



GOOD NEIGHBOR AUTHORITY TIMBER NOTICE OF SALE

SALE NAME: POP

AGREEMENT NO: 36-104453

AUCTION: August 31st, 2023 starting at 10:00 a.m., Pacific Cascade Office, Castle Rock, WA
See DNR website for remote auction protocol. **COUNTY:** Skamania

SALE LOCATION: Sale located approximately 15 miles North of Carson, WA. Elevation 1900'-3600'.

PRODUCTS SOLD

AND SALE AREA:

Unit 1: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging or blue special management area tags, except for forest products tagged out by yellow leave tree area tags.

Unit 2: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging or blue special management area tags.

Unit 3: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000 road.

Unit 4: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000 road or blue special management area tags, except for forest products tagged out by yellow leave tree area tags.

Unit 5: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the 5400000 road or blue special management area tags, except for forest products tagged out by yellow leave tree area tags.

Unit 6: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000 road or blue special management area tags.

Unit 7: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags pink flagging or blue special management area tags.

Unit 8: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging.

Unit 9: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging or blue special management area tags.

Unit 10: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000 road or blue special management area tags, except for forest products tagged out by yellow leave tree area tags.

Unit 11: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000, and 54-000.07 road, or blue special management area tags, except for forest products tagged out by yellow leave tree area tags.



GOOD NEIGHBOR AUTHORITY TIMBER NOTICE OF SALE

Unit 12: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000, and 54-000.07 road or blue special management area tags.

Unit 13: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000, and 54-000.07 road or blue special management area tags.

Unit 14: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000 road.

Unit 15: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000, and 54-000.07 road.

Unit 16: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000, and 54-000.07 road or blue special management area tags.

Unit 17: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000 road or blue special management area tags, except for forest products tagged out by yellow leave tree area tags.

Unit 18: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000 road or blue special management area tags.

Unit 19: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging and the existing 5400000 road or blue special management area tags, except for forest products tagged out by yellow leave tree area tags.

The above described products, located on approximately 219 acres on part(s) of: Township 04 North, Range 06 East, Sections 1, 2; and Township 05 North, Range 06 East, Sections 28, 34, 35, in Skamania County as shown on the attached timber sale map and as designated on the sale area.



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ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Total MBF	Price \$/MBF	MBF by Grade					
				SM	1S	2S	3S	4S	UT
Douglas-fir	12.5	2031	\$196.11	-	-	136	1325	555-	15
Pacific silver fir	10.4	111	\$20.00	-	-	-	38	72	-
Western hemlock	11.4	111	\$20.00	-	-	8	57	45	2
Noble fir	12.2	14	\$20.00	-	-	-	9	4	1
Subtotal		2,267		-	-	144	1,429	676	18

MINIMUM BID: Douglas-fir \$196.11/MBF

BID METHOD: Sealed Bids

ESTIMATED TOTAL VALUE: \$403,000

PERFORMANCE SECURITY: \$100,000.00

SALE TYPE: MBF Scale

EXPIRATION DATE: October 1, 2026

ALLOCATION: Export Restricted

BIDDABLE SPECIES: Douglas-fir

BID DEPOSIT: \$40,300.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Ground-based, shovel, forwarder, or skidder. This sale is estimated at 25% uphill cable thinning and 75% ground-based thinning. Falling, yarding, and heavy equipment operations will not be permitted from October 1 to May 31 unless authorized in writing by the Contract Administrator to reduce soil damage and erosion.

Additional restrictions apply, see Remarks section below.

ROADS: 141+41 stations of Construction, 0+00 stations of Reconstruction, 539+81 stations of STA pre-haul maintenance, 141+41 stations of STA Decommissioning. All road construction and haul will not be permitted from October 1 to May 31 unless authorized in writing by the Contract Administrator. Landing, temporary road construction, and rehabilitation, are not permitted from December 1 to March 31 in Units 1, 2, 5, and 6 to limit detrimental noise disturbance to deer and elk while on winter range. Additionally, landing, temporary road construction, and rehabilitation, are not permitted from March 1 to July 15 in Units 4, 11, 15, 17, 18, and 19 due to the spotted owl nesting and fledging season. Reconstruction, and pre-haul maintenance work taking longer than 5 hours to complete in a single location, is not permitted on sections of 4200000, 5400000, Temp



GOOD NEIGHBOR AUTHORITY TIMBER NOTICE OF SALE

54-000.02, Temp 54-000.07, Temp 54-000.09, Temp 54-000.10, Temp 54-000.11, Temp 54-000.12 (see attached Timber Sale Maps for specific locations) from March 1 to July 15 to limit detrimental noise disturbance during the spotted owl nesting and fledging season. The distance between work sites that constitutes a separate work site is 0.25 miles.

Any optional roads built by the Purchaser must meet all the specifications in the road plan. On all optional roads, Purchaser may provide and place less rock than shown on the ROCK LIST, when approved in writing by the Contract Administrator given favorable environmental conditions for operations.

ACREAGE DETERMINATION

CRUISE METHOD: Acres determined using GPS methods. 228 gross acres, 1 acre deducted for roads, 5 acres deducted for skips. 218 net acres. Cruised using variable plot method. Expansion factor of 33.61 used on all units. Sighting height was 4.5 feet. A total of 178 plots were taken.

Shapefiles are available upon request.

SPECIAL REMARKS:

The following timing restrictions apply to this contract and shall apply in the locations shown on the attached timber sale map.

All road reconstruction activities and all timber haul operations are not permitted from October 1 to May 31 unless authorized in writing by the Contract Administrator.

If a wolf den or rendezvous site is discovered, the following timing restrictions will apply. Within 0.25 miles of the active wolf den or rendezvous sites, any road work, right-of-way timber falling and yarding, rock pit operation, or heavy equipment operations shall not be allowed from March 1st through September 1st, and within 1 mile all activities shall be seasonally restricted from April 1st to July 15th.

Harvest activities, including landing and temporary road construction, felling, skidding, yarding, and rehabilitation, are not permitted from December 1 to March 31 in Units 1, 2, 5, & 6 to limit detrimental noise disturbance to deer and elk while on winter range. If this timing restriction conflicts with winter operations, flexibility may be applied if conditions warrant.

Harvest activities, including landing and temporary road construction, felling, skidding, yarding, and rehabilitation, are not permitted from March 1 to July 15 in Units 11, 15, 17, 18, & 19 to limit detrimental noise disturbance during the spotted owl nesting and fledging season.

Harvest activities, including landing and temporary road construction, felling, skidding, yarding, and rehabilitation, are not permitted from March 1 to July 15 in portions of Units 1, 4, 6, 8, & 10 to limit detrimental noise disturbance during the spotted owl nesting and fledging season. Specific locations are marked with yellow flagging in the field (refer to attached Timber Sale Maps).

Reconstruction and Pre-Haul Maintenance work taking longer than 5 hours to complete in a single location, is not permitted on sections of 4200000, 5400000, Temp 54-000.02, Temp 54-000.07, Temp 54-000.08, Temp 54-000.09, Temp 54-000.10, Temp 54-000.11,



GOOD NEIGHBOR AUTHORITY TIMBER NOTICE OF SALE

Temp 54-000.12 (see attached Timber Sale Maps for specific locations) from March 1 to July 15 to limit detrimental noise disturbance during the spotted owl nesting and fledging season.

Winter harvest operations may occur if authorized in writing by the Contract Administrator and if waiver conditions exist. See contract for conditions.

Slash piles shall be covered by plastic.

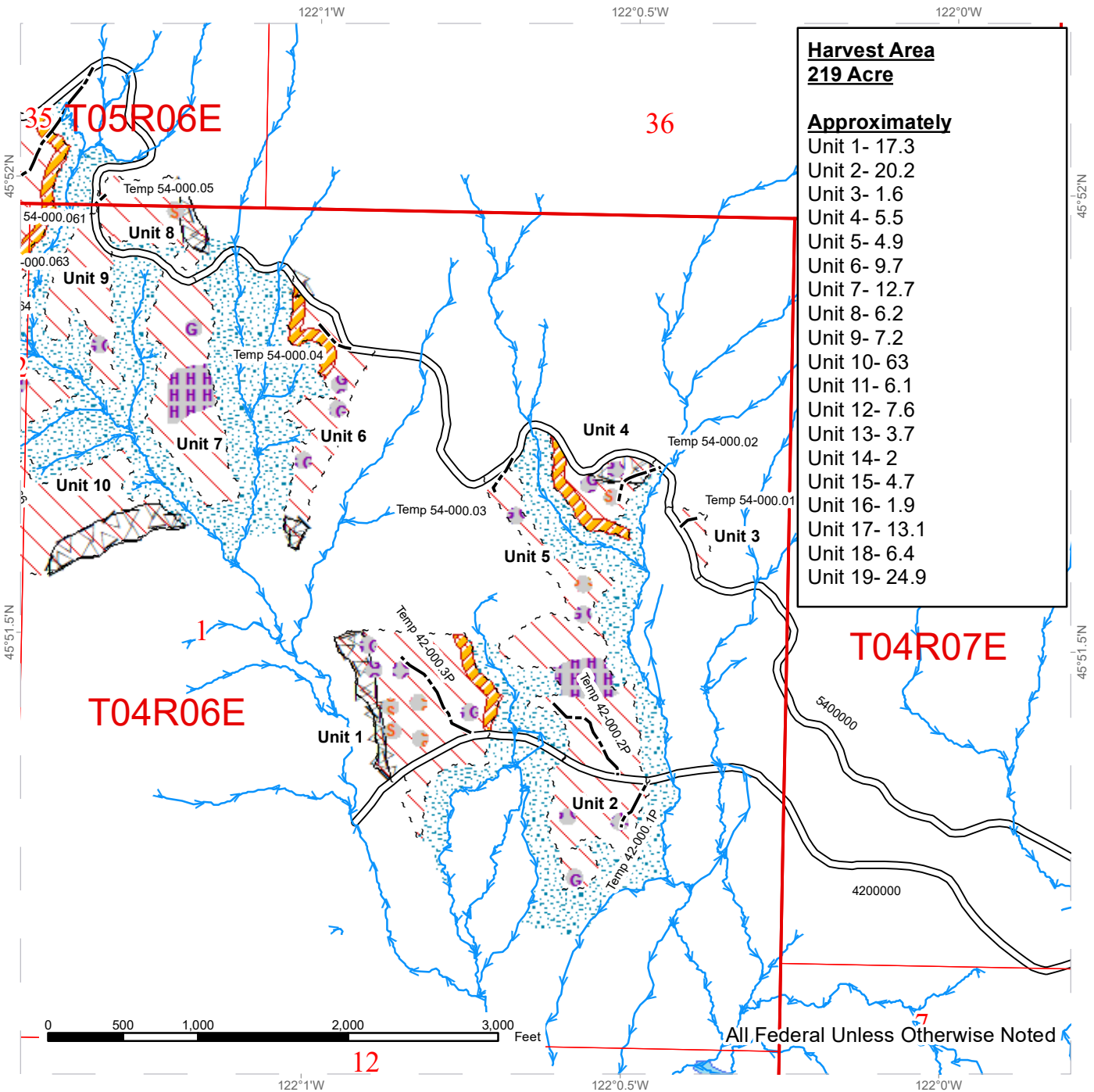
Slash piles will not be created within 50 ft. of all streams.

Brushing may not occur between June 15th and October 1st.

Good Neighbor Authority TIMBER SALE MAP

SALE NAME: Pop
 AGREEMENT #: 36-104453
 TOWNSHIP(S): T5R6E, T4R6E

NATIONAL FOREST: Gifford Pinchot
 COUNTY(S): Skamania
 ELEVATION RGE: 1900' - 3600'



Harvest Area
219 Acre

Approximately

- Unit 1- 17.3
- Unit 2- 20.2
- Unit 3- 1.6
- Unit 4- 5.5
- Unit 5- 4.9
- Unit 6- 9.7
- Unit 7- 12.7
- Unit 8- 6.2
- Unit 9- 7.2
- Unit 10- 63
- Unit 11- 6.1
- Unit 12- 7.6
- Unit 13- 3.7
- Unit 14- 2
- Unit 15- 4.7
- Unit 16- 1.9
- Unit 17- 13.1
- Unit 18- 6.4
- Unit 19- 24.9

All Federal Unless Otherwise Noted

Sale Area	Skip	Streams
Sale Boundary Tags	Gap	Public Land Survey Sections
Existing Roads	Riparian Mgt Zone	Public Land Survey Townships
Optional Temporary Construction	Heavy Thin	
Timing Restriction	Riparian Reserve	



Good Neighbor Authority TIMBER SALE MAP

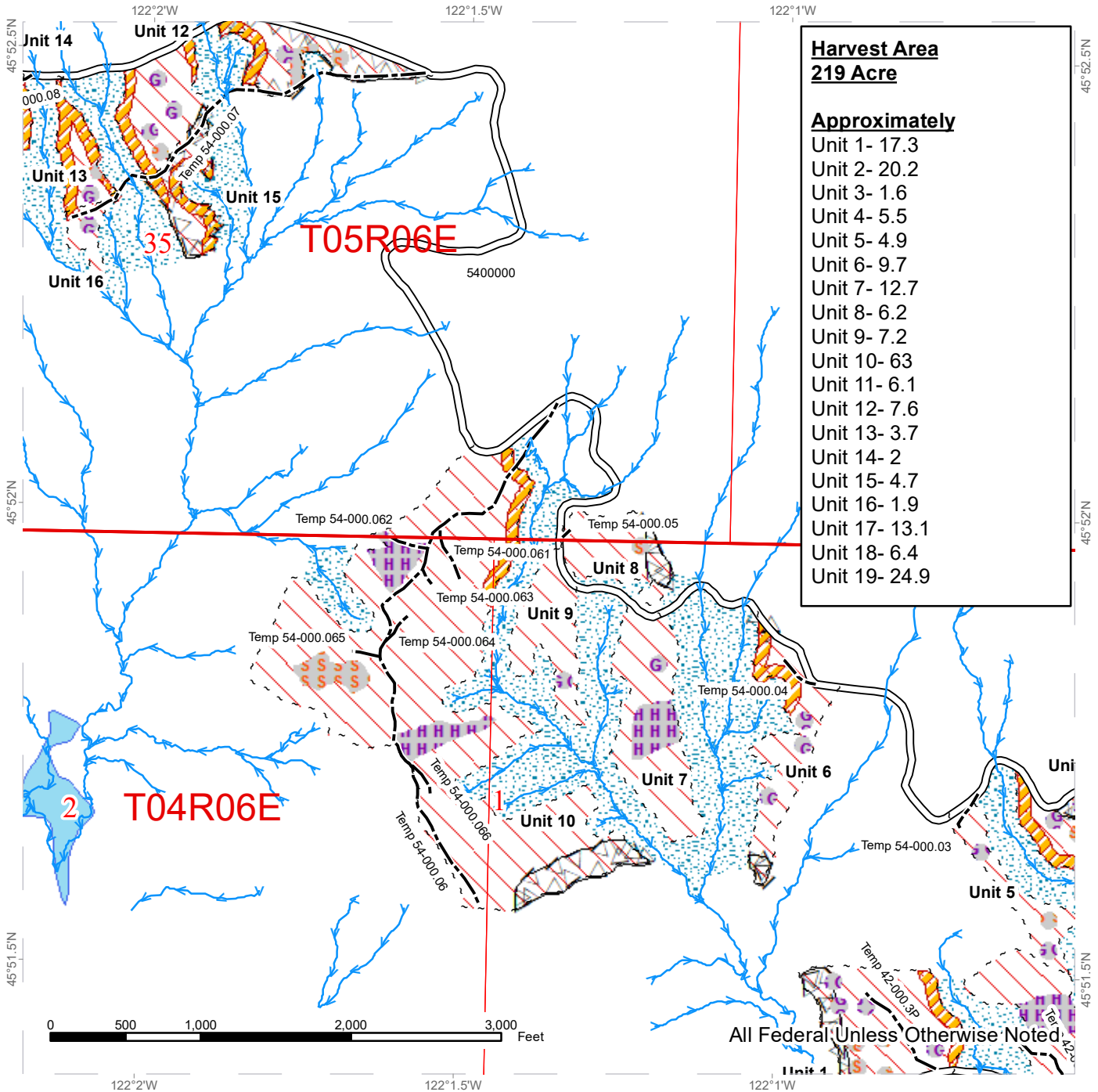
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All Federal Unless Otherwise Noted

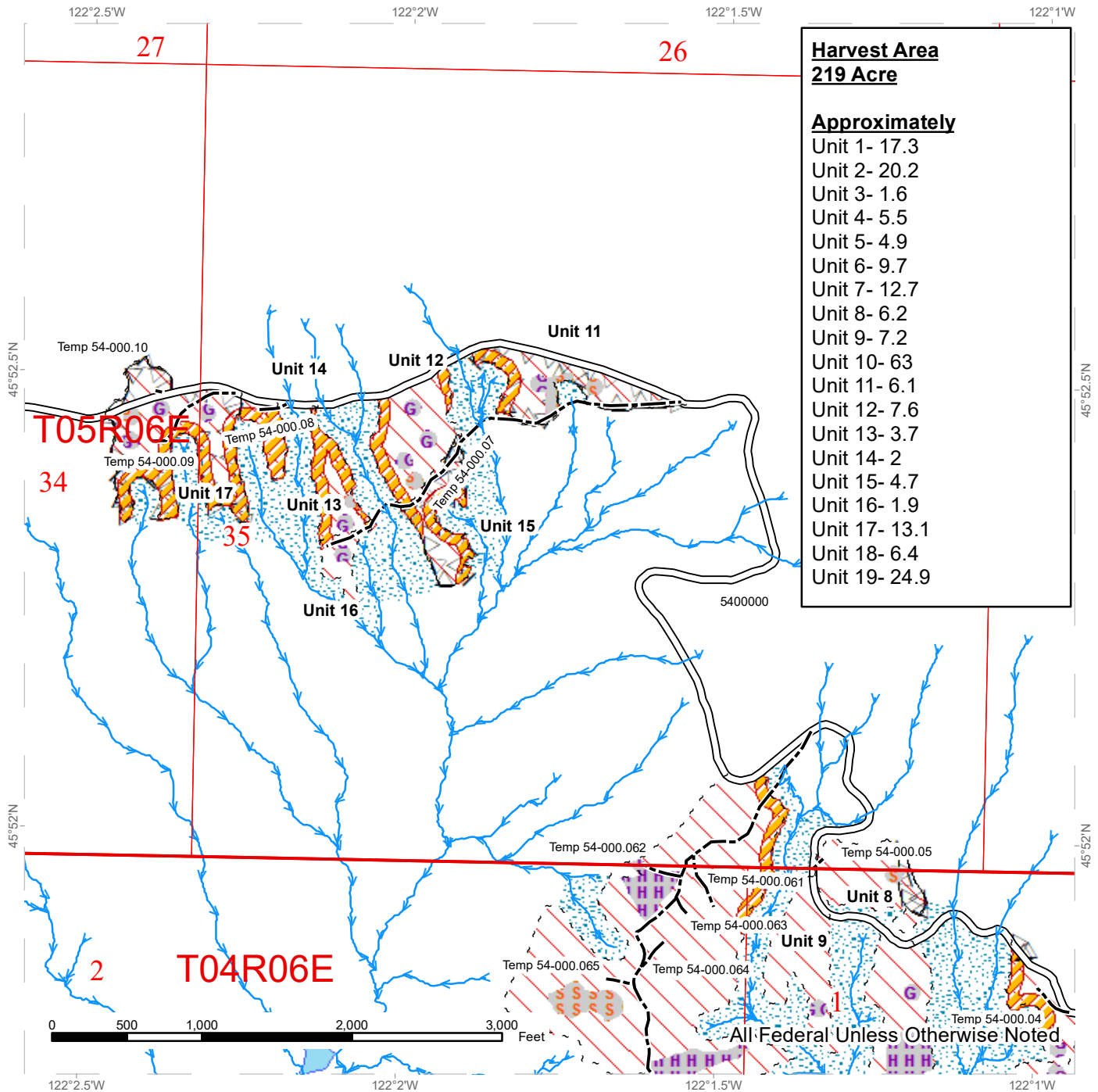
Sale Area	Skip	Streams
Sale Boundary Tags	Gap	Public Land Survey Sections
Existing Roads	Riparian Mgt Zone	Public Land Survey Townships
Optional Temporary Construction	Heavy Thin	
Timing Restriction	Riparian Reserve	



Good Neighbor Authority TIMBER SALE MAP

SALE NAME: Pop
 AGREEMENT #: 36-104453
 TOWNSHIP(S): T5R6E, T4R6E

NATIONAL FOREST: Gifford Pinchot
 COUNTY(S): Skamania
 ELEVATION RGE: 1900' - 3600'



Harvest Area	
219 Acre	
Approximately	
Unit 1-	17.3
Unit 2-	20.2
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Unit 4-	5.5
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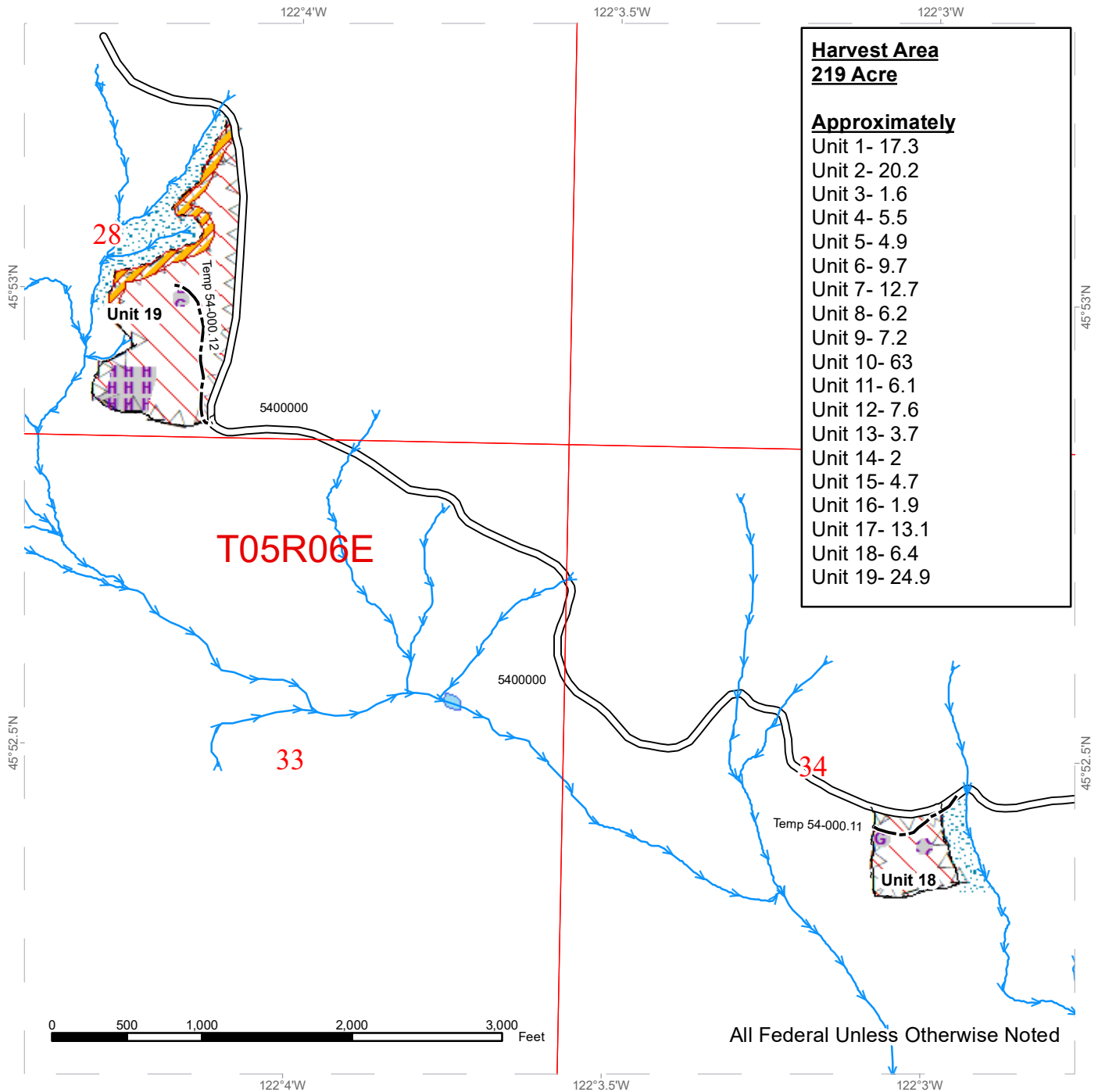
Sale Area	Skip	Streams
Sale Boundary Tags	Gap	Public Land Survey Sections
Existing Roads	Riparian Mgt Zone	Public Land Survey Townships
Optional Temporary Construction	Heavy Thin	
Timing Restriction	Riparian Reserve	



Good Neighbor Authority TIMBER SALE MAP

SALE NAME: Pop
 AGREEMENT #: 36-104453
 TOWNSHIP(S): T5R6E, T4R6E

NATIONAL FOREST: Gifford Pinchot
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 ELEVATION RGE: 1900' - 3600'



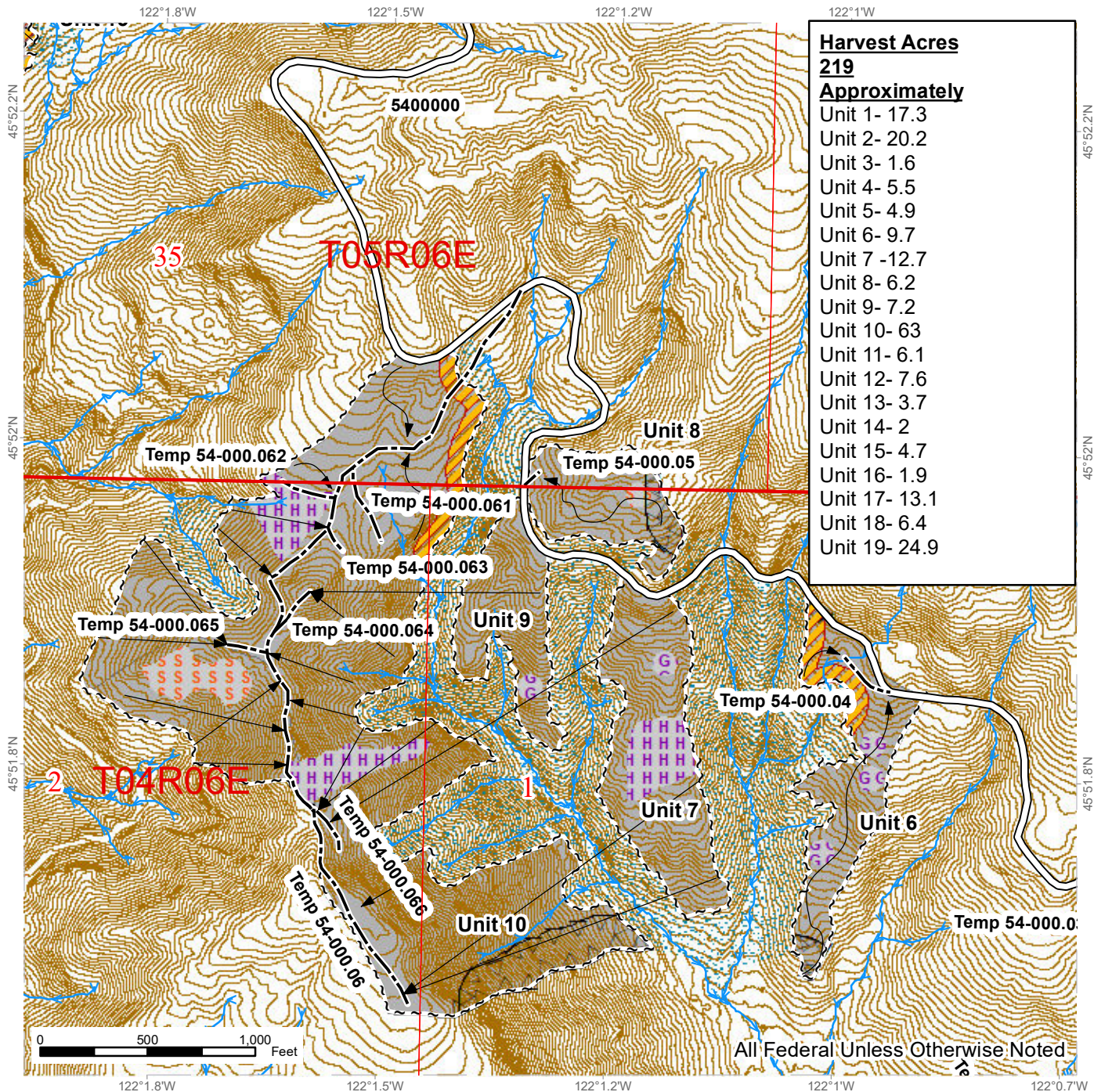
Sale Area	Gap	Public Land Survey Sections
Sale Boundary Tags	Riparian Mgt Zone	Public Land Survey Townships
Existing Roads	Heavy Thin	
Optional Temporary Construction	Riparian Reserve	
Timing Restriction	Streams	



GOOD NEIGHBOR AUTHORITY LOGGING PLAN MAP

SALE NAME: Pop
 AGREEMENT#: 36-104453
 TOWNSHIP(S): T5R6E, T4R6E

NATIONAL FOREST: Gifford Pinchot
 COUNTY(S): Skamania
 ELEVATION RGE: 1,900' - 3,600'



Harvest Acres	
219	
Approximately	
Unit 1-	17.3
Unit 2-	20.2
Unit 3-	1.6
Unit 4-	5.5
Unit 5-	4.9
Unit 6-	9.7
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Unit 18-	6.4
Unit 19-	24.9

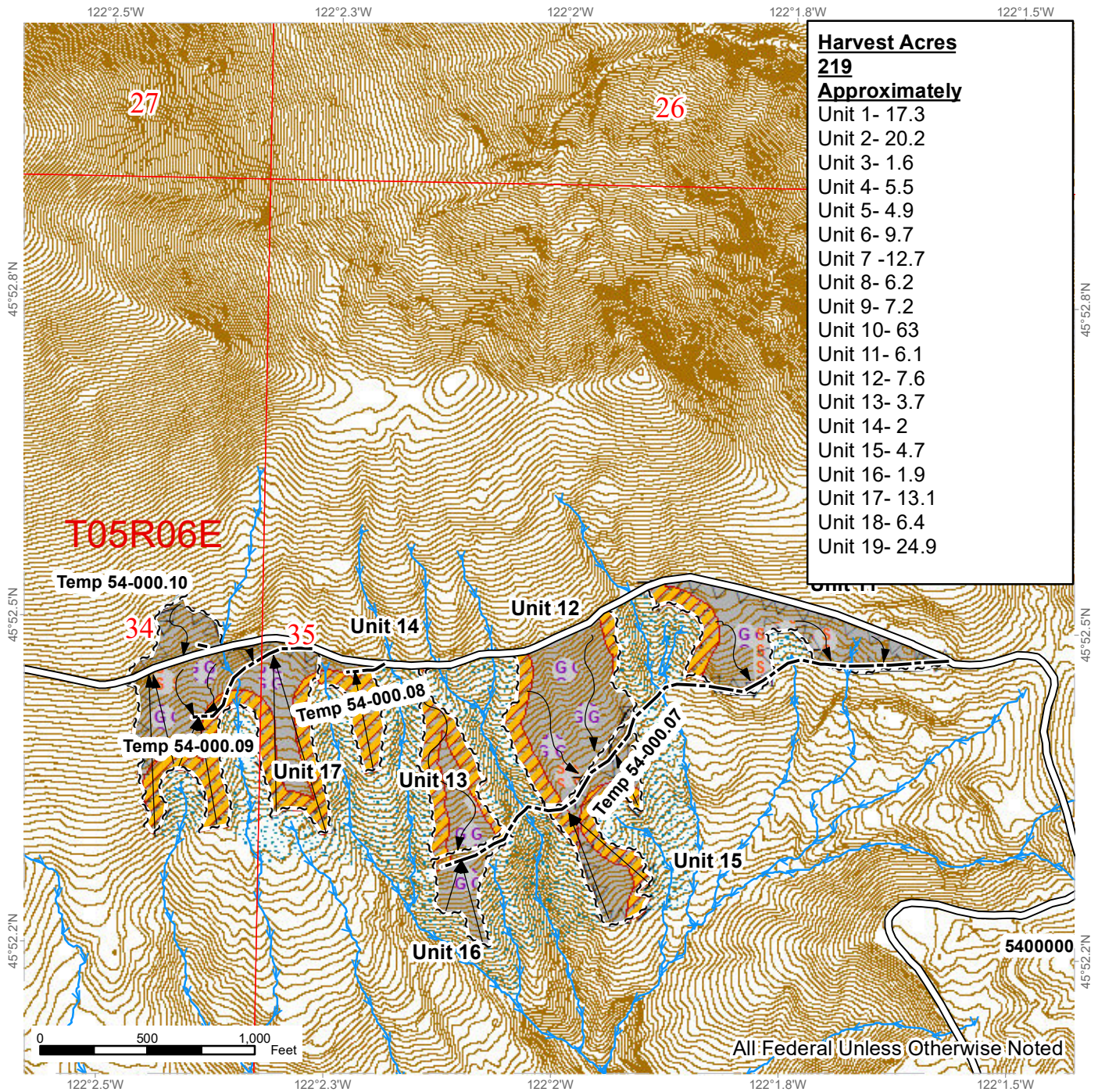
Variable Density Thinning	Heavy Thin	Riparian Mgt Zone
Sale Boundary Tags	Timing Restriction	Existing Roads
Ground Harvest	Skip	Optional Construction
Cable Harvest	Gap	Public Land Survey Sections
Riparian Reserve	Leave Tree Area	Public Land Survey Townships



GOOD NEIGHBOR AUTHORITY LOGGING PLAN MAP

SALE NAME: Pop
 AGREEMENT#: 36-104453
 TOWNSHIP(S): T5R6E, T4R6E

NATIONAL FOREST: Gifford Pinchot
 COUNTY(S): Skamania
 ELEVATION RGE: 1,900' - 3,600'



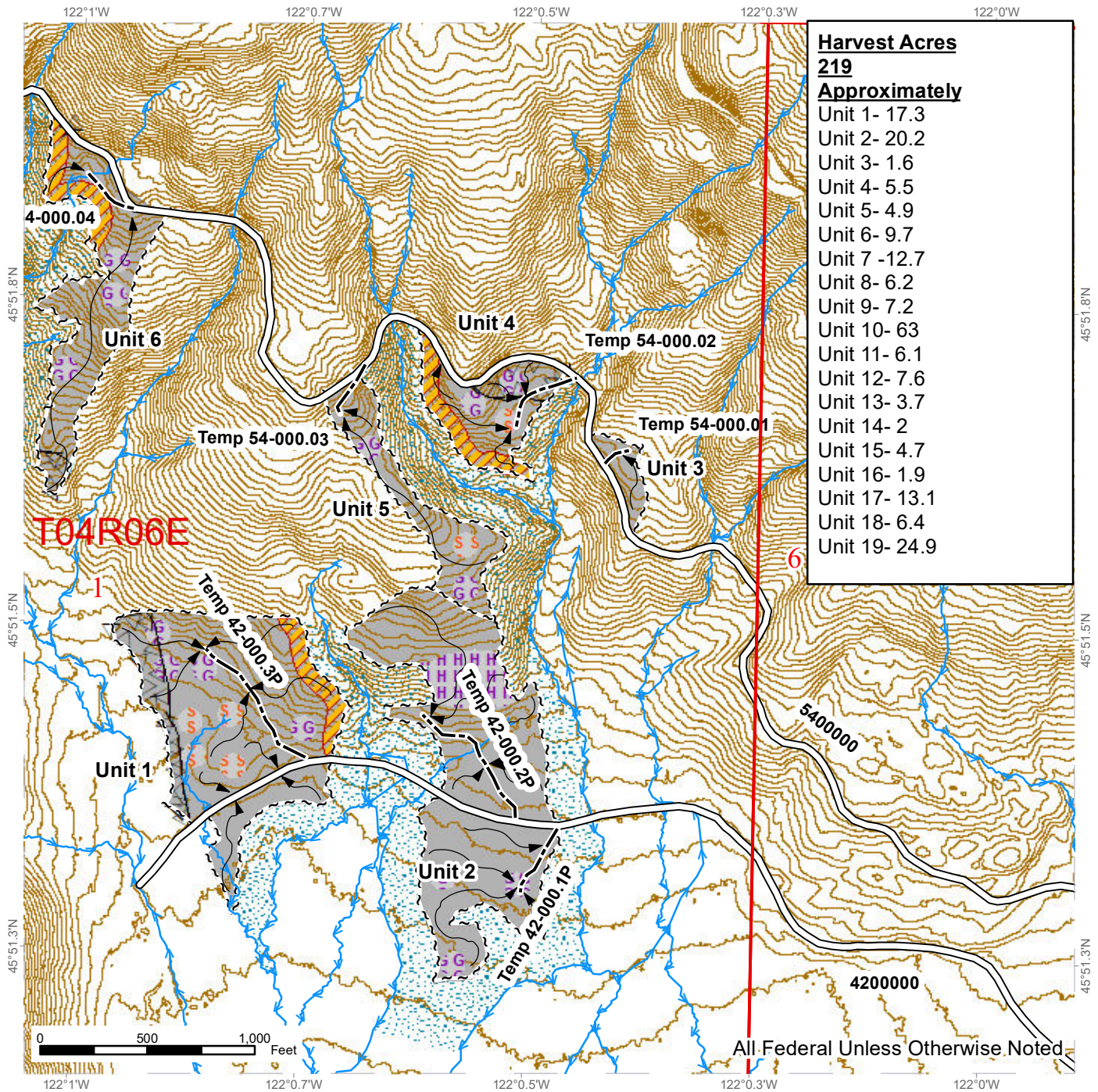
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Unit 15-	4.7
Unit 16-	1.9
Unit 17-	13.1
Unit 18-	6.4
Unit 19-	24.9

- | | | |
|---------------------------|--------------------|------------------------------|
| Variable Density Thinning | Timing Restriction | Optional Construction |
| Sale Boundary Tags | Skip | Public Land Survey Sections |
| Ground Harvest | Gap | Public Land Survey Townships |
| Cable Harvest | Riparian Mgt Zone | |
| Riparian Reserve | Existing Roads | |

GOOD NEIGHBOR AUTHORITY LOGGING PLAN MAP

SALE NAME: Pop
 AGREEMENT#: 36-104453
 TOWNSHIP(S): T5R6E, T4R6E

NATIONAL FOREST: Gifford Pinchot
 COUNTY(S): Skamania
 ELEVATION RGE: 1,900' - 3,600'



