regarding offsetting or abating the additional fire hazard created by this operation and the State's willingness to release Purchaser for such hazard, the Purchaser shall remain responsible to the Government for performance of the following hazard reduction and logging residue reduction measures required of them by this contract: Perform logging residue reduction and site preparation work on all three hundred eighteen (318) acres within the harvest units as shown on Exhibit A. The required work shall consist of any treatment or combination of treatments, as determined by the Authorized Officer, and specified in writing by the Contracting Officer. The number of acres of each treatment shall be determined by the Authorized Officer. Prior to commencement of any operation under this section of the contract, a slash disposal and pre-work conference between the Purchaser's representative and the Authorized Officer must be held at a location designated by the Authorized Officer. The number of acres of each treatment shall be determined by the Authorized Officer. All slash disposal shall be done in accordance with the plans developed at this pre-work conference.

(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 area as shown on the Exhibit A.

(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 in accordance with the Exhibit B.

(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.

(4) Specifications for Landing Piling: 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.

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 onto the landing surface and either piled for burning or segregated for other uses.

Logging residue at landings shall be accumulated into the fewest number of piles possible. Landing piles shall be free of dirt, 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 twenty (20) feet of any reserve tree.

(5) Specifications for Landing Covering: All piles shall be covered no later than September 30 of the same calendar year of piling.

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 by the Authorized Officer, the size of the plastic sheeting shall be a minimum of one hundred (100) square feet or (10' x 10').

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 feet minimum size.

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.

To ensure the center of the pile remains dry, all PE shall be weighed down with slash or logging debris 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. Sheeting shall be tied down with twine on all four (4) corners.

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.

Piles of residue identified by the Authorized Officer for other uses shall not be covered with PE sheeting.

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

(7) Notwithstanding the provisions of Sec. 15 of this contract, the Government shall be responsible for disposing of slash created by the Purchaser's operations on Government lands except for assistance as required herein. The assumption by the Government of all obligations for the disposal 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. In accordance with 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 the supervision of the Authorized Officer, assist with landing pile burning by furnishing, at their own expense, the services of personal and equipment as follows:

(a) The Purchaser shall begin burning within fourteen (14) hours of notification by the Authorized Officer.
(b) For each entry, the Purchaser may provide more personnel, equipment and materials than indicated, but no less than the minimum requirements listed below. Minimum personnel, equipment and materials requirements are:

Landing Pile Burning:

1. One (1) English-speaking crew supervisor (minimum FFT2)
2. Three (3) person burn crew (minimum FFT2)
3. Three (3) drip torches and sufficient fuel to complete all pile burning

All listed personnel shall be qualified as a Type-II Firefighter (FFT2) or higher (National Wildfire Coordinating Group (NWCG)) Wildland Fire Qualifications System guide, (PMS 310-1)). All personnel shall be physically fit, experienced, and fully capable of functioning as required. All personnel shall arrive at the project area with the following safety equipment: Lug-soled boots with a minimum of eight (8") inch uppers that provide ankle support; an approved hard hat; leather gloves; long-sleeve shirt and full-length trousers made of approved aramid fabric (Nomex or equivalent) and an approved fire shelter. All tools and equipment shall be in good condition. All power-driven equipment shall be fully fueled and available for immediate use. During periods of use under this subsection, the Purchaser shall provide fuel and maintenance for all such power-driven equipment.

(c) A minimum of eighty percent (80%) consumption of landing piles is required.
(d) No mop-up is required of the Purchaser.
(e) Based on the time of year and sequence in which the 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 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 use of additional personnel and equipment to accomplish the planned burn, the Purchaser also shall be responsible for such additional costs.

f. Buyout Securities

The Purchaser shall assist in pile burning as described in Sec. 44.e.(7). The Purchaser have the option of completing this work, or in lieu thereof, make a buyout security deposit to the Bureau of Land Management in the amount of three thousand four hundred fifty-one and 81/100 dollars ($3,451.81), and upon making such deposit, the Purchaser shall be relieved of the obligations set out in Sec. 44.f.(7). The Purchaser shall notify the Authorized Officer of their intention to make this deposit prior to the date of execution of this contract, and the Purchaser shall pay such amount in full prior to the commencement of operations.

g. Optional Scale Check of Lump Sum Sales

(1) The Government, at its option, may administratively check scale any portion of the timber removed from the contract area, and if necessary, conduct check scaling of independent scalers contracted to BLM for administrative check scaling purposes. The Purchaser hereby agrees to make such contract timber available for such scaling at a location or locations to be approved in writing by the Authorized Officer. At the approved location or locations, the Purchaser shall provide an area for logs to be safely rolled out for scaling, to unload logs 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.

(2) 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 $4,731.75. In the event only a portion of the contract timber is scaled, the purchase price shall be reduced by that portion of $4,731.75 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. Small Business Administration (SBA) Set Aside

The purchaser agrees not to sell and/or exchange more than 30 percent of the timber or log volume from this preferential sale to concerns that do not meet the Small Business Administration small business size standard (13 CFR 121).

The purchaser understands that in addition to other penalties which may be imposed for violating the foregoing, the purchaser may be declared ineligible to participate in future Federal timber sales that are set-aside for preferential bidding by small business qualified concerns for two semi-annual

triggered periods succeeding the violation.

The purchaser shall provide a current, interim Log Scale and Disposition of Timber Removed Report (Form 5460-15) upon request by the Authorized Officer at any time during the contract period for cutting and removal specified in Section 4 of this contract as amended.

Exhibit F
Sheet 1 of 1

SPECIAL PROVISIONS TO CONTROL THE SPREAD OF NOXOIUS WEEDS AND PORT-ORFORD CEDAR ROOT DISEASE

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 shall be agreed to by Purchaser and BLM. All petroleum product residues shall be contained at wash sites and dealt with in accordance with DEQ standards. Purchaser 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 Purchaser.
(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 and exiting the contract area. The Authorized Officer will determine if log trucks and vehicles used for the transportation of personnel shall be cleaned, based upon the location of use immediately prior to the current timber sale. If the vehicles have been in a weed-infested area, they shall be washed before entering the Contract Area, as shown on the Exhibit A.

EXHIBIT I

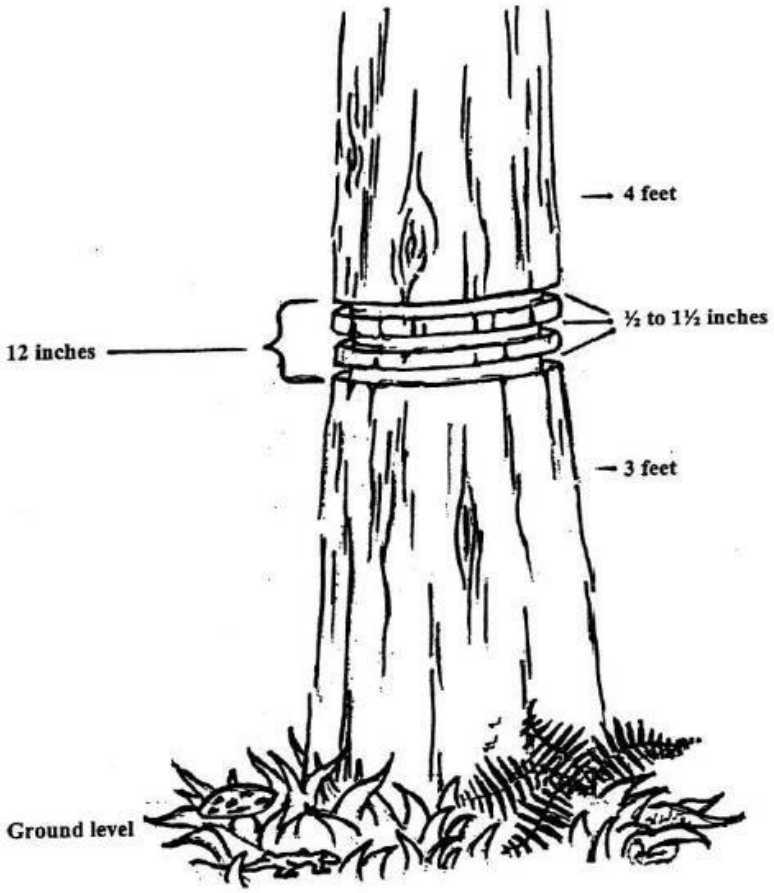
SPECIFICATIONS FOR BASAL GIRDLING

GENERAL:

(1) Cut around the tree. Each cut must connect or extend at least three-fourths (¾) of the circumference, around the tree and penetrate through the cambium layer into the wood at least one half (½") inch, but not more than one and half (1 ½") inches. The distance between the top cut and the bottom cut shall not exceed twelve (12") inches. Tress shall be girdled between three (3') feet and four (4') feet above ground level measured from the uphill side of the tree.

Illustration 1- Basal Girdling

Basal-Girdling example: make three (3) parallel unbroken cuts around the tree. The distance between the top and bottom of the cut shall not exceed twelve inches. Cuts must penetrate at least 1/2 inch, but not more than 1 1/2 inches into the wood of the tree. Trees shall be girdled between 3 and 4 feet from the ground.



TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 28 S., R. 10 W., Sec. 31 Will. Mer.
T. 29 S., R. 11 W., Secs. 1, 2, 9, 10, 11, 15, & 21 Will. Mer.

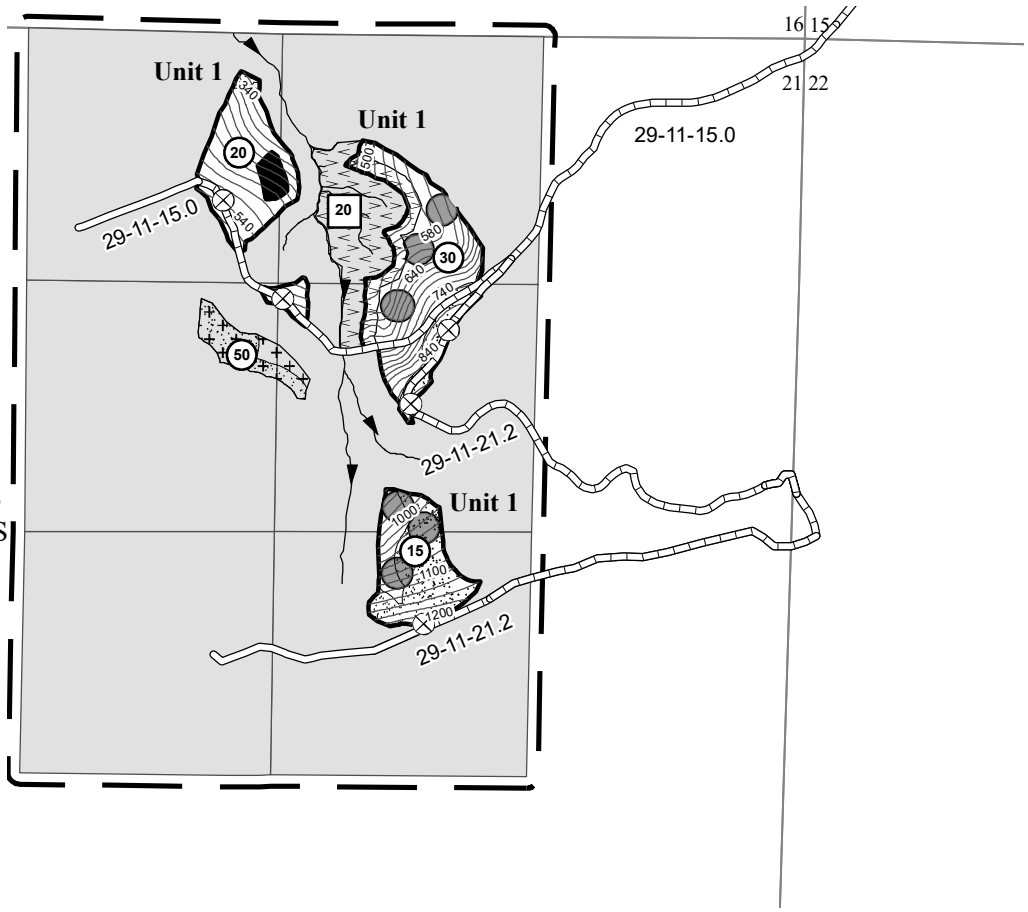
SALE NO. ORC04-TS-2023-0032
EXHIBIT I

Brownson Falls CT

THINNING
UNIT 1 _____23 ACRES
UNIT 2 _____59 ACRES
UNIT 3 _____32 ACRES
UNIT 4 _____13 ACRES
UNIT 5 _____6 ACRES
UNIT 6 _____18 ACRES
UNIT 7 _____6 ACRES
UNIT 8 _____50 ACRES
UNIT 9 _____32 ACRES
UNIT 10 _____6 ACRES
UNIT 11 ____30 ACRES
UNIT 12 _____9 ACRES
UNIT 13 ____14 ACRES
UNIT 14 ____20 ACRES
ROW_____3 ACRES

Total_____321 ACRES

Total Reserve Area ____1,094 ACRES
Total Contract Area ____1,408 ACRES



- # Snags to be Created in Riparian Reserve
- (#) Snags to be Created in Thinning Unit
- ⊗ Proposed Landing
- 20' Contour
- Existing Road
- Road to be Improved
- Road to be Constructed
- Road to be Renovated
- Riparian Reserve Snag Creation Area
- Seasonal Timing Restriction
- Dominant Tree Retention Area
- Group Selection Area
- Snag Creation Area
- Partial Cutting Area
- Stream Channel
- Reserve Area
- Contract Area

0 500 1,000 2,000 feet

Scale 1 inch = 1000 feet

N

TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
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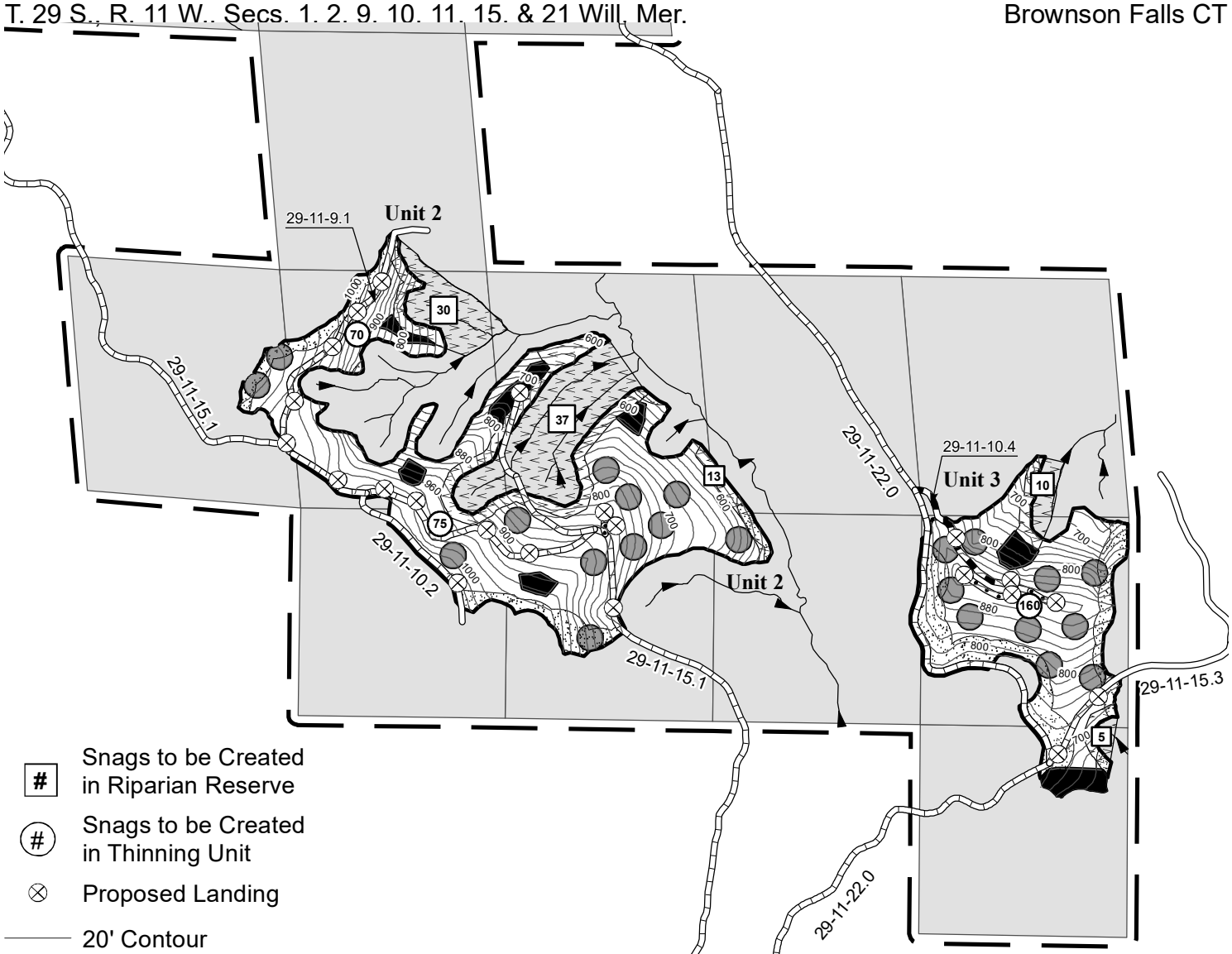

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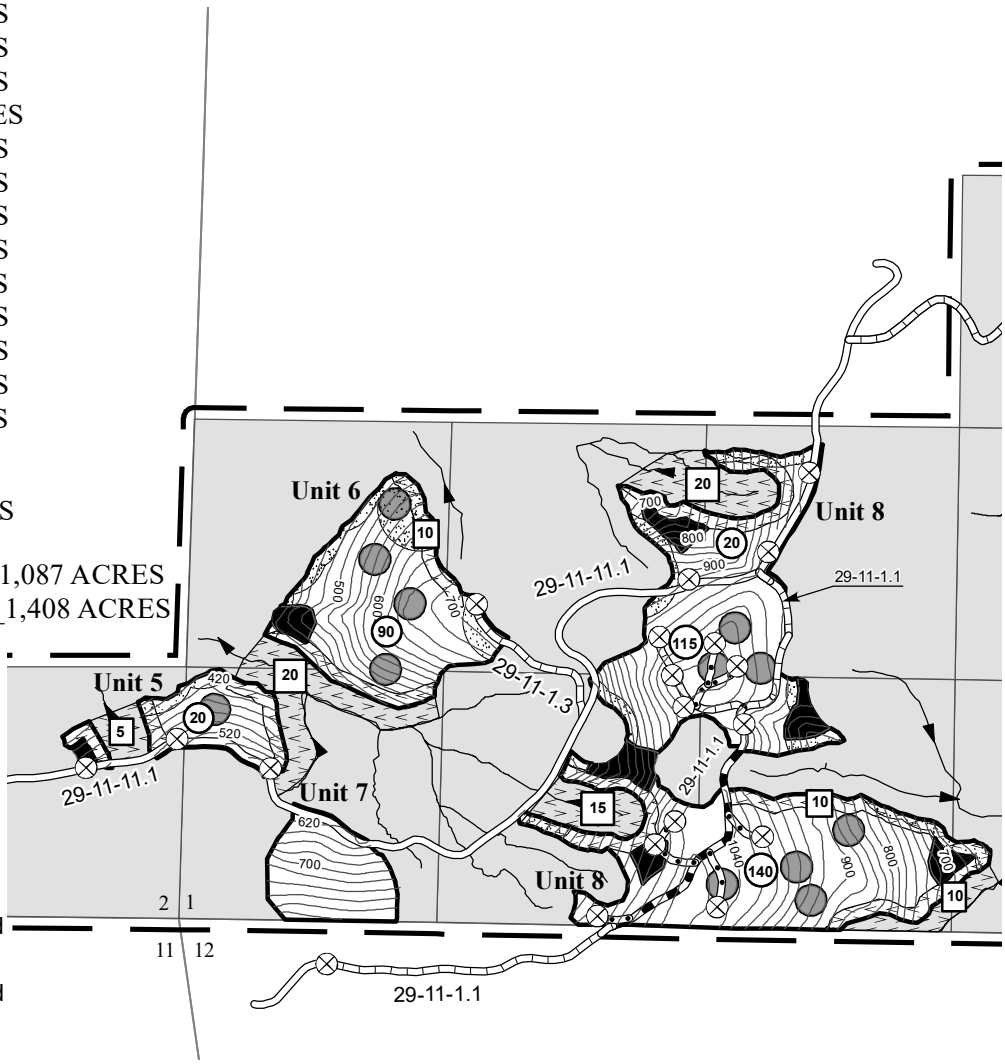

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feet
0 500 1,000 2,000
Scale 1 inch = 1000 feet

N

TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 28 S., R. 10 W., Sec. 31 Will. Mer.
T. 29 S., R. 11 W., Secs. 1, 2, 9, 10, 11, 15, & 21 Will. Mer.

SALE NO. ORC04-TS-2023-0032
EXHIBIT I

Brownson Falls CT

THINNING
UNIT 1 _____23 ACRES
UNIT 2 _____59 ACRES
UNIT 3 _____32 ACRES
UNIT 4 _____13 ACRES
UNIT 5 _____6 ACRES
UNIT 6 _____18 ACRES
UNIT 7 _____6 ACRES
UNIT 8 _____50 ACRES
UNIT 9 _____32 ACRES
UNIT 10 _____6 ACRES
UNIT 11 ____30 ACRES
UNIT 12 _____9 ACRES
UNIT 13 ____14 ACRES
UNIT 14 ____20 ACRES
ROW_____3 ACRES

Total_____321 ACRES

Total Reserve Area ____1,087 ACRES
Total Contract Area ____1,408 ACRES

Snags to be Created in Riparian Reserve
(#) Snags to be Created in Thinning Unit
⊗ Proposed Landing
20' Contour
Existing Road
Road to be Improved
Road to be Constructed
Road to be Renovated
Riparian Reserve Snag Creation Area
Seasonal Timing Restriction
Dominant Tree Retention Area
Group Selection Area
Snag Creation Area
Partial Cutting Area
Stream Channel
Reserve Area
Contract Area

0 500 1,000 2,000 feet
Scale 1 inch = 1000 feet

N

TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 28 S., R. 10 W., Sec. 31 Will. Mer.
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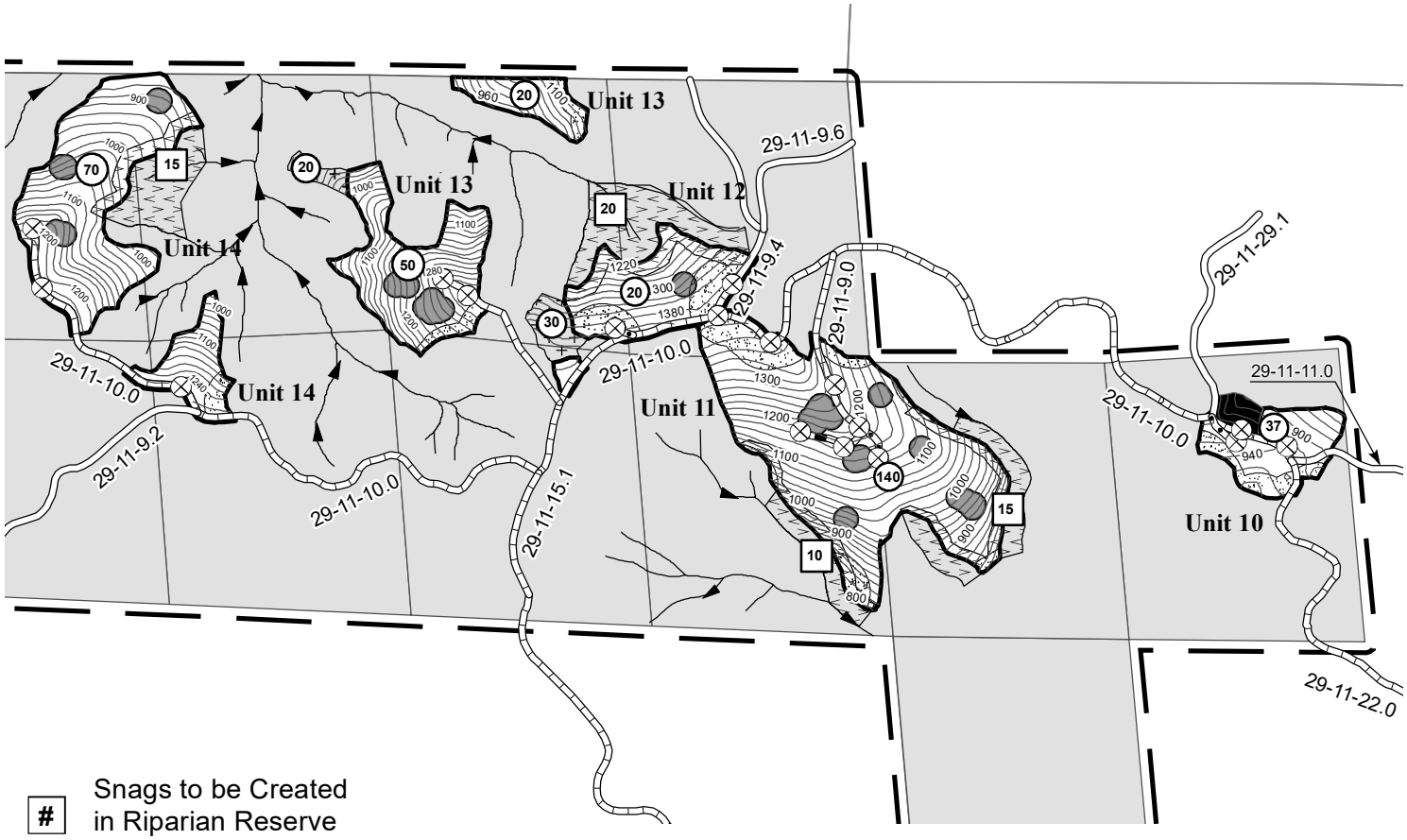
SALE NO. ORC04-TS-2023-0032
EXHIBIT I

Brownson Falls CT



- # Snags to be Created in Riparian Reserve
- (#) Snags to be Created in Thinning Unit
- ⊗ Proposed Landing
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N

THINNING

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USDI-BLM COOS BAY DISTRICT
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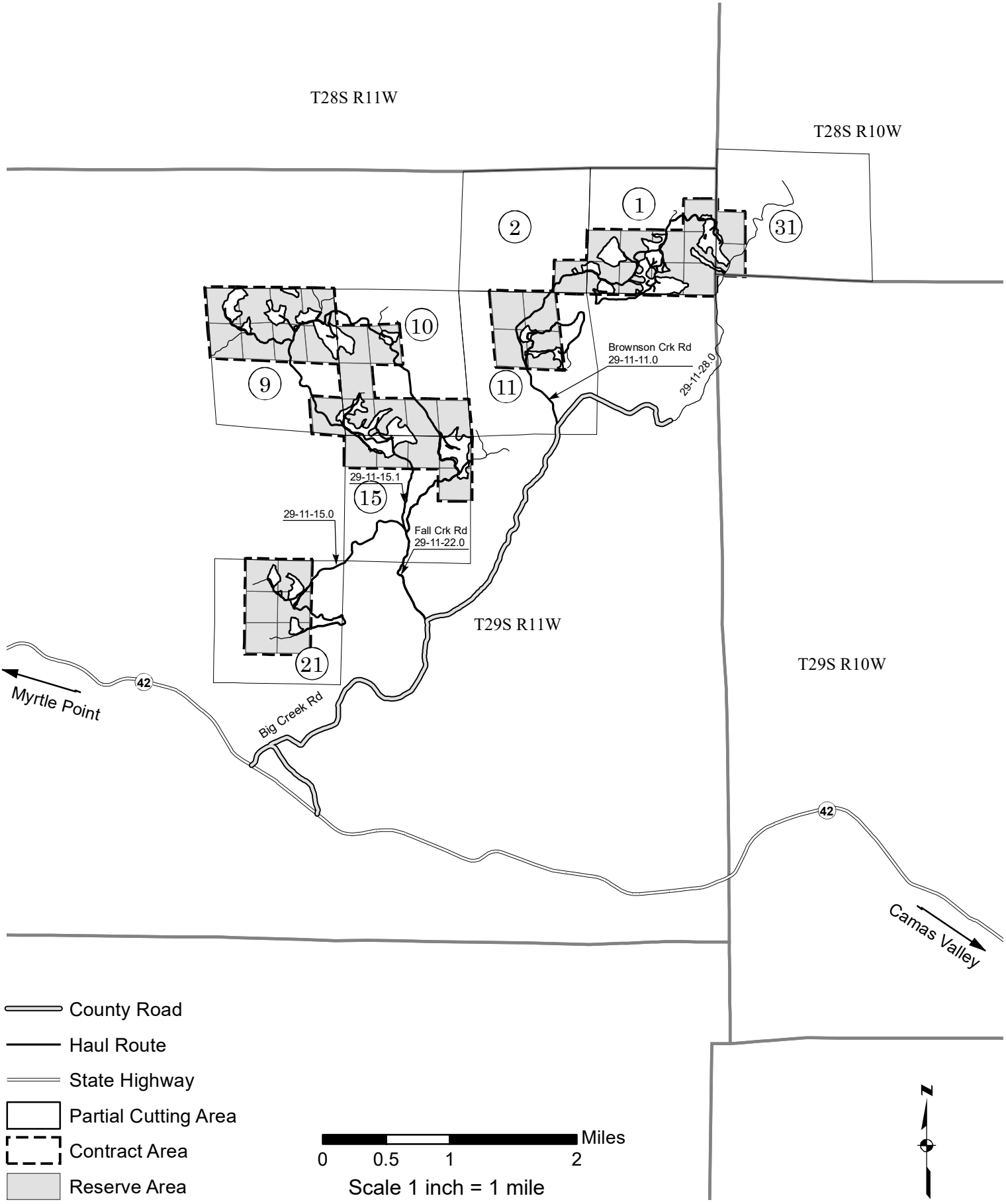
SALE NO. ORC04-TS-2023-0032
EXHIBIT A-1
Page 1
Brownson Falls CT



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USDI-BLM COOS BAY DISTRICT
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Brownson Falls CT

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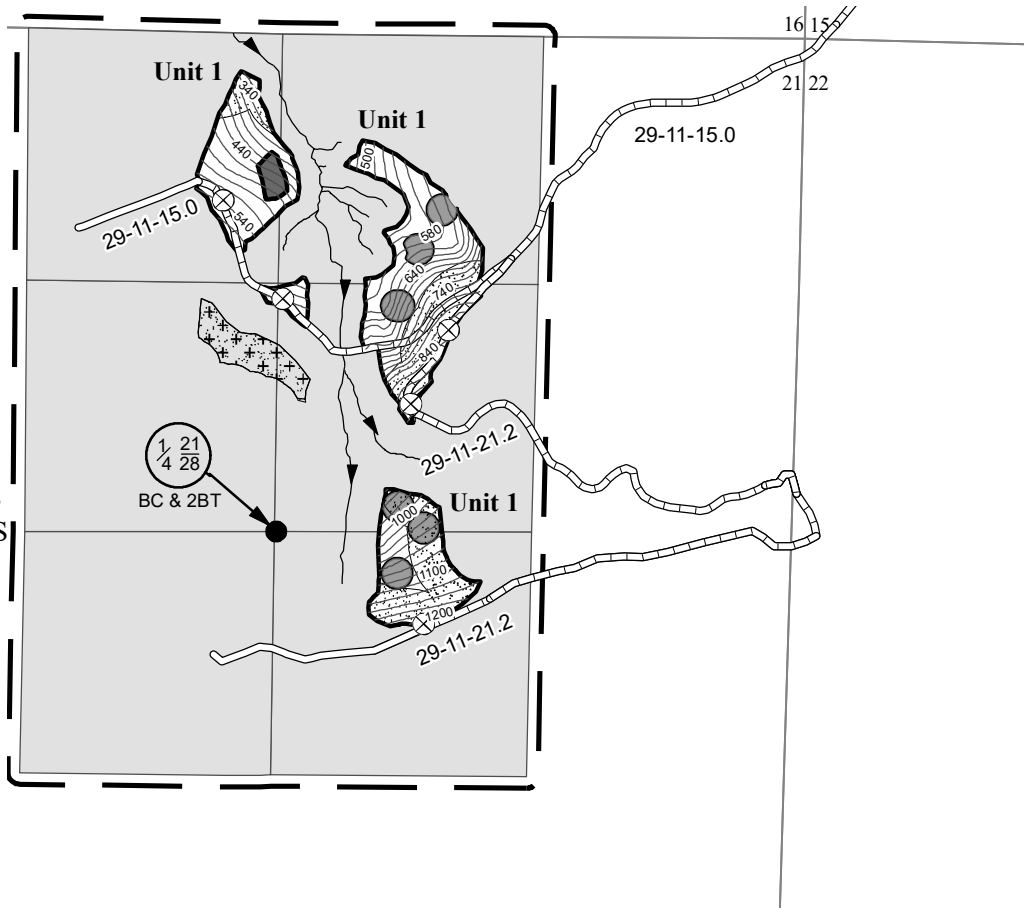

- Corner Found
- Proposed Landing
- 20' Contour
- Existing Road
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0 500 1,000 2,000 feet

Scale 1 inch = 1000 feet

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SALE NO. ORC04-TS-2023-0032
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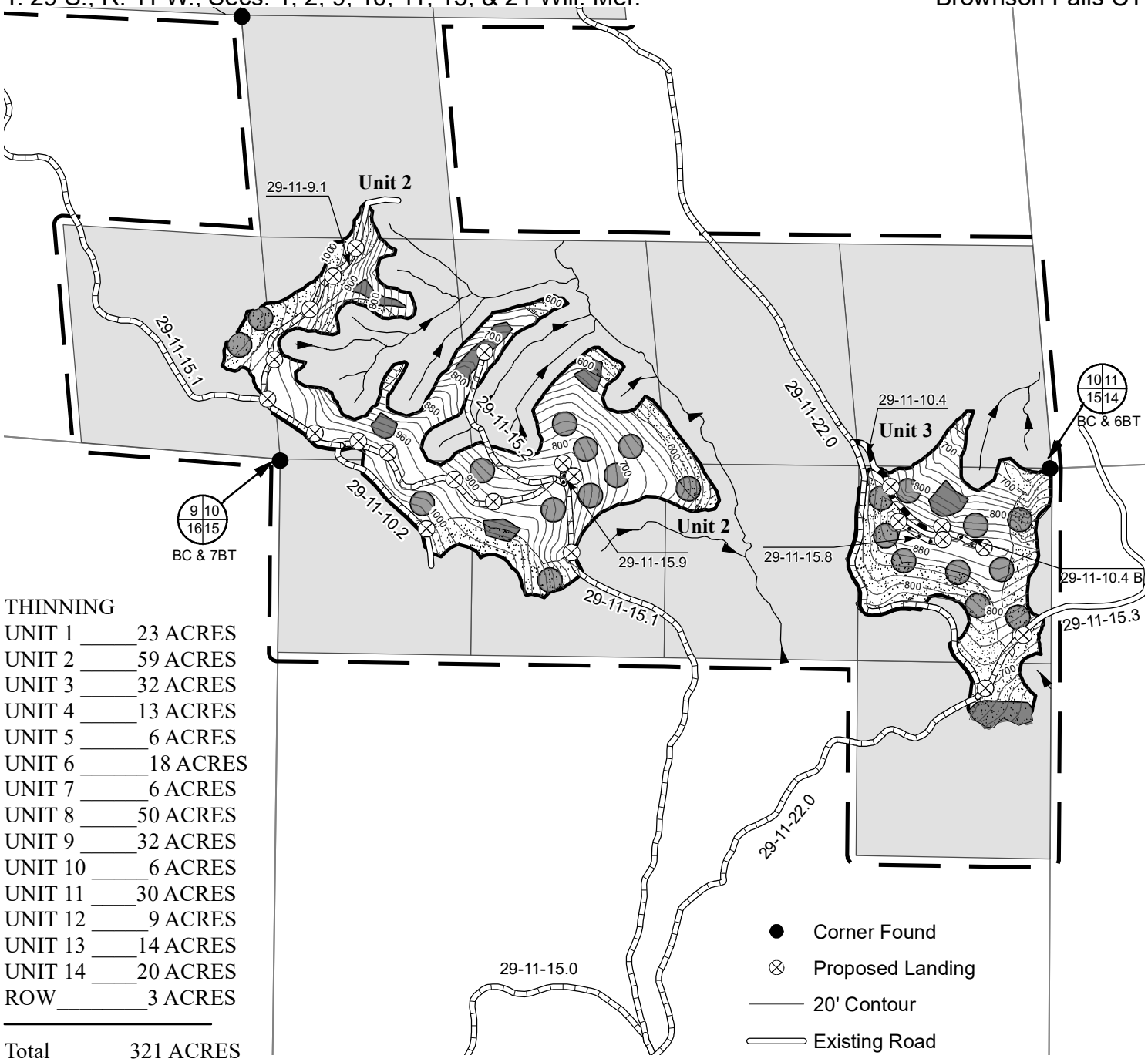
Brownson Falls CT



THINNING

UNIT 1	23 ACRES
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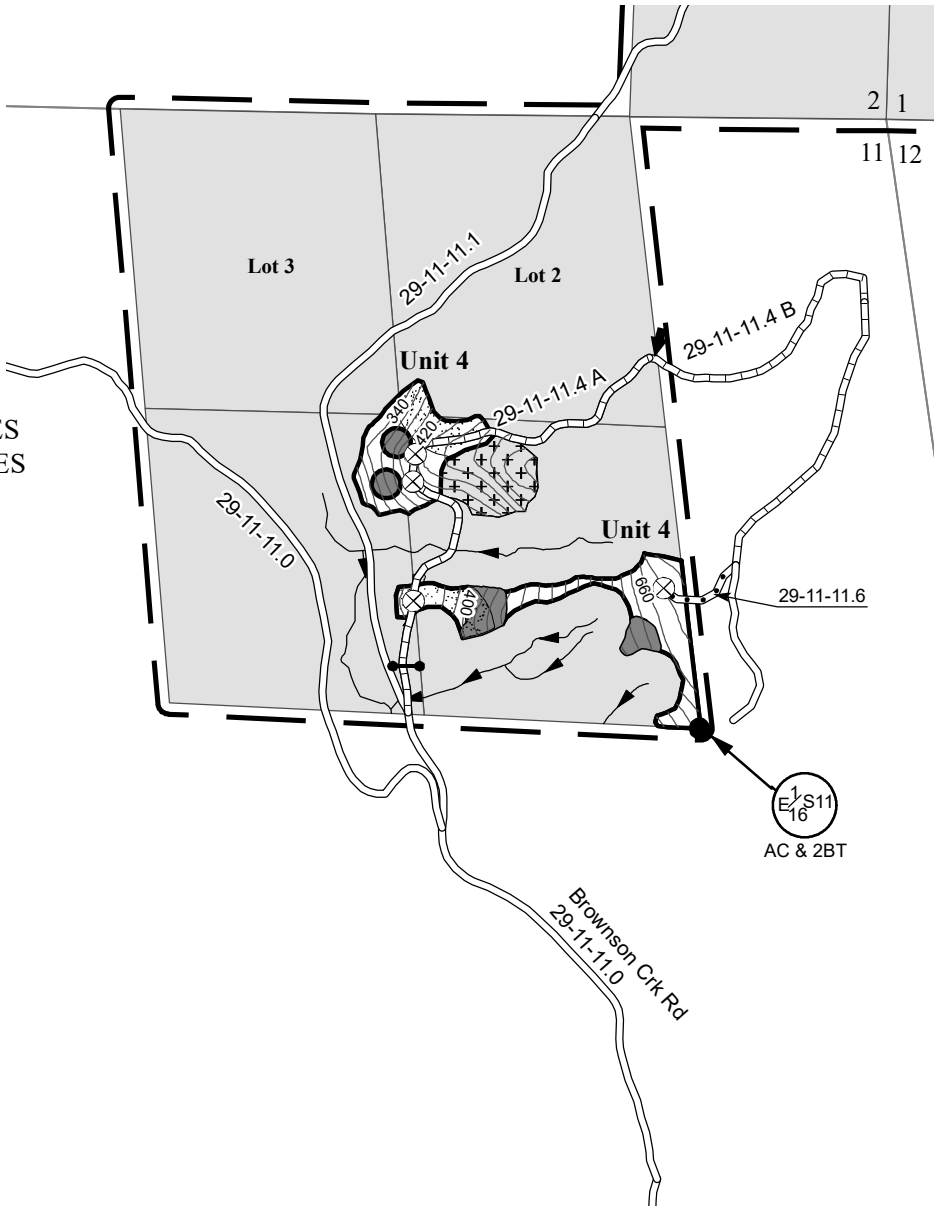

- Road Segment Break
- Gate
- Corner Found
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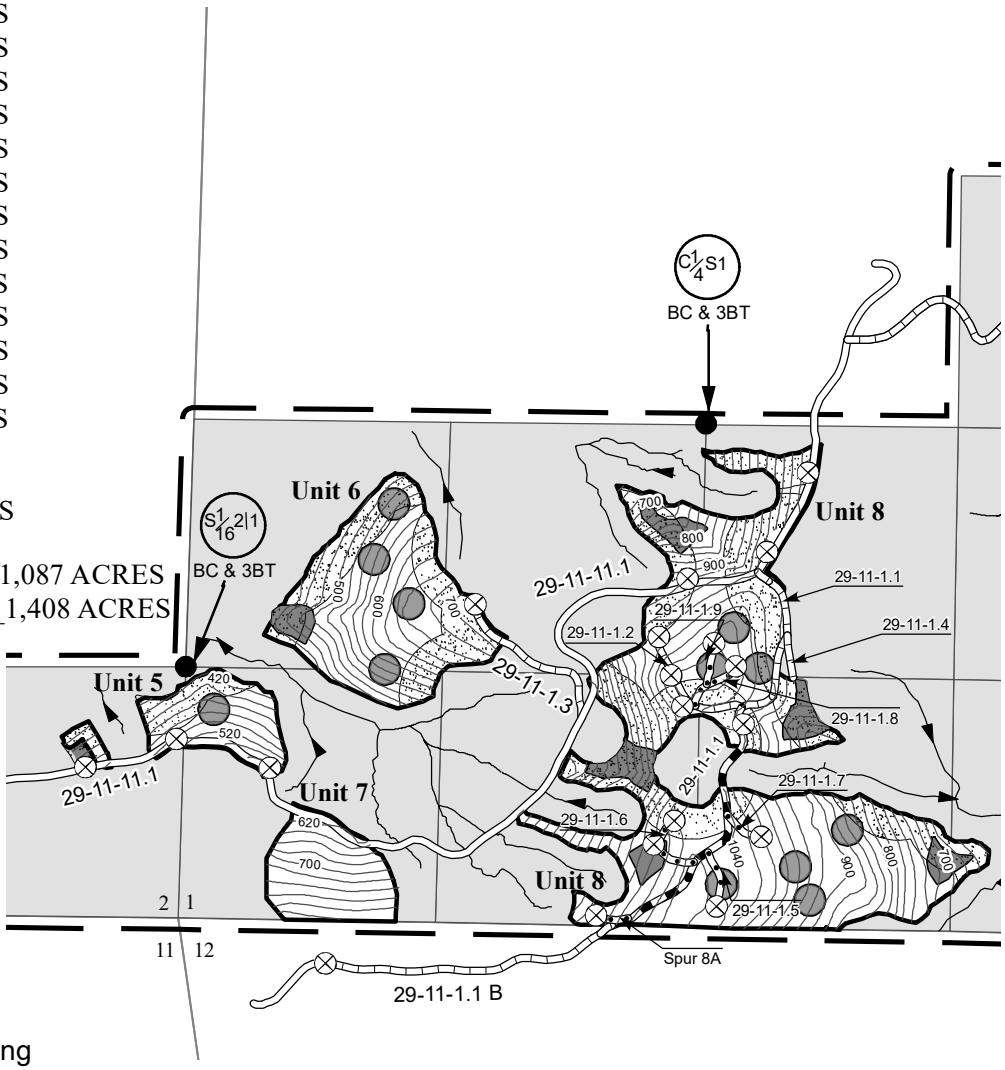

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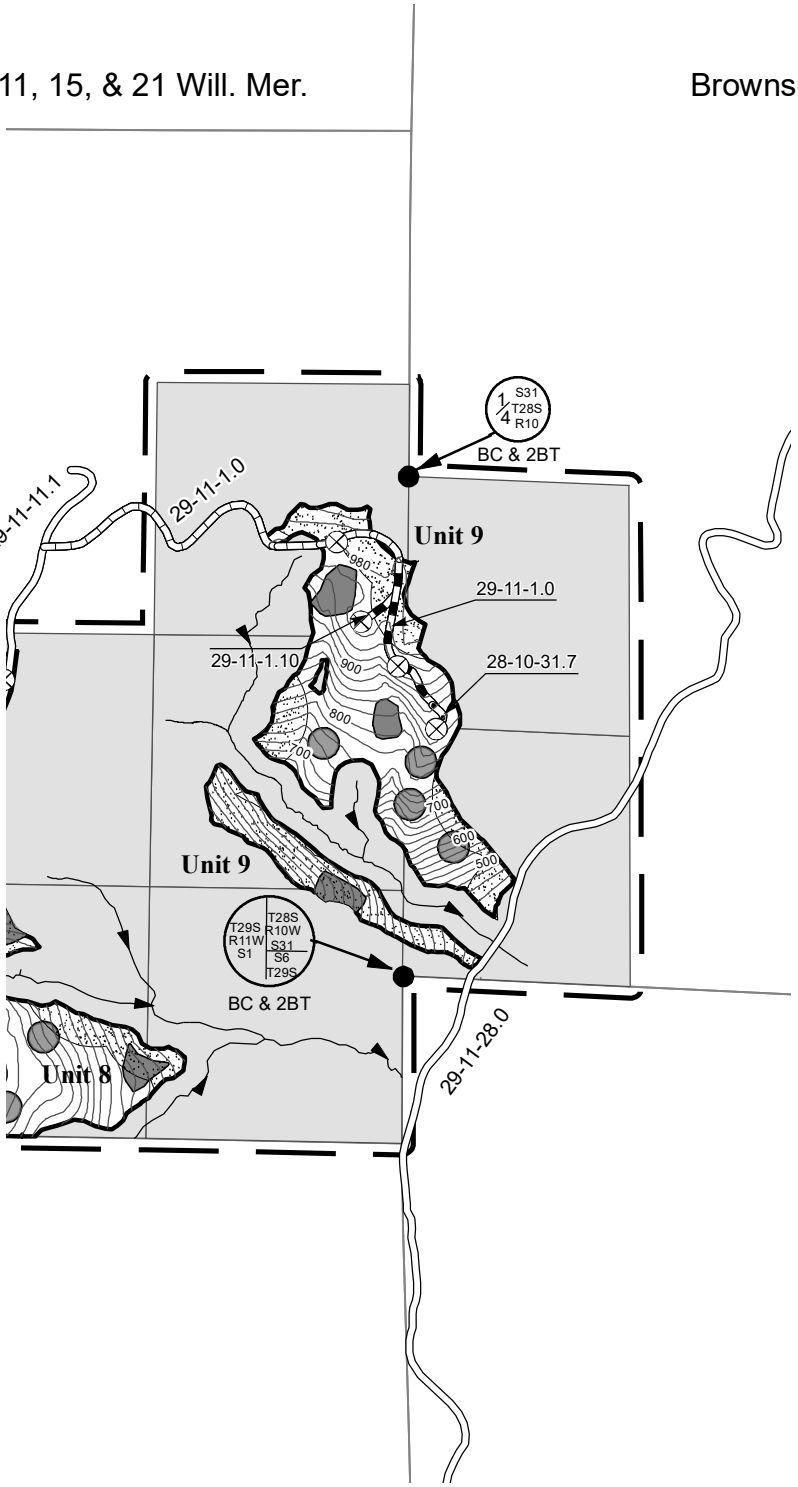

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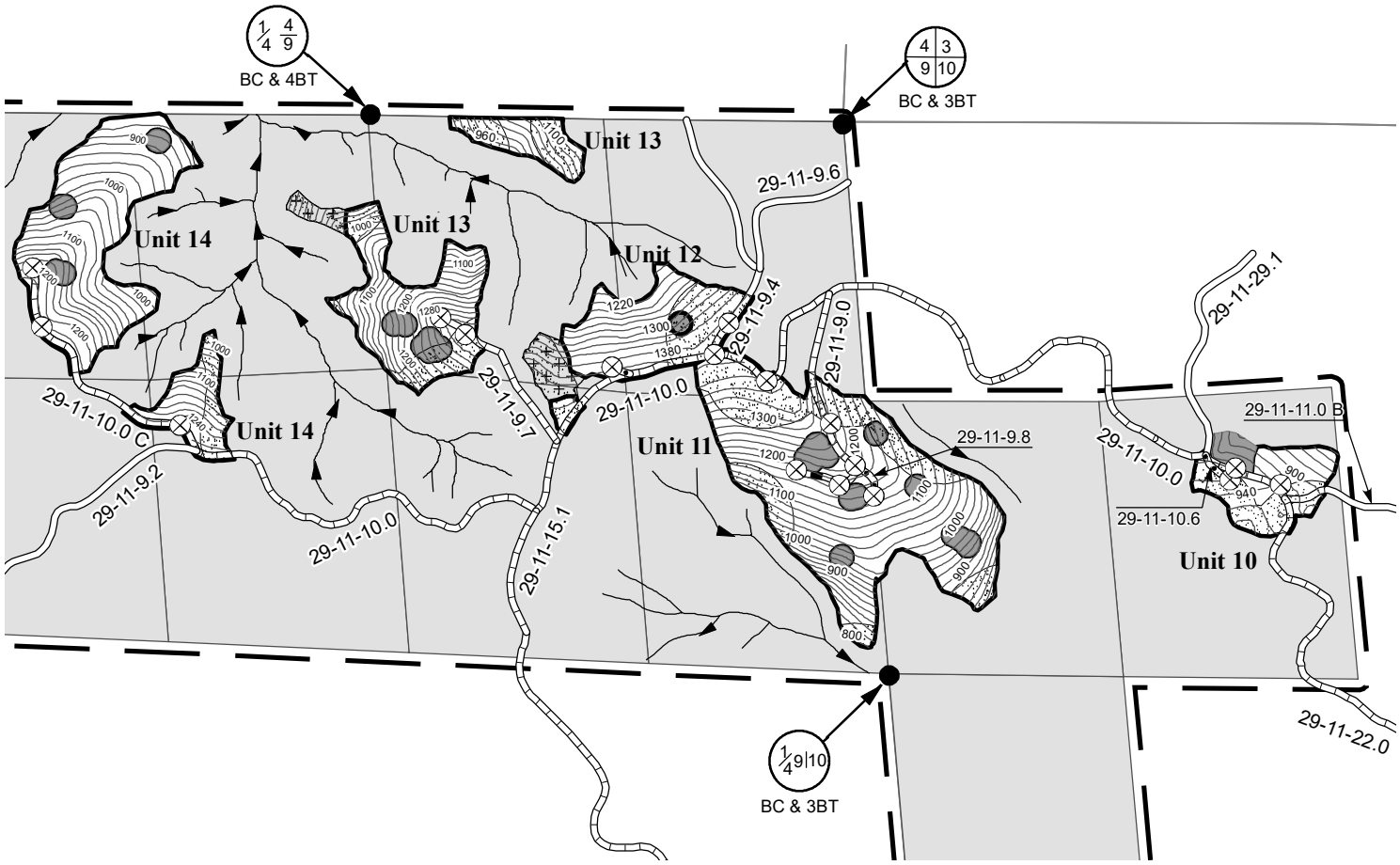
SALE NO. ORC04-TS-2023-0032
EXHIBIT A

Brownson Falls CT



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SALE NO. ORC04-TS-2023-0032
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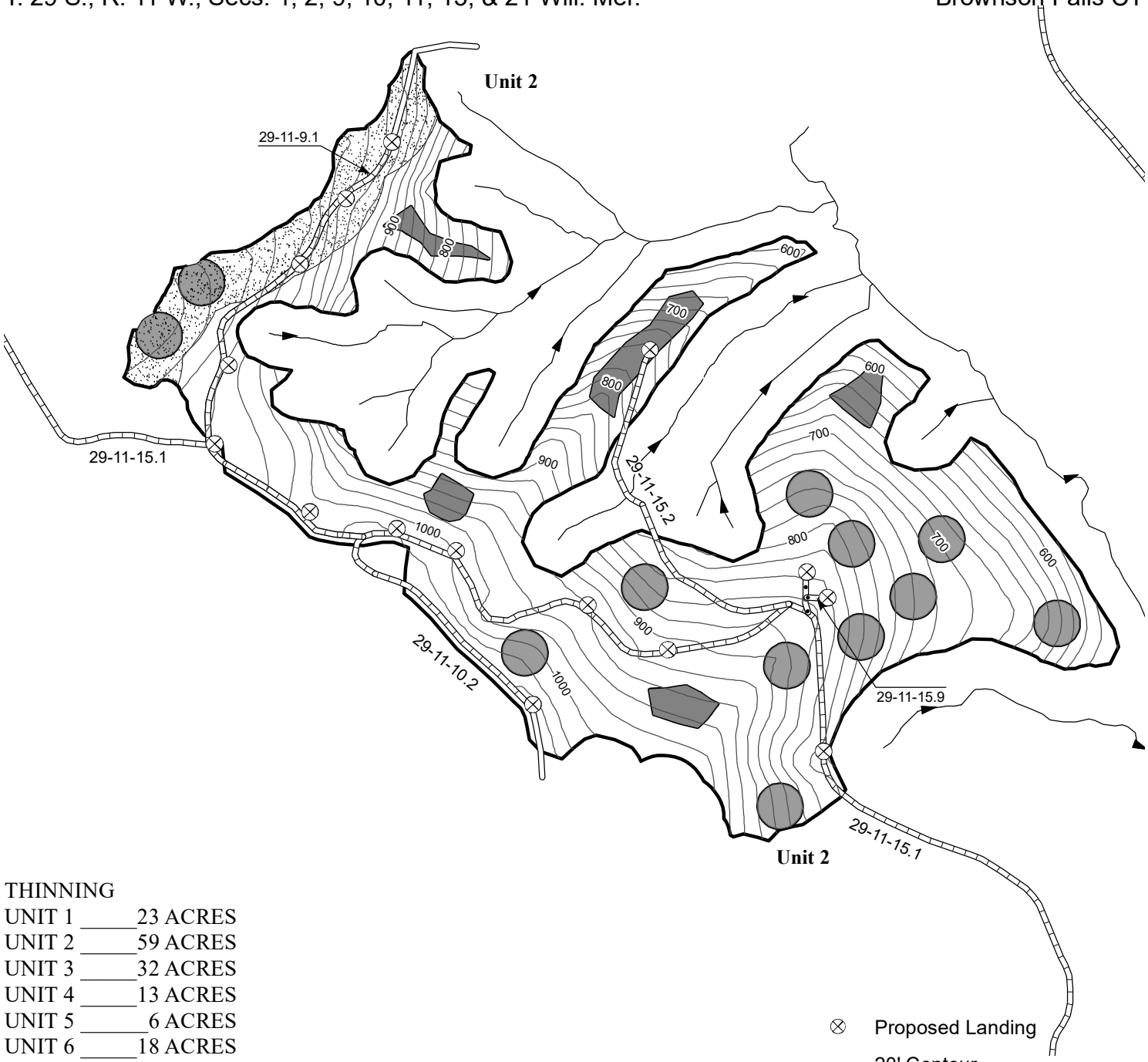

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0 250 500 1,000 feet

Scale 1 inch = 500 feet

N

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SALE NO. ORC04-TS-2023-0032
EXHIBIT A

Brownson Falls CT

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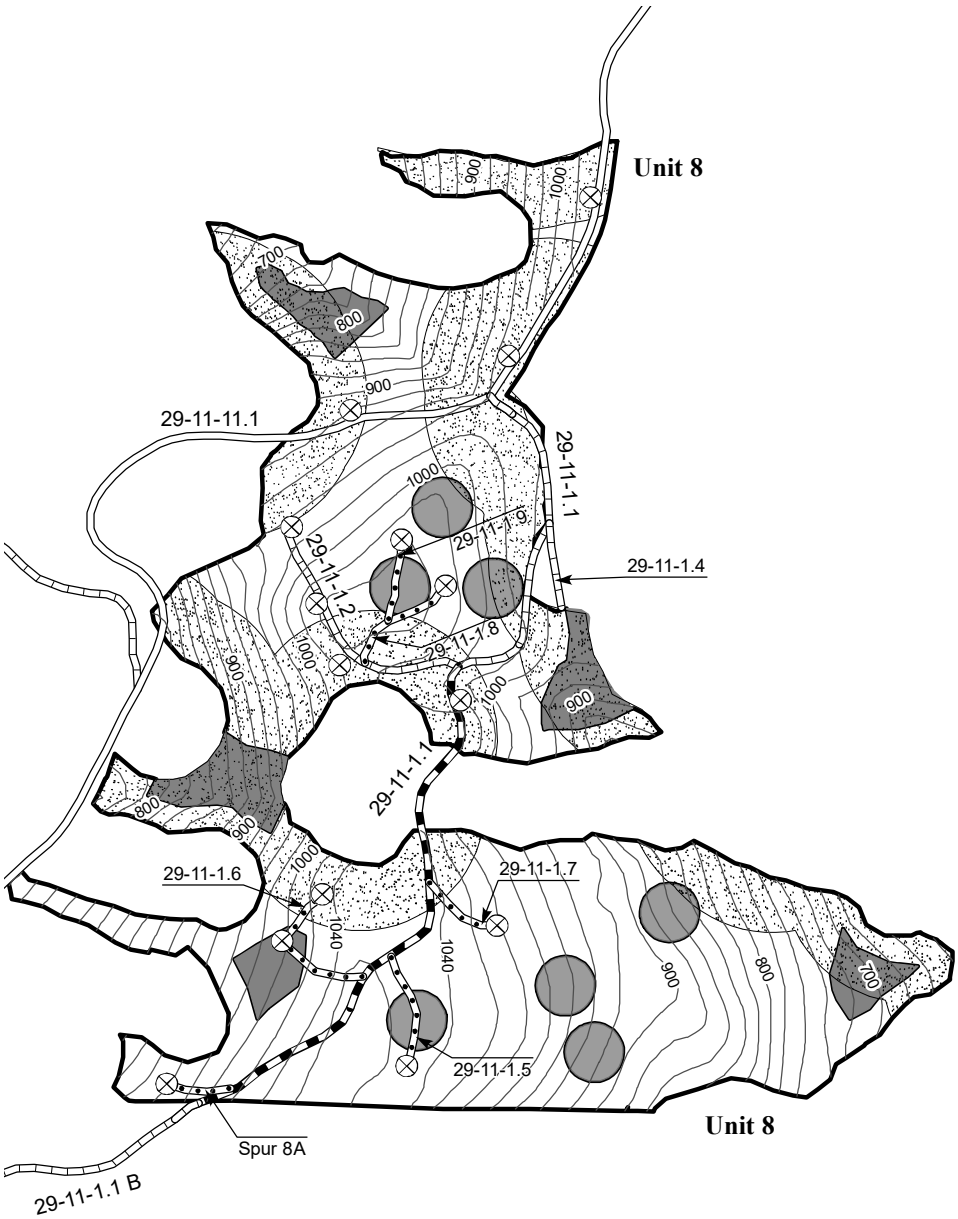

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- Group Selection Area
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- Stream Channel

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

N

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

EXHIBIT B
LUMP SUM SALE

Contract No: ORC4-TS-2023.0032

SALE NAME

Brownson Falls CT

The following estimates and calculations of value of timber sold are made solely as an administrative aid for determining: (1) adjustments made or credits given in accordance with Secs. 6, 9, or 11, (2) when payments are due; and (3) value of timber subject to any special bonding provisions. Except as provided in Sec. 2, Purchaser shall be liable for total purchase price even though quantity of timber actually cut or removed or designated for taking is less than the estimated volume or quantity shown. Cutting areas are shown on Exhibit A.