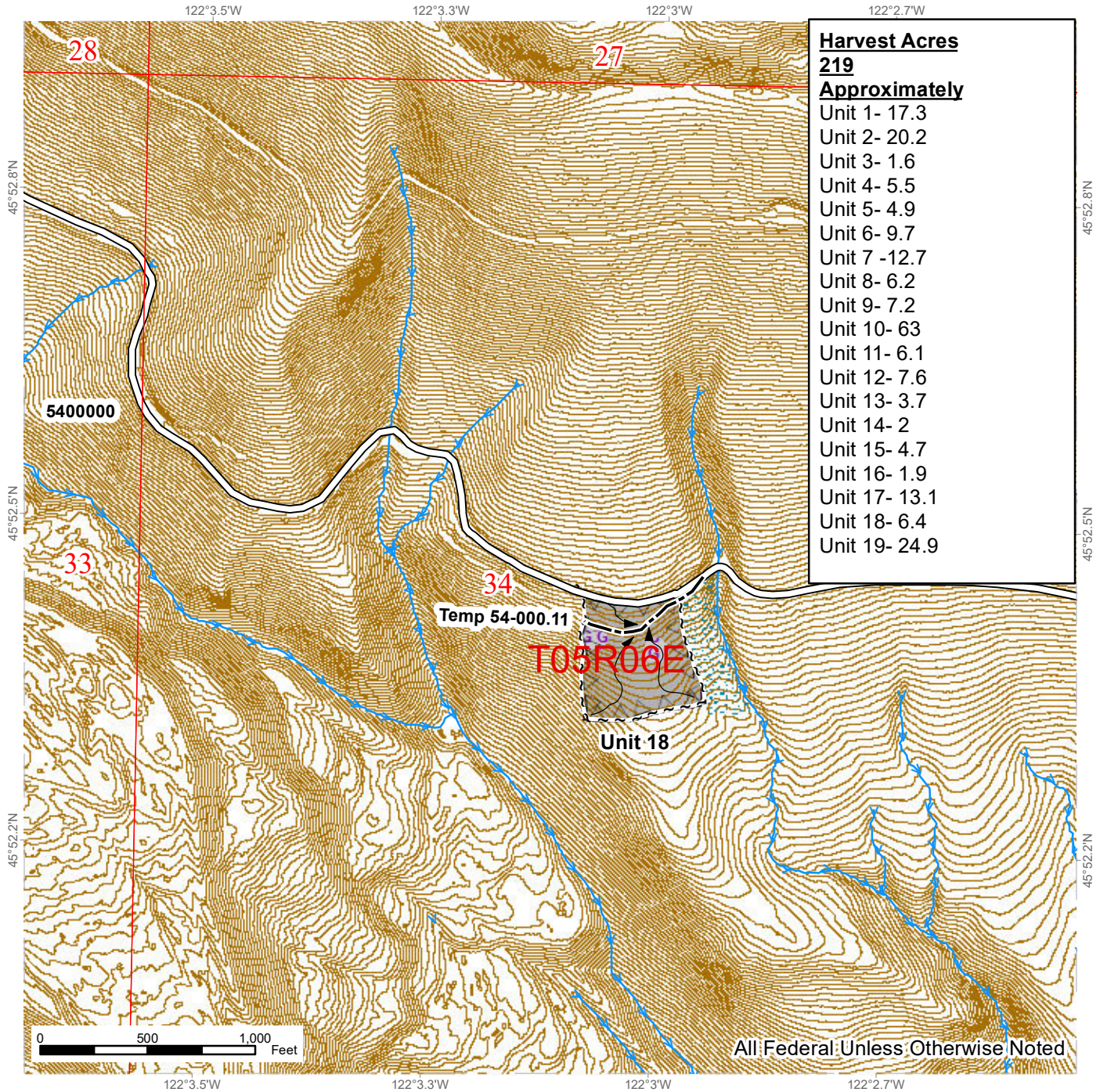
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219	Approximately
Unit 1- 17.3	
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Unit 17- 13.1	
Unit 18- 6.4	
Unit 19- 24.9	

Variable Density Thinning	Timing Restriction	Existing Roads
Sale Boundary Tags	Skip	Optional Construction
Ground Harvest	Gap	Public Land Survey Sections
Riparian Reserve	Leave Tree Area	Public Land Survey Townships
Heavy Thin	Riparian Mgt Zone	

GOOD NEIGHBOR AUTHORITY LOGGING PLAN MAP

SALE NAME: Pop
 AGREEMENT#: 36-104453
 TOWNSHIP(S): T5R6E, T4R6E

NATIONAL FOREST: Gifford Pinchot
 COUNTY(S): Skamania
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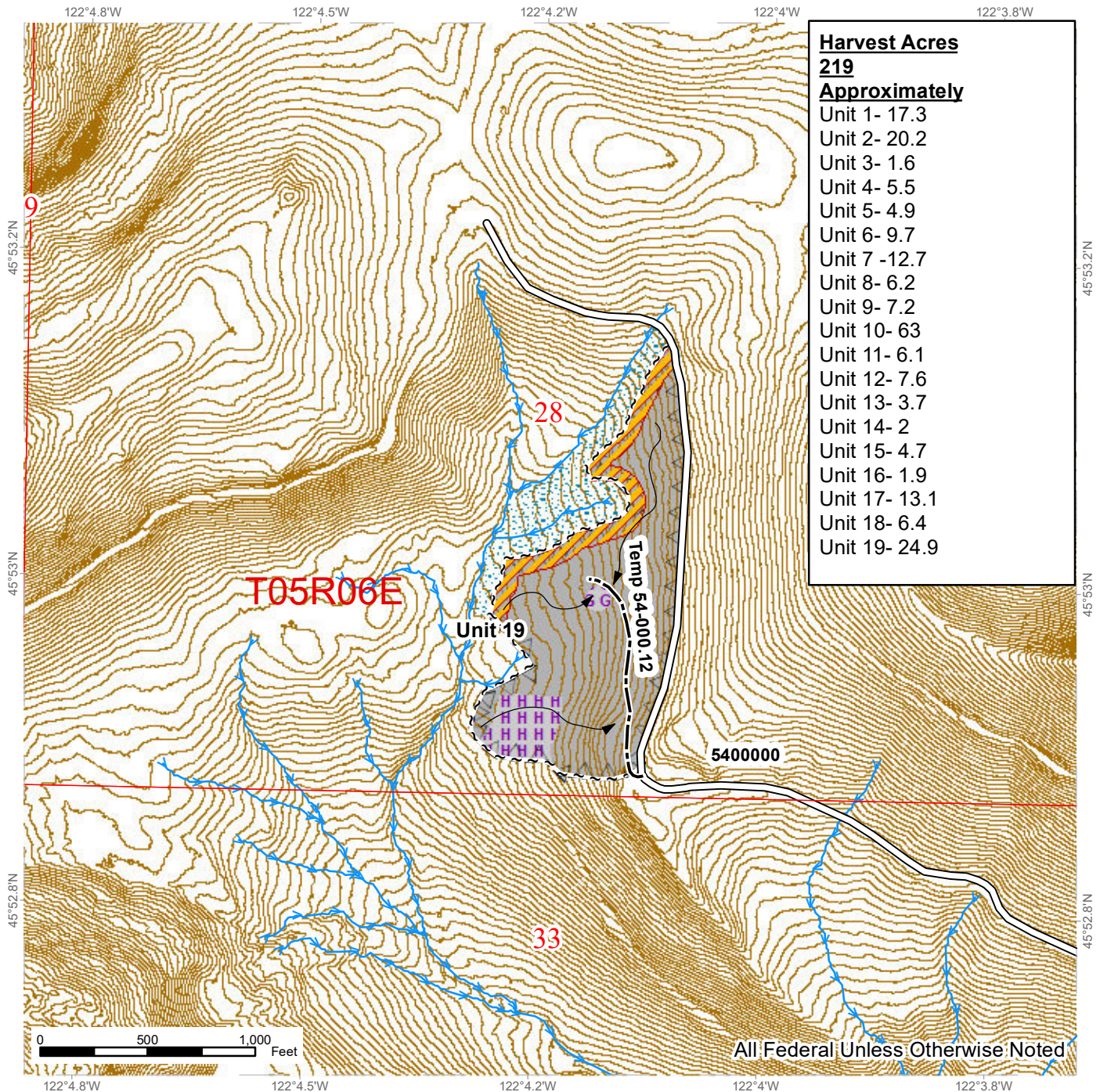


	Variable Density Thinning		Riparian Mgt Zone
	Sale Boundary Tags		Existing Roads
	Ground Harvest		Optional Construction
	Timing Restriction		Public Land Survey Sections
	Gap		Public Land Survey Townships

GOOD NEIGHBOR AUTHORITY LOGGING PLAN MAP

SALE NAME: Pop
 AGREEMENT#: 36-104453
 TOWNSHIP(S): T5R6E, T4R6E

NATIONAL FOREST: Gifford Pinchot
 COUNTY(S): Skamania
 ELEVATION RGE: 1,900' - 3,600'



Harvest Acres	
219	Approximately
Unit 1- 17.3	
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Unit 19- 24.9	

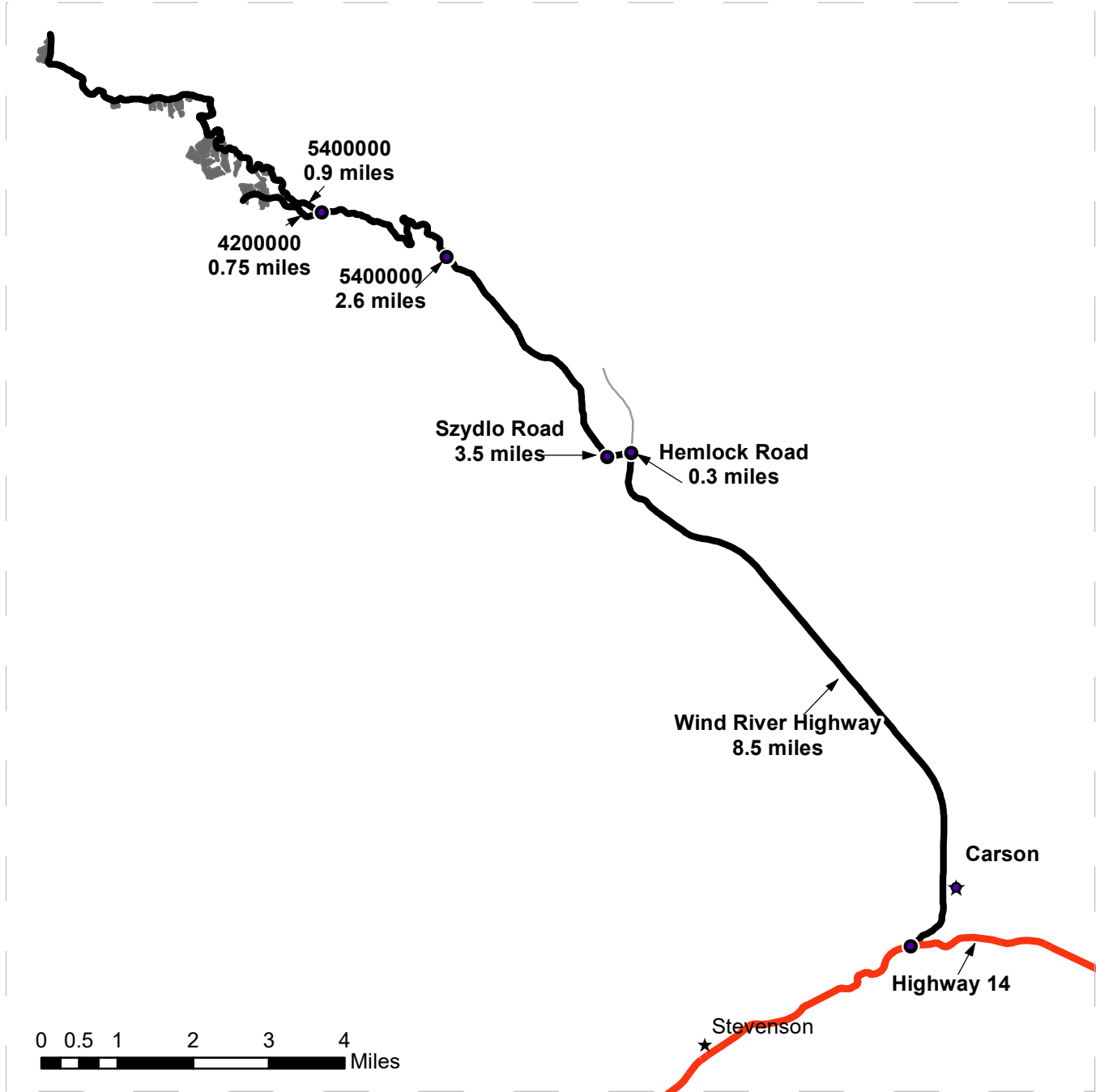
Variable Density Thinning	Timing Restriction	Optional Construction
Sale Boundary Tags	Gap	Public Land Survey Sections
Ground Harvest	Leave Tree Area	Public Land Survey Townships
Riparian Reserve	Riparian Mgt Zone	
Heavy Thin	Existing Roads	



GOOD NEIGHBOR AUTHORITY DRIVING MAP

SALE NAME: Pop
 AGREEMENT#: 36-104453
 TOWNSHIP(S): T4N R6E, T5N R6E

NATIONAL FOREST: Gifford Pinchot
 COUNTY(S): Skamania
 ELEVATION RGE: 1900' - 3600'



- Highway
- Haul Route
- Other Road
- Timber Sale Units
- Distance Indicator
- ★ Town

DRIVING DIRECTIONS:
 From Highway 14, turn North at the traffic circle toward Wind River Highway/Carson and follow for 8.5 miles.
 Turn west/left on Hemlock Road and follow for 0.3 miles.
 Turn North/right onto Szydlo Road and follow for 3.5 miles.
 At the fork, stay left onto 5400000 and follow for 2.6 miles.
 At the fork, stay left onto 4200000 and follow for 0.75 miles (Unit 1)
 At the fork, stay right onto 5400000 and follow for 0.9 miles (Units 2-8).



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

**BILL OF SALE AND CONTRACT FOR
GOOD NEIGHBOR AGREEMENT FOREST PRODUCTS**

Export Restricted MBF Scale AGREEMENT NO. 36-104453

SALE NAME: POP

This Bill of Sale and Contract for Good Neighbor Agreement Forest Products (Contract) is entered into between the Washington State Department of Natural Resources (DNR), acting as the agent for the United States Department of Agriculture Forest Service (U.S. Forest Service) pursuant to the authority granted in 16 USC § 2113a, and [TBD] Purchaser, herein collectively referred to as the “Parties” or individually as a “Party.”

In consideration of the mutual covenants and agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the State and Purchaser hereby agree to the following terms and conditions for the Contract.

SECTION G: GENERAL TERMS

G-001 Definitions

The following definitions apply throughout this contract;

Bill of Sale and Contract for Forest Products: The contract between the Purchaser and the State, which sets forth the procedures and obligations of the Purchaser in exchange for the right to remove forest products from the sale area.

Contract Administrator: DNR’s State Forester’s designee responsible for assuring that the contractual obligations of the Purchaser are met.

Forest Product: Any material derived from the forest for commercial use.

Purchaser: The company or individual that has entered into the Contract with the State for the right to harvest and remove forest products from the timber sale area.

Road Construction: Includes construction of new temporary roads, reconstruction and maintenance of existing forest roads, and associated work as authorized and described in the Road Plan.

State: The State of Washington represented by the Washington State Department of Natural Resources (Seller), acting under an agreement with the U.S. Forest Service to act as their agent in the selling of Forest Products from the timber sale area, located on

U.S. Forest Service land, under the Good Neighbor Authority in 16 USC § 2113a. The State is represented by the State Forester as designated on the contract signature page. Contractual obligations of the Purchaser under the Contract are enforced by the State Forester or the designated Contract Administrator.

Subcontractor: Individual or company employed by the Purchaser to perform a portion or all of the services required by the Contract. The Purchaser is responsible for independently negotiating, procuring and paying for all subcontracted services rendered.

United States Forest Service (U.S. Forest Service): An agency of the U.S. Department of Agriculture responsible for administering the nation's national forests.

G-010 Products Sold and Sale Area

Purchaser was the successful bidder on DATA MISSING and the sale was confirmed on _____. The State, as the U.S. Forest Service's agent, agrees to sell to Purchaser, and Purchaser agrees to purchase, cut, and remove the following forest products:

Unit 1: All timber as described for removal in Schedule B, bounded by white timber sale boundary tags and pink flagging or blue special management area tags, except for forest products tagged out by yellow leave tree area tags.

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The above described products, located on approximately 219 acres on part(s) of: Township 04 North, Range 06 East, Sections 1, 2; and Township 05 North, Range 06 East, Sections 28, 34, 35, in Skamania County as shown on the attached timber sale map and as designated on the sale area.

G-020 Inspection By Purchaser

Purchaser hereby warrants to the State that they have had an opportunity to fully inspect the sale area and the forest products being sold. Purchaser further warrants to the State that they enter this contract based solely upon their own judgment of the value of the forest products, formed after their own examination and inspection of both the timber sale area and the forest products being sold. Purchaser also warrants to the State that they enter this contract without any reliance upon the volume estimates, acreage estimates, appraisals, pre-bid documentation, or any other representations by the State Department of Natural Resources or U.S. Forest Service.

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	Unit Name Crosswalk
B	Thinning Prescription

G-030 Contract Term

Unless terminated earlier as authorized under the Contract, Purchaser shall remove the forest products conveyed and complete all work required by this contract prior to October 1st 2026 (Termination Date), unless this termination date is adjusted pursuant to G-040, or extended pursuant to G-050, in which case the new Termination Date shall be as established by the State.

G-040 Contract Term Adjustment - No Payment

Purchaser may request an adjustment in the contract term due to an interruption or delay in operations. A request for an adjustment must be submitted in writing and received by the State within 30 days after the start of the interruption or delay and describe Purchaser's reason for seeking a contract term adjustment. The request must also indicate the actual or anticipated length of interruption or delay. The State may grant an adjustment without charge only if the cause for contract term adjustment is beyond Purchaser's control (force majeure). A force majeure includes, but is not limited to acts of God, acts of the public enemy, acts of the Government, labor disputes, fires, insurrections, floods; road and bridge failures that deny Purchaser access to, or out of,

the sale area; access road closures imposed by a road owner; excessive suspensions as provided in clause G-220; and regulatory actions, that do not arise from Purchaser's failure to comply with the Contract and which will prevent timber harvest for a period of less than 6 months.

The State shall adjust the term of the Contract to provide for additional calendar days equal to the actual time lost for the period that such force majeure continues in effect. All other terms and conditions of the Contract shall remain in effect during periods of force majeure. Lack of funds on the part of Purchaser, adverse market conditions, state approval or assistance delays, and/or similar conditions shall not constitute force majeure.

G-050 Contract Term Extension – Payment

Extensions of this contract term may be granted only if, in the judgment of the State, Purchaser is acting in good faith and has diligently performed in accordance with contract provisions and the approved Plan of Operations. The term of this Contract may be extended for a reasonable time by the State, at the State's sole discretion, if all of the following conditions are satisfied:

- a. A written request for extension of the contract term must be received prior to the Termination Date of the Contract.
- b. Purchaser has completed all required roads and is in compliance with all contract and regulatory requirements (e.g., applicable Federal, state, and local laws).
- c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the contract value based on the contract payment rate and advertised volume.

For the second extension, not to exceed 1 year, payment of at least 90 percent of the contract value based on the contract payment rate base and advertised volume.

The payments shall not include the initial deposit which shall be held until Purchaser has completed all obligations under this Contract.

- d. Payment of an amount based on 12 percent interest per annum on the unpaid portion of the timber value of the contract.

To determine the unpaid portion of the timber value of the contract, multiply the contract payment rate for each item by the remaining volume for each item based on the volumes from the Timber Notice of Sale. In addition, all cash deposits that can be used for timber payments, except the initial deposit, will be deducted from the unpaid portion of the contract.

- e. Payment of [INSERT UPON AWARD OF CONTRACT] per acre per annum for the acres on which an operating release has not been issued.
- f. In no event will the extension charge be less than \$500.00.
- g. Extension payments are non-refundable.

G-051 Contract Term Extension – Market Related Conditions

The term of this contract may be adjusted when a drastic reduction in wood product prices has occurred in accordance with 36 CFR 223.52 as determined by the U.S. Forest Service, and the Purchaser makes a written request for additional time to perform the Contract. The Producer Price Index used to determine when a drastic reduction in price has occurred shall be the Softwood Lumber Commodity Index Series (Index Code 0811) as set forth in 36 CFR 223.52(b)(i). If the drastic reduction criteria specified in 36 CFR 223.52 are met for two consecutive calendar quarters, after Contract award date, the Contract Administrator will add one year to the Contract term upon Purchaser's written request. For each additional consecutive quarter such a drastic reduction occurs, the Contract Administrator will, upon written request, add an additional three months to the term during the operating season, except that no single three month addition shall extend the term of the Contract by more than one year. For each additional consecutive quarter such a drastic reduction occurs, the Contract Administrator will, upon written request, add an additional three months to the term during the operating season. The total amount of contract term addition is limited to the lesser of twice the length of the original Contract or three years. The Contract Administrator must receive Purchaser's written request for a market-related contract term addition before the expiration of this contract. Additional contract time may not be granted for those portions of the contract: (i) with a required completion date; where the U.S. Forest Service determines that the timber is in need of urgent removal; where timber deterioration or resource damage may result from delay; or (iv) where the timber is designated by diameter and delay may change the treatment as a result of trees growing into or out of the specified diameter ranges(s).

G-060 Exclusion of Warranties

The PARTIES AGREE that the IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE and ALL OTHER WARRANTIES EXPRESSED OR IMPLIED ARE EXCLUDED from this transaction and shall not apply to the goods sold. For example, THE FOLLOWING SPECIFIC MATTERS ARE NOT WARRANTED, and are EXCLUDED from this transaction:

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."

- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.
- d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.
- e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.
- f. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies.
- g. Items contained in any other documents prepared for or by the State.

G-064 Permits

Purchaser is responsible for obtaining any permits not already obtained by the State or U.S. Forest Service that relate to Purchaser's operation. Any permits obtained by the State shall be transferred to Purchaser. Purchaser is responsible for all permits, amendments and renewals.

G-066 Termination Due to Governmental Regulatory Actions, Harm to the Environment or Administrative Appeal or Litigation

The State may terminate the Contract, in whole or in part, for any of the following reasons: (1) to prevent actual or potential harm to the environment including without limitation, harm to the land, water, air, habitat, animals, cave resources, or cultural resources; (2) to ensure consistency with U.S. Forest Service land and resource management plans; requirements for the timber sale imposed in any documents prepared pursuant to the National Environmental Policy Act of 1969, 42 USC 1531, et seq.; or compliance with any state or Federal law; (3) to conduct environmental analysis, including but not limited to, the Endangered Species Act of 1973, 16 USC 1531, et seq.; or (4) due to an existing or threatened administrative appeal or litigation involving the U.S. Forest Service or State that might affect or involve the timber sale, regardless of whether the Forest Service or State is required by an administrative or court order to terminate this Contract, or this Contract is named in such a proceeding.

In the event of termination for a reason stated above, Purchaser shall be entitled to a refund, or release of advanced deposits for timber cut but not removed from the sale area, and reimbursement of out-of-pocket expenses incurred as a direct result of the termination of operations; provided, however, that Purchaser shall not be entitled to any compensation provided herein when the Contract is terminated under this clause due to Purchaser's violation of any provision of the Contract. Out-of-pocket expenses do not include, lost profits, attorney's fees, replacement cost of timber, cost or expenses of running a sawmill or other processing facility, expectancy damages, or any other anticipatory expenses suffered by Purchaser.

G-066.1 Termination Due to Catastrophic Damage

The Contract may be terminated by the State, in whole or in part, or the Purchaser may request in writing that the Contract be terminated in whole or in part, if the value of timber remaining to be cut is diminished materially because of catastrophic damage caused by forces beyond the control of the Purchaser. Catastrophic damage is defined as a major change or damage to timber on the sale area, or access to the sale area, or a combination thereof: (a) caused by forces beyond the control of Purchaser, occurring within a 12 month period, including, but not limited to, wind, flood, earthquake, landslide, fire, forest pest epidemic (except as provided below), or other major natural phenomenon; and (b) affecting the value of any trees or products authorized for sale under the Contract estimated to total (i) either more than half of the estimated timber volume stated in Notice of Sale; or (ii) more than 8.6 MMBF or equivalent.

A forest pest epidemic shall not be considered catastrophic damage under this clause when the major change or damage to timber is caused by insect or disease that occurs after felling of the timber unless Purchaser is prevented from removing such timber for reasons that would qualify for a Contract Term Adjustment in G-040.

In the event of termination for the reasons stated above, Purchaser shall be entitled to a refund, or release of advanced deposits for timber cut but not removed from the sale area, and reimbursement of out-of-pocket expenses incurred as a direct result of termination of operations. Out-of-pocket expenses do not include, lost profits, attorney's fees, replacement cost of timber, cost or expenses of running a sawmill or other processing facility, expectancy damages, or any other anticipatory expenses suffered by Purchaser.

G-070 Limitation on Damage

In the event of a breach of any provision of this contract by the State, the exclusive remedy available to Purchaser will be limited to a return of the initial deposit and any unapplied payments; credit for unamortized improvements made by Purchaser; and payment of out-of-pocket expenses, but only under the circumstances where the Contract is terminated under G-066 or G-066.1 and the State is required to pay such out-of-pocket expenses. The State or U.S. Forest Service shall not be liable for any damages, whether direct, incidental or consequential.

G-080 Scope of State or U.S. Forest Service Advice

No advice by any agent, employee, or representative of the State or U.S. Forest Service regarding the method or manner of performing operations shall constitute a representation or warranty that said method, manner or result thereof will conform to the Contract or be suitable for Purchaser's purposes under the Contract. Purchaser's reliance on any State or U.S. Forest Service advice regarding the method or manner of performance shall not relieve Purchaser of any risk or obligation under the Contract. Purchaser retains the final responsibility for its operations under this contract and State or U.S. Forest Service shall not be liable for any injuries resulting from Purchaser's reliance on any State or U.S. Forest Service advice regarding the method or manner of performance.

G-090 Sale Area Adjustment

The Parties may agree to adjustments in the sale area boundary due to the circumstances specified in G-066.1 or G-066. The State shall adjust the total contract price by subtracting from the total contract price an amount determined in the following manner: the State shall cause the timber sale area excluded from harvest due to the circumstances to be measured. The State shall reduce the total contract price by that calculated percentage. However, variations in species, value, costs, or other items pertaining to the affected sale area will be analyzed and included in the adjustment if deemed appropriate by the State. The State will further reduce the total contract price by the reasonable cost of unamortized roads Purchaser constructed but is unable to use for removing timber. A reduction in total contract price terminates all of the Purchaser's rights to purchase and remove the timber and all other interest in the affected sale area.

G-100 Forest Products Not Designated

Any forest products not designated for removal, which must be removed in the course of operations authorized by the State, shall be approved and designated by the Contract Administrator. Added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this Contract.

G-110 Title and Risk of Loss

Title. All right, title, and interest in, and to any timber, shall remain in the U.S. Forest Service, until it has been cut, measured, and removed from the sale area, at which time title shall vest in Purchaser. Any right of Purchaser to cut and remove the timber from the sale area shall end at the time this Contract terminates. Any timber not removed by the termination date remains the property of the U.S. Forest Service.

Risk of Loss. If timber is destroyed or damaged by an “unexpected event” that significantly changes the nature of the timber, the party with title, right and interest to the timber shall bear the timber value loss resulting from such destruction or damage.

An “unexpected event” is defined to mean fire, wind, flood, insects or disease, or any similar cause; except that such losses caused by insect or disease after felling of timber shall be borne by Purchaser, unless Purchaser is prevented from removing such timber for reasons that would qualify for a Contract Term Adjustment in G-040.

Except as provided above, Purchaser will not be obligated to remove and pay for destroyed timber for which the U.S. Forest Service holds title. If timber is damaged by an unexpected event, and the U.S. Forest Service holds title and risk of loss for the damaged timber, the Contract Administrator shall make an appraisal to determine for each species the difference between the appraised unit value of the timber immediately prior to the value loss and the appraised unit value of timber after the loss. Current contract rates in effect at the time for the value loss shall be adjusted by differences to become the re-determined rates for the affected timber.

There shall be no obligation for the State to supply Federal timber, or for the Purchaser to accept and pay for other Federal timber, in lieu of that destroyed or damaged. Neither this contract provision, nor any other provision of the Contract, shall be construed to relieve Purchaser of liability for negligence resulting from its operations.

G-120 Responsibility for Work

All work, equipment, and materials necessary to perform this contract shall be the responsibility of Purchaser.

So far as practicable, Purchaser shall protect roads and other improvements (e.g., trails, telephone lines, ditches, fences) existing in the sale area. When Purchaser’s operations are adjacent to properties of railway, telephone, or power companies, or other property, work shall not begin until Purchaser has identified actions necessary to prevent damage to such property. Purchaser shall cooperate with the owners of any underground or overhead utility lines in their removal and/or rearrangement operations in order that these operations may progress in a reasonable manner such that utility duplication rearrangement work may be reduced to a minimum, and services shall not be unnecessarily interrupted. In the event of interruption to utility services because of accidental breakage or as a result of lines being exposed or unsupported, Purchaser shall promptly notify the proper authority and shall cooperate with that authority in the restoration of service until the service is restored.

Any damage to roads and improvements, except as provided in clause G-121 or unless the State issues an operating release pursuant to clause G-280, shall be repaired promptly to the satisfaction of the State and at Purchaser's expense. Road is defined as the road bed, including but not limited to its component parts, such as subgrade, ditches, culverts, bridges, and cattle guards. Improvement is defined to include trails, telephone and utility lines, gates, fences, buildings or any other type of structure.

G-121 Exceptions

Exceptions to Purchaser's responsibility for repairs in clause G-120 shall be limited exclusively to the following:

1. Failure of (a) required improvements or roads designated in clause C-050, or (b) required or optional construction or reconstruction completed to the point that authorization to haul has been issued;
2. Caused by a single event from forces beyond the control of Purchaser, its employees, agents, or invitees, including independent contractors; and
3. Includes, but is not limited to natural disasters such as earthquakes, volcanic eruptions, landslides, and floods.

These exceptions shall not apply where road damage occurs due to Purchaser's failure to take reasonable precautions or to exercise sound forest engineering and construction practices.

The repair work identified by the State shall be promptly completed by Purchaser at an agreed price. If the Parties are unable to reach an agreement on price, Purchaser shall complete the repairs based on DNR's determination of the price. Purchaser shall be entitled to challenge the costs through the dispute resolution process in clause G-240. Nothing contained in clauses G-120 and G-121 shall be construed as relieving Purchaser of responsibility for, or damage resulting from, Purchaser's operations or negligence, nor shall Purchaser be relieved from full responsibility for making good any defective work or materials. Authorization to haul does not warrant that Purchaser built roads are free from material defect and the State may require additional work, at Purchaser's expense regardless of cost, to remedy deficiencies at any time.

G-140 Indemnity

To the fullest extent permitted by law, Purchaser shall indemnify, defend and hold harmless the State, U.S. Forest Service, agencies of the State or U.S. Forest Service, and all officials, agents and employees of the State or U.S. Forest, from and against all claims arising out of, or in any way whatsoever resulting from, the Contract. "Claim" as used in this Contract means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorneys' fees, attributable for bodily injury, sickness, disease or death, or injury to or destruction of tangible property including loss of use resulting therefrom brought against the State, including without limitation claims brought against the State by Purchaser's agents, employees, representatives, or any subcontractor or its employees. Purchaser expressly agrees to indemnify, defend, and hold harmless the State or U.S. Forest Service for any claim arising out of or incident to Purchaser's or any subcontractors' performance or failure to perform the Contract. Purchaser's obligation to indemnify, defend, and hold harmless the State or U.S. Forest Service shall not be eliminated or reduced by any actual or alleged concurrent negligence of the State, U.S. Forest Service, or their agents, agencies, employees and officials. Purchaser waives its immunity under Title 51 RCW to the extent it is required

to indemnify, defend and hold harmless State or U.S. Forest Service and its agencies, officials, agents or employees.

G-150 Insurance

Purchaser shall, at its cost and expense, buy and maintain insurance of the types and amounts listed below. Failure to buy and maintain the required insurance may result in a breach and/or termination of the contract at State's option. State may suspend Purchaser's operations until required insurance has been secured.

All insurance and surety bonds should be issued by companies admitted to do business within the State of Washington and have a rating of A-, Class VII or better in the most recently published edition of Best's Reports. If an insurer is not admitted, all insurance policies and procedures for issuing the insurance policies must comply with Chapter 48.15 RCW and 284-15 WAC.

The State of Washington, Department of Natural Resources Product Sales and Leasing Division in Olympia, WA shall be provided written notice before cancellation or non-renewal of any insurance referred to therein, in accord with the following specifications:

1. Insurers subject to Chapter 48.18 RCW (admitted and regulated by the Insurance Commissioner): The insurer shall give the State 45 days advance notice of cancellation or non-renewal. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.
2. Insurers subject to Chapter 48.15 RCW (surplus lines): The State shall be given 20 days advance notice of cancellation. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.

Before starting work, Purchaser shall furnish the State of Washington, Department of Natural Resources with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements specified in the contract. Insurance coverage shall be obtained by the Purchaser prior to operations commencing and continually maintained in full force until all contract obligations have been satisfied or an operating release has been signed by the State.

Purchaser shall include all subcontractors as insured under all required insurance policies, or shall furnish separate certificates of insurance and endorsements for each subcontractor. Subcontractor(s) must comply fully with all insurance requirements stated herein. Failure of subcontractor(s) to comply with insurance requirements does not limit Purchaser's liability or responsibility.

The State of Washington, Department of Natural Resources, U.S. Forest Service, its elected and appointed officials, agents and employees shall be named as an additional insured on all general liability, excess, umbrella, and property insurance policies.

All insurance provided in compliance with this contract shall be primary as to any other insurance or self-insurance programs afforded to or maintained by State. Purchaser waives all rights against State for recovery of damages to the extent these damages are covered by general liability or umbrella insurance maintained pursuant to this contract.

By requiring insurance herein, State does not represent that coverage and limits will be adequate to protect Purchaser and such coverage and limits shall not limit Purchaser's liability under the indemnities and reimbursements granted to State in this contract.

The limits of insurance, which may be increased as deemed necessary by State of Washington, Department of Natural Resources, shall not be less than as follows:

Commercial General Liability (CGL) Insurance. Purchaser shall maintain general liability (CGL) insurance, and commercial umbrella insurance with a limit of not less than \$1,000,000.00 per each occurrence. If such CGL insurance contains aggregate limits, the General Aggregate limit shall be at least twice the "each occurrence" limit. CGL insurance shall have products-completed operations aggregate limit of at least two times the "each occurrence" limit. CGL coverage shall include a Logging and Lumbering Endorsement (i.e. Logger's Broad-Form) to cover the events that include, but are not limited to, fire suppression expenses, accidental timber trespasses, and wildfire property damage with limits of not less than \$2,000,000.00 each occurrence.

CGL insurance shall be written on Insurance Services Office (ISO) occurrence form CG 00 01 (or a substitute form providing equivalent coverage). All insurance shall cover liability arising out of premises, operations, independent contractors, products completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another party assumed in a business contract), and contain separation of insured (cross liability) condition.

Employer's Liability "Stop Gap" Insurance. Purchaser shall buy employers liability insurance, and commercial umbrella liability insurance with limits not less than \$1,000,000.00 each accident for bodily injury by accident or \$1,000,000.00 each employee for bodily injury by disease.

Workers' Compensation Coverage. Purchaser shall comply with all State of Washington workers' compensation statutes and regulations. Workers' compensation coverage shall be provided for all employees of Purchaser and employees of any subcontractor or sub-subcontractor. Coverage shall include bodily injury (including death) by accident or disease, which exists out of or in connection with the performance of this contract. Except as prohibited by law, Purchaser waives all rights of subrogation against State for recovery of damages to the extent they are covered by workers'

compensation, employer's liability, commercial general liability, or commercial umbrella liability insurance.

If Purchaser, subcontractor or sub-subcontractor fails to comply with all State of Washington workers' compensation statutes and regulations and State incurs fines or is required by law to provide benefits to or obtain coverage for such employees, Purchaser shall indemnify State. Indemnity shall include all fines, payment of benefits to Purchaser or subcontractor employees, or their heirs or legal representatives, and the cost of effecting coverage on behalf of such employees.

Business Auto Policy (BAP). Purchaser shall maintain business auto liability, and commercial umbrella liability insurance with a limit not less than \$1,000,000.00 per accident. Such insurance shall cover liability arising out of "Any Auto". Business auto coverage shall be written on ISO form CA 00 01, or substitute liability form providing equivalent coverage. If necessary the policy shall be endorsed to provide contractual liability coverage and cover a "covered pollution cost or expense" as provided in the 1990 or later editions of CA 00 01. Purchaser waives all rights against State or U.S. Forest Service for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

G-152 Pollution Legal Liability

Pollution Legal Liability (or Contractor's Pollution Liability). Purchaser and/or contractor(s) shall at its cost and expense, buy and maintain insurance of the types and amounts listed below for coverage of pollution legal liability, including investigation and defense costs, for bodily injury and property damage, including loss of use of damaged property or of property that has been physically damaged or destroyed. Failure to buy and maintain the required insurance may result in a breach and/or termination of the contract at State's option. State may suspend Purchaser operations until required insurance has been secured. Insurance coverage shall be obtained by the Purchaser and/or contractor(s) prior to operations commencing and continually maintained in full force until all contract obligations have been satisfied or an operating release is signed by the State.

Such coverage must provide coverage for both on-site and off-site cleanup costs and cover gradual and sudden pollution, and includes in its scope of coverage, natural resource damage claims. The U.S. Forest Service, State of Washington, Department of Natural Resources, its elected and appointed officials, agents and employees shall be named as additional insured. Coverage shall be maintained in an amount of at least:

1. \$1,000,000 each occurrence for contractor's operations at the site(s) identified above, and
2. If the policy contains a general aggregate limit or policy limit, it shall be at least \$5,000,000.

Such insurance may be provided on an occurrence or claims-made basis. If such coverage is obtained as an endorsement to the CGL and is provided on a claims-made basis, the following additional conditions must be met:

- a. The Insurance Certificate must state that the insurer is covering hazardous substance removal.
- b. The policy must contain no retroactive date, or the retroactive date must precede abatement services.
- c. Coverage must be continuously maintained with the same insurance carrier throughout the entire term of the Contract.
- d. The extended reporting period (tail) must be purchased to cover a minimum of 36 months beyond completion of work.

G-160 Agents

The State's rights and duties will be exercised by the State Forester of the state of Washington. The State Forester will notify Purchaser in writing who is responsible for administering the Contract (Contract Administrator). The State Forester has sole authority to waive, modify, or amend the terms of this Contract in the manner prescribed in clause G-180. No agent, employee, or representative of the State or U.S. Forest Service has any authority to bind the State or U.S. Forest Service to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract. The Contract Administrator shall be the State's authorized agent for purposes of receipt of notices under G-200.

Purchaser is required to have a person on site during all operations who is authorized to receive instructions and notices from the State. Purchaser shall inform the State in writing who is authorized to receive instructions, and notices under G-160, from the State, and any limits to this person's authority.

G-170 Assignment of Rights; Delegation of Performance (Subcontracting)

No rights or interest in this Contract shall be assigned by Purchaser without the prior written permission of the State, which approval shall be at the sole discretion of the State. Such approval shall not relieve the Purchaser of his or her responsibilities or liabilities under the Contract and may be given only if the third party assignee (assignee) has not been debarred or suspended from bidding on the award of U.S. Forest Service timber sale contracts in accordance with 36 CFR § 223.130 through 36 CFR § 223.145 and: (a) the assignee acquiring the rights of the Purchaser is acceptable to the State under the conditions and requirements then in effect for similar GNA timber sales, and assumes in writing all of the obligations to the State under the terms of the Contract as to the uncompleted portion; or (b) the rights are acquired by the assignee in trust as security and subject to such conditions as may be necessary for the

protection of the public interests. Any attempted assignment shall be void and ineffective for all purposes unless made in conformity with this paragraph.