SPECIES	ESTIMATED VOLUME in MBF	PRICE PER UNIT	AMOUNT OF ESTIMATED VOLUME OR QUANTITY x UNIT PRICE
Douglas-fir	5,592.0 MBF	$110.40	$617,356.80
grand fir	274.0 MBF	$39.30	$10,768.20
western hemlock	278.0 MBF	$40.70	$11,314.60
Port-Orford-cedar	30.0 MBF	$42.90	$1,287.00
red alder	135.0 MBF	$35.90	$4,846.50
Misc Hardwoods	0.2 MBF	$1.90	$0.38
Totals	6309.2 MBF		$645,573.48

The apportionment of the total purchase price is as follows:

Approx. No. of Trees	UNIT NO. 1	EST. NET MBF VOL.			
1678	Douglas-fir	385	$110.40		$42,504.00
49	grand fir	19	$39.30		$746.70
77	western hemlock	19	$40.70		$773.30
27	Port-Orford-cedar	2	$42.90		$85.80
173	red alder	9	$35.90		$323.10
2004	TOTALS	434			

23 Acres = $ 1,931.87 /Ac.
Unit Total $44,432.90

Approx. No. of Trees	UNIT NO. 2	EST. NET MBF VOL.			
4305	Douglas-fir	988	$110.40		$109,075.20
125	grand fir	49	$39.30		$1,925.70
197	western hemlock	49	$40.70		$1,994.30
69	Port-Orford-cedar	5	$42.90		$214.50
443	red alder	22	$35.90		$789.80
302	Misc Hardwoods	0.2	$1.90		$0.38
5441	TOTALS	1113.2			

59 Acres = $1,932.19 /Ac.
Unit Total $113,999.50

Approx. No. of Trees	UNIT NO. 3	EST. NET MBF VOL.			
2335	Douglas-fir	5592	$110.40		$617,356.80
68	grand fir	274	$39.30		$10,768.20
107	western hemlock	278	$40.70		$11,314.60
37	Port-Orford-cedar	30	$42.90		$1,287.00
241	red alder	135	$35.90		$4,846.50
2788	TOTALS	6309			

32 Acres = $20,174.16 /Ac.
Unit Total $645,573.10

Approx. No. of Trees	UNIT NO. 4	EST. NET MBF VOL.			
949	Douglas-fir	217	$110.40		$23,956.80
28	grand fir	11	$39.30		$432.30
43	western hemlock	11	$40.70		$447.70
15	Port-Orford-cedar	1	$42.90		$42.90
98	red alder	5	$35.90		$179.50
1133	TOTALS	245			
			13	Acres =	$1,927.63 /Ac.
					Unit Total $25,059.20

Approx. No. of Trees	UNIT NO. 5	EST. NET MBF VOL.			
438	Douglas-fir	100	$110.40		$11,040.00
13	grand fir	5	$39.30		$196.50
20	western hemlock	5	$40.70		$203.50
7	Port-Orford-cedar	0.5	$42.90		$21.45
45	red alder	2	$35.90		$71.80
523	TOTALS	112.5			
			6	Acres =	$1,922.21 /Ac.
					Unit Total $11,533.25

Approx. No. of Trees	UNIT NO. 6	EST. NET MBF VOL.			
1313	Douglas-fir	301	$110.40		$33,230.40
38	grand fir	15	$39.30		$589.50
60	western hemlock	15	$40.70		$610.50
21	Port-Orford-cedar	2	$42.90		$85.80
135	red alder	7	$35.90		$251.30
1567	TOTALS	340			
			18	Acres =	$1,931.53 /Ac.
					Unit Total $34,767.50

Approx. No. of Trees	UNIT NO. 7	EST. NET MBF VOL.			
438	Douglas-fir	100	$110.40		$11,040.00
13	grand fir	5	$39.30		$196.50
20	western hemlock	5	$40.70		$203.50
7	Port-Orford-cedar	0.5	$42.90		$21.45
45	red alder	2	$35.90		$71.80
523	TOTALS	112.5			
			6	Acres =	$1,922.21 /Ac.
					Unit Total $11,533.25

Approx. No. of Trees	UNIT NO. 8	EST. NET MBF VOL.			
3648	Douglas-fir	836	$110.40		$92,294.40
104	grand fir	40	$39.30		$1,572.00
168	western hemlock	41	$40.70		$1,668.70
59	Port-Orford-cedar	2.7	$42.90		$115.83
376	red alder	21	$35.90		$753.90
4355	TOTALS	940.7			
			50	Acres =	$1,928.10 /Ac.
					Unit Total $96,404.83

Approx. No. of Trees	UNIT NO. 9	EST. NET MBF VOL.			
2335	Douglas-fir	535	$110.40		$59,064.00
68	grand fir	27	$39.30		$1,061.10
107	western hemlock	27	$40.70		$1,098.90
37	Port-Orford-cedar	3	$42.90		$128.70
241	red alder	12	$35.90		$430.80
2788	TOTALS	604			
			32	Acres =	$1,930.73 /Ac.
					Unit Total $61,783.50

Approx. No. of Trees	UNIT NO. 10	EST. NET MBF VOL.			
438	Douglas-fir	100	$110.40		$11,040.00
13	grand fir	5	$39.30		$196.50
20	western hemlock	5	$40.70		$203.50
7	Port-Orford-cedar	0.5	$42.90		$21.45
45	red alder	2	$35.90		$71.80
523	TOTALS	112.5			
			6	Acres =	$1,922.21 /Ac.
					Unit Total $11,533.25

Approx. No. of Trees	UNIT NO. 11	NET MBF VOL.			
2189	Douglas-fir	502	$110.40		$55,420.80
64	grand fir	25	$39.30		$982.50
100	western hemlock	25	$40.70		$1,017.50
35	Port-Orford-cedar	3	$42.90		$128.70
225	red alder	11	$35.90		$394.90
2613	TOTALS	566			
			30	Acres =	1931.48 /Ac.
					Unit Total $57,944.40

Approx. No. of Trees	UNIT NO. 12	EST. NET MBF VOL.		
657	Douglas-fir	150	$110.40	$16,560.00
19	grand fir	8	$39.30	$314.40
30	western hemlock	8	$40.70	$325.60
10	Port-Orford-cedar	0.8	$42.90	$34.32
68	red alder	3	$35.90	$107.70
784	TOTALS	169.8		

9 Acres = 1926.89111 /Ac.

Unit Total $17,342.02

Approx. No. of Trees	UNIT NO. 13	EST. NET MBF VOL.		
1022	Douglas-fir	234	$110.40	$25,833.60
30	grand fir	12	$39.30	$471.60
47	western hemlock	12	$40.70	$488.40
16	Port-Orford-cedar	1	$42.90	$42.90
105	red alder	5	$42.90	$214.50
1220	TOTALS	264		

14 Acres = 1932.21429 /Ac.

Unit Total $27,051.00

Approx. No. of Trees	UNIT NO. 14	EST. NET MBF VOL.		
1459	Douglas-fir	334	$110.40	$36,873.60
42	grand fir	17	$39.30	$668.10
67	western hemlock	17	$40.70	$691.90
23	Port-Orford-cedar	2	$42.90	$85.80
150	red alder	8	$35.90	$287.20
1741	TOTALS	378		

20 Acres = 1930.33 /Ac.

Unit Total $38,606.60

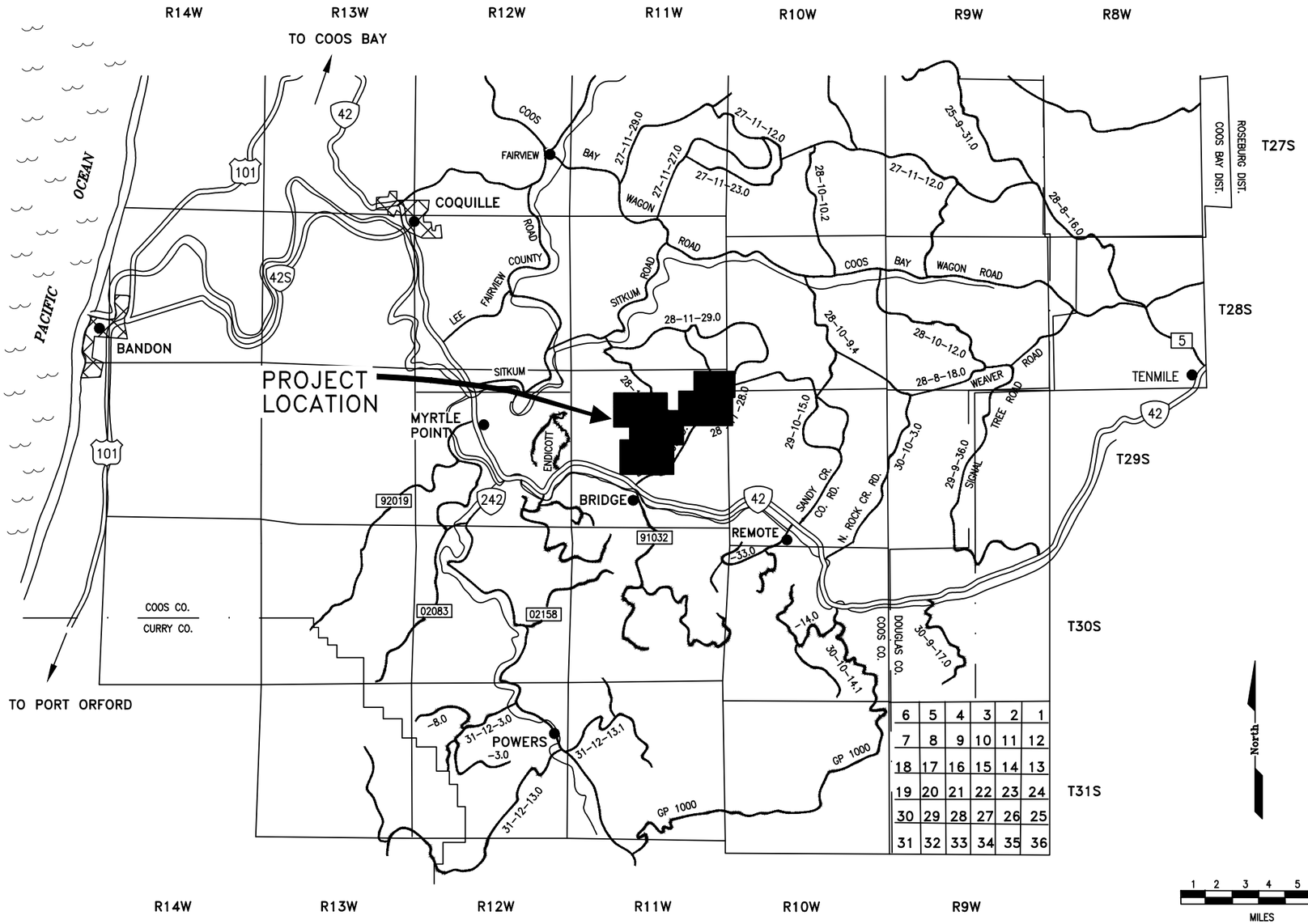
Approx. No. of Trees	RW	EST. NET MBF VOL.		
832	Douglas-fir	275	$110.40	$30,360.00
20	grand fir	9	$39.30	$353.70
42	western hemlock	12	$40.70	$488.40
47	Port-Orford-cedar	3	$42.90	$128.70
191	red alder	14	$35.90	$502.60
1132	TOTALS	313		

3 Acres = 10611.1333 /Ac.

Unit Total 31833.4

EXHIBIT C
TIMBER SALE NO. ORC04–TS–2023.0032
TIMBER SALE NAME: BROWNSON FALLS CT

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



SHEET NO.	CONTENTS
1	TITLE SHEET
2–7	WORK LOCATION MAP
8–12	TYPICAL CROSS SECTION DETAIL
13–16	ESTIMATE OF QUANTITIES
17	CULVERT INSTALLATION DETAIL
18	ROADSIDE BRUSHING DETAIL
19	DESIGNED ROADWORK PLAN & PROFILE
20–22	SPECIAL PROVISIONS
23–53	ROADS WORKLIST
54–79	CONSTRUCTION DETAILS
80–120	TIMBER SALE ROAD SPECIFICATIONS

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

TITLE SHEET

PREPARED J. AGUILAR
REVIEWED A. PETRAUSKI
APPROVED V. LENHARTZEN

DRAWN JAA | SCALE NONE
DATE 04/2023 | SHEET 1 OF 120

T 28 S R 11W

T 28 S R 10W

T 29 S R 11W

T 29 S R 10W

AREA OF DETAIL SEE SHEET NO. 7

AREA OF DETAIL SEE SHEET NO. 5

AREA OF DETAIL SEE SHEET NO. 6

AREA OF DETAIL SEE SHEET NO. 4

AREA OF DETAIL SEE SHEET NO. 3

N

JUNCTION
MP 30.10 HWY 42
MP 00.00 BIG CREEK ROAD

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

ORC04-TS-2023.0032
BROWNSON FALLS CT
WORK LOCATION MAP OVERVIEW

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 2 OF 120

T
29 S R 11 W

16

17

15

20

21

22

PRIVATE

BLM

PRIVATE

PRIVATE

BLM

BLM

29-11-15.0

29-11-15.0

29-11-15.0

29-11-22.0

29-11-21.2

29-11-21.2

-15.1

-22.0

JUNCTION
MP 0.02 (-15.0)
MP 0.00 (-15.1)

JUNCTION
MP 0.81 (-22.0)
MP 0.00 (-15.0)

MP 1.52

MP 1.40

JUNCTION
MP 1.14 (-15.0)
MP 0.00 (-21.2)

MP 0.09

MP 0.17

MP 1.07

JUNCTION
MP 2.26 (BIG CRK RD)
MP 0.00 (-22.0)

BIG CREEK ROAD

N

EXHIBIT C

LEGEND

NEW CONSTRUCTION	
RENOVATION	
IMPROVEMENT	
EXISTING ROAD	
PAVED ROAD	
PROPOSED LANDING	
BRIDGE	
GATE	
ROAD SEGEMENT	
MILEPOST	MP
STATION	STA
WASTE SITE	W
AREA DISPLAYED ON MULTIPLE WORK LOCATION MAPS	

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BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT – OREGON

ORC04-TS-2023.0032
BROWNSON FALLS CT
EXHIBIT C WORK LOCATION MAP

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 3 OF 120

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BLM BLM

9

10

29-11-15.1

STA 12+25

STA 10+00

STA 7+35

STA 2+50

-9.1

MP 1.18

MP 1.12

MP 1.08

MP 0.97

JUNCTION
MP 1.26 (-15.1)
STA 0+00 (-9.1)

PRIVATE

29-11-10.2

JUNCTION
MP 1.15 (-15.1)
MP 0.00 (-10.2)

MP 0.17

MP 0.91

STA 12+00

-15.2

29-11-15.9
STA 2+15

STA 0+75

JUNCTION
MP 0.82 (-15.1)
STA 0+00 (-15.9)

JUNCTION
MP 0.83 (-15.1)
STA 0+00 (-15.2)

MP 0.70

29-11-15.1

29-11-22.0

JUNCTION
MP 1.95 (-22.0)
MP 0+00 (-10.4 A)

STA 4+50

JUNCTION
STA 10+00 (-10.4)
STA 0+00 (-15.8)

-10.4

STA 10+70 (-10.4 A)=
STA 0+00 (-10.4 B)

29-11-15.8
STA 4+00

29-11-10.4 B
STA 2+15

MP 0.09

-15.3

JUNCTION
MP 1.50 (-22.0)
MP 0.00 (-15.3)

MP 1.50

14

-15.5

BLM BLM

N

T
29 R 11 W
S

T
29 R 11 W
S

PRIVATE BLM

16

15

29-11-15.0

-15.1

-22.0

JUNCTION
MP 0.02 (-15.0)
MP 0.00 (-15.1)

JUNCTION
MP 0.81 (-22.0)

EXHIBIT C

LEGEND

NEW CONSTRUCTION	
RENOVATION	
IMPROVEMENT	
EXISTING ROAD	
PAVED ROAD	
PROPOSED LANDING	
BRIDGE	
GATE	
ROAD SEGEMENT	
MILEPOST	MP
STATION	STA
WASTE SITE	W
AREA DISPLAYED ON MULTIPLE WORK LOCATION MAPS	

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

ORC04-TS-2023.0032
BROWNSON FALLS CT
EXHIBIT C WORK LOCATION MAP

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 4 OF 120

4/24/2023 10:33:40 AM

T
29 R 11 W
S

PRIVATE BLM

STA 91+10
STA 85+75
-10.0 C
STA 77+50
MP 1.44 (-10.0)=
STA 76+00 (-10.0)
29-11-9.2
-10.0 B
29-11-9.7
STA 8+50
STA 8+20
MP 0.83
JUNCTION
MP 0.91 (-10.0)
STA 0+00 (-9.7)
-10.0 A
MP 0.04
JUNCTION
MP 0.73 (-10.0)
MP 0.00 (-9.4)
-9.4
-15.1
JUNCTION
MP 1.00 (-10.0)
MP 2.18 (-15.1)
MP 0.67
JUNCTION
MP 0.54 (-10.0)
STA 0+00 (-9.0)
-9.0
STA 7+30
STA 14+20
STA 11+80
JUNCTION
STA 9+75 (-9.0)
STA 0+00 (-9.8)
29-11-9.8
STA 2+65
29-11-10.0 A
28-11-29.1
4-WAY JUNCTION
MP 0.10 (-11.0 B)
MP 0.00 (-10.0)
STA 0+00 (-10.6)
28-11-29.1
MP 0.06
MP 0.02
-11.0 B
29-11-10.6
STA 1+70
JUNCTION
MP 2.85 (-22.0)
MP 0.00 (-11.0 B)
29-11-11.0
29-11-22.0

8

9

10

BLM BLM

PRIVATE

29-11-15.1

STA 12+25
STA 10+00
STA 7+35
STA 2+50
-9.1
JUNCTION
MP 1.26 (-15.1)
STA 0+00 (-9.1)
MP 1.18
MP 1.12
MP 1.08
MP 0.97
STA 12+00
-15.2
29-11-10.2
JUNCTION
MP 1.15 (-15.1)
MP 0.00 (-10.2)

EXHIBIT C

LEGEND

NEW CONSTRUCTION	
RENOVATION	
IMPROVEMENT	
EXISTING ROAD	
PAVED ROAD	
PROPOSED LANDING	⊗
BRIDGE	
GATE	
ROAD SEGEMENT	
MILEPOST	MP
STATION	STA
WASTE SITE	Ⓦ
AREA DISPLAYED ON MULTIPLE WORK LOCATION MAPS	

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

ORC04-TS-2023.0032
BROWNSON FALLS CT
EXHIBIT C WORK LOCATION MAP

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 5 OF 120

4/22/2023 12:19:23 PM

T 29 S R 11W

N

R 11 W

T 29 S R 10 W

29-11-11.1

MP 0.58

-11.4 B

MP 0.30

MP 0.27

29-11-11.4 A

MP 0.11

11

12

6

29-11-11.6
STA 5+50

JUNCTION
MP 1.16 (-11.4 B)
STA 0+00 (-11.6)

PRIVATE GATE
MP 0.03

BLM

PRIVATE

-11.0

JUNCTION
MP 0.11 (-11.1)
MP 0.00 (-11.4 A)

JUNCTION
MP 0.44 (-11.0 A)
MP 0.00 (-11.1)

29-11-11.0 A

BLM PRIVATE

JUNCTION
MP 4.20 (BIG CRK RD)
MP 0.00 (-11.0 A)

BIG CREEK ROAD

29-11-28.0

MP 5.40 (BIG CRK
MP 0.00 (-28.0)

PRIVATE

BLM BLM

STA 39+60

PRIVATE PRIVATE

29-11-1.1 B

STA 1+25

STA 24+30

JUNCTION
STA 24+00 (-1.1 A2)
STA 0+00 (SPUR 8A)

29-11-1.6
STA 3+50

STA 2+25

STA 16+80
STA 0+00

JUNCTION
STA 15+50 (-1.1 A2)
STA 0+00 (29-11-1.7)

STA 2+25

JUNCTION
STA 17+50 (-1.1 A2)
STA 0+00 (29-11-1.5)

STA 3+00

EXHIBIT C

LEGEND

NEW CONSTRUCTION	
RENOVATION	
IMPROVEMENT	
EXISTING ROAD	
PAVED ROAD	
PROPOSED LANDING	⊗
BRIDGE	
GATE	
ROAD SEGEMENT	
MILEPOST	MP
STATION	STA
WASTE SITE	Ⓦ
AREA DISPLAYED ON MULTIPLE WORK LOCATION MAPS	

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

ORC04-TS-2023.0032
BROWNSON FALLS CT
EXHIBIT C WORK LOCATION MAP

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 6 OF 120

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EXHIBIT C

LEGEND

- NEW CONSTRUCTION
- RENOVATION
- IMPROVEMENT
- EXISTING ROAD
- PAVED ROAD
- PROPOSED LANDING
- BRIDGE
- GATE
- ROAD SEGEMENT
- MILEPOST — MP
- STATION — STA
- WASTE SITE — W
- AREA DISPLAYED ON MULTIPLE WORK LOCATION MAPS

N

T 29 S R 11W

T 28 S R 10 W

1

31

PRIVATE

BLM BLM

BLM BLM

PRIVATE PRIVATE

JUNCTION
MP 2.29 (−11.1)
MP 0.00 (−1.0)

29−11−1.0

MP 0.45 (−1.0)=
STA 23+75 (−1.0)

MP 0.35

JUNCTION
STA 24+75 (−1.0)
STA 0+00 (−1.10)

29−11−1.10
STA 1+75

STA 28+00

JUNCTION
STA 31+50 (−1.0)
STA 0+00 (−31.7)

28−10−31.7
STA 1+50

29−11−28.0

MP 2.15

MP 2.06

JUNCTION
MP 2.04 (−11.1)
STA 0+00 (−1.1 A1)

MP 1.96

29−11−1.3
MP 0.16

STA 0+85
STA 0+00

STA 6+30

STA 2+00
STA 2+75

−1.2
1.9
−1.8

STA 4+30

STA 2+40
STA 0+00

−1.1 A1

−1.4

JUNCTION
STA 3+80 (−1.1 A1)
STA 0+00 (29−11−1.4)

JUNCTION
STA 9+00 (−1.1 A1)
STA 0+00 (29−11−1.2)

−1.1 A2

STA 9+80

JUNCTION
MP 1.72 (−11.1)
MP 0.00 (−1.3)

MP 1.30

MP 1.20

MP 1.12

STA 18+60
STA 0+00

JUNCTION
STA 15+50 (−1.1 A2)
STA 0+00 (29−11−1.7)

29−11−1.6
STA 3+50

STA 2+25

STA 2+25

JUNCTION
STA 17+50 (−1.1 A2)
STA 0+00 (29−11−1.5)

JUNCTION
STA 24+00 (−1.1 A2)
STA 0+00 (SPUR 8A)

STA 3+00

STA 39+60

STA 1+25

STA 24+30

29−11−1.1 B

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BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT − OREGON

ORC04−TS−2023.0032
BROWNSON FALLS CT
EXHIBIT C WORK LOCATION MAP

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 7 OF 120

ROAD NUMBER **		FROM MILEPOST/STATION	TO MILEPOST/STATION	LENGTH MILES/STATIONS	TYPICAL SECTION TYPE	ROAD WIDTH (*1 & 5)		CLEARING WIDTH		BRUSHING WIDTH		SURFACING (*3)									REMARKS
						SUBGRADE	DITCH	BEYOND		EXISTING ROADS		BASE COURSE					SURFACE COURSE				
								TOP CUT	TOE FILL	L	R	Min Top Width	Comp. Depth	Type (*2)	Grading		Min Top Width	Comp. Depth	Type (*2)	Grading	
28-10-31.7	C	0+00	1+50	1.50	5	16'	2'	10'	5'			13.3'	8"	D	3-0"		12'	4"	D	0.75-0"	3% CROWNED W/ DITCH
29-11-1.0	R	0.00	0.45	0.45	4	16'	2'			10'	10'	APPLY SURFACE AND SPOT ROCK AS SPECIFIED IN ROADS WORKLIST									3% CROWNED W/ DITCH
29-11-1.0	I	23+75	31+50	7.75	5	16'	2'	10'	5'			13.3'	8"	D	3-0"		12'	4"	D	0.75-0"	3% CROWNED W/ DITCH
29-11-1.1 seg A1	R	0+00	9+50	9.50	5	16'	2'			10'	10'						12'	3"	D	1.5-0"	3% CROWNED W/ DITCH
29-11-1.1 seg. A2	I	9+50	24+30	14.80	4	16'	2'	10'	5'								12'	8"	D	3-0"	3% CROWNED W/ DITCH
29-11-1.1 seg. B	R	24+30	39+60	15.30	5	16'	2'			10'	10'	APPLY SURFACE AND SPOT ROCK AS SPECIFIED IN ROADS WORKLIST									3% CROWNED W/ DITCH
29-11-1.2	R	0+00	6+30	6.30	5	16'	2'			10'	10'						12'	3"	D	1.5-0"	3% CROWNED W/ DITCH
29-11-1.3	R	0.00	0.16	0.16	5	16'	2'			10'	10'						12'	3"	D	1.5-0"	3% CROWNED W/ DITCH
29-11-1.4	R	0+00	5+00	5.00	1	16'	2'			10'	10'						NATIVE SURFACE				3% CROWNED W/ DITCH
29-11-1.5	C	0+00	3+00	3.00	2	16'	0'	10'	5'								12'	8"	D	3-0"	3% OUTSLOPED

** RENOVATION = R
IMPROVEMENT = I
CONSTRUCTION = C

*NOTES

1. EXTRA SUBGRADE WIDTHS

FILL WIDENING:
- ADD 1 FT. TO EACH SHOULDER FOR FILLS OF 1–6 FT. IN HEIGHT
- ADD 2 FT. TO EACH SHOULDER FOR FILLS OF 6–10 FT. IN HEIGHT

CURVE WIDENING: WIDEN THE INSIDE SHOULDER OF ALL CURVES AS SHOWN ON THE PLANS OR AS FOLLOWS:
- ADD 4 FT. FOR CURVES WITH 90'–120' RADIUS
- ADD 5 FT. FOR CURVES WITH 60'–90' RADIUS

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

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

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

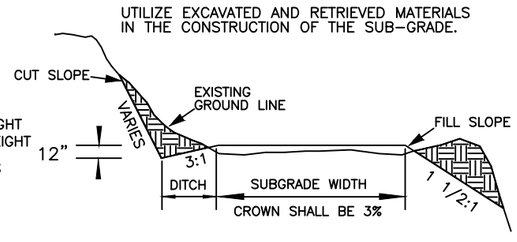
2. SURFACING TYPE
   - A. PIT RUN ROCK MATERIAL.
   - B. GRID ROLLED ROCK MATERIAL
   - C. SCREENED ROCK MATERIAL.
   - D. CRUSHED ROCK MATERIAL.
   - E. CLASS 'C' ASPHALT MIX.

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

4. DITCHES
   - A. 2:1 INSLOPE FROM SUBGRADE. DITCH OUTSLOPE WILL BE AS SPECIFIED IN NOTE 1 ABOVE. DEPTH MAY BE EXCEEDED TO OBTAIN REQUIRED DRAINAGE.

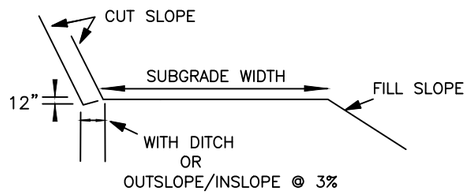
5. TURNOUTS
   - A. WIDTH 10 FT. IN ADDITION TO SUBGRADE WIDTH, OR AS SHOWN ON THE PLANS.
   - B. INTERVISIBLE OR LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS AND/OR NARRATIVE.

TYPICAL GRADING SECTION



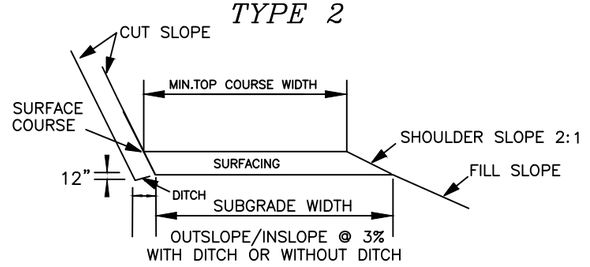
TYPICAL DIRT SECTION

TYPE 1



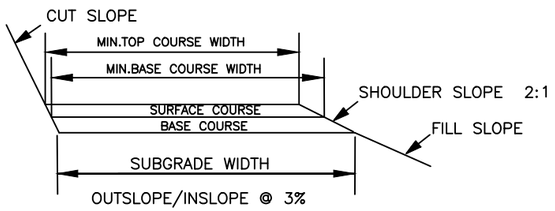
TYPICAL SURFACING SECTION

TYPE 2



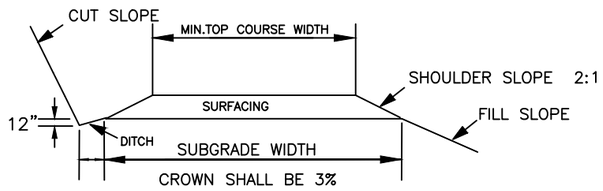
TYPICAL SURFACING SECTION

TYPE 3



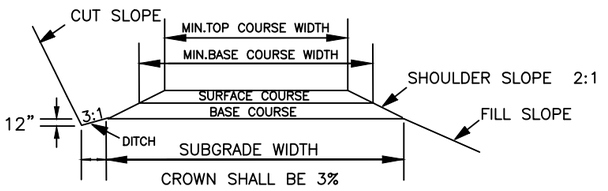
TYPICAL SURFACING SECTION

TYPE 4



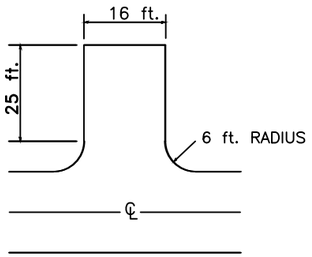
TYPICAL SURFACING SECTION

TYPE 5

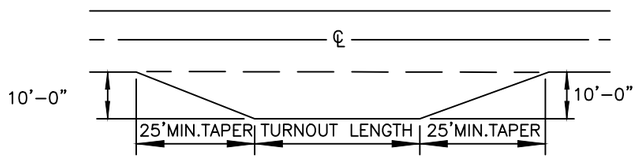


NOTE: FOR TYPE 1–3 TYPICAL SECTIONS, OUTSLOPING NOT TO BE USED WHERE GRADE EXCEEDS 6% (NEW CONSTRUCTION).

PLAN – TYPICAL TRUCK TURNAROUND



PLAN – TYPICAL TURNOUT



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

ORC04–TS–2023.0032
BROWNSON FALLS CT
TYPICAL CROSS SECTION DETAILS

PREPARED	J. AGUILAR		
REVIEWED	A. PETRAUSKI		
APPROVED	V. LENHARTZEN		
DRAWN	JAA	SCALE	NONE
DATE	04/2023	SHEET	8 OF 120

/22/2023 1:23:20 PM

ROAD NUMBER **		FROM MILEPOST/STATION	TO MILEPOST/STATION	LENGTH MILES/STATIONS	TYPICAL SECTION TYPE	ROAD WIDTH (*1 & 5)		CLEARING WIDTH		BRUSHING WIDTH		SURFACING (*3)									REMARKS
						SUBGRADE	DITCH	BEYOND		EXISTING ROADS		BASE COURSE					SURFACE COURSE				
								TOP CUT	TOE FILL	L	R	Min Top Width	Comp. Depth	Type (*2)	Grading		Min Top Width	Comp. Depth	Type (*2)	Grading	
29-11-1.6	C	0+00	3+50	3.50	4	16'	2'	10'	5'								12'	8"	D	3-0"	3% CROWNED W/ DITCH
29-11-1.7	C	0+00	2+25	2.25	2	16'	0'	10'	5'								12'	8"	D	3-0"	3% OUTSLOPED
29-11-1.8	C	0+00	2+75	2.75	4	16'	2'	10'	5'								12'	8"	D	3-0"	3% CROWNED W/ DITCH
29-11-1.9	C	0+00	2+00	2.00	4	16'	2'	10'	5'								12'	8"	D	3-0"	3% CROWNED W/ DITCH
29-11-1.10	I	0+00	1+75	1.75	2	16'	0'	10'	5'								12'	8"	D	3-0"	3% OUTSLOPED
29-11-9.0	R	0+00	9+75	9.75	5	16'	2'			10'	10'						12'	3"	D	1.5-0"	3% CROWNED W/ DITCH
29-11-9.0	I	9+75	14+20	4.45	2	16'	2'	10'	5'								12'	8"	D	3-0"	3% INSLOPED w/ DITCH
29-11-9.1	R	0+00	12+25	12.25	4	16'	2'			10'	10'	APPLY SURFACE AND SPOT ROCK AS SPECIFIED IN ROADS WORKLIST									3% CROWNED W/ DITCH
29-11-9.4	R	0.00	0.04	0.04	5	16'	2'			10'	10'										3% CROWNED W/ DITCH
29-11-9.7	R	0+00	8+50	8.50	1	14'	0'			10'	10'						NATIVE SURFACE				3% OUTSLOPED/INSLOPED

** RENOVATION = R
IMPROVEMENT = I
CONSTRUCTION = C

*NOTES

1. EXTRA SUBGRADE WIDTHS

FILL WIDENING:
- ADD 1 FT. TO EACH SHOULDER FOR FILLS OF 1–6 FT. IN HEIGHT
- ADD 2 FT. TO EACH SHOULDER FOR FILLS OF 6–10 FT. IN HEIGHT

CURVE WIDENING: WIDEN THE INSIDE SHOULDER OF ALL CURVES AS SHOWN ON THE PLANS OR AS FOLLOWS:
- ADD 4 FT. FOR CURVES WITH 90'–120' RADIUS
- ADD 5 FT. FOR CURVES WITH 60'–90' RADIUS

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

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

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

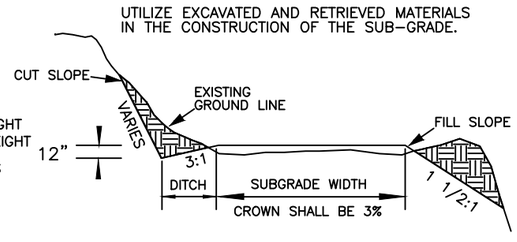
2. SURFACING TYPE
   - A. PIT RUN ROCK MATERIAL.
   - B. GRID ROLLED ROCK MATERIAL
   - C. SCREENED ROCK MATERIAL.
   - D. CRUSHED ROCK MATERIAL.
   - E. CLASS 'C' ASPHALT MIX.

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

4. DITCHES
   - A. 2:1 INSLOPE FROM SUBGRADE. DITCH OUTSLOPE WILL BE AS SPECIFIED IN NOTE 1 ABOVE. DEPTH MAY BE EXCEEDED TO OBTAIN REQUIRED DRAINAGE.

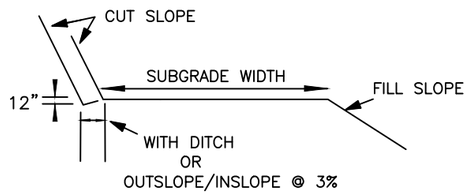
5. TURNOUTS
   - A. WIDTH 10 FT. IN ADDITION TO SUBGRADE WIDTH, OR AS SHOWN ON THE PLANS.
   - B. INTERVISIBLE OR LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS AND/OR NARRATIVE.

TYPICAL GRADING SECTION



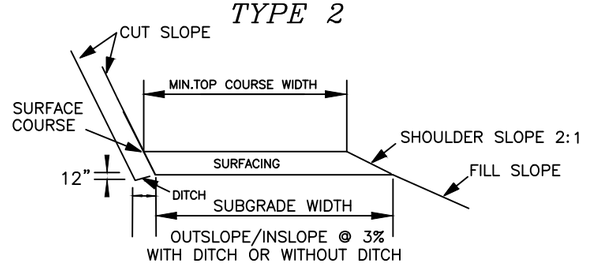
TYPICAL DIRT SECTION

TYPE 1



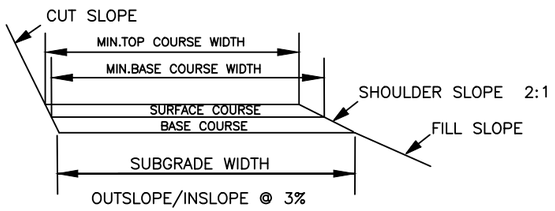
TYPICAL SURFACING SECTION

TYPE 2



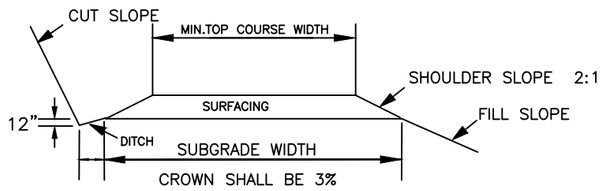
TYPICAL SURFACING SECTION

TYPE 3



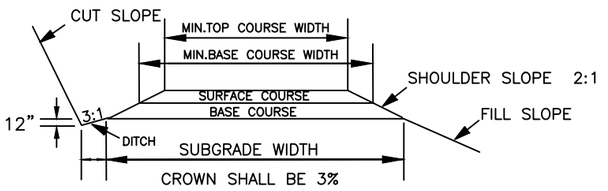
TYPICAL SURFACING SECTION

TYPE 4



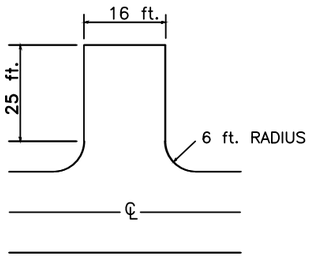
TYPICAL SURFACING SECTION

TYPE 5

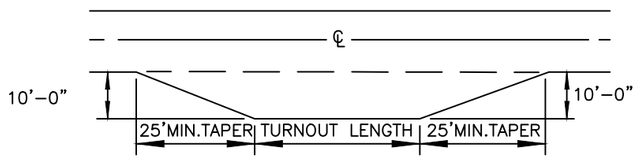


NOTE: FOR TYPE 1–3 TYPICAL SECTIONS, OUTSLOPING NOT TO BE USED WHERE GRADE EXCEEDS 6% (NEW CONSTRUCTION).

PLAN – TYPICAL TRUCK TURNAROUND



PLAN – TYPICAL TURNOUT



ALWAYS THINK SAFETY

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

ORC04–TS–2023.0032
BROWNSON FALLS CT
TYPICAL CROSS SECTION DETAILS

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 9 OF 120

/22/2023 1:28:18 PM

ROAD NUMBER **		FROM MILEPOST/STATION	TO MILEPOST/STATION	LENGTH MILES/STATIONS	TYPICAL SECTION TYPE	ROAD WIDTH (*1 & 5)		CLEARING WIDTH		BRUSHING WIDTH		SURFACING (*3)									REMARKS
						SUBGRADE	DITCH	BEYOND		EXISTING ROADS		BASE COURSE					SURFACE COURSE				
								TOP CUT	TOE FILL	L	R	Min Top Width	Comp. Depth	Type (*2)	Grading		Min Top Width	Comp. Depth	Type (*2)	Grading	
29-11-9.8	C	0+00	2+65	2.65	4	16'	2'	10'	5'								12'	8"	D	3-0"	3% CROWNED W/ DITCH
29-11-10.0	R	0.00	1.44	1.44	5	16'	2'			10'	10'	APPLY SURFACE AND SPOT ROCK AS SPECIFIED IN ROADS WORKLIST									3% CROWNED W/ DITCH
29-11-10.0 seg. C	R	76+00	91+10	15.10	4	16'	2'			10'	10'										3% CROWNED W/ DITCH
29-11-10.2	R	0.00	0.17	0.17	4	16'	2'			10'	10'	APPLY SURFACE AND SPOT ROCK AS SPECIFIED IN ROADS WORKLIST									3% CROWNED W/ DITCH
29-11-10.4 seg. A	I	0+00	10+70	10.70	4	16'	2'	10'	5'								12'	8"	D	3-0"	3% CROWNED W/ DITCH
29-11-10.4 seg. B	C	0+00	2+15	2.15	4	16'	2'	10'	5'								12'	8"	D	3-0"	3% CROWNED W/ DITCH
29-11-10.6	C	0+00	1+70	1.70	2	16'	0'	10'	5'								12'	8"	D	3-0"	3% OUTSLOPED
29-11-11.0 seg. B	R	0.00	0.10	0.10	5	16'	2'			10'	10'										3% CROWNED W/ DITCH
29-11-11.1		SPECIFIED SITES																			CONSTRUCT LANDINGS
29-11-11.4 seg. A	R	0.00	0.58	0.58	4	16'	2'			10'	10'	APPLY SURFACE AND SPOT ROCK AS SPECIFIED IN ROADS WORKLIST									3% CROWNED W/ DITCH

** RENOVATION = R
IMPROVEMENT = I
CONSTRUCTION = C

*NOTES

1. EXTRA SUBGRADE WIDTHS

FILL WIDENING:
- ADD 1 FT. TO EACH SHOULDER FOR FILLS OF 1–6 FT. IN HEIGHT
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MATERIALS	CUT SLOPES	FILL SLOPES
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SOFT ROCK & SHALE	1/2:1	1 1/2:1
SOLID ROCK	1/4:1	REPOSE

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

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   - A. PIT RUN ROCK MATERIAL.
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   - A. TURNOUTS, CURVE WIDENING, AND ROAD APPROACH APRONS SHALL BE SURFACED. SURFACE ALL ROAD STATIONING REQUIRING SURFACING AS LISTED OR AS SHOWN ON PLANS.

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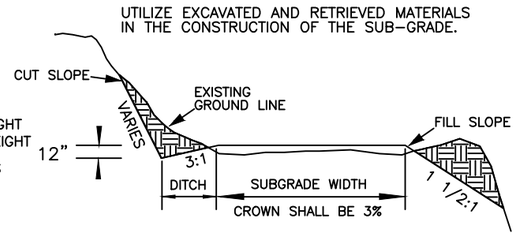
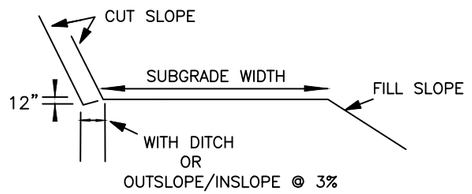
5. TURNOUTS
   - A. WIDTH 10 FT. IN ADDITION TO SUBGRADE WIDTH, OR AS SHOWN ON THE PLANS.
   - B. INTERVISIBLE OR LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS AND/OR NARRATIVE.

TYPICAL GRADING SECTION



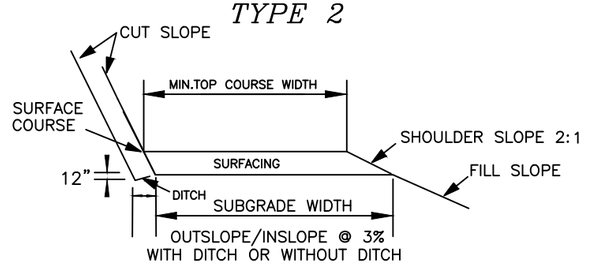
TYPICAL DIRT SECTION

TYPE 1



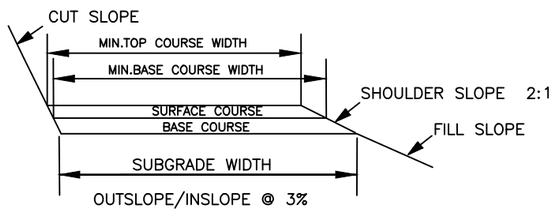
TYPICAL SURFACING SECTION

TYPE 2



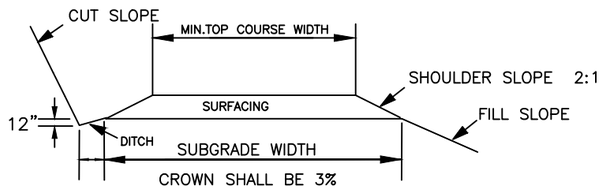
TYPICAL SURFACING SECTION

TYPE 3



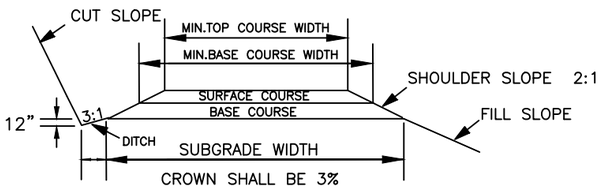
TYPICAL SURFACING SECTION

TYPE 4



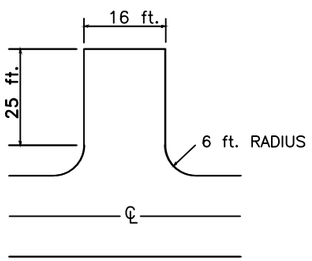
TYPICAL SURFACING SECTION

TYPE 5

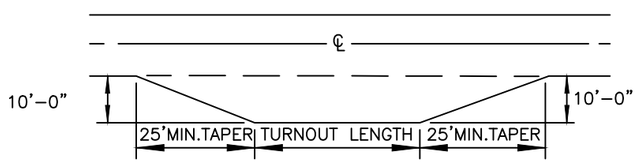


NOTE: FOR TYPE 1–3 TYPICAL SECTIONS, OUTSLOPING NOT TO BE USED WHERE GRADE EXCEEDS 6% (NEW CONSTRUCTION).

PLAN – TYPICAL TRUCK TURNAROUND



PLAN – TYPICAL TURNOUT



ALWAYS THINK SAFETY

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

ORC04–TS–2023.0032
BROWNSON FALLS CT
TYPICAL CROSS SECTION DETAILS

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 10 OF 120

/22/2023 1:30:27 PM

ROAD NUMBER **		FROM MILEPOST/STATION	TO MILEPOST/STATION	LENGTH MILES/ STATIONS	TYPICAL SECTION TYPE	ROAD WIDTH (*1 & 5)		CLEARING WIDTH		BRUSHING WIDTH		SURFACING (*3)									REMARKS
						SUBGRADE	DITCH	BEYOND		EXISTING ROADS		BASE COURSE					SURFACE COURSE				
								TOP CUT	TOE FILL	L	R	Min Top Width	Comp. Depth	Type (*2)	Grading		Min Top Width	Comp. Depth	Type (*2)	Grading	
29-11-11.4 seg. B	R	0.58	1.16	0.58	4	16'	2'			10'	10'										3% CROWNED W/ DITCH
29-11-11.6	C	0+00	5+50	5.50	1	14'	0	10'	5'								NATIVE SURFACE				3% OUTSLOPED
29-11-15.0	R	0.00	1.52	1.52	5	16'	2'			10'	10'	APPLY SURFACE AND SPOT ROCK AS SPECIFIED IN ROADS WORKLIST									3% CROWNED W/ DITCH
29-11-15.1	R	0.00	2.18	2.18	5	16'	2'			10'	10'	APPLY SURFACE AND SPOT ROCK AS SPECIFIED IN ROADS WORKLIST									3% CROWNED W/ DITCH
29-11-15.2	R	0+00	12+00	12.00	4	16'	2'			10'	10'						12'	3"	D	1.5-0"	3% CROWNED W/ DITCH
29-11-15.3	R	0.00	0.09	0.09	5	16'	2'			10'	10'										3% CROWNED W/ DITCH
29-11-15.8	C	0+00	4+00	4.00	4	16'	2'	10'	5'								12'	8"	D	3-0"	3% CROWNED W/ DITCH
29-11-15.9	C	0+00	2+15	2.15	2	16'	0'	10'	5'								12'	8"	D	3-0"	3% OUTSLOPED
29-11-21.2	R	0.00	1.07	1.07	4	16'	2'			10'	10'	APPLY SURFACE AND SPOT ROCK AS SPECIFIED IN ROADS WORKLIST									3% CROWNED W/ DITCH
29-11-22.0	R	0.00	2.85	2.85	5	16'	2'			10'	10'	APPLY SURFACE AND SPOT ROCK AS SPECIFIED IN ROADS WORKLIST									3% CROWNED W/ DITCH

** RENOVATION = R
IMPROVEMENT = I
CONSTRUCTION = C

*NOTES

1. EXTRA SUBGRADE WIDTHS

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MATERIALS	CUT SLOPES	FILL SLOPES
COMMON	3/4:1	1 1/2:1
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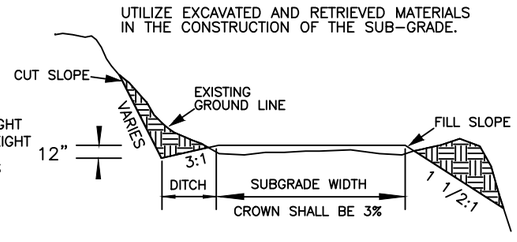
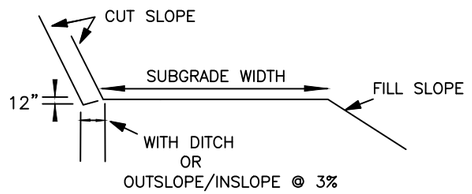
   - B. INTERVISIBLE OR LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS AND/OR NARRATIVE.

TYPICAL GRADING SECTION



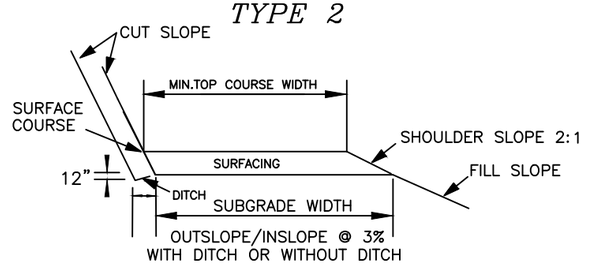
TYPICAL DIRT SECTION

TYPE 1



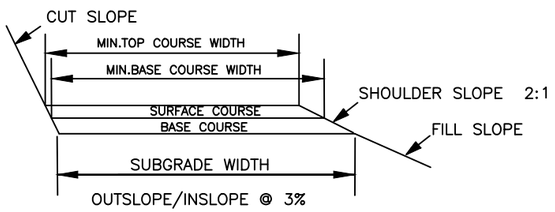
TYPICAL SURFACING SECTION

TYPE 2



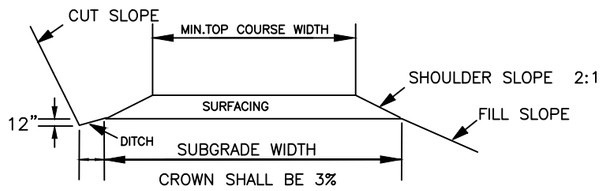
TYPICAL SURFACING SECTION

TYPE 3



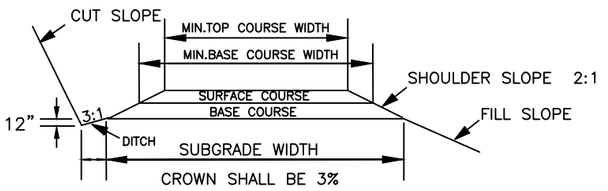
TYPICAL SURFACING SECTION

TYPE 4



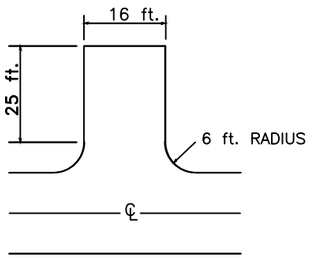
TYPICAL SURFACING SECTION

TYPE 5

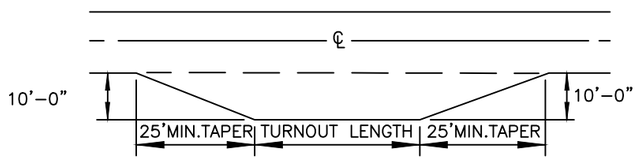


NOTE: FOR TYPE 1–3 TYPICAL SECTIONS, OUTSLOPING NOT TO BE USED WHERE GRADE EXCEEDS 6% (NEW CONSTRUCTION).

PLAN – TYPICAL TRUCK TURNAROUND



PLAN – TYPICAL TURNOUT



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COOS BAY DISTRICT – OREGON

ORC04–TS–2023.0032
BROWNSON FALLS CT
TYPICAL CROSS SECTION DETAILS

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 11 OF 120

/22/2023 1:36:28 PM

ROAD NUMBER **	FROM MILEPOST/STATION	TO MILEPOST/STATION	LENGTH MILES/ STATIONS	TYPICAL SECTION TYPE	ROAD WIDTH (*1 & 5)		CLEARING WIDTH		BRUSHING WIDTH		SURFACING (*3)									REMARKS
					SUBGRADE	DITCH	BEYOND		EXISTING ROADS		BASE COURSE					SURFACE COURSE				
							TOP CUT	TOE FILL	L	R	Min Top Width	Comp. Depth	Type (*2)	Grading		Min Top Width	Comp. Depth	Type (*2)	Grading	
SPUR 8A C	0+00	1+25	1.25	1	14'	0'	10'	5'								NATIVE SURFACE				3% OUTSLOPED

** RENOVATION = R
IMPROVEMENT = I
CONSTRUCTION = C

*NOTES

1. EXTRA SUBGRADE WIDTHS

FILL WIDENING:
- ADD 1 FT. TO EACH SHOULDER FOR FILLS OF 1–6 FT. IN HEIGHT
- ADD 2 FT. TO EACH SHOULDER FOR FILLS OF 6–10 FT. IN HEIGHT

CURVE WIDENING: WIDEN THE INSIDE SHOULDER OF ALL CURVES AS SHOWN ON THE PLANS OR AS FOLLOWS:
- ADD 4 FT. FOR CURVES WITH 90'–120' RADIUS
- ADD 5 FT. FOR CURVES WITH 60'–90' RADIUS

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

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

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

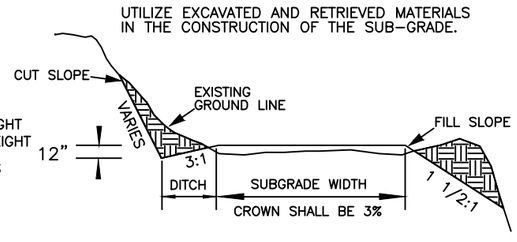
2. SURFACING TYPE
   A. PIT RUN ROCK MATERIAL.
   B. GRID ROLLED ROCK MATERIAL
   C. SCREENED ROCK MATERIAL.
   D. CRUSHED ROCK MATERIAL.
   E. CLASS 'C' ASPHALT MIX.

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

4. DITCHES
   A. 2:1 INSLOPE FROM SUBGRADE. DITCH OUTSLOPE WILL BE AS SPECIFIED IN NOTE 1 ABOVE. DEPTH MAY BE EXCEEDED TO OBTAIN REQUIRED DRAINAGE.

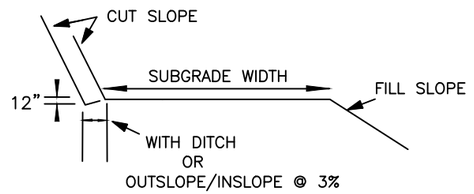
5. TURNOUTS
   A. WIDTH 10 FT. IN ADDITION TO SUBGRADE WIDTH, OR AS SHOWN ON THE PLANS.
   B. INTERVISIBLE OR LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS AND/OR NARRATIVE.

TYPICAL GRADING SECTION



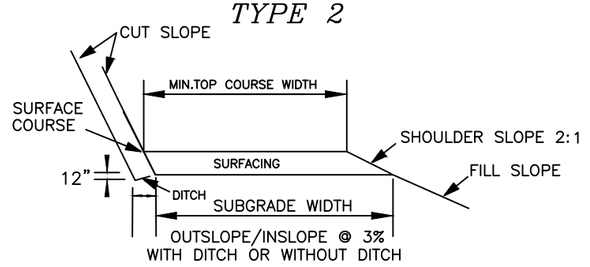
TYPICAL DIRT SECTION

TYPE 1



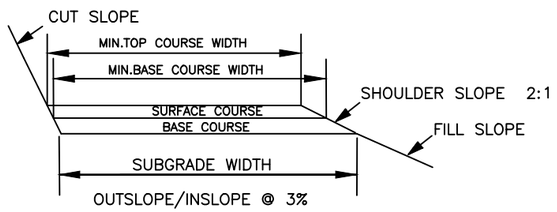
TYPICAL SURFACING SECTION

TYPE 2



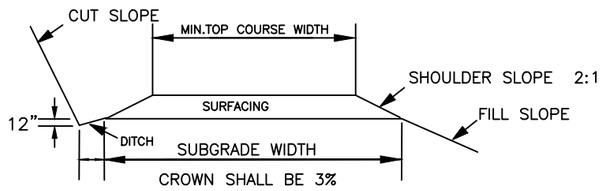
TYPICAL SURFACING SECTION

TYPE 3



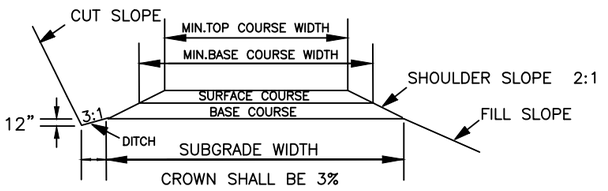
TYPICAL SURFACING SECTION

TYPE 4



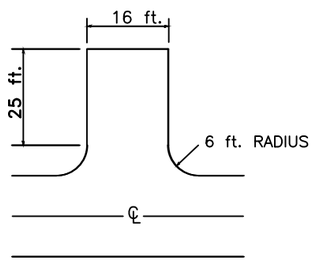
TYPICAL SURFACING SECTION

TYPE 5

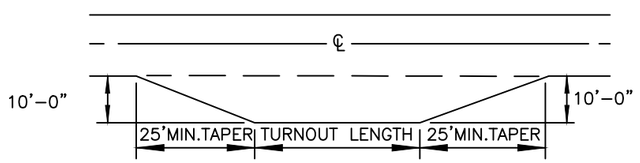


NOTE: FOR TYPE 1–3 TYPICAL SECTIONS, OUTSLOPING NOT TO BE USED WHERE GRADE EXCEEDS 6% (NEW CONSTRUCTION).

PLAN – TYPICAL TRUCK TURNAROUND



PLAN – TYPICAL TURNOUT



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

ORC04–TS–2023.0032
BROWNSON FALLS CT
TYPICAL CROSS SECTION DETAILS

PREPARED	J. AGUILAR		
REVIEWED	A. PETRAUSKI		
APPROVED	V. LENHARTZEN		
DRAWN	JAA	SCALE	NONE
DATE	04/2023	SHEET	12 OF 120

/22/2023 1:38:54 PM

ROAD NUMBER	NEW CONSTRUCTION	RENOVATION	IMPROVEMENT	NEW FEATURE CONSTRUCTION	SLASH TREATMENT (*4, 5)	GRUBBING (*4, 5)	ROADSIDE BRUSHING (*6)	RENOVATION EARTHWORK (*8, 9)	EXCAVATION & EMBANKMENT						CPP (*1, 3)			CMP	DOWNSPOUTS (*3)				DOWNSPOUT ANCHORS
									COMMON (*7)	RIPPABLE ROCK	ROCK CUT	FILL (*7)	SHORT HAUL 100-500' (*10)	LONG HAUL 500'+ (*10)	18"	24"	36"	12"	FULL ROUND				
																			CPP		CMP		
																			18"	24"	18"	24"	
SECTION NO.	300	500	500	300	200	200	2100	500	300	300	300	300	300	300	400	400	400	400	400	400	400	400	400
UNITS	STA.	STA.	STA.	EA.	AC.	AC.	AC.	CY	C.Y.	C.Y.	C.Y.	YDS.	STA.YDS.	YD.MI.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.
28-10-31.7	1.50				0.1	0.1			50			890											
29-11-1.0		23.76	7.75		0.2	0.2	1.1	190	900			60	5250		68								
29-11-1.1		24.80	14.80		0.7	0.7	1.1	75							66								
29-11-1.2		6.30			0.1	0.1	0.3	70															
29-11-1.3		8.45					0.4	215	100			100			32								
29-11-1.4		5.00					0.3		150			150											
29-11-1.5	3.00				0.3	0.3			230			230											
29-11-1.6	3.50				0.5	0.5			560			560			20								
29-11-1.7	2.25				0.3	0.3			325			325											
29-11-1.8	2.75				0.4	0.4			200			200			36			60					
29-11-1.9	2.00				0.2	0.2			100			100											
29-11-1.10			1.75		0.1	0.1																	
29-11-9.0		9.75	4.45		0.7	0.7		110	270					70									
29-11-9.1		12.25					0.5	100							26								
29-11-9.4		2.11					0.1																
29-11-9.7		8.5			0.4	0.4																	
29-11-9.8	2.65				0.3	0.3			200			200											
29-11-10.0		91.13			0.7	0.7	3.3	1320							180								
29-11-10.2		8.98					0.4	80															
29-11-10.4	2.15		10.70		0.8	0.8			1150			1150			68								
29-11-10.6	1.70				0.2	0.2			120			120											
29-11-11.0		5.28					0.3	40															
29-11-11.1				5	0.3	0.3																	
29-11-11.4		61.24					2.0	250							40	46							
PAGE TOTALS:	21.50	267.55	39.45	5	6.1	6.1	9.7	2450	4355			4085	5250	70	536	46		60					

*1 CPP – CORRUGATED POLYETHYLENE PIPE
*2 CMP – CORRUGATED METAL PIPE
*3 SEE CULVERT DEATAILS SHEET
*4 IF NOT SHOWN, MAY BE INCLUDED IN EXCAVATION AS TIME & EQUIPMENT.
*5 MAY BE ASSOCIATED WITH NEW FEATURE CONSTRUCTION AND/OR TREE REMOVAL FROM EXISTING ROADWAY (HEAVY RENO).
*6 ROAD BRUSHING ASSOCIATED WITH HEAVY RENOVATION, MAY BE INCLUDED IN CLEARING, GRUBBING, & SLASH TREATMENT.
*7 VOLUMES ARE ADJUSTED EMBANKMENT.
*8 CUT SLOPE & FILL FAILURES, DITCH & CATCH BASIN CLEANING.
*9 MAY BE INCLUDED IN EXCAVATION (SECTION 300).
*10 LOOSE VOLUME.

ESTIMATE OF QUANTITIES**

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

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

ORC04–TS–2023.0032
BROWNSON FALLS CT
ESTIMATE OF QUANTITIES

PREPARED J. AGUILAR
REVIEWED A. PETRAUSKI
APPROVED V. LENHARTZEN

DRAWN JAA | SCALE NONE
DATE 04/2023 | SHEET 13 OF 120

4/22/2023 2:08:06 PM

ROAD NUMBER	NEW CONSTRUCTION	RENOVATION	IMPROVEMENT	NEW FEATURE CONSTRUCTION	SLASH TREATMENT (*4, 5)	GRUBBING (*4, 5)	ROADSIDE BRUSHING (*6)	RENOVATION EARTHWORK (*8, 9)	EXCAVATION & EMBANKMENT						CPP (*1, 3)			CMP	DOWNSPOUTS (*3)				DOWNSPOUT ANCHORS
									COMMON (*7)	RIPPABLE ROCK	ROCK CUT	FILL (*7)	SHORT HAUL 100-500' (*10)	LONG HAUL 500'+ (*10)	18"	24"	36"	12"	FULL ROUND				
																			CPP		CMP		
																			18"	24"	18"	24"	
SECTION NO.	300	500	500	300	200	200	2100	500	300	300	300	300	300	300	400	400	400	400	400	400	400	400	400
UNITS	STA.	STA.	STA.	EA.	AC.	AC.	AC.	CY	C.Y.	C.Y.	C.Y.	YDS.	STA.YDS.	YD.MI.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.
29-11-11.6	5.50				0.3	0.3			400			400	450										
29-11-15.0		80.26					3.7	825							150								
29-11-15.1		115.10			0.3	0.3	5.3	600							154	50							
29-11-15.2		12.00			0.6	0.6		150								108							
29-11-15.3		4.75					0.2																
29-11-15.8	4.00				0.5	0.5			300			300			30								
29-11-15.9	2.15				0.3	0.3			300			300											
29-11-21.2		56.50			0.1	0.1	2.6	450															
29-11-22.0		150.48			0.1	0.1	2.9	920							80	116							
SPUR 8A	1.25				0.1	0.1			210			210											
PAGE TOTALS:	12.90	419.09	0.00	0	2.0	2.0	14.7	2945.0	1210.0			1210	450.0	0	414	274		0					
PROJECT TOTALS:	34.40	686.64	39.45	5	8.08	8.08	24.43	5395	5565			5295	5700	70	950	320		60					

*1 CPP – CORRUGATED POLYETHYLENE PIPE
*2 CMP – CORRUGATED METAL PIPE
*3 SEE CULVERT DEATAILS SHEET
*4 IF NOT SHOWN, MAY BE INCLUDED IN EXCAVATION AS TIME & EQUIPMENT.
*5 MAY BE ASSOCIATED WITH NEW FEATURE CONSTRUCTION AND/OR TREE REMOVAL FROM EXISTING ROADWAY (HEAVY RENO).
*6 ROAD BRUSHING ASSOCIATED WITH HEAVY RENOVATION, MAY BE INCLUDED IN CLEARING, GRUBBING, & SLASH TREATMENT.
*7 VOLUMES ARE ADJUSTED EMBANKMENT.
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*9 MAY BE INCLUDED IN EXCAVATION (SECTION 300).
*10 LOOSE VOLUME.