Purchaser may perform any duty through a delegate (i.e., subcontractor), but Purchaser is not thereby relieved of any duty to perform or any liability under this contract. Any delegate shall be bound by the terms of the contract in the same manner as Purchaser.

G-180 Modifications

Waivers, modifications, or amendments of the terms of this Contract must be in writing and signed by Purchaser and the State.

G-190 Contract Complete

This Contract is the final expression of the Parties' agreement. There are no understandings, agreements, or representations, expressed or implied, which are not specified in this contract.

G-200 Notice

All notices required to be given under this Contract shall be in writing and personally delivered to the Party's authorized agent as provided in G-160; or sent by U.S. mail (certified mail requested), or personally delivered to a Party at the address listed below:

Department of Natural Resources
Attn: Department of Natural Resources
Forest Resilience Division; Federal Lands Program
Attn: Annette Mesman
Northwest Region
919 N Township Street
Sedro Wooley, WA 98248 | Purchaser

A party can designate a different authorized agent or address in writing by serving notice of such change as provided in this clause.

G-210 Violation of Contract

- a. If Purchaser violates any provision of this Contract, the Contract Administrator, by written notice, may suspend those operations in violation. If the violation is capable of being remedied, Purchaser has 30 days after receipt of a suspension notice to remedy the violation. If the violation cannot be remedied or Purchaser fails to remedy the violation within 30 days after receipt of a suspension notice, the State may terminate the rights of Purchaser under this contract and collect damages. Purchaser shall not be entitled to any

compensation if the Contract is terminated by the State as provided in this clause.

- b. If the Contract expires pursuant to clause G-030 without Purchaser having performed all its duties under this Contract, Purchaser's right to operate is terminated and Purchaser shall not have the right to remedy the breach. This provision shall not relieve Purchaser of any payment obligations.
- c. The State has the right to remedy the breach in the absence of any indicated attempt by Purchaser or if Purchaser is unable, as determined by the State, to remedy the breach. Any expense incurred by the State shall be charged to Purchaser and shall be paid within 30 days of receipt of billing.
- d. If Purchaser's violation is a result of a failure to make a payment when due, in addition to a. and b. above, interest shall accrue on the unpaid balance at 12 percent per annum, beginning the date payment was due.

G-220 State Suspends Operation

The Contract Administrator may suspend any operation of Purchaser under this Contract for any of the reasons stated in G-066, for any other reason as provided for in the Contract or, if deemed necessary in the public interest.

Purchaser shall be in breach of this Contract if the operation continues after the suspension notice or if the operation resumes without prior approval and notice from the Contract Administrator.

Purchaser may request a modification of a suspension within 30 days of the start of suspension through the dispute resolution process in clause G-240. If this process results in a finding that the suspension exceeded the time reasonably necessary to stop or prevent damage to the State or U.S. Forest Service, Purchaser is entitled to request a contract term adjustment under clause G-040.

If it reasonably appears that the damage that the State or U.S. Forest Service is suffering, or can reasonably be expected to suffer if the operation is allowed to continue, will prevent harvest for a period that will exceed 6 months, and Purchaser has complied with all terms and conditions of this contract, then the State may elect to terminate the Contract under G-066 just as if the harvest was prevented by a governmental statute, regulation, or order.

G-230 Unauthorized Activity

Any cutting, removal, or damage of forest products by Purchaser, its employees, agents, or invitees, including independent contractors, in a manner inconsistent with the terms of this Contract or Federal law, is unauthorized. Purchaser agrees to pay two

times the current contract rates for any unauthorized cutting, removal or damage of forest products.

G-240 Dispute Resolution

The following procedures apply in the event of a dispute regarding interpretation or administration of this Contract. The Parties agree that these procedures must be followed before a lawsuit can be initiated against the State. Purchaser's failure to submit a request for resolution of a dispute under the procedures set forth shall relieve the State of any obligations whatsoever arising under the Contract regarding the dispute. As used herein, a dispute means a demand or assertion by Purchaser seeking, as a legal right, the extension or adjustment of the term of the Contract, or any other relief under the Contract, including a claim for the payment of any money.

- a. In the event of a dispute, Purchaser must submit a written request to the State Forester for resolution of any dispute prior to seeking other relief. If the dispute involves a claim for money owed by the State, Purchaser shall submit with the written request a demand for the amount owed and any appropriate data necessary to establish that the amount requested accurately reflects what Purchaser claims is owing under the Contract for which the State is liable.
- b. The State Forester will issue a written decision on Purchaser's request within ten business days for matters not involving a claim for money. In the case of a claim by Purchaser for money owed under the Contract, the State Forester shall render a decision within 30 days, or notify Purchaser of the date when a decision will be issued. The State Forester's decision shall be final unless Purchaser submits a request under c.
- c. Within ten business days of receipt of the State Forester's decision, Purchaser may submit a written request for resolution of the dispute to the Department Supervisor of the Department of Natural Resources.
- d. Unless otherwise agreed, a conference will be held by the Department Supervisor within 30 calendar days of the receipt of Purchaser's request for review of the State Forester's written decision. Purchaser and the State Forester will have an opportunity to present their positions. The Department Supervisor will issue a decision within a reasonable time of being presented with both Parties' positions.

G-250 Compliance with All Laws

Purchaser is responsible for completing all operations in compliance with all applicable statutes, regulations and laws; and in compliance with all applicable requirements of the U.S. Forest Service, Decision Notice and Finding of No Significant Impact (DN), Gifford Pinchot National Forest, including all applicable Mitigation Measures and Project Design Criteria in the Middle Wind Environmental Assessment and associated errata, and applicable Best Management Practices contained in the Environmental

Assessment. Failure to comply may result in suspension, and/or termination of this Contract.

G-260 Venue

This contract shall be governed by the laws of the State of Washington. In the event of a lawsuit involving this contract, venue shall be proper only in Thurston County Superior Court.

G-270 Equipment and Personal Property Left on U.S. Forest Service Land

All equipment and personal property owned or in the possession of Purchaser, its employees, agents, or invitees, including independent contractors, shall be removed from the sale area and other U.S. Forest Service land by the termination date of this contract. Any equipment or personal property remaining on U.S. Forest Service land 60 days after the expiration of the contract may be removed and disposed of by the State. Purchaser shall pay to the State all costs of moving, storing, and disposing of such personal property and equipment. The State and the U.S. Forest Service shall not be responsible for any damages to or loss of the personal property or equipment, or damage caused by the moving, storing or disposal of the personal property or equipment.

G-280 Operating Release

An operating release is a written document, signed by the State and Purchaser, indicating that Purchaser has been relieved of certain rights or responsibilities with regard to the entire, or a portion of, the Contract. Purchaser and State may agree to an operating release for this sale, or portion of this sale, prior to the Contract expiration, when all contract requirements pertaining to the release area have been satisfactorily completed. Upon issuance of a release, Purchaser's right to cut and remove forest products on the released area will terminate.

G-310 Road Use Authorization

Purchaser is authorized to use the following U.S. Forest Service roads, State roads, and roads for which the State has acquired easements and road use permits; 4200000, 5400000, Temp 42-000.1P, Temp 42-000.2P, Temp- 42-000.3P, Temp 54-000.01, Temp 54-000.02, Temp 54-000.03, Temp 54-000.04, Temp 54-000.05, Temp 54-000.06, Temp 54-000.061, Temp 54-000.062, Temp 54-000.063, Temp 54-000.064, Temp 54-000.065, Temp 54-000.066, Temp 54-000.07, Temp 54-000.08, Temp 54-000.09, Temp 54-000.10, Temp 54-000.11, Temp 54-000.12. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

The U.S. Forest Service shall have the right to use any road constructed by Purchaser during the term of the Contract for any and all purposes in connection with the protection and administration of the National Forest. Other parties, in connection with

the logging of tributary National Forest timber, may use roads constructed by Purchaser when the Contract Administrator determines that such use will not materially interfere with Purchaser's Operations. The State may grant others the right to use the roads constructed by Purchaser during the term of the Contract if such uses are authorized by the U.S. Forest Service and will not materially interfere with Purchaser's operations.

G-320 Erosion Control

Reference Road Plan for revegetation measures. To reduce erosion potential from logging operations, the Contract Administrator may require water bars to be constructed, Forest Service provided grass seed to be placed on exposed soils, slash mats to be utilized in skid trails, or other mitigation measures to be taken by the Purchaser, in addition to what is already required under this contract.

G-330 Pre-work Conference

Purchaser shall arrange with the Contract Administrator to review this Contract and examine the sale area before beginning any operations. Purchaser shall furnish the State a written Plan of Operations at the pre-work conference that includes the Harvest Plan required in H-040, and sets forth planned periods for road construction and completion of all other contractual requirements. The State's written approval of the Plan of Operations is a prerequisite to commencement of Purchaser's operations. A revised Plan of Operations shall be submitted by Purchaser for the Contract Administrator's approval to accommodate a contract adjustment under G-040, a contract extension under G-050, or if determined necessary by the Contract Administrator. To the extent that the Plan of Operations is inconsistent with the Contract, the terms of the Contract shall prevail. State's acceptance and approval of Purchaser's Plan of Operations shall not be construed as any statement or warranty that the Plan of Operations is adequate for Purchaser's purposes or complies with applicable laws.

G-340 Preservation of Markers

Purchaser shall protect all survey monuments, witness corners, reference monuments, and bearing trees (hereinafter collectively referred to as "survey markers") against destruction, obliteration, or damage during operations performed under the Contract. If any survey markers are destroyed, obliterated, or damaged by such operations, Purchaser shall hire an appropriate county surveyor or registered land surveyor to reestablish or restore the survey markers at the same location, using surveying procedures in accordance with the *Manual of Instruction for the Survey of the Public Lands of the United States* as required by the U.S. Forest Service under federal law and the State under RCW 58.24, and shall record such survey in appropriate county records. The Contract Administrator may prescribe in writing additional requirements for protection of monuments, corners, and bearing trees.

G-370 Blocking Roads

Purchaser shall not block 4200000 or 5400000 roads unless authority is granted in writing by the Contract Administrator. Any other road the operator would like to block must be approved in writing by the Contract Administrator |

G-396 County Hauling Permit

The hauling of forest products, rock or equipment may require a county road hauling permit. Purchaser is responsible for obtaining a permit and any costs associated with extra maintenance or repair levied by a county. Purchaser must provide the Contract Administrator with a copy of the executed permit.

G-430 Open Fires

Purchaser shall not set, or allow to be set by Purchaser's employees, agents, invitees and independent contractors, any open fire at any time of the year without first obtaining permission, in writing, from the Contract Administrator.

SECTION P: PAYMENTS AND SECURITIES

P-010 Initial Deposit and Periodic Payment Schedule

Purchaser paid [TO BE DETERMINED ON DAY OF SALE] as an initial deposit to the State, which will be maintained until Purchaser has completed all obligations under this Contract. Purchaser shall not be entitled to any interest earned on the initial deposit. However, all or a portion of the initial deposit may be applied as the final payment for the timber if the State determines that adequate security exists for the performance or fulfillment of any remaining obligations of the Purchaser under the Contract. If the Contract expires without Purchaser's payment of the full amount specified in P-021, the initial deposit will be immediately forfeited to the State, and will be offset against Purchaser's remaining balance due. Any excess initial deposit funds not needed to ensure full payment of the contract price, or not needed to complete any remaining obligations of the Purchaser existing after contract expiration, will be refunded to the Purchaser.

P-021 Payment for Forest Products

Purchaser agrees to pay the following rates per MBF Scribner net log scale for forest products conveyed and cut or removed from the sale area.

[TO BE DETERMINED ON DAY OF SALE]

Species that are conveyed but are not listed in the table above shall be paid for at a rate to be determined by the State.

Utility logs, special cull and peelable cull logs of all species, included on loads of logs that are required to be removed and scaled per clause H-150 will be paid for on an adjusted gross scale basis at the rate of \$20.00 per MBF plus fees.

P-027 Payment for Removal of Optional Forest Products

Purchaser agrees to weigh all loads and pay the rate of \$2.00 per ton for forest product approved for removal from the sale area under clause H-157.

P-040 Weighing and Scaling Costs

Purchaser agrees to pay for all scaling and weighing costs for logs and other products sold under this Contract. Purchaser also agrees to pay for all costs associated with the transmission and reporting of scale or weight data.

P-045 Guarantee of Payment

Purchaser will pay for forest products prior to cutting or will guarantee payment by posting an approved payment security. The amount of cash or payment security shall be determined by the State and shall equal or exceed the value of the cutting proposed by Purchaser.

P-052 Billing and Payment Procedure

The State will compute and forward to the Purchaser statements of charges provided for in the contract. Purchaser shall deliver payment to DNR's Forest Health and Resiliency Division in Olympia, WA on or before the date shown on the billing statement.

Payment will be based on the contract rate multiplied by the tons (tonnage contracts) or volume (mbf contracts) removed during the month or payment period. Included with the payment will be a summary report along with all related load tickets and the corresponding certified weight tickets for the payment period. The summary report will be generated using a computer spreadsheet and list the load tickets in ascending numerical order with the corresponding ticket number and weight or volume for each load.

P-070 Payment for Products: Damage, Theft, Loss or Mismatch

Forest products included in this agreement which are destroyed, damaged, stolen, lost, or mismatched shall be paid for by Purchaser on demand of the State. The rates contained in clause P-021 shall apply. If such material is not listed in P-021, the State shall establish the rates to be paid.

P-080 Payment Account Refund

Advance payments made under P-045 remaining on account above the value for the charges shall be returned to Purchaser within 30 days following the final report of charges. Interest shall accrue at the rate of five percent per month, or fraction thereof, on any balance owed after expiration of the thirty days.

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date of the sale, security acceptable to the State in the amount of \$100,000.00. The Security provided shall guarantee performance of all provisions of this contract and payment of any damages caused by operations under this contract or resulting from Purchaser's noncompliance with any rule or law. Acceptable performance security may be in the form of a performance bond, irrevocable letter of credit, cash, savings or certificate of deposit account assignments, and must name the State as the obligee or beneficiary. A letter of credit must comply with Title 62A RCW, Article 62A.5 (Letters of Credit) Performance security must remain in full force over the duration of the contract length. Surety bonds issued shall conform to the issuance and rating requirements in clause G-150. The State shall retain the performance security until all contractual obligations of the Purchaser are satisfied. Purchaser shall not operate unless the performance security has been accepted by the State. If at any time the State decides that the security document or amount has become unsatisfactory, Purchaser agrees to suspend operations and, within 30 days of notification, to replace the security with one acceptable to the State or to supplement the amount of the existing security.

P-100 Performance Security Reduction

The State may reduce the amount of the performance security required under the Contract after an operating release has been issued if the State determines that adequate security exists for any remaining obligations of Purchaser.

SECTION L: LOG DEFINITIONS AND ACCOUNTABILITY

L-010 Forest Products Conveyed

Forest products conveyed are all logs or parts of logs described by the 'Products Sold and Sale Area' (G-010) clause meeting the removal requirements listed in the 'Required Removal of Forest Products' (H-150) clause.

L-020 Short Logs - Peeler Blocks

Logs or parts of logs which are removed from the sale area that fail to meet the minimum gross length requirements shall be scaled and graded as short logs or peeler blocks. Such material shall be paid for at the forest products rates specified in this contract.

L-040 Utility Logs

Utility logs are logs that meet the minimum utility log standards as described by the log scaling rules applicable for this contract.

L-060 Load Tickets

Purchaser shall complete and use load tickets as directed by the Contract Administrator and, if required, use other identification as directed by the State to ensure accounting of forest products removed from the sale area. A load ticket must be fixed, as designated by the Contract Administrator, to each truck and trailer load prior to leaving the landing.

Purchaser shall account for all load tickets issued by the Contract Administrator and return unused tickets at termination of the contract, or as otherwise required by the Contract Administrator. Unused tickets not returned shall be subject to liquidated damages per clause D-030.

The State may also treat load tickets either not accounted for or not returned as lost forest products per clause P-070. All costs associated with computing the billings for lost forest products shall be borne by Purchaser.

L-070 Purchaser to Furnish Log Scale Information

Purchaser agrees to furnish the State with scaling information, supplied by a third party scaling organization showing the scale, count, and measure of forest products removed during each billing period unless the scale, count, and measure is performed by the State.

L-071 Log and Load Reporting Service

This contract requires the use of a State approved third party Log and Load Reporting Service (LLRS). Purchaser shall ensure log volume measurement data and/or load and weight data is received by the LLRS within one (1) business day of logs being measured or weighed. Purchaser agrees to pay the LLRS for log and load data supplied to the State.

If during the term of this contract, the State discontinues use of the LLRS, the State will notify the Purchaser in writing and the Purchaser will then be responsible to send log scale and/or weight information to the State.

L-080 Scaling Rules

Determination of volume and grade of any forest products shall be conducted by a state approved third party scaling organization and in accordance with the Westside log scaling and grading rules and Scribner Volume Table, revised July 1, 1972, contained

in the Northwest Log Rules Eastside and Westside Log Scaling Handbook (developed and produced by the Northwest Log Rules Advisory Group) and in effect on the date of confirmation of this contract.

Special scaling specifications shall be noted on the State's Brand Designation form which is hereby incorporated to this contract by reference.

L-110 State Approval of Log Scaling and Weighing Locations

Forest Product measurement and weighing facilities required by this Contract must be approved by the State. Forest products sold under the Contract which require log scaling shall be scaled, measured, or counted by a State approved third party log scaling organization.

Prior to forest products being hauled, the Contract Administrator must authorize in writing the use of State approved measurement and/or weighing facilities that are at or enroute to final destinations. Forest products from this sale shall be measured or weighed at facilities, which are currently approved for use by the State and are currently authorized for this sale. The State reserves the right to verify load volume and weights with State employees or contractors at the State's own expense. The State reserves the right to revoke the authorization of previously approved measurement locations.

L-120 Long Log Taper Distribution

Forest products over 40 feet long plus trim shall be segment scaled and the lower segment diameters shall be determined using actual taper. In order to utilize taper rules for determining segment diameters for poles and pilings greater than 40 feet in length plus trim, Purchaser must request use of a Pole and Piling Scaling Specification Agreement on file in the region office. Approval for usage of a special Pole and Piling Scaling Specification Agreement may be granted at the sole discretion of the State.

Following State approval for usage of the Pole and Piling Scaling Specification Agreement, the Brand Designation form shall be amended to incorporate the long log taper rules. The volume reported by the scaling organization for forest products over 40 feet plus trim will be expanded by 5 percent and the additional 5 percent volume shall be billed to the purchaser at the contract rate.

L-130 Conversion Factors

Forest products removed from the sale area that are not measured in units specified in the 'Payment for Forest Products' clause of this contract shall be converted to board feet using Department of Natural Resources' standard conversion factors.

SECTION H: HARVESTING OPERATIONS

H-001 Operations Outside the Sale Boundaries

No operations shall occur outside the sale boundaries, as described within the contract, unless approved in writing by the State.

H-010 Cutting and Yarding Schedule

Falling, yarding and heavy equipment operations will not be permitted from October 1st to May 31st unless authorized in writing by the Contract Administrator. Falling, yarding, and heavy equipment operations are not permitted from March 1 to July 15 in Units 11, 15, 17, 18, & 19 to limit detrimental noise disturbance during the spotted owl nesting and fledging season. Additionally, Harvest activities, including landing and temporary road construction, felling, skidding, yarding, and rehabilitation will not be permitted from March 1st through July 15th in portions of Units 1, 4, 6, 8, & 10 (refer to Timber Sale Maps for specific locations).

Harvest activities are not permitted from December 1 to March 31 in Units 1, 2, 5, & 6 to limit detrimental noise disturbance to deer and elk while on winter range. If this timing restriction conflicts with winter operations, flexibility may be applied if conditions warrant.

H-011 Certification of Fallers and Yarder Operators

All persons engaged in the felling and yarding of timber must receive certification in writing from the Contract Administrator. Certification may be revoked when the Contract Administrator determines that non-compliance of leave tree selection criteria or cut tree selection criteria is occurring, or excessive damage to leave trees or skid trails is occurring.

Excessive damage for leave trees is defined in clause H-012.

Excessive skid trail damage is defined in clause H-016.

When leave tree damage exceeds the limits set forth in clause H-012, Purchaser shall be subject to liquidated damages (clause D-040).

H-012 Leave Tree Damage Definition

Leave trees are trees required for retention within the sale area. Purchaser shall protect leave trees from being cut, damaged, or removed during operations.

Leave tree damage exists when more than 5 percent of the leave trees are damaged in a unit and when one or more of the following criteria occur as a result of Purchaser's operation, as determined by the Contract Administrator:

- a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 144 square inches.
- b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A leave tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed. |

If the Contract Administrator determines that a leave tree has been cut or damaged, the Purchaser may be required to pay liquidated damages for Excessive Leave Tree Damage as detailed in clause D-040.

H-016 Skid Trail Requirements

A skid trail is defined as an area that is used for more than three passes by any equipment.

Purchaser shall comply with the following during the yarding operation:

- a. Mechanical harvesters, when traveling away from approved skid trails or roads, will operate on ground cover as thick and continuous as practical that protects the soil, such as slash, existing vegetation, downed saplings, or broken limbs.
- b. Prior to felling, location of the skid trails must be marked by Purchaser and approved by the Contract Administrator.
- c. Skid trails must be located outside of all no harvest buffers.
- d. Skid trails shall be re-established at previous skid trail locations, except where existing skid trails are causing detrimental soil or hydrologic conditions that could be avoided with alternative skid trail locations.
- e. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.
- f. Rub trees shall be left standing until all skidding is complete.
- g. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.
- h. Skid trails shall be covered with a mat of slash, 4-6 inches in depth, and prior to skidding to prevent excessive soil damage during skidding operations.
- i. Contract Administrator may require skid trails to be decompacted to a depth of 12 inches prior to closure of a skid trail.

- j. Once a skid trail is closed, Purchaser will not reopen a skid trail unless approved in writing by the Contract Administrator.
- k. Erosion control measures such as slash and mulch placement, seeding, and water bars will be utilized where bare soil is exposed on all equipment trails, corridors, and throughout the sale area.
- l. Skid trails and skyline corridors shall be spaced, on average, 150 feet apart.
- m. Skyline yarding corridors may be approved in writing by the Contract Administrator across intermittent streams where full suspension can be obtained.
- n. All skid trails shall be closed prior to October 1st.

Purchaser shall not deviate from the requirements set forth in this clause without prior written approval from the Contract Administrator.

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended, in all or in part, by the Contract Administrator, for such periods as may be deemed necessary to avoid damage when soil rutting exceeds 6 inches in depth and for a length of 10 feet or more inches as measured from the natural ground line, or when ground conditions are unfavorable.

Winter harvest is allowed if ground-based equipment can operate on snow which is at least 2 feet deep, or a combination of 3 to 4 inches of compacted snow and soil frozen to at least 6 inches in depth; operations shall not continue where snow does not provide protection - for example, if it rains heavily and the soil and snow become saturated. As an indicator, overnight temperatures should be less than 25 degrees F; afternoon daytime temperatures should not exceed 35 degrees F.

If over-snow haul is permitted, haul will occur when roads are covered by a minimum of 2-4" of compacted snow, and air temperatures at the lowest elevation on the unpaved haul route have remained below 30 degrees F over the prior 24 hours. In addition, all culvert locations and stream crossings will be marked to permit appropriate drainage work and subsequent plowing. Drainage outlets must be cut into any snow berms created by plowing operations to ensure proper drainage of snowmelt and precipitation on roadway.

To reduce soil damage, the Contract Administrator may require water bars to be constructed, Forest Service provided grass seed to be placed on exposed soils, or other mitigation measures to be taken by the Purchaser, in addition to what is already required under this Contract. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-025 Timing Requirements for Timber Removal

All timber must be removed within 30 days of being felled.

H-030 Timber Falling

Trees shall be felled and logs shall be bucked to obtain the greatest practicable utilization of forest products and other valuable materials conveyed.

H-035 Fall Trees Into Sale Area

Trees shall be felled into the sale area unless otherwise approved by the Contract Administrator.

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the Plan of Operations, prepare an acceptable Harvest Plan for each operating season for planned units. The Harvest Plan shall address the harvest and haul operations and be presented to the Contract Administrator at the pre-work conference. The Harvest Plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the Harvest Plan without prior written approval by the Contract Administrator.

H-050 Rub Trees

Trees designated for cutting along skid trails and cable corridors shall be left standing as rub trees until all timber that is tributary to the skid trail or cable corridor has been removed.

H-052 Branding and Painting

All timber shall be painted with a spot of highway yellow paint not less than three square inches in size, and branded on each end with a hammer brand approved by the State prior to removal from the sale area. Purchaser shall not use the brand pattern selected to mark timber for another source in violation of the requirements set forth in 36 CFR § 223.195.

H-060 Skid Trail Locations

Locations of skid trails must be marked by Purchaser and approved by the Contract Administrator prior to the felling of timber.

H-080 Snags Not to be Felled

Snags not required to be felled for safety reasons shall be left standing. Snags felled for safety reasons shall not be removed and must remain where felled.

H-110 Stump Height

Trees shall be cut as close to the ground as practicable and shall not exceed 12 inches in height measured on the uphill side, or 2 inches above the root collar, whichever is higher.

H-120 Harvesting Equipment

Forest products sold under this contract shall be felled by hand or mechanical means and yarded by ground-based equipment on slopes of 35% or less. Avoid uphill travel on forest soils greater than 3% slope. On slopes greater than 35%, hand felling and cable yarding shall be used. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the Contract Administrator.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-131 Hauling Schedule

The hauling of forest products shall not be permitted from October 1 to May 31 unless authorized in writing by the Contract Administrator. Hauling of forest products shall occur after all repair work is completed along the designated haul route. Hauling of forest products shall occur in accordance with all other maintenance operations associated with the designated haul route.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

1. Fall and yard away from all waters when possible.
2. A copy of the timber sale prospectus map and contract shall be present onsite during active operations.
3. Tops and limbs shall be redistributed in the unit to the satisfaction of the Contract Administrator.
4. Maintain legacy features wherever practical and safe, including snags and large down woody debris.

5. When practical, save topsoil on site from areas to be disturbed and replace over disturbed soil when operations conclude.
6. Temporary roads, spur roads and landings shall be “rehabilitated” by decompacting the road surface to a depth of 18 inches or greater. Rehabilitation shall not occur during times of excessive wet conditions and/or when soil has reached saturation. Equipment shall not travel across the decompacted surface. Native seed and mulch composed of certified weed free straw or onsite forest debris must be applied to the disturbed ground. Seed shall be provided by the Forest Service.
7. Silt fences, certified weed free straw bales, or other catchment systems approved by the Contract Administrator shall be located to intercept runoff from landings prior to reaching any road ditch or stream. Any sediment that is captured and deposited behind sediment catchments shall be removed annually and deposited out on the forest floor to ensure it does not have a direct flow path to a system road ditch or stream.
8. Hazard trees that are felled along haul routes shall be retained to add to large woody debris on the ground, unless otherwise approved by the Contract Administrator.
9. Average residual logging debris depth shall not exceed 18 inches immediately post-harvest.
10. Skyline yarding corridors may be approved in writing by the Contract Administrator across intermittent streams where full suspension can be obtained across the entire bankfull channel including 20 feet on either side of the channel edge, and where skyline corridors would be a maximum of 12 feet wide and cumulatively not occupy more than 15% of the stream length in the treatment stand. Any trees needing to be cut for skyline corridors would be left on the ground where they were felled.
11. Coarse Woody Debris may be moved for access; however, disturbance should be minimized. Large, old stumps shall be kept intact and not uprooted wherever possible.
12. Trees felled in the vicinity of streams, wetlands, seeps, or springs shall be felled away from aquatic features. Portions of trees falling into no-cut buffers will be left on the ground where they were felled.
13. Ground-based equipment shall travel on slash where possible. Yarding activities will be planned to make as few trips as possible.

14. To minimize erosion, feller bunchers/mechanical harvesters shall not operate like a skidder and travel while bearing the weight of trees except in some occasions at the ends of a skid trail where it may cause less disturbance than a skidder.
15. Areas of soil displacement resulting from logging systems shall be treated to prevent rill and gully erosion and potential sediment delivery to stream courses. This may include re-contouring, decompacting, placing seed and slash, etc.
16. No fuel storage, refueling, or long-term staging of heavy equipment shall occur in riparian reserves or within 150 feet of live water, whichever is greater.
17. Workers shall properly store and dispose of food and garbage while working on site.
18. Falling, yarding and heavy equipment operations are not permitted from October 1 to May 31 unless authorized in writing by the Contract Administrator.

Any deviation from these Special Harvest Requirements must be approved, in writing, by the Contract Administrator.

H-142 Wildlife Timing Restrictions

The following wildlife timing restrictions apply to this contract and shall apply in the locations shown on the attached timber sale map.

If a wolf den or rendezvous site is discovered, the following timing restrictions will apply. Within 0.25 miles of the active wolf den or rendezvous sites, any road work, right-of-way timber falling and yarding, rock pit operation, or heavy equipment operations shall not be allowed from March 1st through September 1st, and within 1 mile all activities shall be seasonally restricted from April 1st to July 15th.

Harvest activities, including landing and temporary road construction, felling, skidding, yarding, and rehabilitation, are not permitted from December 1 to March 31 in Units 1, 2, 5, & 6 to limit detrimental noise disturbance to deer and elk while on winter range. If this timing restriction conflicts with winter operations, flexibility may be applied if conditions warrant.

Harvest activities, including landing and temporary road construction, felling, skidding, yarding, and rehabilitation, are not permitted from March 1 to July 15 in Units 11, 15, 17, 18, & 19 to limit detrimental noise disturbance during the spotted owl nesting and fledging season.

Harvest activities, including landing and temporary road construction, felling, skidding, yarding, and rehabilitation, are not permitted from March 1 to July 15 in portions of Units 1, 4, 6, 8, & 10 to limit detrimental noise disturbance during the spotted owl

nesting and fledging season. Specific locations are marked with yellow flagging in the field (refer to attached Timber Sale Maps).

Reconstruction and Pre-Haul Maintenance work taking longer than 5 hours to complete in a single location, is not permitted on sections of 4200000, 5400000, Temp 54-000.02, Temp 54-000.07, Temp 54-000.09, Temp 54-000.10, Temp 54-000.11, Temp 54-000.12 (see attached Timber Sale Maps for specific locations) from March 1 to July 15 to limit detrimental noise disturbance during the spotted owl nesting and fledging season.

H-150 Required Removal of Forest Products

Purchaser shall remove from the sale area and present for scaling or weighing all forest products conveyed in G-010 that meet the following minimum net scale dimensions:

Species	Net bd ft	Log length (ft)	Log dib
All	10	12	5

The State may treat failure to remove forest products left on the sale area that meet the above specifications as a breach of this Contract. At the State's option, forest products left on the sale area upon termination of the Contract that meet the above specifications may be scaled for volume or measured and converted to weight by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling, measuring and computing the billing will be borne by the Purchaser.

H-157 Optional Removal of Forest Products Not Designated

If in the course of operations, Purchaser decides to remove forest products that are below the minimum designated removal specifications per the 'Required Removal of Forest Products' (H-150), the payment rates in clause P-027 shall apply.

Forest products designated as optional shall be decked separately from forest products designated as required for removal. Prior to removal from the sale area, optional forest products as described in this clause must be inspected and approved by the Contract Administrator. Optional forest products may not be mixed with forest products that are required for removal by this contract and shall be removed from the sale area in separate truck loads using load tickets specified by the Contract Administrator.

All material removed under this clause is subject to the same log and load accountability rules as defined in the Log Definitions and Accountability section of this contract. Purchaser shall follow the payment procedures as required in the P-052 clause and will submit a separate summary report for all forest products removed from the sale area under the authority of this clause.

H-160 Mismanufacture

Mismanufacture is defined as forest products remaining on the sale area that would have met the specifications in clause H-150 if bucking lengths had been varied to include such products.

The State may treat mismanufacture as a breach of this Contract. At the State's option, forest products that are left on the sale area may be scaled for volume by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling and computing the billing will be borne by Purchaser.

H-170 Utility Log Removal

All utility logs shall be yarded concurrently with the yarding of other logs and shall be removed from the sale area.

H-190 Completion of Settings

Operations begun on any setting of the sale area shall be completed before any operation begins on subsequent settings unless otherwise authorized in writing by the Contract Administrator.

H-210 Log Length Hauling Restrictions

The maximum log length hauled from the sale area shall not exceed 40 feet unless otherwise approved in writing by the Contract Administrator.

H-220 Protection of Residual or Adjacent Trees

Unless otherwise specified by this Contract, the Contract Administrator shall identify damaged adjacent or leave trees that shall be paid for according to clause G-230.

H-230 Tops and Limbs Outside the Sale Area

Tops and limbs outside the sale boundary area as a result of Purchaser's operation shall be removed concurrently with the yarding operation unless otherwise directed by the Contract Administrator.

H-240 Lop and Scatter

The tops of all felled trees shall be lopped and slash scattered away from leave trees.

H-250 Additional Falling Requirements

For each acre of thinning that occurs within Riparian Reserves, Purchaser will fell and pile five trees, with a minimum DBH of 7 inches, together in a large pile, one pile per

acre. The Purchaser shall be marked in the treated area within 60 feet of the white “timber sale boundary” tags. The following number of piles must be created: Unit 1: 1 pile; Unit 2: 0 piles; Unit 3: 0 piles; Unit 4: 2 piles; Unit 5: 0 piles; Unit 6: 1 pile; Unit 7: 0 piles; Unit 8: 0 piles; Unit 9: 0 piles; Unit 10: 2 piles; Unit 11: 1 pile; Unit 12: 2 piles; Unit 13: 2 piles; Unit 14: 2 piles; Unit 15: 2 piles; Unit 16: 0 piles; Unit 17: 5 piles; Unit 18: 0 piles; Unit 19: 3 piles.

H-260 Fall Leaners

Trees that have been pushed over in falling or skidding operations shall be felled.

SECTION C: CONSTRUCTION AND MAINTENANCE

C-040 Road Plan

Purchaser shall comply with all of the road construction, associated work provisions, and all other terms and conditions of the Road Plan for this sale, dated 6/28/2023 which is hereby made a part of this Contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform road maintenance and repair work at its own expense on 4200000, 5400000, Temp 42-000.1P, Temp 42-000.2P, Temp 42-000.3P, Temp 54-000.01, Temp 54-000.02, Temp 54-000.03, Temp 54-000.04, Temp 54-000.05, Temp 54-000.06, Temp 54-000.061, Temp 54-000.062, Temp 54-000.063, Temp 54-000.064, Temp 54-000.065, Temp 54-000.066, Temp 54-000.07, Temp 54-000.08, Temp 54-000.09, Temp 54-000.10, Temp 54-000.11, Temp 54-000.12. All work shall be completed to the specifications detailed in the Road Plan.

C-080 Landing Locations Approved Prior to Construction

Landings shall be marked by Purchaser and approved by the Contract Administrator prior to construction.

C-090 Landing Location

Landings should be located where past landings were located, unless a new location would cause less resource effect or where no past landings were used to harvest the unit.

New landings will be located outside of all no harvest buffers and preferably not near riparian reserves. Avoid placing landings adjacent to streams, no-cut buffers, wet areas and unstable slopes.

Landings will be limited to the area needed for safe and efficient yarding and loading operations and have proper drainage.

C-140 Water Bars

Purchaser shall, as directed by the Contract Administrator, construct water bars across haul roads, skid trails and fire trails as necessary to control soil erosion and water pollution.

SECTION S: SITE PREPARATION AND PROTECTION

S-001 Emergency Response Plan

An Emergency Response Plan (ERP) shall be provided to the Contract Administrator containing but not limited to, a plan for the prevention and reporting of wildfires within the sale area; a communication plan for reporting wildfires; a description of fire prevention and control measures on the logging unit; and a list of qualified personnel and equipment available for implementing the plan. The ERP shall include the valid contact numbers for qualified personnel available for implementing the ERP, and the equipment available, and procedures for responding to, medical emergencies, fire, hazardous spills, forest practice violations and any unauthorized or unlawful activity occurring on, or in the vicinity of, the sale area. The Contract Administrator and the State shall be promptly notified whenever an incident occurs requiring an emergency response.

The ERP must be presented to the Contract Administrator for inspection and approval at the prework meeting and kept readily available to all personnel, including subcontractors, on site during active operations. Purchaser shall make any revisions to the ERP required by the Contract Administrator, either upon initial inspection or anytime thereafter, required for operations within the sale area during the Contract.

S-010 Fire Hazardous Conditions

Fire Precautionary Period. The fire precautionary period or “closed season” for this Contract is April 15 to October 15. The Contract Administrator may change the dates of the closed season by advance written notice. Required tools and equipment shall be kept in serviceable condition and immediately available for fire-fighting at all times during Purchaser’s Operations in Fire Precautionary Period.

Purchaser acknowledges that operations under this Contract may increase the risk of fire. Purchaser shall conduct all operations under this Contract following the requirements of WAC 332-24-005 and WAC 332-24-405 and further agrees to use the highest degree of care to prevent uncontrolled fires from starting. Purchaser shall, both independently and in cooperation with the U.S. Forest Service, take the highest degree of care to prevent fires resulting from Purchaser’s Operations. Purchaser shall furnish and maintain in good and serviceable conditions such wildland firefighting tools and equipment, and take such fire prevention measures as may be required by the U.S. Forest Service or the State to meet the fire protection requirements of the Contract and

the existing fire danger. The requirements shall not be less than are required under the laws of the State of Washington (i.e., WAC 332-24-401 through .411).

In the event of an uncontrolled fire, Purchaser shall immediately report the incident to the appropriate authorities specified in the ERP. Purchaser agrees to provide equipment and personnel working at the site to safely and effectively engage in first response fire suppression activity. Purchaser agrees to reimburse the State and U.S. Forest Service for the cost of fire suppression incurred as the result of the negligence or willful acts of its employees, agents, subcontractors, etc.

The Contract Administrator may require the Purchaser to suspend any or all of Purchaser's Operations when ignition conditions identified in the ERP are met, or when fire is within or threatening the Operational Area. Purchaser's failure to effectively engage in fire-safe operations is considered a breach and may result in suspension of operations.

S-030 Landing Debris Clean Up

Landing debris shall be disposed of in a manner approved in writing by the Contract Administrator.

Average residual fuel depth should not exceed 18 inches immediately post-harvest.

Slash piles shall be covered at least 30% by plastic. Plastic shall be secured and anchored.

Slash and debris piles shall be located at least 50 feet from all streams.

Landings will be decompacted to a depth of 18 inches. |

S-035 Logging Debris Clean Up

Slash and debris created from harvest activities shall be treated in a manner approved in writing by the Contract Administrator. |

S-040 Noxious Weed Control

Purchaser shall thoroughly pressure wash all equipment prior to entry onto U.S. Forest Service land, or before moving equipment between infested sites (see table below), to remove all contaminated soils, plant parts, seeds, vegetative matter, or other debris that could contain or hold seeds. Equipment shall be considered free of soil seed, and other such debris when a visual inspection does not disclose such material. The Contract Administrator reserves the right to also require the cleaning of equipment as required by this clause in cases where equipment is being moved onto nonfederal lands.