ESTIMATE OF QUANTITIES**

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

ORC04–TS–2023.0032
BROWNSON FALLS CT
ESTIMATE OF QUANTITIES

PREPARED J. AGUILAR
REVIEWED A. PETRAUSKI
APPROVED V. LENHARTZEN

DRAWN JAA | SCALE NONE
DATE 04/2023 | SHEET 14 OF 120

ROAD NUMBER	SURFACING						OTHER			SOIL STABILIZATION		
	6-0" ROCK (*2)	3-0" SURFACE ROCK (*1)	3-0" SPOT ROCK (*1)	1.5-0" SURFACE ROCK (*3)	1.5-0" SPOT ROCK (*3)	0.75-0" SURFACE ROCK (*4)	1.5-0" CULVERT ROCK (*3)	CLASS 3 RIP RAP (*5)	CLASS 4 RIP RAP (*6)	SEED AND MULCH		OTHER (SEDIMENT CONTROL DEVICES)
										DRY	HYDRO	
SECTION NO.	1000	1000	1000	1200	1200	1200	1200	1400	1400	1800	1800	1700
UNITS	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	ACRES	ACRES	EACH
28-10-31.7	50	74				32				0.1		
29-11-1.0	50	223		31	50	96				1.3		
29-11-1.1		712		156						1.6		
29-11-1.2	50		20	100						0.3		
29-11-1.3			20	134						0.4		
29-11-1.4										0.2		
29-11-1.5	50	135								0.2		
29-11-1.6	100	164		15						0.2		
29-11-1.7	50	102								0.1		
29-11-1.8	50	129								0.2		
29-11-1.9	50	88								0.1		
29-11-1.10	50	69								0.1		
29-11-9.0	90	201	50	155						0.7		
29-11-9.1					30		10			0.6		
29-11-9.4										0.1		
29-11-9.7										0.4		
29-11-9.8	50	120								0.1		
29-11-10.0	50		20		130		30		30	4.2		
29-11-10.2	50				20					0.2		
29-11-10.4	180	599								0.6		
29-11-10.6	50	75								0.1		
29-11-11.0										0.2		
29-11-11.1	190									0.2		
29-11-11.4			55		50		20			0.8		
PAGE TOTALS:	1160	2691	165	591	280	128	60	0	30	13.0	0	0

*NOTE			
*	SECTION	GRADE	SIZE
1	1000	A	3-0"
2	1000	I	6-0"
3	1200	C	1.5-0"
4	1200	E1	0.75-0"
5	1400	CLASS 3	27-8"
6	1400	CLASS 4	33-9"
7	2600	ODOT LEVEL III ASPHALT	1/2" DENSE PG64-22

ESTIMATE OF QUANTITIES**

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

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

ORC04-TS-2023.0032
BROWNSON FALLS CT
ESTIMATE OF QUANTITIES

PREPARED J. AGUILAR
REVIEWED A. PETRAUSKI
APPROVED V. LENHARTZEN

DRAWN JAA | SCALE NONE
DATE 04/2023 | SHEET 15 OF 120

4/22/2023 2:21:20 PM

ROAD NUMBER	SURFACING						OTHER			SOIL STABILIZATION		
	6-0" ROCK (*2)	3-0" SURFACE ROCK (*1)	3-0" SPOT ROCK (*1)	1.5-0" SURFACE ROCK (*3)	1.5-0" SPOT ROCK (*3)	0.75-0" SURFACE ROCK (*4)	1.5-0" CULVERT ROCK (*3)	CLASS 3 RIP RAP (*5)	CLASS 4 RIP RAP (*6)	SEED AND MULCH		OTHER (SEDIMENT CONTROL DEVICES)
										DRY	HYDRO	
SECTION NO.	1000	1000	1000	1200	1200	1200	1200	1400	1400	1800	1800	1700
UNITS	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	ACRES	ACRES	EACH
29-11-11.6										0.3		
29-11-15.0	50			33	130		40			2.0		
29-11-15.1	170				100		50			2.7		
29-11-15.2			10	190			10	10		0.6		
29-11-15.3										0.2		
29-11-15.8	50	181								0.2		
29-11-15.9	100	97								0.1		
29-11-21.2	50				200					1.3		
29-11-22.0	30				100		50			3.5		8
SPUR 8A										0.1		
PAGE TOTALS:	450	278	10	223	530	0	150	10	0	11	0	8
PROJECT TOTALS	**1610**	**2969**	**175**	**799**	**810**	**128**	**210**	**10**	**30**	**23.9**	**0**	**8**

✳NOTE			
✳	SECTION	GRADE	SIZE
1	1000	A	3-0"
2	1000	I	6-0"
3	1200	C	1.5-0"
4	1200	E1	0.75-0"
5	1400	CLASS 3	27-8"
6	1400	CLASS 4	33-9"
7	2600	ODOT LEVEL III ASPHALT	1/2" DENSE PG64-22

ESTIMATE OF QUANTITIES**

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COOS BAY DISTRICT – OREGON

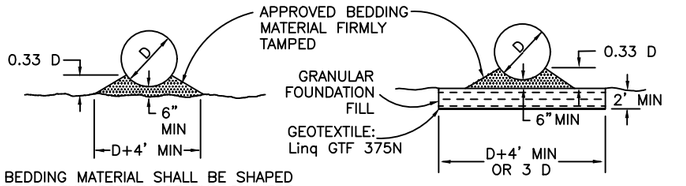
ORC04-TS-2023.0032
BROWNSON FALLS CT
ESTIMATE OF QUANTITIES

PREPARED J. AGUILAR
REVIEWED A. PETRAUSKI
APPROVED V. LENHARTZEN

DRAWN JAA | SCALE NONE
DATE 04/2023 | SHEET 16 OF 120

4/22/2023 2:23:11 PM

BEDDING OF CULVERTS

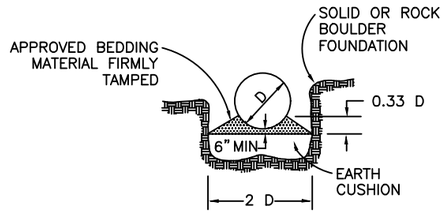


BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT.

BEDDING OF CULVERTS ON STABLE NATURAL GROUND FOUNDATION OR COMPACTED EMBANKMENT

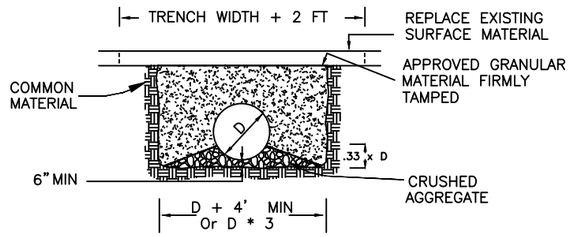
BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT.

BEDDING OF CULVERTS ON SOFT SPONGY OR UNSTABLE SOIL FOUNDATION



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

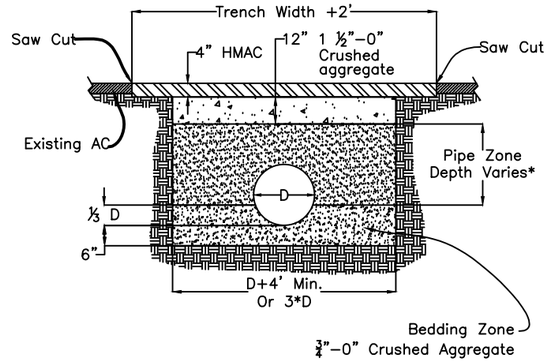
BEDDING OF CULVERT IN SOLID ROCK OR BOULDER FOUNDATION



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

BEDDING OF CULVERTS ON EXISTING AGGREGATE SURFACED ROADS

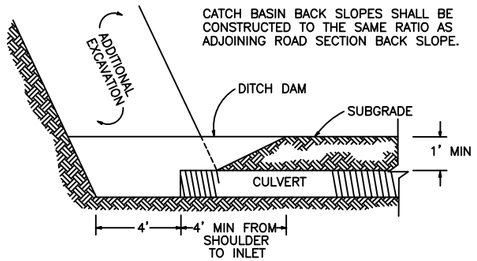
PAVED ROAD TRENCH DETAIL



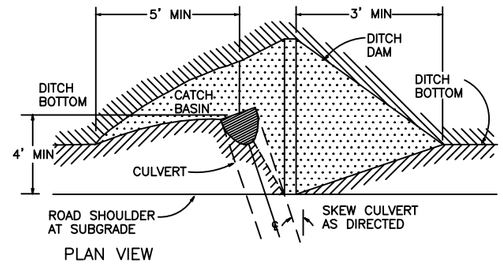
*Pipe zone bedding shall be select common material (4–0").

HMAC = Hot Mix Asphalt Concrete

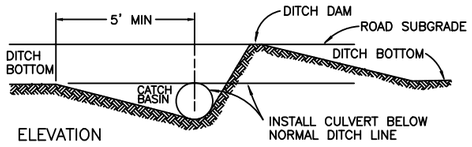
AC = Asphalt Concrete



CROSS SECTION AT CATCH BASIN

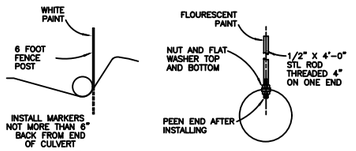


PLAN VIEW

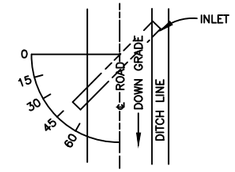


ELEVATION

CATCH BASIN



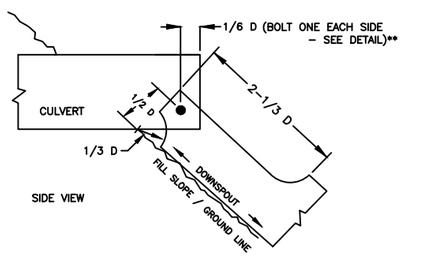
CULVERT MARKERS



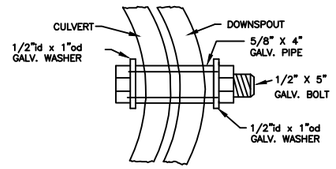
SKEW DIAGRAM

HORIZONTAL SKEW SHALL BE 45% OR AS SPECIFIED ON PLANS AND ROADS WORKLIST.
THE GRADE OF CROSSDRAINS SHALL BE AT LEAST 5% GREATER THAN THE GRADE OF THE DITCH.

USE "ADJUSTABLE ELBOW" FOR CPP AND CMP DOWNSPOUTS



BOLT ASSEMBLY DETAIL**



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

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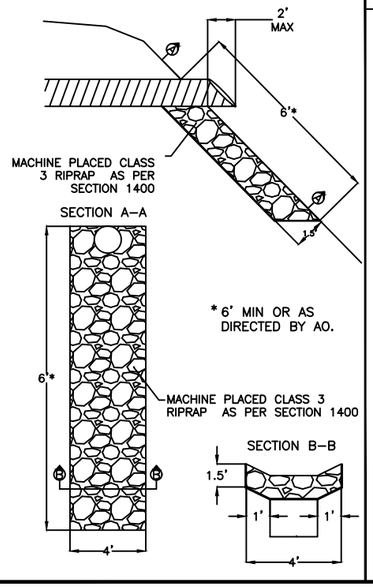
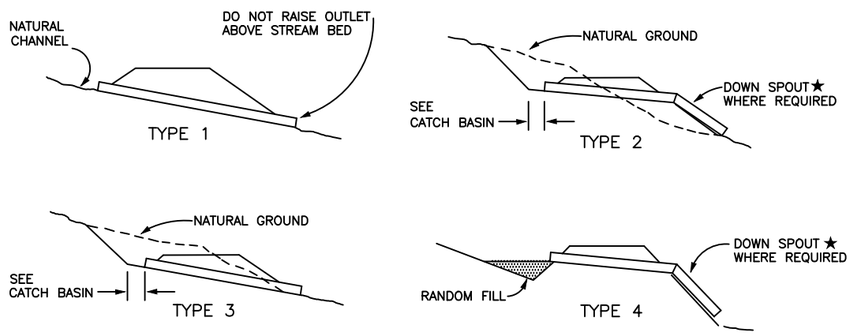
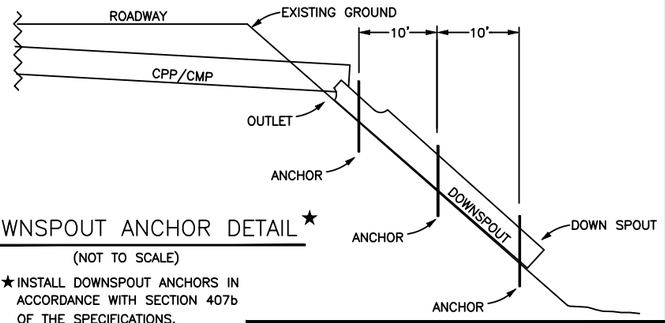
CROSS DRAIN OUTLET PROTECTION DETAIL



BANDS SHALL MEET MANUFACTURER'S SPECIFICATIONS

CULVERT INSTALLATION TYPES





DOWNSPOUT ANCHOR DETAIL ★

(NOT TO SCALE)

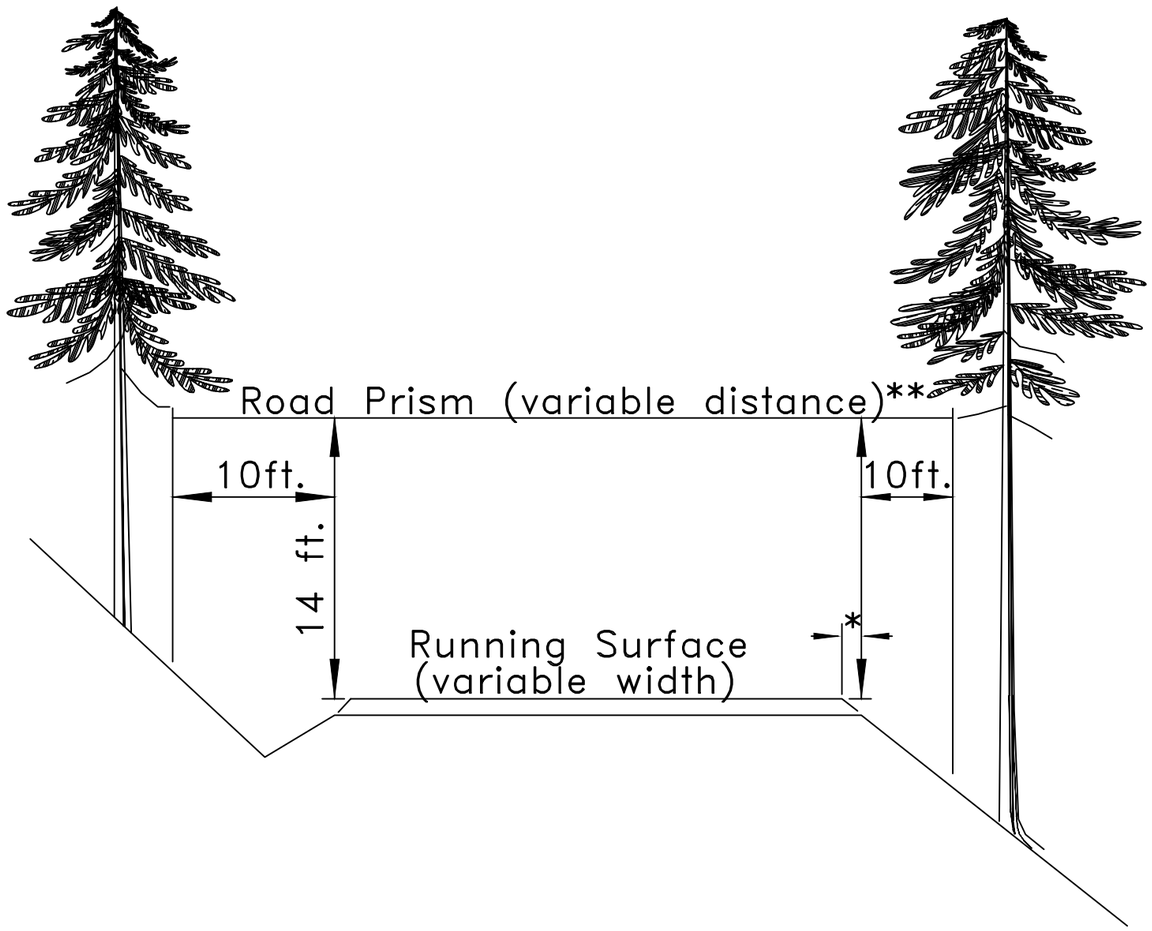
★ INSTALL DOWNSPOUT ANCHORS IN ACCORDANCE WITH SECTION 407b OF THE SPECIFICATIONS.

ALWAYS THINK SAFETY

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

ORC04–TS–2023.0032
BROWNSON FALLS CT
CULVERT DETAILS

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 17 OF 120

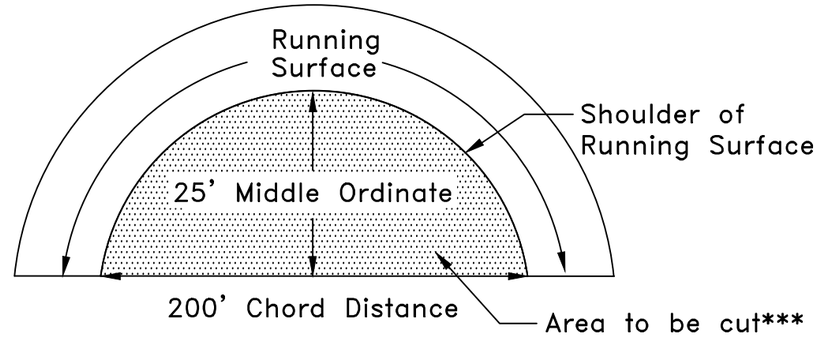


* Variable distance between running surface and start of fill slope.

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

Roadside Brushing – Inside Corner

Sight Distance Diagram



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

ALWAYS THINK SAFETY

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

ORC04-TS-2023.0032
BROWNSON FALLS CT
ROADSIDE BRUSHING DETAILS

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 18 OF 120

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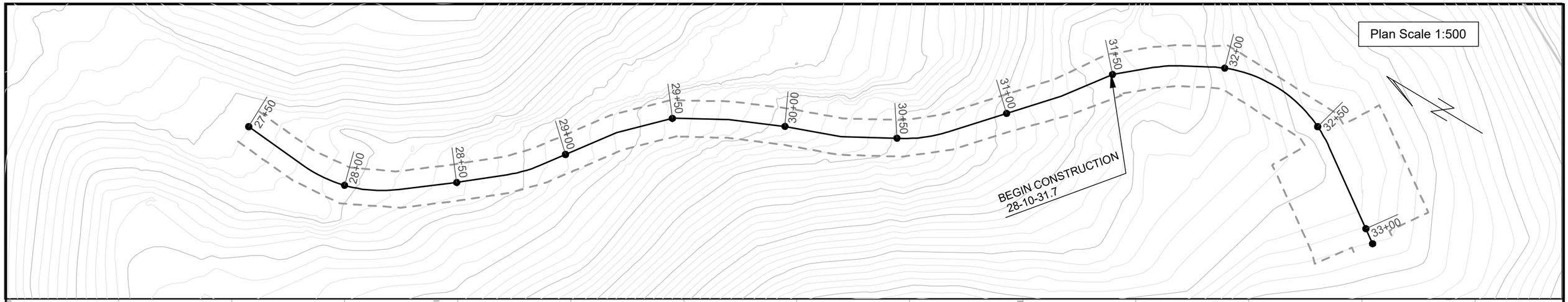

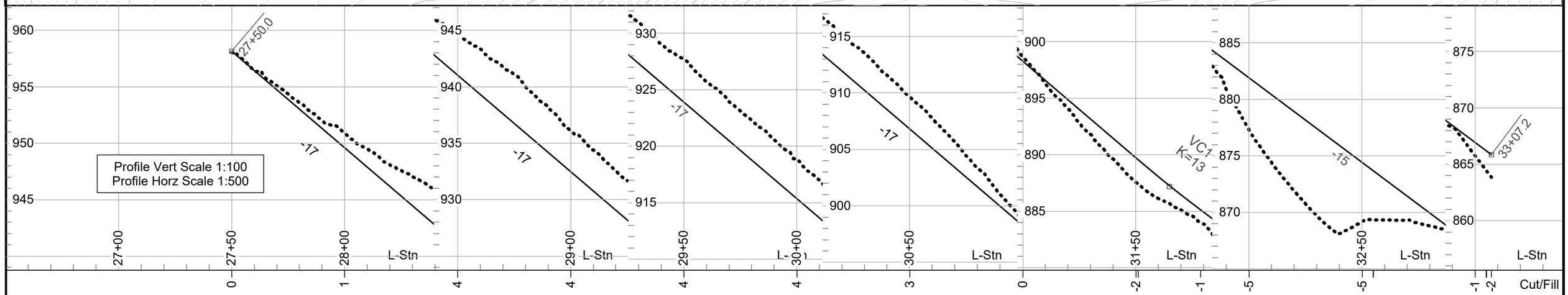

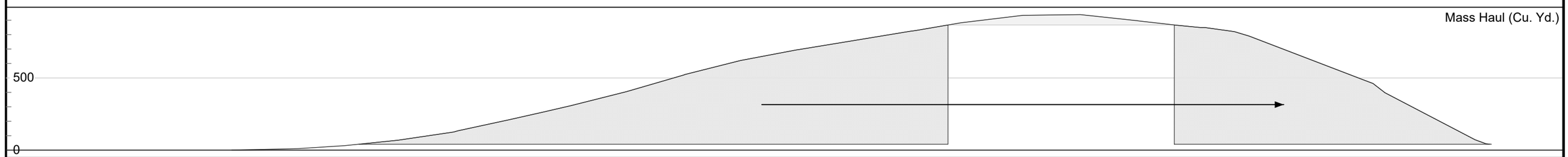

Legend

DESIGNED ALIGNMENT	Profile Topopgraphy
Plan Road Edges	Profile Subgrade

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

ORC04–TS–2023.0032
BROWNSON FALLS CT
PLAN & PROFILE
BLM RD. NO. 29–11–1.0 & 28–10–31.7

DESIGNED: J. AGUILAR
REVIEWED: A. PETRAUSKI
APPROVED: V. LENHARTZEN

DRAWN: J. AGUILAR	SCALE: AS SHOWN
DATE: 04/2023	SHEET 19 OF 120

SPECIAL PROVISIONS

Purchaser Responsibility

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

Prior to any road construction, improvement, renovation of structures or roads, contact Oregon Utility Notifications Center (800-332-2344 or 811) for locations of buried lines or cables. The Purchaser shall be responsible for repair or replacement of any damage or destruction to structures, utilities, and cables.

The Purchaser shall be required to secure written approval (BLM Haul Authorization) 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 over 80,000 lbs gross. Contact: Marc Van Camp, P.E., Coos Bay District Engineer, (541) 751-4469, mvancamp@blm.gov. Allow up to 60 days processing time in advance of bridge use.

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.

Seasonal Restrictions

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

Seasonal restrictions shall apply to segments of BLM Road Nos. 29-11-1.0, 29-11-1.3, 29-11-1.4, 29-11-1.6, 29-11-9.0, 29-11-9.1, 29-11-9.4, 29-11-9.7, 29-11-10.0, 29-11-15.1, 29-11-15.3, 29-11-21.2, 29-11-22.0 (see Exhibit A maps). No work shall be performed between April 1 through August 5 of the same calendar year, both days inclusive. Daily timing restrictions will apply from August 6 through September 15 of the same calendar year, both days inclusive. During daily timing restriction period, roadwork is limited to the hours between two (2) hours after sunrise to two (2) hours before sunset.

Oregon Department of Fish and Wildlife (ODFW) guidelines for timing of in-water work limits stream culvert installation to the period between July 1 and September 15.

Within timber sale equipment mobilization using lowboy

When using bituminous surface roads, tracked equipment shall be transported by lowboy.

Uniform Optimum Moisture Content

Acceptable moisture content, as field tested by Authorized Officer, can be determined by hand clump test i.e., where a soil sample forms a firm ball by hand that does not crumble, free moisture is not visible on the surface, and material does not squeeze between fingers.

In-place Density and Relative Compaction Field Testing

Final subgrade, finished grading, and surfacing layers (Subsections 306, 306e, 504, 504a, 1012, and 1212) shall be observed by the Authorized Officer, as a truck with H-20 loading, loaded to GVW, travels over a length of half a mile of compacted surface. Testing vehicle shall complete four (4) passes, traveling at a rate of 350'/minute (4 MPH). There shall be no movement, indentation, or vertical displacement of the compacted surface. The half mile road segment, selected for testing, shall be identified by Authorize Officer. Loaded dump truck or water tender with operator shall be provided by Purchaser. Purchaser shall give Authorized Officer 3 days' notice to complete inspection of compaction. Compaction shall be approved in writing by the Authorized Officer. Compaction testing costs are included in roadwork appraisal.

Culverts

Culvert lengths listed in Roads Worklist and Estimate of Quantity sheets are estimated culvert lengths. Final culvert lengths shall be installed to fit the actual ground & site conditions of proposed work locations. "Shotgun" pipes, or short lengths with a trench, shall not be accepted.

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

Culvert side-fill material, meeting Timber Sale Road Specification, will be brought up evenly and simultaneously on both sides of pipe, in layers not exceeding 6" in depth with each layer compacted using approved tamper (appraised using 19.7" plate compactor). Each layer shall be moistened or dried to a uniform optimum moisture content suitable for maximum compaction.

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

Culvert renovation work shall be completed to all culverts for renovated and improved roads regardless of being identified in Roads Worklist. It is likely that unidentified culverts will be exposed with active roadwork. Additional costs are included to cover culvert renovation work for extra culverts.

Over-wintering

Roads shall be maintained and winterized in accordance with Exhibit D, Section 1700, and as directed by Authorized Officer. This work shall be completed prior to the first rains of the wet season, but no later than October 1 of each season.

Waste Areas

Waste areas, designated in plans or created at time of active operations, shall be sloped, shaped to drain, seeded, and mulched upon completion of use, in accordance with Sections 1700 and 1800 of the Timber Sale Road Specifications.

Spill Containment

Spill containment kit is required on-site during work.

Equipment Washing

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

Native Seed

The Government will furnish native seed mix for soil stabilization and if necessary, erosion control.

Erosion Control Straw Wattle Check Dam / Sediment Fence

Purchaser shall furnish and install check dams. Check dams will be installed in drainage ditch at locations specified in Roads Worklist and as directed by Authorized Officer. Each check dam shall consist of 5' section of biodegradable, seed free, 9" diameter straw wattle product and 3 wooden stakes measuring 1" x 2" x 30". Straw wattle shall be installed in drainage ditch bottom and continued up sides, perpendicular to flow of water, with ends of wattle facing slightly upstream. Straw wattle shall be secured with wooden stakes placed at center and ends of wattle section. Wooden stakes shall be driven through center of wattle and into the ground for a minimum of 24" inches. Straw wattle shall not be defective or damaged. Damaged or defective wattles, as determined by Authorized Officer shall be replaced at Purchasers expense. Check dams may be converted to function as sediment fence.

Rock Quantity Accounting

Purchaser shall provide Authorized Officer with rock tickets for all rock materials furnished to timber sale. Rock tickets will be physical duplicates of originals that are obtained from the commercial source utilized by Purchaser. Information on the rock tickets shall at minimum include commercial source, rock grade, quantity (cubic yards or tons), purchaser name, date, and end destination. Rock tickets will be provided to Authorized Officer within 3 days after placement of rock. Acceptance of road is conditional upon providing rock tickets.

ROADS WORKLIST

RENOVATE BLM ROAD NO. 29-11-1.0
Milepost 0.00 to 0.45

MP.	Remarks
0.00	Junction with BLM Road No, 29-11-11.1 at milepost (MP) 2.29. Begin cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 400, 500, 600, 1000, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 10” depth of surfacing). Bottom of ditch shall be at least 3’ horizontal and -1’ vertical from edge of road’s rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or as directed by Authorized Officer. Estimated 190 cubic yards (CY) of material to be removed.
NOTE:	Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 10” depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4” vertical drop for every 10’ horizontal distance.
NOTE:	The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.
NOTE:	From milepost 0.00 to 0.45, place 50 CY 1.5-0” crushed aggregate surfacing as directed by BLM Authorized Officer.
0.05	Existing 24” x 40’ corrugated metal pipe (CMP) cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.
0.09	Existing 24” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.
0.14	Existing 24” x 35’ CMP cross drain culvert w/ 20’ corrugated polyethylene pipe (CPP) downspout. Clean culvert’s catch basin, inlet, outlet, and barrel.
0.19	Existing 24” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.
0.24	Existing 24” x 40’ CMP cross drain culvert w/ associated seep. Clean culvert’s catch basin, inlet, outlet, and barrel.

0.25 Road passes through unstable area that displays ongoing activity. Sag in road has negatively impacted road's travelway and drainage for a distance of 200'. Existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities, then bladed and shaped in accordance with Typical Cross Section Details. Install new 3" lift of compacted 1.5-0" crush aggregate surfacing upon 200' road segment.

0.29 Renovate existing truck turnout right.

0.32 Existing 24" x 40' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.35 Construct 50' diameter roadside landing right in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 50 CY of 6-0" crushed aggregate allocated to surface landing to compacted 6" depth.

0.45= 23+75 End renovation. Begin improvement.

DESIGNED IMPROVEMENT BLM ROAD NO. 29-11-1.0
Station 23+75 to 31+50

STA.	Remarks

23+75 BLM Road No. 29-11-1.0 at milepost 0.45.

Begin culvert installation, clearing & grubbing, excavation & embankment, culvert installation, improvement, watering, surfacing, erosion control, soil stabilization in accordance with Sections 200, 300, 400, 500, 600, 1000, 1200, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Purchaser shall improve existing road as shown on plan and profile. Maximum adverse road grade shall be 17%. Roadway shall be improved within posted right-of-way boundaries. L-Line locations are staked. Cut slope stakes and reference markers will be completed by Authorized Officer prior to construction. Generated excavation will be utilized to construct BLM Road No. 28-10-31.7.

NOTE: From station 27+00 to 31+50, install 8" lift of compacted 3-0" crushed aggregate base course and surface with 4" lift of compacted 0.75-0" crushed aggregate.

24+75 Junction, improve BLM Road No. 29-11-1.10 right.

26+75 Renovate ditch out right.

27+50 Replace existing (failing) 18" x 30' CMP cross drain culvert with new 18" x 34' CPP culvert. Culvert shall have a gradient greater than 10%.

28+00 Remove existing rip rap barrier. Stage rip rap adjacent to road for re-installation of barrier at completion of road use.

Proposed on-road landing location.

30+50 New culvert location. Install 18” x 34’ CPP cross drain culvert.

31+50 Existing borrow site. Utilize if necessary.

Junction, construct BLM Road No. 28-10-31.7 right.

End improvement.

RENOVATE BLM ROAD NO. 29-11-1.1 Segment A1
Station 0+00 to 9+50

STA.	Remarks

0+00 Junction with BLM Road No. 29-11-11.1 at milepost 2.04.

Begin ditch cleaning/shaping, renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 500, 600, 1200, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 8” depth of surfacing). Bottom of ditch shall be at least 3’ horizontal and -1’ vertical from edge of road’s rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 75 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 8” depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4” vertical drop for every 10’ horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From station 0+00 to 9+50, install 3” lift of compacted 1.5-0” crushed aggregate surfacing.

3+40 Existing 18” x 34’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

3+80 Junction, renovate BLM Road No. 29-11-1.4 left.

8+70 Existing 18” x 34’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

9+00 Junction, renovate BLM Road No. 29-11-1.2 right.

Existing 18” x 32’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

9+50 Remove existing earthen barrier.

Rock surfacing ends. Native surface begins.

End renovation to road segment A1. Begin improvement to road segment A2.

IMPROVE BLM ROAD NO. 29-11-1.1 Segment A2
Station 9+50 to 24+30

STA.	Remarks

9+50 Road segment A1 ends.

Begin clearing & grubbing, excavation & embankment, culvert installation, improvement, watering, surfacing, erosion control, and soil stabilization in accordance with Sections 200, 300, 400, 500, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Double ditch where necessary.

NOTE: From station 9+50 to 24+30 install 8” lift of compacted 3-0” crushed aggregate surfacing.

9+80 Proposed on-road landing location.

13+50 New culvert location. Install 18” x 34’ CPP cross drain culvert.

14+80 Existing 18” x 32’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

15+50 Junction, construct BLM Road No. 29-11-1.7 left.

17+50 Junction, construct BLM Road No. 29-11-1.5 left.

18+60 Junction, construct BLM Road No. 29-11-1.6 right.

23+00 New culvert location. Install 18” x 32’ CPP cross drain culvert.

24+00 Junction, construct Spur 8A right.

24+30 Remove existing earthen barrier.

End improvement to road segment A2. Begin renovation to road segment B.

RENOVATE BLM ROAD NO. 29-11-1.1 Segment B (Private own / control)
Station 24+30 to 39+60

STA.	Remarks
24+30	Road segment B begins.
	Begin renovation, watering, erosion control, soil stabilization, and roadside brushing in accordance with Sections 500, 600, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	From station 24+00 to 25+00 install 8" lift of compacted 3-0" crushed aggregate surfacing.
25+00	Existing 18" x 32' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.
39+60	Renovate existing landing right.
	End renovation.

RENOVATE BLM ROAD NO. 29-11-1.2
Station 0+00 to 6+30

STA.	Remarks
0+00	Junction with BLM Road No. 29-11-1.1 at station 9+00.
	Begin ditch cleaning/shaping, renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 500, 600, 1200, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 8" depth of surfacing). Bottom of ditch shall be at least 3' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures shall be used to construct roadside landing at station 2+40. Estimated 70 CY of material to be removed.
NOTE:	Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 8" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.
NOTE:	The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From station 0+00 to 6+30, install 3" lift of compacted 1.5-0" crushed aggregate surfacing.

2+00 Begin road widening. Widen road 6' left for a total length of 40' by installing compacted 8" lift of 3-0" crushed aggregate. Road widening will assist exiting log haul at upcoming junction.

2+40 Junction, construct BLM Road No. 29-11-1.8 right.

Construct 50' diameter roadside landing right in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 50 CY of 6-0" crushed aggregate allocated to surface landing to compacted 6" depth.

4+30 Proposed on-road landing location.

5+30 Existing 18" x 26' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

6+30 Renovate existing 60' diameter end landing.

End renovation.

RENOVATE BLM ROAD NO. 29-11-1.3
Milepost 0.00 to 0.16

MP.	Remarks

0.00 Junction with BLM Road No. 29-11-11.1 at milepost 1.72.

Begin culvert work, cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 300, 400, 500, 600, 1000, 1200, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 8" depth of surfacing). Bottom of ditch shall be at least 3' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 65 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 8" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From milepost 0.00 to 0.16, install 3" lift of compacted 1.5-0" crushed aggregate surfacing.

0.05 New culvert location. Install 18" x 32' CPP cross drain culvert.

Begin removal of cut slope failure for next 150' road segment (estimate 150 CY). Match adjacent cut slope ratio. Utilize generated material to repair fill failure at milepost 0.08.

0.08 Existing fill failure attributed to nonfunctioning ditch. Uncontrolled ditch flow has created a knickpoint measuring 12' wide x 12' long x 8' average depth. Fill failure has reduced road width by approximately 8'. Repairing roadbed will require benching 6' down on existing roadway to a level an excavator can adequately reach toe of fill (as projected by adjacent stable road fill) (estimate 100 CY excavation + 150 CY embankment). Utilize select material generated by local cut slope repair. 20 CY of 3-0" crushed rock aggregate allocated for base course replacement.

Remove existing failing 18" x 26' CMP cross drain culvert. Poor location. Culvert will not be replaced.

0.16 Renovate existing 60' diameter end landing.

End renovation.

RENOVATE BLM ROAD NO. 29-11-1.4
Station 0+00 to 5+00

STA.	Remarks

0+00 Junction with BLM Road No. 29-11-1.1 segment A1 at station 3+80.

Begin ditch cleaning/shaping, renovation, watering, erosion control, soil stabilization, and roadside brushing in accordance with Sections 500, 600, 1200, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

5+00 Remove existing failing 18" x 36' CMP ephemeral swale culvert. Culvert removal shall be completed as follows:

- Pull culvert and create 6' wide channel.
- 6' channel shall be maintained through length of crossing (approx. 40').
- 6' channel will match natural gradient of swale.
- Cutbanks of channel will be at 1½ :1 back slope and maintained until intersects with top of road.
- All excavated fill will be pulled onto existing roadbed.
- Excavated fill material placed will be evenly banked on roadbed in length and width.
- Excavated fill material will be shaped to drain, compacted, seeded, and mulched.

End renovation.

IMPROVE BLM ROAD NO. 29-11-1.10
Station 0+00 to 1+75

STA.	Remarks
0+00	Junction with BLM Road No. 29-11-1.0 at station 24+75.
	Begin clearing & grubbing, excavation & embankment, improvement, watering, surfacing, erosion control, and soil stabilization in accordance with Sections 200, 300, 400, 500, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	From station 0+00 to 1+75, install 8" lift of compacted 3-0" crushed aggregate surfacing.
1+75	Renovate existing 80' diameter end landing. 50 CY of 6-0" crushed aggregate allocated to surface landing to compacted 6" depth.
	End renovation.

RENOVATE BLM ROAD NO. 29-11-9.0
Station 0+00 to 9+75

STA.	Remarks
0+00	Junction with BLM Road No. 29-11-10.0 at milepost 0.54.
	Begin clearing & grubbing, cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 200, 300, 400, 500, 600, 1200, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	As part of renovation roadwork, a significant number of trees shall be removed from existing road prism (toe of fill slope to a point where cut slope intersects natural ground line). Treatment of this material, including effects to roadway, shall be in accordance with Section 200 and 300 of the Timber Sale Road Specifications. Disposal of any incurred merchantable material shall consist of decking at location designated by Authorized Officer.
NOTE:	Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 8" depth of surfacing). Bottom of ditch shall be at least 3' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 80 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 8" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From station 0+00 to 9+75, install 3" lift of compacted 1.5-0" crushed aggregate surfacing.

2+20 Two associated fill failures attributed to nonfunctioning ditch and unstable area below road. Uncontrolled ditch flow has created 2 knickpoints. First knickpoint has caused approximately 15 CY of fill loss and has reduced road width approximately 3'. Second knickpoint has caused approximately 75 CY of fill loss and has reduced road width approximately 7'.

Begin insloping road and reconstruct 2' ditch. Gain additional road width by moving roadway to right, requiring excavating in to existing cut slope. Match adjacent cut slopes. Excavation of cut slope estimated to be 70' in length, 4' wide, and 15' high. Estimated 270 CY of endhaul material. Utilize select material to repair subgrade at first knickpoint. Berm outside edge of road at 2nd knickpoint. 40 CY of 3-0" crushed rock aggregate allocated for base course replacement.

2+90 End insloping road.

Existing impaired 18" x 40' CMP cross drain culvert with buried inlet. Reconstruct catch basin. Clean culvert's catch basin, inlet, outlet, and barrel.

Series of cut slope failures (slough) have filled in ditch Slough acts as toe to current cut slopes that have found stable repose. Existing road width permits reconstructing ditch without removing slough. Ensure ditch back slope matches cut slope (not over-steepened).

5+60 Fill failure (slump) has dropped roadbed. Slump measures 2' deep, 8' wide, and 15' long. Utilize 10 CY of 3-0" crushed aggregate to fill in slump.

Remove cut slope failure (estimated 30 CY).

7+30 Construct 25' wide x 80' long roadside landing left in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 40 CY of 6-0" crushed aggregate allocated to surface landing to compacted 6" depth.

8+75 Designated waste area right.

Construct ditch out right.

9+75 Renovate existing landing.

Junction, construct BLM Road No. 29-11-9.8 left.

Existing rock surfacing ends. Native surfacing begins.

End renovation. Begin improvement.

IMPROVE BLM ROAD NO. 29-11-9.0
Station 9+75 to 14+20

STA.	Remarks
9+75	Begin improvement.
	Begin improvement, clearing & grubbing, excavation, watering, surfacing, erosion control, and soil stabilization in accordance with Sections 200, 300, 500, 600, 1000, 1700, and 1800, of the Timber Sale Road Specifications, Typical Cross Section Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	From station 9+75 to 14+20, install 8" compacted lift of 3-0" crushed rock aggregate surfacing.
11+80	Proposed on-road landing location.
14+20	Construct 50' diameter roadside landing right. 50 CY of 6-0" crushed aggregate allocated to surface landing to compacted 6" depth.
	Construct ditch out along upper edge of newly constructed roadside landing.
	End improvement.

RENOVATE BLM ROAD NO. 29-11-9.1
Station 0+00 to 12+25

STA.	Remarks
0+00	Junction with BLM Road No. 29-11-15.1 at milepost 1.26.
	Begin culvert work, cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 300, 400, 500, 600, 1200, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 10" depth of surfacing). Bottom of ditch shall be at least 3' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 100 CY of material to be removed.
NOTE:	Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 10" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From station 0+00 to 12+75, place 30 CY 1.5-0" crushed aggregate surfacing as directed by BLM Authorized Officer.

0+10 Replace existing failing 18" x 26' CMP cross drain culvert with new 18" X 26' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

2+50 Renovate existing roadside landing right.

4+75 Existing 18' x 34' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

7+35 Proposed on-road landing location.

10+00 Proposed on-road landing location.

12+25 Renovate existing jump-up landing left.

End renovation.

RENOVATE BLM ROAD NO. 29-11-9.4
Milepost 0.00 to Milepost 0.04

MP.	Remarks

0.00 Junction with BLM Road No. 29-11-10.0 at milepost 0.73.

Begin renovation, watering, erosion control, soil stabilization, and roadside brushing in accordance with Sections 500, 600, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 5. Bottom of ditch shall be at least 4' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. This work will include renovating catch basins.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 5. Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

0.04 Proposed on-road landing location.

End renovation.

RENOVATE BLM ROAD NO. 29-11-9.7
Station 0+00 to 8+50

STA.	Remarks
0+00	Junction with BLM Road No. 29-11-10.0 at milepost 0.91.
	Begin clearing & grubbing, renovation, watering, erosion control, soil stabilization, and roadside brushing in accordance with Sections 200, 300, 500, 600, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	As part of renovation roadwork, a significant number of trees shall be removed from existing road prism (toe of the fill slope to a point where cut slope intersects natural ground line). Treatment of this material, including effects to roadway, shall be in accordance with Section 200 and 300 of the Timber Sale Road Specifications. Disposal of any incurred merchantable material shall consist of decking at location designated by Authorized Officer.
7+00	Maintain roadway to far right-side of ridge. Ensure right road shoulder at break of hill slope.
	Renovate existing truck turnout left.
8+20	Renovate existing roadside landing left.
8+50	Construct 50’ diameter end landing.
	End renovation.

RENOVATE BLM ROAD NO. 29-11-10.0
Milepost 0.00 to Milepost 1.44

MP.	Remarks
0.00	Junction with BLM Road No. 29-11-11.0 at milepost 0.10.
	Existing 16” x 28’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.
	Begin culvert work, cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, slope protection, erosion control, soil stabilization, and roadside brushing in accordance with Sections 400, 500, 600, 1000, 1200, 1400, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 12” depth of surfacing). Bottom of ditch shall be at least 4’ horizontal and -1’ vertical from edge of road’s rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 400 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 12" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From milepost 0.00 to 1.44, place 100 CY 1.5-0" crushed aggregate surfacing as directed by BLM Authorized Officer.

0.07 Existing 16" x 54' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.10 Existing truck turnout left.

0.16 Existing 16" x 28' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.20 Existing 16" x 70' CMP culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.27 Existing 16" x 28' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.38 Replace existing failing 16" x 26' CMP cross drain culvert with new 18" x 34' CPP. Ensure skew and culvert invert grade are in accordance with the Timber Sale Road Specifications. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.46 Replace existing failing 16" x 24' CMP cross drain culvert with new 18" x 34' CPP. Ensure skew and culvert invert grade are in accordance with the Timber Sale Road Specifications. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.53 Replace existing failing 16" x 24' CMP cross drain culvert with new 18" x 34' CPP. Ensure skew and culvert invert grade are in accordance with the Timber Sale Road Specifications. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.54 Junction, renovate 29-11-9.0 left.

0.59 Existing 16" x 32' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.67 Renovate existing truck turnout left. 30 CY 1.5-0" crushed aggregate allocated for surfacing.

Proposed on-road landing location.

0.68 Existing 16" x 32' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.73 Junction, renovate BLM Road No. 29-11-9.4 right.

Proposed on-road landing location.

0.83 Construct 50’ diameter landing w/40’ approach right in accordance with Sections 200, 300, 600, 1000, and 1800 of the Timber Sale Road Specifications. 20 CY 3-0” crushed rock aggregate to surface approach. 50 CY of 6-0” crushed aggregate to surface landing to compacted 6” depth.

0.91 Junction, renovate 29-11-9.7 right.

0.97 Proximity of designated waste site with estimated 200 CY capacity.

1.00 Junction, renovate BLM Road No. 29-11-15.1 left.

1.13 Remove cut slope failure (estimated 10 CY).

1.22 Renovate existing truck turnout right.

1.29 Remove series of cut slope failures (estimated 90 CY)

1.31 Existing 16” x 28’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

1.44= 76+00 Junction, BLM Road No. 29-11-9.2 left. Not proposed for timber sale use.

End renovation to segment B. Continue renovation to segment C.

RENOVATE BLM ROAD NO. 29-11-10.0 Segment C
Station 76+00 to 91+10

STA.	Remarks

76+00 BLM Road No. 29-11-10.0 segment B at milepost 1.44.

Remove existing earthen barrier with associated rip rap. Stage rip rap adjacent to road for re-installation of barrier at completion of road use.

Begin clearing & grubbing, culvert work, cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, slope protection, erosion control, soil stabilization, and roadside brushing in accordance with Sections 200, 300, 400, 500, 600, 1000, 1200, 1400, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Extensive storm damaged material exists within clearing limits of road (defined as 10 feet back from top of cut slope and 5 feet out from toe of fill slope). Prior to any renovation roadwork, a log processor or log loader shall travel entire length of road and address blowdown material. Blowdown material, associated stumps, and root wads shall be treated in accordance with Section 200 of the Timber Sale Road Specifications. Time and equipment costs for treatment included in roadwork appraisal.

NOTE: As part of renovation roadwork, a significant number of trees shall be removed from existing road prism (toe of fill slope to a point where cut slope intersects natural ground line). Treatment of this material, including effects to roadway, shall be in accordance with Section 200 and 300 of the Timber Sale Road Specifications. Disposal of any incurred merchantable material shall consist of decking at location designated by Authorized Officer.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 8" depth of surfacing). Bottom of ditch shall be at least 3' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 8" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

77+50 Proposed on-road landing location.

79+33 Previous cross drain culvert location, pulled upon last use of road. Install temporary new 18" x 26' CPP culvert. Culvert will be removed upon completion of road use.

Remove cut slope failure (estimated 50 CY). End haul to station 19+10.

79+97 Existing fill failure attributed to nonfunctioning ditch. Uncontrolled ditch flow has created a knickpoint. Approximately 3' of roadbed width missing. Fill failure measures 5' wide x 10' long x 4' high. Cut slope consist of rock face. Regain roadway width by completing the following. Construct 4' wide bench at toe of fill (as projected by adjacent stable road fill). Excavate damaged fill segment at backslope of ¾ :1. Place 30 CY of Class 4 rip rap to function as improved subbase. Rip rap fill slope shall be ¾ :1.

81+73 Fill failure attributed to unstable area above and below road. Approximately 30 CY of fill loss and road width reduced approximately 3'.

Begin insloping road and reconstruct 2' ditch. Gain additional road width by moving roadway to left, requiring excavating in to existing cut slope. Match adjacent cut slopes. Excavation of cut slope estimated to be 75' in length, 4' wide, and 15' high. Estimated 270 CY of endhaul material. Utilize select material to construct roadside landing at station 91+10.

82+50 End insloping road.

83+76 Existing cut slope failure associated with road passing through unstable area. Ditch is filled in and travelway width has been reduced by 2' for an approximate length of 200'. Remove cut slope failure along 200' segment (estimated 500 CY). End haul waste, utilizing select material to construct roadside landing at station 91+10.

Within 200' road segment, 2 previous cross drain culvert locations were pulled upon last use of road. Install temporary new 18" x 26' CPP culverts. Culverts will be removed upon completion of road use.

85+75 Proposed on-road landing location.

91+10 Construct 60' diameter roadside landing right in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. Landing will remain native surface.

End renovation.

RENOVATE BLM ROAD NO. 29-11-10.2
Milepost 0.00 to Milepost 0.17

MP.	Remarks

0.00 Junction with BLM Road No. 29-11-15.1 at milepost 1.15.

Begin renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 500, 600, 1000, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 12" depth of surfacing). Bottom of ditch shall be at least 3' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 80 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 12" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From milepost 0.00 to 0.17, place 20 CY 1.5-0" crushed aggregate surfacing as directed by BLM Authorized Officer.

0.07 Renovate ditch out left.

0.12 Renovate ditch out left.

0.17 Renovate existing landing. 50 CY of 6-0" crushed aggregate allocated for surfacing.

End renovation.

IMPROVE BLM ROAD NO. 29-11-10.4
Station 0+00 to 10+70

STA.	Remarks
0+00	Junction with BLM Road No. 29-11-22.0 at milepost 1.95.
	Remove existing earthen barrier.
	Begin clearing & grubbing, excavation & embankment, culvert installation, improvement, watering, surfacing, erosion control, soil stabilization in accordance with Sections 200, 300, 400, 500, 600, 1000, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	From station 0+00 to 10+70 install 8" lift of compacted 3-0" crushed aggregate surfacing.
NOTE:	Maximum favorable grade shall be 16%.
1+00	New culvert location. Install new 18" x 34' CPP cross drain culvert.
4+50	Proposed on-road landing location. Construct 20' wide x 40' long adjacent operational area left. 30 cubic yards (CY) of 6-0" crushed aggregate allocated for surfacing.
6+00	New culvert location. Install new 18" x 34' CPP cross drain culvert.
10+00	Construct 50' diameter roadside landing right. 50 CY of 6-0" crushed aggregate allocated to surface landing to compacted 6" depth.
	Construct 50' diameter roadside landing left. 50 CY of 6-0" crushed aggregate allocated to surface landing to compacted 6" depth.
	Junction, construct BLM Road No. 29-11-15.8 right.
10+70 =0+00	End improvement. Construct BLM Road No. 29-11-10.4 segment B.

BLM MAINTAINED ROAD NO. 29-11-11.0 Segment A (Brownson Creek Road)
Milepost 0.00 to Milepost 0.44 (bituminous surface)

MP.	Remarks
0.00	Junction with Big Creek Road at milepost 4.20.
NOTE:	Brownson Creek Road segments A will be maintained by BLM Road Department.
0.15	Brownson Creek Bridge – BLM owned & controlled structure. See Special Provisions – Purchaser Responsibility.
0.44	Junction, BLM Maintained Road No. 29-11-11.1 right.

RENOVATE BLM ROAD NO. 29-11-11.0 Segment B
Milepost 0.00 to Milepost 0.10

MP.	Remarks
0.00	Junction with BLM Road No. 29-11-22.0 at milepost 2.85.
	Begin ditch cleaning/shaping, renovation, watering, erosion control, soil stabilization, and roadside brushing in accordance with Sections 500, 600, 1400, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.
NOTE:	Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 12" depth of surfacing). Bottom of ditch shall be at least 4' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 40 CY of material to be removed.
NOTE:	Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 12" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.
NOTE:	The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.
0.02	Renovate existing truck turnout right.
	Proposed on-road landing location.
0.06	Proposed on-road landing location.
0.10	4-way junction.
	Renovate BLM Road No. 29-11-10.0 left.
	Construct BLM Road No. 29-11-10.6 left.
	End renovation.

BLM MAINTAINED ROAD NO. 29-11-11.1 (Brownson Creek Spur)
Roadwork limited to construction of four (4) roadside landings and one (1) adjacent operational area.
Milepost 0.00 to 2.29 (bituminous surface)

MP.	Remarks
0.00	Junction with BLM Road No, 29-11-11.0A at milepost 0.44.
NOTE:	Roadwork limited to construction of four (4) roadside landings and one (1) adjacent operational area.
NOTE:	Brownson Creek Spur will be maintained by BLM Road Department.
0.11	Junction, renovate BLM Road No. 29-11-11.4 right.
1.12	Proposed on-road landing location. Construct 20’ wide x 40’ long adjacent operational area left in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 30 cubic yards (CY) of 6-0” crushed aggregate allocated for surfacing.
1.20	Construct 40’ wide x 50’ long roadside landing left in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 40 CY of 6-0” crushed aggregate allocated to surface landing to compacted 6” depth.
1.30	Construct 40’ wide x 50’ long roadside landing left in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 40 CY of 6-0” crushed aggregate allocated to surface landing to compacted 6” depth.
1.72	Junction, renovate BLM Road No. 29-11-1.3 left.
1.96	Construct 40’ wide x 60’ long roadside landing left in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 40 CY of 6-0” crushed aggregate allocated to surface landing to compacted 6” depth.
2.04	Junction, renovate BLM Road No. 29-11-1.1 A1 right.
2.06	Proposed on-road landing location.
2.15	Construct 40’ wide x 50’ long roadside landing left in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. Utilize material from adjacent waste site for imported fill. 40 CY of 6-0” crushed aggregate allocated to surface landing to compacted 6” depth.
2.29	Junction, renovate BLM Road No. 29-11-1.0 right.

RENOVATE BLM ROAD NO. 29-11-11.4 Segment A
Milepost 0.00 to Milepost 0.58

MP.	Remarks

0.00 Junction with BLM Road No. 29-11-11.1 at milepost 0.11.

Begin culvert work, cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 400, 500, 600, 1000, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 12" depth of surfacing). Bottom of ditch shall be at least 4' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 250 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 12" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From milepost 0.00 to 0.58, place 20 CY 1.5-0" crushed aggregate surfacing as directed by BLM Authorized Officer.

0.01 Replace existing failing 18" x 42' CMP stream crossing culvert with new 24" x 46' CPP culvert. Estimated 200 CY of excavation and embankment, calculated utilizing simple slope excavation with maximum allowable slope at 1.5:1 (horizontal:vertical). Culvert alignment and vertical placement will be as directed by Authorized Officer upon removal of existing culvert. Prior to placement of backfill, Purchaser shall obtain written approval from Authorized Officer. 35 CY of 3-0" crushed rock allocated to replace base course. 30 CY of 1.5-0" aggregate allocated for surface course replacement.

0.03 Existing functioning private gate.

0.11 Existing 18" x 36' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

Proposed on-road landing location.

0.18 Existing 24" x 70' CMP stream crossing culvert. Clean culvert's inlet and outlet.

0.21 Replace existing failing 18" by 40' CMP cross drain culvert with new 18" x 40' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.27 Proposed on-road landing location.

0.30 Renovate existing truck turnout left. 20 CY 3-0" crushed rock aggregate allocated for surfacing.

Proposed on-road landing location.

0.32 Existing 18" x 36' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.58 Approximate property line. Leaving BLM. Entering private.

Segment A ends. Continue renovation on Segment B.

RENOVATE BLM ROAD NO. 29-11-11.4 Segment B (Private owned / controlled)
Milepost 0.58 to Milepost 1.16

MP.	Remarks
0.58	Road segment B begins.
	Begin renovation, watering, erosion control, soil stabilization, and roadside brushing in accordance with Sections 500, 600, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.
0.58	Existing cross drain culvert. Clean inlet and outlet.
0.65	Existing cross drain culvert. Clean inlet and outlet.
0.73	Existing cross drain culvert. Clean inlet and outlet.
0.81	Existing cross drain culvert. Clean inlet and outlet.
0.83	Junction, road left not proposed for timber sale use.
0.89	Renovate existing truck turnout left.
1.04	Existing cross drain culvert. Clean inlet and outlet.
1.10	Existing cross drain culvert. Clean inlet and outlet.
1.13	Renovate existing truck turnout left.
1.16	Junction, construct BLM Road No. 29-11-11.6 right.
	End renovation.

RENOVATE BLM ROAD NO. 29-11-15.0
Milepost 0.00 to Milepost 1.52

MP.	Remarks

0.00 Junction with BLM Road No. 29-11-22.0 at milepost 0.81.

Begin culvert work, cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 400, 500, 600, 1000, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 12" depth of surfacing). Bottom of ditch shall be at least 4' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 425 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 12" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From milepost 0.00 to 1.52, place 100 CY 1.5-0" crushed aggregate surfacing as directed by BLM Authorized Officer.

0.01 Existing 24" x 48' CPP stream crossing culvert. Clean culvert's inlet, outlet, and barrel.

0.02 Junction, renovate BLM Road No. 29-11-15.1 right.

0.11 Existing fill failure. Install compacted 12" wide x 8" high x 50' long berm along shoulder. Utilize 10 CY of 1.5-0" crushed aggregate to create berm.

0.17 Renovate existing truck turnout right.

0.22 Existing 18" x 40' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.25 Begin removal of cut slope failure for next 50' road segment (estimate 55 CY).

0.33 Replace existing failing 18" by 30' CMP cross drain culvert with new 18" x 30' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.35 Begin removal of cut slope failure for next 30' road segment (estimate 30 CY).

0.42 Existing 24” x 40’ CPP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

0.53 Replace existing failing 18” x 44’ CMP cross drain culvert with new 18” x 44’ CPP culvert. 10 CY of 1.5-0” crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.56 Begin removal of cut slope failure for next 40’ road segment (estimated 40 CY).

0.60 Renovate existing truck turnout right.

0.62 Existing fill failure with slump in road. Widen road 2’-3’ right for 100’ segment. 100’ segment will be insloped with 2’ ditch. Widening road requires removing bank failure for 100’ segment (estimated 100 CY). Install new 6” lift of compacted 1.5-0” crushed aggregate for 100’ segment.

0.64 Begin removal of cut slope failure for next 200’ road segment (estimated 200 CY).

1.09 Renovate existing truck turnout right.

1.14 Junction, renovate BLM Road No. 29-11-21.2 left.

Proximity of waste site with 500 CY capacity.

1.24 Remove cut slope failure.

1.32 Renovate existing truck turnout right.

1.34 Existing 36” x 40’ CMP stream crossing culvert. Clean culvert’s inlet, outlet, and barrel.

1.36 Renovate existing truck turnout right. 20 CY 1.5-0” crushed rock aggregate allocated for surfacing.

1.40 Proposed on-road landing location.

1.45 Replace existing failing 18” x 36’ CMP cross drain culvert with new 18” x 36’ CPP culvert. 10 CY of 1.5-0” crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

1.51 Replace existing failing 18” x 40’ CMP cross drain culvert with new 18” x 40’ CPP culvert. 10 CY of 1.5-0” crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

1.52 Renovate existing 40’ diameter roadside landing right. 50 CY of 6-0” crushed aggregate allocated to surface landing to compacted 6” depth.

End renovation.

RENOVATE BLM ROAD NO. 29-11-15.1
Milepost 0.00 to Milepost 2.18

MP.	Remarks

0.00 Junction with BLM Road No. 29-11-15.0 at milepost 0.02.

Begin culvert work, cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 400, 500, 600, 1000, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 12" depth of surfacing). Bottom of ditch shall be at least 4' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 600 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 12" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From milepost 0.00 to 2.18, place 100 CY 1.5-0" crushed aggregate surfacing as directed by BLM Authorized Officer.

0.05 Existing function stream crossing culvert. Clean culvert's inlet, outlet, and barrel.

0.20 Existing functioning cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.25 Replace existing failing 18" x 40' CMP cross drain culvert with new 18" x 40' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.34 Replace existing failing 18" x 40' CMP cross drain culvert with new 18" x 40' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.45 Existing 24" x 40' CPP stream crossing culvert. Clean culvert's inlet, outlet, and barrel.

0.50 Replace existing failing 18" x 36' CMP cross drain culvert with new 18" x 40' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.60 Repair existing 24" x 40' CMP cross drain culvert by cutting 2' off inlet. Clean culvert's catch basin, inlet, outlet, and barrel.

0.66 Existing 24” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

0.70 Proposed on-road landing location.

0.74 Existing 24” x 80’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

0.77 Replace existing failing 18” x 32’ CMP cross drain culvert with new 18” x 34’ CPP culvert. 10 CY of 1.5-0” crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.82 Junction, construct BLM Road No. 29-11-15.9 right.

0.83 Junction, renovate BLM Road No. 29-11-15.2 right.

0.85 Replace existing failing 24” x 50’ CMP cross drain culvert with new 24” x 50’ CPP culvert. 10 CY of 1.5-0” crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.91 Proposed on-road landing location. Construct 20’ wide x 40’ long adjacent operational area right in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 30 cubic yards (CY) of 6-0” crushed aggregate allocated for surfacing.

0.95 Existing 18” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

0.97 Proposed on-road landing location. Construct 20’ wide x 60’ long adjacent operational area right in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 30 cubic yards (CY) of 6-0” crushed aggregate allocated for surfacing.

1.08 Construct 50’ diameter roadside landing right in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 50 CY of 6-0” crushed aggregate allocated to surface landing to compacted 6” depth.

1.10 Existing 18” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

1.12 Proposed on-road landing location. Construct 20’ wide x 40’ long adjacent operational area right in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 30 cubic yards (CY) of 6-0” crushed aggregate allocated for surfacing.

1.15 Junction, renovate BLM Road No. 29-11-10.2 left.

1.18 Proposed on-road landing location. Construct 20’ wide x 40’ long adjacent operational area right in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 30 cubic yards (CY) of 6-0” crushed aggregate allocated for surfacing.

1.26 Junction, renovate BLM Road No. 29-11-9.1 right.

Proposed on-road landing location.

1.32 Existing 18” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

1.38 Existing 18” x 30’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

1.47 Repair existing 18” x 60’ CMP cross drain culvert by cutting 2’ off inlet. Clean culvert’s catch basin, inlet, outlet, and barrel.

1.56 Existing 18" x 40' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

1.81 Existing 18" x 36' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

1.88 Existing 18" x 36' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

1.97 Repair existing 18" x 38' CMP cross drain culvert by cutting 2' off inlet. Clean culvert's catch basin, inlet, outlet, and barrel.

2.15 Existing 18" x 50' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

2.18 T-junction, renovate BLM Road No. 29-11-10.0 right and left.

RENOVATE BLM ROAD NO. 29-11-15.2
Station 0+00 to 12+00

STA. Remarks

0+00 Junction with BLM Road No. 29-11-15.1 at milepost 0.83.

Begin culvert work, cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, slope protection, erosion control, soil stabilization, and roadside brushing in accordance with Sections 400, 500, 600, 1000, 1400, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: As part of renovation roadwork, a significant number of trees shall be removed from existing road prism (toe of fill slope to a point where cut slope intersects natural ground line). Treatment of this material, including effects to roadway, shall be in accordance with Section 200 and 300 of the Timber Sale Road Specifications. Disposal of any incurred merchantable material shall consist of decking at location designated by Authorized Officer.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 8" depth of surfacing). Bottom of ditch shall be at least 3' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 100 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 8" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From station 0+00 to 12+00, install 3" lift of compacted 1.5-0" crushed aggregate surfacing.

3+70 Replace existing failing 18" x 34' CMP cross drain culvert with new 24" x 34' CPP culvert.

6+00 New culvert location. Install 24" x 34' CPP stream crossing culvert. Place culvert inlet 5' horizontally from point where channel encounters road. Proposed placement will provide maximum capture and transport of ephemeral flow.

7+10 Replace existing failing 18" x 40' stream crossing culvert with new 24" x 40' culvert. Placement of inlet shall require written approval by Authorized Officer. 10 CY of 3-0" crushed aggregate allocated as base course replacement. 10 CY 1.5-0" crushed aggregate allocated as side fill and replacement of existing lost fill. Armor fill slope with 10 CY of Class 3 rip rap.

8+00 Remove cut slope failure (estimated 50 CY).

12+00 Renovate existing 80' diameter end landing.

Construct ditch out along upper edge of landing.

End renovation.

RENOVATE BLM ROAD NO. 29-11-15.3
Milepost 0.00 to Milepost 0.09

MP.	Remarks

0.00 Junction with BLM Road No. 29-11-22.0 at milepost 1.50.

Begin renovation, watering, erosion control, soil stabilization, and roadside brushing in accordance with Sections 500, 600, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 5. Bottom of ditch shall be at least 4' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. This work will include renovating catch basins.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 5. Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

0.06 Existing 18" x 34' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.09 Proposed on-road landing location.

End renovation.

RENOVATE BLM ROAD NO. 29-11-21.2
Milepost 0.00 to Milepost 1.07

MP.	Remarks

0.00 Junction with BLM Road No. 29-11-15.0 at milepost 1.14.

Begin renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 500, 600, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Extensive storm damaged material exists within clearing limits of road (defined as 10 feet back from top of cut slope and 5 feet out from toe of fill slope). Prior to any renovation roadwork, a log processor or log loader shall travel entire length of road and address blowdown material. Blowdown material, associated stumps, and root wads shall be treated in accordance with Section 200 of the Timber Sale Road Specifications. Time and equipment costs for treatment included in roadwork appraisal.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 10” depth of surfacing). Bottom of ditch shall be at least 3’ horizontal and -1’ vertical from edge of road’s rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Some endhaul of waste material may be required as specified in Roads Worklist or as directed by Authorized Officer. Estimated 450 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 4 (with existing 10” depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4” vertical drop for every 10’ horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: From milepost 0.00 to 1.07, place 200 CY 1.5-0” crushed aggregate surfacing as directed by BLM Authorized Officer.

0.09 Proposed on-road landing location.

0.17 Construct 50’ diameter roadside landing right in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 50 CY of 6-0” crushed aggregate allocated to surface landing to compacted 6” depth.

0.22 Existing 18” x 50’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

0.33 Existing 18” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

0.40 Existing 18” x 36’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

0.43 Existing 18” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

0.45 Renovate existing truck turnout left.

0.46 Existing 18" x 50' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.51 Existing 18" x 30' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.56 Existing 18" x 40' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.63 Existing 18" x 46' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.69 Renovate existing truck turnout left.

0.99 Renovate existing truck turnout right.

1.07 Proposed on-road landing location.

End renovation.

RENOVATE BLM ROAD NO. 29-11-22.0 (Fall Creek Road)
Milepost 0.00 to Milepost 2.85

MP.	Remarks

0.00 Junction with Big Creek County Road at milepost 2.26.

Begin culvert work, cut slope & fill slope failure removal/repair, ditch cleaning/shaping, renovation, watering, surfacing, erosion control, soil stabilization, and roadside brushing in accordance with Sections 400, 500, 600, 1000, 1700, 1800, and 2100 of the Timber Sale Road Specifications, Typical Cross Section Details, Culvert Details, Roadside Brushing Details, and Roads Worklist.

NOTE: Road drainage ditch will be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 12" depth of surfacing). Bottom of ditch shall be at least 4' horizontal and -1' vertical from edge of road's rocked travelway. Ditch backslope shall match adjacent road cut slope. Ditch both sides of road when necessary. This work will include renovating catch basins. Material generated from reconditioning of drainage ditches and structures may be placed in a stable manner upon fill slope utilizing equipment with a bucket. Some endhaul of waste material may be required as specified in Roads Worklist or directed by Authorized Officer. Estimated 600 CY of material to be removed.

NOTE: Outside road shoulder shall be bladed and shaped in accordance with the Typical Cross Section Details – Type 5 (with existing 12" depth of surfacing). Daylight outside road shoulder to break of fill slope, removing berms and providing smooth unobstructed path for road surface sheet flow to migrate onto vegetated fill/hill slope. Daylight sections will be outsloped at 4" vertical drop for every 10' horizontal distance.

NOTE: The existing road surface shall be scarified to its full width and to a depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections and as in the plans.

NOTE: Eight (8) check dams shall be installed at direction of Authorized Officer.

NOTE: From milepost 0.00 to 2.85, place 100 CY 1.5-0" crushed aggregate surfacing as directed by BLM Authorized Officer.

0.08 Replace existing failing 18" x 40' CMP stream crossing culvert with new 24" x 36' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.18 Existing 24" x 50' CPP stream crossing culvert. Clean culvert's inlet and outlet.

0.25 Existing 18" x 36' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.39 Existing 24" x 40' CMP stream crossing culvert. Clean culvert's inlet and outlet.

0.40 Existing 24" x 50' CPP stream crossing culvert. Clean culvert's inlet and outlet.

0.46 Existing 30" x 50' CPP stream crossing culvert. Clean culvert's inlet and outlet.

0.56 Replace existing failing 18" x 40' CMP cross drain culvert with new 18" x 40' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

0.65 Existing 18" x 40' CPP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

0.81 Junction, renovate BLM Road No. 29-11-15.0 left.

Existing arch pipe – BLM Major Culvert.

0.92 Existing 24" x 40' CPP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

1.00 Replace existing failing 18" x 40' CMP cross drain culvert with new 18" x 40' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

1.06 Existing 24" x 40' CMP stream crossing culvert. Clean culvert's inlet and outlet.

1.15 Existing 18" x 40' CMP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

1.25 Replace existing failing 18" x 40' CMP cross drain culvert with new 24" x 40' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

1.30 Begin removal of cut slope failure for next 200' road segment (estimate 160 CY).

1.35 Existing 24" x 40' CPP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

1.40 Replace existing failing 18" x 40' CMP cross drain culvert with new 24" x 40' CPP culvert. 10 CY of 1.5-0" crushed aggregate allocated for culvert bedding, side fill, and road surfacing.

1.50 Junction, renovate BLM Road No. 29-11-15.3 right.

Proposed on-road landing location. Construct 20' wide x 40' long adjacent operational area right in accordance with Sections 200, 300, 600, 1000, 1700, and 1800 of the Timber Sale Road Specifications. 30 CY of 6-0" crushed aggregate allocated for surfacing.

1.60 Existing 24" x 40' CPP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

1.66 Existing 18" x 40' CPP cross drain culvert. Clean culvert's catch basin, inlet, outlet, and barrel.

1.76 Repair existing 18” x 40’ CMP cross drain culvert by cutting 1-2’ off inlet. Clean culvert’s catch basin, inlet, outlet, and barrel.

1.85 Begin removal of cut slope failure for next 200’ road segment (estimate 160 CY).

1.87 Existing 18” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

1.95 Junction, improve BLM Road No. 29-11-10.4 right.

2.51 Existing 18” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

Remove root wad from ditch, swing across road and place downslope in a stable manner.

2.58 Existing 24” x 40’ CPP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

2.72 Existing 24” x 40’ CPP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

2.80 Existing 18” x 40’ CMP cross drain culvert. Clean culvert’s catch basin, inlet, outlet, and barrel.

2.85 T-junction, renovate BLM Road No. 29-11-11.0 segment B left.

End renovation.

CONSTRUCTION DETAIL SHEET
ROAD NO. 28-10-31.7
DESIGNED ROAD

GENERAL
Purchaser shall construct Road No. 28-10-31.7 from Sta. 0+00 to Sta. 1+50 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification, plan & profile, and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 50 CY of excavation and 900 CY embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 0 and 7 feet respectively. Embankment material comes from improvement to BLM Road No. 29-11-1.0.

DRAINAGE FEATURES
Crowned at 3% with 2’ ditch to achieve drainage. Lead out ditch along upper edge of end landing.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate base course and surface with 4” lift of 0.75-0” crushed aggregate in accordance with Sections 1000, 1200, and Typical Cross Section Details.

50 CY of pit run crushed rock allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries. L-Line locations are staked. Cut slope staking and reference marking will be completed by Authorized Officer prior to construction.

Minimum curve radius shall be sixty (60) feet.

GRADE
Grade shall not exceed 15% adverse.

TRUCK TURNAROUND
None.

LANDINGS

Station 1+50, construct 50’ diameter end landing.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-1.5
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-1.5 from Sta. 0+00 to Sta. 3+00 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 230 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 2 and 2 feet respectively.

Daylight cuts if excavation less than 20 CY/station.

DRAINAGE FEATURES
Outsloped at 3% with no ditch to achieve drainage.

0+00, construct dip that is drivable and permits cross flow of adjacent ditch.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate surfacing in accordance with Sections 1000 and Typical Cross Section Details.

50 CY of 6-0” crushed rock aggregate allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-1.1 A2 at station 17+50.

GRADE
Grade shall not exceed 2% adverse and 6% favorable.

TRUCK TURNAROUND

None.

LANDINGS

Station 3+00, construct 50’ diameter end landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-1.6
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-1.6 from Sta. 0+00 to Sta. 3+50 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 560 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 1 and 3 feet respectively.

DRAINAGE FEATURES
Crowned at 3% with 2’ ditch to achieve drainage. Construct ditch outs where feasible. Lead out ditch along upper edge of end landing.

1+75 Install new 18” x 20’ CPP cross drain culvert.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate surfacing in accordance with Sections 1000 and Typical Cross Section Details.

50 CY of 6-0” crushed rock aggregate allocated for roadside landing surfacing.

50 CY of 6-0” crushed rock aggregate allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-1.1 A2 at station 18+60.

GRADE
Grade shall not exceed 5% adverse and 4% favorable.

TRUCK TURNAROUND

None.

LANDINGS

Station 2+25, construct 50’ diameter roadside landing.

Station 3+50, construct 50’ diameter end landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-1.7
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-1.7 from Sta. 0+00 to Sta. 2+25 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 325 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 4 and 4 feet respectively.

DRAINAGE FEATURES
Outsloped at 3% with no ditch to achieve drainage.

0+00, construct dip that is drivable and permits cross flow of adjacent ditch.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate surfacing in accordance with Sections 1000 and Typical Cross Section Details.

50 CY of 6-0” crushed rock aggregate allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-1.1 A2 at station 15+50.

GRADE
Grade shall not exceed 4% adverse and 3% favorable.

TRUCK TURNAROUND
None.

LANDINGS

Station 2+25, construct 50’ diameter end landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-1.8
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-1.8 from Sta. 0+00 to Sta. 2+75 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 200 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 2 and 2 feet respectively.

DRAINAGE FEATURES
Crowned at 3% with 2’ ditch to achieve drainage. Construct ditch outs where feasible. Lead out ditch along upper edge of end landing.

0+00 Install new 12” x 60’ CMP in-line ditch culvert.

1+00 Install new 18” x 36’ CPP cross drain culvert.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate surfacing in accordance with Sections 1000 and Typical Cross Section Details.

50 CY of 6-0” crushed rock aggregate allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-1.2 at station 2+40.

GRADE
Grade shall not exceed 2% adverse and 13% favorable.

TRUCK TURNAROUND

None.

LANDINGS

Station 2+75, construct 50’ diameter end landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-1.9
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-1.9 from Sta. 0+00 to Sta. 2+00 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 100 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 2 and 1 feet respectively.

DRAINAGE FEATURES
Crowned at 3% with 2’ ditch to achieve drainage. Construct ditch outs where feasible.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate surfacing in accordance with Sections 1000 and Typical Cross Section Details.

50 CY of 6-0” crushed rock aggregate allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-1.8 at station 0+85.

GRADE
Grade shall not exceed 8% favorable.

TRUCK TURNAROUND
None.

LANDINGS

Station 2+00, construct 50’ diameter end landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-9.8
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-9.8 from Sta. 0+00 to Sta. 2+65 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 200 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 2 and 1 feet respectively.

DRAINAGE FEATURES
Crowned at 3% with 2’ ditch to achieve drainage. Lead out ditch along upper edge of end landing.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate surfacing in accordance with Sections 1000, 1200, and Typical Cross Section Details.

50 CY of 6-0” crushed rock aggregate allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-9.0 at station 9+75.

GRADE
Grade shall not exceed 16% adverse.

TRUCK TURNAROUND
None.

LANDINGS
Station 2+65, construct 50’ diameter end landing.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-10.4 segment B
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-10.4B from Sta. 0+00 to Sta. 2+15 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 650 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 5 and 6 feet respectively.

DRAINAGE FEATURES
Crowned at 3% with 2’ ditch to achieve drainage. Construct ditch outs where feasible.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate surfacing in accordance with Sections 1000 and Typical Cross Section Details.

50 CY of 6-0” crushed rock aggregate allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-10.4 at station 10+70.

GRADE
Grade shall not exceed 3% adverse and 5% favorable.

TRUCK TURNAROUND
None.

LANDINGS

Station 2+15, construct 50’ diameter end landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-10.6
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-10.6 from Sta. 0+00 to Sta. 1+70 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 120 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 2 and 1 feet respectively.

DRAINAGE FEATURES
Outsloped at 3% with no ditch to achieve drainage.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate surfacing in accordance with Sections 1000 and Typical Cross Section Details.

50 CY of 6-0” crushed rock aggregate allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-11.0B at milepost 0.10.

GRADE
Grade shall not exceed 3% favorable.

TRUCK TURNAROUND
None.

LANDINGS

Station 1+70, construct 50’ diameter end landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-11.6
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-11.6 from Sta. 0+00 to Sta. 5+50 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 400 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 3 and 2 feet respectively.

DRAINAGE FEATURES
Outsloped at 3% with no ditch to achieve drainage.

SURFACING
None

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-11.4 segment B at milepost 1.16.

GRADE
Grade shall not exceed 1% adverse and 8% favorable.

TRUCK TURNAROUND
None.

LANDINGS
Station 5+50, construct 50’ diameter end landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-15.8
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-15.8 from Sta. 0+00 to Sta. 4+00 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 300 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 2 and 3 feet respectively.

DRAINAGE FEATURES
Crowned at 3% with 2’ ditch to achieve drainage.

1+50 Install new 18” x 30’ CPP cross drain culvert.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate surfacing in accordance with Sections 1000 and Typical Cross Section Details.

50 CY of 6-0” crushed rock aggregate allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-10.4 at station 10+00.

GRADE
Grade shall not exceed 11% favorable.

TRUCK TURNAROUND
None.

LANDINGS

Station 4+00, construct 50’ diameter end landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
ROAD NO. 29-11-15.9
CONTROL POINT

GENERAL
Purchaser shall construct Road No. 29-11-15.9 from Sta. 0+00 to Sta. 2+15 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 300 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 2 and 2 feet respectively.

DRAINAGE FEATURES
Outsloped at 3% with no ditch to achieve drainage.

0+00, construct dip that is drivable and permits cross flow of adjacent ditch.

SURFACING
Apply 8” lift of compacted 3-0” crushed rock aggregate surfacing in accordance with Sections 1000 and Typical Cross Section Details.

50 CY of 6-0” crushed rock aggregate allocated for roadside landing surfacing.

50 CY of 6-0” crushed rock aggregate allocated for end landing surfacing.

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-15.1 at milepost 0.82.

GRADE
Grade shall not exceed 9% favorable and 3% adverse.

TRUCK TURNAROUND

None.

LANDINGS

Station 0+75, construct 50’ diameter roadside landing.

Station 2+15, construct 50’ diameter end landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

CONSTRUCTION DETAIL SHEET
SPUR 8A
CONTROL POINT

GENERAL
Purchaser shall construct SPUR 8A from Sta. 0+00 to Sta. 1+25 as shown on the work location map. This work shall be accomplished in accordance with Timber Sale Road Specification and details which follow:

SHAPING
The roadway shall be constructed and shaped to conform to standards shown on Typical Cross Section Details. Cut slopes shall be ¾:1 (horizontal:vertical) and fill slopes shall be 1½ :1 or as shown on plans.

TURNOUTS
None

SUBGRADE
Estimated 210 CY of excavation and embankment associated with the construction of subgrade and end landing. Maximum cut and fill depths associated with subgrade estimated at 3 and 2 feet respectively.

DRAINAGE FEATURES
Outsloped at 3% with no ditch to achieve drainage.

SURFACING
None

ALIGNMENT
Roadway shall be constructed within posted or painted right-of-way boundaries, with road centerline constructed in close proximity of stakes on the ground.

Minimum curve radius shall be sixty (60) feet.

Station 0+00 Junction with BLM Road No. 29-11-1.1 at station 24+00.

GRADE
Grade shall not exceed 15% adverse.

TRUCK TURNAROUND
None.

LANDINGS
Station 1+25, construct 50’ diameter roadside landing.

Grade of landings and approach shall not exceed 5%.

SOIL STABILIZATION

Apply seed and mulch in accordance with Section 1800.

TIMBER SALE ROAD SPECIFICATIONS

TABLE OF CONTENTS

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

Please note, while the Timber Sale Road Specifications is tailored to individual projects, some Subsections are included for the purpose of addressing latent conditions and situations frequently encountered during active operations.

TIMBER SALE ROAD SPECIFICATIONS

GENERAL – 100

101* - Prework Conference(s):

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

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

102* - Definitions:

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

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

ACI - American Concrete Institute

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

ASTM - American Society for Testing and Materials.

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

BLM - Bureau of Land Management

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

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

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

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

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

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

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

Percent Open Area - The net area of a geotextile material that is not occupied by geotextile material filaments, normally determinable only for woven and nonwoven geotextile material having distinct, visible, and measurable openings that continue directly through the geotextile material.

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

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

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

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

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

Road Centerline - The longitudinal center of a roadbed.

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

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

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

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

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

Spalls - Flakes or chips of stone.

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

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

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

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

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

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

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

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

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

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

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

102a* - Tests Used in These Specifications:

AASHTO T 11	Quantity of rock finer than No. 200 sieve.
AASHTO T 27	Sieve analysis of fine and coarse aggregate using sieves with square openings; gradation.
AASHTO T 89	Liquid limit of material passing the No. 40 sieve. Water content at which the soil passes from a plastic to a liquid state.
AASHTO T 90	Plastic limits and plasticity index of soil. a.) Plastic limit - lowest water content at which the soil remains plastic. b.) Plasticity index - range of water content, within which the material is in a plastic state. Numerical difference between the liquid and plastic limits of the soil.
AASHTO T 96	Resistance to abrasion of small size coarse aggregate by use of the Los Angeles machine.
AASHTO T 99	Relationship between soil moisture and density of soil. Method A - 4" mold, soil passing a No. 4 sieve 25 blows/layer & 3 layers. Method C - 4" mold, soil passing a 3/4 inch sieve 25 blows/layer & 3 layers. Method D - 6" mold, soil passing a 3/4 inch sieve. 56 blows/layer & 3 layers.
AASHTO T 119	Slump of hydraulic cement concrete.
AASHTO T 152	Air content of freshly mixed concrete.
AASHTO T 166	Specific Gravity of compacted Bituminous Mixtures.
AASHTO T 176	Shows relative portions of fine dust or claylike materials in soil or graded aggregate.

TIMBER SALE ROAD SPECIFICATIONS

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

AASHTO T 191 Sand Cone. Density of soil in place: For subgrade use 6-inch or 12-inch cone. For rock surfacing for 1-1/2-inch minus to 3-inch minus use 12-inch cone.

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

AASHTO T 209 Maximum Specific Gravity of Bituminous Paving Mixtures.

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

AASHTO T 224 Correction for coarse particles in the soil.

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

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

ASTM D 4564 Determination of relative density of cohensionless soils.

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

103* - Compaction equipment shall meet the following requirements:

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

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

The distance between circumferential rows of tamper feet shall be such that the diagonal distance from any foot to the nearest foot in each adjacent row shall be not more than 12”. 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.

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

CLEARING AND GRUBBING - 200

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

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

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

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

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

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

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

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

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

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

212 - No grading will be permitted prior to completion and approval by the Authorized Officer of the required clearing and grubbing work, except that stump grubbing may proceed with the excavation of the road prism.

213 - No clearing or grubbing debris shall be left lodged against standing trees.

TIMBER SALE ROAD SPECIFICATIONS

EXCAVATION AND EMBANKMENT - 300

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

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

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

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

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

NOTE: SPECIAL PROVISION- Uniform Optimum Moisture Content shall apply to Subsection 306.

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

TIMBER SALE ROAD SPECIFICATIONS

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

NOTE: SPECIAL PROVISIONS – In-place Density and Relative Compaction Testing shall apply to Subsection 306e.

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

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

315 - Borrow material required for the construction of embankment or for other portions of the work shall be obtained from sources as shown on the plans.

316 - Borrow material from sources selected at the Purchaser's option shall be inspected and approved in writing by the Authorized Officer prior to placement.

317 - Selected borrow shall consist of talus material, finely broken rock, gravel, or other material of granular or favorable characteristics from sources shown on the plans.

317a - Where indicated on the plans, the Purchaser shall conserve excavation material consisting of talus material, gravel, finely broken rock or other material of granular or favorable characteristics for placement on the top portions of the roadbed as shown on the plans and as directed by the Authorized Officer.

318 - Selected borrow or selected roadway excavation material shall be uniformly spread on the roadbed in lifts not to exceed (6) inches in depth until the required thickness shown on the plans is attained.

Each layer shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width in accordance with the requirements of Subsection 306.

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

321c - End-dumping will be permitted for the placement of excess materials under Subsection 321 in designated disposal areas or within areas approved by the Authorized Officer. Materials placed shall be sloped, shaped, and otherwise brought to a visible condition acceptable to the Authorized Officer.

324 - Excavated material shall not be allowed to cover boles of standing trees to a depth in excess of 2 feet on the uphill side.

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

TIMBER SALE ROAD SPECIFICATIONS

PIPE CULVERTS - 400

401* - This work shall consist of furnishing and installing pipe culverts, full round downspouts, and other erosion control devices in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Individual lengths and locations are approximate; final lengths and locations will be determined by the Authorized Officer. Additional pipe and erosion control devices may be required at the option of the Authorized Officer, in which case a reduction in the total purchase price shall be made to offset the cost of furnishing and installing such items. Costs will be based upon the unit prices set forth in the current BLM Timber Appraisal Production Cost Schedule.

403 - Grade culverts shall have a gradient of 5 percent greater than the adjacent road grade. Grade culverts shall be skewed down grade 45 degrees as measured from the perpendicular to the centerline unless otherwise specified on the plans.

404 - Damage to the spelter, or burn back in excess of 3/8 inch, shall be wire brushed and painted with two coats of zinc-rich paint on zinc-coated, steel pipe and aluminum-rich paint on aluminum or aluminum-coated pipe.

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

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

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

410* - Pipe shall be unloaded and handled with reasonable care. If the Authorized Officer determines any structure is damaged to the extent that it is unsuitable for use in the road construction, it shall be replaced at the Purchaser's expense.

411* - Trenches necessary for the installation of pipe culverts shall conform to the lines, grades, dimensions, and typical diagram that are shown on the Culvert Installation Detail Sheet.

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

TIMBER SALE ROAD SPECIFICATIONS

412a - Where soft or spongy soils are encountered, they shall be excavated a minimum of 24 inches below the invert grade for a width of at least one pipe diameter or span on each side of the pipe and shall be backfilled, as directed by the Authorized Officer, with selected granular or fine readily compactable soil material or crushed rock material in accordance with Section 1200 gradation.

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

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 or larger shall be made before backfill is placed. Culverts found to be out of alignment or damaged shall be replaced, reinstalled or repaired as directed by the Authorized Officer at the Purchaser's expense.

416* - Side-fill material for pipe culverts shall be placed within 1 pipe diameter, or a minimum of 2 feet, of the sides of the pipe barrel, and to 1 foot over the pipe with fine, readily compactable soil, or crushed rock material in accordance with Section 1200 gradation (E-1), or granular fill material free of excess moisture, muck, frozen material, roots, sod, or other deleterious or caustic material and devoid of rocks or stones of sizes which may impinge upon and damage the pipe or otherwise interfere with proper compaction.

417* - For pipe culverts: Side-fill material conforming to the requirements of Subsection 416 shall be placed and compacted under the haunches of the pipe and shall be brought up evenly and simultaneously on both sides of the pipe to 1 foot above the pipe, in layers not exceeding 6 inches in depth and 1 pipe diameter, or a minimum of 2 feet in width each side of, and adjacent to, the full length of the pipe barrel. Each layer shall be moistened or dried to a uniform moisture content suitable for maximum compaction and immediately compacted by approved hand or pneumatic tampers until a uniform density of 85 percent of the maximum density, is attained as determined by AASHTO T 99, Method C.

TIMBER SALE ROAD SPECIFICATIONS

NOTE: SPECIAL PROVISION - Uniform Optimum Moisture Content shall apply to subsection 417.

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

419* - The pipe culverts after being bedded and backfilled as required by these specifications shall be protected by a 2-foot cover of fill before heavy equipment is permitted to cross the drainage structures. Removal of the protection fill shall be as directed by the Authorized Officer.

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

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

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

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

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

429 - Keep the excavation site dewatered so that the installation of culverts is completed under dry conditions. Dispose of excess water by using pumping or natural drainage ways near the site in a manner that will avoid damage to adjacent property. Provide for downstream waterflow with no more that 10% increase in natural stream turbidity due to transport of excavated material or sediment during construction. Diversion streams shall not be returned to the natural channel until all in-stream work has been completed.

TIMBER SALE ROAD SPECIFICATIONS

RENOVATION AND IMPROVEMENT OF EXISTING ROADS - 500

*501 - This work shall consist of reconditioning and preparing the roadbed and shoulders, minor excavation and/or embankment, cleaning and shaping drainage ditches, installing culverts and energy dissipators, brushing vegetation from cut and embankment slopes, and cleaning and repairing drainage structures of existing roads in accordance with these specifications and as shown on the plans.

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

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

Road No.	From Sta./M.P.	To Sta./M.P.
All crushed rock surface roads listed in Roads Worklist.	See Roads Worklist	See Roads Worklist
All native surface roads listed in Roads Worklist.	See Roads Worklist	See Roads Worklist

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.

503 - Debris from slides shall be disposed of as specified in Roads Worklist or as directed by the Authorized Officer.

TIMBER SALE ROAD SPECIFICATIONS

504 - Scarified material and existing road surfaces shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width with equipment conforming to requirements of Subsections 103f and 103i.

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

NOTE: SPECIAL PROVISIONS – In-place Density and Relative Compaction Testing shall apply to Subsection 504a.

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

507 - Existing and new drainage structures shall be replaced or placed with structures of the type, gauge, diameter, and length shown on the plans and in accordance with the placement requirements set forth under section 400 of these specifications.

508 - Vegetation encroaching on the roadbed and the drainage ditches of existing roads shall be removed by cutting and disposed of in accordance with Section 2100 of these specifications.

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

TIMBER SALE ROAD SPECIFICATIONS

WATERING - 600

*601 - This work shall consist of furnishing and applying water required for the compaction of embankments, roadbeds, backfills, base courses, surface courses, finishing and reconditioning of existing roadbeds, laying dust, or for other uses in accordance with these specifications.

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

603 - Water trucks used in this work shall be equipped with a distributing device of ample capacity and of such design as to ensure uniform application of water on the roadbed.

605 - The Purchaser shall secure the necessary water permits and pay all required water fees for use of for use of water sources selected by the Purchaser and approved by the Authorized Officer.

TIMBER SALE ROAD SPECIFICATIONS

AGGREGATE BASE COURSE - 1000
CRUSHED ROCK MATERIAL

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

TABLE 1004

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

GRADATION

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

1007a - That portion of crushed rock material passing No. 4 sieve, including blending filler shall have a sand equivalent of not less than 35, as determined by AASHTO T 176, except where that portion exhibits a sand equivalent of less than 35, the aggregate will be accepted if it complies with the additional requirement as follows:

TABLE 1007a

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

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

TIMBER SALE ROAD SPECIFICATIONS

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

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

*1010 - Crushed rock materials shall be placed and processed on the approved roadbed in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and compacted in layers not to exceed 4 inches in depth for 3-0” or not to exceed 6 inches in depth for 6-0” . When more than one layer is required, each shall be shaped, processed, compacted, before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and adding or removing crushed rock material until the surface is smooth and uniform.

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

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

NOTE: SPECIAL PROVISIONS – In-place Density and Relative Compaction Testing shall apply to Subsection 1012.

TIMBER SALE ROAD SPECIFICATIONS

AGGREGATE SURFACE COURSE - 1200
CRUSHED ROCK MATERIAL

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

1202a - Crushed rock materials used in this work may be obtained from commercial sources selected by the Purchaser at his option and expense, providing the rock materials furnished comply with the specifications.

*1203 - When crushed rock material is produced from gravel, not less than 75 percent by weight of the particles retained on the No. 4 sieve will have 3 manufactured fractured faces.

TIMBER SALE ROAD SPECIFICATIONS

*1204 - Crushed rock material shall consist of hard durable rock fragments conforming to the following gradation requirements:

TABLE 1204

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

GRADATION

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

1205 - Crushed rock material shall not exceed 35 percent loss as determined by AASHTO T 96.

1206 - Crushed rock material shall show a durability value of not less than 35 as determined by AASHTO T210.

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

TIMBER SALE ROAD SPECIFICATIONS

1207 - That portion of crushed rock material passing the No. 40 sieve, including blending filler, shall have a liquid limit of not more than 35 and a plasticity index of not less than 4 and not more than 12 as determined by AASHTO T 89 and AASHTO T 90.

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

TABLE 1207a

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

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

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

TIMBER SALE ROAD SPECIFICATIONS

*1209 - Shaping and compacting of roadbed shall be completed and approved in writing, prior to placing crushed rock material, in accordance with the requirements of Subsections 500 for placing on the roadbed and landings. Notification for final inspection prior to rocking shall be 3 days prior to the inspection and shall be 6 days prior to start of surfacing operations.

*1210 - Crushed rock material conforming to the requirements of these specifications shall be placed on the approved roadbed, and landings in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Compacted layers shall not exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted, and approved by the Authorized Officer before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and then adding or removing crushed rock material until the surface is smooth and uniform.

1210a - Crushed rock material used to repair or reinforce soft, muddy, frozen, yielding, or rutted roadbed shall not be construed as surfacing required by this specification.

1212 - Each layer of crushed rock material placed, processed, and shaped as specified shall be moistened or dried to a uniform moisture content suitable for maximum compaction and compacted to full width by compacting equipment conforming to the requirements of Subsection103f. Minimum compaction shall be one (1) hour of continuous compacting for each 150 cubic yards of crushed rock material placed per layer, or fraction thereof.

NOTE: SPECIAL PROVISIONS – In-place Density and Relative Compaction Testing shall apply to Subsection 1212.

TIMBER SALE ROAD SPECIFICATIONS

SLOPE PROTECTION - 1400

*1401 - This work shall consist of furnishing, hauling, and placing stone materials (rip rap) for slope protection structures and energy dissipators (splash pads) in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross-sections shown on the plans and Roads Worklist. Material not conforming to these specifications will be rejected and shall be removed from the slope protection structure at the purchaser's expense as directed by the Authorized Officer.

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

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

TIMBER SALE ROAD SPECIFICATIONS

1405 - Rip rap shall conform to the following gradations:

TABLE 1405[1]

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

[1]Gradation includes spalls and rock fragments to provide a stable, dense mass.
[2]The intermediate dimension is the longest straight-line distance across the rock that is perpendicular to the rock's longest axis on the rock face with the largest projection plane.
[3]Rock mass is based on a specific gravity of 2.65 (165#/cu.ft.) and 85 percent of the cubic volume as calculated using the intermediate dimension.

TIMBER SALE ROAD SPECIFICATIONS

1405a - Stone materials shall show a durability value of not less than 50 as determined by AASHTO T 210.

1405b - Stone materials shall conform to a minimum apparent specific gravity of 2.50 and a maximum absorption of 4.2 percent as determined by AASHTO T 85.

1406 - The placement of slope protection stones by the end dumping method is not permitted.

1406a - The embankment shall be placed (with excavator) in successive horizontal layers of sufficient depth to contain the maximum size rock present in the material. Spalls and finer fragments of stone other than specified in Subsection 1405 shall be used to chock the larger stones solidly in position and to fill voids between the major stones as laid in the embankment. The exposed face of the embankment shall be reasonably smooth and uniform; material shall be prevented from escaping beyond the toe of the structure.

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

1408 - Trenches for slope protection structures shall be excavated to the lines, elevations, and typical diagram shown on the plans. They shall be of sufficient size to permit the placing of structure footing of the full widths and length shown. Trenches shall be approved by the Authorized Officer prior to placement of slope protection material.

1408a - Foundation trenches and other required excavation as shown on the plans and Roads Worklist shall be approved prior to placing the slope protection material.

1408b - The Purchaser shall excavate unsuitable roadway material as shown on the plans, details, Roads Worklist, or directed by the Authorized Officer prior to the placement of the required rock structures.

1409 - Slope protection material shall be placed so as to form the cross sections shown on the plans.

1410 - Specified embankment slopes shall be protected and/or stabilized by placement of rock materials to form a slope-protection structure conforming to the construction requirements and details of these specifications.

TIMBER SALE ROAD SPECIFICATIONS

EROSION CONTROL - 1700

*1701 - This work shall consist of measures to control soil erosion or water pollution during the construction operation through the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections shown on the plans.

1703 - This work shall consist of furnishing and installing straw wattle check dams and sediment fences in accordance with these specifications and in reasonably close conformity with the requirements and details specified by the Special Provisions and as directed by the Authorized Officer.

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

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

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

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

NOTE: *EXHIBIT D - 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, after initial commencement of construction or logging operations.*

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

TIMBER SALE ROAD SPECIFICATIONS

1708a - Road segments not completed during dry weather periods shall be winterized, by providing a well-drained roadway using water bars, maintaining drainage, and performing additional measures necessary to minimize erosion and other damage to the roadway, as directed by the Authorized Officer. Portions of roads not having surface rock in place will be blocked or barricaded to prevent vehicular traffic.

TIMBER SALE ROAD SPECIFICATIONS

SOIL STABILIZATION – 1800

*1801 - This work shall consist of seeding 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 and mulching shall be performed on new road construction, road renovation, improvements, landings, disturbed areas, borrow sites, disposal sites, and specials areas in accordance with these specifications and as shown on the plans.

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

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

If soil stabilization of disturbed areas is not completed by the specified fall date, the Purchaser shall treat disturbed areas in accordance with Section 1700 and then complete the requirements of Section 1800 the next construction season.

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

1803a - The Purchaser shall begin soil stabilization work within 10 days of the starting work date when notified by the Authorized Officer.

1804 - The BLM shall provide native grass/forb seed.

1806 - The Purchaser shall apply the seed mixtures specified under Subsection 1804 to the corresponding seeding projects as shown on Estimate of Quantities and Roads Worklist .

TIMBER SALE ROAD SPECIFICATIONS

1806a - Additional soil stabilization work consisting of seeding and mulching may be required at the option of the Authorized Officer. Providing the additional stabilization is not due to Purchaser negligence as specified in Sec. 12 of the contract, a reduction in the total purchased price shall be made to offset the cost of furnishing and applying such additional stabilization material. Cost shall be based upon the unit price set forth in the current BLM Timber Appraisal Production Cost Schedule.

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

1808a - Straw mulch shall be certified weed free from commercial grain fields and native grass fields. Straw mulch shall be from oats, wheat, rye, or other approved grain crops and shall be free from, mold, or other objectionable material. Straw mulch shall be in an air-dry condition and suitable for placement.

1809 - Mulch material shall be delivered to the work area in a dry state. Material found to be wet will not be accepted. Material to be used in the mulching operation may be stockpiled along the road designated for treatment provided that it is maintained in a dry state and has the approval of the Authorized Officer.

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

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

b. Dry Application:

Grass & Legume Seed	20 lbs./acre
Mulch	4000 lbs./acre

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

TIMBER SALE ROAD SPECIFICATIONS

1812 - Mulches shall be spread/placed in treatment areas to a depth of 1 inch or as directed by the Authorized Officer. Treatment area will be covered evenly and completely. Mulch can be broadcast onto the soil surface by hand or with hand/mechanical operated spreaders.

1814 - The Purchaser may reduce the application rate on partially covered slopes and refrain from application on areas already well stocked with grass or on rock surfaces as determined by the Authorized Officer.

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

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

1818 - The maximum horizontal distance to be seeded and mulched from the road centerline shall be 50 feet for the cut slopes and 50 feet for the fill slopes.

1819 - The Purchaser shall notify the Authorized Officer at least 3 days in advance of date he intends to commence the specified soil stabilization work.

1821 - Mulch that collects at the end of culverts or accumulates to excessive depths on the slopes shall be evenly spread by hand methods, as directed by the Authorized Officer.

1824 - Twine, rope, sacks, and other debris resulting from the soil-stabilization operation shall be picked up and disposed of to the satisfaction of the Authorized Officer.

TIMBER SALE ROAD SPECIFICATIONS

ROADSIDE BRUSHING - 2100

*2101 - This work shall consist of the removal of vegetation from the road prism - variable distance, and inside curves in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the Roadside Brushing Detail Sheet of this exhibit, and at designated locations as shown in the plans.

*2102 - Roadside brushing may be performed mechanically with self-powered, self-propelled equipment and/or manually with hand tools, including chain saws.

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

2103a - Vegetation shall be cut and removed from the roadbed between the outside shoulders and the ditch centerline and such vegetation shall be cut to a maximum height of 2 inches above the ground and running surface. Limbs below the 2 inch area will be severed from the trunk. Sharp pointed ends will not be permitted. Cuts shall be parallel to the ground line or running surface.

2104 - Trees in excess of 6 inches in diameter at D.B.H.O.B shall be limbed, so that no limbs extend into the treated area or over the roadbed to a height of 14 feet above the running surface of the roadway on cut and fill slopes, within the road prism-variable distance. Limbs shall be cut to within 1 inch of the trunk to produce a smooth vertical face. Removal of trees larger than 6 inches in diameter for sight distance or safety may be directed by the Authorized Officer.

2105 - Vegetation that is outside of the road prism-variable distance that protrudes into the road prism and within 12 feet in elevation above the running surface shall be cut, to within 1 inch of the trunk to produce a smooth vertical face.

2106 - Vegetation capable of growing 1 foot in height or higher shall be cut, within the road prism-variable distance or as directed by the Authorized Officer.

TIMBER SALE ROAD SPECIFICATIONS

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

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

2109 - Debris resulting from this operation shall be scattered downslope from the roadway. Debris shall not be allowed to accumulate in concentrations or be placed against trees. Debris in excess of 1 foot in length and ½ inch in diameter shall not be allowed to remain on cut slopes, ditches, roadways or water courses, or as directed by the Authorized Officer.

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

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

T 28 S R 11W

T 28 S R 10W

T 29 S R 11W

T 29 S R 10W

AREA OF DETAIL SEE SHEET NO. 6

AREA OF DETAIL SEE SHEET NO. 4

AREA OF DETAIL SEE SHEET NO. 5

AREA OF DETAIL SEE SHEET NO. 3

AREA OF DETAIL SEE SHEET NO. 2

N

JUNCTION
MP 30.10 HWY 42
MP 00.00 BIG CREEK ROAD

ORC04-TS-2023.0032
BROWNSON FALLS CT
EXHIBIT D

SHEET NO.	CONTENTS
1	TITLE SHEET
2-6	WORK LOCATION MAPS
7-8	ESTIMATE OF QUANTITIES
9	BARRIER & EROSION CONTROL DETAILS
10-23	ROAD MAINTENANCE SPECIFICATIONS

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

ORC04-TS-2023.0032
BROWNSON FALLS CT
TITLE SHEET

PREPARED J. AGUILAR
REVIEWED A. PETRAUSKI
APPROVED V. LENHARTZEN

DRAWN JAA | SCALE NONE
DATE 04/2023 | SHEET 1 OF 23

4/25/2023 10:57:26 AM

T
29 R 11 W
S

16

15

17

20

21

22

PRIVATE BLM

PRIVATE

29-11-15.0

29-11-15.0

29-11-15.0

-15.1

-22.0

PRIVATE

BLM BLM

29-11-22.0

29-11-21.2

29-11-21.2

JUNCTION
MP 2.26 (BIG CRK RD)
MP 0.00 (-22.0)

BIG CREEK ROAD

N

EXHIBIT D

LEGEND

- ROAD OWNER MAINTAINED-BLM ROAD
- OPERATOR MAINTAINED-BLM ROAD
- OPERATOR MAINTAINED-PRVT ROAD
- EXISTING ROAD
- PAVED ROAD
- LANDING
- BRIDGE
- GATE
- ROAD SEGMENT
- MILEPOST — MP
- STATION — STA
- BARRIER
- AREA DISPLAYED ON MULTIPLE WORK LOCATION MAPS

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

ORC04-TS-2023.0032
BROWNSON FALLS CT
EXHIBIT D WORK LOCATION MAP

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 2 OF 23

4/25/2023 10:57:32 AM

EXHIBIT D

LEGEND

- ROAD OWNER MAINTAINED–BLM ROAD
- OPERATOR MAINTAINED–BLM ROAD
- OPERATOR MAINTAINED–PRVT ROAD
- EXISTING ROAD
- PAVED ROAD
- LANDING
- BRIDGE
- GATE
- ROAD SEGMENT
- MILEPOST — MP
- STATION — STA
- BARRIER
- AREA DISPLAYED ON MULTIPLE WORK LOCATION MAPS

MAINTENANCE ROCK:

900 CY 1.5–0" CRUSHED AGGREGATE ALLOCATED FOR ROADS WITH SAME SURFACING.

200 CY 3–0" CRUSHED AGGREGATE ALLOCATED FOR ROADS WITH SAME SURFACING, PURCHASER SELECT LANDINGS, AND OPERATIONAL AREAS APPROVED BY AUTHORIZED OFFICER.

9 10 14 15 16

T 29 S R 11 W

BLM PRIVATE

29-11-15.1 29-11-10.2 29-11-22.0 29-11-15.0

-9.1 -15.2 -15.9 -10.4 -15.8 -15.3 -15.5 -15.1 -22.0

STA 1+00 29-11-10.4 STA 1+00

N

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4/25/2023 10:57:37 AM

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BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT – OREGON

ORC04–TS–2023.0032
BROWNSON FALLS CT
EXHIBIT D WORK LOCATION MAP

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 3 OF 23

MAINTENANCE ROCK:

900 CY 1.5–0" CRUSHED AGGREGATE ALLOCATED FOR ROADS WITH SAME SURFACING.

200 CY 3–0" CRUSHED AGGREGATE ALLOCATED FOR ROADS WITH SAME SURFACING, PURCHASER SELECT LANDINGS, AND OPERATIONAL AREAS APPROVED BY AUTHORIZED OFFICER.

T 29 R 11 W S

PRIVATE BLM

29-11-10.0C
STA 0+50

29-11-9.7
STA 0+50

29-11-9.0
STA 1+00

29-11-9.8

29-11-9.2

29-11-10.0 A

29-11-29.1

4-WAY JUNCTION
MP 0.10 (–11.0 B)
MP 0.00 (–10.0)
STA 0+00 (–10.6)
28-11-29.1

29-11-11.0

29-11-22.0

29-11-15.1

29-11-10.2

–10.0 C

–10.0 B

–10.0 A

–9.4

–9.6

–15.1

–11.0 B

–10.6

–9.1

–15.2

8

9

10

BLM BLM

PRIVATE

EXHIBIT D

LEGEND

ROAD OWNER MAINTAINED–BLM ROAD	
OPERATOR MAINTAINED–BLM ROAD	
OPERATOR MAINTAINED–PRVT ROAD	
EXISTING ROAD	
PAVED ROAD	
LANDING	
BRIDGE	
GATE	
ROAD SEGMENT	
MILEPOST	MP
STATION	STA
BARRIER	
AREA DISPLAYED ON MULTIPLE WORK LOCATION MAPS	

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

ORC04–TS–2023.0032
BROWNSON FALLS CT
EXHIBIT D WORK LOCATION MAP

PREPARED J. AGUILAR
REVIEWED A. PETRAUSKI
APPROVED V. LENHARTZEN

DRAWN JAA | SCALE NONE
DATE 04/2023 | SHEET 4 OF 23

4/25/2023 10:57:42 AM

T 29 S R 11W

T 29 S R 10 W

R 11 W

N

29-11-1.6

29-11-1.7

29-11-1.5

SPUR 8A

STA 24+30

STA 24+30

BLM BLM

PRIVATE PRIVATE

29-11-1.1 B

29-11-11.1

MP 0.58

-11.4 B

29-11-11.4 A

29-11-11.4 A

JUNCTION
MP 1.16 (-11.4 B)
STA 0+00 (-11.6)

PRIVATE GATE
MP 0.03

BLM

PRIVATE

-11.0

JUNCTION
MP 0.44 (-11.0 A)
MP 0.00 (-11.1)

29-11-11.0 A

BLM PRIVATE

JUNCTION
MP 4.20 (BIG CRK RD)
MP 0.00 (-11.0 A)

11

12

6

EXHIBIT D

LEGEND

- ROAD OWNER MAINTAINED-BLM ROAD
- OPERATOR MAINTAINED-BLM ROAD
- OPERATOR MAINTAINED-PRVT ROAD
- EXISTING ROAD
- PAVED ROAD
- LANDING
- BRIDGE
- GATE
- ROAD SEGMENT
- MILEPOST — MP
- STATION — STA
- BARRIER
- AREA DISPLAYED ON MULTIPLE WORK LOCATION MAPS

MAINTENANCE ROCK:

900 CY 1.5-0" CRUSHED AGGREGATE ALLOCATED FOR ROADS WITH SAME SURFACING.

200 CY 3-0" CRUSHED AGGREGATE ALLOCATED FOR ROADS WITH SAME SURFACING, PURCHASER SELECT LANDINGS, AND OPERATIONAL AREAS APPROVED BY AUTHORIZED OFFICER.

PRIVATE

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BIG CREEK ROAD

29-11-28.0

MP 5.40 (BIG CRK
MP 0.00 (-28.0)

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

ORC04-TS-2023.0032
BROWNSON FALLS CT
EXHIBIT D WORK LOCATION MAP

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 5 OF 23

4/25/2023 10:57:47 AM

EXHIBIT D

LEGEND

- ROAD OWNER MAINTAINED–BLM ROAD
- OPERATOR MAINTAINED–BLM ROAD
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N

MAINTENANCE ROCK:

900 CY 1.5–0" CRUSHED AGGREGATE ALLOCATED FOR ROADS WITH SAME SURFACING.

200 CY 3–0" CRUSHED AGGREGATE ALLOCATED FOR ROADS WITH SAME SURFACING, PURCHASER SELECT LANDINGS, AND OPERATIONAL AREAS APPROVED BY AUTHORIZED OFFICER.

T 29 S R 11W

T 28 S R 10 W

1

PRIVATE

29–11–1.0

29–11–1.10
STA 0+50

STA 27+00

31

–1.0

JUNCTION
STA 31+50 (–1.0)
STA 0+00 (–31.7)

29–11–1.3

–1.2

–1.9

–1.8

–1.1 A1

–1.4

STA 1+50

BLM BLM

29–11–28.0

29–11–1.8
STA 0+50

–1.1 A2

29–11–1.1
STA 9+50

29–11–1.6

29–11–1.7

29–11–1.5

SPUR 8A

STA 24+30

STA 24+30

BLM BLM

PRIVATE PRIVATE

29–11–1.1 B

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

ORC04–TS–2023.0032
BROWNSON FALLS CT
EXHIBIT D WORK LOCATION MAP

PREPARED	J. AGUILAR
REVIEWED	A. PETRAUSKI
APPROVED	V. LENHARTZEN
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 6 OF 23

4/25/2023 10:57:52 AM

ROAD NUMBER	SURFACING (*1, *2)		OTHER (*1)				
	3-0" MAINT. ROCK (*3, 4)	1.5-0" MAINT. ROCK (*6)	WATER BAR	CULVERT REMOVAL	EARTHEN BARRIER	RIP RAP BARRIER (*9)	SOIL STABILIZATION DRY
SECTION NO..	1000	1200	3400	3400	3400	1400	1800
UNITS	C.Y.	C.Y.	ROAD	EA	EA.	C.Y.	ACRES
28-10-31.7							
29-11-1.0						20	
29-11-1.1					2		
29-11-1.2							
29-11-1.3							
29-11-1.4	NATIVE				1		
29-11-1.5							
29-11-1.6							
29-11-1.7							
29-11-1.8				1	1		
29-11-1.9							
29-11-1.10					1		
29-11-9.0					1		
29-11-9.1							
29-11-9.4							
29-11-9.7	NATIVE				1		
29-11-9.8							
29-11-10.0				3	1		
29-11-10.2							
29-11-10.4					1		
29-11-10.6							
29-11-11.0							
29-11-11.1							
29-11-11.4							
PROJECT TOTALS:	200	900	25	4	10	20	3

*1 FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.
*2 ALL ROCK QUANTITIES ARE TRUCK MEASUREMENT (LOOSE).
*3 BASE COURSE ROCK MAY BE ALLOCATED TO PURCHASER SELECT LANDINGS AND ADJACENT OPERATIONAL AREAS APPROVED BY AUTHORIZED OFFICER.

TREATMENT ALLOCATED TO ROAD.

*NOTE			
*	SECTION	GRADE	SIZE
4	1000	A	3–0"
5	1000	I	6–0"
6	1200	C	1.5–0"
7	1200	E1	0.75–0"
8	1400	CLASS 3	27–8"
9	1400	CLASS 4	33–9"
10	2600	ODOT LEVEL III ASPHALT	1/2" DENSE PG–64–22

ESTIMATE OF QUANTITIES (*1)

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

ORC04–TS–2023.0032
BROWNSON FALLS CT
EXHIBIT D ESTIMATE OF QUANTITIES

DESIGNED J. AGUILAR
REVIEWED A. PETRAUSKI
APPROVED V. LENHARTZEN

DRAWN JAA | SCALE NONE
DATE 04/2023 | SHEET 7 OF 23

4/25/2023 11:45:09 AM

ROAD NUMBER	SURFACING (*1, *2)		OTHER (*1)				
	3-0" MAINT. ROCK (*3, 4)	1.5-0" MAINT. ROCK (*6)	WATER BAR	CULVERT REMOVAL	EARTHEN BARRIER	RIP RAP BARRIER (*9)	SOIL STABILIZATION DRY
SECTION NO..	1000	1200	3400	3400	3400	1400	1800
UNITS	C.Y.	C.Y.	ROAD	EA	EA.	C.Y.	ACRES
29-11-11.6	NATIVE						
29-11-15.0							
29-11-15.1							
29-11-15.2					1		
29-11-15.3							
29-11-15.8							
29-11-15.9							
29-11-21.2							
29-11-22.0							
SPUR 8A	NATIVE						
PROJECT TOTALS:	200	900	25	4	10	20	3

*1 FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.
*2 ALL ROCK QUANTITIES ARE TRUCK MEASUREMENT (LOOSE).
*3 BASE COURSE ROCK MAY BE ALLOCATED TO PURCHASER SELECT LANDINGS AND ADJACENT OPERATIONAL AREAS APPROVED BY AUTHORIZED OFFICER.

TREATMENT ALLOCATED TO ROAD.

*NOTE			
*	SECTION	GRADE	SIZE
4	1000	A	3–0"
5	1000	I	6–0"
6	1200	C	1.5–0"
7	1200	E1	0.75–0"
8	1400	CLASS 3	27–8"
9	1400	CLASS 4	33–9"
10	2600	ODOT LEVEL III ASPHALT	1/2" DENSE PG–64–22

ESTIMATE OF QUANTITIES (*1)

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

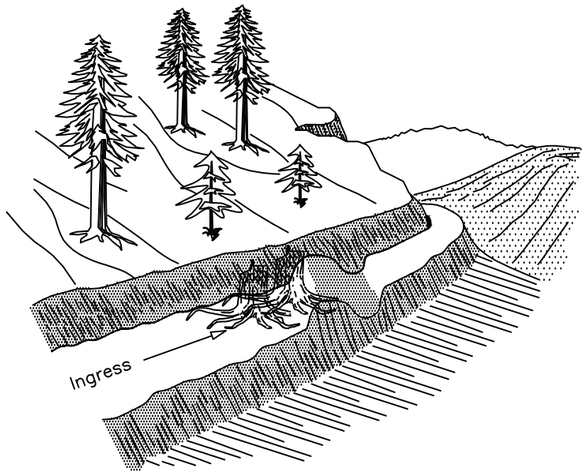
ORC04–TS–2023.0032
BROWNSON FALLS CT
EXHIBIT D ESTIMATE OF QUANTITIES

DESIGNED J. AGUILAR
REVIEWED A. PETRAUSKI
APPROVED V. LENHARTZEN

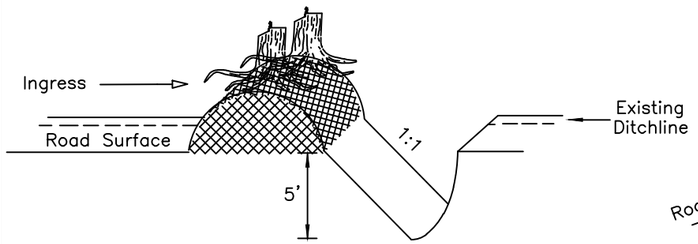
DRAWN JAA | SCALE NONE
DATE 04/2023 | SHEET 8 OF 23

4/25/2023 11:45:41 AM

EXHIBIT D



EARTHEN BERM BARRIER



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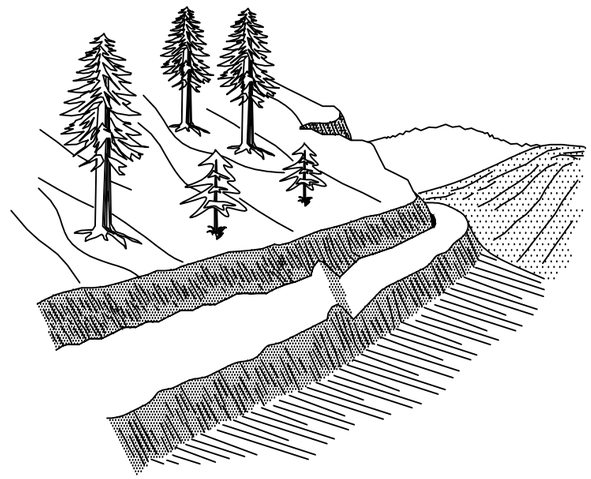
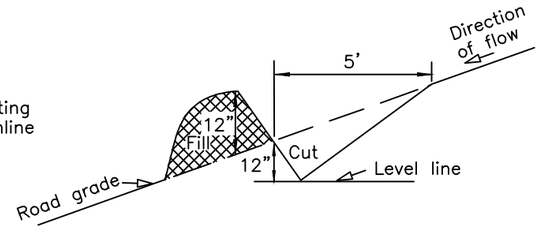


WATER BAR



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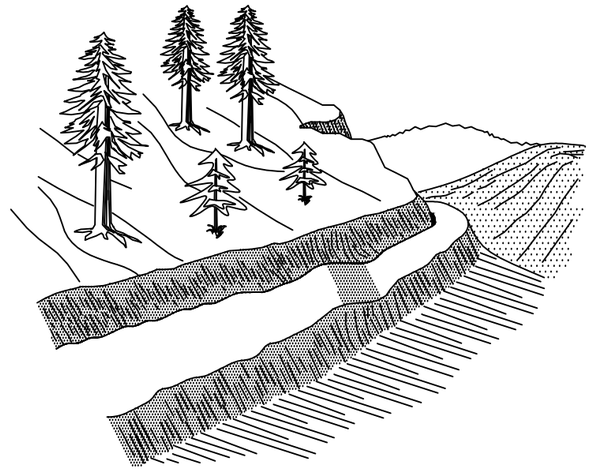
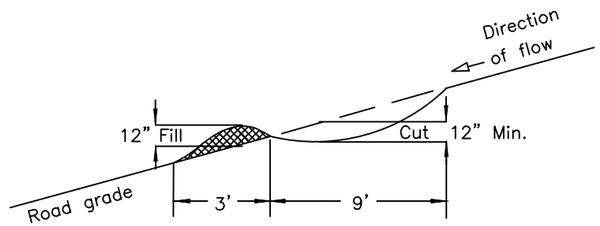


WATER DIP

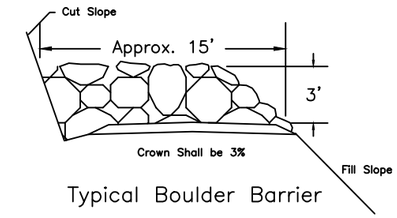


(NOT TO SCALE)

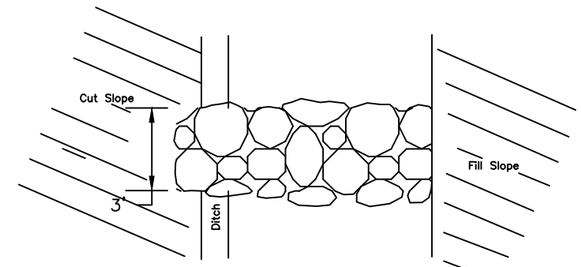
WATER DIP/BAR SPACING

ROAD GRADE	Road Class	
	Maximum Spacing (in feet)	
%	Natural	Rocked
3-5	200	400
6-10	150	300
11-15	100	200
16-20	75	150
21-35	50	100
36+	50	50

* ON GRADES IN EXCESS OF 14% CONSTRUCT WATER BARS.



Typical Boulder Barrier

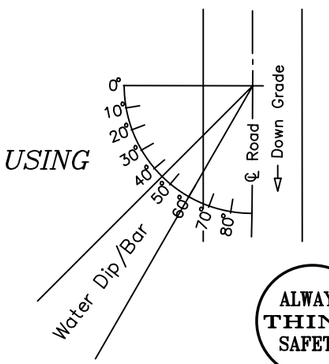


Plan View Boulder Barrier

NOTES

1. *ALL BARRIERS, WATER BARS, AND WATER DIPS AS REQUIRED SHALL BE CONSTRUCTED AS SHOWN.*
2. *LOCATIONS WILL BE AS DIRECTED BY THE AUTHORIZED OFFICER PRIOR TO CONSTRUCTION.*
3. *ALL WATER DIPS AND WATER BARS SHALL BE SKEWED 45° – 60°.*
4. *INVERT GRADE OF WATER DIPS AND WATER BARS SHALL BE OUTSLOPED A MINIMUM OF 2–5%.*
5. *ALL WATER BARS AND WATER DIPS SHALL BE CUT INTO THE ROADBED FROM THE DITCHLINE.*
6. *DITCHLINES SHALL BE BLOCKED WITH EXCAVATED MATERIAL (DITCH DAM) DOWNGRADE FROM ALL WATER BARS AND WATER DIPS.*
7. *EXCAVATED MATERIAL FROM BARRIER TRENCH (TANK TRAP) SHALL BE PLACED ON THE SIDE NEAREST THE BEGINNING OF THE ROAD.*
8. *ALL BERMS INCLUDING WATER BARS, WATER DIPS, AND EARTHEN BARRIERS SHALL BE COMPACTED TO 85% OF MAXIMUM DENSITY.*
9. *RIP RAP BARRIERS SHALL BE AT LEAST 3' HIGH, 3' DEEP, AND OF SUFFICIENT WIDTH TO COMPLETELY BLOCK THE ROADWAY AND ANY ADJACENT SHOULDERS THAT CAN BE TRAVELED WITH A VEHICLE.*
10. *RIP RAP BARRIERS SHALL BE CONSTRUCTED USING A MINIMUM OF 20 CY OF RIP RAP.*
11. *RIP RAP SHALL BE DURABLE (NOT LESS THAN 50 AS DETERMINED BY AASHTO T210), AND RANGE FROM 28"–34" IN DIAMETER.*

SKEW DIAGRAM



ALWAYS THINK SAFETY

U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT – OREGON	
ORC04–TS–2023.0032 BROWNSON FALLS CT BARRIER & EROSION CONTROL DETAILS	
DESIGNED J. AGUILAR	
REVIEWED A. PETRAUSKI	
APPROVED V. LENHARTZEN	
DRAWN JAA	SCALE NONE
DATE 04/2023	SHEET 9 OF 23

4/25/2023 8:25:30 AM

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	DESCRIPTION
3000	General
3100	Operational Maintenance
3200	Seasonal Maintenance
3300	Final Maintenance
3400	Other Maintenance
3500	Decommissioning

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 **200 CY of 3-0"** crushed aggregate base course and **900 CY of 1.5-0"** crushed aggregate surfacing, conforming to the requirements in Sections 1000 and 1200 of Exhibit C of this contract, on the roadway at locations and in the amounts designated by the Authorized Officer.

This 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, and spread by use of dump trucks, water trucks, motor patrol grader, and compacted by roller compactor.

3103 The Purchaser shall maintain established berms and place additional berms using adjacent material where needed to protect fills as directed by the Authorized Officer.

3104 The Purchaser shall perform other road cleanup including removal of debris, fallen timber, bank slough, and slides which can practicably be accomplished by a motor patrol grader, rubber-tired front-end bucket loader, rubber-tired backhoe or comparable equipment, and by the use of hand tools.

3104a Removal of bank slough and slide material includes placement of material at the nearest suitable turnout or disposal site where material cannot erode into streams, lakes, or reservoirs or cause undue damage to road fill slopes which have been planted or mulched to control soil erosion.

3104b The Purchaser shall be responsible for removal of all slides or slough, up to fifteen (15) station yards in quantity*, at any one site. This work includes unlimited multiple sites on all roads required to be maintained by the Purchaser.

Prior to removal of any slough or slide material exceeding fifteen (15) station yards at any

one site, the Purchaser and the Authorized Officer or their Authorized Representatives shall agree in writing, in the field, to the quantity of material, method of disposal, and the disposal site. Work may commence immediately after agreement.

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

** NOTE: One station yard is 1 cubic yard of material moved 100' i.e., 15 station yards is 15 CY moved 100' or 30 CY moved 50'.*

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

3106 The Purchaser shall be responsible for repair and replacement of all materials eroded from road shoulders and fill slopes, up to fifteen (15) station yards in quantity, at any one site. The work includes unlimited multiple sites on all roads required to be maintained by the Purchaser. Prior to repair and replacement of eroded material exceeding fifteen (15) station yards at any one site, the Purchaser and the Authorized Officer or their Authorized Representatives shall agree in writing, in the field, to the quantity of material, borrow source, and method of repair. Work may commence immediately after agreement.

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

3107 The Purchaser shall cut or trim trees and brush which obstructs vision or prevents the safe passage of traffic along the traveled way, when directed by the Authorized Officer.

The Purchaser shall also cut trees or brush encroaching on the road prism that are a result of his activities or winter damage during the contract period. Disposal of such vegetative material shall be by scattering below the road in accordance with Section 2100 and as directed by Authorized Officer.

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

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

SEASONAL MAINTENANCE - 3200

3201 The Purchaser shall perform preventive maintenance at the end of Purchaser's hauling each season and during non-hauling periods which occur between other operations on the contract area. This includes cross ditching, blockage, removing ruts or other surface irregularities, and all other requirements specified in Section 3100.

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

3203 The Purchaser shall complete road cleanup and maintenance, as specified in Section 3100, at the completion of logging operations on any road(s) located in an area separate from the area where logging activities will resume.

3204 The Purchaser shall be responsible for performing post storm inspections and maintenance during the winter season to minimize erosion and potential road or watershed damage.

FINAL MAINTENANCE - 3300

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

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

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

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

OTHER MAINTENANCE - 3400

3401 The Purchaser shall repair any damage to road surfaces that was specified under

Subsections 3108 and 3108a. This repair includes restoring the roadway to the designed standard and replacement of surfacing with approved surface material. This repair is not limited to use of equipment specified in Subsection 3104.

3402 The Purchaser shall be permitted to remove ice and snow from roads authorized for use under this contract only when prior written approval has been secured from the Authorized Officer. The Purchaser shall submit a written request for permission to remove ice and snow in advance of the date operations are to begin.