Purchaser shall notify the Contract Administrator in advance of moving all off-road logging and construction equipment onto U.S. Forest Service lands. Notification will include a location approved by the Contract Administrator where the equipment will be cleaned by the Purchaser, and made available for inspection by the State at a time agreed by the Parties. Only logging and construction equipment cleaned as required under this clause, and inspected by the Contract Administrator (or designee), will be allowed to operate on Federal lands within the sale area. All subsequent move-ins of equipment to the sale area shall be treated in the same manner as the initial move in. "Off-road equipment" includes all logging and construction machinery, except for log trucks, chip vans, pickup trucks or vehicles used to transport personnel on a daily basis.

All material (e.g. soil, gravel, sand borrow, mulch, aggregate, etc.) transported onto National Forest System land or incorporated into the work shall be certified weed-free. The contractor shall provide the Contract Administrator written notification of proposed material sources 14 days prior to use. If weed species are present in the proposed source, appropriate mitigation measures may allow conditional use of the source as required by the Contract Administrator.

Unit #	Requirement
3,4,5,18	Clean equipment before moving from these units to any other unit.
1,2,6,7,8,9	Clean equipment before moving from these units to any other unit.
10, 19	Clean equipment before moving to any other units.

S-050 Cessation of Operations for Low Humidity

During the "closed season", when the humidity is 30 percent or lower on the sale area, all operations must cease unless authority to continue is granted by the State in writing.

S-060 Pump Truck or Pump Trailer

Purchaser shall provide a fully functional pump truck or pump trailer equipped to meet the specifications of WAC 332-24-005 and WAC 332-24-405 during the "closed season" or as extended by the State and shall provide trained personnel to operate this equipment on the sale area during all operating periods.

S-120 Stream Protection

No timber shall be felled into, across, or yarded through any stream without written approval by the Contract Administrator.

S-130 Hazardous Materials

- a. Hazardous Materials and Waste - Regulatory Compliance

Purchaser is responsible for understanding and complying with all applicable local, state, and Federal hazardous material/waste laws and regulations for operations conducted under this contract. Such regulations pertain to, but may not be limited to, hazardous material storage, handling and transport, personnel protection, release notification and emergency response, cleanup and waste disposal. Purchaser shall be responsible for restoring the site in the event of a spill.

b. Hazardous Materials Spill Prevention

All operations shall be conducted in a manner that prevents the release of hazardous materials, including petroleum products, into the environment (water, air or land). If the total oil or oil products storage exceeds 1320 gallons or if any single container exceeds a capacity of 55 gallons, the purchaser will prepare and provide the Contract Administrator a Spill Prevention Control and Counter measures Plan prior to commencing operations. The plan shall meet EPA requirements including certification by a registered professional engineer.

c. Hazardous Materials Spill Containment, Control and Cleanup

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 4 to 6 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. Spill kit must also contain one or more oil-absorbing floating booms to contain a spill if it gets into a stream or other waterbody and plastic garbage bags for disposal of used pads and booms off-Forest. If large quantities of bulk fuel/other hazardous materials are stored on site, Purchaser must be able to effectively control a container leak and contain and recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29 CFR 1910.120 (j) (1) (vii)).

d. Hazardous Material Release Reporting

Releases of oil or hazardous materials to the environment must be reported according to the State Department of Ecology (ECY). It is the responsibility of the Purchaser to have all emergency contact information readily available and a means of remote communication for purposes of quick notification. In the event of a spill, the Purchaser is responsible for notifying the following:

Appropriate Department of Ecology regional office (contact information below).

DNR Contract Administrator

ECY - Northwest Region:
1-425-649-7000
(Island, King, Kitsap, San Juan, Skagit, Snohomish, and Whatcom counties)

ECY - Southwest Region:
1-360-407-6300
(Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, and Wahkiakum counties)

ECY - Central Region:
1-509-575-2490
(Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, and Yakima counties)

ECY - Eastern Region:
1-509-329-3400
(Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman counties)

In addition to the above, Purchaser shall immediately notify the Contract Administrator if any leakage or spillage enters any stream, water course or area of open water.

S-131 Refuse Disposal

All Purchaser generated refuse shall be removed from state or U.S. Forest Service lands for proper disposal prior to termination of this contract. No refuse shall be burned, buried or abandoned on state or U.S. Forest Service lands. All refuse shall be transported in a manner such that it is in compliance with RCW 70.93 and all loads or loose materials shall be covered/secured such that these waste materials are properly contained during transport.

SECTION D: DAMAGES

D-010 Liquidated Damages

The clauses in the DAMAGES section of this contract provide for payments by Purchaser to the State for certain breaches of the terms of this contract. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State caused by Purchaser's breach. These liquidated damages provisions are agreed to by the State and Purchaser with the understanding of the difficulty of proving loss and the inconvenience or infeasibility of obtaining an adequate remedy. These liquidated damages provisions provide greater certainty for the Purchaser by allowing the Purchaser to better assess its responsibilities under the contract.

D-020 Failure to Remove Forest Products

Purchaser's failure to remove all or part of the forest products sold in this agreement prior to the expiration of the contract term results in substantial injury to the State and the U.S. Forest Service. The value of the forest products sold at the time of breach is not readily ascertainable. Purchaser's failure to perform disrupts National Forest management plans and the state's role in implementing such plans, the actual cost of which is difficult to assess. A resale involves additional time and expense and is not an adequate remedy. Therefore, Purchaser agrees to pay the State as liquidated damages a sum calculated using the following formula:

$$LD = .35V-ID-P+C+A$$

Where:

- LD = Liquidated Damage value.
- V = The unremoved value at the date of breach of contract. The value is determined by subtracting the removal volume to date from the State's cruise volume multiplied by the contract bid rates.
- ID = Initial Deposit paid at date of contract that has not been applied to timber payments.
- P = Advance payments received but not yet applied to specific contract requirements.
- C = Charges assessed for contract requirements completed prior to breach of contract but not paid for.
- A = Administrative Fee = \$2,500.00.

The above formula reflects the Purchaser's forfeiture of the initial deposit in accordance with clause P-010 by deducting the initial deposit from the amount owed. In no event shall the liquidated damages be less than zero. Interest on the liquidated damage is owed from the date of breach until final payment, calculated using the following formula: Interest = $r \times LD \times N$.

Where:

- r = daily equivalent of an annual interest at current interest rate as established by WAC 332-100-030.
- LD = Liquidated damage value.
- N = Number of days from date of breach to date payment is received.

D-030 Inadequate Log Accountability

Removal of forest products from the sale area without adequate branding and/or valid load tickets attached to the load and scaling forest products in a location other than the facility approved by the State can result in substantial injury to the State or U.S. Forest

Service. Failure to properly account for loads and scaling and/or weighing information can result in loss to the State or U.S. Forest Service. The potential loss from not having proper branding, ticketing, scaling and/or weighing location and accountability is not readily ascertainable. Purchaser's failure to perform results in a loss of log weight and scale accountability, increases the potential for unauthorized removal of forest products, and increases the State's administration costs, the actual costs of which are difficult to assess.

Enforcement actions for unauthorized removal of forest products for each improperly branded load, improperly ticketed load, lost or unaccounted for tickets, or use of a facility not authorized for this sale or improper submission of scaling data are impractical, expensive, time consuming and are not an adequate remedy. Therefore, Purchaser agrees to pay the State, as liquidated damages, a sum of \$100 each time a load of logs does not have branding as required in the contract, \$250 each time a load of logs does not have a load ticket as required by the contract, \$250 each time a load ticket has not been filled out as required by the plan of operations, \$250 each time a load is weighed or scaled at a location not approved as required under this contract, \$250 each time a log ticket summary report is not submitted properly, and if a third party Log and Load Reporting Service is required, \$250 each time scaling or weight data is not properly submitted to the Log and Load Reporting Service per clause L-071, and \$250 each unused ticket that is not returned to the State, for any reason.

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the National Forest. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of \$1,000.00 per tree for all damaged trees in the sale area.

SECTION M: MISCELLANEOUS

M-010 Federal Endangered Species Act

The Federal Endangered Species Act of 1973 (ESA), 16 USC § 1531et seq. prohibits a person from taking any Federally listed threatened or endangered species. Taking under the Federal ESA may include alteration of habitat. Neither this Contract, or the State's approval of Purchaser's Plan of Operations, is certification that Purchaser's operations under the plan are lawful under the ESA. Purchaser's compliance with the plan is not in lieu of compliance with any Federal requirements under the ESA or its implementing regulations.

M-020 Forest Resources Conservation and Shortage Relief Act of 1990

Purchaser must comply with the provisions of the Forest Resources Conservation and Shortage Relief Act of 1990 (Act), (16 USC 620 *et seq.*), and its implementing

regulations (36 CFR § 223.185 et seq.), as the Act and rules now exist or are hereafter amended. Prior to award, during the life of this contract, and for a period of three years from the Contract Termination Date, Purchaser shall upon request furnish to the State and the U.S. Forest Service records showing the volume and geographic origin of unprocessed timber from private lands exported or sold for export by Purchaser or affiliates. Prior to delivering unprocessed timber to another party, Purchaser shall require each buyer, exchange, or recipient to execute an acceptable agreement that will: (i) identify the Federal origin of the timber; (ii) specify domestic processing for the timber involved; (iii) require the execution of such agreements between the parties to any subsequent transactions involving the timber; (iv) require that all hammer brands and/or yellow paint must remain on logs until they are either legally exported or domestically processed, whichever is applicable; and (v) otherwise comply with the requirements of the Act, 16 USC 620(d). No later than 10 (ten) days following the execution of any such agreement between Purchaser and another party, Purchaser shall furnish to U. S. Forest Service a copy of each such agreement. Purchaser shall retain, for three years from the Termination Date, the records of all sales, exchanges, or dispositions of all timber. For breach of this Subsection, the State may terminate this contract and the U.S. Forest Service may take such other action as may be provided by statute or regulation, including the imposition of penalties. When the Contract is terminated by the State for a violation of the Act or rules under this clause, the State shall not be liable for any Claim submitted by Purchaser relating to the termination.

M-030 Debarment, Suspension, Ineligibility, and Exclusion.

Purchaser is a corporation organized and existing under the laws of the State of [insert State] and certifies by execution of the Contract that it is not, nor are its principals, presently debarred, suspended, proposed for debarment or suspension, declared ineligible, or excluded from participation in any transaction with the Federal government. Purchaser shall immediately notify the State without undue delay if it receives a notice from the Federal government that it or its principals are proposed for debarment or suspension, or are debarred, suspended, declared ineligible, or excluded from participating in a transaction with the Federal government.

Purchaser shall require all subcontractors to provide written certification that they are not debarred, suspended, ineligible, or excluded from participating in a transaction with the Federal government. (Execution of Department of Agriculture Form AD-1048 is sufficient to satisfy this requirement.) Purchaser shall maintain a file of certifications and provide a copy to the Contract Administrator upon request.

M-040 Certification Regarding Felony Conviction and Tax Delinquent Status.

Purchaser, by signature below, certifies that: (1) Neither the corporation or its principals have been convicted of a felony violation under any Federal law within the preceding 24 months of the effective date of the Contract; and (2) Neither the corporation or its principals have failed to file all Federal tax returns required during the three years preceding the Contract; have been convicted of a criminal offense under

the Internal Revenue Code; or have been notified of any unpaid Federal tax assessment for which the liability remains unsatisfied, unless the assessment is the subject of an installment agreement or offer in compromise that has been approved by the Internal Revenue Service and is not in default.

M-050 Human Remains, Artifacts, and Other Cultural and Historic Items

In the event that human remains, burials, funerary items, sacred objects, object of cultural patrimony, prehistoric artifacts (i.e., arrowheads, spear points, motors, pestles, other ground stone tools, knives, scrapers, or flakes from the manufacture of tools, fire pits, peeled trees, etc.) or historic period artifacts or features (i.e., fragments of old plates or ceramic vessels, weathered glass, dumps of old cans, cabins, root cellars, etc.) are found during project implementation, work on the site shall cease immediately to protect the find from further damage or disruption and the U.S. Forest Service Archeologist will be notified. No further work shall be allowed on the site until the Forest Archeologist has approved a plan for managing or preserving the remains or items.

M-060 Payment of Taxes

The State makes no representations concerning tax liability or consequences arising from the purchase of Federal timber under the Contract. It is Purchaser's sole responsibility to pay all taxes owed, including any forest excise taxes under RCW 84.33.

M-070 Non-Discrimination in Employment

In connection with the performance of work under this Contract, Purchaser agrees not to discriminate against any applicant for employment, employee, or independent contractor on the basis of race, color, national origin, sex, religion, age, disability, sexual orientation, or marital status. This shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment, layoff or termination; rates of pay, or other forms of compensation; and selection for training, including apprenticeship. Purchaser agrees to comply with all Federal and state laws governing non-discrimination in employment applicable to the work performed under the Contract.

M-080 Records

Purchaser shall maintain all reports, data, correspondence, other and information pertaining to this Contract for a period of 6 years, and provide copies to the State upon request.

M-090 Waiver

Any provision of the Contract that is determined to be invalid, void, or illegal shall in

no way affect, impair, or invalidate any other provision of the Contract, such other provisions remaining in full force and effect.

M-100 Severability Clause

Any provision of the Contract that is determined to be invalid, void, or illegal shall in no way affect, impair, or invalidate any other provision of the Contract, such other provisions remaining in full force and effect.

M-110 Effective Date

This Contract shall be effective upon the date signed by the State of Washington, Department of Natural Resources.

IN WITNESS WHEREOF, the Parties hereto have entered into this contract.

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

State Forester

Print Name

Date: _____

Date: _____

Address:

CORPORATE ACKNOWLEDGEMENT
(Required for both LLC and Inc. Entities)

STATE OF _____)

COUNTY OF _____)

On this _____ day of _____, 20____, before me personally appeared _____

_____ to me known to be the _____ of the corporation that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of the corporation, for the uses and purposes therein mentioned, and on oath stated that (he/she was) (they were) authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

Notary Public in and for the State of

My appointment expires _____

Schedule A – Unit Name Crosswalk

Schedule A serves as a general resource for translating the Timber Sale unit number to their corresponding NEPA stand ID number. Refer to the Middle Wind Environmental Assessment and its supporting documents for the official NEPA stand boundary locations.

POP Unit Number	NEPA stand ID	Sub stand
1	808343	AC
2	808343	BD
3	808342	A
4	808342	C
5	808342	B
6	808325	A
7	808325	B
8	808325	B
9	808325	B
10	808324, 808325	808325 C
11	808320	E
12	808320	D
13	808320	B
14	808320	C
15	808321	B
16	808321	A
17	808319	
18	808318	
19	801879	

Schedule B - Thinning Prescription

The thinning is generally a thinning from below, retaining the Largest, Healthiest, and Best formed designated live tree species utilizing a species preference and leave tree criteria. Cut designated species within DBH limits to the Basal Area Target in accordance with Table 1, and the leave tree priority criteria until basal area requirements are met.

Table 1: Post treatment targets

Unit Number	Designated Species (Species Preference Order: Highest to Lowest in Cut Priority)	Total Avg. Residual BA (Sq.Ft./Acre)	Designated Species DBH Cutting Limits (min - max in.)	Number of ¼ acre Skips	Large skip acres	Number of ¼ acre Gaps	Number of heavy thin patches
1	DF, then WH, then PSF, then NF	140	7-20	4	0	4	0
2	DF, then WH, then PSF, then NF	140	7-20	0	0	3	1
3	DF, then WH, then PSF, then NF	120	7-20	0	0	0	0
4	DF, then WH, then PSF, then NF	120	7-20	1	0	2	0
5	DF, then WH, then PSF, then NF	120	7-20	1	0	2	0
6	DF, then WH, then PSF, then NF	120	7-20	0	0	3	0
7	DF, then WH, then PSF, then NF	120	7-20	0	0	1	1
8	DF, then WH, then PSF, then NF	120	7-20	0	0	0	0
9	DF, then WH, then PSF, then NF	120	7-20	0	0	1	0
10	DF, then WH, then PSF, then NF	120	7-20	0	1	0	2

11	DF, then WH, then PSF, then NF	100	7-20	1	1	1	0
12	DF, then WH, then PSF, then NF	100	7-20	0	0	3	0
13	DF, then WH, then PSF, then NF	100	7-20	0	0	1	0
14	DF, then WH, then PSF, then NF	100	7-20	0	0	0	0
15	DF, then WH, then PSF, then NF	120	7-20	0	0	0	0
16	DF, then WH, then PSF, then NF	120	7-20	0	0	1	0
17	DF, then WH, then PSF, then NF	120	7-20	1	0	3	0
18	DF, then WH, then PSF, then NF	100	7-20	2	0	0	0
19	DF, then WH, then PSF, then NF	140	7-20	0	0	1	0

Designated Species – These are species to be removed if they are within the diameter limit. Each species listed is in order of preference to cut from highest weight to lowest weight. Except on landings, skid trails and temporary roads, all other tree species are to be left.

General Conditions

All dead trees are not to be designated for cutting, unless for safety mitigation.

All live trees of any species above 7 inches DBH within the treatment area are to be included in achieving post-harvest residual basal area targets. Any trees tagged as boundary trees may be used to achieve the basal area target if their diameter is greater than the lower diameter limit. No trees with diameters in excess of the maximum diameter presented in Table 1 should be harvested from treatment units unless they are within the right of way for road construction, skid trails, yarding corridors, or landings.

Thinning Prescription – General area within the harvest units, excluding road right-of-way, “skips”, “gaps”, “heavy thins”, and landings. Thinning is from below, retaining the “largest”, “healthiest”, and “best formed” designated live tree species according to a species preference. Prescription is to be achieved by cutting smallest live designated tree species first until the desired target basal area is achieved. As such, basal area may vary +/- 40 square feet per acre in any particular point within the treatment unit in order to retain trees with the best desired leave tree characteristics. Test plots will be measured in the field by the Contract Administrator. The resulting average for the entire unit shall have a basal area tolerance not to exceed +/- 10 ft².

Definitions:

“Largest” – Trees which in comparison to other adjacent trees are larger in diameter and/or taller in height.

“Healthiest” – Free of signs of insect or disease infestation, or other stressors. Live crown ratios which exceed 30%. If no trees are free of such indicators, retain the trees which have the greatest live crown ratio.

“Best Formed” – Trees which are best formed are generally single-stemmed and are lacking: sweep, crooks, cat faces, bear damage, or other disfigurements. If no trees are free of such indicators, retain the trees which are the straightest and have the least amount of disfigurements.

“Skips” – These are large no-cut areas within the cut unit boundary. These are tagged out with yellow leave tree boundary tags.

“Gaps” – Within gaps, remove all designated tree species within the diameter limits and leave all non-designated tree species and all trees outside of the diameter limits. The center of each gap is marked with a single tree with blue “Special Management Boundary” tags around its bole. From center tree, a radius of 59 feet designates the extent of the gap. Trees tagged with blue “Special Management Boundary” tags shall not be cut.

“Heavy Thins” – 2 acre areas marked with blue “Special Management Boundary” tags in some stands (see table 1). Cut all designated species that are not tagged for reserve by yellow “Leave Tree Area” tags and pink flagging.

Abbreviation Key

DF – Douglas-fir

WH- western hemlock

PSF- pacific silver fir

NF- noble fir

Leave Tree Priority

Overarching Criteria – all designated species and diameter leave trees should generally be the largest, healthiest, best formed trees in the dominant or codominant crown classes.

Special Thinning Conditions:

In areas where thinning is not necessary (i.e., prescription is met), do not put in corridors.

Certification of Fallers and yarder operations – see clause H-011.

The Contract Administrator and Faller/Harvester Operator will jointly review the take tree selection criteria as outlined in Schedule B of the contract.

In conjunction with the Contract Administrator, the Faller/Harvester Operator will mark a designated area as a test plot within the sale area boundary. Satisfactory thinning of the test plot completes the certification process. Certification may be revoked at any time by Contract Administrator if Contract Administrator determines that the prescription is not being implemented properly.

|

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region:

Timber Sale Name:

Application Number:

EXCISE TAX APPLICABLE ACTIVITIES

Construction: **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: **linear feet**
Road to be reconstructed (optional and required) but not abandoned

Abandonment: **linear feet**
Abandonment of existing roads not reconstructed under the contract

Decommission: **linear feet**
Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: **linear feet**
Existing road to receive maintenance work (specifically required by the contract) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Optional Construction: **linear feet**
Optional roads to be constructed and then abandoned

Temporary Optional Reconstruction: **linear feet**
Optional roads to be reconstructed and then abandoned

New Abandonment: **linear feet**
Abandonment of roads constructed or reconstructed under the contract

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.

(Revised 6/13)

Timber Sale Cruise Report POP (GNA)

Sale Name:

Sale Type: MBF SCALE

Region:

District:

Lead Cruiser: Aaron Coleman

Other Cruisers: Blake Warnstadt, Dylan Buchanan

Cruise Narrative:

This sale consists of 19 variable density thinning (VDT) units located off the 42 and 54 roads in the Gifford Pinchot National Forest. All roads are in good condition with good access to all units.

The primary species for this sale is:

Douglas-fir (89%) with an average DBH of 12 inches.

White wood (WH, NF, SF) (10%) with an average DBH of 11", 10", 12".

Majority uniform DF with good spacing that is to be thinned to the prescription as detailed in "Schedule B."

There are gaps within most units, as well as heavy-thins within a few. Gaps are to be fully cut within a 59 foot radius of the center marked tree. Heavy thins contain 50 leave trees per 2 acres, and are to be fully cut within the marked boundary. Pole quality trees and high quality logs present.

Defect most commonly presented as spike knots, sweep, broken/forked tops, and frost check.

This is mostly ground-based logging ground, with portions of uphill cable.

Timber Sale Notice Volume (MBF)

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	12.5			2,031	136	1,325	555	15
WH	11.4			111	8	57	45	2
SF	10.4			111		38	72	
NF	12.2			14		9	4	1
BC	14.3			5	4		1	
ALL	12.3			2,272	147	1,429	678	18

Timber Sale Notice Weight (tons)

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
DF	16,575	1,033	11,031	4,386	125
WH	970	73	504	359	34
SF	931		331	601	
NF	122		72	44	6
BC	42	34		8	

Tons by Grade					
Sp	All	2 Saw	3 Saw	4 Saw	Utility
ALL	18,640	1,140	11,938	5,398	164

Timber Sale Overall Cruise Statistics

BA (sq ft/acre)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR SE (%)	Net Vol (bf/acre)	Vol SE (%)
219.0	2.1	109.5	1.5	24,095	2.6

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
Unit 1	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	17.3		11	6	0
Unit 2	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	20.2		15	8	0
Unit 3	B1: VR, 1 BAF (33.61) Measure All, Sighting Ht = 4.5 ft	1.6		3	3	0
Unit 4	B1: VR, 1 BAF (33.61) Measure All, Sighting Ht = 4.5 ft	5.5		5	5	0
Unit 5	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	4.9		5	5	0
Unit 6	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	9.7		8	4	0
Unit 7	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	12.7		11	6	0
Unit 8	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	6.2		5	5	0
Unit 9	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	7.2		7	4	0
Unit 10	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	63.0		47	24	0
Unit 11	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	6.1		7	4	0
Unit 12	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	7.6		4	2	0
Unit 13	B1: VR, 1 BAF (33.61) Measure All, Sighting Ht = 4.5 ft	3.7		4	4	0
Unit 14	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	2.0		4	3	0
Unit 15	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	4.7		5	3	0

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
Unit 16	B1: VR, 1 BAF (33.61) Measure All, Sighting Ht = 4.5 ft	1.9		3	3	0
Unit 17	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	13.1		9	7	0
Unit 18	B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	6.4		8	6	0
Unit 19	B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	24.9		17	10	0
All		218.7		178	112	0

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
BC	LIVE	2 SAW	Domestic	9.3	40	22	19	10.3	33.8	4.2
BC	LIVE	4 SAW	Domestic	7.1	20	6	5	18.8	8.0	1.1
DF	LIVE	2 SAW	Domestic	12.6	40	43	42	1.7	75.2	9.2
DF	LIVE	2 SAW	HQ-B	13.2	40	586	578	1.4	958.0	126.3
DF	LIVE	3 SAW	Domestic	7.5	40	3,685	3,616	1.9	6,748.5	790.8
DF	LIVE	3 SAW	HQ-B	9.4	40	2,361	2,330	1.3	4,094.4	509.6
DF	LIVE	3 SAW	Pole	7.8	40	110	110	0.0	188.1	24.0
DF	LIVE	4 SAW	Domestic	5.1	28	2,503	2,482	0.8	4,306.0	542.9
DF	LIVE	4 SAW	Pole	5.0	30	58	58	0.0	80.0	12.7
DF	LIVE	CULL	Cull	5.4	6	54	0	100.0	0.0	0.0
DF	LIVE	UTILITY	Pulp	5.6	17	81	69	14.1	124.6	15.2
NF	LIVE	3 SAW	Domestic	8.1	38	42	42	1.4	72.1	9.1
NF	LIVE	4 SAW	Domestic	5.5	35	20	20	0.0	44.3	4.4
NF	LIVE	CULL	Cull	5.0	3	1	0	100.0	0.0	0.0
NF	LIVE	UTILITY	Pulp	5.1	12	4	4	0.0	5.5	0.8
SF	LIVE	3 SAW	Domestic	7.4	40	180	176	2.2	330.6	38.4
SF	LIVE	4 SAW	Domestic	5.1	30	335	330	1.5	600.7	72.1
SF	LIVE	CULL	Cull	5.2	3	3	0	100.0	0.0	0.0
WH	LIVE	2 SAW	Domestic	13.3	40	34	34	0.0	73.3	7.5
WH	LIVE	3 SAW	Domestic	7.5	40	260	260	0.0	504.3	56.9
WH	LIVE	4 SAW	Domestic	5.0	34	209	207	1.3	359.1	45.2
WH	LIVE	UTILITY	Pulp	2.1	18	8	8	0.0	33.6	1.7

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
BC	5 - 7	LIVE	Domestic	7.1	20	5	18.8	8.0	1.1
BC	8 - 11	LIVE	Domestic	9.3	40	19	10.3	33.8	4.2
DF	5 - 7	LIVE	Cull	5.1	6	0	100.0	0.0	0.0
DF	5 - 7	LIVE	Pulp	5.1	13	46	0.0	50.4	10.0
DF	5 - 7	LIVE	Domestic	5.6	32	4,582	0.9	8,314.1	1,002.1
DF	5 - 7	LIVE	Pole	5.9	35	151	0.0	240.1	33.0
DF	8 - 11	LIVE	Pole	9.2	40	17	0.0	28.0	3.7
DF	8 - 11	LIVE	Domestic	9.4	40	1,516	3.1	2,740.4	331.6
DF	8 - 11	LIVE	Pulp	9.4	28	24	32.7	74.2	5.1
DF	8 - 11	LIVE	HQ-B	9.5	39	2,330	1.3	4,094.4	509.6
DF	8 - 11	LIVE	Cull	10.7	8	0	100.0	0.0	0.0
DF	12 - 15	LIVE	Domestic	12.5	40	42	1.7	75.2	9.2
DF	12 - 15	LIVE	HQ-B	13.0	40	542	1.4	905.4	118.5
DF	16 - 19	LIVE	HQ-B	16.5	40	36	2.5	52.6	7.8
NF	5 - 7	LIVE	Cull	5.0	3	0	100.0	0.0	0.0
NF	5 - 7	LIVE	Pulp	5.1	12	4	0.0	5.5	0.8
NF	5 - 7	LIVE	Domestic	6.2	35	39	0.0	77.2	8.6
NF	8 - 11	LIVE	Domestic	9.1	40	23	2.6	39.2	5.0
SF	5 - 7	LIVE	Cull	5.1	2	0	100.0	0.0	0.0
SF	5 - 7	LIVE	Domestic	5.3	32	422	1.4	781.6	92.3
SF	8 - 11	LIVE	Domestic	9.8	39	83	3.2	149.7	18.2
WH	< 5	LIVE	Pulp	2.1	18	8	0.0	33.6	1.7
WH	5 - 7	LIVE	Domestic	5.4	34	294	0.9	540.5	64.2
WH	8 - 11	LIVE	Domestic	9.9	40	173	0.0	322.8	37.9
WH	12 - 15	LIVE	Domestic	13.3	40	34	0.0	73.3	7.5

Cruise Unit Report Unit 1

Unit Sale Notice Volume (MBF): Unit 1

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	14.2			215	66	111	38
ALL	14.2			215	66	111	38

Unit Cruise Design: Unit 1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	17.3		11	6	0

Unit Cruise Summary: Unit 1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
BC		1	0.1	0
WH		2	0.2	0
RC		1	0.1	0
DF	13	71	6.5	0
ALL	13	75	6.8	0

Unit Cruise Statistics: Unit 1

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
BC	3.1	331.7	100.0						
WH	6.1	222.5	67.1						
RC	3.1	331.7	100.0						
DF	216.9	29.7	9.0	139.9	20.4	5.7	30,351	36.1	10.6
ALL	229.2	24.4	7.4	139.9	20.4	5.7	32,061	31.8	9.3

Unit Summary: Unit 1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
BC	LIVE	LEA	1	ALL	14.0	79	98				2.9	3.1	0.8	
DF	LIVE	CUT	13	ALL	14.1	90	101	12,695	12,397	2.3	81.7	88.6	23.6	214.5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	LEA	19	ALL	19.1	105	122	18,386	17,954	2.3	64.5	128.3	29.4	310.6
RC	LIVE	LEA	1	ALL	9.1	60	60				6.8	3.1	1.0	
WH	LIVE	LEA	1	ALL	8.6	78	78				15.1	6.1	2.1	
ALL	LIVE	CUT	13	ALL	14.1	90	101	12,695	12,397	2.3	81.7	88.6	23.6	214.5
ALL	LIVE	LEA	22	ALL	17.0	96	109	18,386	17,954	2.3	89.3	140.6	33.3	310.6
ALL	ALL	ALL	35	ALL	15.7	93	105	31,081	30,351	2.3	171.0	229.2	56.9	525.1

Unit Stand Table: Unit 1

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
BC	14	LIVE	LEA	1	14.0	79	98			2.9	3.1	0.8	
DF	10	LIVE	CUT	3	10.2	72	72	1,567	1.9	21.7	12.2	3.8	27.1
DF	12	LIVE	CUT	5	12.4	79	92	2,017	1.0	18.2	15.3	4.3	34.9
DF	14	LIVE	CUT	6	14.3	99	115	2,632	1.2	16.5	18.3	4.9	45.5
DF	16	LIVE	CUT	6	16.2	105	105	2,417	6.3	12.9	18.3	4.6	41.8
DF	18	LIVE	CUT	3	18.4	99	127	1,505	0.7	5.0	9.2	2.1	26.0
DF	20	LIVE	CUT	5	19.4	113	122	2,259	1.9	7.5	15.3	3.5	39.1
DF	12	LIVE	LEA	1	12.1			379	2.3	3.8	3.1	0.9	6.6
DF	14	LIVE	LEA	2	14.4			758	2.3	5.4	6.1	1.6	13.1
DF	16	LIVE	LEA	5	15.9	94	100	1,704	0.5	11.1	15.3	3.8	29.5
DF	18	LIVE	LEA	7	18.0			2,651	2.3	12.2	21.4	5.0	45.9
DF	20	LIVE	LEA	11	20.2	100	128	4,997	1.3	16.4	36.7	8.2	86.4
DF	22	LIVE	LEA	8	22.0	116	133	3,626	0.7	9.2	24.4	5.2	62.7
DF	24	LIVE	LEA	2	23.5	105	133	1,572	0.0	3.0	9.2	1.9	27.2
DF	26	LIVE	LEA	1	25.0	120	154	611	0.0	0.9	3.1	0.6	10.6
DF	28	LIVE	LEA	1	27.0	135	135	1,044	0.0	1.5	6.1	1.2	18.1
DF	30	LIVE	LEA	1	30.1	145	145	612	0.0	0.6	3.1	0.6	10.6
RC	10	LIVE	LEA	1	9.1	60	60			6.8	3.1	1.0	
WH	8	LIVE	LEA	1	7.0					11.4	3.1	1.2	
WH	12	LIVE	LEA	1	12.4	78	78			3.6	3.1	0.9	

Cruise Unit Report Unit 2

Unit Sale Notice Volume (MBF): Unit 2

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	13.9			232	42	153	37
BC	14.3			5	4		1
ALL	13.9			237	46	153	38

Unit Cruise Design: Unit 2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	20.2		15	8	0

Unit Cruise Summary: Unit 2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
SF		8	0.5	0
DF	27	91	6.1	0
BC	1	2	0.1	0
ALL	28	101	6.7	0

Unit Cruise Statistics: Unit 2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
SF	17.9	263.9	68.1						
DF	203.9	42.5	11.0	138.5	20.3	3.9	28,233	47.1	11.6
BC	4.5	263.9	68.1	116.6	0.0	0.0	522	263.9	68.1
ALL	226.3	26.0	6.7	138.0	20.2	3.8	31,229	32.9	7.7

Unit Summary: Unit 2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
BC	LIVE	CUT	1	ALL	14.3	79	99	297	261	12.2	2.0	2.2	0.6	5.3
BC	LIVE	LEA	1	ALL	18.0	92	115	297	261	12.2	1.3	2.2	0.5	5.3
DF	LIVE	CUT	27	ALL	14.3	96	97	11,623	11,479	1.2	74.3	82.9	21.9	231.9

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	LEA	25	ALL	19.3	104	115	16,963	16,754	1.2	59.6	121.0	27.5	338.4
SF	LIVE	LEA	8	ALL	13.3	79	84				18.6	17.9	4.9	
ALL	LIVE	CUT	28	ALL	14.3	95	97	11,920	11,741	1.5	76.3	85.1	22.5	237.2
ALL	LIVE	LEA	34	ALL	18.1	98	107	17,261	17,015	1.4	79.5	141.2	33.0	343.7
ALL	ALL	ALL	62	ALL	16.3	97	102	29,181	28,756	1.5	155.8	226.3	55.5	580.9

Unit Stand Table: Unit 2

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
BC	14	LIVE	CUT	1	14.3	79	99	261	12.2	2.0	2.2	0.6	5.3
BC	18	LIVE	LEA	1	18.0	92	115	261	25.0	1.3	2.2	0.5	5.3
DF	8	LIVE	CUT	2	8.1	72	72	438	0.0	12.5	4.5	1.6	8.9
DF	10	LIVE	CUT	2	10.6	88	88	526	0.0	7.2	4.5	1.4	10.6
DF	12	LIVE	CUT	4	12.6	95	95	1,167	0.3	10.4	9.0	2.5	23.6
DF	14	LIVE	CUT	6	14.1	103	99	1,687	1.7	12.3	13.4	3.6	34.1
DF	16	LIVE	CUT	10	15.8	106	113	3,310	0.9	16.5	22.4	5.6	66.9
DF	18	LIVE	CUT	9	18.0	109	113	2,798	2.0	11.4	20.2	4.8	56.5
DF	20	LIVE	CUT	1	19.3	122	122	385	0.0	1.1	2.2	0.5	7.8
DF	22	LIVE	CUT	2	22.2	125	125	733	2.5	1.7	4.5	1.0	14.8
DF	24	LIVE	CUT	1	23.8	130	130	435	1.6	0.7	2.2	0.5	8.8
DF	8	LIVE	LEA	1	8.6			292	1.2	5.6	2.2	0.8	5.9
DF	14	LIVE	LEA	3	13.9	69	86	817	0.9	6.4	6.7	1.8	16.5
DF	16	LIVE	LEA	5	16.2	96	96	1,351	2.6	7.8	11.2	2.8	27.3
DF	18	LIVE	LEA	9	18.2	91	115	2,923	1.4	12.4	22.4	5.3	59.1
DF	20	LIVE	LEA	5	20.2	111	111	1,482	0.7	5.0	11.2	2.5	29.9
DF	22	LIVE	LEA	10	22.1	110	117	3,013	0.2	8.4	22.4	4.8	60.9
DF	24	LIVE	LEA	15	23.7	109	128	5,094	0.5	11.0	33.6	6.9	102.9
DF	26	LIVE	LEA	4	25.9	128	128	1,355	0.5	2.5	9.0	1.8	27.4
DF	28	LIVE	LEA	1	27.2	144	144	427	0.0	0.6	2.2	0.4	8.6
SF	10	LIVE	LEA	1	9.1	65	65			5.0	2.2	0.7	
SF	12	LIVE	LEA	1	11.0	75	75			3.4	2.2	0.7	
SF	14	LIVE	LEA	1	13.8	85	85			2.2	2.2	0.6	
SF	16	LIVE	LEA	4	15.6	87	98			6.8	9.0	2.3	
SF	18	LIVE	LEA	1	18.0	100	100			1.3	2.2	0.5	

Cruise Unit Report Unit 3

Unit Sale Notice Volume (MBF): Unit 3

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	10.6			17	2	8	7
ALL	10.6			17	2	8	7

Unit Cruise Design: Unit 3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (33.61) Measure All, Sighting Ht = 4.5 ft	1.6		3	3	0

Unit Cruise Summary: Unit 3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
SF		4	1.3	0
WH		1	0.3	0
DF	9	16	5.3	0
ALL	9	21	7.0	0

Unit Cruise Statistics: Unit 3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
SF	44.8	173.2	100.0						
WH	11.2	173.2	100.0						
DF	179.3	28.6	16.5	94.2	28.8	9.6	16,879	40.7	19.1
ALL	235.3	28.6	16.5	94.2	28.8	9.6	22,153	40.6	19.1

Unit Summary: Unit 3

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	9	ALL	10.0	56	63	10,549	10,549	0.0	205.4	112.0	35.4	16.9
DF	LIVE	LEA	6	ALL	17.1	81	87	6,330	6,330	0.0	42.1	67.2	16.3	10.1
SF	LIVE	LEA	4	ALL	11.0	76	97				67.9	44.8	13.5	
WH	LIVE	LEA	1	ALL	12.9	66	81				12.3	11.2	3.1	

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	CUT	9	ALL	10.0	56	63	10,549	10,549	0.0	205.4	112.0	35.4	16.9
ALL	LIVE	LEA	11	ALL	13.6	77	92	6,330	6,330	0.0	122.3	123.2	32.9	10.1
ALL	ALL	ALL	20	ALL	11.5	64	73	16,879	16,879	0.0	327.7	235.3	68.3	27.0

Unit Stand Table: Unit 3

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	8	LIVE	CUT	3	7.6	40	48	1,792	0.0	107.8	33.6	12.2	2.9
DF	10	LIVE	CUT	3	10.4	71	71	3,106	0.0	57.0	33.6	10.4	5.0
DF	12	LIVE	CUT	2	12.4	71	81	2,345	0.0	26.5	22.4	6.4	3.8
DF	16	LIVE	CUT	1	15.2	75	95	1,482	0.0	8.9	11.2	2.9	2.4
DF	18	LIVE	CUT	1	18.0	85	108	1,825	0.0	6.3	11.2	2.6	2.9
DF	12	LIVE	LEA	1	12.1	60	60	490	0.0	14.0	11.2	3.2	0.8
DF	16	LIVE	LEA	1	15.7	81	81	934	0.0	8.3	11.2	2.8	1.5
DF	20	LIVE	LEA	3	20.0	100	108	3,659	0.0	15.4	33.6	7.5	5.9
DF	22	LIVE	LEA	1	21.9	85	108	1,246	0.0	4.3	11.2	2.4	2.0
SF	10	LIVE	LEA	2	10.7	76	96			35.9	22.4	6.9	
SF	12	LIVE	LEA	2	11.4	77	97			31.5	22.4	6.6	
WH	12	LIVE	LEA	1	12.9	66	81			12.3	11.2	3.1	

Cruise Unit Report Unit 4

Unit Sale Notice Volume (MBF): Unit 4

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	13.4			89	8	55	26	1
ALL	13.4			89	8	55	26	1

Unit Cruise Design: Unit 4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (33.61) Measure All, Sighting Ht = 4.5 ft	5.5		5	5	0

Unit Cruise Summary: Unit 4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH		1	0.2	0
DF	18	37	7.4	0
ALL	18	38	7.6	0

Unit Cruise Statistics: Unit 4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	6.7	223.6	100.0						
DF	248.7	12.1	5.4	120.8	22.9	5.4	30,042	25.9	7.6
ALL	255.4	15.0	6.7	120.8	22.9	5.4	30,854	27.3	8.6

Unit Summary: Unit 4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	18	ALL	13.4	89	95	16,857	16,239	3.7	137.3	134.4	36.7	89.3
DF	LIVE	LEA	16	ALL	17.3	97	108	14,329	13,803	3.7	70.0	114.3	27.5	75.9
WH	LIVE	LEA	1	ALL	19.7	122	122				3.2	6.7	1.5	
ALL	LIVE	LEA	17	ALL	17.4	98	109	14,329	13,803	3.7	73.2	121.0	29.0	75.9
ALL	LIVE	CUT	18	ALL	13.4	89	95	16,857	16,239	3.7	137.3	134.4	36.7	89.3
ALL	ALL	ALL	35	ALL	14.9	92	100	31,186	30,042	3.7	210.5	255.4	65.7	165.2

Unit Stand Table: Unit 4

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	10	LIVE	CUT	3	10.1	88	88	2,526	0.0	48.1	26.9	8.5	13.9
DF	12	LIVE	CUT	1	11.6	95	95	879	0.0	9.2	6.7	2.0	4.8
DF	14	LIVE	CUT	6	14.0	85	93	5,322	6.8	44.1	47.1	12.6	29.3
DF	16	LIVE	CUT	4	15.8	92	103	3,587	3.7	19.8	26.9	6.8	19.7
DF	18	LIVE	CUT	4	17.9	96	115	3,925	2.3	15.4	26.9	6.4	21.6
DF	14	LIVE	LEA	2	14.6	93	93	1,371	0.0	11.5	13.4	3.5	7.5
DF	16	LIVE	LEA	5	15.8	87	100	4,276	0.0	29.5	40.3	10.1	23.5
DF	18	LIVE	LEA	5	17.9	102	119	4,285	0.0	19.2	33.6	7.9	23.6
DF	20	LIVE	LEA	1	20.5	94	120	826	0.0	2.9	6.7	1.5	4.5
DF	22	LIVE	LEA	2	21.8	128	128	2,010	0.0	5.2	13.4	2.9	11.1
DF	24	LIVE	LEA	1	24.3	130	130	1,034	0.0	2.1	6.7	1.4	5.7
WH	20	LIVE	LEA	1	19.7	122	122			3.2	6.7	1.5	

Cruise Unit Report Unit 5

Unit Sale Notice Volume (MBF): Unit 5

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	14.9			45	9	27	9
WH	11.7			3		3	
ALL	14.5			48	9	31	9

Unit Cruise Design: Unit 5

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	4.9		5	5	0

Unit Cruise Summary: Unit 5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	9	28	5.6	0
WH	1	1	0.2	0
ALL	10	29	5.8	0

Unit Cruise Statistics: Unit 5

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	188.2	32.4	14.5	137.2	23.2	7.7	25,828	39.9	16.4
WH	6.7	223.6	100.0	96.4	0.0	0.0	648	223.6	100.0
ALL	194.9	37.4	16.7	135.8	24.0	7.6	26,477	44.4	18.4

Unit Summary: Unit 5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	9	ALL	14.3	87	99	9,278	9,224	0.6	60.3	67.2	17.8	45.2
DF	LIVE	LEA	13	ALL	16.0	90	104	16,701	16,604	0.6	86.7	121.0	30.2	81.4
WH	LIVE	CUT	1	ALL	11.7	79	79	648	648	0.0	9.0	6.7	2.0	3.2
ALL	LIVE	CUT	10	ALL	14.0	86	96	9,927	9,873	0.5	69.3	73.9	19.7	48.4
ALL	LIVE	LEA	13	ALL	16.0	90	104	16,701	16,604	0.6	86.7	121.0	30.2	81.4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	ALL	ALL	23	ALL	15.1	88	101	26,628	26,477	0.6	156.0	194.9	50.0	129.7

Unit Stand Table: Unit 5

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	10	LIVE	CUT	2	9.8	78	78	1,562	0.3	25.4	13.4	4.3	7.7
DF	16	LIVE	CUT	4	15.8	87	103	3,494	1.4	19.9	26.9	6.8	17.1
DF	18	LIVE	CUT	4	18.1	94	114	4,168	0.0	15.1	26.9	6.3	20.4
DF	10	LIVE	LEA	1	9.3	84	84	608	0.0	14.3	6.7	2.2	3.0
DF	14	LIVE	LEA	4	13.6	94	94	3,523	0.5	26.7	26.9	7.3	17.3
DF	16	LIVE	LEA	2	15.4	81	102	1,916	0.3	10.4	13.4	3.4	9.4
DF	18	LIVE	LEA	2	17.4	87	110	1,844	0.3	8.1	13.4	3.2	9.0
DF	20	LIVE	LEA	7	19.7	97	119	7,191	2.2	22.2	47.1	10.6	35.2
DF	22	LIVE	LEA	2	21.6	85	108	1,522	0.0	5.3	13.4	2.9	7.5
WH	12	LIVE	CUT	1	11.7	79	79	648	0.0	9.0	6.7	2.0	3.2

Cruise Unit Report Unit 6

Unit Sale Notice Volume (MBF): Unit 6

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	12.1			84	53	31
WH	15.6			12	10	2
ALL	13.0			96	63	33

Unit Cruise Design: Unit 6

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	9.7		8	4	0

Unit Cruise Summary: Unit 6

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RA		2	0.3	0
RC		6	0.8	0
DF	4	39	4.9	0
WH	2	2	0.3	0
ALL	6	49	6.1	0

Unit Cruise Statistics: Unit 6

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
RA	8.4	282.8	100.0						
RC	25.2	185.2	65.5						
DF	163.8	50.8	17.9	113.8	17.4	8.7	18,641	53.7	19.9
WH	8.4	282.8	100.0	149.4	7.5	5.3	1,256	282.9	100.1
ALL	205.9	29.5	10.4	115.5	21.2	8.7	23,778	36.3	13.6

Unit Summary: Unit 6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	4	ALL	13.3	76	80	8,603	8,603	0.0	78.4	75.6	20.7	83.5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	LEA	7	ALL	19.4	92	109	10,037	10,037	0.0	43.0	88.2	20.0	97.4
RA	LIVE	LEA	2	ALL	8.1	53	57				23.5	8.4	3.0	
RC	LIVE	LEA	6	ALL	15.9	79	81				18.3	25.2	6.3	
WH	LIVE	CUT	2	ALL	15.6	90	90	1,256	1,256	0.0	6.3	8.4	2.1	12.2
ALL	LIVE	LEA	15	ALL	16.2	78	89	10,037	10,037	0.0	84.8	121.8	29.3	97.4
ALL	LIVE	CUT	6	ALL	13.5	77	80	9,859	9,859	0.0	84.7	84.0	22.9	95.6
ALL	ALL	ALL	21	ALL	14.9	78	85	19,896	19,896	0.0	169.5	205.9	52.2	193.0

Unit Stand Table: Unit 6

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	8	LIVE	CUT	1	7.4			478	0.0	14.1	4.2	1.5	4.6
DF	10	LIVE	CUT	2	9.8	50	61	835	0.0	16.0	8.4	2.7	8.1
DF	12	LIVE	CUT	2	11.9	70	88	1,014	0.0	10.8	8.4	2.4	9.8
DF	14	LIVE	CUT	2	13.7	75	95	966	0.0	8.1	8.4	2.3	9.4
DF	16	LIVE	CUT	6	16.0	97		2,868	0.0	18.0	25.2	6.3	27.8
DF	18	LIVE	CUT	4	17.8	103	100	1,964	0.0	9.7	16.8	4.0	19.0
DF	22	LIVE	CUT	1	21.3			478	0.0	1.7	4.2	0.9	4.6
DF	16	LIVE	LEA	4	16.3	76	95	1,721	0.0	11.6	16.8	4.2	16.7
DF	18	LIVE	LEA	4	17.7	88	112	1,822	0.0	9.8	16.8	4.0	17.7
DF	20	LIVE	LEA	5	20.1	93	111	2,684	0.0	9.5	21.0	4.7	26.0
DF	22	LIVE	LEA	5	21.9	115	115	2,697	0.0	9.6	25.2	5.4	26.2
DF	24	LIVE	LEA	1	24.2	96	122	684	0.0	1.3	4.2	0.9	6.6
DF	26	LIVE	LEA	1	25.0			430	0.0	1.2	4.2	0.8	4.2
RA	8	LIVE	LEA	1	7.2	50	50			14.9	4.2	1.6	
RA	10	LIVE	LEA	1	9.5	57	69			8.5	4.2	1.4	
RC	12	LIVE	LEA	1	11.9	76	76			5.4	4.2	1.2	
RC	14	LIVE	LEA	1	14.7	55	68			3.6	4.2	1.1	
RC	16	LIVE	LEA	1	15.2	84	84			3.3	4.2	1.1	
RC	18	LIVE	LEA	1	18.5	93	93			2.3	4.2	1.0	
RC	20	LIVE	LEA	1	19.6	94	94			2.0	4.2	0.9	
RC	22	LIVE	LEA	1	21.4	88	88			1.7	4.2	0.9	
WH	16	LIVE	CUT	2	15.6	90	90	1,256	0.0	6.3	8.4	2.1	12.2

Cruise Unit Report Unit 7

Unit Sale Notice Volume (MBF): Unit 7

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	12.2			227	163	64
ALL	12.2			227	163	64

Unit Cruise Design: Unit 7

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	12.7		11	6	0

Unit Cruise Summary: Unit 7

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH		1	0.1	0
RC		2	0.2	0
DF	30	82	7.5	0
ALL	30	85	7.7	0

Unit Cruise Statistics: Unit 7

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	3.1	331.7	100.0						
RC	6.1	222.5	67.1						
DF	250.5	30.8	9.3	130.1	18.4	3.4	32,595	35.9	9.9
ALL	259.7	23.2	7.0	130.1	18.4	3.4	33,787	29.6	7.8

Unit Summary: Unit 7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	30	ALL	12.1	66	84	18,154	17,887	1.5	172.2	137.5	39.5	227.2
DF	LIVE	LEA	20	ALL	17.4	82	104	14,927	14,707	1.5	68.5	113.1	27.1	186.8
RC	LIVE	LEA	0	ALL	12.8						6.8	6.1	1.7	
WH	LIVE	LEA	0	ALL	6.5						13.3	3.1	1.2	

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	LEA	20	ALL	15.9	82	104	14,927	14,707	1.5	88.6	122.2	30.0	186.8
ALL	LIVE	CUT	30	ALL	12.1	66	84	18,154	17,887	1.5	172.2	137.5	39.5	227.2
ALL	ALL	ALL	50	ALL	13.5	71	90	33,081	32,595	1.5	260.8	259.7	69.5	414.0

Unit Stand Table: Unit 7

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	6	LIVE	CUT	1	6.4	47	57	260	0.0	13.7	3.1	1.2	3.3
DF	8	LIVE	CUT	3	7.5	41	49	1,058	1.1	29.9	9.2	3.3	13.4
DF	10	LIVE	CUT	5	10.0	58	82	1,844	2.0	27.8	15.3	4.8	23.4
DF	12	LIVE	CUT	8	12.1	77	97	3,243	0.5	30.4	24.4	7.0	41.2
DF	14	LIVE	CUT	13	13.9	74	93	5,162	1.1	37.6	39.7	10.6	65.6
DF	16	LIVE	CUT	11	16.0	79	99	4,634	2.7	24.2	33.6	8.4	58.8
DF	18	LIVE	CUT	4	17.2	83	105	1,687	0.7	7.6	12.2	2.9	21.4
DF	12	LIVE	LEA	1	12.7	71	89	364	0.0	3.5	3.1	0.9	4.6
DF	14	LIVE	LEA	4	14.5	75	94	1,446	2.6	10.6	12.2	3.2	18.4
DF	16	LIVE	LEA	8	15.8	82	103	3,164	1.5	18.0	24.4	6.2	40.2
DF	18	LIVE	LEA	11	17.7	83	105	4,257	1.1	19.6	33.6	8.0	54.1
DF	20	LIVE	LEA	7	19.4	89	113	2,881	2.7	10.4	21.4	4.9	36.6
DF	22	LIVE	LEA	5	21.7	86	109	2,140	0.6	5.9	15.3	3.3	27.2
DF	26	LIVE	LEA	1	26.2	89	113	455	4.6	0.8	3.1	0.6	5.8
RC	12	LIVE	LEA	1	11.6					4.2	3.1	0.9	
RC	14	LIVE	LEA	1	14.5					2.7	3.1	0.8	
WH	6	LIVE	LEA	1	6.5					13.3	3.1	1.2	

Cruise Unit Report Unit 8

Unit Sale Notice Volume (MBF): Unit 8

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	10.5			47	27	21
ALL	10.5			47	27	21

Unit Cruise Design: Unit 8

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	6.2		5	5	0

Unit Cruise Summary: Unit 8

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	9	30	6.0	0
ALL	9	30	6.0	0

Unit Cruise Statistics: Unit 8

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	201.7	37.3	16.7	94.3	26.9	9.0	19,019	46.0	18.9
ALL	201.7	37.3	16.7	94.3	26.9	9.0	19,019	46.0	18.9

Unit Summary: Unit 8

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	9	ALL	10.9	53	66	7,660	7,608	0.7	124.5	80.7	24.4	47.2
DF	LIVE	LEA	12	ALL	16.7	68	86	11,490	11,411	0.7	79.5	121.0	29.6	70.8
ALL	LIVE	CUT	9	ALL	10.9	53	66	7,660	7,608	0.7	124.5	80.7	24.4	47.2
ALL	LIVE	LEA	12	ALL	16.7	68	86	11,490	11,411	0.7	79.5	121.0	29.6	70.8
ALL	ALL	ALL	21	ALL	13.5	59	73	19,150	19,019	0.7	204.0	201.7	54.0	117.9

Unit Stand Table: Unit 8

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	8	LIVE	CUT	2	8.1	47	57	1,197	0.0	37.3	13.4	4.7	7.4
DF	10	LIVE	CUT	3	10.4	48	58	1,462	2.6	34.4	20.2	6.3	9.1
DF	12	LIVE	CUT	3	11.6	65	81	2,067	0.2	27.5	20.2	5.9	12.8
DF	14	LIVE	CUT	3	13.3	72	90	2,030	0.4	21.0	20.2	5.5	12.6
DF	18	LIVE	CUT	1	17.8	78	99	852	0.0	3.9	6.7	1.6	5.3
DF	12	LIVE	LEA	3	11.8	54	67	1,249	0.0	26.6	20.2	5.9	7.7
DF	16	LIVE	LEA	4	16.0	70	87	2,420	0.3	19.2	26.9	6.7	15.0
DF	18	LIVE	LEA	3	17.9	82	103	1,838	0.4	11.5	20.2	4.8	11.4
DF	20	LIVE	LEA	4	19.7	87	110	3,256	0.0	12.7	26.9	6.1	20.2
DF	22	LIVE	LEA	3	21.9	95	121	2,112	0.3	7.7	20.2	4.3	13.1
DF	24	LIVE	LEA	1	23.7			536	0.7	2.2	6.7	1.4	3.3

Cruise Unit Report Unit 9

Unit Sale Notice Volume (MBF): Unit 9

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	3 Saw	4 Saw	Utility
DF	12.4			63	39	23	1
ALL	12.4			63	39	23	1

Unit Cruise Design: Unit 9

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	7.2		7	4	0

Unit Cruise Summary: Unit 9

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	11	42	6.0	0
ALL	11	42	6.0	0

Unit Cruise Statistics: Unit 9

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	201.7	27.2	10.3	106.4	15.2	4.6	21,464	31.2	11.3
ALL	201.7	27.2	10.3	106.4	15.2	4.6	21,464	31.2	11.3

Unit Summary: Unit 9

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	11	ALL	12.1	64	82	9,028	8,688	3.8	102.2	81.6	23.5	62.6
DF	LIVE	LEA	14	ALL	15.2	73	92	13,276	12,776	3.8	95.3	120.0	30.8	92.0
ALL	LIVE	CUT	11	ALL	12.1	64	82	9,028	8,688	3.8	102.2	81.6	23.5	62.6
ALL	LIVE	LEA	14	ALL	15.2	73	92	13,276	12,776	3.8	95.3	120.0	30.8	92.0
ALL	ALL	ALL	25	ALL	13.7	69	87	22,304	21,464	3.8	197.5	201.7	54.3	154.5

Unit Stand Table: Unit 9

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	10	LIVE	CUT	3	9.9	57	70	1,316	1.5	27.2	14.4	4.6	9.5
DF	12	LIVE	CUT	8	11.8	67	84	4,201	3.0	50.8	38.4	11.2	30.2
DF	14	LIVE	CUT	3	13.5	65	82	1,449	9.1	14.4	14.4	3.9	10.4
DF	16	LIVE	CUT	2	15.7	70	96	1,190	1.0	7.1	9.6	2.4	8.6
DF	18	LIVE	CUT	1	17.0	74	93	533	6.4	3.0	4.8	1.2	3.8
DF	12	LIVE	LEA	3	12.7	69	86	1,455	2.5	16.3	14.4	4.0	10.5
DF	14	LIVE	LEA	10	13.9	72	90	4,998	2.3	45.4	48.0	12.9	36.0
DF	16	LIVE	LEA	4	15.5	75	95	2,078	1.8	14.7	19.2	4.9	15.0
DF	18	LIVE	LEA	5	17.8	76	97	2,509	2.2	13.8	24.0	5.7	18.1
DF	20	LIVE	LEA	1	19.8	78	98	533	0.0	2.2	4.8	1.1	3.8
DF	22	LIVE	LEA	1	21.7	83	105	612	0.0	1.9	4.8	1.0	4.4
DF	24	LIVE	LEA	1	24.4	83	105	592	0.0	1.5	4.8	1.0	4.3

Cruise Unit Report Unit 10

Unit Sale Notice Volume (MBF): Unit 10

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	3 Saw	4 Saw	Utility
DF	11.5			534	366	160	9
WH	9.1			52	20	30	2
ALL	11.2			586	386	189	11

Unit Cruise Design: Unit 10

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	63.0		47	24	0

Unit Cruise Summary: Unit 10

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
SF		1	0.0	0
RC		1	0.0	0
DF	60	271	5.8	0
WH	5	16	0.3	0
ALL	65	289	6.1	0

Unit Cruise Statistics: Unit 10

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
SF	0.7	685.6	100.0						
RC	0.7	685.6	100.0						
DF	193.8	36.6	5.3	106.9	30.0	3.9	20,711	47.3	6.6
WH	11.4	282.5	41.2	114.3	11.0	4.9	1,308	282.7	41.5
ALL	206.7	33.2	4.8	107.3	28.9	3.6	22,172	44.0	6.0

Unit Summary: Unit 10

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	60	ALL	11.8	58	73	8,696	8,483	2.4	104.5	79.4	23.1	534.4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	LEA	80	ALL	15.0	69	87	12,535	12,228	2.4	93.2	114.4	29.5	770.4
RC	LIVE	LEA	1	ALL	15.5	71	90				0.5	0.7	0.2	
SF	LIVE	LEA	1	ALL	12.0	68	86				0.9	0.7	0.2	
WH	LIVE	CUT	5	ALL	9.1	43	66	825	817	0.9	15.8	7.2	2.4	51.5
WH	LIVE	LEA	2	ALL	11.1	65	81	495	490	0.9	6.4	4.3	1.3	30.9
ALL	LIVE	LEA	84	ALL	14.8	69	86	13,030	12,718	2.4	101.0	120.1	31.2	801.3
ALL	LIVE	CUT	65	ALL	11.5	56	72	9,521	9,300	2.3	120.3	86.5	25.5	585.9
ALL	ALL	ALL	149	ALL	13.1	62	79	22,551	22,019	2.4	221.3	206.7	56.7	1,387.2

Unit Stand Table: Unit 10

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	6	LIVE	CUT	1	6.9	30	34	52	0.0	2.8	0.7	0.3	3.3
DF	8	LIVE	CUT	7	8.0	44	57	515	0.7	14.2	5.0	1.8	32.5
DF	10	LIVE	CUT	16	9.7	52	64	1,130	1.9	22.4	11.4	3.7	71.2
DF	12	LIVE	CUT	36	12.0	62	79	2,717	2.5	32.8	25.7	7.4	171.2
DF	14	LIVE	CUT	35	13.8	67	85	2,711	1.9	24.0	25.0	6.7	170.8
DF	16	LIVE	CUT	13	16.0	83	105	1,129	5.1	6.7	9.3	2.3	71.1
DF	18	LIVE	CUT	3	17.6			229	2.4	1.3	2.1	0.5	14.4
DF	6	LIVE	LEA	1	6.8			73	2.4	2.8	0.7	0.3	4.6
DF	8	LIVE	LEA	1	7.6			73	2.4	2.3	0.7	0.3	4.6
DF	10	LIVE	LEA	8	10.1	55	68	491	4.3	10.3	5.7	1.8	30.9
DF	12	LIVE	LEA	11	12.2	60	75	763	3.4	9.8	7.9	2.3	48.0
DF	14	LIVE	LEA	36	14.0	72	90	2,791	1.3	24.2	25.7	6.9	175.9
DF	16	LIVE	LEA	42	15.9	69	88	3,173	2.2	21.7	30.0	7.5	199.9
DF	18	LIVE	LEA	33	17.8	77	98	2,626	2.2	13.6	23.6	5.6	165.4
DF	20	LIVE	LEA	22	20.0	83	105	1,761	1.8	7.2	15.7	3.5	111.0
DF	22	LIVE	LEA	5	22.2	93	119	404	4.1	1.3	3.6	0.8	25.5
DF	24	LIVE	LEA	1	24.0			73	2.4	0.2	0.7	0.1	4.6
RC	16	LIVE	LEA	1	15.5	71	90			0.5	0.7	0.2	
SF	12	LIVE	LEA	1	12.0	68	86			0.9	0.7	0.2	
WH	8	LIVE	CUT	5	7.8	36	60	391	1.3	10.8	3.6	1.3	24.6
WH	10	LIVE	CUT	2	9.5	65	81	177	0.4	2.9	1.4	0.5	11.2
WH	12	LIVE	CUT	1	12.1			82	0.9	0.9	0.7	0.2	5.1
WH	14	LIVE	CUT	2	14.4	66	82	168	0.5	1.3	1.4	0.4	10.6
WH	10	LIVE	LEA	3	9.5	65	80	244	0.6	4.3	2.1	0.7	15.4
WH	12	LIVE	LEA	1	12.4			80	0.9	0.9	0.7	0.2	5.0
WH	14	LIVE	LEA	1	13.6			80	0.9	0.7	0.7	0.2	5.0

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	16	LIVE	LEA	1	16.2	66	82	87	0.0	0.5	0.7	0.2	5.5

Cruise Unit Report Unit 11

Unit Sale Notice Volume (MBF): Unit 11

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	3 Saw	4 Saw	Utility
DF	10.7			69	42	25	2
ALL	10.7			69	42	25	2

Unit Cruise Design: Unit 11

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	6.1		7	4	0

Unit Cruise Summary: Unit 11

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH		2	0.3	0
RA		1	0.1	0
DF	14	41	5.9	0
ALL	14	44	6.3	0

Unit Cruise Statistics: Unit 11

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	9.6	264.6	100.0						
RA	4.8	264.6	100.0						
DF	196.9	18.3	6.9	102.6	18.6	5.0	20,198	26.0	8.5
ALL	211.3	25.5	9.6	102.6	18.6	5.0	21,676	31.5	10.8

Unit Summary: Unit 11

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	14	ALL	10.2	56	72	11,694	11,331	3.1	194.6	110.4	34.6	69.1
DF	LIVE	LEA	10	ALL	14.2	65	81	9,152	8,867	3.1	78.6	86.4	22.9	54.1
RA	LIVE	LEA	1	ALL	10.5	37	43				8.0	4.8	1.5	
WH	LIVE	LEA	2	ALL	11.4	54	70				13.5	9.6	2.8	

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	LEA	13	ALL	13.6	61	76	9,152	8,867	3.1	100.1	100.8	27.3	54.1
ALL	LIVE	CUT	14	ALL	10.2	56	72	11,694	11,331	3.1	194.6	110.4	34.6	69.1
ALL	ALL	ALL	27	ALL	11.5	58	73	20,845	20,198	3.1	294.7	211.3	61.8	123.2

Unit Stand Table: Unit 11

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	8	LIVE	CUT	6	7.7	50	61	2,832	3.9	88.2	28.8	10.4	17.3
DF	10	LIVE	CUT	5	9.5	59	73	2,489	2.8	48.8	24.0	7.8	15.2
DF	12	LIVE	CUT	4	12.4	60	81	2,009	3.9	23.0	19.2	5.5	12.3
DF	14	LIVE	CUT	4	13.6	55	77	1,852	2.5	19.1	19.2	5.2	11.3
DF	16	LIVE	CUT	4	15.2	73	92	2,149	2.2	15.3	19.2	4.9	13.1
DF	10	LIVE	LEA	1	10.5	58	72	495	8.7	8.0	4.8	1.5	3.0
DF	12	LIVE	LEA	4	11.7	53	65	1,787	4.5	25.5	19.2	5.6	10.9
DF	14	LIVE	LEA	4	14.3	62	78	1,857	5.8	17.3	19.2	5.1	11.3
DF	16	LIVE	LEA	5	15.9	75	95	2,680	2.2	17.4	24.0	6.0	16.3
DF	18	LIVE	LEA	3	18.0	74	93	1,520	5.4	8.2	14.4	3.4	9.3
DF	20	LIVE	LEA	1	19.0	74	93	528	4.3	2.4	4.8	1.1	3.2
RA	10	LIVE	LEA	1	10.5	37	43			8.0	4.8	1.5	
WH	12	LIVE	LEA	2	11.4	54	70			13.4	9.6	2.8	

Cruise Unit Report Unit 12

Unit Sale Notice Volume (MBF): Unit 12

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	11.6			43	30	13
ALL	11.6			43	30	13

Unit Cruise Design: Unit 12

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	7.6		4	2	0

Unit Cruise Summary: Unit 12

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	3	21	5.3	0
ALL	3	21	5.3	0

Unit Cruise Statistics: Unit 12

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	176.5	18.2	9.1	74.7	16.6	9.6	13,178	24.6	13.2
ALL	176.5	18.2	9.1	74.7	16.6	9.6	13,178	24.6	13.2

Unit Summary: Unit 12

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	3	ALL	12.8	74	74	5,648	5,648	0.0	84.6	75.6	21.1	42.9
DF	LIVE	LEA	6	ALL	13.4	75	75	7,530	7,530	0.0	103.0	100.8	27.5	57.2
ALL	LIVE	LEA	6	ALL	13.4	75	75	7,530	7,530	0.0	103.0	100.8	27.5	57.2
ALL	LIVE	CUT	3	ALL	12.8	74	74	5,648	5,648	0.0	84.6	75.6	21.1	42.9
ALL	ALL	ALL	9	ALL	13.1	75	75	13,178	13,178	0.0	187.6	176.5	48.7	100.2

Unit Stand Table: Unit 12

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	10	LIVE	CUT	1	10.7	76	76	579	0.0	13.5	8.4	2.6	4.4
DF	12	LIVE	CUT	3	11.5	72	72	2,002	0.0	34.7	25.2	7.4	15.2
DF	14	LIVE	CUT	4	13.9	72	72	2,440	0.0	32.1	33.6	9.0	18.5
DF	18	LIVE	CUT	1	17.8			628	0.0	4.9	8.4	2.0	4.8
DF	12	LIVE	LEA	4	11.9	70	70	2,408	0.0	43.7	33.6	9.8	18.3
DF	14	LIVE	LEA	6	14.0	81	81	3,766	0.0	47.2	50.4	13.5	28.6
DF	16	LIVE	LEA	2	15.5	90	90	1,357	0.0	12.7	16.8	4.3	10.3

Cruise Unit Report Unit 13

Unit Sale Notice Volume (MBF): Unit 13

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	10.6			16		16
WH	16.5			1	1	
ALL	11.0			17	1	16

Unit Cruise Design: Unit 13

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (33.61) Measure All, Sighting Ht = 4.5 ft	3.7		4	4	0

Unit Cruise Summary: Unit 13

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RC		4	1.0	0
DF	8	16	4.0	0
WH	1	1	0.3	0
ALL	9	21	5.3	0

Unit Cruise Statistics: Unit 13

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
RC	33.6	200.0	100.0						
DF	134.4	35.4	17.7	62.3	13.7	4.9	8,375	37.9	18.3
WH	8.4	200.0	100.0	42.4	0.0	0.0	357	200.0	100.0
ALL	176.5	24.0	12.0	61.1	17.0	5.7	10,786	29.4	13.3

Unit Summary: Unit 13

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	8	ALL	10.6	63	63	4,187	4,187	0.0	109.7	67.2	20.6	15.5
DF	LIVE	LEA	8	ALL	13.2	70	70	4,187	4,187	0.0	70.7	67.2	18.5	15.5
RC	LIVE	LEA	4	ALL	10.3	45	45				58.1	33.6	10.5	

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	1	ALL	16.5	70	70	357	357	0.0	5.7	8.4	2.1	1.3
ALL	LIVE	CUT	9	ALL	11.0	63	63	4,544	4,544	0.0	115.4	75.6	22.7	16.8
ALL	LIVE	LEA	12	ALL	12.0	59	59	4,187	4,187	0.0	128.8	100.8	29.0	15.5
ALL	ALL	ALL	21	ALL	11.5	61	61	8,731	8,731	0.0	244.2	176.5	51.7	32.3

Unit Stand Table: Unit 13

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	10	LIVE	CUT	5	10.1	64	64	2,818	0.0	76.0	42.0	13.2	10.4
DF	12	LIVE	CUT	3	11.7	61	61	1,369	0.0	34.0	25.2	7.4	5.1
DF	12	LIVE	LEA	4	12.1	66	66	1,969	0.0	42.4	33.6	9.7	7.3
DF	14	LIVE	LEA	2	13.8	69	69	886	0.0	16.1	16.8	4.5	3.3
DF	16	LIVE	LEA	2	15.8	82	82	1,333	0.0	12.4	16.8	4.2	4.9
RC	10	LIVE	LEA	2	9.5	42	42			34.4	16.8	5.5	
RC	12	LIVE	LEA	2	11.5	50	50			23.4	16.8	5.0	
WH	16	LIVE	CUT	1	16.5	70	70	357	0.0	5.7	8.4	2.1	1.3

Cruise Unit Report Unit 14

Unit Sale Notice Volume (MBF): Unit 14

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	12.9			17	12	5
ALL	12.9			17	12	5

Unit Cruise Design: Unit 14

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	2.0		4	3	0

Unit Cruise Summary: Unit 14

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH		2	0.5	0
SF		1	0.3	0
DF	6	19	4.8	0
ALL	6	22	5.5	0

Unit Cruise Statistics: Unit 14

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	16.8	200.0	100.0						
SF	8.4	200.0	100.0						
DF	159.6	43.4	21.7	108.9	18.0	7.4	17,385	47.0	22.9
ALL	184.9	31.5	15.7	108.9	18.0	7.4	20,130	36.3	17.4

Unit Summary: Unit 14

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	6	ALL	10.8	44	53	8,235	8,235	0.0	118.9	75.6	23.0	16.5
DF	LIVE	LEA	9	ALL	14.1	58	72	9,150	9,150	0.0	77.5	84.0	22.4	18.3
SF	LIVE	LEA	0	ALL	14.4						7.4	8.4	2.2	
WH	LIVE	CUT	0	ALL	10.7						13.5	8.4	2.6	

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	LEA	0	ALL	16.7						5.5	8.4	2.1	
ALL	LIVE	LEA	9	ALL	14.3	58	72	9,150	9,150	0.0	90.4	100.8	26.6	18.3
ALL	LIVE	CUT	6	ALL	10.8	44	53	8,235	8,235	0.0	132.4	84.0	25.6	16.5
ALL	ALL	ALL	15	ALL	12.3	49	61	17,385	17,385	0.0	222.8	184.9	52.2	34.8

Unit Stand Table: Unit 14

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	6	LIVE	CUT	1	5.5	26	30	0		50.9	8.4	3.6	0.0
DF	8	LIVE	CUT	1	8.5	53	65	936	0.0	21.3	8.4	2.9	1.9
DF	12	LIVE	CUT	1	12.2	63	79	1,095	0.0	10.4	8.4	2.4	2.2
DF	14	LIVE	CUT	1	13.2	55	68	716	0.0	8.8	8.4	2.3	1.4
DF	16	LIVE	CUT	2	16.2			2,059	0.0	11.8	16.8	4.2	4.1
DF	18	LIVE	CUT	3	17.4	69	86	3,430	0.0	15.3	25.2	6.0	6.9
DF	10	LIVE	LEA	1	9.4	49	59	761	0.0	17.4	8.4	2.7	1.5
DF	12	LIVE	LEA	2	12.3	56	69	1,539	0.0	20.4	16.8	4.8	3.1
DF	14	LIVE	LEA	2	14.5	57	71	1,620	3.5	14.6	16.8	4.4	3.2
DF	16	LIVE	LEA	1	15.5	70	88	1,048	0.0	6.4	8.4	2.1	2.1
DF	18	LIVE	LEA	3	17.6	68	85	3,137	0.0	14.9	25.2	6.0	6.3
DF	20	LIVE	LEA	1	19.6	75	95	1,046	6.0	4.0	8.4	1.9	2.1
SF	14	LIVE	LEA	1	14.4					7.4	8.4	2.2	
WH	10	LIVE	CUT	1	10.7					13.5	8.4	2.6	
WH	16	LIVE	LEA	1	16.7					5.5	8.4	2.1	

Cruise Unit Report Unit 15

Unit Sale Notice Volume (MBF): Unit 15

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	13.1			55	43	12
ALL	13.1			55	43	12

Unit Cruise Design: Unit 15

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	4.7		5	3	0

Unit Cruise Summary: Unit 15

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH		1	0.2	0
NF		1	0.2	0
DF	7	33	6.6	0
ALL	7	35	7.0	0

Unit Cruise Statistics: Unit 15

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	6.7	223.6	100.0						
NF	6.7	223.6	100.0						
DF	221.8	33.2	14.8	101.8	36.6	13.8	22,578	49.4	20.3
ALL	235.3	20.2	9.0	101.8	36.6	13.8	23,947	41.8	16.5

Unit Summary: Unit 15

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	7	ALL	12.5	78	84	11,631	11,631	0.0	134.1	114.3	32.3	54.7
DF	LIVE	LEA	10	ALL	16.7	94	98	10,947	10,947	0.0	70.7	107.6	26.3	51.5
NF	LIVE	LEA	1	ALL	8.9	60	60				15.6	6.7	2.3	
WH	LIVE	LEA	1	ALL	14.6	88	88				5.8	6.7	1.8	

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	CUT	7	ALL	12.5	78	84	11,631	11,631	0.0	134.1	114.3	32.3	54.7
ALL	LIVE	LEA	12	ALL	15.5	88	91	10,947	10,947	0.0	92.1	121.0	30.3	51.5
ALL	ALL	ALL	19	ALL	13.8	82	87	22,578	22,578	0.0	226.2	235.3	62.7	106.1

Unit Stand Table: Unit 15

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	10	LIVE	CUT	3	10.4			2,053	0.0	34.0	20.2	6.2	9.6
DF	12	LIVE	CUT	7	12.1	67	76	4,229	0.0	59.3	47.1	13.6	19.9
DF	14	LIVE	CUT	4	14.2	90	90	2,996	0.0	24.3	26.9	7.1	14.1
DF	16	LIVE	CUT	3	15.5	100	100	2,353	0.0	15.5	20.2	5.1	11.1
DF	14	LIVE	LEA	2	14.5	79	79	1,121	0.0	11.6	13.4	3.5	5.3
DF	16	LIVE	LEA	6	15.9	90	95	3,898	0.0	29.4	40.3	10.1	18.3
DF	18	LIVE	LEA	6	17.6	101	101	3,971	0.0	23.8	40.3	9.6	18.7
DF	20	LIVE	LEA	1	19.4	115	115	881	0.0	3.3	6.7	1.5	4.1
DF	22	LIVE	LEA	1	22.9	100	128	1,077	0.0	2.4	6.7	1.4	5.1
NF	8	LIVE	LEA	1	8.9	60	60			15.6	6.7	2.3	
WH	14	LIVE	LEA	1	14.6	88	88			5.8	6.7	1.8	

Cruise Unit Report Unit 16

Unit Sale Notice Volume (MBF): Unit 16

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	12.0			25	17	8
ALL	12.0			25	17	8

Unit Cruise Design: Unit 16

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (33.61) Measure All, Sighting Ht = 4.5 ft	1.9		3	3	0

Unit Cruise Summary: Unit 16

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	12	23	7.7	0
ALL	12	23	7.7	0

Unit Cruise Statistics: Unit 16

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	257.7	19.9	11.5	98.6	17.8	5.1	25,405	26.7	12.6
ALL	257.7	19.9	11.5	98.6	17.8	5.1	25,405	26.7	12.6

Unit Summary: Unit 16

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	12	ALL	12.0	79	80	13,399	13,255	1.1	171.2	134.4	38.8	25.2
DF	LIVE	LEA	11	ALL	14.3	85	87	12,282	12,150	1.1	110.5	123.2	32.6	23.1
ALL	LIVE	LEA	11	ALL	14.3	85	87	12,282	12,150	1.1	110.5	123.2	32.6	23.1
ALL	LIVE	CUT	12	ALL	12.0	79	80	13,399	13,255	1.1	171.2	134.4	38.8	25.2
ALL	ALL	ALL	23	ALL	13.0	81	83	25,682	25,405	1.1	281.7	257.7	71.4	48.3

Unit Stand Table: Unit 16

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	8	LIVE	CUT	1	8.9	76	76	1,063	0.0	25.9	11.2	3.8	2.0
DF	10	LIVE	CUT	2	10.0	74	74	1,697	0.0	41.0	22.4	7.1	3.2
DF	12	LIVE	CUT	4	11.8	73	77	4,082	0.0	59.5	44.8	13.1	7.8
DF	14	LIVE	CUT	2	14.2	89	89	2,339	0.0	20.4	22.4	5.9	4.4
DF	16	LIVE	CUT	3	16.0	96	96	4,074	3.4	24.0	33.6	8.4	7.7
DF	12	LIVE	LEA	1	12.8	75	75	741	0.0	12.5	11.2	3.1	1.4
DF	14	LIVE	LEA	7	13.7	84	86	7,923	0.0	77.0	78.4	21.2	15.1
DF	16	LIVE	LEA	2	15.7	96	96	2,370	0.0	16.7	22.4	5.7	4.5
DF	22	LIVE	LEA	1	22.1	94	94	1,117	0.0	4.2	11.2	2.4	2.1