3420 The Purchaser shall perform the following work:

Road No.	Roadwork

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

NOTE: Any water bars, earthen berm barriers, and boulder barriers shall be constructed in accordance with Barrier and Erosion Control Details.

28-10-31.7 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize maintenance rock in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished with placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-1.0 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize maintenance rock in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

~ Construct rip rap barrier as directed by the Authorized Officer. 20 CY Class 4 rip rap allocated to construct barrier.

29-11-1.1 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize maintenance rock, in accordance with Section 1000, and 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

~ Construct two (2) earthen berm barrier as directed by the Authorized Officer. Seed and mulch earthen berm barrier in accordance with Section 1800 of the Exhibit C.

29-11-1.2 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0” maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-1.3 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0” maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-1.4 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

~ Construct an earthen berm barrier as directed by the Authorized Officer. Seed and mulch earthen berm barrier in accordance with Section 1800 of the Exhibit C.

29-11-1.5 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0" maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-1.6 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0" maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-1.7 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0" maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-1.8 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0" maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~ Remove culvert at station 0+00 in accordance with Sections 500 of the Exhibit C.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

~ Construct an earthen berm barrier as directed by the Authorized Officer. Seed and mulch earthen berm barrier in accordance with Section 1800 of the Exhibit C.

29-11-1.9 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0" maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-1.10 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0" maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

~ Construct an earthen berm barrier as directed by the Authorized Officer. Seed and mulch earthen berm barrier in accordance with Section 1800 of the Exhibit C.

29-11-9.0 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize maintenance rock, in accordance with Section 1000, and 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

~ Construct an earthen berm barrier as directed by the Authorized Officer. Seed and mulch earthen berm barrier in accordance with Section 1800 of the Exhibit C.

29-11-9.1 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0” maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-9.4 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0” maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-9.7 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

~ Construct an earthen berm barrier as directed by the Authorized Officer. Seed and mulch earthen berm barrier in accordance with Section 1800 of the Exhibit C.

29-11-9.8 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0" maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-10.0 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 1.5-0" maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~ Remove 3 temporary cross drain culverts located on road segment C in accordance with Sections 500 of the Exhibit C.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

~ Construct an earthen berm barrier as directed by the Authorized Officer. Seed and mulch earthen berm barrier in accordance with Section 1800 of the Exhibit C

29-11-10.2 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0" maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-10.4 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0" maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

~ Construct an earthen berm barrier as directed by the Authorized Officer. Seed and mulch earthen berm barrier in accordance with Section 1800 of the Exhibit C.

29-11-10.6 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0" maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-11.0B **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize maintenance rock in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Protection of exposed surfaces shall be accomplished with placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-11.1 ~Protection of exposed surfaces shall be accomplished with placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-11.4 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0” maintenance rock, in accordance with Section 1200 of the Exhibit C Minimum 20 CY maintenance rock allocated to segment B in lieu of rockwear fees. Other quantities and locations will be determined by the Authorized Officer.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer

29-11-11.6 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-15.0 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0” maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-15.1 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0” maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-15.2 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 1.5-0” maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

~ Construct an earthen berm barrier as directed by the Authorized Officer. Seed and mulch earthen berm barrier in accordance with Section 1800 of the Exhibit C

29-11-15.3 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0” maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-15.8 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0” maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-15.9 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Utilize 3-0” maintenance rock, in accordance with Section 1000 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-21.2 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0" maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

29-11-22.0 **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~ Utilize 1.5-0" maintenance rock, in accordance with Section 1200 of the Exhibit C. Quantities and locations will be determined by the Authorized Officer.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

SPUR 8A **~** Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.

~ Upon completion of all logging activities, decommission landings at the direction of the Authorized Officer.

~Install water bars at the direction of the Authorized Officer. No water bar will be installed closer than 50 feet to a draw crossing.

~Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800, these specifications, as shown in the plans or at direction of the Authorized Officer.

Sale: Brownson Falls CT
Sale Date:
Prep. By : J. Aguilar
Tract No: 2023.0032

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ROAD MAINTENANCE AND ROAD USE APPRAISAL WORK SHEET

Summary of Costs

Purchaser Maintenance Allowances:

(5.2A) Move In	$2,105.00
(5.2B) Culverts, Catch Basins, Downspouts	$2,904.00
(5.2C) Grading, Ditching	$12,096.77
(5.2F) Surface Repair (Aggregate)	$35,971.20
(5.2G) Other	$14,600.00
(5.2H) Decommissioning	$3,519.58
Total Cost =	$71,196.55

Move In

Equipment	No Units	Move x	Cost/ in x	Dist 50 Mi	Sub- x Factor	= total
Motor Grader:	1	1		528	1.00	$528.00
Back Hoe:	1	1		392	1.00	$392.00
Loader:				528	0.63	$0.00
Water Truck:	1	1		129	1.00	$129.00
Dump Truck:				121	0.63	$0.00
Excavator:	1	1		528	1.00	$528.00
Roller:	1	1		528	1.00	$528.00

(5.2A) Total $2,105.00

Culvert Maintenance - Including Catch basins and Downpipes

Type CMP	No CMPS	x Cost/CMP	= Subtotal
Minor Cleaning	40	$72.60	$2,904.00

(5.2B) Total $2,904.00

Grading (Includes Ditches and Shoulders)

Miles	x Cost/Mi	x Freq	= Subtotal
Blade w/ Ditch: 14.00	849.24	1	$11,889.36
Blade w/o Ditch: 0.40	518.52	1	$207.41

(5.2C) Total $12,096.77

Surface Repair (Aggregate)

Quarry / Source Name: Kincheloe1.5-0" Spot					
Production Cost:	900.0 CY x $16.52/CY				= 14,868.00
Haul to Stockpile:					
Grades > 15%	900.0 CY x (($2.37/CY x	2.00 Mi)	+ $0.79)		= $4,977.00
Grades <= 15%	900.0 CY x (($1.19/CY x	2.00 Mi)	+ $0.79)		= $2,853.00
State / Co Roads	900.0 CY x (($0.53/CY x	6.50 Mi)	+ $0.79)		= $3,811.50
Process with Grader:	1100.0 CY x $1.09/CY				= $1,199.00
Compaction:	1100.0 CY x $1.25/CY				= $1,375.00
				SubTotal	$29,083.50

Quarry / Source Name: Kincheloe 3-0" Spot					
Production Cost:	200.0 CY x $16.10/CY				= $3,220.00
Haul to Stockpile:					
Grades > 15%	200.0 CY x (($2.37/CY x	2.00 Mi)	+ $0.79)		= $1,106.00
Grades <= 15%	200.0 CY x (($1.19/CY x	2.00 Mi)	+ $0.79)		= $634.00
State / Co Roads	200.0 CY x (($0.53/CY x	6.50 Mi)	+ $0.79)		= $847.00
Process with Grader:	100.0 CY x $1.09/CY				= $109.00
Compaction:	100.0 CY x $1.25/CY				= $125.00
				SubTotal	$6,041.00

Quarry / Source Name: Kincheloe Class 4 RR					
Production Cost:	20.0 CY x $29.40/CY				= $588.00
Haul to Stockpile:					
Grades > 15%	20.0 CY x (($2.37/CY x	2.00 Mi)	+ $0.79)		= $110.60
Grades <= 15%	20.0 CY x (($1.19/CY x	2.00 Mi)	+ $0.79)		= $63.40
State / Co Roads	20.0 CY x (($0.53/CY x	6.50 Mi)	+ $0.79)		= $84.70
				SubTotal	$846.70

(5.2F) Total $35,971.20

Other

WITH IN TS MOBILIZATION	Lump Sum	=$2,000.00
SOIL STABILIZATION	Lump Sum	=$2,400.00
WATER BARS PER SECTION 3400	Lump Sum	=$8,000.00
WATER HAUL - MAINT. ROCK	Lump Sum	=$2,200.00

(5.2G) Total $14,600.00

Decommissioning

Pipe Removal

Road Number	Qty Ditch Pipes	Cyd < 15' Fill	Cyd > 15' Fill	Qty Hauling	= Total
29-11-1.8 C	(1x120.5)	+ (0x3.45)	+ (0x5.46)	+ (1x90.22)	= $210.72
29-11-10.0C R	(3x120.5)	+ (0x3.45)	+ (0x5.46)	+ (3x90.22)	= $632.16

(Pipe Removal) Total $842.88

Other Costs

Road Number	Cubic Yds Pullback Material		Qty Waterbars*		Qty Earthen Barriers	= Total
29-11-1.1A2 I	(0x2.02)	+	(0x81.72)	+	(2x245.17)	= $490.34
29-11-1.10 I	(0x2.02)	+	(0x81.72)	+	(1x245.17)	= $245.17
29-11-1.4 R	(0x2.02)	+	(0x81.72)	+	(1x245.17)	= $245.17
29-11-1.8 C	(0x2.02)	+	(0x81.72)	+	(1x245.17)	= $245.17
29-11-10.0C R	(0x2.02)	+	(0x81.72)	+	(1x245.17)	= $245.17
29-11-10.4A I	(0x2.02)	+	(0x81.72)	+	(1x245.17)	= $245.17
29-11-15.2 R	(0x2.02)	+	(0x81.72)	+	(1x245.17)	= $245.17
29-11-9.7 R	(0x2.02)	+	(0x81.72)	+	(1x245.17)	= $245.17
29-11-9.0 R	(0x2.02)	+	(0x81.72)	+	(1x245.17)	= $245.17

(Other Cost) Total $2,451.70

*****INSTALL WATERBARS PER ROAD MAINTENACE SPECIFICATIONS SECTION 3400. LUMP SUM.

Time & Equipment

29-11-1.0 I RIP RAP BARRIER INSTALL - TIME AND EQUIPMENT: 1 EA @ $225.00/EA =$225.00

(5.2H) Decommissioning Total $3,519.58

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Version: 8.0.0.5

Summary of All Roads and Projects Updated: 11/4/2022

T.S. Contract Name: Brownson Falls CT Tract No: 2023.0032 Sale Date:
Prepared by: J. Aguilar Ph: 5417514397 Print Date: 4/22/2023 4:04:58 PM
Construction: 34.40 sta
Improve: 39.45 sta Renov: 686.64 sta Decom: 0.00 sta Temp: 0.00 sta

200 Clearing and Grubbing*****: 8.08 acres $27,151.79

300 Excavation: 5565 cy $33,018.21
Haul < 500 ft: 5700 sta-yds
Haul > 500 ft: 70 yd-mi

400 Drainage: $72,154.16
Culvert: 60.00 lf DownSpout: 0.00 lf
PolyPipe: 1,270.00 lf

500 Renovation*****: $66,502.40
Blading 25.87 mi
Slide removal, fill repair, ditch cleaning: 5,395.00 cy

700-1200 Surfacing: $184,099.70
Commercial Quarry Name: Kincheloe0.75"- Surf 128.00 LCY
Commercial Quarry Name: Kincheloe1.5-0" Spot 810.00 LCY
Commercial Quarry Name: Kincheloe 1.5"- Culv 210.00 LCY
Commercial Quarry Name: Kincheloe1.5-0" Surf 799.00 LCY
Commercial Quarry Name: Kincheloe 3-0" Spot 175.00 LCY
Commercial Quarry Name: Kincheloe 3-0" Surf 2,969.00 LCY
Commercial Quarry Name: Kincheloe Pit Run LR 1,610.00 LCY

1300 Geotextiles: $0.00

1400 Slope Protection: $1,645.38
Gradation Class 3: 10.00 cy
Gradation Class 4: 30.00 cy

1800 Soil Stabilization: 23.9 acres $19,739.08

1900 Cattleguards: $0.00

2100 RoadSide Brushing******: $10,890.68
Mechanical Brushing: 24.43 acres

2300 Engineering: 0.00 sta. $0.00

2400 Minor Concrete: $0.00

2500 Gabions: $0.00

8000 Miscellaneous: $0.00

Mobilization*******: Const. $12,871.00 TS unit to TS unit: $2,043.00..... $14,914.00

Quarry Development: $0.00

Total: = $430,115.37

Notes: Quantities shown are estimates only and not pay items.
Surfacing Quantities are loose cubic yards.
*****If not shown may be included in Section 300.
******If not shown may be included in Section 200.
*******Includes within timber sale mobilization w/lowboy.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 28-10-31.7 C Road Name:
Road Construction: 0.03 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.14 acres	$480.78
300 Excavation: Standard cy	$471.19
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$4,813.99
Quarry Name: Kincheloe0.75"- Surf 32.00 LCY	
Quarry Name: Kincheloe 3-0" Surf 74.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $181.21 Surf. $47.56	$228.78
Quarry Development:	$0.00
Total:	$6,074.50

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

Road Construction Worksheet

Road Number: 28-10-31.7 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.1 = 3.25
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.25 x Total Acres: 0.14 = $480.78

Subtotal: $480.78

Section 300 Excavation:
Excavation - Common: $2.53/cy x 50.00 cy = $126.50
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 600.00 cy = $222.00
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 1.5 sta = $46.77
Blading with ditch: $16.98/station x 1.50 stations = $25.47
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $471.19

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe0.75"- Surf
Comment: 4" LIFT SURFACE COURSE

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.03mi	12ft	13.3ft	4in	3%					

Rock Volume = 32.00 LCY
Purchase Price / Royalty: $19.60/LCY x 32.00 LCY = $627.20
Processing: $1.09/LCY x 32.00 LCY = $34.88
Compaction: $1.25/LCY x 32.00 LCY = $40.00
Basic Rock Haul cost: $0.79/LCY x 32.00 LCY = $25.28
Rock Haul +15% grades: $2.37/LCY-mi x 32.00 LCY x 0.80 mi= $60.67
Rock Haul -15% grades: $1.19/LCY-mi x 32.00 LCY x 2.70 mi= $102.82
Rock Haul St& Co Roads: $0.53/LCY-mi x 32.00 LCY x 7.50 mi= $127.20
Basic Water Haul cost: $0.77/LCY x 32.00 LCY = $24.64
Water Haul +15% grades: $0.34/LCY-mi x 32.00 LCY x 0.80 mi= $8.70
Water Haul -15% grades: $0.17/LCY-mi x 32.00 LCY x 2.70 mi= $14.69
Water Haul St&Co Roads: $0.10/LCY-mi x 32.00 LCY x 4.50 mi= $14.40

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT BASE COURSE

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.03mi	13.3ft	16ft	8in	3%					

Rock Volume = 74.00 LCY
Purchase Price / Royalty: $16.10/LCY x 74.00 LCY = $1,191.40
Processing: $1.09/LCY x 74.00 LCY = $80.66
Compaction: $1.25/LCY x 74.00 LCY = $92.50
Basic Rock Haul cost: $0.79/LCY x 74.00 LCY = $58.46
Rock Haul +15% grades: $2.37/LCY-mi x 74.00 LCY x 0.84 mi= $147.32
Rock Haul -15% grades: $1.19/LCY-mi x 74.00 LCY x 2.72 mi= $239.52
Rock Haul St& Co Roads: $0.53/LCY-mi x 74.00 LCY x 7.52 mi= $294.93
Basic Water Haul cost: $0.77/LCY x 74.00 LCY = $56.98
Water Haul +15% grades: $0.34/LCY-mi x 74.00 LCY x 0.84 mi= $21.13
Water Haul -15% grades: $0.17/LCY-mi x 74.00 LCY x 2.72 mi= $34.22
Water Haul St&Co Roads: $0.10/LCY-mi x 74.00 LCY x 4.50 mi= $33.30

Road Number: 28-10-31.7 C Continued

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.80 mi= $94.80
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.70 mi= $160.65
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 7.50 mi= $198.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.80 mi= $13.60
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.70 mi= $22.95
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 4.50 mi= $22.50
COMPACTION TEST - BASE / LIFT
Dump Truck 10 cy 1 hr x $100.89/hr = $100.89
COMPACTION TEST - SURF. COURSE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $4,813.99

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL
Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.41% of total Costs = $181.21
Surfacing - 2.33% by rock volume = $47.56

Subtotal: $228.78

Quarry Development:
Based on 2.33% of total rock volume

Subtotal: $0.00

Total: $6,074.50

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.0 I Road Name:
Road Improvement: 0.15 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.10 acres	$265.22
300 Excavation: Standard cy	$3,772.89
Haul < 500 ft: 5,250.00 sta-yds	
400 Drainage:	$3,178.32
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 68.00 lf	
500 Renovation:	$245.00
700-1200 Surfacing:	$9,997.77
Quarry Name: Kincheloe0.75"- Surf 96.00 LCY	
Quarry Name: Kincheloe 3-0" Surf 223.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.20 acres	$159.54
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $546.17 Surf. $97.26	$643.43
Quarry Development:	$0.00
Total:	$18,262.17

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

Road Construction Worksheet

Road Number: 29-11-1.0 I Road Name:

Section 200 Clearing and Grubbing:
Clearing - Light (Clearing): Adjustment Factor (0.93)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:0.93 + 0.2 + 1.28 + 0.1 = 2.51
Base Cost/Acre: $1,056.66 x Adjustment Factor: 2.51 x Total Acres: 0.1 = $265.22
Subtotal: $265.22

Section 300 Excavation:
Excavation - Common: $2.53/cy x 900.00 cy = $2,277.00
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 60.00 cy = $22.20
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 7.8 sta = $241.65
End Hauling - 100 to 500 ft: $0.20/sta-yd x 5,250.00 sta-yd = $1,050.00
Blading with ditch: $16.98/station x 7.75 stations = $131.60
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
Subtotal: $3,772.89

Section 400 Drainage:
Poly Pipe STA 27+50 RPLC XDRN 18 inch 34 lf x $46.74/lf = $1,589.16
Poly Pipe STA 30+50 NEW XDRN 18 inch 34 lf x $46.74/lf = $1,589.16
Subtotal: $3,178.32

Section 500 Renovation:
Comment: IMPROVEMENT INCLUDED IN SECTIONS 200 AND 300
RIP RAP BARRIER - REMOVE+STAGE
LUMP SUM = 1 LS x $245.00/LS = $245.00
Subtotal: $245.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe0.75"- Surf
Comment: 4" LIFT SURFACE COURSE

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.09mi	12ft	13.3ft	4in	3%					

Rock Volume = 96.00 LCY
Purchase Price / Royalty: $19.60/LCY x 96.00 LCY = $1,881.60
Processing: $1.09/LCY x 96.00 LCY = $104.64
Compaction: $1.25/LCY x 96.00 LCY = $120.00
Basic Rock Haul cost: $0.79/LCY x 96.00 LCY = $75.84
Rock Haul +15% grades: $2.37/LCY-mi x 96.00 LCY x 0.60 mi= $136.51
Rock Haul -15% grades: $1.19/LCY-mi x 96.00 LCY x 2.70 mi= $308.45
Rock Haul St& Co Roads: $0.53/LCY-mi x 96.00 LCY x 7.50 mi= $381.60
Basic Water Haul cost: $0.77/LCY x 96.00 LCY = $73.92
Water Haul +15% grades: $0.34/LCY-mi x 96.00 LCY x 0.60 mi= $19.58
Water Haul -15% grades: $0.17/LCY-mi x 96.00 LCY x 2.70 mi= $44.06
Water Haul St&Co Roads: $0.10/LCY-mi x 96.00 LCY x 7.50 mi= $72.00

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT BASE COURSE

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.09mi	13.3ft	16ft	8in	3%					

Rock Volume = 223.00 LCY
Purchase Price / Royalty: $16.10/LCY x 223.00 LCY = $3,590.30
Processing: $1.09/LCY x 223.00 LCY = $243.07
Compaction: $1.25/LCY x 223.00 LCY = $278.75
Basic Rock Haul cost: $0.79/LCY x 223.00 LCY = $176.17
Rock Haul +15% grades: $2.37/LCY-mi x 223.00 LCY x 0.60 mi= $317.11

Road Number: 29-11-1.0 I Continued

Rock Haul -15% grades: $1.19/LCY-mi x 223.00 LCY x 2.70 mi= $716.50
Rock Haul St& Co Roads: $0.53/LCY-mi x 223.00 LCY x 7.50 mi= $886.43
Basic Water Haul cost: $0.77/LCY x 223.00 LCY = $171.71
Water Haul +15% grades: $0.34/LCY-mi x 223.00 LCY x 0.60 mi= $45.49
Water Haul -15% grades: $0.17/LCY-mi x 223.00 LCY x 2.70 mi= $102.36
Water Haul St&Co Roads: $0.10/LCY-mi x 223.00 LCY x 4.50 mi= $100.35
COMPACTION TEST - BASE / LIFT
Dump Truck 10 cy 1 hr x $100.89/hr = $100.89
COMPACTION TEST - SURF COURSE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $9,997.77

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOILS AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.20 acres = $95.54
+ Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $159.54

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Comment: INCLUDED IN SECTION 200

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 4.24% of total Costs = $546.17
Surfacing - 4.76% by rock volume = $97.26

Subtotal: $643.43

Quarry Development:
Based on 4.76% of total rock volume

Subtotal: $0.00

Total: $18,262.17

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.0 R Road Name:
Road Renovation: 0.45 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.05 acres	$166.42
300 Excavation:	$578.76
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$2,383.01
Blading 0.90 mi	
Slide Removal 190.00 cy	
700-1200 Surfacing:	$3,653.28
Quarry Name: Kincheloe1.5-0" Spot 50.00 LCY	
Quarry Name: Kincheloe1.5-0" Surf 31.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 1.10 acres	$877.47
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):1.10 acres	$524.89
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $253.69 Surf. $39.94	$293.63
Quarry Development:	$0.00
Total:	$8,477.47

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

Road Construction Worksheet

Road Number: 29-11-1.0 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: 0.05 = $166.42

Subtotal: $166.42

Section 300 Excavation:
EXC+EMB 1 LDG
Tractor: D8 with winch 2 hr x $289.38/hr = $578.76

Subtotal: $578.76

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Comment: EXTREME GRADE-DITCH-SHAPE-BUNCH, FAILURE+DITCH SIDECAST
Slide Removal 190.00 cy
Front End Loader $100.66/hr x 3.00 hr = $301.98
Blading: $849.24/mi x 0.90 mi = $764.32
Scarification: $1037.04/mi x 0.45 mi = $466.67
Compaction: $374.13/mi x 0.45 mi = $168.36
Clean Culverts (ea): $72.60/ea x 8 ea = $580.80
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy 1 hr x $100.89/hr = $100.89

Subtotal: $2,383.01

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Spot
Comment: SPOT ROCK SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $16.52/LCY x 50.00 LCY = $826.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Compaction: $1.25/LCY x 50.00 LCY = $62.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.30 mi= $35.55
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.70 mi= $160.65
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 7.50 mi= $198.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.30 mi= $5.10
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.70 mi= $22.95
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 4.50 mi= $22.50

Commercial Quarry Name: Kincheloe1.5-0" Surf
Comment: MP 0.25 NEW 3" LIFT FOR 200'

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.04mi	12ft	13ft	3in	0%					

Rock Volume = 31.00 LCY
Purchase Price / Royalty: $16.52/LCY x 31.00 LCY = $512.12
Processing: $1.09/LCY x 31.00 LCY = $33.79
Compaction: $1.25/LCY x 31.00 LCY = $38.75
Basic Rock Haul cost: $0.79/LCY x 31.00 LCY = $24.49
Rock Haul +15% grades: $2.37/LCY-mi x 31.00 LCY x 0.30 mi= $22.04
Rock Haul -15% grades: $1.19/LCY-mi x 31.00 LCY x 2.70 mi= $99.60

Road Number: 29-11-1.0 R Continued

Rock Haul St& Co Roads: $0.53/LCY-mi x 31.00 LCY x 7.50 mi= $123.23
Basic Water Haul cost: $0.77/LCY x 31.00 LCY = $23.87
Water Haul +15% grades: $0.34/LCY-mi x 31.00 LCY x 0.30 mi= $3.16
Water Haul -15% grades: $0.17/LCY-mi x 31.00 LCY x 2.70 mi= $14.23
Water Haul St&Co Roads: $0.10/LCY-mi x 31.00 LCY x 4.50 mi= $13.95

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: MP 0.35 LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.40 mi= $47.40
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.70 mi= $160.65
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 7.50 mi= $198.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.40 mi= $6.80
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.70 mi= $22.95
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 4.50 mi= $22.50

Subtotal: $3,653.28

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOILS AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 1.10 acres = $525.47
+ Mulch Cost: $320.00/acre x 1.10 acres = $352.00

Subtotal: $877.47

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $262.45/acre x 0.20 acres = $52.49
RoadSide Brushing Medium: $437.41/acre x 0.60 acres = $262.45
RoadSide Brushing Heavy: $699.86/acre x 0.30 acres = $209.96

Subtotal: $524.89

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.97% of total Costs = $253.69
Surfacing - 1.95% by rock volume = $39.94

Road Number: 29-11-1.0 R Continued

Subtotal: $293.63

Quarry Development:
Based on 1.95% of total rock volume

Subtotal: $0.00

Total: $8,477.47

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.1 A1 R Road Name:
Road Renovation: 0.18 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$1,296.57
Blading 0.36 mi	
Slide Removal 75.00 cy	
700-1200 Surfacing:	$4,477.73
Quarry Name: Kincheloe1.5-0" Surf 156.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.44 acres	$350.99
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.44 acres	$201.21
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $196.12 Surf. $47.56	$243.68
Quarry Development:	$0.00
Total:	$6,570.17

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

Road Construction Worksheet

Road Number: 29-11-1.1 A1 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Comment: EXTREME GRADE-DITCH-SHAPE-BUNCH, FAILURE+DITCH SIDECAST
Slide Removal 75.00 cy
Front End Loader $100.66/hr x 1.50 hr = $150.99
Blading: $849.24/mi x 0.36 mi = $305.73
Scarification: $1037.04/mi x 0.18 mi = $186.67
Compaction: $374.13/mi x 0.18 mi = $67.34
Clean Culverts (ea): $72.60/ea x 4 ea = $290.40
EARTHEN BARRIER REMOVAL
LUMP SUM = 1 LS x $245.00/LS = $245.00
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $1,296.57

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Surf
Comment: NEW 3" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.18mi	12ft	13ft	3in	7%					

Rock Volume = 156.00 LCY
Purchase Price / Royalty: $16.52/LCY x 156.00 LCY = $2,577.12
Processing: $1.09/LCY x 156.00 LCY = $170.04
Compaction: $1.25/LCY x 156.00 LCY = $195.00
Basic Rock Haul cost: $0.79/LCY x 156.00 LCY = $123.24
Rock Haul +15% grades: $2.37/LCY-mi x 156.00 LCY x 0.10 mi= $36.97
Rock Haul -15% grades: $1.19/LCY-mi x 156.00 LCY x 2.40 mi= $445.54
Rock Haul St& Co Roads: $0.53/LCY-mi x 156.00 LCY x 7.50 mi= $620.10
Basic Water Haul cost: $0.77/LCY x 156.00 LCY = $120.12
Water Haul +15% grades: $0.34/LCY-mi x 156.00 LCY x 0.10 mi= $5.30
Water Haul -15% grades: $0.17/LCY-mi x 156.00 LCY x 2.40 mi= $63.65
Water Haul St&Co Roads: $0.10/LCY-mi x 156.00 LCY x 4.50 mi= $70.20
COMPACTION TEST - SURFACING
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $4,477.73

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.44 acres = $210.19
+ Mulch Cost: $320.00/acre x 0.44 acres = $140.80

Subtotal: $350.99

Section 1900 Cattleguards:

Road Number: 29-11-1.1 A1 R Continued

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $262.45/acre x 0.10 acres = $26.25
  RoadSide Brushing Medium: $437.41/acre x 0.24 acres = $104.98
  RoadSide Brushing Heavy: $699.86/acre x 0.10 acres = $69.99

Subtotal: $201.21

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 1.52% of total Costs = $196.12
  Surfacing - 2.33% by rock volume = $47.56

Subtotal: $243.68

Quarry Development:
  Based on 2.33% of total rock volume

Subtotal: $0.00

Total: $6,570.17

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.1 A2 I Road Name:
Road Improvement: 0.28 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.70 acres	$2,440.88
300 Excavation:	$0.00
400 Drainage:	$3,084.84
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 66.00 lf	
500 Renovation:	$1,416.10
Blading 0.56 mi	
700-1200 Surfacing:	$19,050.05
Quarry Name: Kincheloe 3-0" Surf 668.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.90 acres	$717.93
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $827.99 Surf. $203.66	$1,031.65
Quarry Development:	$0.00
Total:	$27,741.45

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

Road Construction Worksheet

Road Number: 29-11-1.1 A2 I Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
less than 20' (Avg Clearing Widths): Adjustment Factor (0.25)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.25 = 3.30
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.30 x Total Acres: 0.7 = $2,440.88
Subtotal: $2,440.88

Section 300 Excavation:
Subtotal: $0.00

Section 400 Drainage:
Poly Pipe STA 13+50 NEW XDRN 18 inch 34 lf x $46.74/lf = $1,589.16
Poly Pipe STA 23+00 NEW XDRN 18 inch 32 lf x $46.74/lf = $1,495.68
Subtotal: $3,084.84

Section 500 Renovation:
Comment: IMPROVEMENT
Blading: $849.24/mi x 0.56 mi = $475.57
Scarification: $1037.04/mi x 0.28 mi = $290.37
Compaction: $374.13/mi x 0.56 mi = $209.51
Clean Culverts (ea): $72.60/ea x 2 ea = $145.20
EARTHEN BARRIER REMOVAL
LUMP SUM = 1 LS x $245.00/LS = $245.00
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
Subtotal: $1,416.10

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8' LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.28mi	12ft	14.7ft	8in	3%					

Rock Volume = 668.00 LCY
Purchase Price / Royalty: $16.10/LCY x 668.00 LCY = $10,754.80
Processing: $1.09/LCY x 668.00 LCY = $728.12
Compaction: $1.25/LCY x 668.00 LCY = $835.00
Basic Rock Haul cost: $0.79/LCY x 668.00 LCY = $527.72
Rock Haul +15% grades: $2.37/LCY-mi x 668.00 LCY x 0.20 mi= $316.63
Rock Haul -15% grades: $1.19/LCY-mi x 668.00 LCY x 2.50 mi= $1,987.30
Rock Haul St& Co Roads: $0.53/LCY-mi x 668.00 LCY x 7.50 mi= $2,655.30
Basic Water Haul cost: $0.77/LCY x 668.00 LCY = $514.36
Water Haul +15% grades: $0.34/LCY-mi x 668.00 LCY x 0.20 mi= $45.42
Water Haul -15% grades: $0.17/LCY-mi x 668.00 LCY x 2.50 mi= $283.90
Water Haul St&Co Roads: $0.10/LCY-mi x 668.00 LCY x 4.50 mi= $300.60
COMPACTION TEST - SURF. / LIFT
Dump Truck 10 cy 1 hr x $100.89/hr = $100.89
Subtotal: $19,050.05

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:

Road Number: 29-11-1.1 A2 I Continued

Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.90 acres = $429.93
+ Mulch Cost: $320.00/acre x 0.90 acres = $288.00

Subtotal: $717.93

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Comment: INCLUDED IN SECTION 200
Brushing width Left: 0ft. Right: 0ft.
RoadSide Brushing Light: $262.45/acre x 0.00 acres = $0.00
RoadSide Brushing Medium: $437.41/acre x 0.00 acres = $0.00
RoadSide Brushing Heavy: $699.86/acre x 0.00 acres = $0.00

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 6.43% of total Costs = $827.99
Surfacing - 9.97% by rock volume = $203.66

Subtotal: $1,031.65

Quarry Development:
Based on 9.97% of total rock volume

Subtotal: $0.00

Total: $27,741.45

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.1 B R Road Name:
Road Renovation: 0.29 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$499.98
Blading 0.29 mi	
700-1200 Surfacing:	$1,283.92
Quarry Name: Kincheloe 3-0" Surf 44.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.25 acres	$119.43
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.70 acres	$183.72
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $64.70 Surf. $13.41	$78.11
Quarry Development:	$0.00
Total:	$2,165.15

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

Road Construction Worksheet

Road Number: 29-11-1.1 B R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
  Blading: $849.24/mi x 0.29 mi = $246.28
  Compaction: $374.13/mi x 0.29 mi = $108.50
  Clean Culverts (ea): $72.60/ea x 2 ea = $145.20

Subtotal: $499.98

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
 Comment: 8' LIFT SURFACING FOR 100'

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.02mi	12ft	14.7ft	8in	0%					

  Rock Volume = 44.00 LCY
  Purchase Price / Royalty: $16.10/LCY x 44.00 LCY = $708.40
  Processing: $1.09/LCY x 44.00 LCY = $47.96
  Compaction: $1.25/LCY x 44.00 LCY = $55.00
  Basic Rock Haul cost: $0.79/LCY x 44.00 LCY = $34.76
  Rock Haul +15% grades: $2.37/LCY-mi x 44.00 LCY x 0.50 mi= $52.14
  Rock Haul -15% grades: $1.19/LCY-mi x 44.00 LCY x 2.50 mi= $130.90
  Rock Haul St& Co Roads: $0.53/LCY-mi x 44.00 LCY x 7.50 mi= $174.90
  Basic Water Haul cost: $0.77/LCY x 44.00 LCY = $33.88
  Water Haul +15% grades: $0.34/LCY-mi x 44.00 LCY x 0.50 mi= $7.48
  Water Haul -15% grades: $0.17/LCY-mi x 44.00 LCY x 2.50 mi= $18.70
  Water Haul St&Co Roads: $0.10/LCY-mi x 44.00 LCY x 4.50 mi= $19.80

Subtotal: $1,283.92

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
 Comment: ALL EXPOSED SOIL AND WASTE AREAS
  Dry Method with Mulch: $477.70/acre x 0.25 acres = $119.43

Subtotal: $119.43

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $262.45/acre x 0.70 acres = $183.72

Subtotal: $183.72

Section 2300 Engineering:

Subtotal: $0.00

Road Number: 29-11-1.1 B R Continued

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.50% of total Costs = $64.70
  Surfacing - 0.66% by rock volume = $13.41

Subtotal: $78.11

Quarry Development:
  Based on 0.66% of total rock volume

Subtotal: $0.00

Total: $2,165.15

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.10 I Road Name:
Road Improvement: 0.03 mi 16 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.10 acres	$270.50
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$154.96
Blading 0.06 mi	
700-1200 Surfacing:	$3,323.29
Quarry Name: Kincheloe 3-0" Surf 69.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $118.68 Surf. $36.28	$154.96
Quarry Development:	$0.00
Total:	$3,983.48

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

Road Construction Worksheet

Road Number: 29-11-1.10 I Road Name:

Section 200 Clearing and Grubbing:
Clearing - Light (Clearing): Adjustment Factor (0.93)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
less than 20' (Avg Clearing Widths): Adjustment Factor (0.25)
Total Adjustment Factor:0.93 + 0.1 + 1.28 + 0.25 = 2.56
Base Cost/Acre: $1,056.66 x Adjustment Factor: 2.56 x Total Acres: .1 = $270.50

Subtotal: $270.50

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Comment: IMPROVEMENT
Blading: $849.24/mi x 0.06 mi = $50.95
Scarification: $1037.04/mi x 0.03 mi = $31.11
Compaction: $374.13/mi x 0.06 mi = $22.45
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $154.96

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.03mi	12ft	14.7ft	8in	0%					

Rock Volume = 69.00 LCY
Purchase Price / Royalty: $16.10/LCY x 69.00 LCY = $1,110.90
Processing: $1.09/LCY x 69.00 LCY = $75.21
Compaction: $1.25/LCY x 69.00 LCY = $86.25
Basic Rock Haul cost: $0.79/LCY x 69.00 LCY = $54.51
Rock Haul +15% grades: $2.37/LCY-mi x 69.00 LCY x 0.50 mi= $81.77
Rock Haul -15% grades: $1.19/LCY-mi x 69.00 LCY x 2.70 mi= $221.70
Rock Haul St& Co Roads: $0.53/LCY-mi x 69.00 LCY x 7.50 mi= $274.28
Basic Water Haul cost: $0.77/LCY x 69.00 LCY = $53.13
Water Haul +15% grades: $0.34/LCY-mi x 69.00 LCY x 0.50 mi= $11.73
Water Haul -15% grades: $0.17/LCY-mi x 69.00 LCY x 2.70 mi= $31.67
Water Haul St&Co Roads: $0.10/LCY-mi x 69.00 LCY x 4.50 mi= $31.05

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: END LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.50 mi= $59.25
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.70 mi= $160.65
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 7.50 mi= $198.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.50 mi= $8.50
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.70 mi= $22.95
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 4.50 mi= $22.50

Subtotal: $3,323.29

Road Number: 29-11-1.10 I Continued

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Comment: INCLUDED IN SECTION 200

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 0.92% of total Costs = $118.68
Surfacing - 1.78% by rock volume = $36.28

Subtotal: $154.96

Quarry Development:
Based on 1.78% of total rock volume

Subtotal: $0.00

Total: $3,983.48

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.2 R Road Name:
Road Renovation: 0.12 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.05 acres	$212.39
300 Excavation:	$578.76
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$714.36
Blading 0.24 mi	
Slide Removal 70.00 cy	
700-1200 Surfacing:	$4,741.47
Quarry Name: Kincheloe1.5-0" Surf 100.00 LCY	
Quarry Name: Kincheloe 3-0" Spot 20.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.29 acres	$231.33
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.30 acres	$139.97
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $205.16 Surf. $51.83	$256.99
Quarry Development:	$0.00
Total:	$6,875.27

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

Road Construction Worksheet

Road Number: 29-11-1.2 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Heavy (Clearing): Adjustment Factor (2.54)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:2.54 + 0.1 + 1.28 + 0.1 = 4.02
Base Cost/Acre: $1,056.66 x Adjustment Factor: 4.02 x Total Acres: .05 = $212.39

Subtotal: $212.39

Section 300 Excavation:
EXC+EMB 1 LDG
Tractor: D8 with winch 2 hr x $289.38/hr = $578.76

Subtotal: $578.76

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Comment: EXTREME GRADE-DITCH-SHAPE, FAILURE+DITCH ENDHAUL
Slide Removal 70.00 cy
Front End Loader $100.66/hr x 1.00 hr = $100.66
Blading: $849.24/mi x 0.24 mi = $203.82
Scarification: $1037.04/mi x 0.12 mi = $124.44
Compaction: $374.13/mi x 0.24 mi = $89.79
Clean Culverts (ea): $72.60/ea x 2 ea = $145.20
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $714.36

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Surf
Comment: 3" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.12mi	12ft	13ft	3in	3%					

Rock Volume = 100.00 LCY
Purchase Price / Royalty: $16.52/LCY x 100.00 LCY = $1,652.00
Processing: $1.09/LCY x 100.00 LCY = $109.00
Compaction: $1.25/LCY x 100.00 LCY = $125.00
Basic Rock Haul cost: $0.79/LCY x 100.00 LCY = $79.00
Rock Haul +15% grades: $2.37/LCY-mi x 100.00 LCY x 0.30 mi= $71.10
Rock Haul -15% grades: $1.19/LCY-mi x 100.00 LCY x 2.50 mi= $297.50
Rock Haul St& Co Roads: $0.53/LCY-mi x 100.00 LCY x 7.50 mi= $397.50
Basic Water Haul cost: $0.77/LCY x 100.00 LCY = $77.00
Water Haul +15% grades: $0.34/LCY-mi x 100.00 LCY x 0.30 mi= $10.20
Water Haul -15% grades: $0.17/LCY-mi x 100.00 LCY x 2.50 mi= $42.50
Water Haul St&Co Roads: $0.10/LCY-mi x 100.00 LCY x 4.50 mi= $45.00

Commercial Quarry Name: Kincheloe 3-0" Spot
Comment: STA 2+00 SURFACE ROAD WIDENING

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

Rock Volume = 20.00 LCY
Purchase Price / Royalty: $16.10/LCY x 20.00 LCY = $322.00
Processing: $1.09/LCY x 20.00 LCY = $21.80
Compaction: $1.25/LCY x 20.00 LCY = $25.00
Basic Rock Haul cost: $0.79/LCY x 20.00 LCY = $15.80
Rock Haul +15% grades: $2.37/LCY-mi x 20.00 LCY x 0.10 mi= $4.74
Rock Haul -15% grades: $1.19/LCY-mi x 20.00 LCY x 2.50 mi= $59.50

Road Number: 29-11-1.2 R Continued

Rock Haul St& Co Roads: $0.53/LCY-mi x 20.00 LCY x 7.50 mi= $79.50
Basic Water Haul cost: $0.77/LCY x 20.00 LCY = $15.40
Water Haul +15% grades: $0.34/LCY-mi x 20.00 LCY x 0.10 mi= $0.68
Water Haul -15% grades: $0.17/LCY-mi x 20.00 LCY x 2.50 mi= $8.50
Water Haul St&Co Roads: $0.10/LCY-mi x 20.00 LCY x 4.50 mi= $9.00

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: STA 2+40 LANDING SURFACE

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.10 mi= $11.85
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.50 mi= $148.75
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 7.50 mi= $198.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.10 mi= $1.70
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.50 mi= $21.25
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 4.50 mi= $22.50
COMPACTION TEST - SURF. / LIFT
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $4,741.47

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.29 acres = $138.53
+ Mulch Cost: $320.00/acre x 0.29 acres = $92.80

Subtotal: $231.33

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $262.45/acre x 0.10 acres = $26.25
RoadSide Brushing Medium: $437.41/acre x 0.10 acres = $43.74
RoadSide Brushing Heavy: $699.86/acre x 0.10 acres = $69.99

Subtotal: $139.97

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:

Road Number: 29-11-1.2 R Continued

Construction - 1.59% of total Costs = $205.16
Surfacing - 2.54% by rock volume = $51.83

Subtotal: $256.99

Quarry Development:
Based on 2.54% of total rock volume

Subtotal: $0.00

Total: $6,875.27

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.3 R Road Name:
Road Renovation: 0.16 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation: Standard cy	$290.00
400 Drainage:	$1,610.41
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 32.00 lf	
500 Renovation:	$972.90
Blading 0.32 mi	
Slide Removal 215.00 cy	
700-1200 Surfacing:	$4,165.90
Quarry Name: Kincheloe1.5-0" Surf 134.00 LCY	
Quarry Name: Kincheloe 3-0" Spot 20.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.39 acres	$311.10
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.40 acres	$183.71
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $233.55 Surf. $46.95	$280.50
Quarry Development:	$0.00
Total:	$7,814.52

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

Road Construction Worksheet

Road Number: 29-11-1.3 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:
Comment: MP 0.08 FILL REPAIR
Excavation - Common: $2.53/cy x 100.00 cy = $253.00
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 100.00 cy = $37.00

Subtotal: $290.00

Section 400 Drainage:
Poly Pipe MP 0.O5 NEW XDRN 18 inch 32 lf x $46.74/lf = $1,495.68
CULVERT REMOVAL w/ NO REPLACE
Excavator - Large (3 CY) .75 hr x $152.97/hr = $114.73

Subtotal: $1,610.41

Section 500 Renovation:
Comment: EXTREME GRADE-DITCH-SHAPE, FAILURE+DITCH ENDHAUL
Slide Removal 215.00 cy
Front End Loader $100.66/hr x 3.50 hr = $352.31
Blading: $849.24/mi x 0.32 mi = $271.76
Scarification: $1037.04/mi x 0.16 mi = $165.93
Compaction: $374.13/mi x 0.16 mi = $59.86
Clean Culverts (ea): $72.60/ea x 1 ea = $72.60
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $972.90

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Surf
Comment: 3" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.16mi	12ft	13ft	3in	3%					

Rock Volume = 134.00 LCY
Purchase Price / Royalty: $16.52/LCY x 134.00 LCY = $2,213.68
Processing: $1.09/LCY x 134.00 LCY = $146.06
Compaction: $1.25/LCY x 134.00 LCY = $167.50
Basic Rock Haul cost: $0.79/LCY x 134.00 LCY = $105.86
Rock Haul +15% grades: $2.37/LCY-mi x 134.00 LCY x 0.10 mi= $31.76
Rock Haul -15% grades: $1.19/LCY-mi x 134.00 LCY x 1.20 mi= $191.35
Rock Haul St& Co Roads: $0.53/LCY-mi x 134.00 LCY x 7.50 mi= $532.65
Basic Water Haul cost: $0.77/LCY x 134.00 LCY = $103.18
Water Haul +15% grades: $0.34/LCY-mi x 134.00 LCY x 0.10 mi= $4.56
Water Haul -15% grades: $0.17/LCY-mi x 134.00 LCY x 1.20 mi= $27.34
Water Haul St&Co Roads: $0.10/LCY-mi x 134.00 LCY x 4.40 mi= $58.96

Commercial Quarry Name: Kincheloe 3-0" Spot
Comment: MP 0.08 BASE COURSE REPLACE

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

Rock Volume = 20.00 LCY
Purchase Price / Royalty: $16.10/LCY x 20.00 LCY = $322.00
Processing: $1.09/LCY x 20.00 LCY = $21.80
Compaction: $1.25/LCY x 20.00 LCY = $25.00
Basic Rock Haul cost: $0.79/LCY x 20.00 LCY = $15.80
Rock Haul +15% grades: $2.37/LCY-mi x 20.00 LCY x 0.10 mi= $4.74
Rock Haul -15% grades: $1.19/LCY-mi x 20.00 LCY x 1.20 mi= $28.56
Rock Haul St& Co Roads: $0.53/LCY-mi x 20.00 LCY x 7.50 mi= $79.50
Basic Water Haul cost: $0.77/LCY x 20.00 LCY = $15.40

Road Number: 29-11-1.3 R Continued

Water Haul +15% grades: $0.34/LCY-mi x 20.00 LCY x 0.10 mi= $0.68
Water Haul -15% grades: $0.17/LCY-mi x 20.00 LCY x 1.20 mi= $4.08
Water Haul St&Co Roads: $0.10/LCY-mi x 20.00 LCY x 7.50 mi= $15.00
COMPACTION TEST - SURFACING
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $4,165.90

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.39 acres = $186.30
+ Mulch Cost: $320.00/acre x 0.39 acres = $124.80

Subtotal: $311.10

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $262.45/acre x 0.10 acres = $26.25
RoadSide Brushing Medium: $437.41/acre x 0.20 acres = $87.48
RoadSide Brushing Heavy: $699.86/acre x 0.10 acres = $69.99

Subtotal: $183.71

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.81% of total Costs = $233.55
Surfacing - 2.30% by rock volume = $46.95

Subtotal: $280.50

Quarry Development:
Based on 2.30% of total rock volume

Subtotal: $0.00

Total: $7,814.52

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.4 R Road Name:
Road Renovation: 0.09 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation: Standard cy	$435.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$363.99
Blading 0.18 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.23 acres	$183.47
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.30 acres	$139.97
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $34.79 Surf. $0.00	$34.79
Quarry Development:	$0.00
Total:	$1,157.22

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

Road Construction Worksheet

Road Number: 29-11-1.4 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:
Comment: STA 5+00 CULVERT REMOVAL WITH CHANNEL ESTABLISHMENT
Excavation - Common: $2.53/cy x 150.00 cy = $379.50
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 150.00 cy = $55.50

Subtotal: $435.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Comment: EXTREME GRADE-DITCH-SHAPE, FAILURE+DITCH SIDECAST
Blading: $849.24/mi x 0.18 mi = $152.86
Scarification: $1037.04/mi x 0.09 mi = $93.33
Compaction: $374.13/mi x 0.18 mi = $67.34
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $363.99

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:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.23 acres = $109.87
+ Mulch Cost: $320.00/acre x 0.23 acres = $73.60

Subtotal: $183.47

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $262.45/acre x 0.10 acres = $26.25
RoadSide Brushing Medium: $437.41/acre x 0.10 acres = $43.74
RoadSide Brushing Heavy: $699.86/acre x 0.10 acres = $69.99

Subtotal: $139.97

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Road Number: 29-11-1.4 R Continued

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.27% of total Costs = $34.79
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $34.79

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $1,157.22

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.5 C Road Name:
Road Construction: 0.06 mi 16 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.28 acres	$931.97
300 Excavation: Standard cy	$853.77
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$5,180.84
Quarry Name: Kincheloe 3-0" Surf 135.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.20 acres	$159.54
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $220.91 Surf. $56.40	$277.31
Quarry Development:	$0.00
Total:	$7,403.42

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

Road Construction Worksheet

Road Number: 29-11-1.5 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: 0.28 = $931.97

Subtotal: $931.97

Section 300 Excavation:
Excavation - Common: $2.53/cy x 230.00 cy = $581.90
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 230.00 cy = $85.10
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 3.0 sta = $93.54
Blading without ditch: $14.26/station x 3.00 stations = $42.78
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $853.77

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.06mi	12ft	14.7ft	8in	3%					

Rock Volume = 135.00 LCY
Purchase Price / Royalty: $16.10/LCY x 135.00 LCY = $2,173.50
Processing: $1.09/LCY x 135.00 LCY = $147.15
Compaction: $1.25/LCY x 135.00 LCY = $168.75
Basic Rock Haul cost: $0.79/LCY x 135.00 LCY = $106.65
Rock Haul +15% grades: $2.37/LCY-mi x 135.00 LCY x 0.20 mi= $63.99
Rock Haul -15% grades: $1.19/LCY-mi x 135.00 LCY x 2.50 mi= $401.63
Rock Haul St& Co Roads: $0.53/LCY-mi x 135.00 LCY x 7.50 mi= $536.63
Basic Water Haul cost: $0.77/LCY x 135.00 LCY = $103.95
Water Haul +15% grades: $0.34/LCY-mi x 135.00 LCY x 0.20 mi= $9.18
Water Haul -15% grades: $0.17/LCY-mi x 135.00 LCY x 2.50 mi= $57.38
Water Haul St&Co Roads: $0.10/LCY-mi x 135.00 LCY x 4.50 mi= $60.75

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: END LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.30 mi= $35.55
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.50 mi= $148.75
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 7.50 mi= $198.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.30 mi= $5.10
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.50 mi= $21.25
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 4.50 mi= $22.50
COMPACTION TEST - SURF. / LIFT

Road Number: 29-11-1.5 C Continued

Dump Truck 10 cy 1 hr x $100.89/hr = $100.89

Subtotal: $5,180.84

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.20 acres = $95.54
+ Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $159.54

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.72% of total Costs = $220.91
Surfacing - 2.76% by rock volume = $56.40

Subtotal: $277.31

Quarry Development:
Based on 2.76% of total rock volume

Subtotal: $0.00

Total: $7,403.42

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.6 C Road Name:
Road Construction: 0.07 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.45 acres	$1,545.37
300 Excavation: Standard cy	$1,843.01
400 Drainage:	$934.80
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 20.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$7,374.62
Quarry Name: Kincheloe 3-0" Surf 164.00 LCY	
Quarry Name: Kincheloe Pit Run LR 100.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.20 acres	$159.54
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $367.57 Surf. $80.49	$448.06
Quarry Development:	$0.00
Total:	$12,305.39

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

Road Construction Worksheet

Road Number: 29-11-1.6 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.1 = 3.25
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.25 x Total Acres: .45 = $1,545.37
Subtotal: $1,545.37

Section 300 Excavation:
Excavation - Common: $2.53/cy x 560.00 cy = $1,416.80
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 560.00 cy = $207.20
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 3.5 sta = $109.13
Blading with ditch: $16.98/station x 3.50 stations = $59.43
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
Subtotal: $1,843.01

Section 400 Drainage:
Poly Pipe STA 1+75 NEW XDRN 18 inch 20 lf x $46.74/lf = $934.80
Subtotal: $934.80

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.07mi	12ft	14.7ft	8in	7%					

Rock Volume = 164.00 LCY
Purchase Price / Royalty: $16.10/LCY x 164.00 LCY = $2,640.40
Processing: $1.09/LCY x 164.00 LCY = $178.76
Compaction: $1.25/LCY x 164.00 LCY = $205.00
Basic Rock Haul cost: $0.79/LCY x 164.00 LCY = $129.56
Rock Haul +15% grades: $2.37/LCY-mi x 164.00 LCY x 0.30 mi= $116.60
Rock Haul -15% grades: $1.19/LCY-mi x 164.00 LCY x 2.50 mi= $487.90
Rock Haul St& Co Roads: $0.53/LCY-mi x 164.00 LCY x 7.50 mi= $651.90
Basic Water Haul cost: $0.77/LCY x 164.00 LCY = $126.28
Water Haul +15% grades: $0.34/LCY-mi x 164.00 LCY x 0.30 mi= $16.73
Water Haul -15% grades: $0.17/LCY-mi x 164.00 LCY x 2.50 mi= $69.70
Water Haul St&Co Roads: $0.10/LCY-mi x 164.00 LCY x 7.50 mi= $123.00

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: LANDING SURFACE X 2

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

Rock Volume = 100.00 LCY
Purchase Price / Royalty: $13.72/LCY x 100.00 LCY = $1,372.00
Processing: $1.09/LCY x 100.00 LCY = $109.00
Basic Rock Haul cost: $0.79/LCY x 100.00 LCY = $79.00
Rock Haul +15% grades: $2.37/LCY-mi x 100.00 LCY x 0.40 mi= $94.80
Rock Haul -15% grades: $1.19/LCY-mi x 100.00 LCY x 2.50 mi= $297.50
Rock Haul St& Co Roads: $0.53/LCY-mi x 100.00 LCY x 7.50 mi= $397.50
Basic Water Haul cost: $0.77/LCY x 100.00 LCY = $77.00
Water Haul +15% grades: $0.34/LCY-mi x 100.00 LCY x 0.40 mi= $13.60
Water Haul -15% grades: $0.17/LCY-mi x 100.00 LCY x 2.50 mi= $42.50
Water Haul St&Co Roads: $0.10/LCY-mi x 100.00 LCY x 4.50 mi= $45.00

Road Number: 29-11-1.6 C Continued

COMPACTION TEST - SURF. / LIFT
Dump Truck 10 cy 1 hr x $100.89/hr = $100.89

Subtotal: $7,374.62

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.20 acres = $95.54
+ Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $159.54

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 2.86% of total Costs = $367.57
Surfacing - 3.94% by rock volume = $80.49

Subtotal: $448.06

Quarry Development:
Based on 3.94% of total rock volume

Subtotal: $0.00

Total: $12,305.39

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.7 C Road Name:
Road Construction: 0.04 mi 16 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.30 acres	$1,030.24
300 Excavation: Standard cy	$1,095.19
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$4,186.48
Quarry Name: Kincheloe 3-0" Surf 102.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $198.14 Surf. $46.34	$244.48
Quarry Development:	$0.00
Total:	$6,636.15

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

Road Construction Worksheet

Road Number: 29-11-1.7 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.1 = 3.25
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.25 x Total Acres: 0.3 = $1,030.24

Subtotal: $1,030.24

Section 300 Excavation:
Excavation - Common: $2.53/cy x 325.00 cy = $822.25
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 325.00 cy = $120.25
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 2.3 sta = $70.16
Blading without ditch: $14.26/station x 2.25 stations = $32.09
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $1,095.19

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.04mi	12ft	14.7ft	8in	3%					

Rock Volume = 102.00 LCY
Purchase Price / Royalty: $16.10/LCY x 102.00 LCY = $1,642.20
Processing: $1.09/LCY x 102.00 LCY = $111.18
Compaction: $1.25/LCY x 102.00 LCY = $127.50
Basic Rock Haul cost: $0.79/LCY x 102.00 LCY = $80.58
Rock Haul +15% grades: $2.37/LCY-mi x 102.00 LCY x 0.30 mi= $72.52
Rock Haul -15% grades: $1.19/LCY-mi x 102.00 LCY x 2.50 mi= $303.45
Rock Haul St& Co Roads: $0.53/LCY-mi x 102.00 LCY x 7.50 mi= $405.45
Basic Water Haul cost: $0.77/LCY x 102.00 LCY = $78.54
Water Haul +15% grades: $0.34/LCY-mi x 102.00 LCY x 0.30 mi= $10.40
Water Haul -15% grades: $0.17/LCY-mi x 102.00 LCY x 2.50 mi= $43.35
Water Haul St&Co Roads: $0.10/LCY-mi x 102.00 LCY x 4.50 mi= $45.90

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: END LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.30 mi= $35.55
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.50 mi= $148.75
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 7.50 mi= $198.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.30 mi= $5.10
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.50 mi= $21.25
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 7.50 mi= $37.50

Subtotal: $4,186.48

Road Number: 29-11-1.7 C Continued

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.54% of total Costs = $198.14
Surfacing - 2.27% by rock volume = $46.34

Subtotal: $244.48

Quarry Development:
Based on 2.27% of total rock volume

Subtotal: $0.00

Total: $6,636.15

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.8 C Road Name:
Road Construction: 0.05 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.35 acres	$1,164.97
300 Excavation: Standard cy	$758.64
400 Drainage:	$4,480.44
Culvert: 60.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 36.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$4,997.08
Quarry Name: Kincheloe 3-0" Surf 129.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.20 acres	$159.54
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $358.37 Surf. $54.57	$412.95
Quarry Development:	$0.00
Total:	$11,973.62

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

Road Construction Worksheet

Road Number: 29-11-1.8 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: .35 = $1,164.97
Subtotal: $1,164.97

Section 300 Excavation:
Excavation - Common: $2.53/cy x 200.00 cy = $506.00
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 200.00 cy = $74.00
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 2.8 sta = $85.75
Blading with ditch: $16.98/station x 2.50 stations = $42.45
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
Subtotal: $758.64

Section 400 Drainage:
Galvanized STA 0+00 DITCHLINE 12 inch 16 ga 60 lf x $46.63/lf = $2,797.80
Poly Pipe STA 1+00 NEW XDRN 18 inch 36 lf x $46.74/lf = $1,682.64
Subtotal: $4,480.44

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.05mi	12ft	14.7ft	8in	7%					

Rock Volume = 129.00 LCY
Purchase Price / Royalty: $16.10/LCY x 129.00 LCY = $2,076.90
Processing: $1.09/LCY x 129.00 LCY = $140.61
Compaction: $1.25/LCY x 129.00 LCY = $161.25
Basic Rock Haul cost: $0.79/LCY x 129.00 LCY = $101.91
Rock Haul +15% grades: $2.37/LCY-mi x 129.00 LCY x 0.20 mi= $61.15
Rock Haul -15% grades: $1.19/LCY-mi x 129.00 LCY x 2.50 mi= $383.78
Rock Haul St& Co Roads: $0.53/LCY-mi x 129.00 LCY x 7.50 mi= $512.78
Basic Water Haul cost: $0.77/LCY x 129.00 LCY = $99.33
Water Haul +15% grades: $0.34/LCY-mi x 129.00 LCY x 0.20 mi= $8.77
Water Haul -15% grades: $0.17/LCY-mi x 129.00 LCY x 2.50 mi= $54.83
Water Haul St&Co Roads: $0.10/LCY-mi x 129.00 LCY x 4.50 mi= $58.05

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: END LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.20 mi= $23.70
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.50 mi= $148.75
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 7.50 mi= $198.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.20 mi= $3.40
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.50 mi= $21.25

Road Number: 29-11-1.8 C Continued

Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 4.50 mi= $22.50
COMPACTION TEST - SURF. / LIFT
Dump Truck 10 cy 1 hr x $100.89/hr = $100.89

Subtotal: $4,997.08

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.20 acres = $95.54
+ Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $159.54

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 2.78% of total Costs = $358.37
Surfacing - 2.67% by rock volume = $54.57

Subtotal: $412.95

Quarry Development:
Based on 2.67% of total rock volume

Subtotal: $0.00

Total: $11,973.62

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-1.9 C Road Name:
Road Construction: 0.04 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.18 acres	$599.13
300 Excavation: Standard cy	$436.77
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$3,733.15
Quarry Name: Kincheloe 3-0" Surf 88.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $150.31 Surf. $42.07	$192.38
Quarry Development:	$0.00
Total:	$5,041.19

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

Road Construction Worksheet

Road Number: 29-11-1.9 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: 0.18 = $599.13

Subtotal: $599.13

Section 300 Excavation:
Excavation - Common: $2.53/cy x 100.00 cy = $253.00
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 100.00 cy = $37.00
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 2.0 sta = $62.36
Blading with ditch: $16.98/station x 2.00 stations = $33.96
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $436.77

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.04mi	12ft	14.7ft	8in	0%					

Rock Volume = 88.00 LCY
Purchase Price / Royalty: $16.10/LCY x 88.00 LCY = $1,416.80
Processing: $1.09/LCY x 88.00 LCY = $95.92
Compaction: $1.25/LCY x 88.00 LCY = $110.00
Basic Rock Haul cost: $0.79/LCY x 88.00 LCY = $69.52
Rock Haul +15% grades: $2.37/LCY-mi x 88.00 LCY x 0.20 mi= $41.71
Rock Haul -15% grades: $1.19/LCY-mi x 88.00 LCY x 2.50 mi= $261.80
Rock Haul St& Co Roads: $0.53/LCY-mi x 88.00 LCY x 7.50 mi= $349.80
Basic Water Haul cost: $0.77/LCY x 88.00 LCY = $67.76
Water Haul +15% grades: $0.34/LCY-mi x 88.00 LCY x 0.20 mi= $5.98
Water Haul -15% grades: $0.17/LCY-mi x 88.00 LCY x 2.50 mi= $37.40
Water Haul St&Co Roads: $0.10/LCY-mi x 88.00 LCY x 4.50 mi= $39.60

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: END LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.20 mi= $23.70
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.50 mi= $148.75
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 7.50 mi= $198.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.20 mi= $3.40
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.50 mi= $21.25
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 4.50 mi= $22.50

Subtotal: $3,733.15

Road Number: 29-11-1.9 C Continued

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.17% of total Costs = $150.31
Surfacing - 2.06% by rock volume = $42.07

Subtotal: $192.38

Quarry Development:
Based on 2.06% of total rock volume

Subtotal: $0.00

Total: $5,041.19

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-10.0 C R Road Name:
Road Renovation: 0.29 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.69 acres	$1,830.03
300 Excavation:	$599.74
400 Drainage:	$3,645.72
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 78.00 lf	
500 Renovation:	$6,772.38
Blading 0.60 mi	
Slide Removal 820.00 cy	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$1,245.53
Gradation Class 4: 30.00 cy	
1800 Soil Stabilization: 0.70 acres	$558.39
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $454.20 Surf. $0.00	$454.20
Quarry Development:	$0.00
Total:	$15,105.98

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

Road Construction Worksheet

Road Number: 29-11-10.0 C R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Light (Clearing): Adjustment Factor (0.93)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:0.93 + 0.2 + 1.28 + 0.1 = 2.51
Base Cost/Acre: $1,056.66 x Adjustment Factor: 2.51 x Total Acres: 0.69 = $1,830.03
Subtotal: $1,830.03

Section 300 Excavation:
EXC+EMB 1 LDNG
Tractor: D8 with rippers 2 hr x $299.87/hr = $599.74
Subtotal: $599.74

Section 400 Drainage:

Poly Pipe	79+33 NEW XDRN	18 inch 26 lf x $46.74/lf = $1,215.24
Poly Pipe	83+00 NEW XDRN	18 inch 26 lf x $46.74/lf = $1,215.24
Poly Pipe	83+76 NEW XDRN	18 inch 26 lf x $46.74/lf = $1,215.24