Cruise Unit Report Unit 17

Unit Sale Notice Volume (MBF): Unit 17

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	11.5			70	46	24
SF	12.0			19	10	9
WH	12.9			18	14	3
ALL	11.7			107	70	37

Unit Cruise Design: Unit 17

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	13.1		9	7	0

Unit Cruise Summary: Unit 17

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	12	39	4.3	0
WH	1	7	0.8	0
SF	4	8	0.9	0
ALL	17	54	6.0	0

Unit Cruise Statistics: Unit 17

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	145.6	50.3	16.8	101.8	21.9	6.3	14,822	54.9	17.9
WH	26.1	124.9	41.6	120.1	0.0	0.0	3,139	124.9	41.6
SF	29.9	221.1	73.7	79.3	21.8	10.9	2,368	222.1	74.5
ALL	201.7	23.6	7.9	100.8	22.8	5.5	20,329	32.8	9.6

Unit Summary: Unit 17

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	12	ALL	11.8	58	71	5,339	5,321	0.4	68.8	52.3	15.2	69.7
DF	LIVE	LEA	19	ALL	15.5	64	80	9,534	9,501	0.4	71.3	93.4	23.7	124.5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	CUT	4	ALL	12.4	53	66	1,521	1,480	2.7	22.3	18.7	5.3	19.4
SF	LIVE	LEA	3	ALL	16.0	61	77	912	888	2.7	8.0	11.2	2.8	11.6
WH	LIVE	CUT	1	ALL	12.7	65	81	1,345	1,345	0.0	12.7	11.2	3.1	17.6
WH	LIVE	LEA	2	ALL	16.8	54	72	1,794	1,794	0.0	9.7	14.9	3.6	23.5
ALL	LIVE	CUT	17	ALL	12.0	58	72	8,205	8,146	0.7	103.8	82.2	23.7	106.7
ALL	LIVE	LEA	24	ALL	15.7	63	79	12,241	12,183	0.5	89.0	119.5	30.2	159.6
ALL	ALL	ALL	41	ALL	13.8	60	75	20,446	20,329	0.6	192.8	201.7	53.8	266.3

Unit Stand Table: Unit 17

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	8	LIVE	CUT	2	8.5	51	62	701	0.0	19.0	7.5	2.6	9.2
DF	10	LIVE	CUT	1	9.7	39	47	233	3.0	7.3	3.7	1.2	3.1
DF	12	LIVE	CUT	6	12.2	65	82	2,424	0.4	27.7	22.4	6.4	31.8
DF	14	LIVE	CUT	2	13.5	59	73	668	0.0	7.5	7.5	2.0	8.7
DF	16	LIVE	CUT	2	16.0	70	88	796	0.2	5.3	7.5	1.9	10.4
DF	18	LIVE	CUT	1	17.1	73	92	499	0.0	2.3	3.7	0.9	6.5
DF	10	LIVE	LEA	2	9.5	55	67	593	0.0	15.2	7.5	2.4	7.8
DF	12	LIVE	LEA	1	12.3	58	71	311	0.0	4.5	3.7	1.1	4.1
DF	14	LIVE	LEA	4	14.0	64	80	1,376	1.6	13.9	14.9	4.0	18.0
DF	16	LIVE	LEA	3	15.8			1,087	0.4	8.2	11.2	2.8	14.2
DF	18	LIVE	LEA	10	17.8	68	85	3,808	3.4	21.6	37.3	8.8	49.9
DF	20	LIVE	LEA	3	19.8	80	102	1,326	3.1	5.3	11.2	2.5	17.4
DF	22	LIVE	LEA	2	22.1	93	118	1,000	0.1	2.8	7.5	1.6	13.1
SF	10	LIVE	CUT	1	10.3	50	62	278	0.0	6.5	3.7	1.2	3.6
SF	12	LIVE	CUT	1	11.3	51	63	231	2.3	5.4	3.7	1.1	3.0
SF	14	LIVE	CUT	2	13.6	56	70	588	1.4	7.4	7.5	2.0	7.7
SF	16	LIVE	CUT	1	15.1	62	77	384	6.6	3.0	3.7	1.0	5.0
SF	16	LIVE	LEA	2	15.4	62	77	604	0.0	5.7	7.5	1.9	7.9
SF	18	LIVE	LEA	1	17.5	60	75	284	13.4	2.2	3.7	0.9	3.7
WH	10	LIVE	CUT	1	10.7			449	0.0	6.0	3.7	1.1	5.9
WH	12	LIVE	CUT	1	12.9	65	81	448	0.0	4.1	3.7	1.0	5.9
WH	16	LIVE	CUT	1	16.0			448	0.0	2.7	3.7	0.9	5.9
WH	14	LIVE	LEA	1	13.1	62	77	541	12.3	4.0	3.7	1.0	7.1
WH	16	LIVE	LEA	1	16.7			654	0.0	2.5	3.7	0.9	8.6
WH	20	LIVE	LEA	1	19.5	68	84	599	0.0	1.8	3.7	0.8	7.8
WH	22	LIVE	LEA	1	22.0	15	45	0		1.4	3.7	0.8	0.0

Cruise Unit Report Unit 18

Unit Sale Notice Volume (MBF): Unit 18

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	13.6			83	10	52	21	1
WH	13.2			18	8	5	6	
SF	15.6			4		3	1	
ALL	13.6			105	17	60	27	1

Unit Cruise Design: Unit 18

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	6.4		8	6	0

Unit Cruise Summary: Unit 18

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	22	39	4.9	0
WH	4	6	0.8	0
SF	1	5	0.6	0
ALL	27	50	6.3	0

Unit Cruise Statistics: Unit 18

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	195.0	45.8	16.2	107.7	17.2	3.7	20,997	48.9	16.6
WH	30.0	138.0	48.8	111.8	18.5	9.3	3,354	139.2	49.7
SF	25.0	225.3	79.6	125.1	0.0	0.0	3,127	225.3	79.6
ALL	250.0	20.5	7.3	109.9	16.7	3.2	27,477	26.5	7.9

Unit Summary: Unit 18

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	22	ALL	13.5	62	78	13,441	12,921	3.9	120.7	120.0	32.7	82.7
DF	LIVE	LEA	8	ALL	19.2	77	97	8,400	8,076	3.9	37.3	75.0	17.1	51.7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	CUT	1	ALL	15.6	72	91	652	625	4.0	3.8	5.0	1.3	4.0
SF	LIVE	LEA	4	ALL	11.9	48	59	2,607	2,502	4.0	25.9	20.0	5.8	16.0
WH	LIVE	CUT	4	ALL	13.6	56	68	2,811	2,795	0.6	24.8	25.0	6.8	17.9
WH	LIVE	LEA	1	ALL	21.7	69	86	562	559	0.6	1.9	5.0	1.1	3.6
ALL	LIVE	LEA	13	ALL	16.8	65	81	11,570	11,136	3.7	65.1	100.0	24.0	71.3
ALL	LIVE	CUT	27	ALL	13.6	61	77	16,904	16,341	3.3	149.3	150.0	40.7	104.6
ALL	ALL	ALL	40	ALL	14.6	62	78	28,474	27,477	3.5	214.4	250.0	64.7	175.9

Unit Stand Table: Unit 18

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	8	LIVE	CUT	2	8.4	39	51	747	9.3	25.7	10.0	3.4	4.8
DF	10	LIVE	CUT	2	10.5	58	75	937	5.1	16.5	10.0	3.1	6.0
DF	12	LIVE	CUT	2	12.4	68	86	1,093	1.9	11.9	10.0	2.8	7.0
DF	14	LIVE	CUT	8	14.1	72	90	4,656	2.7	36.9	40.0	10.7	29.8
DF	16	LIVE	CUT	3	16.2	72	90	1,613	9.5	10.5	15.0	3.7	10.3
DF	18	LIVE	CUT	4	17.5	70	88	2,235	1.6	12.0	20.0	4.8	14.3
DF	20	LIVE	CUT	2	20.0	73	92	1,062	3.1	4.6	10.0	2.2	6.8
DF	22	LIVE	CUT	1	21.1	73	92	579	0.0	2.1	5.0	1.1	3.7
DF	16	LIVE	LEA	1	15.2			511	3.9	4.0	5.0	1.3	3.3
DF	18	LIVE	LEA	4	17.7	75	94	2,116	2.8	11.7	20.0	4.8	13.5
DF	20	LIVE	LEA	6	19.9	78	98	3,412	2.7	13.9	30.0	6.7	21.8
DF	22	LIVE	LEA	3	21.4	76	96	1,486	9.2	6.0	15.0	3.2	9.5
DF	24	LIVE	LEA	1	23.3	78	98	550	2.3	1.7	5.0	1.0	3.5
SF	16	LIVE	CUT	1	15.6	72	91	625	4.0	3.8	5.0	1.3	4.0
SF	10	LIVE	LEA	2	10.6	43	52	998	2.6	16.3	10.0	3.1	6.4
SF	14	LIVE	LEA	2	13.7	56	69	1,504	0.0	9.7	10.0	2.7	9.6
WH	8	LIVE	CUT	1	8.3	48	58	466	2.8	13.3	5.0	1.7	3.0
WH	16	LIVE	CUT	2	15.6	74	92	1,264	0.3	7.5	10.0	2.5	8.1
WH	20	LIVE	CUT	1	19.9	62	76	512	0.0	2.3	5.0	1.1	3.3
WH	24	LIVE	CUT	1	23.3	68	84	554	0.0	1.7	5.0	1.0	3.5
WH	22	LIVE	LEA	1	21.7	69	86	559	14.4	1.9	5.0	1.1	3.6

Cruise Unit Report Unit 19

Unit Sale Notice Volume (MBF): Unit 19

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	3 Saw	4 Saw	Utility
DF	13.2			102	83	18	2
SF	9.8			87	25	62	
NF	12.2			14	9	4	1
WH	11.1			8	3	4	
ALL	11.3			211	120	88	2

Unit Cruise Design: Unit 19

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (33.61) Measure/Count Plots, Sighting Ht = 4.5 ft	24.9		17	10	0

Unit Cruise Summary: Unit 19

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	12	61	3.6	0
SF	12	36	2.1	0
NF	3	12	0.7	0
WH	2	15	0.9	0
ALL	29	124	7.3	0

Unit Cruise Statistics: Unit 19

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	120.6	60.0	14.5	86.3	24.2	7.0	10,406	64.7	16.1
SF	71.2	72.5	17.6	73.8	27.5	7.9	5,251	77.6	19.3
NF	23.7	171.8	41.7	97.5	31.6	18.2	2,314	174.7	45.5
WH	29.7	68.0	16.5	77.3	21.7	15.4	2,294	71.4	22.5
ALL	245.2	24.1	5.9	82.7	26.4	4.9	20,265	35.7	7.6

Unit Summary: Unit 19

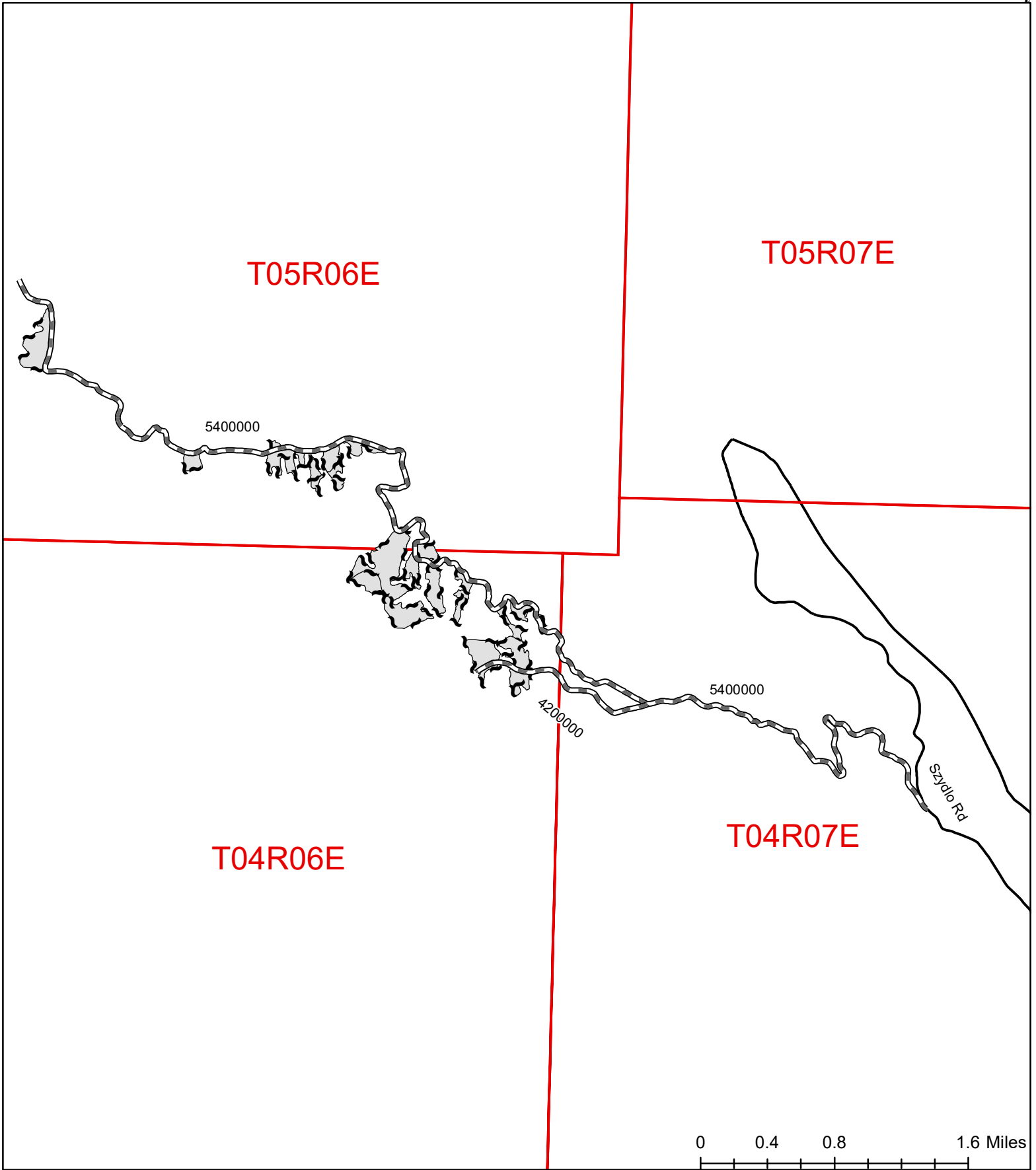
Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	12	ALL	13.2	55	68	4,317	4,094	5.2	49.9	47.4	13.1	101.9
DF	LIVE	LEA	25	ALL	16.8	63	79	6,656	6,312	5.2	47.5	73.2	17.8	157.2
NF	LIVE	CUT	3	ALL	12.2	57	71	593	578	2.4	7.3	5.9	1.7	14.4
NF	LIVE	LEA	5	ALL	16.9	66	83	1,778	1,735	2.4	11.4	17.8	4.3	43.2
SF	LIVE	CUT	12	ALL	10.3	41	49	3,574	3,501	2.0	82.0	47.4	14.8	87.2
SF	LIVE	LEA	6	ALL	13.7	52	63	1,787	1,750	2.0	23.2	23.7	6.4	43.6
WH	LIVE	CUT	2	ALL	11.1	52	62	306	306	0.0	5.9	4.0	1.2	7.6
WH	LIVE	LEA	8	ALL	16.0	60	73	1,988	1,988	0.0	18.4	25.7	6.4	49.5
ALL	LIVE	CUT	29	ALL	11.5	47	57	8,790	8,479	3.5	145.1	104.8	30.7	211.1
ALL	LIVE	LEA	44	ALL	16.0	60	75	12,209	11,785	3.5	100.5	140.4	35.0	293.5
ALL	ALL	ALL	73	ALL	13.5	52	65	20,999	20,265	3.5	245.6	245.2	65.7	504.6

Unit Stand Table: Unit 19

Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	8	LIVE	CUT	1	8.4			171	5.2	5.1	2.0	0.7	4.2
DF	10	LIVE	CUT	1	9.9	24	31	92	0.0	3.7	2.0	0.6	2.3
DF	12	LIVE	CUT	7	12.4	58	72	1,241	4.7	16.6	13.8	3.9	30.9
DF	14	LIVE	CUT	7	14.2	64	80	1,260	5.4	12.6	13.8	3.7	31.4
DF	16	LIVE	CUT	7	15.5	59	73	1,166	4.1	10.6	13.8	3.5	29.0
DF	18	LIVE	CUT	1	17.9	60	75	164	15.7	1.1	2.0	0.5	4.1
DF	12	LIVE	LEA	1	12.4	49	60	139	4.5	2.4	2.0	0.6	3.5
DF	14	LIVE	LEA	6	14.4	61	76	955	5.9	10.5	11.9	3.1	23.8
DF	16	LIVE	LEA	9	16.0	64	79	1,538	4.4	12.8	17.8	4.4	38.3
DF	18	LIVE	LEA	13	17.7	64	80	2,195	4.6	15.0	25.7	6.1	54.7
DF	20	LIVE	LEA	6	19.7	71	89	1,057	9.5	5.6	11.9	2.7	26.3
DF	22	LIVE	LEA	1	22.4	78	99	229	3.4	0.7	2.0	0.4	5.7
DF	24	LIVE	LEA	1	23.0	72	91	200	6.6	0.7	2.0	0.4	5.0
NF	12	LIVE	CUT	2	11.4	53	66	329	2.7	5.6	4.0	1.2	8.2
NF	14	LIVE	CUT	1	14.3	70	88	250	2.1	1.8	2.0	0.5	6.2
NF	14	LIVE	LEA	2	14.1	67	84	381	1.1	3.6	4.0	1.1	9.5
NF	16	LIVE	LEA	2	15.5	60	75	369	4.8	3.0	4.0	1.0	9.2
NF	18	LIVE	LEA	2	17.1	66	84	403	1.4	2.5	4.0	1.0	10.0
NF	20	LIVE	LEA	1	19.4			172	2.4	1.0	2.0	0.4	4.3
NF	22	LIVE	LEA	1	22.2			172	2.4	0.7	2.0	0.4	4.3
NF	24	LIVE	LEA	1	23.8	77	98	239	0.0	0.6	2.0	0.4	5.9

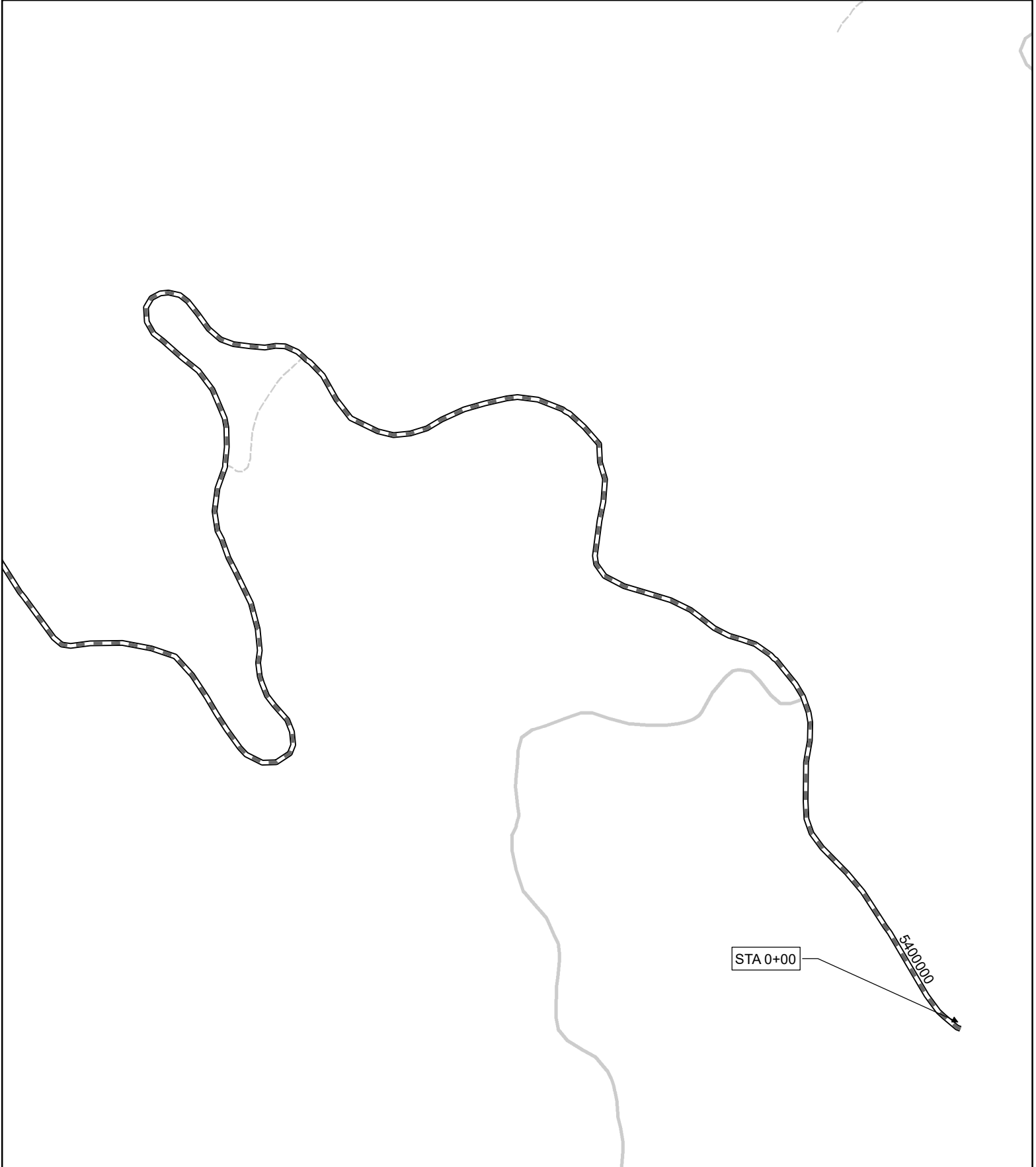
Sp	D	Status	Rx	N	DBH	BL	THT	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	8	LIVE	CUT	6	7.8	33	40	874	1.3	35.7	11.9	4.2	21.8
SF	10	LIVE	CUT	5	10.3	47	58	705	1.4	17.0	9.9	3.1	17.6
SF	12	LIVE	CUT	7	11.8	46	57	951	3.7	18.2	13.8	4.0	23.7
SF	14	LIVE	CUT	5	14.1	67	84	825	1.5	9.1	9.9	2.6	20.5
SF	16	LIVE	CUT	1	15.1			146	2.0	1.6	2.0	0.5	3.6
SF	8	LIVE	LEA	1	8.7			152	2.0	4.8	2.0	0.7	3.8
SF	12	LIVE	LEA	1	12.0	53	65	166	8.7	2.5	2.0	0.6	4.1
SF	14	LIVE	LEA	7	14.2	51	63	977	3.0	12.6	13.8	3.7	24.3
SF	18	LIVE	LEA	2	17.4	51	63	303	1.0	2.4	4.0	0.9	7.6
SF	20	LIVE	LEA	1	19.0			152	2.0	1.0	2.0	0.5	3.8
WH	10	LIVE	CUT	1	9.4	53	64	176	0.0	4.1	2.0	0.6	4.4
WH	14	LIVE	CUT	1	14.2	49	59	129	0.0	1.8	2.0	0.5	3.2
WH	12	LIVE	LEA	1	12.4	61	75	180	0.0	2.4	2.0	0.6	4.5
WH	14	LIVE	LEA	3	14.3	61	74	478	0.0	5.3	5.9	1.6	11.9
WH	16	LIVE	LEA	3	15.5	60	73	452	0.0	4.5	5.9	1.5	11.3
WH	18	LIVE	LEA	4	18.3	53	64	541	0.0	4.3	7.9	1.8	13.5
WH	20	LIVE	LEA	1	19.2	59	72	171	0.0	1.0	2.0	0.5	4.3
WH	22	LIVE	LEA	1	21.3	65	80	167	11.1	0.8	2.0	0.4	4.2

Pop Timber Sale Page 1 of 10







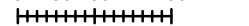
Legend

-  PreHaul
-  Pop_Field_Pt_Boundaries
-  Survey - Township Lines
-  CountyRoad

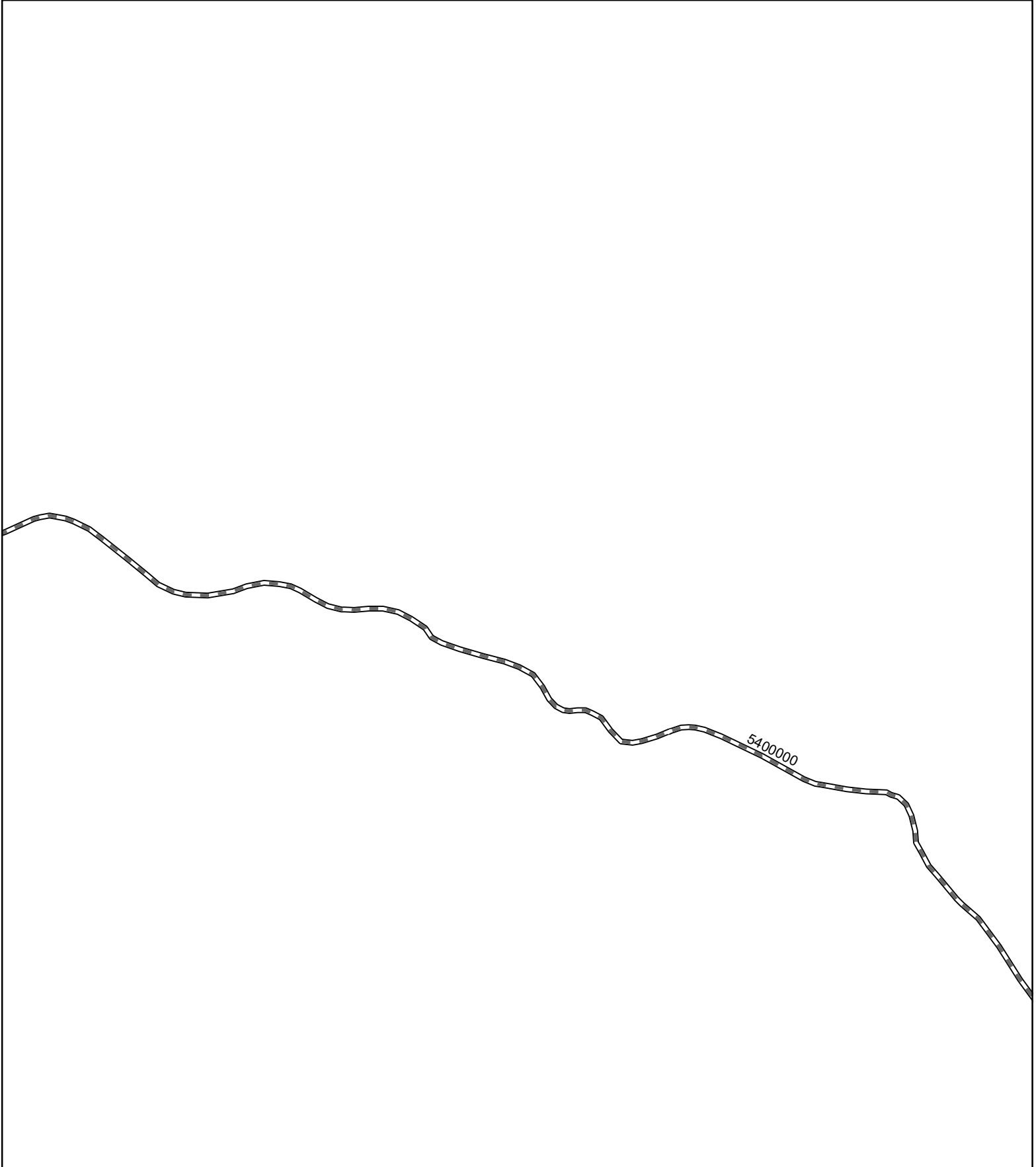


Legend

-  Prehaul Maintenance
-  1 - BASIC CUSTODIAL CARE (CLOSED)
-  2 - HIGH CLEARANCE VEHICLES
-  3 - SUITABLE FOR PASSENGER CARS

0 100 200 400 Feet


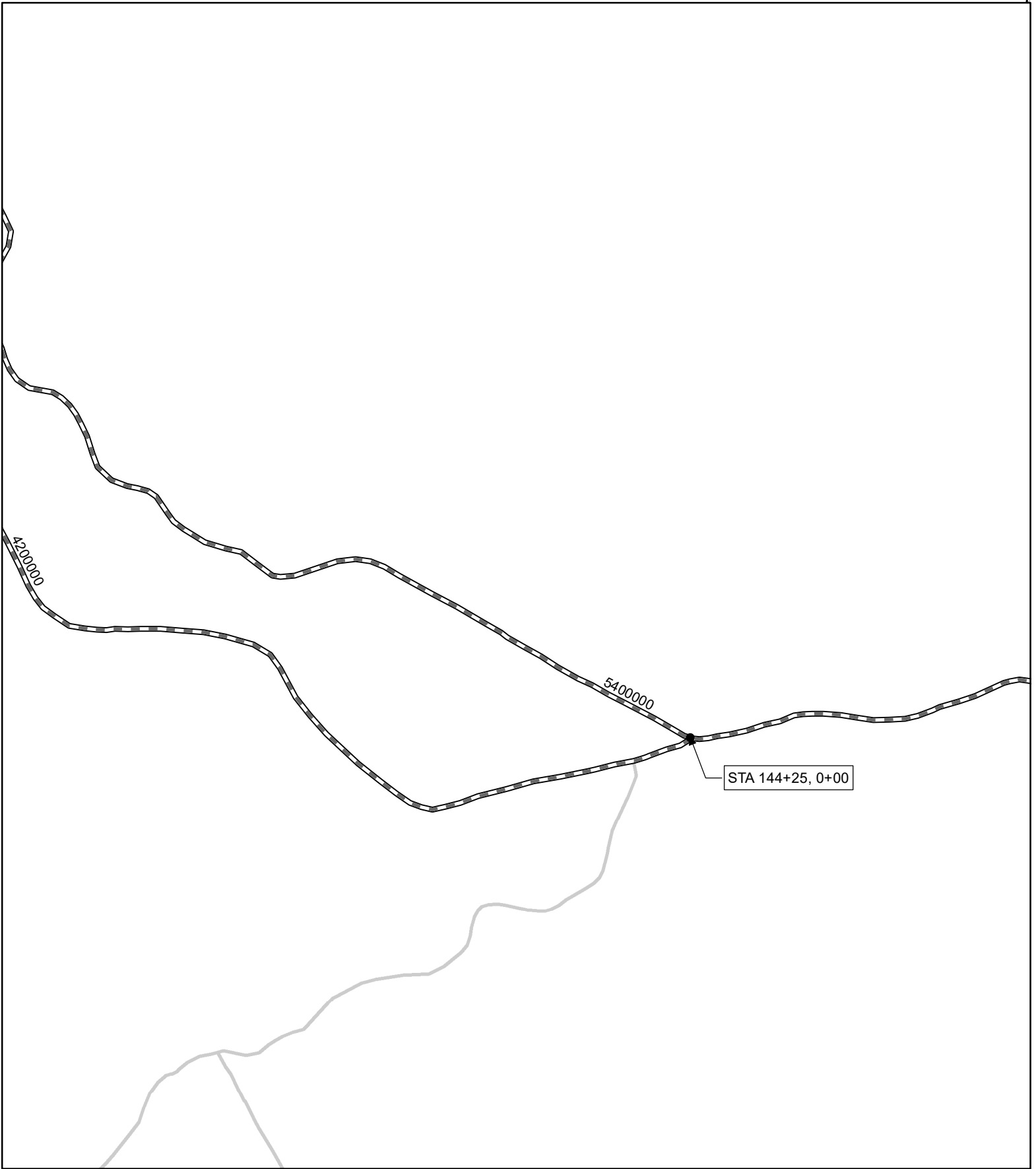
N



Legend

- ▬ Prehaul Maintenance
- 3 - SUITABLE FOR PASSENGER CARS

0 100 200 400 Feet
|-----|-----|-----|-----|



Legend

● Station

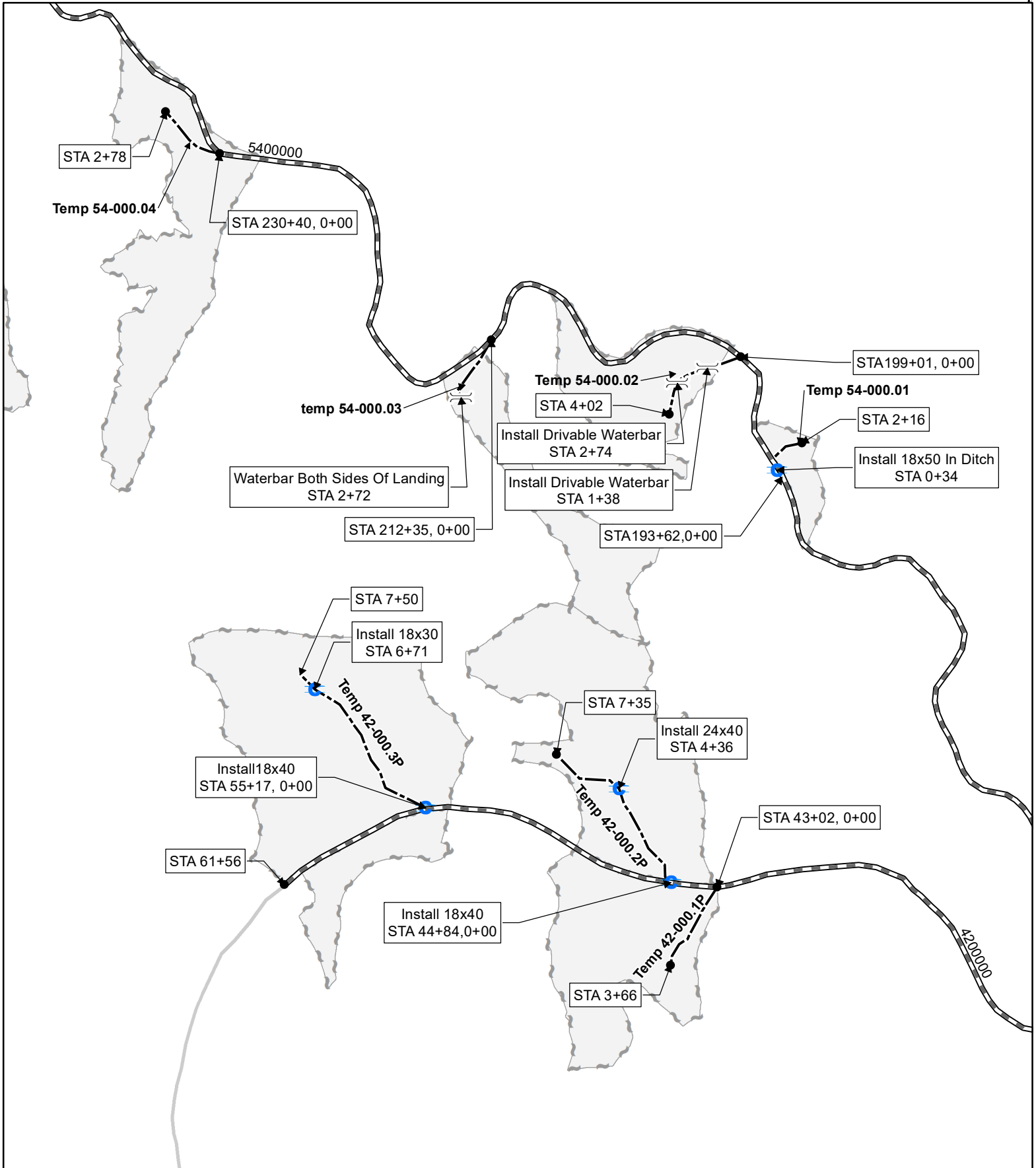
--- Prehaul Maintenance

— 2 - HIGH CLEARANCE VEHICLES

— 3 - SUITABLE FOR PASSENGER CARS

0 100 200 400 Feet
|||||

Pop Timber Sale Page 5 of 10

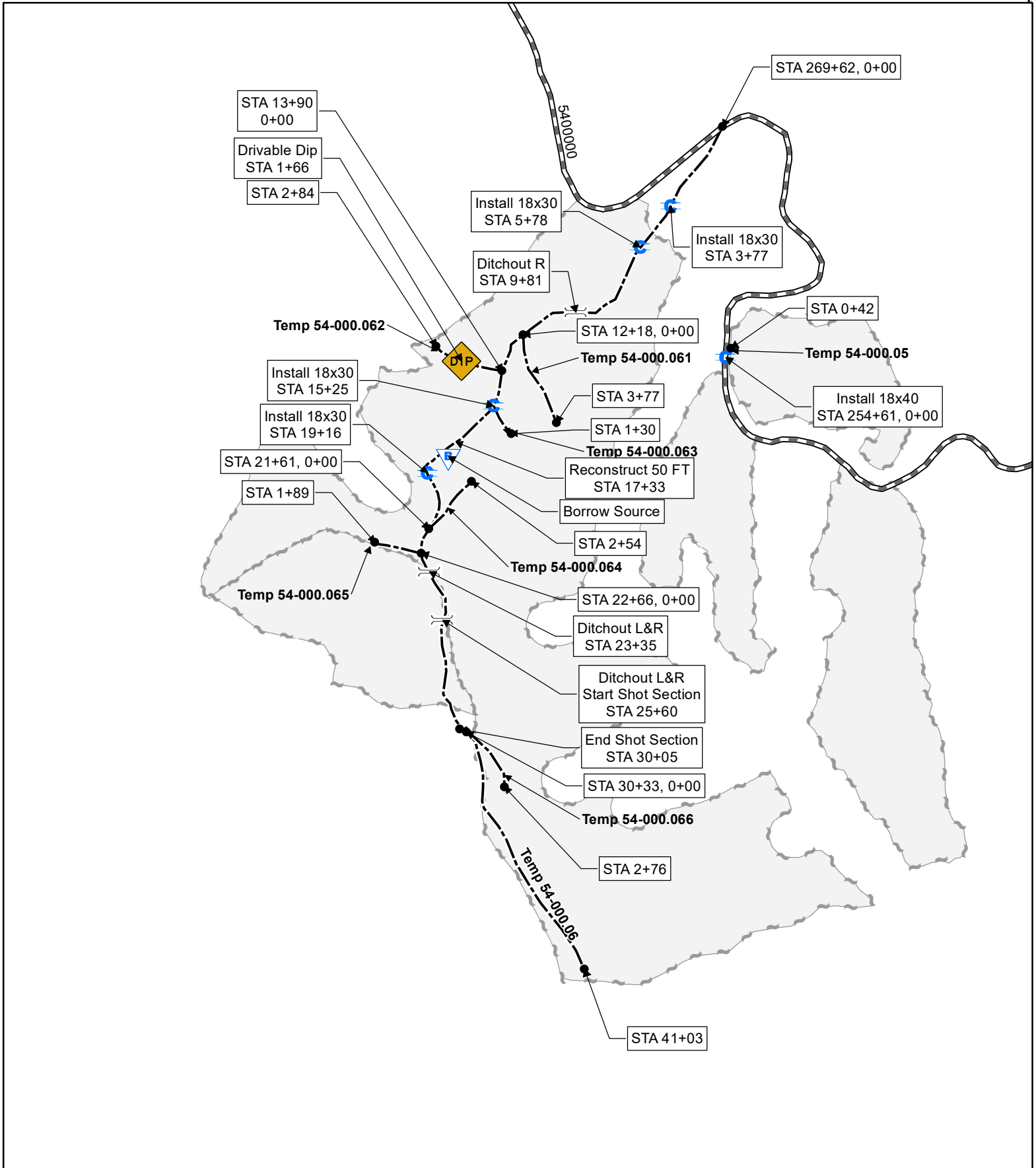


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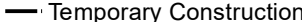


- Install Culvert
- Station
- Temporary Construction
- Waterbar
- Prehaul Maintenance
- Sale Boundary
- 2 - HIGH CLEARANCE VEHICLES
- 3 - SUITABLE FOR PASSENGER CARS

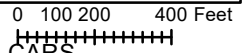
0 100 200 400 Feet

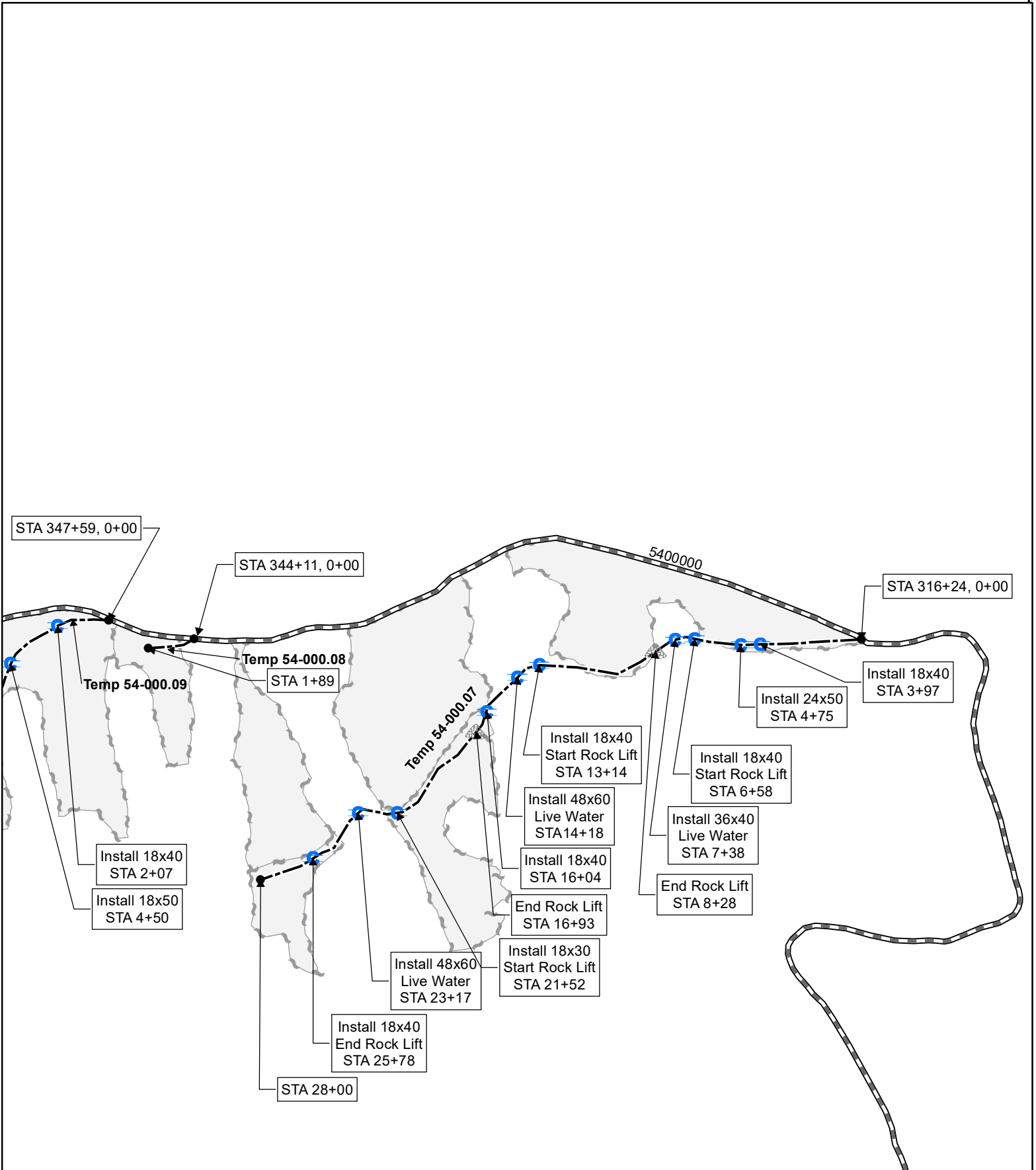
Pop Timber Sale Page 6 of 10



Legend

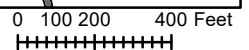
-  Borrow
-  Dip
-  Ditchout
-  Install Culvert
-  Station
-  Prehaul Maintenance
-  Temporary Construction
-  Sale Boundary
-  3 - SUITABLE FOR PASSENGER CARS

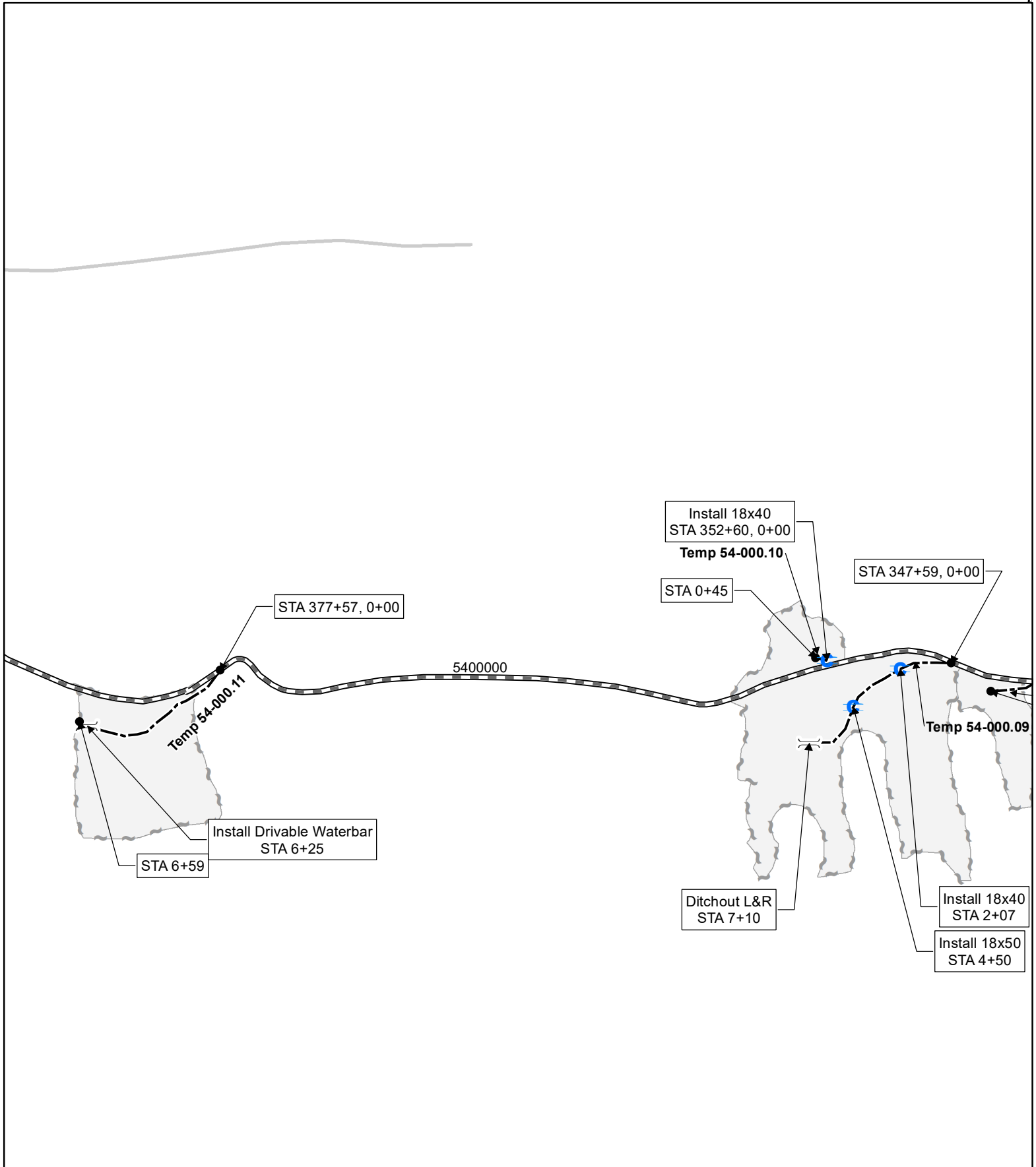




Legend

- Install Culvert
- Prehaul Maintenance
- 3 - SUITABLE FOR PASSENGER CARS
- Spot Rock
- Temporary Construction
- Station
- Sale Boundary

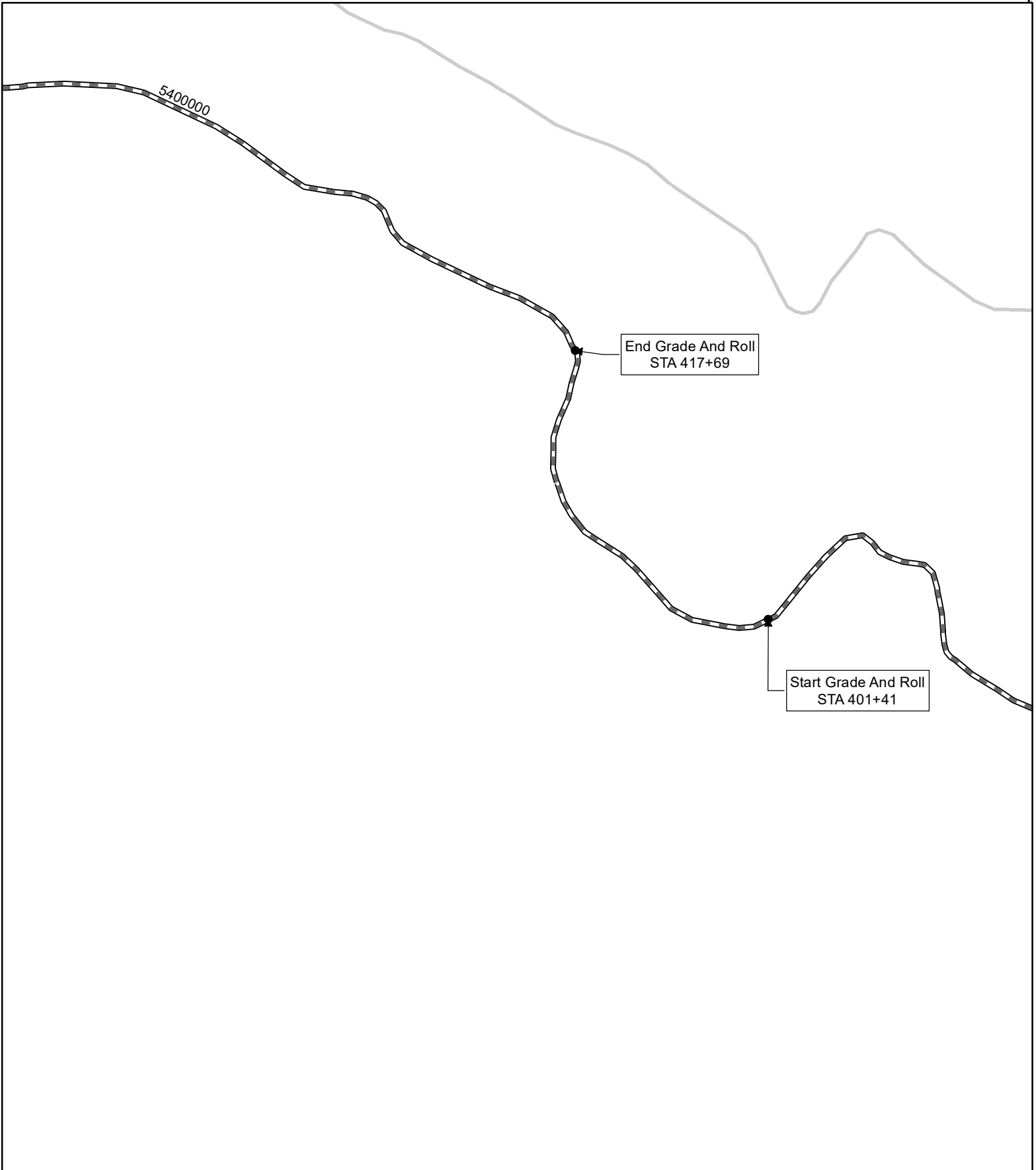




Legend

- Ditchout
- Waterbar
- Sale Boundary
- Install Culvert
- Prehaul Maintenance
- 2 - HIGH CLEARANCE VEHICLES
- Station
- Temporary Construction
- 3 - SUITABLE FOR PASSENGER CARS

0 100 200 400 Feet

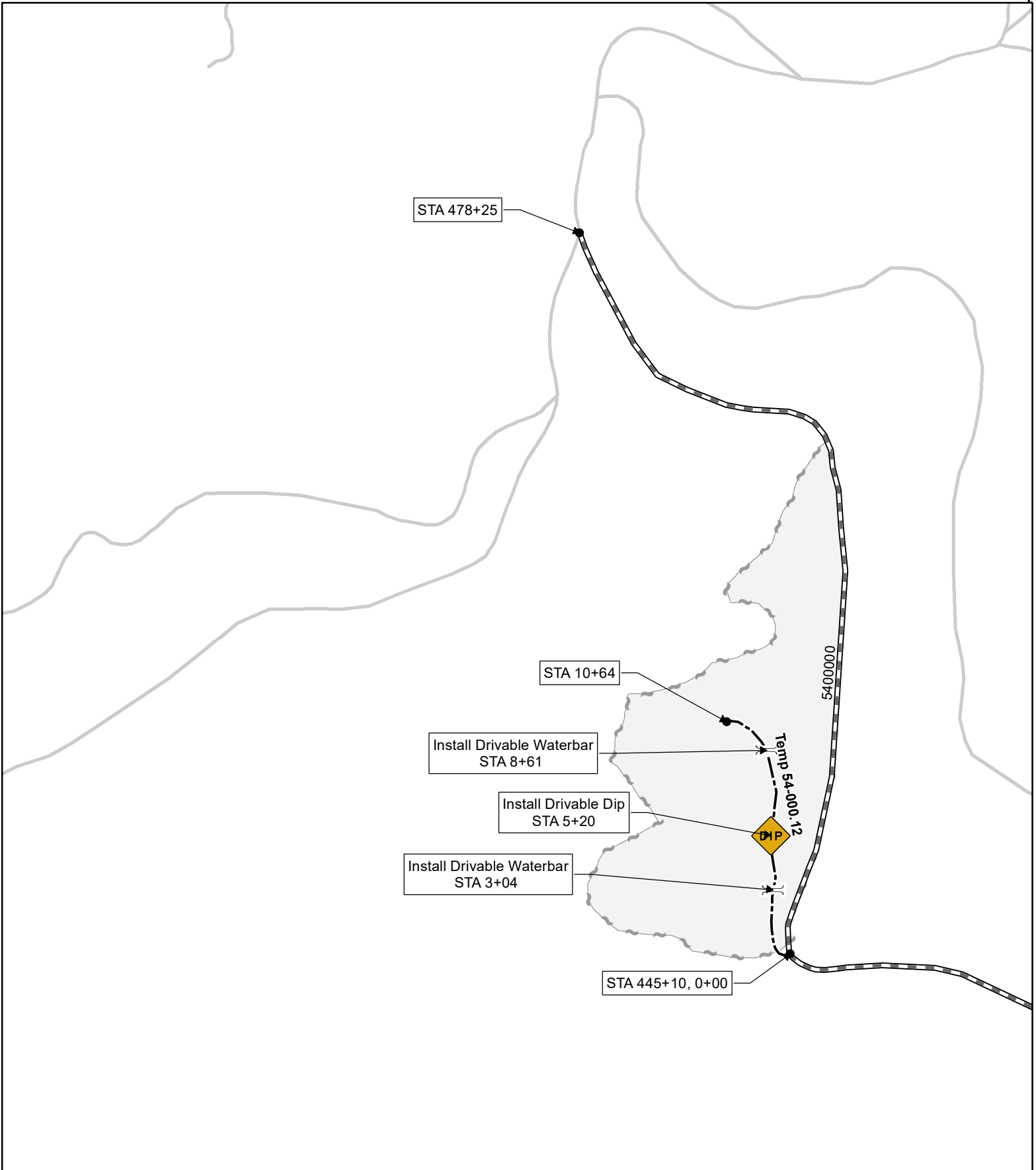


Legend

- Station
- ▬ Prehaul Maintenance
- 2 - HIGH CLEARANCE VEHICLES

— 3 - SUITABLE FOR PASSENGER CARS

0 100 200 400 Feet
|||||



● Station
 Dip Waterbar

— Temporary Construction
 Sale Boundary

Prehaul Maintenance 2 - HIGH CLEARANCE VEHICLES

3 - SUITABLE FOR PASSENGER CARS

0 100 200 400 Feet

GOOD NEIGHBOR AUTHORITY
GIFFORD PINCHOT NATIONAL FOREST
MT. ADAMS RANGER DISTRICT

POP TIMBER SALE ROAD PLAN
SKAMANIA COUNTY

AGREEMENT NO.: 36-104453

STAFF ENGINEER: CHAD VANDEHEY

DATE: JUNE 28, 2023

DRAWN & COMPILED BY: CHAD VANDEHEY

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

Clauses in this road plan apply to all road related work, including landings and rock source development, unless otherwise noted.

0-2 REQUIRED ROADS

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>	<u>Maintenance Class</u>
4200000	0+00 to 61+56	Pre-Haul Maintenance	2
5400000	0+00 to 478+25	Pre-Haul Maintenance	3

0-3 OPTIONAL ROADS

The specified work on the following roads is not required. Any optional roads built by the Purchaser must meet all the specifications in the road plan.

<u>Road</u>	<u>Stations</u>	<u>Type</u>	<u>Maintenance Class</u>
Temp 42-000.1P	0+00 to 3+66	Temporary Construction	Temporary Road
Temp 42-000.2P	0+00 to 7+35	Temporary Construction	Temporary Road
Temp 42-000.3P	0+00 to 7+50	Temporary Construction	Temporary Road
Temp 54-000.01	0+00 to 2+16	Temporary Construction	Temporary Road
Temp 54-000.02	0+00 to 4+02	Temporary Construction	Temporary Road
Temp 54-000.03	0+00 to 2+72	Temporary Construction	Temporary Road
Temp 54-000.04	0+00 to 2+78	Temporary Construction	Temporary Road
Temp 54-000.05	0+00 to 0+42	Temporary Construction	Temporary Road
Temp 54-000.06	0+00 to 41+03	Temporary Construction	Temporary Road
Temp 54-000.061	0+00 to 3+77	Temporary Construction	Temporary Road
Temp 54-000.062	0+00 to 2+84	Temporary Construction	Temporary Road
Temp 54-000.063	0+00 to 1+30	Temporary Construction	Temporary Road
Temp 54-000.064	0+00 to 2+54	Temporary Construction	Temporary Road
Temp 54-000.065	0+00 to 1+89	Temporary Construction	Temporary Road

Temp 54-000.066	0+00 to 2+76	Temporary Construction	Temporary Road
Temp 54-000.07	0+00 to 28+00	Temporary Construction	Temporary Road
Temp 54-000.08	0+00 to 1+89	Temporary Construction	Temporary Road
Temp 54-000.09	0+00 to 7+10	Temporary Construction	Temporary Road
Temp 54-000.10	0+00 to 0+45	Temporary Construction	Temporary Road
Temp 54-000.11	0+00 to 6+59	Temporary Construction	Temporary Road
Temp 54-000.12	0+00 to 10+64	Temporary Construction	Temporary Road

0-4 TEMPORARY CONSTRUCTION

This project includes, but is not limited to the following construction requirements:

- Clearing, Grubbing, and Right-of-way debris disposal;
- Construct road in accordance to the TYPICAL SECTION SHEET;
- Excavation and/or embankment to subgrade;
- Compaction of embankment, subgrade, and rock as listed in the COMPACTION LIST.
- Road widening by excavating or shooting;
- Turnaround and turnout construction;
- Acquisition and installation of drainage structures as listed in the CULVERT AND DRAINAGE LIST;
- Acquisition and application of rock as listed in the ROCK LIST;
- Creating positive drainage using a combination of insloping, outsloping, and ditchouts as needed or as designated by the Contract Administrator.
- If overwintered, Culverts sized below Q-100 must be removed and roads must be waterbarred between October 01 and June 30. Purchaser shall construct waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 feet between waterbars or between natural drainage paths, and with a maximum spacing of 300 feet.
- Decommissioning as listed in CLAUSE 9-20 ROAD DECOMMISSIONING in accordance with CLAUSE 9-22 LEVEL 1 DECOMMISSIONING and CLAUSE 9-23 LEVEL 2 DECOMMISSIONING.

TOTAL 141.41 STA'S

0-6 PRE-HAUL MAINTENANCE

This project includes, but is not limited to the following pre-haul maintenance requirements:

- Purchaser shall perform maintenance in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS;
- Cleaning culverts and catchbasins;
- Reconstruct headwalls and construct outlet drainage trenches listed in the CULVERT AND DRAINAGE LIST;

- Grading, shaping, and compacting according to the COMPACTION LIST;
- Acquisition and application of rock as listed in the ROCK LIST;
- Placement of energy dissipaters as indicated in the CULVERT AND DRAINAGE LIST;
- Roadside brushing and debris removal according to the BRUSHING DETAIL;
- Acquisition and installation of drainage structures as listed in the CULVERT AND DRAINAGE LIST;
- Construction of Culvert Outlet Trenches as indicated in the CULVERT AND DRAINAGE LIST;
- Cleaning and reshaping ditches and reconstructing headwalls indicated in the CULVERT AND DRAINAGE LIST according to the DITCH CLEANING DETAIL;

TOTAL REQUIRED 539.81 STA'S

0-7 POST-HAUL MAINTENANCE

This project includes post-haul road maintenance listed in Clause 9-5 POST-HAUL MAINTENANCE9-5 .

0-9 DECOMMISSIONING

This project includes decommissioning listed in Clause 9-20ROAD DECOMMISSIONING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

If the Purchaser desires a change from this road plan including, but not limited to, relocation, extension, change in design, or adding roads; a revised road plan must be submitted in writing to the Contract Administrator for consideration. Before work begins, Purchaser shall obtain approval from the State for any submitted plan that changes the scope of work or environmental condition from the original road plan.

1-2 UNFORESEEN CONDITIONS

Quantities established in this road plan are minimum acceptable values. Additional quantities required by the state due to unforeseen conditions, or Purchaser's choice of construction season or techniques will be at the Purchaser's expense. Unforeseen conditions include, but are not limited to, solid subsurface rock, subsurface springs, saturated ground, and unstable soils.

1-3 ROAD DIMENSIONS

Purchaser shall perform road work in accordance with the dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan, unless controlled by construction stakes or design data (plan, profile, and cross-sections).

1-4 ROAD TOLERANCES

Purchaser shall perform road work within the tolerances listed below. The tolerance class for each road is listed on the TYPICAL SECTION SHEET.

<u>Tolerance Class</u>	<u>A</u>	<u>B</u>	<u>C</u>
Road and Subgrade Width (feet)	+1.5	+1.5	+2.0
Subgrade Elevation (feet +/-)	0.5	1.0	2.0
Centerline alignment (feet lt./rt.)	1.0	1.5	3.0

1-6 ORDER OF PRECEDENCE

Any conflict or inconsistency in the road plan will be resolved by giving the documents precedence in the following order:

1. Addenda.
2. Designs or Plans. On designs and plans, figured dimensions shall take precedence over scaled dimensions.
3. Road Plan Clauses.
4. Typical Section Sheet.
5. Standard Lists.
6. Standard Details.
7. Road Work maps.

In case of any ambiguity or dispute over interpreting the road plan, the Contract Administrator's or designee's decision will be final.

1-7 TEMPORARY ROAD CLOSURE

Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before the closure of any road. No roads shall be closed without written approval from the contract administrator.

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer's recommendation.

1-9 DAMAGED METALLIC COATING

Any cut ends, or damaged galvanized or aluminized coating on existing or new bridge components, culverts, downspouts, and flumes must be cleaned and treated with a minimum of two coats of zinc rich paint or cold galvanizing compound.

1-10 WSDOT STANDARD SPECIFICATION REFERENCE

References in this road plan to "WSDOT Standard Specifications" mean the Washington State Department of Transportation's Standard Specifications for Road, Bridge, and Municipal Construction 2012 (M41-10).

SUBSECTION ROAD MARKING

1-15 ROAD MARKING

Purchaser shall perform road work in accordance with the state’s marked location. All road work is marked as follows:

- Orange flagging for centerline of new roads and reference points on existing.
- Orange and blue flagging and/or paint for culverts and drainage dips.

1-18 REFERENCE POINT DAMAGE

Purchaser shall reset reference points (RPs) that were moved or damaged at any time during construction to their original locations. Excavation and embankment may not proceed on road segments controlled by said RPs until Purchaser resets all moved or damaged RPs.

SUBSECTION TIMING

1-21 HAUL APPROVAL

Purchaser shall not use roads under this road plan for timber hauling, without written approval from the Contract Administrator.

1-23 ROAD WORK PHASE APPROVAL

Purchaser shall obtain written approval from the Contract Administrator upon completion of each of the following phases of road work:

- Subgrade construction and compaction
- Ditch construction and drainage installation
- Rock application and compaction

SUBSECTION RESTRICTIONS

1-25 ACTIVITY TIMING RESTRICTION

The specified activities are not allowed during the listed closure periods unless authorized in writing by the Contract Administrator.

<u>Activity</u>	<u>Closure Period</u>
Clearing, Grubbing, Grading, Shaping, Rock placement, Culvert Installation, Construction, Reconstruction	October 1 st to May 31 st
Brushing	June 15 th to October 1 st
Temp 54-000.07 STA 23+17 In Stream Work	August 16 th to July 31

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION, Purchaser shall provide a maintenance plan to include further protection of federal resources. Purchaser shall obtain written approval from the

Contract Administrator for the maintenance plan, and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan must be developed. All parties shall follow this plan.

1-27 TIMING RESTRICTION FOR WOLVES

If a wolf den or rendezvous site is discovered, the following timing restrictions will apply. Within 0.25 miles of the active wolf den or rendezvous sites, any road work, right-of-way timber falling and yarding, rock pit operation, or heavy equipment operations shall not be allowed from March 1st through September 1st, and within 1 mile all activities shall be seasonally restricted from April 1st to July 15th.

1-28 TIMING RESTRICTION FOR NORTHERN SPOTTED OWL

On the following road(s), any road work, right-of-way timber falling and yarding, rock pit operation, or heavy equipment operation taking more than 5 hours to complete in a single location within 0.25 miles of suitable spotted owl habitat is not allowed from March 1 through July 15. The distance between work sites that constitutes a separate work site is 0.25 miles.

<u>Road</u>	<u>Stations</u>
4200000	See Timber Sale Maps for Specific Locations.
5400000	
Temp 54-000.02	
Temp 54-000.07	
Temp 54-000.09	
Temp 54-000.10	
Temp 54-000.11	
Temp 54-000.12	

1-29 SEDIMENT RESTRICTION

Purchaser shall not allow silt-bearing runoff to enter any streams.

1-30 CLOSURE TO PREVENT DAMAGE

In accordance with Contract Clause G-220 STATE SUSPENDS OPERATION, the Contract Administrator will suspend road work or hauling right-of-way timber, forest products, or rock under the following conditions:

- Wheel track rutting exceeds 2 inches MAINTENANCE CLASS 2 roads.
- Wheel track rutting exceeds 6 inches on MAINTENANCE CLASS 1 roads and Temporary roads.
- Surface or base stability problems persist.

- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator, excessive road damage or rutting may occur.

Operations must stop unless authority to continue working or hauling is granted in writing by the Contract Administrator. In the event that surface or base stability problems persist, Purchaser shall cease operations, or perform corrective maintenance or repairs, subject to specifications within this road plan.

1-31 SPEED LIMITS

Speeds are limited to 35 mph.

1-32 BRIDGE OR ASPHALT SURFACE RESTRICTION

The use of metal tracked equipment is not allowed on bridge or asphalt surfaces at any time. If Purchaser must run equipment on bridge or asphalt surfaces, then rubber tired equipment or other methods, approved in writing by Contract Administrator, must be used.

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all road construction and hauling operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surface(s) and have surface(s) evaluated by the Engineer or their designee for any damage caused by transporting equipment. Any damage to the surface(s) will be repaired, at the Purchaser's expense, as directed by the Contract Administrator.

1-33 SNOW PLOWING RESTRICTION

Snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contact Administrator upon request. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

SUBSECTION OTHER INFRASTRUCTURE

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

Purchaser shall immediately remove any mud, dirt, rock, or other material tracked or spilled on to county roads and state highways.

If additional damage to the surface, signs, guardrails, etc. occurs then the damage will be repaired, at the Purchaser's expense, as directed by the Contract Administrator when authorized by the county or WSDOT.

1-41 REQUIREMENTS FOR PAVED ROAD APPROACHES

Requirements for the 5400000 road approaches:
 Purchaser shall build up approaches to allow a smooth grade transition between all temporary roads and the 5400000 road. The top of all temporary road's surfacing must be kept level with the surface of the 5400000 road at all times.

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

Purchaser shall maintain all roads used under this contract in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS for the entire term of this contract. Maintenance is required even during periods of inactivity.

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

Purchaser shall perform maintenance on roads listed in Contract Clause C-050 PURCHASER ROAD MAINTENANCE AND REPAIR in accordance with FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

2-4 PASSAGE OF LIGHT VEHICLES

Purchaser shall maintain road(s) in a condition that will allow the passage of light administrative vehicles.

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), Purchaser shall use a grader to shape the existing surface before execution of road construction. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
4200000	0+00 to 61+56	Grade and Roll
5400000	401+41 to 417+69	Grade and Roll

2-6 CLEANING CULVERTS

On the following road(s), Purchaser shall clean the inlets and outlets of all culverts before timber haul.

<u>Road</u>	<u>Stations</u>
4200000	0+00 to 61+56

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before execution of road construction.

<u>Road</u>	<u>Stations</u>
4200000	0+00 to 61+56

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

SUBSECTION BRUSHING

3-1 BRUSHING

On the following roads, Purchaser shall cut vegetative material up to 6 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by manual or mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditch lines, and culvert inlets and outlets. Purchaser shall notify the Contract Administrator when brushing is proposed from June 15 through October 1 as soon as possible.

<u>Road</u>	<u>Stations</u>
4200000	0+00 to 61+56
5400000	0+00 to 478+25

SUBSECTION CLEARING

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way boundaries and within waste and debris areas, or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-8 PROHIBITED DECKING AREAS

Purchaser shall not deck right-of-way timber in the following areas:

- Within the grubbing limits.
- Within 50 feet of any stream.
- Within 25 feet of any cross drain culvert, waterbar or drainage dip.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 40%.
- Against standing trees.

SUBSECTION GRUBBING

3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET and within waste and debris areas. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Grubbing must be completed before starting excavation and embankment.

SUBSECTION ORGANIC DEBRIS

3-20 ORGANIC DEBRIS DEFINITION

Organic debris is defined as all vegetative material not eligible for removal by Contract Clause G-010 PRODUCTS SOLD AND SALE AREA or G-011 RIGHT TO REMOVE FOREST PRODUCTS AND CONTRACT AREA, that is larger than one cubic foot in volume within the clearing limits as shown on the TYPICAL SECTION SHEET and BRUSHING DETAIL.

3-21 DISPOSAL COMPLETION

Purchaser shall remove organic debris from the road surface, ditch lines, and culvert inlets and outlets. Purchaser shall complete all disposal of organic debris, except by burning, before timber haul.

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 25 feet of a cross drain culvert, water bar or drainage dip.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 40%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

Purchaser shall not bury organic debris unless otherwise stated in this plan.

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the clearing limits in natural openings unless otherwise detailed in this road plan.

SECTION 4 – EXCAVATION

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. Pioneering may not extend more than 1000 feet beyond completed construction unless approved in writing by the Contract Administrator. In addition, the following actions must be taken as pioneering progresses:

- Drainage must be provided on all uncompleted construction.
- Road pioneering operations may not undercut the final cut slope or restrict drainage.
- Culverts at live stream crossings must be installed during pioneering operations prior to embankment.

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 20 percent favorable and 16 percent adverse.
- Minimum curve radius is 50 feet at centerline.
- Maximum grade change for sag vertical curves is 12% in 100 feet.
- Maximum grade change for crest vertical curves is 10% in 100 feet.

4-4 SWITCHBACK STANDARDS

A switchback is defined as a curved segment of road between a beginning and end of the same curve, where the change of traffic travel direction is greater than 90 degrees.

Purchaser shall follow these standards for switchbacks:

- Maximum adverse grades for switchbacks is 10%.
- Maximum favorable grades for switchbacks is 12%.
- Maximum transition grades entering and leaving switchbacks is a 5% grade change.

Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks

4-5 CUT SLOPE RATIO

Purchaser shall construct excavation slopes no steeper than shown on the following table or as identified below:

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth (on side slopes up to 55%)	1:1	100
Common Earth (56% to 70% side slopes)	¾:1	133
Fractured or loose rock	½:1	200
Hardpan or solid rock	¼:1	400

4-6 EMBANKMENT SLOPE RATIO

Purchaser shall construct embankment slopes no steeper than shown on the following table:

<u>Material Type</u>	<u>Embankment Slope Ratio</u>	<u>Embankment Slope Percent</u>
Sandy Soils	2:1	50
Common Earth and Rounded Gravel	1½:1	67
Angular Rock	1¼:1	80

4-7 SHAPING CUT AND FILL SLOPE

Purchaser shall construct excavation and embankment slopes to a uniform line and left rough for easier revegetation.

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

- 6 feet for curves of 50 to 79 feet radius.
- 4 feet for curves of 80 to 100 feet radius.

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

- 2 feet for embankment heights at centerline of 2 to 6 feet.
- 4 feet for embankment heights at centerline of greater than 6 feet.

Purchaser shall apply embankment widening equally to both sides of the road to achieve the required width.

4-10 WIDEN THE EXISTING SUBGRADE

On the following road(s), Purchaser shall widen the subgrade and fill slopes to the dimensions shown on the TYPICAL SECTION SHEET. If necessary, Purchaser shall reconstruct excavation slopes to provide sufficient width for the road surface and any ditches.

<u>Road</u>	<u>Stations</u>
Temp 54-000.06	25+60 to 30+05

SUBSECTION INTERSECTIONS, TURNOUTS AND TURNAROUNDS

4-21 TURNOUTS

Purchaser shall construct turnouts intervisible with a maximum distance of 1,000 feet between turnouts unless otherwise shown on Road Plan Maps. Locations may be adjusted to fit the final subgrade alignment and sight distances. Locations are subject to written approval by the Contract Administrator. Minimum dimensions are shown on the TYPICAL SECTION SHEET.

4-22 TURNAROUNDS

Turnarounds must be no larger than 30 feet long and 30 feet wide.

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

Purchaser shall construct or reconstruct ditches into the subgrade as specified on the TYPICAL SECTION SHEET. Ditches must be constructed concurrently with construction of the subgrade.

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified on the CULVERT AND DRAINAGE LIST and as needed. Ditchouts must be constructed in a manner that diverts ditch water onto the forest floor and must have excavation backslopes no steeper than a 1:1 ratio.

SUBSECTION WASTE MATERIAL (DIRT)

4-35 WASTE MATERIAL DEFINITION

Waste material is defined as all dirt, rock, mud, or related material that is extraneous or unsuitable for construction material. Waste material, as used in Section 4 EXCAVATION, is not organic debris.

4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 55% if the waste material is compacted and free of organic debris. On side slopes greater than 55%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in areas identified or approved by the Contract Administrator. Additional waste areas may also be identified or approved by the Contract Administrator. The amount of material allowed in a waste area is at the discretion of the Contract Administrator.

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

- Within 25 feet of a cross drain culvert or drainage dip.
- Within 100 feet of a live stream or wetland.
- Within a riparian management zone.
- On side slopes steeper than 55%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Within the operational area for cable landings.
- Against standing timber.

SUBSECTION SHAPING

4-55 ROAD SHAPING

Purchaser shall shape the subgrade and surface as shown on the TYPICAL SECTION SHEET. The subgrade and surface shape must ensure runoff in an even, un-concentrated manner, and must be uniform, firm, and rut-free.

SUBSECTION COMPACTION

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width except ditch.

4-63 EXISTING SURFACE COMPACTION

Purchaser shall compact maintained road surfaces in accordance with the COMPACTION LIST by routing equipment over the entire width.

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

Purchaser shall remove berms from road shoulders. The construction of ditchouts is required where ponding could result from the effects of sidecast debris.

SUBSECTION CULVERTS

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on MATERIALS LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts may be new or used material and must meet the specifications in Clauses 10-15 through 10-24.

5-6 CULVERT TYPE

Purchaser shall install permanent culverts made of steel in accordance with Clauses 10-15 through 10-24. Temporary culverts can be steel or plastic.

5-7 USED CULVERT MATERIAL

On temporary roads, Purchaser may install used culverts. All other roads must have new culverts installed. Purchaser shall obtain approval from the Contract Administrator for the quality of the used culverts before installation. Culverts must meet the specifications in Clauses 10-15 through 10-24.

5-8 TEMPORARY STREAM CULVERT INSTALLATION

Purchaser shall install temporary culverts as listed in the CULVERT AND DRAINAGE LIST. Temporary stream culverts must be located in the natural channel of the stream. Temporary culverts will be installed, used and removed in a single season unless they

meet Q-100 sizing requirements. Purchaser shall implement measures to intercept sediment at live stream crossings when culverts are removed.

5-12 UNUSED MATERIALS FOREST SERVICE PROPERTY

On required roads, any materials listed on the MATERIALS LIST that are not installed will become the property of the Forest Service. Purchaser shall stockpile materials as directed by the Contract Administrator.

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the National Corrugated Metal Pipe Association's "Installation Manual for Corrugated Steel Drainage Structures" and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings". Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer's recommendations. Culverts over 15 inches diameter shall be banded using lengths of no less than 10 feet, and no more than one length less than 16 feet.

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Purchaser shall obtain written approval from the Engineer or Designee for the installation of culverts 48 inches in diameter and over before backfilling.

5-17 CROSS DRAIN SKEW AND SLOPE

Cross drains, on road grades in excess of 3%, must be skewed at least 30 degrees from perpendicular to the road centerline, except where the cross drain is at the low point in the road culverts will not be skewed. Cross drain culverts must be installed at a slope steeper than the incoming ditch grade, but not less than 3% or more than 10%.