Subtotal: $3,645.72

Section 500 Renovation:
Comment: EXTREME GRADE-DITCH-SHAPE, FAILURE+DITCH ENDHAUL
Slide Removal 820.00 cy
Front End Loader $100.66/hr x 16.00 hr = $1,610.56
Dump Truck: $100.89/hr x 16.00 hr = $1,614.24
Blading: $849.24/mi x 0.60 mi = $509.54
Scarification: $1037.04/mi x 0.30 mi = $311.11
Compaction: $374.13/mi x 0.60 mi = $224.48
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
RIP RAP BARRIER REMOVAL + STAG
LUMP SUM = 1 LS x $245.00/LS = $245.00
TREAT EXIST. STORM DAMAGE
LOGGING PROCESSOR / LOG LOADER .5 DAY x $2,214.00/DAY = $1,107.00
MOBILIZATION 1 EA x $1,100.00/EA = $1,100.00
Subtotal: $6,772.38

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Comment: STA 79+97 REPAIR FILL FAILURE
Rock Source: Kincheloe Class 4 RR
Purchase Price / Royalty: $29.40/cy x 30.00cy = $882.00
Furnish Class 4 type rock
Basic Rock Haul cost: $1.20/cy x 30.00cy = $36.00
Rock Haul +15% grades: $2.39/cy-mi x 30.00cy x 0.20 mi= $14.34
Rock Haul -15% grades: $1.20/cy-mi x 30.00cy x 3.40 mi= $122.40
Rock Haul St& Co Roads: $0.53/cy-mi x 30.00cy x 5.60 mi= $89.04
Placement on Fill slopes: 30.00cy x ($3.23/cy x 1.05) = $101.75
Subtotal: $1,245.53

Section 1800 Soil Stabilization:

Road Number: 29-11-10.0 C R Continued

Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.70 acres = $334.39
+ Mulch Cost: $320.00/acre x 0.70 acres = $224.00

Subtotal: $558.39

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Comment: INCLUDED IN SECTION 200

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 3.53% of total Costs = $454.20
Surfacing - 0.00% by rock volume = $0.00

Subtotal: $454.20

Quarry Development:
Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $15,105.98

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-10.0 R Road Name:
Road Renovation: 1.44 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.05 acres	$166.42
300 Excavation:	$599.74
400 Drainage:	$4,767.48
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 102.00 lf	
500 Renovation:	$6,695.07
Blading 3.00 mi	
Slide Removal 500.00 cy	
700-1200 Surfacing:	$6,564.11
Quarry Name: Kincheloe1.5-0" Spot 130.00 LCY	
Quarry Name: Kincheloe 1.5"- Culv 30.00 LCY	
Quarry Name: Kincheloe 3-0" Spot 20.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 3.50 acres	$2,791.95
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):3.30 acres	$1,487.20
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $715.22 Surf. $70.12	$785.34
Quarry Development:	$0.00
Total:	$23,857.32

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

Road Construction Worksheet

Road Number: 29-11-10.0 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
greater than 40' (Avg Clearing Widths): Adjustment Factor (0)
Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: .05 = $166.42
Subtotal: $166.42

Section 300 Excavation:
EXC+EMB 1 LDNG
Tractor: D8 with rippers 2 hr x $299.87/hr = $599.74
Subtotal: $599.74

Section 400 Drainage:

Poly Pipe	MP 0.38 RPLC XDRN	18 inch 34 lf x $46.74/lf = $1,589.16
Poly Pipe	MP 0.46 RPLC XDRN	18 inch 34 lf x $46.74/lf = $1,589.16
Poly Pipe	MP 0.53 RPLC XDRN	18 inch 34 lf x $46.74/lf = $1,589.16

Subtotal: $4,767.48

Section 500 Renovation:
Comment: EXTREME GRADE-DITCH-SHAPE-BUNCH, FAILURE+DITCH SIDECAST
Slide Removal 500.00 cy
Front End Loader $100.66/hr x 6.50 hr = $654.29
Blading: $849.24/mi x 3.00 mi = $2,547.72
Scarification: $1037.04/mi x 1.44 mi = $1,493.34
Compaction: $374.13/mi x 3.00 mi = $1,122.39
Clean Culverts (ea): $72.60/ea x 10 ea = $726.00
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy 1.5 hr x $100.89/hr = $151.34
Subtotal: $6,695.07

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Spot
Comment: SPOT ROCK SURFACING

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

Rock Volume = 100.00 LCY
Purchase Price / Royalty: $16.52/LCY x 100.00 LCY = $1,652.00
Processing: $1.09/LCY x 100.00 LCY = $109.00
Compaction: $1.25/LCY x 100.00 LCY = $125.00
Basic Rock Haul cost: $0.79/LCY x 100.00 LCY = $79.00
Rock Haul +15% grades: $2.37/LCY-mi x 100.00 LCY x 0.50 mi= $118.50
Rock Haul -15% grades: $1.19/LCY-mi x 100.00 LCY x 3.00 mi= $357.00
Rock Haul St& Co Roads: $0.53/LCY-mi x 100.00 LCY x 6.00 mi= $318.00
Basic Water Haul cost: $0.77/LCY x 100.00 LCY = $77.00
Water Haul +15% grades: $0.34/LCY-mi x 100.00 LCY x 0.50 mi= $17.00
Water Haul -15% grades: $0.17/LCY-mi x 100.00 LCY x 3.00 mi= $51.00
Water Haul St&Co Roads: $0.10/LCY-mi x 100.00 LCY x 3.50 mi= $35.00

Commercial Quarry Name: Kincheloe1.5-0" Spot
Comment: MP 0.67 TRUCK TURNOUT SURFACING

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

Rock Volume = 30.00 LCY
Purchase Price / Royalty: $16.52/LCY x 30.00 LCY = $495.60
Processing: $1.09/LCY x 30.00 LCY = $32.70
Compaction: $1.25/LCY x 30.00 LCY = $37.50

Road Number: 29-11-10.0 R Continued

Basic Rock Haul cost: $0.79/LCY x 30.00 LCY = $23.70
Rock Haul +15% grades: $2.37/LCY-mi x 30.00 LCY x 0.70 mi= $49.77
Rock Haul -15% grades: $1.19/LCY-mi x 30.00 LCY x 3.00 mi= $107.10
Rock Haul St& Co Roads: $0.53/LCY-mi x 30.00 LCY x 5.50 mi= $87.45
Basic Water Haul cost: $0.77/LCY x 30.00 LCY = $23.10
Water Haul +15% grades: $0.34/LCY-mi x 30.00 LCY x 0.70 mi= $7.14
Water Haul -15% grades: $0.17/LCY-mi x 30.00 LCY x 3.00 mi= $15.30
Water Haul St&Co Roads: $0.10/LCY-mi x 30.00 LCY x 5.50 mi= $16.50

Commercial Quarry Name: Kincheloe 1.5"- Culv
Comment: CULVERT SIDE FILL + BASE COURS REPLACEMENT X 3

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

Rock Volume = 30.00 LCY
Purchase Price / Royalty: $16.52/LCY x 30.00 LCY = $495.60
Basic Rock Haul cost: $0.79/LCY x 30.00 LCY = $23.70
Rock Haul +15% grades: $2.37/LCY-mi x 30.00 LCY x 0.50 mi= $35.55
Rock Haul -15% grades: $1.19/LCY-mi x 30.00 LCY x 3.00 mi= $107.10
Rock Haul St& Co Roads: $0.53/LCY-mi x 30.00 LCY x 5.50 mi= $87.45
Basic Water Haul cost: $0.77/LCY x 30.00 LCY = $23.10
Water Haul +15% grades: $0.34/LCY-mi x 30.00 LCY x 0.50 mi= $5.10
Water Haul -15% grades: $0.17/LCY-mi x 30.00 LCY x 3.00 mi= $15.30
Water Haul St&Co Roads: $0.10/LCY-mi x 30.00 LCY x 5.50 mi= $16.50

Commercial Quarry Name: Kincheloe 3-0" Spot
Comment: MP 0.83 LANDING APPROACH SURFACING

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

Rock Volume = 20.00 LCY
Purchase Price / Royalty: $16.10/LCY x 20.00 LCY = $322.00
Processing: $1.09/LCY x 20.00 LCY = $21.80
Compaction: $1.25/LCY x 20.00 LCY = $25.00
Basic Rock Haul cost: $0.79/LCY x 20.00 LCY = $15.80
Rock Haul +15% grades: $2.37/LCY-mi x 20.00 LCY x 1.00 mi= $47.40
Rock Haul -15% grades: $1.19/LCY-mi x 20.00 LCY x 3.00 mi= $71.40
Rock Haul St& Co Roads: $0.53/LCY-mi x 20.00 LCY x 5.50 mi= $58.30
Basic Water Haul cost: $0.77/LCY x 20.00 LCY = $15.40
Water Haul +15% grades: $0.34/LCY-mi x 20.00 LCY x 1.00 mi= $6.80
Water Haul -15% grades: $0.17/LCY-mi x 20.00 LCY x 3.00 mi= $10.20
Water Haul St&Co Roads: $0.10/LCY-mi x 20.00 LCY x 2.50 mi= $5.00

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: MP 0.83 LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 1.00 mi= $118.50
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 3.00 mi= $178.50
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 1.00 mi= $17.00
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 3.00 mi= $25.50
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 3.50 mi= $17.50

Subtotal: $6,564.11

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Road Number: 29-11-10.0 R Continued

Section 1800 Soil Stabilization:
 Comment: ALL EXPOSED SOIL AND WASTE AREAS
  Dry Method with Mulch: $477.70/acre x 3.50 acres = $1,671.95
        + Mulch Cost: $320.00/acre x 3.50 acres = $1,120.00

Subtotal: $2,791.95

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $262.45/acre x 0.80 acres = $209.96
  RoadSide Brushing Medium: $437.41/acre x 1.80 acres = $787.34
  RoadSide Brushing Heavy: $699.86/acre x 0.70 acres = $489.90

Subtotal: $1,487.20

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 5.56% of total Costs = $715.22
  Surfacing - 3.43% by rock volume = $70.12

Subtotal: $785.34

Quarry Development:
  Based on 3.43% of total rock volume

Subtotal: $0.00

Total: $23,857.32

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-10.2 R Road Name:
Road Renovation: 0.17 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$850.11
Blading 0.34 mi	
Slide Removal 80.00 cy	
700-1200 Surfacing:	$1,688.37
Quarry Name: Kincheloe1.5-0" Spot 20.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.21 acres	$167.52
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.40 acres	$183.71
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $89.58 Surf. $21.34	$110.92
Quarry Development:	$0.00
Total:	$3,000.63

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

Road Construction Worksheet

Road Number: 29-11-10.2 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
 Comment: XTREME GRADE-SHAPE-DITCH-BUNCH, FAILURE+DITCH SIDECAST
  Slide Removal 80.00 cy
  Front End Loader $100.66/hr x 1.25 hr = $125.83
  Blading: $849.24/mi x 0.34 mi = $288.74
  Scarification: $1037.04/mi x 0.17 mi = $176.30
  Compaction: $374.13/mi x 0.17 mi = $63.60
  Clean Culverts (ea): $72.60/ea x 2 ea = $145.20
  COMPACTION TEST - FINISH GRADE
   Dump Truck 10 cy   .5 hr x $100.89/hr = $50.45

Subtotal: $850.11

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Spot
 Comment: SPOT ROCK SURFACING

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

  Rock Volume = 20.00 LCY
  Purchase Price / Royalty: $16.52/LCY x 20.00 LCY = $330.40
  Processing: $1.09/LCY x 20.00 LCY = $21.80
  Compaction: $1.25/LCY x 20.00 LCY = $25.00
  Basic Rock Haul cost: $0.79/LCY x 20.00 LCY = $15.80
  Rock Haul +15% grades: $2.37/LCY-mi x 20.00 LCY x 0.10 mi= $4.74
  Rock Haul -15% grades: $1.19/LCY-mi x 20.00 LCY x 2.00 mi= $47.60
  Rock Haul St& Co Roads: $0.53/LCY-mi x 20.00 LCY x 5.50 mi= $58.30
  Basic Water Haul cost: $0.77/LCY x 20.00 LCY = $15.40
  Water Haul +15% grades: $0.34/LCY-mi x 20.00 LCY x 0.10 mi= $0.68
  Water Haul -15% grades: $0.17/LCY-mi x 20.00 LCY x 2.00 mi= $6.80
  Water Haul St&Co Roads: $0.10/LCY-mi x 20.00 LCY x 3.50 mi= $7.00

Commercial Quarry Name: Kincheloe Pit Run LR
 Comment: END LANDING SURFACING

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

  Rock Volume = 50.00 LCY
  Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
  Processing: $1.09/LCY x 50.00 LCY = $54.50
  Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
  Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.20 mi= $23.70
  Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.00 mi= $119.00
  Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
  Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
  Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.20 mi= $3.40
  Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.00 mi= $17.00
  Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 5.50 mi= $27.50

Subtotal: $1,688.37

Section 1300 Geotextiles:

Subtotal: $0.00

Road Number: 29-11-10.2 R Continued

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.21 acres = $100.32
+ Mulch Cost: $320.00/acre x 0.21 acres = $67.20

Subtotal: $167.52

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $262.45/acre x 0.10 acres = $26.25
RoadSide Brushing Medium: $437.41/acre x 0.20 acres = $87.48
RoadSide Brushing Heavy: $699.86/acre x 0.10 acres = $69.99

Subtotal: $183.71

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 0.70% of total Costs = $89.58
Surfacing - 1.04% by rock volume = $21.34

Subtotal: $110.92

Quarry Development:
Based on 1.04% of total rock volume

Subtotal: $0.00

Total: $3,000.63

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-10.4 A I Road Name:
Road Improvement: 0.2 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.50 acres	$1,717.07
300 Excavation: Standard cy	$3,181.48
400 Drainage:	$3,178.32
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 68.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$16,207.21
Quarry Name: Kincheloe 3-0" Surf 502.00 LCY	
Quarry Name: Kincheloe Pit Run LR 130.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.50 acres	$398.85
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $765.16 Surf. $192.68	$957.84
Quarry Development:	$0.00
Total:	$25,640.78

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

Road Construction Worksheet

Road Number: 29-11-10.4 A I Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.1 = 3.25
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.25 x Total Acres: .5 = $1,717.07
Subtotal: $1,717.07

Section 300 Excavation:
Comment: IMPROVEMENT - CHANGE ROAD TEMPLATE
Excavation - Common: $2.53/cy x 500.00 cy = $1,265.00
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 500.00 cy = $185.00
Blading with ditch: $16.98/station x 10.70 stations = $181.69
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
EXC+EMB 2 LDNG + 1 ADJ OP AREA
Tractor: D8 with rippers 5 hr x $299.87/hr = $1,499.35
Subtotal: $3,181.48

Section 400 Drainage:

Poly Pipe	STA 1+00 NEW XDRN	18 inch 34 lf x $46.74/lf = $1,589.16
Poly Pipe	STA 6+00 NEW XDRN	18 inch 34 lf x $46.74/lf = $1,589.16

Subtotal: $3,178.32

Section 500 Renovation:
Comment: IMPROVEMENT INCLUDED IN SECTION 300
Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.20mi	12ft	14.7ft	8in	7%					

Rock Volume = 502.00 LCY
Purchase Price / Royalty: $16.10/LCY x 502.00 LCY = $8,082.20
Processing: $1.09/LCY x 502.00 LCY = $547.18
Compaction: $1.25/LCY x 502.00 LCY = $627.50
Basic Rock Haul cost: $0.79/LCY x 502.00 LCY = $396.58
Rock Haul +15% grades: $2.37/LCY-mi x 502.00 LCY x 0.20 mi= $237.95
Rock Haul -15% grades: $1.19/LCY-mi x 502.00 LCY x 1.90 mi= $1,135.02
Rock Haul St& Co Roads: $0.53/LCY-mi x 502.00 LCY x 5.50 mi= $1,463.33
Basic Water Haul cost: $0.77/LCY x 502.00 LCY = $386.54
Water Haul +15% grades: $0.34/LCY-mi x 502.00 LCY x 0.20 mi= $34.14
Water Haul -15% grades: $0.17/LCY-mi x 502.00 LCY x 1.90 mi= $162.15
Water Haul St&Co Roads: $0.10/LCY-mi x 502.00 LCY x 3.50 mi= $175.70

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: 2 LANDINGS + 1 ADJ OP AREA SURFACING

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

Rock Volume = 130.00 LCY
Purchase Price / Royalty: $13.72/LCY x 130.00 LCY = $1,783.60
Processing: $1.09/LCY x 130.00 LCY = $141.70
Basic Rock Haul cost: $0.79/LCY x 130.00 LCY = $102.70
Rock Haul +15% grades: $2.37/LCY-mi x 130.00 LCY x 0.20 mi= $61.62
Rock Haul -15% grades: $1.19/LCY-mi x 130.00 LCY x 1.90 mi= $293.93
Rock Haul St& Co Roads: $0.53/LCY-mi x 130.00 LCY x 5.50 mi= $378.95

Road Number: 29-11-10.4 A I Continued

Basic Water Haul cost: $0.77/LCY x 130.00 LCY = $100.10
Water Haul +15% grades: $0.34/LCY-mi x 130.00 LCY x 0.20 mi= $8.84
Water Haul -15% grades: $0.17/LCY-mi x 130.00 LCY x 1.90 mi= $41.99
Water Haul St&Co Roads: $0.10/LCY-mi x 130.00 LCY x 3.50 mi= $45.50

Subtotal: $16,207.21

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.50 acres = $238.85
+ Mulch Cost: $320.00/acre x 0.50 acres = $160.00

Subtotal: $398.85

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Comment: INCLUDED IN SECTION 200

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 5.94% of total Costs = $765.16
Surfacing - 9.43% by rock volume = $192.68

Subtotal: $957.84

Quarry Development:
Based on 9.43% of total rock volume

Subtotal: $0.00

Total: $25,640.78

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-10.4 B C Road Name:
Road Construction: 0.04 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.30 acres	$1,030.24
300 Excavation: Standard cy	$2,038.99
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$3,798.87
Quarry Name: Kincheloe 3-0" Surf 97.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $215.38 Surf. $44.82	$260.20
Quarry Development:	$0.00
Total:	$7,208.07

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

Road Construction Worksheet

Road Number: 29-11-10.4 B C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.1 = 3.25
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.25 x Total Acres: .3 = $1,030.24
Subtotal: $1,030.24

Section 300 Excavation:
Comment: SUBGRADE + END LANDING
Excavation - Common: $2.53/cy x 650.00 cy = $1,644.50
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 650.00 cy = $240.50
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 2.2 sta = $67.04
Blading with ditch: $16.98/station x 2.15 stations = $36.51
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
Subtotal: $2,038.99

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.04mi	12ft	14.7ft	8in	3%					

Rock Volume = 97.00 LCY
Purchase Price / Royalty: $16.10/LCY x 97.00 LCY = $1,561.70
Processing: $1.09/LCY x 97.00 LCY = $105.73
Compaction: $1.25/LCY x 97.00 LCY = $121.25
Basic Rock Haul cost: $0.79/LCY x 97.00 LCY = $76.63
Rock Haul +15% grades: $2.37/LCY-mi x 97.00 LCY x 0.20 mi= $45.98
Rock Haul -15% grades: $1.19/LCY-mi x 97.00 LCY x 1.90 mi= $219.32
Rock Haul St& Co Roads: $0.53/LCY-mi x 97.00 LCY x 5.50 mi= $282.76
Basic Water Haul cost: $0.77/LCY x 97.00 LCY = $74.69
Water Haul +15% grades: $0.34/LCY-mi x 97.00 LCY x 0.20 mi= $6.60
Water Haul -15% grades: $0.17/LCY-mi x 97.00 LCY x 1.90 mi= $31.33
Water Haul St&Co Roads: $0.10/LCY-mi x 97.00 LCY x 3.50 mi= $33.95

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: END LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.20 mi= $23.70
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 1.90 mi= $113.05
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.20 mi= $3.40
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 1.90 mi= $16.15
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 3.50 mi= $17.50

Road Number: 29-11-10.4 B C Continued

COMPACTION TEST - SURF. / LIFT
Dump Truck 10 cy 1 hr x $100.89/hr = $100.89

Subtotal: $3,798.87

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.67% of total Costs = $215.38
Surfacing - 2.19% by rock volume = $44.82

Subtotal: $260.20

Quarry Development:
Based on 2.19% of total rock volume

Subtotal: $0.00

Total: $7,208.07

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-10.6 C Road Name:
Road Construction: 0.03 mi 16 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.20 acres	$665.70
300 Excavation: Standard cy	$480.32
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$3,354.39
Quarry Name: Kincheloe 3-0" Surf 75.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $141.98 Surf. $38.11	$180.09
Quarry Development:	$0.00
Total:	$4,760.27

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

Road Construction Worksheet

Road Number: 29-11-10.6 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: .2 = $665.70

Subtotal: $665.70

Section 300 Excavation:
Comment: SUBGRADE + END LANDING
Excavation - Common: $2.53/cy x 120.00 cy = $303.60
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 120.00 cy = $44.40
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 1.7 sta = $53.01
Blading with ditch: $16.98/station x 1.70 stations = $28.87
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $480.32

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.03mi	12ft	14.7ft	8in	0%					

Rock Volume = 75.00 LCY
Purchase Price / Royalty: $16.10/LCY x 75.00 LCY = $1,207.50
Processing: $1.09/LCY x 75.00 LCY = $81.75
Compaction: $1.25/LCY x 75.00 LCY = $93.75
Basic Rock Haul cost: $0.79/LCY x 75.00 LCY = $59.25
Rock Haul +15% grades: $2.37/LCY-mi x 75.00 LCY x 0.10 mi= $17.78
Rock Haul -15% grades: $1.19/LCY-mi x 75.00 LCY x 2.90 mi= $258.83
Rock Haul St& Co Roads: $0.53/LCY-mi x 75.00 LCY x 5.50 mi= $218.63
Basic Water Haul cost: $0.77/LCY x 75.00 LCY = $57.75
Water Haul +15% grades: $0.34/LCY-mi x 75.00 LCY x 0.10 mi= $2.55
Water Haul -15% grades: $0.17/LCY-mi x 75.00 LCY x 2.90 mi= $36.98
Water Haul St&Co Roads: $0.10/LCY-mi x 75.00 LCY x 3.50 mi= $26.25

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: END LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.10 mi= $11.85
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 2.90 mi= $172.55
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.10 mi= $1.70
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 2.90 mi= $24.65
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 3.50 mi= $17.50

Road Number: 29-11-10.6 C Continued

COMPACTION TEST - SURF. / LIFT
Dump Truck 10 cy 1 hr x $100.89/hr = $100.89

Subtotal: $3,354.39

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOILS AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.10% of total Costs = $141.98
Surfacing - 1.87% by rock volume = $38.11

Subtotal: $180.09

Quarry Development:
Based on 1.87% of total rock volume

Subtotal: $0.00

Total: $4,760.27

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-11.0 B R Road Name:
Road Renovation: 0.1 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$326.70
Blading 0.10 mi	
Slide Removal 40.00 cy	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.24 acres	$191.45
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.30 acres	$139.97
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $20.40 Surf. $0.00	$20.40
Quarry Development:	$0.00
Total:	$678.52

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

Road Construction Worksheet

Road Number: 29-11-11.0 B R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
  Slide Removal 40.00 cy
  Front End Loader $100.66/hr x 1.00 hr = $100.66
  Blading: $849.24/mi x 0.10 mi = $84.92
  Scarification: $1037.04/mi x 0.10 mi = $103.70
  Compaction: $374.13/mi x 0.10 mi = $37.41

Subtotal: $326.70

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:
 Comment: ALL EXPOSED SOIL AND WASTE SITES
  Dry Method with Mulch: $477.70/acre x 0.24 acres = $114.65
        + Mulch Cost: $320.00/acre x 0.24 acres = $76.80

Subtotal: $191.45

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $262.45/acre x 0.10 acres = $26.25
  RoadSide Brushing Medium: $437.41/acre x 0.10 acres = $43.74
  RoadSide Brushing Heavy: $699.86/acre x 0.10 acres = $69.99

Subtotal: $139.97

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:

Road Number: 29-11-11.0 B R Continued

Construction - 0.16% of total Costs = $20.40
Surfacing - 0.00% by rock volume = $0.00

Subtotal: $20.40

Quarry Development:
Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $678.52

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-11.1 LDGS Road Name: SPECIFIED SITES
Road Construction: 0.02 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.25 acres	$832.12
300 Excavation:	$2,698.83
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$4,395.65
Quarry Name: Kincheloe Pit Run LR 190.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.20 acres	$159.54
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $250.67 Surf. $57.93	$308.59
Quarry Development:	$0.00
Total:	$8,394.73

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

Road Construction Worksheet

Road Number: 29-11-11.1 LDGS Road Name: SPECIFIED SITES

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: .25 = $832.12

Subtotal: $832.12

Section 300 Excavation:
EXC+EMB 4 LDNG + 1 ADJ OP AREA
Tractor: D8 with rippers 9 hr x $299.87/hr = $2,698.83

Subtotal: $2,698.83

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: 4 LANDING + 1 ADJ OP AREA SURFACING

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

Rock Volume = 190.00 LCY
Purchase Price / Royalty: $13.72/LCY x 190.00 LCY = $2,606.80
Processing: $1.09/LCY x 190.00 LCY = $207.10
Basic Rock Haul cost: $0.79/LCY x 190.00 LCY = $150.10
Rock Haul +15% grades: $2.37/LCY-mi x 190.00 LCY x 0.00 mi= $0.00
Rock Haul -15% grades: $1.19/LCY-mi x 190.00 LCY x 1.50 mi= $339.15
Rock Haul St& Co Roads: $0.53/LCY-mi x 190.00 LCY x 7.50 mi= $755.25
Basic Water Haul cost: $0.77/LCY x 190.00 LCY = $146.30
Water Haul +15% grades: $0.34/LCY-mi x 190.00 LCY x 0.00 mi= $0.00
Water Haul -15% grades: $0.17/LCY-mi x 190.00 LCY x 1.50 mi= $48.45
Water Haul St&Co Roads: $0.10/LCY-mi x 190.00 LCY x 7.50 mi= $142.50

Subtotal: $4,395.65

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 0.20 acres = $95.54
+ Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $159.54

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Road Number: 29-11-11.1 LDGS SPECIFIED SITES Continued

Subtotal:	$0.00

Section 2400 Minor Concrete:

Subtotal:	$0.00

Section 2500 Gabions:

Subtotal:	$0.00

Section 8000 Miscellaneous:

Subtotal:	$0.00

Mobilization:
Construction - 1.95% of total Costs = $250.67
Surfacing - 2.84% by rock volume = $57.93

Subtotal:	$308.59

Quarry Development:
Based on 2.84% of total rock volume

Subtotal:	$0.00
Total:	$8,394.73

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-11.4 A R Road Name: Brownson Axe
Road Renovation: 0.58 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$7,284.43
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 86.00 lf	
500 Renovation:	$2,898.77
Blading 1.10 mi	
Slide Removal 250.00 cy	
700-1200 Surfacing:	$3,203.59
Quarry Name: Kincheloe1.5-0" Spot 50.00 LCY	
Quarry Name: Kincheloe 1.5"- Culv 20.00 LCY	
Quarry Name: Kincheloe 3-0" Spot 55.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.70 acres	$558.39
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):1.41 acres	$616.75
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $451.41 Surf. $38.11	$489.52
Quarry Development:	$0.00
Total:	$15,051.45

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

Road Construction Worksheet

Road Number: 29-11-11.4 A R Road Name: Brownson Axe

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Poly Pipe MP 0.10 RPLC STRM 24 inch 46 lf x $66.20/lf = $3,045.20
Poly Pipe MP 0.21 RPLC XDRN 18 inch 40 lf x $46.74/lf = $1,869.60
EXC + EMB DEEP FILL MP 0.01
Water Truck 3000 Gal 5 hr x $107.15/hr = $535.75
Tamper – handheld 3 hr x $55.85/hr = $167.55
Dump Truck 10 cy 5 hr x $100.89/hr = $504.45
Excavator - Large (3 CY) 4 hr x $152.97/hr = $611.88
BASE CULVERT INSTALL EQUALS 1 HOUR EXCAVATOR TIME
1 EA x $0.00/EA = $0.00
DEWATERING CULVERT INSTALLS
PUMP, HOSE, FUEL, SANDBAGS 2 DAY x $275.00/DAY = $550.00

Subtotal: $7,284.43

Section 500 Renovation:

Comment: EXTREME GRADE-SHAPE-DITCH-BUNCH, FAILURE+DITCH SIDECAST
Slide Removal 250.00 cy
Front End Loader $100.66/hr x 8.00 hr = $805.28
Blading: $849.24/mi x 1.10 mi = $934.16
Scarification: $1037.04/mi x 0.58 mi = $601.48
Compaction: $374.13/mi x 0.58 mi = $217.00
Clean Culverts (ea): $72.60/ea x 4 ea = $290.40
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $2,898.77

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Spot

Comment: SPOT ROCK SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $16.52/LCY x 50.00 LCY = $826.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Compaction: $1.25/LCY x 50.00 LCY = $62.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.10 mi= $11.85
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 0.50 mi= $29.75
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 7.50 mi= $198.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.10 mi= $1.70
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 5.00 mi= $42.50
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 4.50 mi= $22.50

Commercial Quarry Name: Kincheloe 1.5"- Culv

Comment: CULVERT SIDE FILL + BASE COURSE REPLACE X 2

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

Rock Volume = 20.00 LCY
Purchase Price / Royalty: $16.52/LCY x 20.00 LCY = $330.40
Basic Rock Haul cost: $0.79/LCY x 20.00 LCY = $15.80
Rock Haul +15% grades: $2.37/LCY-mi x 20.00 LCY x 0.10 mi= $4.74

Road Number: 29-11-11.4 A R Brownson Axe Continued

  Rock Haul -15% grades: $1.19/LCY-mi x 20.00 LCY x 0.50 mi= $11.90
  Rock Haul St& Co Roads: $0.53/LCY-mi x 20.00 LCY x 7.50 mi= $79.50
  Basic Water Haul cost: $0.77/LCY x 20.00 LCY = $15.40
  Water Haul +15% grades: $0.34/LCY-mi x 20.00 LCY x 0.10 mi= $0.68
  Water Haul -15% grades: $0.17/LCY-mi x 20.00 LCY x 0.50 mi= $1.70
  Water Haul St&Co Roads: $0.10/LCY-mi x 20.00 LCY x 7.50 mi= $15.00

Commercial Quarry Name: Kincheloe 3-0" Spot
 Comment: MP 0.30 TRUCK TURNOUT SURFACING

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

  Rock Volume = 20.00 LCY
  Purchase Price / Royalty: $16.10/LCY x 20.00 LCY = $322.00
  Processing: $1.09/LCY x 20.00 LCY = $21.80
  Compaction: $1.25/LCY x 20.00 LCY = $25.00
  Basic Rock Haul cost: $0.79/LCY x 20.00 LCY = $15.80
  Rock Haul +15% grades: $2.37/LCY-mi x 20.00 LCY x 0.10 mi= $4.74
  Rock Haul -15% grades: $1.19/LCY-mi x 20.00 LCY x 0.50 mi= $11.90
  Rock Haul St& Co Roads: $0.53/LCY-mi x 20.00 LCY x 7.50 mi= $79.50
  Basic Water Haul cost: $0.77/LCY x 20.00 LCY = $15.40
  Water Haul +15% grades: $0.34/LCY-mi x 20.00 LCY x 0.10 mi= $0.68
  Water Haul -15% grades: $0.17/LCY-mi x 20.00 LCY x 0.50 mi= $1.70
  Water Haul St&Co Roads: $0.10/LCY-mi x 20.00 LCY x 7.50 mi= $15.00

Commercial Quarry Name: Kincheloe 3-0" Spot
 Comment: MP 0.01 BASE COURSE REPLACEMENT

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

  Rock Volume = 35.00 LCY
  Purchase Price / Royalty: $16.10/LCY x 35.00 LCY = $563.50
  Processing: $1.09/LCY x 35.00 LCY = $38.15
  Compaction: $1.25/LCY x 35.00 LCY = $43.75
  Basic Rock Haul cost: $0.79/LCY x 35.00 LCY = $27.65
  Rock Haul +15% grades: $2.37/LCY-mi x 35.00 LCY x 0.10 mi= $8.30
  Rock Haul -15% grades: $1.19/LCY-mi x 35.00 LCY x 0.40 mi= $16.66
  Rock Haul St& Co Roads: $0.53/LCY-mi x 35.00 LCY x 7.50 mi= $139.13
  Basic Water Haul cost: $0.77/LCY x 35.00 LCY = $26.95
  Water Haul +15% grades: $0.34/LCY-mi x 35.00 LCY x 0.10 mi= $1.19
  Water Haul -15% grades: $0.17/LCY-mi x 35.00 LCY x 0.40 mi= $2.38
  Water Haul St&Co Roads: $0.10/LCY-mi x 35.00 LCY x 5.50 mi= $19.25

Subtotal: $3,203.59

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
 Comment: ALL EXPOSED SOIL AND WASTE SITES
  Dry Method with Mulch: $477.70/acre x 0.70 acres = $334.39
      + Mulch Cost: $320.00/acre x 0.70 acres = $224.00

Subtotal: $558.39

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $437.41/acre x 1.41 acres = $616.75

Subtotal: $616.75

Road Number: 29-11-11.4 A R Brownson Axe Continued

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 3.51% of total Costs = $451.41
  Surfacing - 1.87% by rock volume = $38.11

Subtotal: $489.52

Quarry Development:
  Based on 1.87% of total rock volume

Subtotal: $0.00

Total: $15,051.45

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-11.4 B R Road Name:
Road Renovation: 0.58 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$782.15
Blading 0.58 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.58 acres	$152.22
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $31.44 Surf. $0.00	$31.44
Quarry Development:	$0.00
Total:	$1,045.58

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

Road Construction Worksheet

Road Number: 29-11-11.4 B R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
  Blading: $849.24/mi x 0.58 mi = $492.56
  Compaction: $374.13/mi x 0.58 mi = $217.00
  Clean Culverts (ea): $72.60/ea x 1 ea = $72.60

Subtotal: $782.15

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:
 Comment: ALL EXPOSED SOIL AND WASTE SITES
  Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
       + Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Light: $262.45/acre x 0.58 acres = $152.22

Subtotal: $152.22

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.24% of total Costs = $31.44
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $31.44

Quarry Development:

Road Number: 29-11-11.4 B R Continued

Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $1,045.58

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-11.6 C Road Name:
Road Construction: 0.1 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.30 acres	$1,030.24
300 Excavation: Standard cy	$1,565.33
Haul < 500 ft: 450.00 sta-yds	
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.25 acres	$199.43
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $86.64 Surf. $0.00	$86.64
Quarry Development:	$0.00
Total:	$2,881.64

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

Road Construction Worksheet

Road Number: 29-11-11.6 C Road Name:

Section 200 Clearing and Grubbing:
   Clearing - Medium (Clearing): Adjustment Factor (1.67)
   31-45% (Avg Side Slopes): Adjustment Factor (0.2)
   Pile and Burn (Slash): Adjustment Factor (1.28)
   20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
   Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.1 = 3.25
   Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.25 x Total Acres: .3 = $1,030.24
Subtotal: $1,030.24

Section 300 Excavation:
 Comment: SUBGRADE + END LANDING
  Excavation - Common: $2.53/cy x 400.00 cy = $1,012.00
  Embankment Placement & Compaction 306.f - Common: $0.37/cy x 400.00 cy = $148.00
  Subgrade Compaction: 4 Sta/hr $31.18/sta. x 5.5 sta = $171.49
  End Hauling - 100 to 500 ft: $0.20/sta-yd x 450.00 sta-yd = $90.00
  Blading with ditch: $16.98/station x 5.50 stations = $93.39
  COMPATION TEST - SUBGRADE
   Dump Truck 10 cy   .5 hr x $100.89/hr = $50.45
Subtotal: $1,565.33

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:
 Comment: ALL EXPOSED SOIL AND WASTE SITES
  Dry Method with Mulch: $477.70/acre x 0.25 acres = $119.43
        + Mulch Cost: $320.00/acre x 0.25 acres = $80.00
Subtotal: $199.43

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Subtotal: $0.00

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Road Number: 29-11-11.6 C Continued

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.67% of total Costs = $86.64
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $86.64

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $2,881.64

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-15.0 R Road Name:
Road Renovation: 1.52 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$7,011.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 150.00 lf	
500 Renovation:	$6,727.23
Blading 3.04 mi	
Slide Removal 825.00 cy	
700-1200 Surfacing:	$6,591.52
Quarry Name: Kincheloe1.5-0" Spot 130.00 LCY	
Quarry Name: Kincheloe 1.5"- Culv 40.00 LCY	
Quarry Name: Kincheloe1.5-0" Surf 33.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 2.00 acres	$1,595.40
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):3.70 acres	$1,705.91
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $732.55 Surf. $77.13	$809.68
Quarry Development:	$0.00
Total:	$24,440.74

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

Road Construction Worksheet

Road Number: 29-11-15.0 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Poly Pipe	MP 0.33 RPLC XDRN	18 inch 30 lf x $46.74/lf =	$1,402.20
Poly Pipe	MP 0.53 RPLC XDRN	18 inch 44 lf x $46.74/lf =	$2,056.56
Poly Pipe	MP 1.45 RPLC XDRN	18 inch 36 lf x $46.74/lf =	$1,682.64
Poly Pipe	MP 1.51 RPLC XDRN	18 inch 40 lf x $46.74/lf =	$1,869.60

Subtotal: $7,011.00

Section 500 Renovation:

Comment: EXTREME GRADE-SHAPE-DITCH-BUNCH, FAIL. ENDHAUL+DTCH SIDECAST

Slide Removal 825.00 cy
Front End Loader $100.66/hr x 10.00 hr = $1,006.60
Dump Truck: $100.89/hr x 5.00 hr = $504.45
Blading: $849.24/mi x 3.04 mi = $2,581.69
Scarification: $1037.04/mi x 1.52 mi = $1,576.30
Compaction: $374.13/mi x 1.52 mi = $568.68
Clean Culverts (ea): $72.60/ea x 6 ea = $435.60
COMPACTION TEST - FINISH GRADE
Dump truck 20 CY .5 hr x $107.83/hr = $53.92

Subtotal: $6,727.23

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Spot

Comment: SPOT ROCK SURFACING

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

Rock Volume = 100.00 LCY
Purchase Price / Royalty: $16.52/LCY x 100.00 LCY = $1,652.00
Processing: $1.09/LCY x 100.00 LCY = $109.00
Compaction: $1.25/LCY x 100.00 LCY = $125.00
Basic Rock Haul cost: $0.79/LCY x 100.00 LCY = $79.00
Rock Haul +15% grades: $2.37/LCY-mi x 100.00 LCY x 0.75 mi= $177.75
Rock Haul -15% grades: $1.19/LCY-mi x 100.00 LCY x 0.80 mi= $95.20
Rock Haul St& Co Roads: $0.53/LCY-mi x 100.00 LCY x 5.50 mi= $291.50
Basic Water Haul cost: $0.77/LCY x 100.00 LCY = $77.00
Water Haul +15% grades: $0.34/LCY-mi x 100.00 LCY x 0.75 mi= $25.50
Water Haul -15% grades: $0.17/LCY-mi x 100.00 LCY x 0.80 mi= $13.60
Water Haul St&Co Roads: $0.10/LCY-mi x 100.00 LCY x 3.50 mi= $35.00

Commercial Quarry Name: Kincheloe1.5-0" Spot

Comment: MP 1.36 TRUCK TURNOUT SURFACING

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

Rock Volume = 20.00 LCY
Purchase Price / Royalty: $16.52/LCY x 20.00 LCY = $330.40
Processing: $1.09/LCY x 20.00 LCY = $21.80
Compaction: $1.25/LCY x 20.00 LCY = $25.00
Basic Rock Haul cost: $0.79/LCY x 20.00 LCY = $15.80
Rock Haul +15% grades: $2.37/LCY-mi x 20.00 LCY x 1.40 mi= $66.36
Rock Haul -15% grades: $1.19/LCY-mi x 20.00 LCY x 0.80 mi= $19.04
Rock Haul St& Co Roads: $0.53/LCY-mi x 20.00 LCY x 5.50 mi= $58.30
Basic Water Haul cost: $0.77/LCY x 20.00 LCY = $15.40
Water Haul +15% grades: $0.34/LCY-mi x 20.00 LCY x 1.40 mi= $9.52

Road Number: 29-11-15.0 R Continued

Water Haul -15% grades: $0.17/LCY-mi x 20.00 LCY x 0.80 mi= $2.72
Water Haul St&Co Roads: $0.10/LCY-mi x 20.00 LCY x 3.50 mi= $7.00

Commercial Quarry Name: Kincheloe1.5-0" Spot
Comment: MP 0.11 BERM INSTALL

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

Rock Volume = 10.00 LCY
Purchase Price / Royalty: $16.52/LCY x 10.00 LCY = $165.20
Processing: $1.09/LCY x 10.00 LCY = $10.90
Compaction: $1.25/LCY x 10.00 LCY = $12.50
Basic Rock Haul cost: $0.79/LCY x 10.00 LCY = $7.90
Rock Haul +15% grades: $2.37/LCY-mi x 10.00 LCY x 0.10 mi= $2.37
Rock Haul -15% grades: $1.19/LCY-mi x 10.00 LCY x 0.80 mi= $9.52
Rock Haul St& Co Roads: $0.53/LCY-mi x 10.00 LCY x 5.50 mi= $29.15
Basic Water Haul cost: $0.77/LCY x 10.00 LCY = $7.70
Water Haul +15% grades: $0.34/LCY-mi x 10.00 LCY x 0.10 mi= $0.34
Water Haul -15% grades: $0.17/LCY-mi x 10.00 LCY x 0.80 mi= $1.36
Water Haul St&Co Roads: $0.10/LCY-mi x 10.00 LCY x 3.50 mi= $3.50

Commercial Quarry Name: Kincheloe 1.5"- Culv
Comment: CULVERT SIDE FILL + SURFACE REPLACEMENT

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

Rock Volume = 40.00 LCY
Purchase Price / Royalty: $16.52/LCY x 40.00 LCY = $660.80
Basic Rock Haul cost: $0.79/LCY x 40.00 LCY = $31.60
Rock Haul +15% grades: $2.37/LCY-mi x 40.00 LCY x 0.75 mi= $71.10
Rock Haul -15% grades: $1.19/LCY-mi x 40.00 LCY x 0.80 mi= $38.08
Rock Haul St& Co Roads: $0.53/LCY-mi x 40.00 LCY x 5.50 mi= $116.60
Basic Water Haul cost: $0.77/LCY x 40.00 LCY = $30.80
Water Haul +15% grades: $0.34/LCY-mi x 40.00 LCY x 0.75 mi= $10.20
Water Haul -15% grades: $0.17/LCY-mi x 40.00 LCY x 0.80 mi= $5.44
Water Haul St&Co Roads: $0.10/LCY-mi x 40.00 LCY x 3.50 mi= $14.00

Commercial Quarry Name: Kincheloe1.5-0" Surf
Comment: MP 0.62 NEW 6" LIFT SURFACING FOR 100' SEGMENT

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.02mi	12ft	14ft	6in	3%					

Rock Volume = 33.00 LCY
Purchase Price / Royalty: $16.52/LCY x 33.00 LCY = $545.16
Processing: $1.09/LCY x 33.00 LCY = $35.97
Compaction: $1.25/LCY x 33.00 LCY = $41.25
Basic Rock Haul cost: $0.79/LCY x 33.00 LCY = $26.07
Rock Haul +15% grades: $2.37/LCY-mi x 33.00 LCY x 0.60 mi= $46.93
Rock Haul -15% grades: $1.19/LCY-mi x 33.00 LCY x 0.80 mi= $31.42
Rock Haul St& Co Roads: $0.53/LCY-mi x 33.00 LCY x 5.50 mi= $96.20
Basic Water Haul cost: $0.77/LCY x 33.00 LCY = $25.41
Water Haul +15% grades: $0.34/LCY-mi x 33.00 LCY x 0.60 mi= $6.73
Water Haul -15% grades: $0.17/LCY-mi x 33.00 LCY x 0.80 mi= $4.49
Water Haul St&Co Roads: $0.10/LCY-mi x 33.00 LCY x 3.50 mi= $11.55

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: MP 1.52 LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 1.50 mi= $177.75
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 0.80 mi= $47.60
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50

Road Number: 29-11-15.0 R Continued

Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 1.50 mi= $25.50
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 0.80 mi= $6.80
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 3.50 mi= $17.50

Subtotal: $6,591.52

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE AREAS
Dry Method with Mulch: $477.70/acre x 2.00 acres = $955.40
+ Mulch Cost: $320.00/acre x 2.00 acres = $640.00

Subtotal: $1,595.40

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $262.45/acre x 1.00 acres = $262.45
RoadSide Brushing Medium: $437.41/acre x 1.70 acres = $743.60
RoadSide Brushing Heavy: $699.86/acre x 1.00 acres = $699.86

Subtotal: $1,705.91

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 5.69% of total Costs = $732.55
Surfacing - 3.78% by rock volume = $77.13

Subtotal: $809.68

Quarry Development:
Based on 3.78% of total rock volume

Subtotal: $0.00

Total: $24,440.74

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-15.1 R Road Name:
Road Renovation: 2.18 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.25 acres	$832.12
300 Excavation:	$3,049.15
400 Drainage:	$10,852.96
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 204.00 lf	
500 Renovation:	$9,356.93
Blading 4.36 mi	
Slide Removal 600.00 cy	
700-1200 Surfacing:	$8,218.55
Quarry Name: Kincheloe1.5-0" Spot 100.00 LCY	
Quarry Name: Kincheloe 1.5"- Culv 50.00 LCY	
Quarry Name: Kincheloe Pit Run LR 170.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 2.66 acres	$2,121.88
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):5.30 acres	$2,432.01
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $1,142.75 Surf. $97.56	$1,240.31
Quarry Development:	$0.00
Total:	$38,103.91

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

Road Construction Worksheet

Road Number: 29-11-15.1 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: .25 = $832.12
Subtotal: $832.12

Section 300 Excavation:
EXC+EMB 1 LDG + 4 ADJ OP AREAS
Tractor: D8 with rippers 10 hr x $299.87/hr = $2,998.70
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
Subtotal: $3,049.15

Section 400 Drainage:

Poly Pipe	MP 0.25 RPLC XDRN	18 inch 40 lf x $46.74/lf = $1,869.60
Poly Pipe	MP 0.50 RPLC XDRN	18 inch 40 lf x $46.74/lf = $1,869.60
Poly Pipe	MP 0.60 RPLC XDRN	18 inch 40 lf x $46.74/lf = $1,869.60
Poly Pipe	MP 0.77 RPLC XDRN	18 inch 34 lf x $46.74/lf = $1,589.16
Poly Pipe	MP 0.85 RPLC STRM	24 inch 50 lf x $66.20/lf = $3,310.00

CULVERT REPAIR MP 1.97
FIELD CUT DAMAGED INLET 1 EA x $115.00/EA = $115.00
CULVERT REPAIR MP 1.47
REPAIR INLET - FIELD CUT 1 EA x $115.00/EA = $115.00
CULVERT REPAIR MP 0.60
REPAIR INLET - FIELD CUT 1 EA x $115.00/EA = $115.00
Subtotal: $10,852.96

Section 500 Renovation:
Comment: EXTREME GRADE-SHAPE-DITCH-BUNCH, FAILURE+DITCH SIDECAST
Slide Removal 600.00 cy
Front End Loader $100.66/hr x 10.00 hr = $1,006.60
Dump Truck: $100.89/hr x 5.00 hr = $504.45
Blading: $849.24/mi x 4.36 mi = $3,702.69
Scarification: $1037.04/mi x 2.18 mi = $2,260.75
Compaction: $374.13/mi x 2.18 mi = $815.60
Clean Culverts (ea): $72.60/ea x 14 ea = $1,016.40
COMPACTION TEST – FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
Subtotal: $9,356.93

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Spot
Comment: SPOT ROCK SURFACING

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

Rock Volume = 100.00 LCY
Purchase Price / Royalty: $16.52/LCY x 100.00 LCY = $1,652.00
Processing: $1.09/LCY x 100.00 LCY = $109.00
Compaction: $1.25/LCY x 100.00 LCY = $125.00
Basic Rock Haul cost: $0.79/LCY x 100.00 LCY = $79.00
Rock Haul +15% grades: $2.37/LCY-mi x 100.00 LCY x 1.50 mi= $355.50
Rock Haul -15% grades: $1.19/LCY-mi x 100.00 LCY x 1.50 mi= $178.50
Rock Haul St& Co Roads: $0.53/LCY-mi x 100.00 LCY x 5.50 mi= $291.50
Basic Water Haul cost: $0.77/LCY x 100.00 LCY = $77.00

Road Number: 29-11-15.1 R Continued

Water Haul +15% grades: $0.34/LCY-mi x 100.00 LCY x 1.50 mi= $51.00
Water Haul -15% grades: $0.17/LCY-mi x 100.00 LCY x 1.50 mi= $25.50
Water Haul St&Co Roads: $0.10/LCY-mi x 100.00 LCY x 3.50 mi= $35.00

Commercial Quarry Name: Kincheloe 1.5"- Culv
Comment: CULVET SIDE FILL + SURFACING REPLACEMENT

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $16.52/LCY x 50.00 LCY = $826.00
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.70 mi= $82.95
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 0.70 mi= $41.65
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.70 mi= $11.90
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 0.70 mi= $5.95
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 3.50 mi= $17.50

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: LANDING + ADJ OPERATIONAL AREAS SURFACING

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

Rock Volume = 170.00 LCY
Purchase Price / Royalty: $13.72/LCY x 170.00 LCY = $2,332.40
Processing: $1.09/LCY x 170.00 LCY = $185.30
Basic Rock Haul cost: $0.79/LCY x 170.00 LCY = $134.30
Rock Haul +15% grades: $2.37/LCY-mi x 170.00 LCY x 1.00 mi= $402.90
Rock Haul -15% grades: $1.19/LCY-mi x 170.00 LCY x 1.00 mi= $202.30
Rock Haul St& Co Roads: $0.53/LCY-mi x 170.00 LCY x 5.50 mi= $495.55
Basic Water Haul cost: $0.77/LCY x 170.00 LCY = $130.90
Water Haul +15% grades: $0.34/LCY-mi x 170.00 LCY x 1.00 mi= $57.80
Water Haul -15% grades: $0.17/LCY-mi x 170.00 LCY x 1.00 mi= $28.90
Water Haul St&Co Roads: $0.10/LCY-mi x 170.00 LCY x 3.50 mi= $59.50

Subtotal: $8,218.55

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOILS AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 2.66 acres = $1,270.68
+ Mulch Cost: $320.00/acre x 2.66 acres = $851.20

Subtotal: $2,121.88

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $262.45/acre x 1.30 acres = $341.19
RoadSide Brushing Medium: $437.41/acre x 2.70 acres = $1,181.01
RoadSide Brushing Heavy: $699.86/acre x 1.30 acres = $909.82

Subtotal: $2,432.01

Section 2300 Engineering:

Subtotal: $0.00

Road Number: 29-11-15.1 R Continued

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 8.88% of total Costs = $1,142.75
  Surfacing - 4.78% by rock volume = $97.56

Subtotal: $1,240.31

Quarry Development:
  Based on 4.78% of total rock volume

Subtotal: $0.00

Total: $38,103.91

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-15.2 R Road Name:
Road Renovation: 0.23 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.55 acres	$1,917.84
300 Excavation:	$0.00
400 Drainage:	$7,149.60
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 108.00 lf	
500 Renovation:	$1,153.69
Blading 0.46 mi	
Slide Removal 150.00 cy	
700-1200 Surfacing:	$5,730.28
Quarry Name: Kincheloe 1.5"- Culv 10.00 LCY	
Quarry Name: Kincheloe1.5-0" Surf 190.00 LCY	
Quarry Name: Kincheloe 3-0" Spot 10.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$399.85
Gradation Class 3: 10.00 cy	
1800 Soil Stabilization: 0.55 acres	$438.74
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $520.48 Surf. $64.02	$584.50
Quarry Development:	$0.00
Total:	$17,374.50

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

Road Construction Worksheet

Road Number: 29-11-15.2 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
less than 20' (Avg Clearing Widths): Adjustment Factor (0.25)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.25 = 3.30
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.30 x Total Acres: 0.55 = $1,917.84
Subtotal: $1,917.84

Section 300 Excavation:
Subtotal: $0.00

Section 400 Drainage:

Poly Pipe	STA 3+70 RPLC XDRN	24 inch 34 lf x $66.20/lf =	$2,250.80
Poly Pipe	STA 6+00 NEW XDRN	24 inch 34 lf x $66.20/lf =	$2,250.80
Poly Pipe	STA 7+10 RPL STRM	24 inch 40 lf x $66.20/lf =	$2,648.00

Subtotal: $7,149.60

Section 500 Renovation:
Comment: EXTREME GRADE-SHAPE-DITCH-BUNCH, FAILURE+DITCH SIDECAST
Slide Removal 150.00 cy
Front End Loader $100.66/hr x 3.00 hr = $301.98
Blading: $849.24/mi x 0.46 mi = $390.65
Scarification: $1037.04/mi x 0.23 mi = $238.52
Compaction: $374.13/mi x 0.46 mi = $172.10
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
Subtotal: $1,153.69

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 1.5"- Culv
Comment: STA 7+10 SIDE FILL + FILL REPLACEMENT

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

Rock Volume = 10.00 LCY
Purchase Price / Royalty: $16.52/LCY x 10.00 LCY = $165.20
Basic Rock Haul cost: $0.79/LCY x 10.00 LCY = $7.90
Rock Haul +15% grades: $2.37/LCY-mi x 10.00 LCY x 0.70 mi= $16.59
Rock Haul -15% grades: $1.19/LCY-mi x 10.00 LCY x 0.80 mi= $9.52
Rock Haul St& Co Roads: $0.53/LCY-mi x 10.00 LCY x 5.50 mi= $29.15
Basic Water Haul cost: $0.77/LCY x 10.00 LCY = $7.70
Water Haul +15% grades: $0.34/LCY-mi x 10.00 LCY x 0.70 mi= $2.38
Water Haul -15% grades: $0.17/LCY-mi x 10.00 LCY x 0.80 mi= $1.36
Water Haul St&Co Roads: $0.10/LCY-mi x 10.00 LCY x 3.50 mi= $3.50

Commercial Quarry Name: Kincheloe1.5-0" Surf
Comment: 3" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.23mi	12ft	13ft	3in	3%					

Rock Volume = 190.00 LCY
Purchase Price / Royalty: $16.52/LCY x 190.00 LCY = $3,138.80
Processing: $1.09/LCY x 190.00 LCY = $207.10
Compaction: $1.25/LCY x 190.00 LCY = $237.50
Basic Rock Haul cost: $0.79/LCY x 190.00 LCY = $150.10
Rock Haul +15% grades: $2.37/LCY-mi x 190.00 LCY x 1.00 mi= $450.30
Rock Haul -15% grades: $1.19/LCY-mi x 190.00 LCY x 0.80 mi= $180.88
Rock Haul St& Co Roads: $0.53/LCY-mi x 190.00 LCY x 5.50 mi= $553.85
Basic Water Haul cost: $0.77/LCY x 190.00 LCY = $146.30

Road Number: 29-11-15.2 R Continued

Water Haul +15% grades: $0.34/LCY-mi x 190.00 LCY x 1.00 mi= $64.60
Water Haul -15% grades: $0.17/LCY-mi x 190.00 LCY x 0.80 mi= $25.84
Water Haul St&Co Roads: $0.10/LCY-mi x 190.00 LCY x 3.50 mi= $66.50

Commercial Quarry Name: Kincheloe 3-0" Spot
Comment: STA 7+10 BASE COURSE REPLACEMENT

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

Rock Volume = 10.00 LCY
Purchase Price / Royalty: $16.10/LCY x 10.00 LCY = $161.00
Processing: $1.09/LCY x 10.00 LCY = $10.90
Compaction: $1.25/LCY x 10.00 LCY = $12.50
Basic Rock Haul cost: $0.79/LCY x 10.00 LCY = $7.90
Rock Haul +15% grades: $2.37/LCY-mi x 10.00 LCY x 0.80 mi= $18.96
Rock Haul -15% grades: $1.19/LCY-mi x 10.00 LCY x 0.80 mi= $9.52
Rock Haul St& Co Roads: $0.53/LCY-mi x 10.00 LCY x 5.50 mi= $29.15
Basic Water Haul cost: $0.77/LCY x 10.00 LCY = $7.70
Water Haul +15% grades: $0.34/LCY-mi x 10.00 LCY x 0.80 mi= $2.72
Water Haul -15% grades: $0.17/LCY-mi x 10.00 LCY x 0.80 mi= $1.36
Water Haul St&Co Roads: $0.10/LCY-mi x 10.00 LCY x 3.50 mi= $3.50

Subtotal: $5,730.28

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:
Comment: FILL ARMORING STA 7+10
Rock Source: Kincheloe Class 3 RR
Purchase Price / Royalty: $29.40/cy x 10.00cy = $294.00
Furnish Class 3 type rock
Basic Rock Haul cost: $1.20/cy x 10.00cy = $12.00
Rock Haul +15% grades: $2.39/cy-mi x 10.00cy x 0.90 mi= $21.51
Rock Haul -15% grades: $1.20/cy-mi x 10.00cy x 0.80 mi= $9.60
Rock Haul St& Co Roads: $0.53/cy-mi x 10.00cy x 5.50 mi= $29.15
Placement on Fill slopes: 10.00cy x ($3.23/cy x 1.04) = $33.59

Subtotal: $399.85

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.55 acres = $262.74
+ Mulch Cost: $320.00/acre x 0.55 acres = $176.00

Subtotal: $438.74

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Comment: INCLUDED IN SECTION 200

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Road Number: 29-11-15.2 R Continued

Mobilization:
  Construction - 4.04% of total Costs = $520.48
  Surfacing - 3.13% by rock volume = $64.02

Subtotal: $584.50

Quarry Development:
  Based on 3.13% of total rock volume

Subtotal: $0.00

Total: $17,374.50

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-15.3 R Road Name:
Road Renovation: 0.09 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$475.51
Blading 0.18 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.22 acres	$175.49
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.20 acres	$87.48
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $22.89 Surf. $0.00	$22.89
Quarry Development:	$0.00
Total:	$761.38

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

Road Construction Worksheet

Road Number: 29-11-15.3 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Comment: EXTREME GRADE-SHAPE-DITCH, DITCH SIDECAST
Blading: $849.24/mi x 0.18 mi = $152.86
Scarification: $1037.04/mi x 0.09 mi = $93.33
Compaction: $374.13/mi x 0.09 mi = $33.67
Clean Culverts (ea): $72.60/ea x 2 ea = $145.20
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $475.51

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:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.22 acres = $105.09
+ Mulch Cost: $320.00/acre x 0.22 acres = $70.40

Subtotal: $175.49

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
RoadSide Brushing Medium: $437.41/acre x 0.20 acres = $87.48

Subtotal: $87.48

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 0.18% of total Costs = $22.89

Road Number: 29-11-15.3 R Continued

Surfacing - 0.00% by rock volume = $0.00

Subtotal: $22.89

Quarry Development:
Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $761.38

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-15.8 C Road Name:
Road Construction: 0.08 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.45 acres	$1,545.37
300 Excavation: Standard cy	$1,113.09
400 Drainage:	$1,402.20
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 30.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$6,258.09
Quarry Name: Kincheloe 3-0" Surf 181.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.20 acres	$159.54
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $324.82 Surf. $70.43	$395.25
Quarry Development:	$0.00
Total:	$10,873.52

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

Road Construction Worksheet

Road Number: 29-11-15.8 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.1 = 3.25
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.25 x Total Acres: .45 = $1,545.37
Subtotal: $1,545.37

Section 300 Excavation:
Comment: SUBGRADE + END LANDING
Excavation - Common: $2.53/cy x 300.00 cy = $759.00
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 300.00 cy = $111.00
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 4.0 sta = $124.72
Blading with ditch: $16.98/station x 4.00 stations = $67.92
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
Subtotal: $1,113.09

Section 400 Drainage:
Poly Pipe STA 1+50 NEW XDRN 18 inch 30 lf x $46.74/lf = $1,402.20
Subtotal: $1,402.20

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.08mi	12ft	14.7ft	8in	3%					

Rock Volume = 181.00 LCY
Purchase Price / Royalty: $16.10/LCY x 181.00 LCY = $2,914.10
Processing: $1.09/LCY x 181.00 LCY = $197.29
Compaction: $1.25/LCY x 181.00 LCY = $226.25
Basic Rock Haul cost: $0.79/LCY x 181.00 LCY = $142.99
Rock Haul +15% grades: $2.37/LCY-mi x 181.00 LCY x 1.20 mi= $514.76
Rock Haul -15% grades: $1.19/LCY-mi x 181.00 LCY x 1.00 mi= $215.39
Rock Haul St& Co Roads: $0.53/LCY-mi x 181.00 LCY x 5.50 mi= $527.62
Basic Water Haul cost: $0.77/LCY x 181.00 LCY = $139.37
Water Haul +15% grades: $0.34/LCY-mi x 181.00 LCY x 1.20 mi= $73.85
Water Haul -15% grades: $0.17/LCY-mi x 181.00 LCY x 1.00 mi= $30.77
Water Haul St&Co Roads: $0.10/LCY-mi x 181.00 LCY x 3.50 mi= $63.35

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: END LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 1.20 mi= $142.20
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 1.00 mi= $59.50
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 1.20 mi= $20.40
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 1.00 mi= $8.50

Road Number: 29-11-15.8 C Continued

Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 3.50 mi= $17.50

Subtotal: $6,258.09

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.20 acres = $95.54
+ Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $159.54

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 2.52% of total Costs = $324.82
Surfacing - 3.45% by rock volume = $70.43

Subtotal: $395.25

Quarry Development:
Based on 3.45% of total rock volume

Subtotal: $0.00

Total: $10,873.52

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-15.9 C Road Name:
Road Construction: 0.04 mi 16 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.25 acres	$858.54
300 Excavation: Standard cy	$1,023.99
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$4,901.52
Quarry Name: Kincheloe 3-0" Surf 97.00 LCY	
Quarry Name: Kincheloe Pit Run LR 100.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $212.77 Surf. $60.06	$272.84
Quarry Development:	$0.00
Total:	$7,136.65

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

Road Construction Worksheet

Road Number: 29-11-15.9 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.1 = 3.25
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.25 x Total Acres: 0.25 = $858.54

Subtotal: $858.54

Section 300 Excavation:
Comment: SUBGRADE + 2 LANDINGS
Excavation - Common: $2.53/cy x 300.00 cy = $759.00
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 300.00 cy = $111.00
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 2.2 sta = $67.04
Blading with ditch: $16.98/station x 2.15 stations = $36.51
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $1,023.99

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.04mi	12ft	14.7ft	8in	3%					

Rock Volume = 97.00 LCY
Purchase Price / Royalty: $16.10/LCY x 97.00 LCY = $1,561.70
Processing: $1.09/LCY x 97.00 LCY = $105.73
Compaction: $1.25/LCY x 97.00 LCY = $121.25
Basic Rock Haul cost: $0.79/LCY x 97.00 LCY = $76.63
Rock Haul +15% grades: $2.37/LCY-mi x 97.00 LCY x 0.90 mi= $206.90
Rock Haul -15% grades: $1.19/LCY-mi x 97.00 LCY x 0.80 mi= $92.34
Rock Haul St& Co Roads: $0.53/LCY-mi x 97.00 LCY x 5.50 mi= $282.76
Basic Water Haul cost: $0.77/LCY x 97.00 LCY = $74.69
Water Haul +15% grades: $0.34/LCY-mi x 97.00 LCY x 0.90 mi= $29.68
Water Haul -15% grades: $0.17/LCY-mi x 97.00 LCY x 0.80 mi= $13.19
Water Haul St&Co Roads: $0.10/LCY-mi x 97.00 LCY x 3.50 mi= $33.95

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: 2 X LANDING SURFACING

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

Rock Volume = 100.00 LCY
Purchase Price / Royalty: $13.72/LCY x 100.00 LCY = $1,372.00
Processing: $1.09/LCY x 100.00 LCY = $109.00
Basic Rock Haul cost: $0.79/LCY x 100.00 LCY = $79.00
Rock Haul +15% grades: $2.37/LCY-mi x 100.00 LCY x 0.80 mi= $189.60
Rock Haul -15% grades: $1.19/LCY-mi x 100.00 LCY x 0.90 mi= $107.10
Rock Haul St& Co Roads: $0.53/LCY-mi x 100.00 LCY x 5.50 mi= $291.50
Basic Water Haul cost: $0.77/LCY x 100.00 LCY = $77.00
Water Haul +15% grades: $0.34/LCY-mi x 100.00 LCY x 0.80 mi= $27.20
Water Haul -15% grades: $0.17/LCY-mi x 100.00 LCY x 0.90 mi= $15.30
Water Haul St&Co Roads: $0.10/LCY-mi x 100.00 LCY x 3.50 mi= $35.00

Road Number: 29-11-15.9 C Continued

Subtotal: $4,901.52

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.65% of total Costs = $212.77
Surfacing - 2.94% by rock volume = $60.06

Subtotal: $272.84

Quarry Development:
Based on 2.94% of total rock volume

Subtotal: $0.00

Total: $7,136.65

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-21.2 R Road Name:
Road Renovation: 1.07 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.05 acres	$166.42
300 Excavation:	$599.74
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$8,130.76
Blading 2.10 mi	
Slide Removal 450.00 cy	
700-1200 Surfacing:	$7,115.40
Quarry Name: Kincheloe1.5-0" Spot 200.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 1.30 acres	$1,037.01
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):2.60 acres	$1,216.01
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $566.21 Surf. $76.22	$642.43
Quarry Development:	$0.00
Total:	$18,907.77

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

Road Construction Worksheet

Road Number: 29-11-21.2 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: .05 = $166.42

Subtotal: $166.42

Section 300 Excavation:
EXC+EMB 1 LDNG
Tractor: D8 with rippers 2 hr x $299.87/hr = $599.74

Subtotal: $599.74

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Comment: EXTREME GRADE-SHAPE-DITCH. DITCH SIDECAST
Slide Removal 450.00 cy
Front End Loader $100.66/hr x 7.00 hr = $704.62
Blading: $849.24/mi x 2.10 mi = $1,783.40
Scarification: $1037.04/mi x 1.10 mi = $1,140.74
Compaction: $374.13/mi x 1.10 mi = $411.54
Clean Culverts (ea): $72.60/ea x 10 ea = $726.00
COMPATION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
TREAT EXIST. STORM DAMAGE
LOGGING PROCESSOR / LOG LOADER 1 DAY x $2,214.00/DAY = $2,214.00
MOBILIZATION 1 EA x $1,100.00/EA = $1,100.00

Subtotal: $8,130.76

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Spot
Comment: SPOT ROCK SURFACING

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

Rock Volume = 200.00 LCY
Purchase Price / Royalty: $16.52/LCY x 200.00 LCY = $3,304.00
Processing: $1.09/LCY x 200.00 LCY = $218.00
Compaction: $1.25/LCY x 200.00 LCY = $250.00
Basic Rock Haul cost: $0.79/LCY x 200.00 LCY = $158.00
Rock Haul +15% grades: $2.37/LCY-mi x 200.00 LCY x 1.75 mi= $829.50
Rock Haul -15% grades: $1.19/LCY-mi x 200.00 LCY x 0.80 mi= $190.40
Rock Haul St& Co Roads: $0.53/LCY-mi x 200.00 LCY x 5.50 mi= $583.00
Basic Water Haul cost: $0.77/LCY x 200.00 LCY = $154.00
Water Haul +15% grades: $0.34/LCY-mi x 200.00 LCY x 1.75 mi= $119.00
Water Haul -15% grades: $0.17/LCY-mi x 200.00 LCY x 0.80 mi= $27.20
Water Haul St&Co Roads: $0.10/LCY-mi x 200.00 LCY x 3.50 mi= $70.00

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: MP 0.17 LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50

Road Number: 29-11-21.2 R Continued

Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 1.30 mi= $154.05
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 0.80 mi= $47.60
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 1.30 mi= $22.10
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 0.80 mi= $6.80
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 3.50 mi= $17.50

Subtotal: $7,115.40

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 1.30 acres = $621.01
+ Mulch Cost: $320.00/acre x 1.30 acres = $416.00

Subtotal: $1,037.01

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $262.45/acre x 0.60 acres = $157.47
RoadSide Brushing Medium: $437.41/acre x 1.30 acres = $568.63
RoadSide Brushing Heavy: $699.86/acre x 0.70 acres = $489.90

Subtotal: $1,216.01

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 - 4.40% of total Costs = $566.21
Surfacing - 3.73% by rock volume = $76.22

Subtotal: $642.43

Quarry Development:
Based on 3.73% of total rock volume

Subtotal: $0.00

Total: $18,907.77

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-22.0 R Road Name: Fall Creek Road
Road Renovation: 2.85 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.05 acres	$166.42
300 Excavation:	$599.74
400 Drainage:	$12,358.40
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 196.00 lf	
500 Renovation:	$11,273.01
Blading 5.70 mi	
Slide Removal 920.00 cy	
700-1200 Surfacing:	$4,358.00
Quarry Name: Kincheloe1.5-0" Spot 100.00 LCY	
Quarry Name: Kincheloe 1.5"- Culv 50.00 LCY	
Quarry Name: Kincheloe Pit Run LR 30.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 3.50 acres	$3,561.95
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):2.85 acres	$1,246.62
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $1,040.47 Surf. $54.88	$1,095.35
Quarry Development:	$0.00
Total:	$34,659.49

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

Road Construction Worksheet

Road Number: 29-11-22.0 R Road Name: Fall Creek Road

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: .05 = $166.42
Subtotal: $166.42

Section 300 Excavation:
EXC+EMB 1 LDNG
Tractor: D8 with rippers 2 hr x $299.87/hr = $599.74
Subtotal: $599.74

Section 400 Drainage:

Poly Pipe	MP 0.08 RPLC STRM	24 inch 36 lf x $66.20/lf = $2,383.20
Poly Pipe	MP 0.56 RPLC XDRN	18 inch 40 lf x $46.74/lf = $1,869.60
Poly Pipe	MP 1.00 RPLC XDRN	18 inch 40 lf x $46.74/lf = $1,869.60
Poly Pipe	MP 1.25 RPLC XDRN	24 inch 40 lf x $66.20/lf = $2,648.00
Poly Pipe	MP 1.4 RPLC XDRN	24 inch 40 lf x $66.20/lf = $2,648.00

CULVERT REPAIR MP 1.76
REPAIR INLET - FIELD CUT 1 EA x $115.00/EA = $115.00
DEWATER STRM CULVERT INSTALLS
PUMP, HOSE, FUEL, SANDBAGS 3 DAY x $275.00/DAY = $825.00
Subtotal: $12,358.40

Section 500 Renovation:
Comment: EXTREME GRADE-SHAPE-DITCH-BUNCH, FAILURE ENDHAUL+DITCH SIDEC
Slide Removal 920.00 cy
Front End Loader $100.66/hr x 15.00 hr = $1,509.90
Dump Truck: $100.89/hr x 7.00 hr = $706.23
Blading: $849.24/mi x 5.70 mi = $4,840.67
Scarification: $1037.04/mi x 1.40 mi = $1,451.86
Compaction: $374.13/mi x 2.85 mi = $1,066.27
Clean Culverts (ea): $72.60/ea x 22 ea = $1,597.20
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy 1 hr x $100.89/hr = $100.89
Subtotal: $11,273.01

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Spot
Comment: SPOT ROCK SURFACING

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

Rock Volume = 100.00 LCY
Purchase Price / Royalty: $16.52/LCY x 100.00 LCY = $1,652.00
Processing: $1.09/LCY x 100.00 LCY = $109.00
Compaction: $1.25/LCY x 100.00 LCY = $125.00
Basic Rock Haul cost: $0.79/LCY x 100.00 LCY = $79.00
Rock Haul +15% grades: $2.37/LCY-mi x 100.00 LCY x 0.00 mi= $0.00
Rock Haul -15% grades: $1.19/LCY-mi x 100.00 LCY x 1.50 mi= $178.50
Rock Haul St& Co Roads: $0.53/LCY-mi x 100.00 LCY x 5.50 mi= $291.50
Basic Water Haul cost: $0.77/LCY x 100.00 LCY = $77.00
Water Haul +15% grades: $0.34/LCY-mi x 100.00 LCY x 0.00 mi= $0.00
Water Haul -15% grades: $0.17/LCY-mi x 100.00 LCY x 1.50 mi= $25.50
Water Haul St&Co Roads: $0.10/LCY-mi x 100.00 LCY x 3.50 mi= $35.00

Road Number: 29-11-22.0 R Fall Creek Road Continued

Commercial Quarry Name: Kincheloe 1.5"- Culv
 Comment: CULVERT SIDE FILL + SURFACE REPLACEMENT

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

  Rock Volume = 50.00 LCY
  Purchase Price / Royalty: $16.52/LCY x 50.00 LCY = $826.00
  Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
  Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 0.00 mi= $0.00
  Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 1.00 mi= $59.50
  Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
  Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
  Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 0.00 mi= $0.00
  Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 1.00 mi= $8.50
  Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 3.50 mi= $17.50

Commercial Quarry Name: Kincheloe Pit Run LR
 Comment: MP 1.50 LANDING SURFACING

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

  Rock Volume = 30.00 LCY
  Purchase Price / Royalty: $13.72/LCY x 30.00 LCY = $411.60
  Processing: $1.09/LCY x 30.00 LCY = $32.70
  Basic Rock Haul cost: $0.79/LCY x 30.00 LCY = $23.70
  Rock Haul +15% grades: $2.37/LCY-mi x 30.00 LCY x 0.00 mi= $0.00
  Rock Haul -15% grades: $1.19/LCY-mi x 30.00 LCY x 1.50 mi= $53.55
  Rock Haul St& Co Roads: $0.53/LCY-mi x 30.00 LCY x 5.50 mi= $87.45
  Basic Water Haul cost: $0.77/LCY x 30.00 LCY = $23.10
  Water Haul +15% grades: $0.34/LCY-mi x 30.00 LCY x 0.00 mi= $0.00
  Water Haul -15% grades: $0.17/LCY-mi x 30.00 LCY x 1.50 mi= $7.65
  Water Haul St&Co Roads: $0.10/LCY-mi x 30.00 LCY x 3.50 mi= $10.50

Subtotal: $4,358.00

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
 Comment: ALL EXPOSED SOIL AND WASTE SITES
  Dry Method with Mulch: $477.70/acre x 3.50 acres = $1,671.95
        + Mulch Cost: $320.00/acre x 3.50 acres = $1,120.00
  EROSION CONTROL - CHECK DAMS
   STRAW WATTLE 9 INCH X 5 FEET + 3 STAKES PER CHECK DAM
                                    8 EA x $50.00/EA = $400.00
   LABOR + TRUCK PER CHECK DAM 10 EA x $37.00/EA = $370.00

Subtotal: $3,561.95

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $437.41/acre x 2.85 acres = $1,246.62

Subtotal: $1,246.62

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Road Number: 29-11-22.0 R Fall Creek Road Continued

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 8.08% of total Costs = $1,040.47
  Surfacing - 2.69% by rock volume = $54.88

Subtotal: $1,095.35

Quarry Development:
  Based on 2.69% of total rock volume

Subtotal: $0.00

Total: $34,659.49

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-9.0 I Road Name:
Road Improvement: 0.08 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.20 acres	$665.70
300 Excavation:	$650.19
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$327.44
Blading 0.16 mi	
700-1200 Surfacing:	$7,427.57
Quarry Name: Kincheloe 3-0" Surf 201.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.20 acres	$159.54
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $286.14 Surf. $76.52	$362.66
Quarry Development:	$0.00
Total:	$9,593.09

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

Road Construction Worksheet

Road Number: 29-11-9.0 I Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: .2 = $665.70

Subtotal: $665.70

Section 300 Excavation:
COMPACTION TEST - SUBGRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45
EXC+EMB 1 LDNG
Tractor: D8 with rippers 2 hr x $299.87/hr = $599.74

Subtotal: $650.19

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Comment: INSLOPE WITH 2' DITCH
Blading: $849.24/mi x 0.16 mi = $135.88
Scarification: $1037.04/mi x 0.10 mi = $103.70
Compaction: $374.13/mi x 0.10 mi = $37.41
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $327.44

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.08mi	12ft	14.7ft	8in	3%					

Rock Volume = 201.00 LCY
Purchase Price / Royalty: $16.10/LCY x 201.00 LCY = $3,236.10
Processing: $1.09/LCY x 201.00 LCY = $219.09
Compaction: $1.25/LCY x 201.00 LCY = $251.25
Basic Rock Haul cost: $0.79/LCY x 201.00 LCY = $158.79
Rock Haul +15% grades: $2.37/LCY-mi x 201.00 LCY x 2.20 mi= $1,048.01
Rock Haul -15% grades: $1.19/LCY-mi x 201.00 LCY x 0.80 mi= $191.35
Rock Haul St& Co Roads: $0.53/LCY-mi x 201.00 LCY x 5.50 mi= $585.92
Basic Water Haul cost: $0.77/LCY x 201.00 LCY = $154.77
Water Haul +15% grades: $0.34/LCY-mi x 201.00 LCY x 2.20 mi= $150.35
Water Haul -15% grades: $0.17/LCY-mi x 201.00 LCY x 0.80 mi= $27.34
Water Haul St&Co Roads: $0.10/LCY-mi x 201.00 LCY x 3.50 mi= $70.35

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: END LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 2.20 mi= $260.70
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 0.80 mi= $47.60
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50

Road Number: 29-11-9.0 I Continued

Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 2.20 mi= $37.40
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 0.80 mi= $6.80
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 3.50 mi= $17.50

Subtotal: $7,427.57

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.20 acres = $95.54
+ Mulch Cost: $320.00/acre x 0.20 acres = $64.00

Subtotal: $159.54

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Comment: INCLUDED IN SECTION 200

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 2.22% of total Costs = $286.14
Surfacing - 3.75% by rock volume = $76.52

Subtotal: $362.66

Quarry Development:
Based on 3.75% of total rock volume

Subtotal: $0.00

Total: $9,593.09

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-9.0 R Road Name:
Road Renovation: 0.18 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.50 acres	$1,664.24
300 Excavation: Standard cy	$1,676.94
Haul > 500 ft: 70.00 yd-mi	
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$761.17
Blading 0.36 mi	
Slide Removal 110.00 cy	
700-1200 Surfacing:	$7,347.08
Quarry Name: Kincheloe1.5-0" Surf 155.00 LCY	
Quarry Name: Kincheloe 3-0" Spot 50.00 LCY	
Quarry Name: Kincheloe Pit Run LR 40.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.45 acres	$358.97
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $366.05 Surf. $74.70	$440.75
Quarry Development:	$0.00
Total:	$12,249.14

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

Road Construction Worksheet

Road Number: 29-11-9.0 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: 0.50 = $1,664.24

Subtotal: $1,664.24

Section 300 Excavation:
Comment: STA 2+20 REGAIN ROAD WIDTH
Excavation - Common: $2.53/cy x 270.00 cy = $683.10
End Hauling > 500 ft and 10 mph: $2.39/yd-mi x 70.00 yd-mi = $167.30
End Hauling > 500 ft - Fixed Cost (CY): $3.24/cy x 70.00 cy = $226.80
EXC+EMB 1 LDNG
Tractor: D8 with rippers 2 hr x $299.87/hr = $599.74

Subtotal: $1,676.94

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Comment: EXTREME GRADE-SHAPE-DITCH-BUNCH, FAILURE+DITCH ENDHAUL
Slide Removal 110.00 cy
Front End Loader $100.66/hr x 1.50 hr = $150.99
Blading: $849.24/mi x 0.36 mi = $305.73
Scarification: $1037.04/mi x 0.18 mi = $186.67
Compaction: $374.13/mi x 0.18 mi = $67.34
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $761.17

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Surf
Comment: 3" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.18mi	12ft	13ft	3in	3%					

Rock Volume = 155.00 LCY
Purchase Price / Royalty: $16.52/LCY x 155.00 LCY = $2,560.60
Processing: $1.09/LCY x 155.00 LCY = $168.95
Compaction: $1.25/LCY x 155.00 LCY = $193.75
Basic Rock Haul cost: $0.79/LCY x 155.00 LCY = $122.45
Rock Haul +15% grades: $2.37/LCY-mi x 155.00 LCY x 2.20 mi= $808.17
Rock Haul -15% grades: $1.19/LCY-mi x 155.00 LCY x 0.80 mi= $147.56
Rock Haul St& Co Roads: $0.53/LCY-mi x 155.00 LCY x 5.50 mi= $451.83
Basic Water Haul cost: $0.77/LCY x 155.00 LCY = $119.35
Water Haul +15% grades: $0.34/LCY-mi x 155.00 LCY x 2.20 mi= $115.94
Water Haul -15% grades: $0.17/LCY-mi x 155.00 LCY x 0.80 mi= $21.08
Water Haul St&Co Roads: $0.10/LCY-mi x 155.00 LCY x 3.50 mi= $54.25

Commercial Quarry Name: Kincheloe 3-0" Spot
Comment: STA 5+60 SLUMP REPAIR

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

Rock Volume = 10.00 LCY
Purchase Price / Royalty: $16.10/LCY x 10.00 LCY = $161.00
Processing: $1.09/LCY x 10.00 LCY = $10.90
Compaction: $1.25/LCY x 10.00 LCY = $12.50

Road Number: 29-11-9.0 R Continued

Basic Rock Haul cost: $0.79/LCY x 10.00 LCY = $7.90
Rock Haul +15% grades: $2.37/LCY-mi x 10.00 LCY x 2.20 mi= $52.14
Rock Haul -15% grades: $1.19/LCY-mi x 10.00 LCY x 0.80 mi= $9.52
Rock Haul St& Co Roads: $0.53/LCY-mi x 10.00 LCY x 5.50 mi= $29.15
Basic Water Haul cost: $0.77/LCY x 10.00 LCY = $7.70
Water Haul +15% grades: $0.34/LCY-mi x 10.00 LCY x 2.20 mi= $7.48
Water Haul -15% grades: $0.17/LCY-mi x 10.00 LCY x 0.80 mi= $1.36
Water Haul St&Co Roads: $0.10/LCY-mi x 10.00 LCY x 3.50 mi= $3.50

Commercial Quarry Name: Kincheloe 3-0" Spot
Comment: STA 2+20 BASE COURSE REPLACEMENT

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

Rock Volume = 40.00 LCY
Purchase Price / Royalty: $16.10/LCY x 40.00 LCY = $644.00
Processing: $1.09/LCY x 40.00 LCY = $43.60
Compaction: $1.25/LCY x 40.00 LCY = $50.00
Basic Rock Haul cost: $0.79/LCY x 40.00 LCY = $31.60
Rock Haul +15% grades: $2.37/LCY-mi x 40.00 LCY x 2.20 mi= $208.56
Rock Haul -15% grades: $1.19/LCY-mi x 40.00 LCY x 0.80 mi= $38.08
Rock Haul St& Co Roads: $0.53/LCY-mi x 40.00 LCY x 5.50 mi= $116.60
Basic Water Haul cost: $0.77/LCY x 40.00 LCY = $30.80
Water Haul +15% grades: $0.34/LCY-mi x 40.00 LCY x 2.20 mi= $29.92
Water Haul -15% grades: $0.17/LCY-mi x 40.00 LCY x 0.80 mi= $5.44
Water Haul St&Co Roads: $0.10/LCY-mi x 40.00 LCY x 3.50 mi= $14.00

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: 7+30 LANDING SURFACING

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

Rock Volume = 40.00 LCY
Purchase Price / Royalty: $13.72/LCY x 40.00 LCY = $548.80
Processing: $1.09/LCY x 40.00 LCY = $43.60
Basic Rock Haul cost: $0.79/LCY x 40.00 LCY = $31.60
Rock Haul +15% grades: $2.37/LCY-mi x 40.00 LCY x 2.20 mi= $208.56
Rock Haul -15% grades: $1.19/LCY-mi x 40.00 LCY x 0.80 mi= $38.08
Rock Haul St& Co Roads: $0.53/LCY-mi x 40.00 LCY x 5.50 mi= $116.60
Basic Water Haul cost: $0.77/LCY x 40.00 LCY = $30.80
Water Haul +15% grades: $0.34/LCY-mi x 40.00 LCY x 2.20 mi= $29.92
Water Haul -15% grades: $0.17/LCY-mi x 40.00 LCY x 0.80 mi= $5.44
Water Haul St&Co Roads: $0.10/LCY-mi x 40.00 LCY x 3.50 mi= $14.00

Subtotal: $7,347.08

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.45 acres = $214.97
+ Mulch Cost: $320.00/acre x 0.45 acres = $144.00

Subtotal: $358.97

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Comment: INCLUDED SECTION 200

Subtotal: $0.00

Road Number: 29-11-9.0 R Continued

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 2.84% of total Costs = $366.05
  Surfacing - 3.66% by rock volume = $74.70

Subtotal: $440.75

Quarry Development:
  Based on 3.66% of total rock volume

Subtotal: $0.00

Total: $12,249.14

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-9.1 R Road Name:
Road Renovation: 0.23 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$191.21
300 Excavation:	$0.00
400 Drainage:	$1,215.24
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 26.00 lf	
500 Renovation:	$1,184.78
Blading 0.46 mi	
Slide Removal 100.00 cy	
700-1200 Surfacing:	$1,086.80
Quarry Name: Kincheloe1.5-0" Spot 30.00 LCY	
Quarry Name: Kincheloe 1.5"- Culv 10.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.60 acres	$478.62
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.45 acres	$205.58
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $135.23 Surf. $12.20	$147.42
Quarry Development:	$0.00
Total:	$4,509.66

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

Road Construction Worksheet

Road Number: 29-11-9.1 R Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
16-30% (Avg Side Slopes): Adjustment Factor (0.1)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
RENOVATE LANDING STA 12+25
Excavator - Large (3 CY) 1.25 hr x $152.97/hr = $191.21

Subtotal: $191.21

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:
Poly Pipe STA 0+10 RPLC XDRN 18 inch 26 lf x $46.74/lf = $1,215.24

Subtotal: $1,215.24

Section 500 Renovation:
Comment: EXTREME GRADE-SHAPE-DITCH-BUNCH, FAILURE+DITCH SIDECAST
Slide Removal 100.00 cy
Front End Loader $100.66/hr x 2.00 hr = $201.32
Blading: $849.24/mi x 0.46 mi = $390.65
Scarification: $1037.04/mi x 0.23 mi = $238.52
Compaction: $374.13/mi x 0.23 mi = $86.05
Clean Culverts (ea): $72.60/ea x 3 ea = $217.80
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $1,184.78

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe1.5-0" Spot
Comment: SPOT ROCK SURFACING

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

Rock Volume = 30.00 LCY
Purchase Price / Royalty: $16.52/LCY x 30.00 LCY = $495.60
Processing: $1.09/LCY x 30.00 LCY = $32.70
Compaction: $1.25/LCY x 30.00 LCY = $37.50
Basic Rock Haul cost: $0.79/LCY x 30.00 LCY = $23.70
Rock Haul +15% grades: $2.37/LCY-mi x 30.00 LCY x 1.00 mi= $71.10
Rock Haul -15% grades: $1.19/LCY-mi x 30.00 LCY x 1.00 mi= $35.70
Rock Haul St& Co Roads: $0.53/LCY-mi x 30.00 LCY x 5.50 mi= $87.45
Basic Water Haul cost: $0.77/LCY x 30.00 LCY = $23.10
Water Haul +15% grades: $0.34/LCY-mi x 30.00 LCY x 1.00 mi= $10.20
Water Haul -15% grades: $0.17/LCY-mi x 30.00 LCY x 1.00 mi= $5.10
Water Haul St&Co Roads: $0.10/LCY-mi x 30.00 LCY x 3.50 mi= $10.50

Commercial Quarry Name: Kincheloe 1.5"- Culv
Comment: CULVERT SIDE FILL + SURFACE REPLACEMENT

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

Rock Volume = 10.00 LCY
Purchase Price / Royalty: $16.52/LCY x 10.00 LCY = $165.20
Basic Rock Haul cost: $0.79/LCY x 10.00 LCY = $7.90
Rock Haul +15% grades: $2.37/LCY-mi x 10.00 LCY x 1.00 mi= $23.70
Rock Haul -15% grades: $1.19/LCY-mi x 10.00 LCY x 1.00 mi= $11.90
Rock Haul St& Co Roads: $0.53/LCY-mi x 10.00 LCY x 5.50 mi= $29.15
Basic Water Haul cost: $0.77/LCY x 10.00 LCY = $7.70

Road Number: 29-11-9.1 R Continued

Water Haul +15% grades: $0.34/LCY-mi x 10.00 LCY x 1.00 mi= $3.40
Water Haul -15% grades: $0.17/LCY-mi x 10.00 LCY x 1.00 mi= $1.70
Water Haul St&Co Roads: $0.10/LCY-mi x 10.00 LCY x 3.50 mi= $3.50

Subtotal: $1,086.80

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.60 acres = $286.62
+ Mulch Cost: $320.00/acre x 0.60 acres = $192.00

Subtotal: $478.62

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $262.45/acre x 0.10 acres = $26.25
RoadSide Brushing Medium: $437.41/acre x 0.25 acres = $109.35
RoadSide Brushing Heavy: $699.86/acre x 0.10 acres = $69.99

Subtotal: $205.58

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.05% of total Costs = $135.23
Surfacing - 0.60% by rock volume = $12.20

Subtotal: $147.42

Quarry Development:
Based on 0.60% of total rock volume

Subtotal: $0.00

Total: $4,509.66

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-9.4 R Road Name:
Road Renovation: 0.04 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$191.82
Blading 0.10 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.10 acres	$43.74
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $9.77 Surf. $0.00	$9.77
Quarry Development:	$0.00
Total:	$325.10

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

Road Construction Worksheet

Road Number: 29-11-9.4 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Comment: EXTREME GRADE-SHAPE-DITCH-BUNCH, FAILURE+DITCH SIDECAST
Blading: $849.24/mi x 0.10 mi = $84.92
Scarification: $1037.04/mi x 0.04 mi = $41.48
Compaction: $374.13/mi x 0.04 mi = $14.97
COMPACTION TEST - FINISH GRADE
Dump Truck 10 cy .5 hr x $100.89/hr = $50.45

Subtotal: $191.82

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:
Comment: ALL EXPOSED SOIL AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
RoadSide Brushing Medium: $437.41/acre x 0.10 acres = $43.74

Subtotal: $43.74

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 0.08% of total Costs = $9.77
Surfacing - 0.00% by rock volume = $0.00

Road Number: 29-11-9.4 R Continued

Subtotal:	$9.77

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal:	$0.00
Total:	$325.10

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-9.7 R Road Name:
Road Renovation: 0.16 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.39 acres	$1,401.13
300 Excavation:	$599.74
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$547.99
Blading 0.32 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.40 acres	$319.08
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $88.90 Surf. $0.00	$88.90
Quarry Development:	$0.00
Total:	$2,956.84

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

Road Construction Worksheet

Road Number: 29-11-9.7 R Road Name:

Section 200 Clearing and Grubbing:
   Clearing - Medium (Clearing): Adjustment Factor (1.67)
   31-45% (Avg Side Slopes): Adjustment Factor (0.2)
   Pile and Burn (Slash): Adjustment Factor (1.28)
   less than 20' (Avg Clearing Widths): Adjustment Factor (0.25)
   Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.25 = 3.40
   Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.40 x Total Acres: 0.39 = $1,401.13
Subtotal: $1,401.13

Section 300 Excavation:
  EXC+EMB 1 LDNG
   Tractor: D8 with rippers 2 hr x $299.87/hr = $599.74
Subtotal: $599.74

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
  Blading: $849.24/mi x 0.32 mi = $271.76
  Scarification: $1037.04/mi x 0.16 mi = $165.93
  Compaction: $374.13/mi x 0.16 mi = $59.86
  COMPACTION TEST - FINISH GRADE
   Dump Truck 10 cy   .5 hr x $100.89/hr = $50.45
Subtotal: $547.99

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:
 Comment: ALL EXPOSED SOILS AND WASTE SITES
  Dry Method with Mulch: $477.70/acre x 0.40 acres = $191.08
        + Mulch Cost: $320.00/acre x 0.40 acres = $128.00
Subtotal: $319.08

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
 Comment: INCLUDED IN SECTION 200
Subtotal: $0.00

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Road Number: 29-11-9.7 R Continued

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.69% of total Costs = $88.90
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $88.90

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $2,956.84

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: 29-11-9.8 C Road Name:
Road Construction: 0.05 mi 16 ft Subgrade 2 ft ditch

200 Clearing and Grubbing: 0.30 acres	$1,030.24
300 Excavation: Standard cy	$707.62
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$4,873.16
Quarry Name: Kincheloe 3-0" Surf 120.00 LCY	
Quarry Name: Kincheloe Pit Run LR 50.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $207.41 Surf. $51.83	$259.24
Quarry Development:	$0.00
Total:	$6,950.04

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

Road Construction Worksheet

Road Number: 29-11-9.8 C Road Name:

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.1 = 3.25
Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.25 x Total Acres: .3 = $1,030.24
Subtotal: $1,030.24

Section 300 Excavation:
Comment: SUBGRADE + END LANDING
Excavation - Common: $2.53/cy x 200.00 cy = $506.00
Embankment Placement & Compaction 306.f - Common: $0.37/cy x 200.00 cy = $74.00
Subgrade Compaction: 4 Sta/hr $31.18/sta. x 2.7 sta = $82.63
Blading with ditch: $16.98/station x 2.65 stations = $45.00
Subtotal: $707.62

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:

Commercial Quarry Name: Kincheloe 3-0" Surf
Comment: 8" LIFT SURFACING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.05mi	12ft	14.7ft	8in	3%					

Rock Volume = 120.00 LCY
Purchase Price / Royalty: $16.10/LCY x 120.00 LCY = $1,932.00
Processing: $1.09/LCY x 120.00 LCY = $130.80
Compaction: $1.25/LCY x 120.00 LCY = $150.00
Basic Rock Haul cost: $0.79/LCY x 120.00 LCY = $94.80
Rock Haul +15% grades: $2.37/LCY-mi x 120.00 LCY x 1.40 mi= $398.16
Rock Haul -15% grades: $1.19/LCY-mi x 120.00 LCY x 1.50 mi= $214.20
Rock Haul St& Co Roads: $0.53/LCY-mi x 120.00 LCY x 5.50 mi= $349.80
Basic Water Haul cost: $0.77/LCY x 120.00 LCY = $92.40
Water Haul +15% grades: $0.34/LCY-mi x 120.00 LCY x 1.40 mi= $57.12
Water Haul -15% grades: $0.17/LCY-mi x 120.00 LCY x 1.50 mi= $30.60
Water Haul St&Co Roads: $0.10/LCY-mi x 120.00 LCY x 3.50 mi= $42.00

Commercial Quarry Name: Kincheloe Pit Run LR
Comment: END LANDING SURFACING

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

Rock Volume = 50.00 LCY
Purchase Price / Royalty: $13.72/LCY x 50.00 LCY = $686.00
Processing: $1.09/LCY x 50.00 LCY = $54.50
Basic Rock Haul cost: $0.79/LCY x 50.00 LCY = $39.50
Rock Haul +15% grades: $2.37/LCY-mi x 50.00 LCY x 1.40 mi= $165.90
Rock Haul -15% grades: $1.19/LCY-mi x 50.00 LCY x 1.50 mi= $89.25
Rock Haul St& Co Roads: $0.53/LCY-mi x 50.00 LCY x 5.50 mi= $145.75
Basic Water Haul cost: $0.77/LCY x 50.00 LCY = $38.50
Water Haul +15% grades: $0.34/LCY-mi x 50.00 LCY x 1.40 mi= $23.80
Water Haul -15% grades: $0.17/LCY-mi x 50.00 LCY x 1.50 mi= $12.75
Water Haul St&Co Roads: $0.10/LCY-mi x 50.00 LCY x 3.50 mi= $17.50
COMPACTION TEST - SURF. / LIFT
Dump truck 20 CY 1 hr x $107.83/hr = $107.83

Road Number: 29-11-9.8 C Continued

Subtotal: $4,873.16

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Comment: ALL EXPOSED SOILS AND WASTE SITES
Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
+ Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.61% of total Costs = $207.41
Surfacing - 2.54% by rock volume = $51.83

Subtotal: $259.24

Quarry Development:
Based on 2.54% of total rock volume

Subtotal: $0.00

Total: $6,950.04

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Brownson Falls CT Sale Date:
Road Number: SPUR 8A C Road Name:
Road Construction: 0.02 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.10 acres	$332.85
300 Excavation: Standard cy	$719.65
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.10 acres	$79.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 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. $35.10 Surf. $0.00	$35.10
Quarry Development:	$0.00
Total:	$1,167.36

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

Road Construction Worksheet

Road Number: SPUR 8A C Road Name:

Section 200 Clearing and Grubbing:
   Clearing - Medium (Clearing): Adjustment Factor (1.67)
   16-30% (Avg Side Slopes): Adjustment Factor (0.1)
   Pile and Burn (Slash): Adjustment Factor (1.28)
   20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
   Total Adjustment Factor:1.67 + 0.1 + 1.28 + 0.1 = 3.15
   Base Cost/Acre: $1,056.66 x Adjustment Factor: 3.15 x Total Acres: .1 = $332.85

Subtotal: $332.85

Section 300 Excavation:
 Comment: SUBGRADE + END LANDING
  Excavation - Common: $2.53/cy x 210.00 cy = $531.30
  Embankment Placement & Compaction 306.f - Common: $0.37/cy x 210.00 cy = $77.70
  Subgrade Compaction: 4 Sta/hr $31.18/sta. x 1.3 sta = $38.98
  Blading with ditch: $16.98/station x 1.25 stations = $21.23
  COMPACTION TEST - SUBGRADE
   Dump Truck 10 cy   .5 hr x $100.89/hr = $50.45

Subtotal: $719.65

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:
 Comment: ALL EXPOSED SOIL AND WASTE SITES
  Dry Method with Mulch: $477.70/acre x 0.10 acres = $47.77
        + Mulch Cost: $320.00/acre x 0.10 acres = $32.00

Subtotal: $79.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Road Number: SPUR 8A C Continued

Subtotal: $0.00

Mobilization:
  Construction - 0.27% of total Costs = $35.10
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $35.10

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $1,167.36

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Mobilization Costs - Construction and Surfacing

T.S. Contract Name: Brownson Falls CT Sale Date:

Average Mobilization distance = 50 miles Factor = 1.00

Mobilization: Construction
Comment: INCLUDES WITHIN TS MOB w/LOWBOY
Fire Equipment: 1 ea x (1.00 x $88.00/ea + 0 mi x $4.91/mi)= $88.00
Graders-all: 1 ea x (1.00 x $528.00/ea + 0 mi x $17.07/mi)= $528.00
Brush Cutter: 1 ea x (1.00 x $528.00/ea) = $528.00
Loaders < 3cy: 1 ea x (1.00 x $528.00/ea + 0 mi x $10.07/mi)= $528.00
Rollers & Comp: 1 ea x (1.00 x $528.00/ea + 0 mi x $24.94/mi)= $528.00
Excavators (Lg): 4 ea x (1.00 x $1100.00/ea + 0 mi x $30.59/mi)= $4,400.00
Tractors >= D8: 4 ea x (1.00 x $1100.00/ea + 0 mi x $59.97/mi)= $4,400.00
Dump Truck<=15cy: 2 ea x (1.00 x $121.00/ea + 0 mi x $5.04/mi)= $242.00
Water Truck: 1 ea x (1.00 x $129.00/ea + 0 mi x $5.36/mi)= $129.00
Equipment Washing: 6 ea x ($250.00) /ea = $1,500.00

Subtotal: $12,871.00

Mobilization: TS unit to TS unit
Comment: WITHIN TS EQUIPMENT ROADING
Fire Equipment: 1ea x (1.00 x $88.00/ea + 0 mi x $4.91/mi)= $88.00
Graders-all: 1ea x (1.00 x $528.00/ea + 0 mi x $17.07/mi)= $528.00
Loaders < 3cy: 1ea x (1.00 x $528.00/ea + 0 mi x $10.07/mi)= $528.00
Rollers & Comp: 1ea x (1.00 x $528.00/ea + 0 mi x $24.94/mi)= $528.00
Dump Truck<=15cy: 2ea x (1.00 x $121.00/ea + 0 mi x $5.04/mi)= $242.00
Water Truck: 1ea x (1.00 x $129.00/ea + 0 mi x $5.36/mi)= $129.00

Subtotal: $2,043.00

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Summary of Construction Quantities

T.S. Contract Name: Brownson Falls CT Sale Date:

Road Number	Const	Improv	Renov	Decomm	Temp
28-10-31.7 C	1.5				
29-11-1.0 I		7.75			
29-11-1.0 R			23.76		
29-11-1.1 A1 R			9.5		
29-11-1.1 A2 I		14.8			
29-11-1.1 B R			15.3		
29-11-1.10 I		1.75			
29-11-1.2 R			6.3		
29-11-1.3 R			8.45		
29-11-1.4 R			5		
29-11-1.5 C	3				
29-11-1.6 C	3.5				
29-11-1.7 C	2.25				
29-11-1.8 C	2.75				
29-11-1.9 C	2				
29-11-10.0 C R			15.1		
29-11-10.0 R			76.03		
29-11-10.2 R			8.98		
29-11-10.4 A I		10.7			
29-11-10.4 B C	2.15				
29-11-10.6 C	1.7				
29-11-11.0 B R			5.28		
29-11-11.1 LDGS	1				
29-11-11.4 A R			30.62		
29-11-11.4 B R			30.62		
29-11-11.6 C	5.5				
29-11-15.0 R			80.26		
29-11-15.1 R			115.1		
29-11-15.2 R			12		
29-11-15.3 R			4.75		
29-11-15.8 C	4				
29-11-15.9 C	2.15				
29-11-21.2 R			56.5		
29-11-22.0 R			150.48		
29-11-9.0 I		4.45			
29-11-9.0 R			9.75		
29-11-9.1 R			12.25		
29-11-9.4 R			2.11		
29-11-9.7 R			8.5		
29-11-9.8 C	2.65				
SPUR 8A C	1.25				
Total Sta:	34.40	39.45	686.64		

200 Clearing and Grubbing*	Clearing acres
28-10-31.7 C	0.1
29-11-1.0 I	0.1
29-11-1.0 R	0.1
29-11-1.1 A1 R	0.0
29-11-1.1 A2 I	0.7
29-11-1.1 B R	0.0
29-11-1.10 I	0.1
29-11-1.2 R	0.1

29-11-1.3 R	0.0
29-11-1.4 R	0.0
29-11-1.5 C	0.3
29-11-1.6 C	0.5
29-11-1.7 C	0.3
29-11-1.8 C	0.4
29-11-1.9 C	0.2
29-11-10.0 C R	0.7
29-11-10.0 R	0.1
29-11-10.2 R	0.0
29-11-10.4 A I	0.5
29-11-10.4 B C	0.3
29-11-10.6 C	0.2
29-11-11.0 B R	0.0
29-11-11.1 LDGS	0.3
29-11-11.4 A R	0.0
29-11-11.4 B R	0.0
29-11-11.6 C	0.3
29-11-15.0 R	0.0
29-11-15.1 R	0.3
29-11-15.2 R	0.6
29-11-15.3 R	0.0
29-11-15.8 C	0.5
29-11-15.9 C	0.3
29-11-21.2 R	0.1
29-11-22.0 R	0.1
29-11-9.0 I	0.2
29-11-9.0 R	0.5
29-11-9.1 R	0.0
29-11-9.4 R	0.0
29-11-9.7 R	0.4
29-11-9.8 C	0.3
SPUR 8A C	0.1
Totals:	8.08

RENOVATE LANDING STA 12+25 29-11-9.1 R

Excavator - Large (3 CY) . . . . . 1.25 hr

300 Excavation

	Excav LCY.s	Haul sta-yds	Haul yd-mi
28-10-31.7 C	50	0	0
29-11-1.0 I	900	5,250	0
29-11-1.3 R	100	0	0
29-11-1.4 R	150	0	0
29-11-1.5 C	230	0	0
29-11-1.6 C	560	0	0
29-11-1.7 C	325	0	0
29-11-1.8 C	200	0	0
29-11-1.9 C	100	0	0
29-11-10.4 A I	500	0	0
29-11-10.4 B C	650	0	0
29-11-10.6 C	120	0	0
29-11-11.6 C	400	450	0
29-11-15.8 C	300	0	0
29-11-15.9 C	300	0	0
29-11-9.0 R	270	0	70
29-11-9.8 C	200	0	0
SPUR 8A C	210	0	0
Totals:	5,565	5,700	70

COMPACTION TEST - FINISH GRADE 29-11-15.1 R

Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-10.6 C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 28-10-31.7 C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-1.5 C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-1.6 C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-1.7 C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-1.8 C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-1.9 C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-10.4 A I
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-1.0 I
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-10.4 B C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE SPUR 8A C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-9.0 I
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-15.9 C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SUBGRADE 29-11-15.8 C
Dump Truck 10 cy . . . . . .5 hr
COMPATION TEST - SUBGRADE 29-11-11.6 C
Dump Truck 10 cy . . . . . .5 hr
EXC+EMB 1 LDG 29-11-1.0 R
Tractor: D8 with winch . . . . . 2 hr
EXC+EMB 1 LDG 29-11-1.2 R
Tractor: D8 with winch . . . . . 2 hr
EXC+EMB 1 LDG + 4 ADJ OP AREAS 29-11-15.1 R
Tractor: D8 with rippers . . . . . 10 hr
EXC+EMB 1 LDNG 29-11-9.7 R
Tractor: D8 with rippers . . . . . 2 hr
EXC+EMB 1 LDNG 29-11-9.0 R
Tractor: D8 with rippers . . . . . 2 hr
EXC+EMB 1 LDNG 29-11-10.0 C R
Tractor: D8 with rippers . . . . . 2 hr
EXC+EMB 1 LDNG 29-11-10.0 R
Tractor: D8 with rippers . . . . . 2 hr
EXC+EMB 1 LDNG 29-11-22.0 R
Tractor: D8 with rippers . . . . . 2 hr
EXC+EMB 1 LDNG 29-11-21.2 R
Tractor: D8 with rippers . . . . . 2 hr
EXC+EMB 1 LDNG 29-11-9.0 I
Tractor: D8 with rippers . . . . . 2 hr
EXC+EMB 2 LDNG + 1 ADJ OP AREA 29-11-10.4 A I
Tractor: D8 with rippers . . . . . 5 hr
EXC+EMB 4 LDNG + 1 ADJ OP AREA 29-11-11.1 LDGS
Tractor: D8 with rippers . . . . . 9 hr

400 Drainage

Road Number	CMP Culvert	Polypipes	Downspouts
29-11-1.0 I	0 lf	68 lf	0 lf
29-11-1.1 A2 I	0 lf	66 lf	0 lf
29-11-1.3 R	0 lf	32 lf	0 lf

29-11-1.6 C	0 lf	20 lf	0 lf
29-11-1.8 C	60 lf	36 lf	0 lf
29-11-10.0 C R	0 lf	78 lf	0 lf
29-11-10.0 R	0 lf	102 lf	0 lf
29-11-10.4 A I	0 lf	68 lf	0 lf
29-11-11.4 A R	0 lf	86 lf	0 lf
29-11-15.0 R	0 lf	150 lf	0 lf
29-11-15.1 R	0 lf	204 lf	0 lf
29-11-15.2 R	0 lf	108 lf	0 lf
29-11-15.8 C	0 lf	30 lf	0 lf
29-11-22.0 R	0 lf	196 lf	0 lf
29-11-9.1 R	0 lf	26 lf	0 lf
Total Drainage:	60 lf	1,270 lf	

Culvert Qty	Aluminized	Galvanized	Poly Pipe
12 inch	0 lf	60 lf	
18 inch	0 lf	0 lf	950 lf
24 inch	0 lf	0 lf	320 lf
30 inch	0 lf	0 lf	0 lf
36 inch	0 lf	0 lf	0 lf
42 inch	0 lf	0 lf	
48 inch	0 lf	0 lf	

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

CULVERT REMOVAL w/ NO REPLACE 29-11-1.3 R
- Excavator - Large (3 CY) . . . . . .75 hr

CULVERT REPAIR MP 0.60 29-11-15.1 R
- REPAIR INLET - FIELD CUT . . . . . 1 EA

CULVERT REPAIR MP 1.47 29-11-15.1 R
- REPAIR INLET - FIELD CUT . . . . . 1 EA

CULVERT REPAIR MP 1.76 29-11-22.0 R
- REPAIR INLET - FIELD CUT . . . . . 1 EA

CULVERT REPAIR MP 1.97 29-11-15.1 R
- FIELD CUT DAMAGED INLET . . . . . 1 EA

DEWATER STRM CULVERT INSTALLS 29-11-22.0 R
- PUMP, HOSE, FUEL, SANDBAGS . . . . . 3 DAY

DEWATERING CULVERT INSTALLS 29-11-11.4 A R
- PUMP, HOSE, FUEL, SANDBAGS . . . . . 2 DAY

EXC + EMB DEEP FILL MP 0.01 29-11-11.4 A R
- Water Truck 3000 Gal . . . . . 5 hr
- Tamper – handheld . . . . . 3 hr
- Dump Truck 10 cy . . . . . 5 hr
- Excavator - Large (3 CY) . . . . . 4 hr
- BASE CULVERT INSTALL EQUALS 1 HOUR EXCAVATOR TIME . . . . . 1 EA

500 Renovation*	Blade Miles	Slide cy
29-11-1.0 R	0.90	190
29-11-1.1 A1 R	0.36	75
29-11-1.1 A2 I	0.56	0
29-11-1.1 B R	0.29	0
29-11-1.10 I	0.06	0
29-11-1.2 R	0.24	70
29-11-1.3 R	0.32	215
29-11-1.4 R	0.18	0

29-11-10.0 C R	0.60	820
29-11-10.0 R	3.00	500
29-11-10.2 R	0.34	80
29-11-11.0 B R	0.10	40
29-11-11.4 A R	1.10	250
29-11-11.4 B R	0.58	0
29-11-15.0 R	3.04	825
29-11-15.1 R	4.36	600
29-11-15.2 R	0.46	150
29-11-15.3 R	0.18	0
29-11-21.2 R	2.10	450
29-11-22.0 R	5.70	920
29-11-9.0 I	0.16	0
29-11-9.0 R	0.36	110
29-11-9.1 R	0.46	100
29-11-9.4 R	0.10	0
29-11-9.7 R	0.32	0
Totals:	25.87	5,395

COMPACTION TEST - FINISH GRADE 29-11-11.4 A R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-1.10 I
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-1.1 A1 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-1.1 A2 I
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-1.2 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-1.3 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-1.4 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-10.0 C R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-1.0 R
Dump Truck 10 cy . . . . . 1 hr
COMPACTION TEST - FINISH GRADE 29-11-10.0 R
Dump Truck 10 cy . . . . . 1.5 hr
COMPACTION TEST - FINISH GRADE 29-11-9.0 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-9.7 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-9.1 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-9.0 I
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-15.2 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-22.0 R
Dump Truck 10 cy . . . . . 1 hr
COMPACTION TEST - FINISH GRADE 29-11-15.3 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-9.4 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-10.2 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-15.0 R
Dump truck 20 CY . . . . . .5 hr
COMPACTION TEST - FINISH GRADE 29-11-15.1 R
Dump Truck 10 cy . . . . . .5 hr
COMPATION TEST - FINISH GRADE 29-11-21.2 R
Dump Truck 10 cy . . . . . .5 hr

EARTHEN BARRIER REMOVAL 29-11-1.1 A2 I
LUMP SUM = ... 1 LS
EARTHEN BARRIER REMOVAL 29-11-1.1 A1 R
LUMP SUM = ... 1 LS
RIP RAP BARRIER - REMOVE+STAGE 29-11-1.0 I
LUMP SUM = ... 1 LS
RIP RAP BARRIER REMOVAL + STAG 29-11-10.0 C R
LUMP SUM = ... 1 LS
TREAT EXIST. STORM DAMAGE 29-11-10.0 C R
LOGGING PROCESSOR / LOG LOADER . . . . . .5 DAY
MOBILIZATION . . . . . 1 EA
TREAT EXIST. STORM DAMAGE 29-11-21.2 R
LOGGING PROCESSOR / LOG LOADER . . . . . 1 DAY
MOBILIZATION . . . . . 1 EA

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: Kincheloe0.75"- Surf

Commercial	Roadway	Turnouts	Other	
28-10-31.7 C	32	0	0	32
29-11-1.0 I	96	0	0	96
Totals:	128	0	0	128

Quarry Name: Kincheloe1.5-0" Spot

Commercial	Roadway	Turnouts	Other	
29-11-1.0 R	0	0	50	50
29-11-10.0 R	0	0	100	100
29-11-10.0 R	0	0	30	30
29-11-10.2 R	0	0	20	20
29-11-11.4 A R	0	0	50	50
29-11-15.0 R	0	0	100	100
29-11-15.0 R	0	0	20	20
29-11-15.1 R	0	0	100	100
29-11-21.2 R	0	0	200	200
29-11-22.0 R	0	0	100	100
29-11-9.1 R	0	0	30	30
29-11-15.0 R	0	0	10	10
Totals:	0	0	810	810

Quarry Name: Kincheloe 1.5"- Culv

Commercial	Roadway	Turnouts	Other	
29-11-10.0 R	0	0	30	30
29-11-11.4 A R	0	0	20	20
29-11-15.0 R	0	0	40	40
29-11-15.1 R	0	0	50	50
29-11-15.2 R	0	0	10	10
29-11-22.0 R	0	0	50	50
29-11-9.1 R	0	0	10	10
Totals:	0	0	210	210

Quarry Name: Kincheloe1.5-0" Surf

Commercial	Roadway	Turnouts	Other	
29-11-1.0 R	31	0	0	31
29-11-1.1 A1 R	156	0	0	156
29-11-1.3 R	134	0	0	134
29-11-1.2 R	100	0	0	100
29-11-15.2 R	190	0	0	190

29-11-9.0 R	155	0	0	155
29-11-15.0 R	33	0	0	33
Totals:	799	0	0	799

Quarry Name: Kincheloe 3-0" Spot

Commercial	Roadway	Turnouts	Other	
29-11-1.2 R	0	0	20	20
29-11-1.3 R	0	0	20	20
29-11-10.0 R	0	0	20	20
29-11-11.4 A R	0	0	20	20
29-11-11.4 A R	0	0	35	35
29-11-15.2 R	0	0	10	10
29-11-9.0 R	0	0	10	10
29-11-9.0 R	0	0	40	40
Totals:	0	0	175	175

Quarry Name: Kincheloe 3-0" Surf

Commercial	Roadway	Turnouts	Other	
28-10-31.7 C	74	0	0	74
29-11-1.0 I	223	0	0	223
29-11-1.1 B R	44	0	0	44
29-11-1.10 I	69	0	0	69
29-11-1.1 A2 I	668	0	0	668
29-11-1.5 C	135	0	0	135
29-11-1.6 C	164	0	0	164
29-11-1.8 C	129	0	0	129
29-11-1.9 C	88	0	0	88
29-11-10.4 A I	502	0	0	502
29-11-10.4 B C	97	0	0	97
29-11-10.6 C	75	0	0	75
29-11-1.7 C	102	0	0	102
29-11-9.0 I	201	0	0	201
29-11-9.8 C	120	0	0	120
29-11-15.8 C	181	0	0	181
29-11-15.9 C	97	0	0	97
Totals:	2,969	0	0	2,969

Quarry Name: Kincheloe 3-0" LR

Commercial	Roadway	Turnouts	Other	
Totals:	0	0	0	0

Quarry Name: Kincheloe 6-0" LR

Commercial	Roadway	Turnouts	Other	
Totals:	0	0	0	0

Quarry Name: Kincheloe Pit Run LR

Commercial	Roadway	Turnouts	Other	
28-10-31.7 C	0	0	50	50
29-11-1.0 R	0	0	50	50
29-11-1.10 I	0	0	50	50
29-11-1.2 R	0	0	50	50
29-11-1.5 C	0	0	50	50
29-11-1.6 C	0	0	100	100
29-11-1.7 C	0	0	50	50
29-11-1.8 C	0	0	50	50
29-11-15.0 R	0	0	50	50
29-11-1.9 C	0	0	50	50
29-11-10.0 R	0	0	50	50

29-11-10.2 R	0	0	50	50
29-11-10.4 A I	0	0	130	130
29-11-10.4 B C	0	0	50	50
29-11-10.6 C	0	0	50	50
29-11-11.1 LDGS	0	0	190	190
29-11-15.1 R	0	0	170	170
29-11-21.2 R	0	0	50	50
29-11-22.0 R	0	0	30	30
29-11-9.0 R	0	0	40	40
29-11-9.0 I	0	0	50	50
29-11-9.8 C	0	0	50	50
29-11-15.8 C	0	0	50	50
29-11-15.9 C	0	0	100	100
Totals:	0	0	1,610	1,610

Quarry Name: Kincheloe Class 3 RR

Commercial	Roadway	Turnouts	Other	
Totals:	0	0	0	0

Quarry Name: Kincheloe Class 4 RR

Commercial	Roadway	Turnouts	Other	
Totals:	0	0	0	0

COMPACTION TEST - BASE / LIFT 28-10-31.7 C
Dump Truck 10 cy . . . . . 1 hr
COMPACTION TEST - BASE / LIFT 29-11-1.0 I
Dump Truck 10 cy . . . . . 1 hr
COMPACTION TEST - SURF COURSE 29-11-1.0 I
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SURF. / LIFT 29-11-10.6 C
Dump Truck 10 cy . . . . . 1 hr
COMPACTION TEST - SURF. / LIFT 29-11-9.8 C
Dump truck 20 CY . . . . . 1 hr
COMPACTION TEST - SURF. / LIFT 29-11-10.4 B C
Dump Truck 10 cy . . . . . 1 hr
COMPACTION TEST - SURF. / LIFT 29-11-1.8 C
Dump Truck 10 cy . . . . . 1 hr
COMPACTION TEST - SURF. / LIFT 29-11-1.6 C
Dump Truck 10 cy . . . . . 1 hr
COMPACTION TEST - SURF. / LIFT 29-11-1.5 C
Dump Truck 10 cy . . . . . 1 hr
COMPACTION TEST - SURF. / LIFT 29-11-1.2 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SURF. / LIFT 29-11-1.1 A2 I
Dump Truck 10 cy . . . . . 1 hr
COMPACTION TEST - SURF. COURSE 28-10-31.7 C
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SURFACING 29-11-1.3 R
Dump Truck 10 cy . . . . . .5 hr
COMPACTION TEST - SURFACING 29-11-1.1 A1 R
Dump Truck 10 cy . . . . . .5 hr

1300 Geotextiles

Totals: No Quantities

1400 Slope Protection

29-11-10.0 C R	Gradation Class 4: 30 cy
29-11-15.2 R	Gradation Class 3: 10 cy

Totals: 40 cy

1800 Soil stabilization – acres****

	Dry W/O Mulch	Dry/with Mulch	Hydro Mulch
Totals:	0.00	23.9	0.00

********Acres associated with each road are listed in road summaries and worksheets.

EROSION CONTROL - CHECK DAMS 29-11-22.0 R

STRAW WATTLE 9 INCH X 5 FEET + 3 STAKES PER CHECK DAM . . . . . 8 EA

LABOR + TRUCK PER CHECK DAM . . . . . 10 EA

1900 Cattleguards

Totals: No Quantities

2100 RoadSide Brushing**	acres
29-11-1.0 R - Mechanical Brushing	1.1
29-11-1.1 A1 R - Mechanical Brushing	0.4
29-11-1.1 B R - Mechanical Brushing	0.7
29-11-1.2 R - Mechanical Brushing	0.3
29-11-1.3 R - Mechanical Brushing	0.4
29-11-1.4 R - Mechanical Brushing	0.3
29-11-10.0 R - Mechanical Brushing	3.3
29-11-10.2 R - Mechanical Brushing	0.4
29-11-11.0 B R - Mechanical Brushing	0.3
29-11-11.4 A R - Mechanical Brushing	1.4
29-11-11.4 B R - Mechanical Brushing	0.6
29-11-15.0 R - Mechanical Brushing	3.7
29-11-15.1 R - Mechanical Brushing	5.3
29-11-15.3 R - Mechanical Brushing	0.2
29-11-21.2 R - Mechanical Brushing	2.6
29-11-22.0 R - Mechanical Brushing	2.9
29-11-9.1 R - Mechanical Brushing	0.5
29-11-9.4 R - Mechanical Brushing	0.1
Totals:	24.43

2300 Engineering	stations
Totals:	0.00

2400 Minor Concrete

Totals: No Quantities

2500 Gabions

Totals: No Quantities

8000 Miscellaneous

Totals: No Quantities

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EXHIBIT E

Sale Name **Brownson Falls CT**

SALE VOLUME: **6309.2** GM **6777** **Sale Number** **ORC4-TS-2023.0032**

A. ROAD USE FEES - Payable to Private Company:

COMPANY NAME	AGREEMENT NUMBER	ROAD NUMBER	NET MBF	USE FEE per MBF	TOTAL FEES
Lone Rock TT Land Co, LLC	C-418A	29-11-11.4 B	166	$16.62	$2,758.92
Lone Rock TT Land Co, LLC	C-418A	29-11-1.1 B	112.5	$30.45	$3,425.63
					$0.00
				TOTAL USE FEE:	$6,184.55

B. MAINTENANCE FEES:

1. Maintenance and Rockwear Fees Payable to the U.S. (BLM Maintained Roads):

a. Timber Haul:

Surface Type	ROAD NUMBER	NET MBF	ROAD MILES	ROCKWEAR /MBF/Mile	Subtotal	MAINT+Rock $/MBF/Mile	Subtotal	TOTAL FEES
BST	29-11-11.0 A	**2615.3**	0.44	0.00	$0.00	$0.82	$943.60	$943.60
BST	29-11-11.1 A& B	2615.3	2.29	0.00	$0.00	$0.82	$4,911.01	$4,911.01
			2.73					$5,854.61

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

a. Timber Haul:

Surface Type	**ROAD NUMBER**	**NET MBF**	**ROAD MILES:**	**SURF. REPLCE $/MBF/Mile**	**LANDING NUMBER:**	**ROAD SEGMENT:**			**MBF X DISTANCE**
ASC	28-10-31.7	215	0.03	$0.85	1				$5.48
ASC	29-11-1.0	215	0.07	$0.85	1				$12.79
ASC	29-11-1.0	328	0.06	$0.85	1&2				$16.73
ASC	29-11-1.10	189	0.03	$0.85	3				$4.82
ASC	29-11-1.0	517	0.12	$0.85	1-3				$52.73
ASC	29-11-1.0	630	0.35	$0.85	1-4				$187.43
ASC	29-11-1.1	112.5	0.01	$0.85	7				$0.96
ASC	Spur 8A	45	0.02	$0.85	8				$0.77
ASC	29-11-1.1	157.5	0.1	$0.85	7&8	A2			$13.39
ASC	29-11-1.6	45	0.02	$0.85	9				$0.77
ASC	29-11-1.6	127	0.04	$0.85	9-10				$4.32
ASC	29-11-1.1	284.5	0.02	$0.85	7-10	A2			$4.84
ASC	29-11-1.5	158	0.06	$0.85	11				$8.06
ASC	29-11-1.1	442.5	0.04	$0.85	7-11	A2			$15.05
ASC	29-11-1.7	252	0.04	$0.85	12				$8.57
ASC	29-11-1.1	694.5	0.11	$0.85	7-12	A2			$64.94
ASC	29-11-1.1	788.5	0.01	$0.85	7-13	A2			$6.70
ASC	29-11-1.2	56	0.04	$0.85	14				$1.90
ASC	19-11-1.2	75	0.04	$0.85	14&15				$2.55
ASC	29-11-1.9	82	0.02	$0.85	17				$1.39
ASC	29-11-1.8	64	0.04	$0.85	18				$2.18
ASC	29-11-1.8	146	0.02	$0.85	17&18				$2.48
ASC	29-11-1.2	296	0.05	$0.85	14-18				$12.58
ASC	29-11-1.1	1084.5	0.17	$0.85	7-18	A1			$156.71
NAT	29-11-1.4	0	0.09	$0.00	0				$0.00
ASC	29-11-1.3	340	0.16	$0.85	20				$46.24
ASC	29-11-11.6	166	0.1	$0.85	24				$14.11
ASC	29-11-11.4	166	0.28	$0.85	24	A			$39.51
ASC	29-11-11.4	260	0.03	$0.85	24&25	A			$6.63
ASC	29-11-11.4	279	0.16	$0.85	24-26	A			$37.94
ASC	29-11-11.4	298	0.11	$0.85	24-27	A			$27.86
ASC	29-11-9.8	252	0.05	$0.85	28				$10.71
ASC	29-11-9.0	57	0.05	$0.85	29				$2.42
ASC	29-11-9.0	76	0.04	$0.85	29&30				$2.58
ASC	29-11-9.0	385	0.05	$0.85	28-31				$16.36
ASC	29-11-9.0	442	0.14	$0.85	28-32				$52.60
ASC	29-11-10.0	442	0.54	$0.85	28-32	A			$202.88
ASC	29-11-10.6	37	0.03	$0.85	33				$0.94
ASC	29-11-11.0	479	0.04	$0.85	28-33	B			$16.29
ASC	29-11-11.0	517	0.04	$0.85	28-34	B			$17.58

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EXHIBIT E

ASC	29-11-11.0	555	0.02	$0.85	28-35	B			$9.44
ASC	29-11-22.0	555	0.9	$0.85	28-35				$424.58
ASC	29-11-10.4	205	0.04	$0.85	36	B			$6.97
ASC	29-11-10.4	375	0.01	$0.85	36&37	B			$3.19
ASC	29-11-15.8	50	0.08	$0.85	38				$3.40
ASC	29-11-10.4	484	0.1	$0.85	36-39	A			$41.14
ASC	29-11-10.4	522	0.09	$0.85	36-40	A			$39.93
ASC	29-11-22.0	1077	0.45	$0.85	28-40				$411.95
ASC	29-11-15.3	19	0.09	$0.85	41				$1.45
ASC	29-11-22.0	1185	0.69	$0.85	28-42				$695.00
ASC	29-10-10.0	0	0.13	$0.85					$695.00
ASC	29-11-10.0	112	0.06	$0.85	43	A			$5.71
ASC	29-11-9.4	83.9	0.04	$0.85	44				$2.85
ASC	29-11-10.0	233.9	0.1	$0.85	43-45	A			$19.88
ASC	29-11-10.0	319.8	0.08	$0.85	43-46	A			$21.75
NAT	29-11-9.7	226	0.01	$0.00	47				$0.00
NAT	29-11-9.7	264	0.15	$0.00	47&48				$0.00
ASC	29-11-10.0	583.8	0.09	$0.85	43-48	A			$44.66
ASC	29-11-10.0	207	0.1	$0.85	49	C			$17.60
ASC	29-11-10.0	302	0.16	$0.85	49&50	C			$41.07
ASC	29-11-10.0	378	0.03	$0.85	49-51	C			$9.64
ASC	29-11-10.0	378	0.44	$0.85	49-51	B			$141.37
ASC	29-11-15.1	961.8	0.92	$0.85	43-51				$752.13
ASC	29-11-9.1	38	0.04	$0.85	52				$1.29
ASC	29-11-9.1	95	0.05	$0.85	52&53				$4.04
ASC	29-11-9.1	133	0.09	$0.85	52-54				$10.17
ASC	29-11-9.1	190	0.05	$0.85	52-55				$8.08
ASC	29-11-15.1	1189.8	0.08	$0.85	43-56				$80.91
ASC	29-11-15.1	1208.8	0.03	$0.85	43-57				$30.82
ASC	29-11-10.2	102	0.18	$0.85	57B				$15.61
ASC	29-11-15.1	1310.8	0.03	$0.85	43-57B				$33.43
ASC	29-11-15.1	1348.8	0.04	$0.85	43-58				$45.86
ASC	29-11-15.1	1518.8	0.11	$0.85	43-59				$142.01
ASC	29-11-15.1	1556.8	0.06	$0.85	43-60				$79.40
ASC	29-11-15.1	1594.8	0.08	$0.85	43-61				$108.45
ASC	29-11-15.2	57	0.23	$0.85	62				$11.14
ASC	29-11-15.1	1651.8	0.01	$0.85	43-62				$14.04
ASC	29-11-15.9	151	0.03	$0.85	63				$3.85
ASC	29-11-15.9	321	0.01	$0.85	63&64				$2.73
ASC	29-11-15.1	1972.8	0.12	$0.85	43-64				$201.23
ASC	29-11-15.1	2074.9	0.68	$0.85	43-65				$1,199.29
ASC	29-11-21.2	113	0.9	$0.85	66				$86.45
ASC	29-11-21.2	151	0.08	$0.85	66&67				$10.27
ASC	29-11-21.2	302	0.09	$0.85	66-68				$23.10
ASC	29-11-15.0	113	0.12	$0.85	69				$11.53
ASC	29-11-15.0	132	0.26	$0.85	69&70				$29.17
ASC	29-11-15.0	434	1.12	$0.85	66-70				$413.17
ASC	29-11-15.0	2508.9	0.02	$0.85	43-70				$42.65
ASC	29-11-22.0	3693.9	0.81	$0.85	28-70				$2,543.25
			13.52						$9,623.40

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

Surface Type	COMPANY NAME	AGREEMENT NUMBER	ROAD NUMBER	NET MBF	ROAD MILES	MAINT+Rock $/MBF/Mile		TOTAL FEES
ASC	Lone Rock TT Land Co, LLC	C-418A	29-11-11.4 B	166	0.58	$0.85		$81.84
ASC	Lone Rock TT Land Co, LLC	C-418A	29-11-1.1 B	112.5	0.29	$0.85		$27.73
					0.87			$109.57

4. OPERATOR MAINTENANCE WILL BE REQUIRED ON APPROX. 14.40 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:	$6,184.55	$0.98	$0.00	$0.00	$109.57	$0.02
2. BLM MAINTAINED ROADS:			$0.00	$0.00	$5,854.61	$0.93
3. BLM OPERATOR-MAINTAINED ROADS:			$9,623.40	$1.53		$0.00
	$6,184.55	$0.98	$9,623.40	$1.53	$5,964.18	$0.95

	TOTAL	$/MBF
MAINTENANCE OBLIGATION PAYABLE TO BLM:	**$15,478.01**	$2.45

TIMBER SALE CONTRACT MAP
USDI-BLM COOS BAY DISTRICT
T. 28 S., R. 10 W., Sec. 31 Will. Mer.
T. 29 S., R. 11 W., Secs. 1, 2, 9, 10, 11, 15, & 21 Will. Mer.

SALE NO. ORC04-TS-2023-0032
EXHIBIT I

Brownson Falls CT

THINNING
UNIT 1 _____23 ACRES
UNIT 2 _____59 ACRES
UNIT 3 _____32 ACRES
UNIT 4 _____13 ACRES
UNIT 5 _____6 ACRES
UNIT 6 _____18 ACRES
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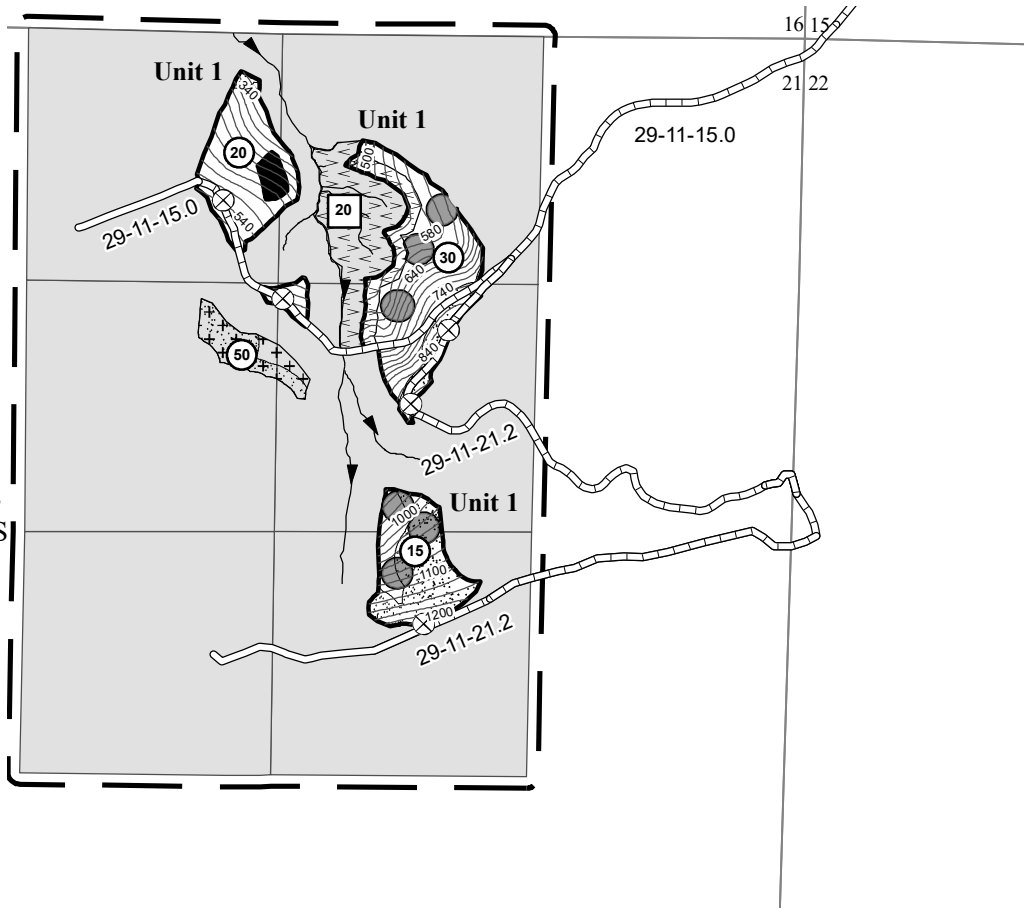
UNIT 11 ____30 ACRES
UNIT 12 _____9 ACRES
UNIT 13 ____14 ACRES
UNIT 14 ____20 ACRES
ROW_____3 ACRES

Total_____321 ACRES

Total Reserve Area ____1,094 ACRES
Total Contract Area ____1,408 ACRES



- # Snags to be Created in Riparian Reserve
- (#) Snags to be Created in Thinning Unit
- ⊗ Proposed Landing
- 20' Contour
- Existing Road
- Road to be Improved
- Road to be Constructed
- Road to be Renovated
- Riparian Reserve Snag Creation Area
- Seasonal Timing Restriction
- Dominant Tree Retention Area
- Group Selection Area
- Snag Creation Area
- Partial Cutting Area
- Stream Channel
- Reserve Area
- Contract Area

0 500 1,000 2,000 feet

Scale 1 inch = 1000 feet

N

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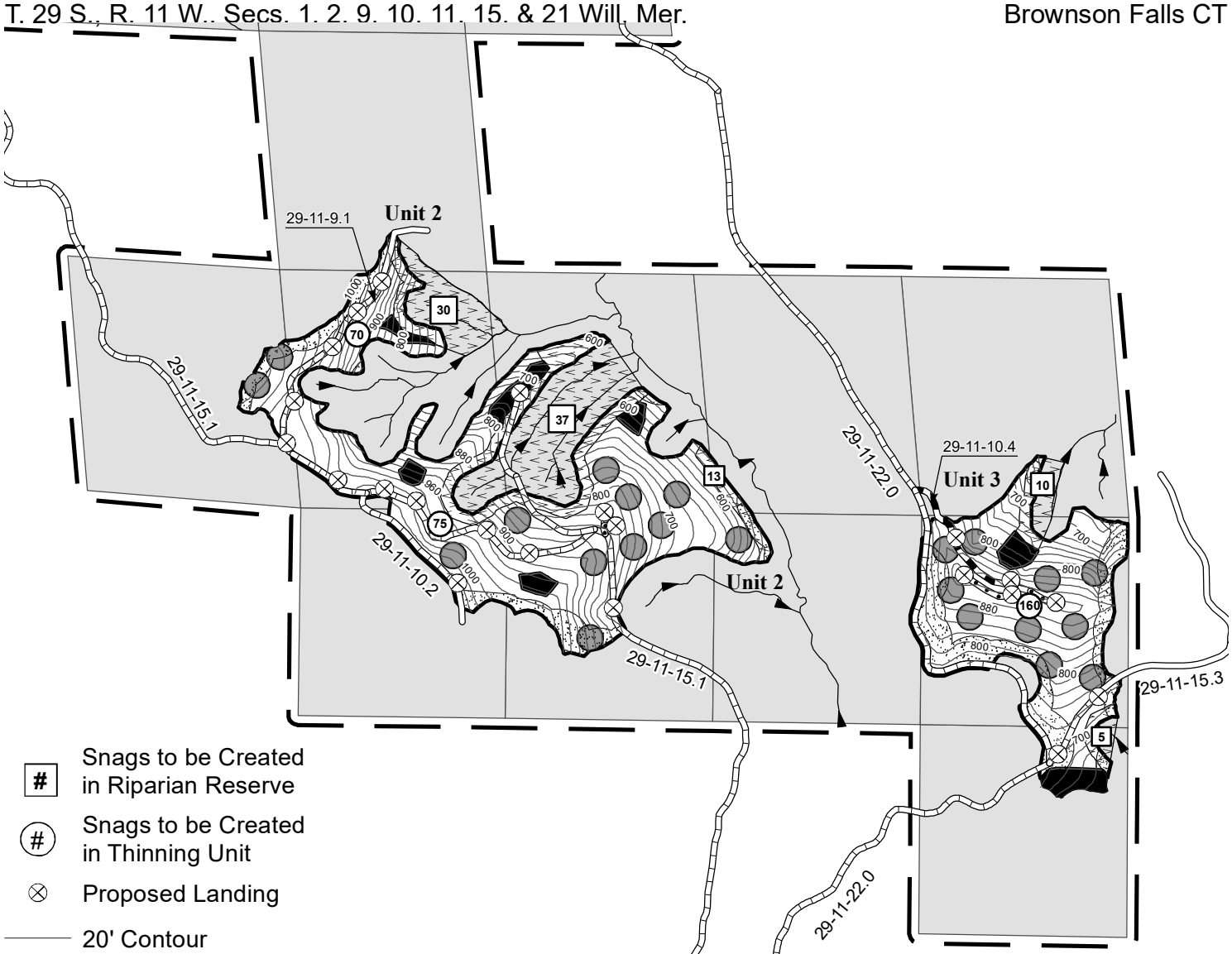

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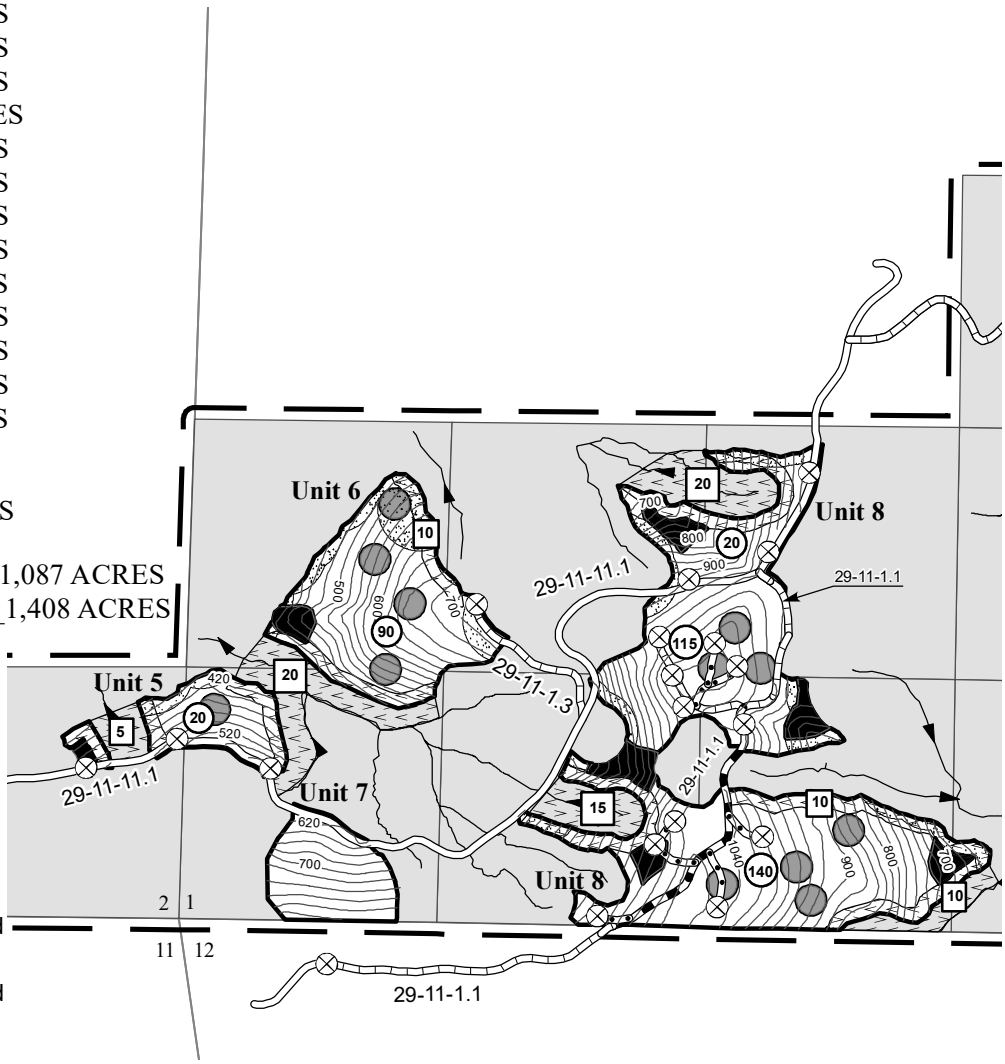

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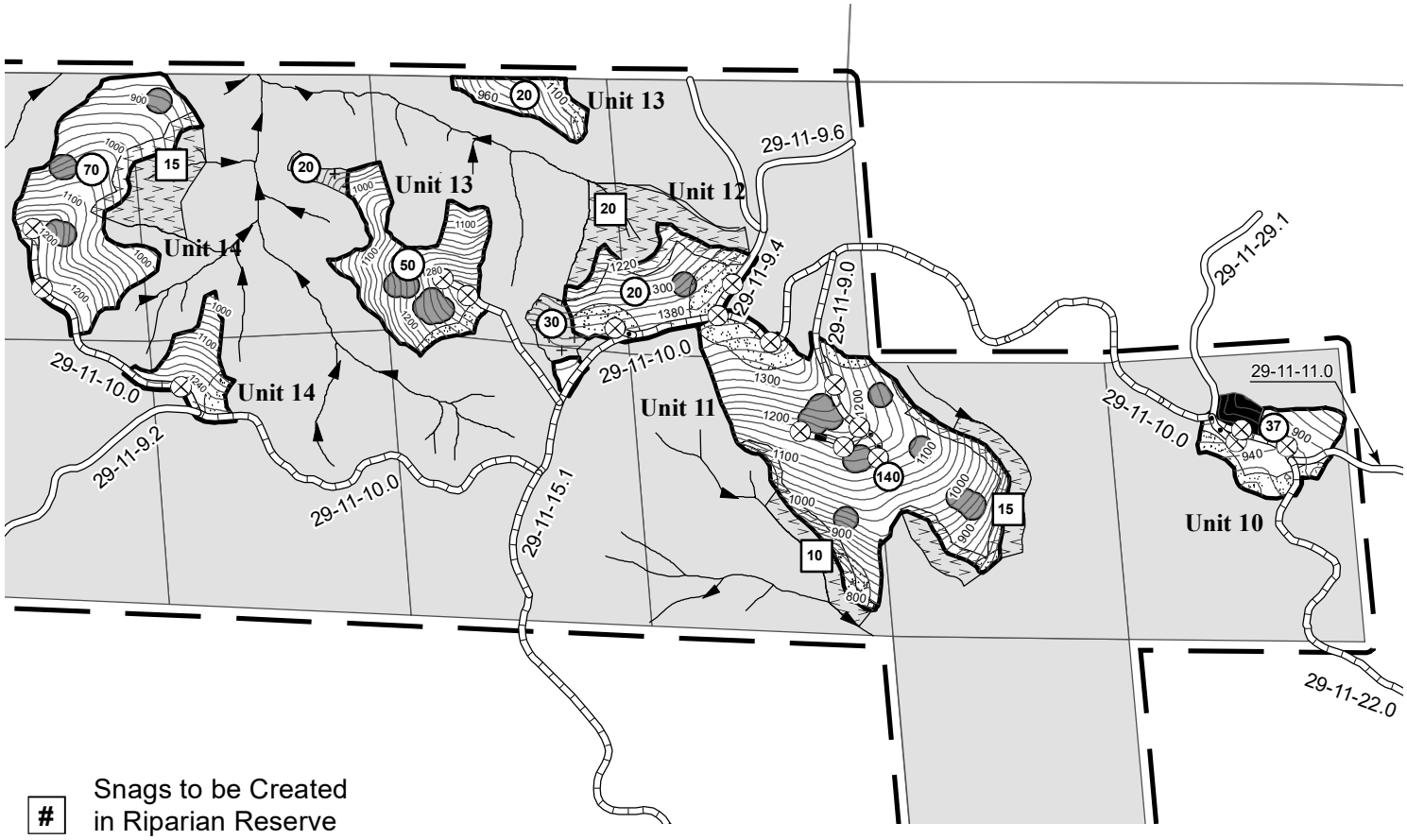

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United States
Department of the Interior
Bureau of Land Management

Timber Appraisal

Sale Name:	Brownson Falls CT	**Sale Date:**	Friday, June 30, 2023
BLM District:	Coos Bay DO	**Unit of Measure:**	16' MBF
Contract #:	ORC04-TS-2023.0032	**Contract Term:**	36 months
Sale Type:	Advertised	**Contract Mechanism:**	5450-003 Lump Sum Sale of Timber and other Wood Products

SBA Set-Aside

Content

Prepared By: Stover, Douglas R - 5/17/2023
Approved By: Kirkland, Travis S - 5/25/2023

Legal Description of Contract Area

Land Status	County	Township	Range	Section	Subdivision	Meridian
CBWR	Coos	28S	10W	31	Lot 3 & Lot 4	Willamette
CBWR	Coos	29S	11W	1	SE1/4 NE1/4, S1/2	Willamette
O&C	Coos	29S	11W	2	SE1/4 SE1/4	Willamette
O&C	Coos	29S	11W	9	Lots 1,2,3,4, S1/2 NE1/4, S1/2 NW1/4, SE1/4 SE1/4	Willamette
O&C	Coos	29S	11W	10	S1/2 NW1/4, W1/2SW1/4, SE1/4 SW1/4, S1/2 SE1/4	Willamette
O&C	Coos	29S	11W	11	Lot 2 & 3, SW1/4 NE1/4, SE1/4 NW1/4	Willamette
O&C	Coos	29S	11W	15	N1/2NE1/4, SE1/4NE1/4, N1/2 NW1/4	Willamette
O&C	Coos	29S	11W	21	Lot 1, W1/2 NE1/4, E1/2 NW1/4, NW1/4 SE1/4	Willamette

Species Totals

Species	Net	Gross Merch	Gross	# of Merch Logs	# of Cull Logs	# of Trees
Douglas Fir	5,592.0	5,876.0	6,001.0	100,093	9,397	24,036
Western Hemlock	278.0	339.0	341.0	3,552	1,383	1,105
Grandfir	274.0	288.0	304.0	3,527	169	694
Red Alder	135.0	211.0	222.0	4,834	1,717	2,581
Port Orford Cedar	30.0	34.0	34.0	749	8	417
Misc Hardwoods	0.2	29.0	31.0	1	816	302
Totals	**6,309.2**	**6,777.0**	**6,933.0**	**112,756**	**13,490**	**29,135**

Cutting Area Acres

Regeneration Harvest Acres	Partial Cut Acres	Right of Way Acres	Total Acres	Net Volume per Acre
0.0	318.0	3.0	321.0	19.7

Logging Costs

Stump to Truck	$1,810,522.83
Transportation	$492,903.07
Road Construction	$430,115.37
Maintenance/Rockwear	$86,784.13
Road Use	$6,184.55
Other Allowances	$82,552.09
Total:	**$2,909,062.04**
Total Logging Cost per MBF:	**$461.08**

Utilization Centers

Location	Distance	% of Net Volume
Winchester	71.8 miles	96 %
Eugene	134.0 miles	4 %

Profit & Risk

Profit	11 %
Risk	3 %
Total Profit & Risk	**14 %**

Tract Features

Quadratic Mean DBH	14.5 in
Average GM Log	57 bf
Average Volume per Acre	19.7 mbf
Recovery	91 %
Net MBF volume:	
Green	6,309.2 mbf
Salvage	0 mbf
Export	30 mbf
Ground Base Logging:	
Percent of Sale Volume	0 %
Average Yarding Slope	0 %
Average Yarding Distance	0 ft
Cable Logging:	
Percent of Sale Volume	100 %
Average Yarding Slope	32 %
Average Yarding Distance	337 ft
Aerial Logging:	
Percent of Sale Volume	0 %
Average Yarding Slope	0 %
Average Yarding Distance	0 ft

Cruise

Cruise Completed April 2023

Cruised By Stover,Felker,Kirkland,Murphy,Herron,Blum

Cruise Method

VP 321 acres with 227 plots and 157 samples (117 DF, 6 WH, 9 GF, 2 POC, 12 RA, and 11 Hard woods). We then 100% cruised the right of ways and the landing locations.

Stumpage Computation

Species	# of Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Costs	(+) Marginal Log Value	Appraised Price/MBF		Appraised Value
Douglas Fir	24,036	5,592.0	$664.45	$93.02	$461.08	$0.00	$110.40		$617,356.80
Western Hemlock	1,105	278.0	$406.78	$56.95	$461.08	$0.00	$40.70	*	$11,314.60
Grandfir	694	274.0	$392.44	$54.94	$461.08	$0.00	$39.30	*	$10,768.20
Red Alder	2,581	135.0	$358.56	$50.20	$461.08	$0.00	$35.90	*	$4,846.50
Port Orford Cedar	417	30.0	$428.11	$59.94	$461.08	$0.00	$42.90	*	$1,287.00
Misc Hardwoods	302	0.2	$19.00	$2.66	$461.08	$0.00	$1.90	*	$0.38
Totals	**29,135**	**6,309.2**							**$645,573.48**

* Minimum Stumpage values were used to compute the Appraised Price/MBF (10% of Pond Value)

Other Wood Products

Product	Unit of Measure	# of Units	$/Unit	Appraised Value
Biomass	Green Tons	150	$0.05	$7.50
Totals				**$7.50**

Total Appraised Value: $645,580.98

Percent of Volume By Log Grade

Species	No. 1 & 2 Peeler	No. 3 Peeler	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Douglas Fir				56.0 %	38.0 %	6.0 %	

Species	Peeler	No. 1 Sawmill	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Western Hemlock				66.0 %	29.0 %	5.0 %	

Species	Peeler	No. 1 Sawmill	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Grandfir				63.0 %	20.0 %	4.0 %	13.0 %

Species	No. 1 Sawmill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	No. 5 Sawmill		Camp Run
Red Alder		1.0 %	39.0 %	59.0 %	1.0 %		

Species	No. 1 & 2 Peeler	No. 3 Peeler	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Port Orford Cedar				54.0 %	13.0 %	33.0 %	

Species	No. 1 Sawmill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	No. 5 Sawmill		Camp Run
Misc Hardwoods							100.0 %

Unit: 1

Net Volume/Acre: 18.9 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	385.0	404.0	413.0	1,678
Western Hemlock	19.0	24.0	24.0	77
Grandfir	19.0	20.0	21.0	49
Red Alder	9.0	14.0	15.0	173
Port Orford Cedar	2.0	2.0	2.0	27
Totals:	**434.0**	**464.0**	**475.0**	**2,004**

Regeneration Harvest	0.0
Partial Cut	23.0
Right of Way	0.0
Total Acres:	**23.0**

Unit: 2

Net Volume/Acre: 18.9 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	988.0	1,035.0	1,060.0	4,305
Western Hemlock	49.0	61.0	61.0	197
Grandfir	49.0	52.0	55.0	125
Red Alder	22.0	36.0	38.0	443
Port Orford Cedar	5.0	6.0	6.0	69
Misc Hardwoods	0.2	29.0	31.0	302
Totals:	**1,113.2**	**1,219.0**	**1,251.0**	**5,441**

Regeneration Harvest	0.0
Partial Cut	59.0
Right of Way	0.0
Total Acres:	**59.0**

Unit: 3

Net Volume/Acre: 18.9 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	535.0	563.0	575.0	2,335
Western Hemlock	27.0	33.0	33.0	107
Grandfir	27.0	28.0	30.0	68
Red Alder	12.0	20.0	21.0	241
Port Orford Cedar	3.0	3.0	3.0	37
Totals:	**604.0**	**647.0**	**662.0**	**2,788**

Regeneration Harvest	0.0
Partial Cut	32.0
Right of Way	0.0
Total Acres:	**32.0**

Unit: 4

Net Volume/Acre: 18.8 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	217.0	229.0	234.0	949
Grandfir	11.0	11.0	12.0	28
Western Hemlock	11.0	13.0	13.0	43
Red Alder	5.0	8.0	8.0	98
Port Orford Cedar	1.0	1.0	1.0	15
Totals:	**245.0**	**262.0**	**268.0**	**1,133**

Regeneration Harvest	0.0
Partial Cut	13.0
Right of Way	0.0
Total Acres:	**13.0**

Unit: 5

Net Volume/Acre: 18.8 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	100.0	106.0	108.0	438
Western Hemlock	5.0	6.0	6.0	20
Grandfir	5.0	5.0	6.0	13
Red Alder	2.0	4.0	4.0	45
Port Orford Cedar	0.5	0.6	0.6	7
Totals:	**112.5**	**121.6**	**124.6**	**523**

Regeneration Harvest	0.0
Partial Cut	6.0
Right of Way	0.0
Total Acres:	**6.0**

Unit: 6

Net Volume/Acre: 18.9 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	301.0	317.0	323.0	1,313
Grandfir	15.0	16.0	17.0	38
Western Hemlock	15.0	18.0	19.0	60
Red Alder	7.0	11.0	12.0	135
Port Orford Cedar	2.0	2.0	2.0	21
Totals:	**340.0**	**364.0**	**373.0**	**1,567**

Regeneration Harvest	0.0
Partial Cut	18.0
Right of Way	0.0
Total Acres:	**18.0**

Unit: 7

Net Volume/Acre: 18.8 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	100.0	106.0	108.0	438
Grandfir	5.0	5.0	6.0	13
Western Hemlock	5.0	6.0	6.0	20
Red Alder	2.0	4.0	4.0	45
Port Orford Cedar	0.5	0.6	0.6	7
Totals:	**112.5**	**121.6**	**124.6**	**523**

Regeneration Harvest	0.0
Partial Cut	6.0
Right of Way	0.0
Total Acres:	**6.0**

Unit: 8

Net Volume/Acre: 18.8 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	836.0	879.0	899.0	3,648
Western Hemlock	41.0	52.0	52.0	168
Grandfir	40.0	45.0	44.0	104
Red Alder	21.0	30.0	32.0	376
Port Orford Cedar	2.7	5.3	5.3	59
Totals:	**940.7**	**1,011.3**	**1,032.3**	**4,355**

Regeneration Harvest	0.0
Partial Cut	50.0
Right of Way	0.0
Total Acres:	**50.0**

Unit: 9

Net Volume/Acre: 18.9 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	535.0	563.0	575.0	2,335
Grandfir	27.0	28.0	30.0	68
Western Hemlock	27.0	33.0	33.0	107
Red Alder	12.0	20.0	21.0	241
Port Orford Cedar	3.0	3.0	3.0	37
Totals:	**604.0**	**647.0**	**662.0**	**2,788**

Regeneration Harvest	0.0
Partial Cut	32.0
Right of Way	0.0
Total Acres:	**32.0**

Unit: 10

Net Volume/Acre: 18.8 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	100.0	106.0	108.0	438
Grandfir	5.0	5.0	6.0	13
Western Hemlock	5.0	6.0	6.0	20
Red Alder	2.0	4.0	4.0	45
Port Orford Cedar	0.5	0.6	0.6	7
Totals:	**112.5**	**121.6**	**124.6**	**523**

Regeneration Harvest	0.0
Partial Cut	6.0
Right of Way	0.0
Total Acres:	**6.0**

Unit: 11

Net Volume/Acre: 18.9 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	502.0	528.0	539.0	2,189
Grandfir	25.0	26.0	28.0	64
Western Hemlock	25.0	31.0	31.0	100
Red Alder	11.0	19.0	19.0	225
Port Orford Cedar	3.0	3.0	3.0	35
Totals:	**566.0**	**607.0**	**620.0**	**2,613**

Regeneration Harvest	0.0
Partial Cut	30.0
Right of Way	0.0
Total Acres:	**30.0**

Unit: 12

Net Volume/Acre: 18.9 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	150.0	158.0	162.0	657
Grandfir	8.0	8.0	8.0	19
Western Hemlock	8.0	9.0	9.0	30
Red Alder	3.0	6.0	6.0	68
Port Orford Cedar	0.8	0.9	0.9	10
Totals:	**169.8**	**181.9**	**185.9**	**784**

Regeneration Harvest	0.0
Partial Cut	9.0
Right of Way	0.0
Total Acres:	**9.0**

Unit: 13

Net Volume/Acre: 18.9 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	234.0	246.0	252.0	1,022
Grandfir	12.0	12.0	13.0	30
Western Hemlock	12.0	14.0	14.0	47
Red Alder	5.0	9.0	9.0	105
Port Orford Cedar	1.0	1.0	1.0	16
Totals:	**264.0**	**282.0**	**289.0**	**1,220**

Regeneration Harvest	0.0
Partial Cut	14.0
Right of Way	0.0
Total Acres:	**14.0**

Unit: 14

Net Volume/Acre: 18.9 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	334.0	352.0	359.0	1,459
Grandfir	17.0	18.0	19.0	42
Western Hemlock	17.0	21.0	21.0	67
Red Alder	8.0	12.0	13.0	150
Port Orford Cedar	2.0	2.0	2.0	23
Totals:	**378.0**	**405.0**	**414.0**	**1,741**

Regeneration Harvest	0.0
Partial Cut	20.0
Right of Way	0.0
Total Acres:	**20.0**

Unit: RW

Net Volume/Acre: 104.3 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	275.0	284.0	286.0	832
Red Alder	14.0	14.0	16.0	191
Western Hemlock	12.0	12.0	13.0	42
Grandfir	9.0	9.0	9.0	20
Port Orford Cedar	3.0	3.0	3.0	47
Totals:	**313.0**	**322.0**	**327.0**	**1,132**

Regeneration Harvest	0.0
Partial Cut	0.0
Right of Way	3.0
Total Acres:	**3.0**

Total Stump To Truck	Net Volume	$/MBF
$1,810,522.83	6,309.2	$286.97

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

Yarding System	Unit of Measure	# of Units of Measure	$/Unit of Measure	Total Cost	Remarks
Cable: Small Yarder	GM MBF	6,455.0	$269.45	$1,739,299.75	5 Loads a day/ fuel set at $4.70 gal./ 5mbf per load. Seasonally restricted in 13 of the 14 units/using 3 saws.
Wheel Skidder	GM MBF	322.0	$124.14	$39,973.08	For the RW 8 Loads per day / fuel set at $4.70 gal. / 5mbf per load. Wheel Skidder and a Loader
Subtotal				**$1,779,272.83**	

Additional Costs

Item	Unit of Measure	# of Units of Measure	$/Unit of Measure	Total Cost	Remarks
Intermediate Support	Each	26.0	$150.00	$3,900.00	
Lift Tree	Each	9.0	$150.00	$1,350.00	
Subtotal				**$5,250.00**	

Additional Moves

Equipment	Unit of Measure	# of Units of Measure	$/Unit of Measure	Total Cost	Remarks
Cable: Small Yarder	Each	13.0	$500.00	$6,500.00	Additional move for seasonal restrictions
Shovel	Each	13.0	$500.00	$6,500.00	Additional move for seasonal restrictions
Stroke Delimber	Each	13.0	$500.00	$6,500.00	Additional move for seasonal restrictions
Wheel Skidder	Each	13.0	$500.00	$6,500.00	Additional move for seasonal restrictions
Subtotal				**$26,000.00**	

Total	Net Volume	$/MBF
$492,903.07	6,309.2	$78.12

Utilization Center	One Way Mileage	Description	Unit of Measure	# of Units	$/Unit of Measure	Total Cost	% of Sale Volume
Eugene	134.0	Hard Wood Saw Logs	GM MBF	211.0	$126.31	$26,651.41	4 %
Winchester	71.8	Conifer Saw Logs	GM MBF	6,566.0	$71.01	$466,251.66	96 %

Engineering Allowances

Total	Net Volume	$/MBF
$523,084.05	6,309.2	$82.91

Cost Item	Total Cost
Road Construction:	$430,115.37
Road Maintenance/Rockwear:	$86,784.13
Road Use Fees:	$6,184.55

Comments:
EX D: = $71,196.55/
EX E: = $15,587.58
road maintenance/rockwear=$86,784.13

Total	Net Volume	$/MBF
$82,552.09	6,309.2	$13.08

Environmental Protection

Cost item	Total Cost
Equipment washing	$4,875.00
Subtotal	**$4,875.00**

Logging

Cost item	Total Cost
Cut and deck Riparian trees in unit 2	$1,307.61
Cut and deck private RW timber	$3,604.25
Flagging	$28,401.39
Subtotal	**$33,313.25**

Miscellaneous

Cost item	Total Cost
tree Girdling	$27,480.00
Subtotal	**$27,480.00**

Slash Disposal & Site Prep

Cost item	Total Cost
Landing pullback	$11,457.60
Landing pile cover	$2,567.84
Landing pile burn	$2,858.40
Subtotal	**$16,883.84**

Comments:
*I calculated 15 washings of the equipment because of seasonal restrictions.
*Flagging for yarding figuring one acre a day = 18ac x 8 days = 144Hrs x $47.68Hr for two flaggers = $6,865.75
*Flagging for cutting 79ac = 452Hrs x $47.68Hr for two flaggers=$21,535.65
*Landing pile cover $8.07/ac x 318ac = $2,567.84
*Landing pile burning $8.99/ac x 318ac = $2,858.40
*Cut and decking cost determined using BLM logging cost program

Form 5440-009
(June 2022)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Name of Bidder

Tract Number
ORC04-TS-2023.0032

Sale Name
Brownson Falls CT

Sale Notice *(dated)*
06/01/2023

BLM Office
Coos Bay District Office

DEPOSIT AND BID FOR: (Check One):

☐ **Timber and/or Other Wood Products**
(Examples of Other Wood Products: biomass, firewood, posts, poles, etc…)

☐ **Vegetative Resources**
(Examples of Vegetative Resources: boughs, pinyon nuts, cones, plants, etc…)

☐ Sealed Bid for Sealed Bid Sale	☑ Written Bid for Oral Auction Sale
Deadline for accepting sealed bids ☐ a.m. ☐ p.m.	Sale commences 10:00 ☑ a.m. ☐ p.m.
On *(date)* Place	On *(date)* 06/30/2023 Place Coos Bay District Office

In response to the above dated Sale Notice, the required deposit and bid are hereby submitted for the purchase of designated Timber and/or Other Wood Products or Vegetative Resources on the tract specified above.

Required bid deposit is $ 64,600.00 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. If not otherwise specified in the advertisement, bids for less than the advertised price will not be considered. If the bid is rejected the deposit will be returned.

BID SCHEDULE – **TIMBER AND/OR OTHER WOOD PRODUCTS OR VEGETATIVE RESOURCES**
NOTE: Bidders should carefully check computations in completing the Bid Schedule

			BID SUBMITTED		**ORAL BID MADE**	
PRODUCT & SPECIES	UNIT of MEASURE	ESTIMATED VOLUME OR QUANITY	UNIT PRICE	PRODUCT VALUE (Quantity X Price)	UNIT PRICE	PRODUCT VALUE (Quantity X Price)
Douglas-fir	MBF	5592.0	$	$ 0.00	$	= $ 0.00
Wester Hemlock	MBF	278	$ 40.70	$ 11,314.60	$	= $ 0.00
Grand Fir	MBF	274	$ 39.30	$ 10,768.20	$	= $ 0.00
Red Alder	MBF	135	$ 35.90	$ 4,846.50	$	= $ 0.00
Port-Orford Cedar	MBF	30	$ 42.90	$ 1,287.00	$	= $ 0.00
Misc. Hardwoods	MBF	0.2	$ 1.90	$ 0.38	$	= $ 0.00
Biomass	GT	150	$ 0.05	$ 7.50	$	= $ 0.00
			$	$ 0.00	$	= $ 0.00
			$	$ 0.00	$	= $ 0.00
			$	$ 0.00	$	= $ 0.00
			$	$ 0.00	$	= $ 0.00
		TOTAL PURCHASE PRICE		$ 28,224.18		$ 0.00

(Continued on Page 2)

If sale contract is executed, undersigned is liable for total purchase price including all modifications executed under the terms of the contract. Timber and/or Other Wood Products or Vegetative Resources designated for removal may be less or more than total estimated volume or quantity shown above.

Bid submitted on *(date)*

By signing this form, the signatory is certifying the following:

- ☐ *(a) The signatory is a citizen of the United States, a partnership composed wholly of such citizens, an unincorporated association composed wholly of such citizens, or a corporation authorized to transact business in the state in which the timber is located.*
- ☐ *(b) The signatory is the age of majority in the state of the sale.*
- ☐ *(c) The signatory is an authorized representative if not signing as an individual and certifies that he or she is authorized to act as or on behalf of the bidder.*
- ☐ *(d) The signatory and any affiliates have not exported unprocessed private timber from west of the 100th meridian in the lower 48 states in the 24-months prior to the sale date shown on this form.*
- ☐ *(e) The signatory's bid was arrived at by bidder or offeror independently and was tendered without collusion with any other bidder or offeror.*
- ☐ *(f) The signatory and any affiliates are not currently suspended or debarred from contracting with the Federal government unless issued an exception by the Department's Director of the Office of Acquisition and Property Management (exception must be attached to bid form).*

Mark each box above to acknowledge each of the certifying statements and complete sections 1-3 as appropriate and sections 4 and 5:

1. Signature, if firm is individually owned	4. Name of firm *(type or print)*
2. Signatures, if firm is a partnership or L.L.C. i. _____ ii. _____	5. Business address, include zip code *(type or print)*
3. Corporation - organized under the state laws of: Signature of Authorized Corporate Officer: _____ Title: _____	*(To be completed following oral bidding)* I HEREBY confirm the above oral bid By *(signature):* Date

Submit bid to qualify for either an oral auction or sealed bid sale, together with the required bid deposit.
Make remittance payable to: "Department of the Interior – BLM"

Oral Auction – Submit to Sale Supervisor prior to closing of qualifying period for tract.
Sealed Bid – Send to Contracting Officer, who issued the sale notice, in a sealed envelope marked on the outside with:

(1) "Bid for Timber and/or Other Wood Products" or "Bid for Vegetative Resources" depending on the products being sold.
(2) Time bids are to be opened.
(3) Legal description.
(4) Sale name and number.

NOTICES

The Privacy Act and the regulations in 43 CFR 2.223(d) require that you be furnished with the following information:

AUTHORITY: 38 FR 6280 and 43 CFR 5442.1

PRINCIPAL PURPOSE: To qualify an oral auction bidder, and then if successful, to bind bidder to certain contract conditions.

ROUTINE USES: To determine that an individual is qualified to participate in oral auction bidding, and, as surety that bidder will fulfill contract requirements.

EFFECT OF NOT PROVIDING INFORMATION: Filing this deposit and bid information is necessary only when an individual wishes to participate in a sealed or auction bid sale for Timber and/or Other Wood Products or Vegetative Resources.

(Continued on Page 3)

INSTRUCTIONS TO BIDDERS

1. AUTHORITY – Timber and/or Other Wood Products or Vegetative Resources, located on the revested Oregon and California Railroad Grant Lands and on the reconveyed Coos Bay Wagon Road Grant Lands is administered and sold pursuant to authority of the Act of August 28, 1937 (50 Stat. 874; 43 U.S.C. 2601); Timber and/or Other Wood Products or Vegetative Resources located on other public lands of the United States under jurisdiction of the Bureau of Land Management are administered and sold pursuant to authority of the Act of July 31, 1947 (61 Stat. 681), as amended, by the Act of July 23, 1955 (69 Stat. 367; 30 U.S.C. 601 et. seq.). Regulations of the Secretary of the Interior governing sale of Timber and/or Other Wood Products or Vegetative Resources, are codified in 43 CFR Group 5400.

2. QUALIFICATIONS OF BIDDERS – A bidder for sale of Timber and/or Other Wood Products or Vegetative Resources must be either (a) a citizen of the United States, (b) a partnership composed wholly of such citizens, (c) an unincorporated association composed wholly of such citizens, or (d) a corporation authorized to transact business in the state in which the Timber and/or Other Wood Products or Vegetative Resources are located.

3. INSPECTION OF TIMBER AND/OR OTHER WOOD PRODUCTS OR VEGETATIVE RESOURCES – Bidder is invited, urged, and cautioned to inspect the Timber and/or Other Wood Products or Vegetative Resources prior to submitting a bid. By executing the Timber and/or Other Wood Products or Vegetative Resources sale contract, bidder warrants that the contract is accepted on the basis of his/her examination and inspection of the Timber and/or Other Wood Products or Vegetative Resources and his/her opinion of its value.

4. DISCLAIMER OF WARRANTY – Government expressly disclaims any warranty of the fitness of the designated Timber and/or Other Wood Products or Vegetative Resources for any purpose of the bidder; all Timber and/or Other Wood Products or Vegetative Resources are to be sold "As Is" without any warranty of merchantability by Government. Any warranty as to the quantity or quality of Timber and/or Other Wood Products or Vegetative Resources to be sold is expressly disclaimed by Government.

5. BIDS – Each Sealed or written bid for Timber and/or Other Wood Products or Vegetative Resources must be submitted to the Contracting Officer who issued *Timber and/or Other Wood Products or Vegetative Resources Sale Notice.*

(a) *Sealed Bid Sales* – Bids will be received until time specified in the Advertisement. Enclose the bid with required bid deposit in a sealed envelope marked on the outside *Bid for Timber and/or Other Wood Products or Vegetative Resources*, time bid is to be opened, timber sale name and number, and legal description of land on which Timber and/or Other Wood Products or Vegetative Resources are located. In event of a tie, the high bidder shall be determined by lot from among those who submitted the tie bids.

(b) *Oral 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/her 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/her bid, in writing, immediately upon being declared high bidder.

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

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

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

(a) *Timber and/or Other Wood Products or Vegetative Resources Sales* – For each product and species, bids shall specify (1) Bureau of Land Management estimated unit volume or quantity, (2) bidder's price per unit and total value, and (3) bidder's total purchase price. Estimated volume and price per unit are to be used for administrative and appraisal purposes only. Upon award of contract, the high bidder agrees to pay the Government for the Timber and/or Other Wood Products or Vegetative Resources designated for removal in accordance with the terms of the contract. Timber and/or Other Wood Products or Vegetative Resources designated for removal may be less or more than the total estimated volume or quantity shown above.

7. BID DEPOSIT – All bidders must make a deposit of not less than the amount specified in the *Timber and/or Other Wood Products or Vegetative Resources Notice.* Deposit may be in the form of cash, money orders, bank drafts, cashiers or certified checks made payable to the Department of the Interior – BLM, bid bonds of a corporate surety shown on the approved list of the United States Treasury Department (*Applies To Timber Only*), or any approved guaranteed remittance approved by the Contracting Officer. Upon conclusion of bidding, the bid deposit of all bidders, except high bidder, will be returned. The cash deposit of the successful bidder shall be applied toward the required sale deposit and/or the purchase price. If the BLM fails to award the timber sale within 90 days of the determination of the high bidder, a portion of the bid deposit may be refunded to the high bidder upon written request to the authorized officer, such that the BLM retains a deposit of at least 5% of the appraised value. The remainder of the full bid deposit must be resubmitted to the BLM once the high bidder is notified in writing that the delay of award has been remedied and the authorized officer is prepared to issue the contract. If the high bidder is unable to provide the full amount of the bid deposit within 30 days of the written notification, the sale may be re-auctioned and the high bidder will be barred from participating in any subsequent auctions for the same tracts.

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/she 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. If contract award is delayed more than 90 days, half of the bid deposit may be refunded to the high bidder until the sale award process resumes.

9. TIMBER AND/OR OTHER WOOD PRODUCTS OR VEGETATIVE RESOURCES SALE CONTRACTS – To be executed by purchaser, has been prepared by Government, and may be examined in the District or Field Manager's office.

(Continued on Page 4)

10. PERFORMANCE BOND – (Primarily Used For Timber Sales)

(a) A performance bond in an amount of not less than 20 percent of total purchase price is required, but the amount of the bond shall not be in excess of $500,000, except when the purchaser opts to increase the minimum bond to permit cutting prior to payment as provided in 43 CFR 5451.2, or in the event the purchaser is a holder of an unresolved default the bond may be increased as provided in 43 CFR 5450.1(b). Performance bond may be (1) bond of a corporate surety shown on approval list issued by the United States Treasury Department and executed on an approved standard form, (2) personal surety bond executed on an approved standard form if Government determines principals and bondsman are capable of carrying out the terms of the contract, (3) cash bonds, (4) negotiable securities of the United States, or (5) any guaranteed remittance approved by the Contracting Officer.

(b) If purchaser elects to cut Timber and/or Other Wood Products or Vegetative Resources without skidding or yarding it to a loading point or removing it prior to the payment of the second or subsequent installments, Government shall require an increase in amount of performance bond initially required by an amount equal to the value of Timber and/or Other Wood Products or Vegetative Resources to be cut. Such increase must be on a bond rider form supplied by Government and be approved, in writing, by Government prior to cutting Timber and/or Other Wood Products or Vegetative Resources covered by the bond increase. This increased amount of bond shall be used to assure payment for Timber and/or Other Wood Products or Vegetative Resources cut in advance of payment.

11. PAYMENT BOND – (Primarily Used For Timber Sales)

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

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

13. LIQUIDATED DAMAGES – Within thirty (30) days from receipt of *Timber and/or Other Wood Products or Vegetative Resources* Sale Contract, the successful bidder shall sign contract and return it to Government, together with required bond and any required payment. If successful bidder fails to comply within the stipulated time, his/her bid deposit shall be retained by Government as liquidated damages.

14. NINETY-DAY SALES – If no bid is received within time specified in the advertisement of sale and if Government determines that there has been no significant rise in the market value of Timber and/or Other Wood Products or Vegetative Resources, it may, in its discretion, keep the sale open, not to exceed ninety (90) days.

15. UNAUTHORIZED USE OF GOVERNMENT PROPERTY – A sale may be refused to high bidder who has been notified that he/she 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 any exporters of unprocessed private timber west of the 100th meridian in the contiguous 48 states within 24-months of the sale date are not eligible to purchaser Federal Timber west of the 100th meridian in the contiguous 48 states. For the purpose of this contract, unprocessed timber is defined as: (1) any logs except those of utility grade or below, such as saw logs, peeler logs, and pulp logs; (2) cants or squares to be subsequently remanufactured exceeding eight and three quarters (8-3/4) inches in thickness; (3) split or round bolts or other roundwood not processed to standards and specifications suitable for end product use; or (4) western red cedar lumber which does not meet lumber of American Lumber Standards Grades of Number 3 dimensions or better, or Pacific Lumber Inspection Bureau R-List Grades of Number 3 common or better.

Timber manufactured into the following will be considered processed: (1) Lumber or construction timbers, except western red cedar, meeting current American Lumber Standards Grades or Pacific Lumber Inspection Bureau Export R or N list grades, sawn on four sides, not intended for remanufacture; (2) Lumber, construction timbers, or cants for remanufacture, except western red cedar, meeting current American Lumber Standards Grades or Pacific Lumber Inspection Bureau Export R or N list clear grades, sawn on four sides, not to exceed twelve inches in thickness; (3) Lumber, construction timbers, or cants for remanufacture, except western red cedar, that do not meet the grades referred to in subclause 2 and are sawn on four sides, with wane less than ¼ of any face, not exceeding 8¾ inches in thickness; (4) Chips, pulp, or pulp products; (5) Veneer or plywood; (6) Poles, posts, or piling cut or treated with preservatives for use as such; (7) Shakes or shingles; (8) Aspen or other pulpwood bolts, not exceeding 100 inches in length, exported for processing into pulp; (9) Pulp logs, cull logs, and incidental volumes of grade 3 and 4 saw logs processed at domestic pulp mills, domestic chip plants, or other domestic operations for the primary purpose of conversion of the logs into chips, or to the extent that a small quantity of such logs are processed, into other products at domestic processing facilities.

18. DETAILED INFORMATION – Detailed information concerning contract provisions, bid, performance bond forms, tract location maps, and access conditions may be obtained from the Contracting Officer. All persons interested in bidding on the products listed are encouraged to familiarize themselves with all such detailed information.

Agency Forest	Sale Name
ORC04-TS-2023.0032, Myrtlewood Forest BLM	Brownson Falls CT

SMALL BUSINESS CERTIFICATION REQUIRED ON

ALL PREFERENTIAL SALES OF SET-ASIDE TIMBER

The purchaser certifies, at the time of executing timber sale Contract No. ORC04-TS-2023.0032, to which this statement is annexed, that in accordance with the Rules and Regulations (13 CFR 121) of the Small Business Administration (SBA):

1. His firm (a) is primarily engaged in the logging or forest products industry; (b) is independently owned and operated; (c) is not dominant in its field of operation; and (d) employs, together with its affiliates, 500 or fewer persons.

2. (a) He agrees not to sell and/or exchange more than 30 percent (50 percent in the case of Alaska) of the timber of log volume from this preferential sale to concerns not meeting SBA's small business size standard. Such timber and log volume comprises logs, bolts and pieces that are suitable for manufacture into lumber dimension and/or veneer and normally appraised as such. Timber and log volume of the preferential sale includes the contract rights, standing and down trees or portions thereof.

(b) Whenever he does sell and/or exchange timber or logs from this preferential sale, records of such transactions will be maintained for a period of three years showing the name, address, and SBA size status (i.e., whether large or small) of each concern to whom the timber or logs were sold or disposed and the species, grades and volumes involved. In the event of such sale or sales, purchaser shall also require other purchasers to maintain similar records for a period of three years (OMB Approval No. 0596-0021). A signed certificate similar to this one will be obtained from each party buying such timber and will be retained for review in event of investigation.

(c) If his concern is purchased by, becomes controlled by, or merged with a large business, so much of such timber and log volume from this preferential sale as is necessary will be sold (not bartered) to one or more small businesses for compliance with the 30 percent (50 percent in the case of Alaska) restriction.

3. He agrees that if he utilizes log volume from this preferential sale in the manufacture of a product, such manufacture will be done with his own facilities or those of another concern that qualifies as a small business.

4. He understands that in addition to other penalties which may be imposed for violating the foregoing, he may be declared ineligible to participate in future Federal timber sales.

Signed _____

_____

_____

Date _____

Form 5430-11
(November 2011)
(formerly 1140-6)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

INDEPENDENT PRICE DETERMINATION CERTIFICATE

Timber Sale Number
ORC04-TS-2023.0032
Timber Sale Name
Brownson Falls CT
Sale date
30 June 2023

Bidder or Offeror (Name)	Address *(include zip code)*

A. By submission of this bid or proposal, each bidder or offeror certifies, and in the case of a joint bid or proposal, each party thereto certifies as to its own organization, that in connection with this sale:

1. The prices in this bid or proposal have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices, with any other bidder or offeror or with any competitor;

2. Unless otherwise required by law, the prices which have been quoted in this bid or proposal have not been knowingly disclosed by the bidder or offeror and will not knowingly be disclosed by the bidder or offeror prior to opening, in the case of a bid, or prior to award, in the case of a proposal, directly or indirectly to any other bidder or offeror or to any competitor; and

3. No attempt has been made or will be made by the bidder or offeror to induce any other person or firm to submit or not to submit a bid or proposal for the purpose of restricting competition.

B. Each person signing this bid or proposal certifies that:

1. He is the person in the bidder's or offeror's organization responsible within that organization for the decision as to the prices being bid or offered herein and that he has not participated, and will not participate, in any action contrary to A. 1 through 3 above; or

2. (i) He is not the person in the bidder's or offeror's organization responsible within that organization for the decision as to the prices being bid or offered herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to A. 1 through 3, above, and as their agent does hereby so certify; and

(ii) He has not participated, and will not participate, in any action contrary to A. 1 through 3, above.

C. This certification is not applicable to a foreign bidder or offeror submitting a bid or proposal for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

D. A bid or proposal will not be considered for award where A. 1, 3, or B., above, has been deleted or modified. Where A. 2, above, has been deleted or modified, the bid or proposal will not be considered for award unless the bidder or offeror furnishes with the bid or proposal a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, determines that such disclosure was not made for the purpose of restricting competition.

(Authorized Signature of Bidder)	Name and Title *(type or print)*

INSTRUCTIONS

Submit a properly completed and signed original copy of this form, with offers or bids for sales of all government-owned property to Bureau of Land Management as follows:

A. Include with sealed bids, written quotations and written offers.
B. At auction, at close of bidding and before award of spot bid sale.

Form 5450-017
(July 2021)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

EXPORT DETERMINATION

FORM APPROVED
OMB NO. 1004-0058
Expires: Nov. 30, 2022

Location of facility where Federal timber is expected to be processed:

In compliance with requirements of 43 CFR 5424.1, ☐ I ☐ We hereby submit the following information:

(1) Have you exported unprocessed private timber, or if a sourcing area is established, have you exported private timber from lands tributary to the above processing facility, in the 24 months prior to the auction or purchase date of Federal timber?

☐ Yes ☐ No - Last Export Date *(if any within the past 5 years)* _____

(2) If the answer in (1) is yes, you are not eligible to purchase federal timber until at least 24 months from the date in (1).

(3) Have any of your affiliates* exported unprocessed private timber, or exported unprocessed private timber from lands tributary to the above processing facility if within an established sourcing area, within the 24 months prior to the auction or purchase date of the Federal timber? ☐ Yes ☐ No - Provide affiliate names and last export dates *(if any, list latest export date within the past 5 years)*:

a. Affiliate_____ Last Export date _____

b. Affiliate_____ Last Export date _____

c. Affiliate_____ Last Export date _____

(4) If any affiliates have exported unprocessed private timber within 24 months of the auction or purchase date of the Federal timber, you are not eligible to purchase federal timber until at least 24 months from the most recent export date shown in (3).

*From 43 CFR 5400.0-5: Affiliate means a business entity including but not limited to an individual, partnership, corporation, or association, which controls or is controlled by a purchaser, or, along with a purchaser, is controlled by a third business entity. From 16 USC 620e: Export prohibition applies to any individual, partnership, corporation, association, or other legal entity and includes any subsidiary, subcontractor, or parent company, and business affiliates where one affiliate controls or has the power to control the other or when both are controlled directly or indirectly by a third person.

Name of Firm:

Signature of Signing Officer	Title	Date

By signing this form, you certify that you or your affiliates have not exported unprocessed private timber within the 24 months prior to the sale date of Federal timber and will not export unprocessed private or federal timber for the duration of the federal timber sale. Timber export and substitution violations are subject to civil penalties described in 16 USC 620d and may result in monetary damages and suspension and debarment.

INSTRUCTIONS: The Purchaser must complete the form and return to the Contracting Officer. 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 complete a copy of this form and file the form with the Contracting Officer.

Timber Sale Name and Number:	Return Form to Contracting Officer at:

Unprocessed timber means trees or portions of trees or other roundwood not processed to standards and specifications suitable for end-product use. The term "unprocessed timber" does not include timber processed into any one of the following: (i) Lumber or construction timbers, except Western Red Cedar, meeting current American Lumber Standards Grades or Pacific Lumber Inspection Bureau Export R or N list grades, sawn on 4 sides, not intended for remanufacture; (ii) Lumber, construction timbers, or cants for remanufacture, except Western Red Cedar, meeting current American Lumber Standards Grades or Pacific Lumber Inspection Bureau Export R or N list clear grades, sawn on 4 sides, not to exceed 12 inches in thickness; (iii) Lumber, construction timbers, or cants for remanufacture, except Western Red Cedar, that do not meet the grades referred to in clause (ii) and are sawn on 4 sides, with wane less than ¼ of any face, not exceeding 8¼ inches in thickness; (iv) Chips, pulp, or pulp products; (v) Veneer or plywood; (vi) Poles, posts, or piling cut or treated with preservatives for use as such; (vii) Shakes or shingles; (viii) Aspen or other pulpwood bolts, not exceeding 100 inches in length, exported for processing into pulp; (ix) Pulp logs, cull logs, and incidental volumes of grade 3 and 4 sawlogs processed at domestic pulp mills, domestic chip plants, or other domestic operations for the primary purpose of conversion of the logs into chips, or to the extent that a small quantity of such logs are processed, into other products at domestic processing facilities.

(continued on page 2)

NOTICES

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

AUTHORITY: 16 USC 620 and 43 CFR Part 5420 permit collection of the information requested by this form.

PRINCIPAL PURPOSE: The BLM uses the information in this form to determine eligibility to purchase federal timber.

ROUTINE USES: Timber sale purchaser provides information regarding their export of private timber.

EFFECT OF NOT PROVIDING INFORMATION: Submission of the requested information is required to obtain or retain a benefit. Failure to submit all of the requested information or to complete this form may result in delay or preclude the BLM's acceptance of your form.

The Paperwork Reduction Act requires us to inform you that:
The BLM collects this information to determine whether Federal timber has been substituted for exported private timber in accordance with 43 CFR 5424.1 and 5424.0-6(e).
You do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: The estimated public reporting burden for this form is 1 hour per response for a majority of responses, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. You may submit comments regarding the burden estimate or any other aspect of this form to: U.S. Department of the Interior, Bureau of Land Management (1004-0058), Bureau Information Collection Clearance Officer, 1849 C Street, N.W., Room 2134 LM, Washington, D.C. 20240.

Form 5460-016
(April 2021)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Contract Number

ORC04-TS-2023.0032

Date

CERTIFICATE AS TO NONSUBSTITUTION AND THE DOMESTIC PROCESSING OF TIMBER

Between Purchaser *(name)*

Address *(include zip code)*

and the United States of America, acting through the Bureau of Land Management, expressly requires that all timber sold thereunder:

A. Except for exempted grades and species, is restricted from export from the United States in the form of unprocessed timber. The term "unprocessed timber" means trees or portions of trees or other roundwood not processed to standards and specifications suitable for end product use. The term "unprocessed timber" does not include timber processed into any one of the following: (i) Lumber or construction timbers, except Western Red Cedar, meeting current American Lumber Standards Grades or Pacific Lumber Inspection Bureau Export R or N list grades, sawn on 4 sides, not intended for remanufacture; (ii) Lumber, construction timbers, or cants for remanufacture, except Western Red Cedar, meeting current American Lumber Standards Grades or Pacific Lumber Inspection Bureau Export R or N list clear grades, sawn on 4 sides, not to exceed 12 inches in thickness; (iii) Lumber, construction timbers, or cants for remanufacture, except Western Red Cedar, that do not meet the grades referred to in clause (ii) and are sawn on 4 sides, with wane less than ¼ of any face, not exceeding 8¾ inches in thickness; (iv) Chips, pulp, or pulp products; (v) Veneer or plywood; (vi) Poles, posts, or piling cut or treated with preservatives for use as such; (vii) Shakes or shingles; (viii) Aspen or other pulpwood bolts, not exceeding 100 inches in length, exported for processing into pulp; (ix) Pulp logs, cull logs, and incidental volumes of grade 3 and 4 sawlogs processed at domestic pulp mills, domestic chip plants, or other domestic operations for the primary purpose of conversion of the logs into chips, or to the extent that a small quantity of such logs are processed, into other products at domestic processing facilities.

As a buyer of "unprocessed timber" as defined above originating from the contract area of said contract, I agree to abide by the terms and conditions of said contract with respect to the restrictions regarding the export of unprocessed timber from the United States.

B. Will not be used as a substitute for exported private timber. For the purpose of this contract, substitution is defined as "the purchase of a greater volume of Federal timber by an individual purchaser than has been his historic pattern within twenty-four (24) months of the sale for export by the same purchaser of a greater volume of his private timber than has been his historic pattern during the preceding twenty-four (24) months.

As a buyer of "timber" as defined above originating from the contract area of said contract, I agree to the terms and conditions of said contract with respect to the restrictions regarding substitution as defined above.

(Name of Firm)

(Signature of Signing Officer)

(Title)

(Date)

INSTRUCTIONS

This form is for use with sales offered for sale after adoption of rules on nonsubstitution.

Purchaser shall forward original of certificate to the Contracting Officer and retain 1 copy.

Whenever purchaser of timber sold under a Bureau of Land Management contract wishes to sell or exchange any or all of the timber restricted from export in the form of unprocessed timber, he shall require each party receiving such timber to execute this certificate.

This form is exempt from the Paperwork Reduction Act of 1995 (P.L. 104-13) under 5 CFR 1320.3(h)(1)