5-18 CULVERT DEPTH OF COVER

Cross drain culverts must be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts must be installed with a depth of cover recommended by the culvert manufacturer for the type and size of the pipe.

SUBSECTION ENERGY DISSIPATERS

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. Energy dissipater installation is subject to approval by the Contract Administrator.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

Purchaser shall construct catch basins in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions of catch basins are 2 feet wide and 4 feet long.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Rock may not restrict the flow of water into culvert inlets or catch basins. No placement by end dumping or dropping of rock is allowed.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At stream crossing culverts, Purchaser shall place riprap in conjunction with construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the MATERIALS LIST or as directed by the Contract Administrator. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed.

SUBSECTION SURFACE DRAINAGE

5-30 DRIVABLE WATERBAR CONSTRUCTION

Purchaser shall construct drivable waterbars in accordance with the DRIVABLE WATERBAR DETAIL and as specified on the CULVERT AND DRAINAGE LIST. Drivable waterbars must be installed concurrently with construction of the subgrade and must be maintained in an operable condition.

5-31 DRIVABLE DIP CONSTRUCTION

Purchaser shall construct rolling dips in accordance with the DRIVABLE DIP DETAIL and as specified on the CULVERT AND DRAINAGE LIST. Rolling dips must be installed concurrently with construction of the subgrade and must be maintained in an operable condition.

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be waterbarred by September 30. Purchaser shall construct waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 feet between waterbars or between natural drainage paths, and with a maximum spacing of 300 feet.

SECTION 6 – ROCK AND SURFACING

SUBSECTION ROCK SOURCE

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the ROCK LIST may be obtained from any commercial source at the Purchaser's expense. Rock sources are subject to written approval by the Contract Administrator before their use. Commercial rock sources must be certified USFS weed-free.

<u>Possible Source</u>	<u>Location</u>
North Bonneville Rock Quarry	Kidney Lake RD, North Bonneville, WA 98639.
James Dean Construction SR 141 Quarry	579 Hwy. 141, White Salmon, WA 98672

SUBSECTION ROCK GRADATIONS

6-28 1 ¼-INCH MINUS CRUSHED ROCK

% Passing 1 ¼" square sieve	100%
% Passing 5/8" square sieve	50 - 80%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	3 - 18%
% Passing U.S. #200 sieve	5%

The portion of aggregate retained on the No. 4 sieve may not contain more than 0.2 percent organic debris and trash. All percentages are by weight.

6-34 3-INCH JAW RUN ROCK

% Passing 3" square sieve	100%
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A minimum of 35% must have a fractured surface.

Rock may contain no more than 5 percent organic debris, dirt, and trash. All percentages are by weight.

6-50 LIGHT LOOSE RIP RAP

Light loose rip rap must consist of angular, hard, sound, and durable stone. It must be free from segregation, seams, cracks, and other defects tending to destroy its resistance to weather. Light loose rip rap must be free of rock fines, soil, organic debris or other extraneous material, and must meet the following requirements:

<u>Quantity</u>	<u>Approximate Size Range</u>
20% to 90%	500 lbs. to 1 ton (18"- 28")
15% to 80%	50 lbs. to 500 lbs. (8" - 18")
10% to 20%	3 inch to 50 lbs. (3"- 8")

SUBSECTION ROCK MEASUREMENT

6-56 ROCK MEASUREMENT BY TRUCK VOLUME

Measurement of SURFACING rock is on a cubic yard truck measure basis. Purchaser shall measure each truck box before rock hauling. An average of such volumes for each truck will be used to tally the volume hauled. The Contract Administrator may periodically require that a load be flattened off and its volume calculated. Purchaser shall maintain load tally sheets for each truck as shown in ROCK ACCOUNTABILITY DETAIL and shall give them to the Contract Administrator or mail them to NATURAL RESOURCE BUILDING on a weekly basis during rocking operations.

SUBSECTION ROCK APPLICATION

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for culvert installation, ditch construction, ditch reconstruction, headwall construction, and headwall reconstruction before rock application.

6-71 ROCK APPLICATION

Purchaser shall apply rock in accordance with the specifications and quantities shown on the ROCK LIST. Rock must be spread, shaped, and compacted full width concurrent with rock hauling operations. The Contract Administrator will direct locations for rock that is to be applied as spot patching. Road surfaces must be compacted in accordance with the ROCK LIST by routing equipment over the entire width.

6-73 ROCK FOR WIDENED PORTIONS

Purchaser shall apply rock to turnarounds, turnouts, and areas with curve widening to the same depth and specifications as the traveled way.

6-75 OPTIONAL ROCK EXCEPTION

On all optional roads, Purchaser may provide and place less rock than shown on the ROCK LIST, when approved in writing by the Contract Administrator.

If less rock is applied, Purchaser shall submit a written plan, for approval, describing how these roads will be constructed, used, maintained, and treated post-haul. Purchaser shall meet post-haul specifications in Section 9 POST-HAUL ROAD WORK, the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS, or other conditions of the approved plan.

SUBSECTION DUST ABATEMENT

6-80 WATERING FOR DUST ABATEMENT

Purchaser shall use water for dust abatement as directed by the Contract Administrator.

SUBSECTION ASPHALT

6-93 ASPHALT REPAIR

If hauled upon, asphalt could deteriorate. Any damage or wear, including but not limited to depressions, sags, cracks, and alligating, must be replaced with new material. All pavement repair areas must be saw-cut before removal. The cutting line must be a minimum of 6 inches beyond the damaged area. Damaged areas exceeding 25 square feet must have asphalt placed with an approved paving machine. The replacement asphalt must be Hot Mix Asphalt or equivalent and installed per Clause 5-04.3(5)E of the WSDOT Standard Specifications. Purchaser shall notify the Contract Administrator at least 5 working days before starting any asphalt road repairs. Purchaser shall obtain written approval from the Contract Administrator for all completed repairs.

6-94 HMA WEATHER LIMITATIONS (WSDOT 5-04.3(16))

HMA may not be placed on any wet surface, or when the average surface temperatures are less than 45°F, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

When in the opinion of the Contract Administrator the weather is such that satisfactory results cannot be obtained in any phase of operations, the Purchaser shall suspend operations until the weather is favorable.

6-96 TEMPORARY TRAFFIC CONTROL FOR BITUMINOUS SURFACE TREATMENT

Purchaser shall provide temporary traffic control. Purchaser shall provide all flaggers, pilot car, signs, and barricades necessary for the protection of traffic. Partial road closures are allowed for up to 45 minutes. Upon completion of the bituminous surface treatment, the Purchaser shall provide traffic-warning signs stating "Fresh Oil – 20 mph." Signs must be placed every mile along the project.

Before starting work Purchaser shall submit to the Contract Administrator, for approval, a traffic control plan describing temporary warning signs and other traffic control measures to be used by the Purchaser.

SECTION 7 – STRUCTURES

SUBSECTION SIGNS

7-1 SIGN INSTALLATION

Purchaser shall install, and maintain the following road signs. Signs must comply with the Federal Highway Administration’s Manual on Uniform Traffic Control Devices.

<u>Road</u>	<u>Station</u>	<u>Sign</u>
4200000	0+50	Forest Operations Ahead (Or Similar)
5400000	0+50, 477+75	

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

Purchaser shall install Sediment Traps as listed in the CULVERT AND DRAINAGE LIST in accordance with the SEDIMENT TRAP DETAIL and as directed by the Contract Administrator. Sediment control shall be accomplished using sediment traps or other methods as approved in writing by the Contract Administrator.

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 3-inch layer of weed free certified straw to all exposed soils within 50 feet of a stream or wetland during construction, and decommissioning. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

SUBSECTION REVEGETATION

8-15 REVEGETATION

Purchaser shall spread seed on all exposed soils resulting from road work activities using manual dispersal. Other methods of covering must be approved in writing by the Contract Administrator.

8-16 REVEGETATION SUPPLY

The Forest Service shall provide the seed.

8-17 REVEGETATION TIMING

Purchaser shall revegetate during the first available opportunity after road work is completed. Soils may not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover for seed if revegetation occurs between July 1 and March 31. The protective cover may consist of dispersed weed free certified straw, jute matting, or clear plastic sheets. The protective cover requirement may be waived in writing by the Contract Administrator if Purchaser is able to demonstrate a revegetation

plan that will result in the establishment of a uniform dense crop (at least 50% coverage) of 3-inch tall grass by October 31.

8-19 ASSURANCE FOR SEEDED AREA

Purchaser shall ensure the growth of a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. Purchaser shall reapply the grass seed and fertilizer in areas that have failed to germinate or have been damaged through any cause. Restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the seed and fertilizer at no addition cost to the state.

SUBSECTION SEED, FERTILIZER, AND MULCH

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture on all exposed soil within 100 feet of live water and the grubbing limits of all decommissioned roads at a rate of 21 pounds per acre of exposed soil.

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

9-1 EARTHEN BARRICADES

Purchaser shall construct barricades in accordance with the EARTHEN BARRICADE DETAIL.

<u>Road</u>	<u>Stations</u>
Temp 42-000.1P	0+25
Temp 42-000.2P	0+25
Temp 42-000.3P	0+25
Temp 54-000.01	0+25
Temp 54-000.02	0+25
Temp 54-000.03	0+25
Temp 54-000.04	0+25
Temp 54-000.05	0+25
Temp 54-000.06	0+25
Temp 54-000.07	0+25
Temp 54-000.08	0+25
Temp 54-000.09	0+25
Temp 54-000.10	0+25
Temp 54-000.11	0+25
Temp 54-000.12	0+25

9-3 CULVERT MATERIAL REMOVED FROM FEDERAL LAND

Culverts removed from roads become the property of the Purchaser and must be removed from Federal land.

POST-HAUL MAINTENANCE

9-5 POST-HAUL MAINTENANCE

Purchaser shall perform post-haul maintenance in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

<u>Road</u>	<u>Stations</u>
4200000	0+00 to 61+56
5400000	401+41 to 417+69

SUBSECTION POST-HAUL LANDING MAINTENANCE

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

SUBSECTION DECOMMISSIONING AND ABANDONMENT

9-20 ROAD DECOMMISSIONING

Purchaser shall decommission the following roads before the termination of this contract in accordance with the ROAD DECOMMISSIONING DETAIL.

<u>Road</u>	<u>Stations</u>	<u>Level</u>
Temp 42-000.1P	0+00 to 3+66	1
Temp 42-000.2P	0+00 to 7+35	2
Temp 42-000.3P	0+00 to 7+50	1
Temp 54-000.01	0+00 to 2+16	1
Temp 54-000.02	0+00 to 4+02	1
Temp 54-000.03	0+00 to 2+72	1
Temp 54-000.04	0+00 to 2+78	1
Temp 54-000.05	0+00 to 0+42	1
Temp 54-000.06	0+00 to 41+03	1
Temp 54-000.061	0+00 to 3+77	1
Temp 54-000.062	0+00 to 2+84	1
Temp 54-000.063	0+00 to 1+30	1
Temp 54-000.064	0+00 to 2+54	1

Temp 54-000.065	0+00 to 1+89	1
Temp 54-000.066	0+00 to 2+76	1
Temp 54-000.07	0+00 to 28+00	1
Temp 54-000.08	0+00 to 1+89	1
Temp 54-000.09	0+00 to 7+10	2
Temp 54-000.10	0+00 to 0+45	1
Temp 54-000.11	0+00 to 6+59	1
Temp 54-000.12	0+00 to 10+64	1
Total STA	141.41	

9-22 LEVEL 1 DECOMMISSIONING

- Rip the surface to a minimum depth of 18 inches with an excavator bucket.
- Remove embankments, sidecast fill, and place material into cut-banks and shape banks to conform to the natural ground.
- Construct non-drivable waterbars in accordance with the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with decommissioning and in accordance with Section 8 EROSION CONTROL.

Cover, concurrently with decommissioning, all exposed soils within 50 feet of any live stream, with a 4-inch deep layer of straw.

9-23 LEVEL 2 DECOMMISSIONING

- Fill in ditches.
- Rip the surface to a minimum depth of 18 inches with an excavator bucket.
- Outslope the surface at a minimum of 30 percent.
- Remove fill material and use to partially re-contour the road profile.
- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars in accordance with the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.

- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.
- Remove culverts.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with decommissioning and in accordance with Section 8 EROSION CONTROL.
 - Cover, concurrently with decommissioning, all exposed soils within 50 feet of any live stream, with a 4-inch deep layer of straw.

SECTION 10 MATERIALS

SUBSECTION CULVERTS

10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts must meet AASHTO M-36 (ASTM A-760) specifications. Culverts must be galvanized (zinc coated meeting AASHTO M-218) except culverts over 24 inches must be aluminized (aluminum type 2 coated meeting AASHTO M-274).

10-16 CORRUGATED ALUMINUM CULVERT

Aluminum culverts must meet AASHTO M-196 (ASTM A-745) specifications.

10-17 CORRUGATED PLASTIC CULVERT

Polyethylene culverts must meet AASHTO M-294 specifications, or ASTM F-2648 specifications for recycled polyethylene. Culverts must be Type S – double walled with a corrugated exterior and smooth interior.

10-20 FLUME AND DOWNSPOUT

Downspouts and flumes must meet the AASHTO specification designated for the culvert. Plastic downspouts and flumes must be Type C – corrugated single walled pipe.

10-21 METAL BAND

Metal coupling and end bands must meet the AASHTO specification designated for the culvert and must have matching corrugations. Culverts 24 inches and smaller must have bands with a minimum width of 12 inches. Culverts over 24 inches must have bands with a minimum width of 24 inches.

10-22 PLASTIC BAND

Plastic coupling and end bands must meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer may be used. Couplings must be bell and spigot connector or split coupling band. Split coupling bands must have a minimum of four corrugations, two on each side of the pipe joint.

10-23 RUBBER CULVERT GASKETS

Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

10-24 GAUGE AND CORRUGATION

Unless otherwise stated in the engineer’s design, metal culverts must conform to the following specifications for gage and corrugation as a function of diameter.

<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>
18"	16 (0.064")	2 2/3" X 1/2"
24" to 48"	14 (0.079")	2 2/3" X 1/2"
54" to 96"	14 (0.079")	3" X 1"

SECTION 11 SPECIAL NOTES

11-1 BRIDGE LOAD RESTRICTIONS

Vehicles exceeding legal load limits shall not pass over bridges without obtaining an overload permit from the Forest Service.

11-2 NOXIOUS WEED CONTROL

Purchaser shall thoroughly pressure wash all equipment prior to entry onto U.S. Forest Service land, or before moving equipment between infested sites, to remove all contaminated soils, plant parts, seeds, vegetative matter, or other debris that could contain or hold seeds. Equipment shall be considered free of soil, seed, and other such debris when a visual inspection does not disclose such material. The Contract Administrator reserves the right to also require the cleaning of equipment as required by this clause in cases where equipment is being moved onto non-federal lands.

Purchaser shall notify the Contract Administrator in advance of moving all off-road construction equipment onto U.S. Forest Service lands. Notification will include a location approved by the Contract Administrator where the equipment will be cleaned by the Purchaser, and made available for inspection by the State at a time agreed by the Parties. Only logging and construction equipment cleaned as required under this clause, and inspected by the Contract Administrator (or designee), will be allowed to operate on Federal lands within the sale area. All subsequent move-ins of equipment to the sale area shall be treated in the same manner as the initial move in. "Off-road equipment" includes all construction machinery, except for dump trucks, pickup trucks or vehicles used to transport personnel on a daily basis.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

Cuts and Fills

- Maintain slope lines as constructed. Remove slides from ditches and the roadway. Repair fill-failures, in accordance with Clause 4-6 EMBANKMENT SLOPE RATIO, with selected material or material approved by the Contract Administrator. Remove overhanging material from the top of cut slopes.
- Waste material from slides or other sources shall be placed and compacted in stable locations identified in the road plan or approved by the Contract Administrator, so that sediment will not deliver to any streams or wetlands.
- Slide material and debris shall not be mixed into the road surface materials, unless approved by the Contract Administrator.

Surface

- Grade and shape the road surface, turnouts, and shoulders to the original shape as directed, to provide a smooth, rut-free traveled surface and maintain surface water runoff in an even, unconcentrated manner.
- Blading shall not undercut the backslope or cut into geotextile fabric on the road.
- If required by the Contract Administrator, water shall be applied as necessary to control dust and retain fine surface rock.
- Surface material shall not be bladed off the roadway. Replace surface material when lost or worn away, or as directed by the Contract Administrator.
- Remove shoulder berms to facilitate drainage, except as marked or directed by the Contract Administrator.
- For roads with geotextile fabric: spread surface aggregate to fill in soft spots and wheel ruts (barrel spread) to prevent damage to the geotextile fabric.

Drainage

- Prevent silt bearing road surface and ditch runoff from delivering sediment to any streams or wetlands.
- Maintain drivable dips and drivable waterbars as needed to keep them functioning as intended.
- Maintain headwalls to the road shoulder level with material that will resist erosion.
- Maintain energy dissipators at culvert outlets with non-erodible material or rock.
- Keep ditches and culverts clear of obstructions and functioning as intended.
- Inspect and clean culverts at least monthly, with additional inspections during storms and periods of high runoff. This shall be done even during periods of inactivity.

Structures

- Repair culverts, bridges, gates, fences, cattle guards, signs, and other road structures as required because of purchaser use.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

Preventative Maintenance

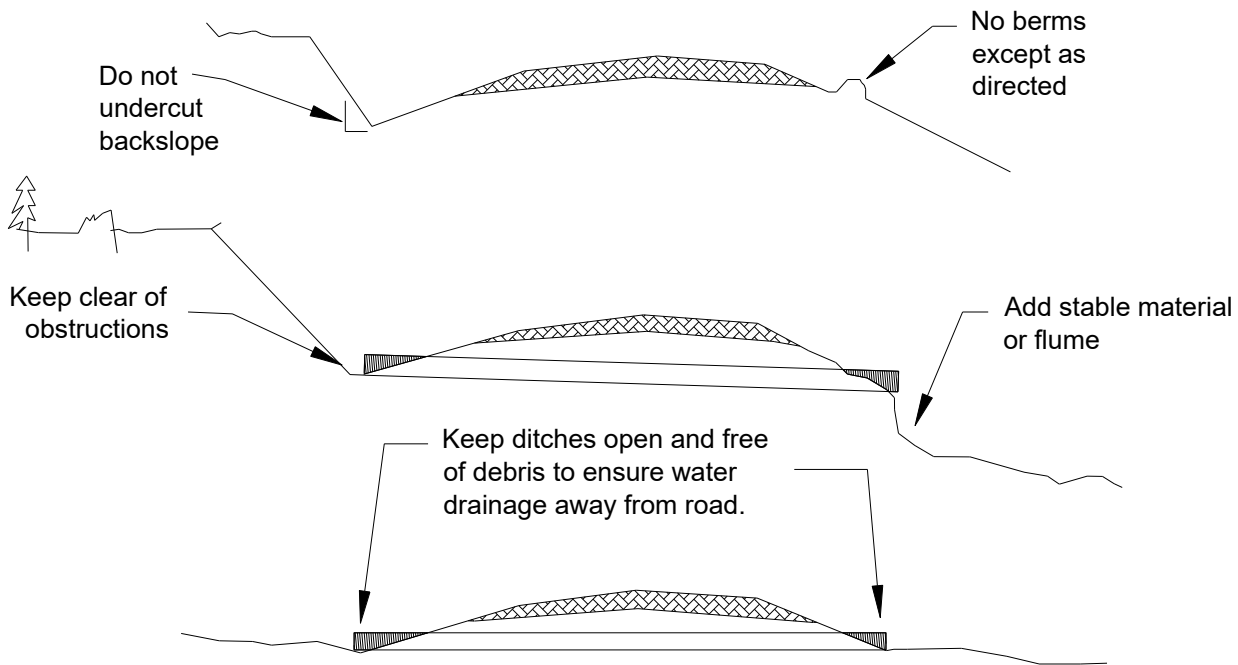
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

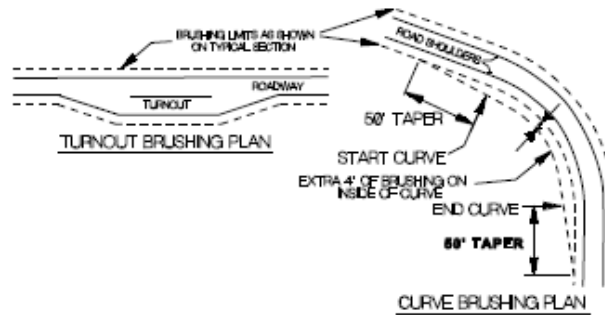
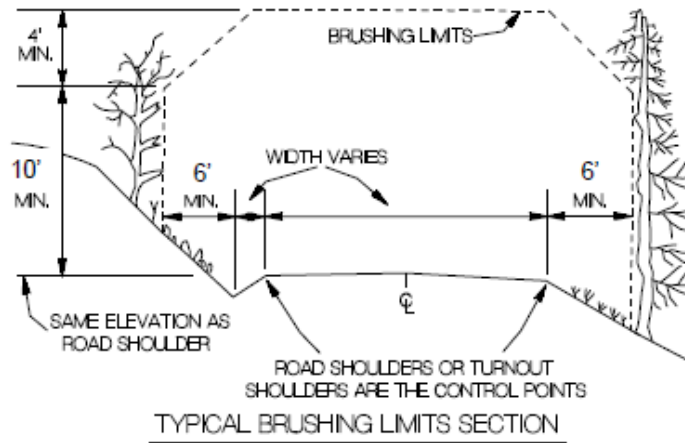
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.

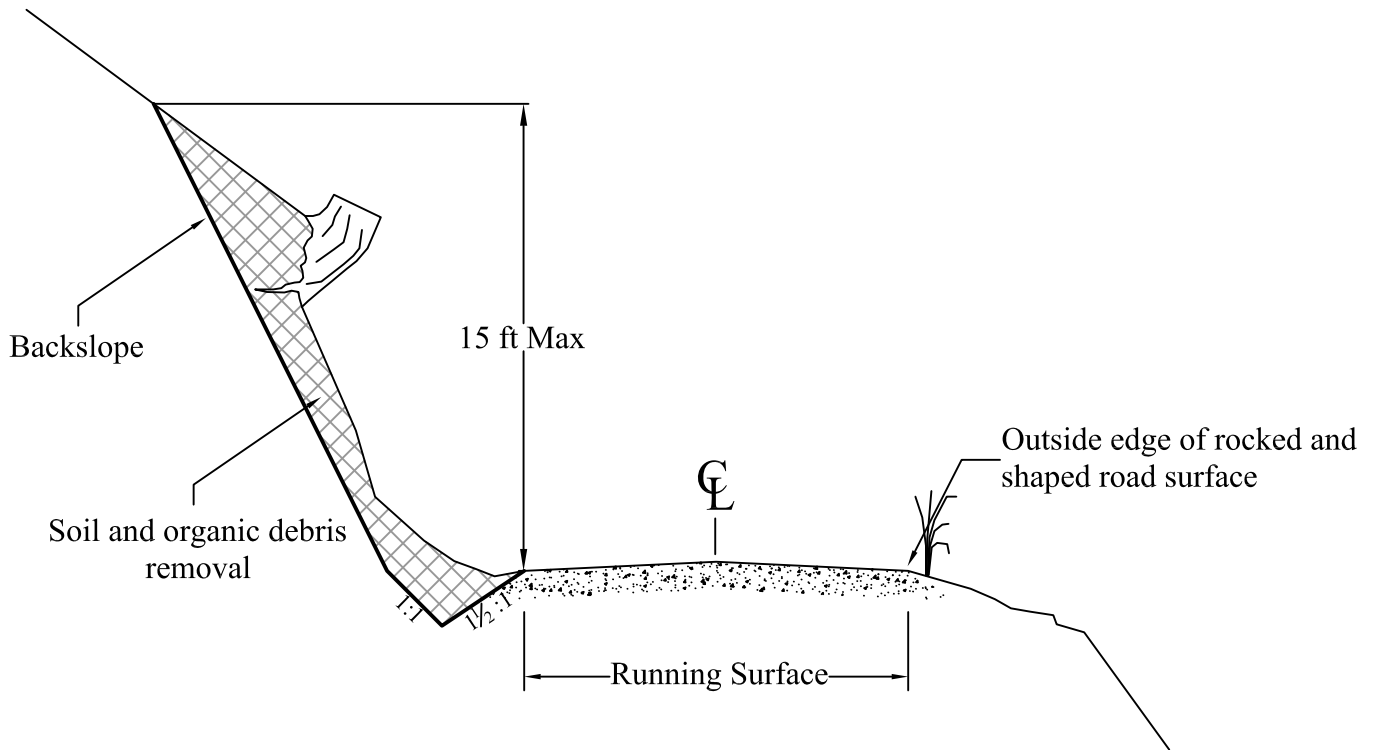


BRUSHING DETAIL



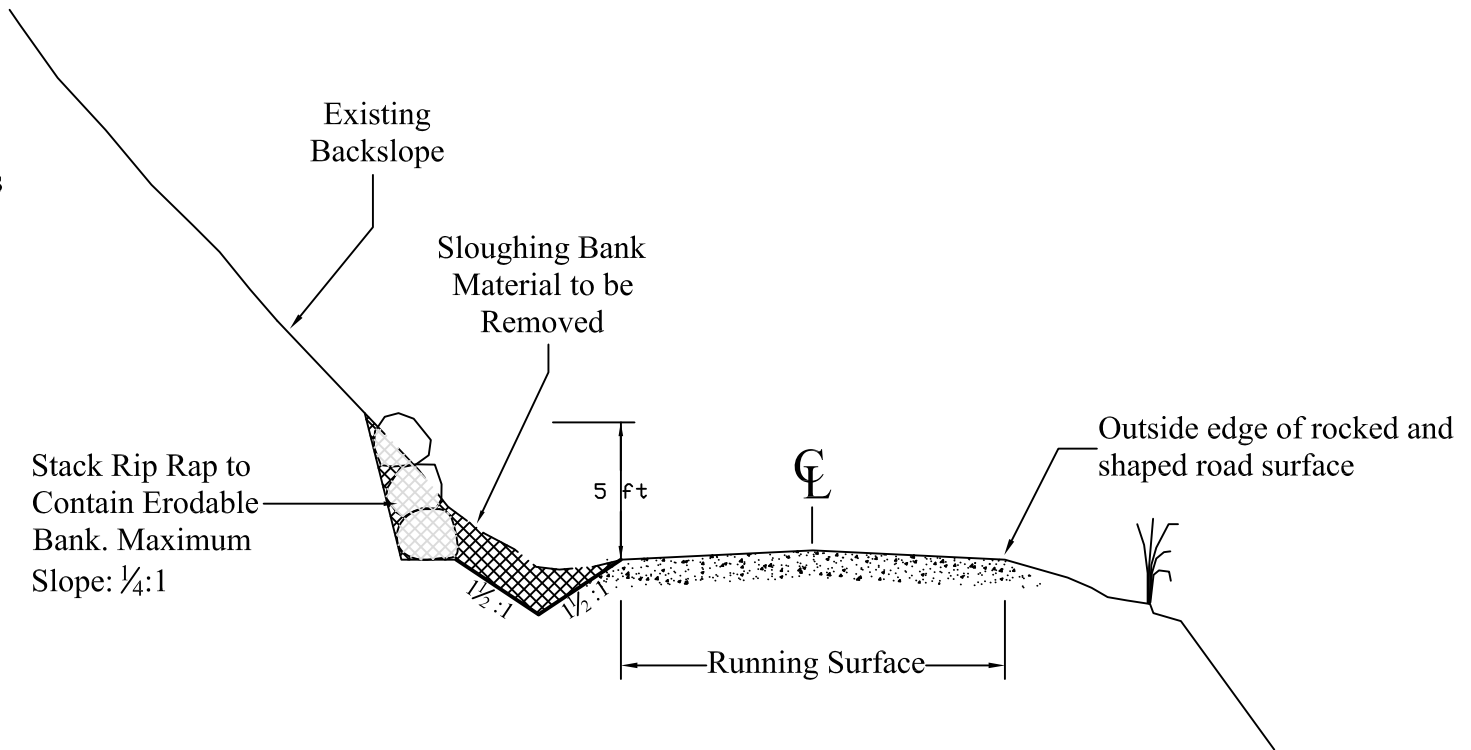
1. All vegetation within the brushing limits shall be cut to within 3 inches of the ground, unless otherwise directed by the Contract Administrator
2. All brush, trees, limbs, etc. shall be removed from the road surface, cut banks, culvert inlets/outlets, and ditch lines
3. All debris that may roll or move into the ditch line shall be removed and placed in a stable location

Ditch Cleaning Detail



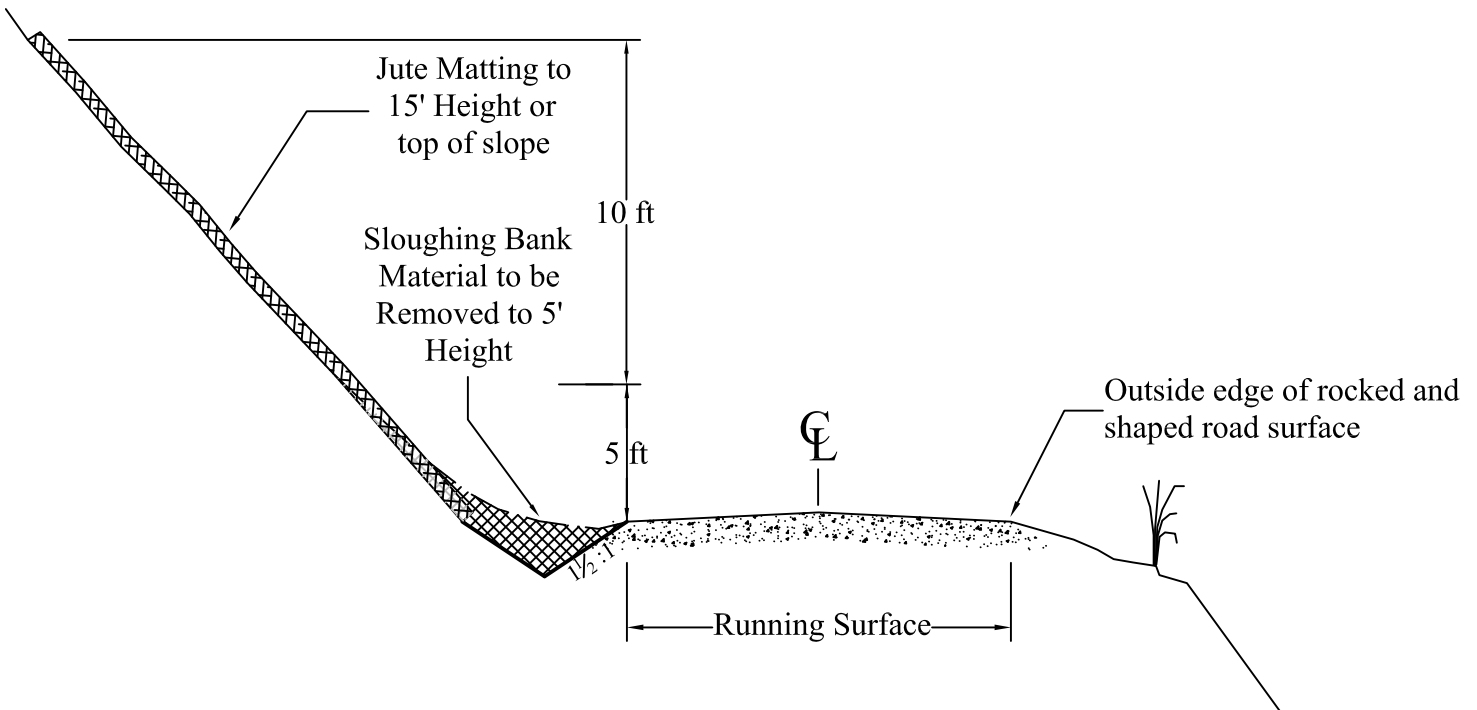
1. The backslope shall be no steeper than $\frac{1}{2}:1$, unless the material is hardpan or solid rock, in which case it may be $\frac{1}{4}:1$.
2. If there is sufficient width for the ditch without affecting the cut bank, than removing bank material is not required.
3. Bank material above the ditch shall be removed to a maximum height of 15 feet, if needed to meet the requirements of this detail.
4. If there is insufficient width to clean or construct a ditch without disturbing more than 15 vertical feet of bank, the Contract Administrator may authorize changes to this plan in order to still meet the intent of having a ditch, while staying within the excavation limits already set.
5. Ditch cleaning or construction shall not shrink the running surface of the road.

Ditch Cleaning Detail



1. The ditch and cut bank shall be cleaned of excess soils and organic debris. Ditch depth shall be 2 feet from the edge of the running surface.
2. Additional material from the bank shall be removed to allow stacking of Rip Rap as shown.
3. Minimum height of Rip Rap above edge of road shall be 5 feet.
4. All waste materials shall be end-hauled. Grass seed in accordance with Road Plan clause 5.4-3.2
5. Ditch cleaning or construction shall not shrink the running surface of the road.

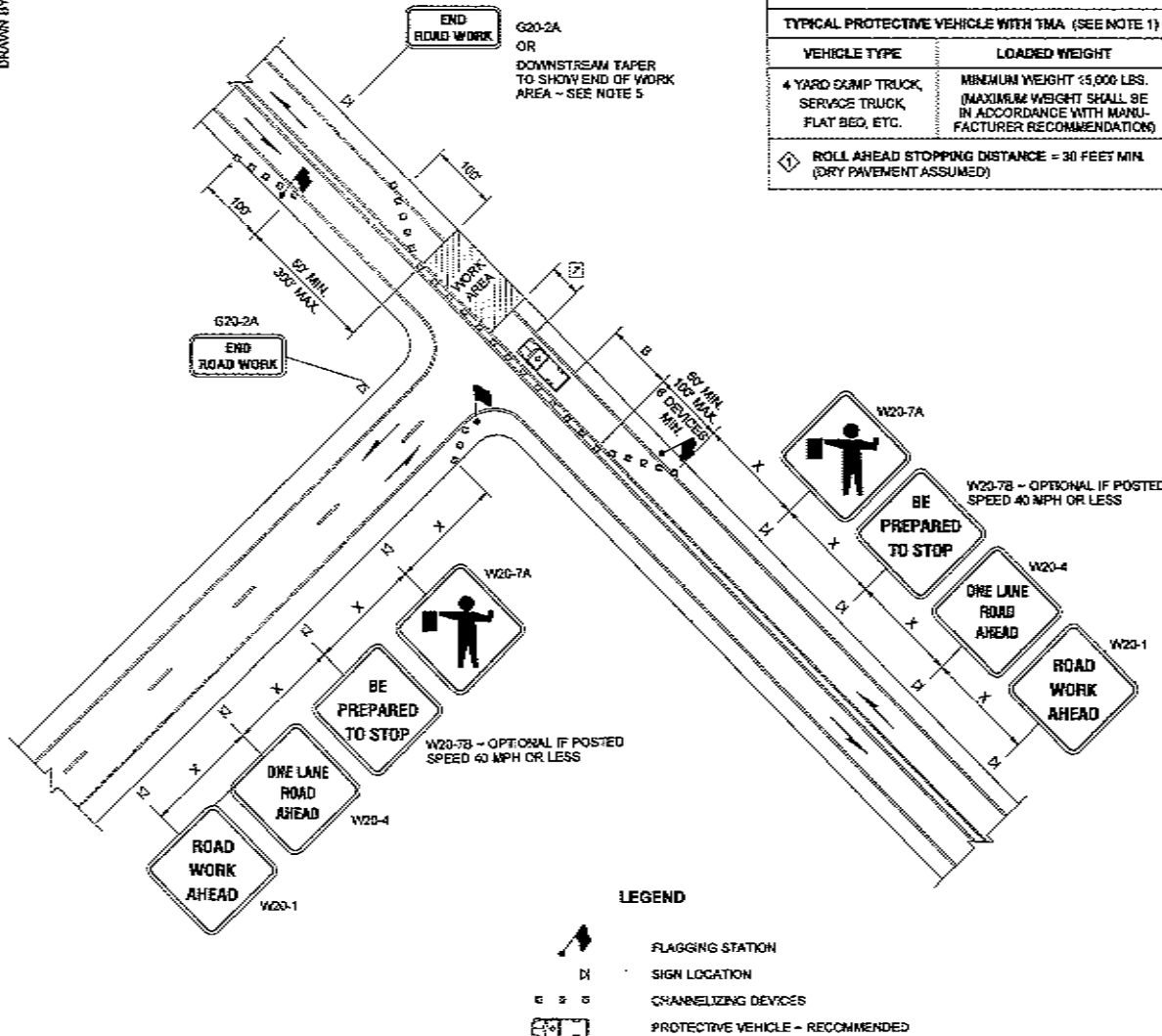
DITCH CLEANING DETAIL



1. The ditch and cut bank shall be cleaned of excess soils and organic debris. Ditch depth shall be 2 feet from the edge of the running surface.
2. The ditch and cut bank shall be cleaned to a height of 5 feet above the edge of the running surface.
3. Erosion control matting shall be installed on the cut slope above the ditch to a height of 15 feet above the edge of the running surface, or the top of the slope, whichever is higher. At the discretion of the Contract Administrator, erosion control matting may not be required where the cut slope is already heavily vegetated.
4. All waste materials shall be end-hauled. Grass seed in accordance with Road Plan clause 5.4-3.2
5. Ditch cleaning or construction shall not shrink the running surface of the road.

LONGITUDINAL BUFFER SPACE = B									
POSTED SPEED (MPH)	25	30	35	40	45	50	55	60	65
LENGTH B (FEET)	155	200	250	305	380	425	495	570	645

BUFFER DATA	
TYPICAL PROTECTIVE VEHICLE WITH TMA (SEE NOTE 1)	
VEHICLE TYPE	LOADED WEIGHT
4 YARD DUMP TRUCK, SERVICE TRUCK, FLAT BED, ETC.	MINIMUM WEIGHT 15,000 LBS. (MAXIMUM WEIGHT SHALL BE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATION)
(2) ROLL AHEAD STOPPING DISTANCE = 30 FEET MIN. (DRY PAVEMENT ASSUMED)	



NOTES

1. A Protective Vehicle is recommended regardless if a Truck Mounted Attenuator (TMA) is available; a work vehicle may be used. When no TMA is used, the Protective Vehicle shall be strategically located to shield workers, with a specific Roll-Ahead distance.
2. Night work requires additional roadway lighting at flagging stations. See WSDOT Standard Specifications for additional details.
3. Extend Channelizing Device taper across shoulder - recommended.
4. Sign sequence is the same for both directions of travel on the roadway.
5. Channelizing Device spacing for the downstream taper option shall be 20' O.C.
6. For signs size refer to Manual on Uniform Traffic Control Devices (MUTCD) and WSDOT Sign Fabrication Manual M55-05.

SIGN SPACING = X (1)		
RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)
ALL SIGNS ARE BLACK ON ORANGE UNLESS DESIGNATED OTHERWISE		

- (1) ALL SIGN SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMP, AT-GRADE INTERSECTIONS, AND DRIVEWAYS.
- (2) THIS SIGN SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

**FOR LOCAL AGENCY USE ONLY
NOT FOR USE ON STATE ROUTES**



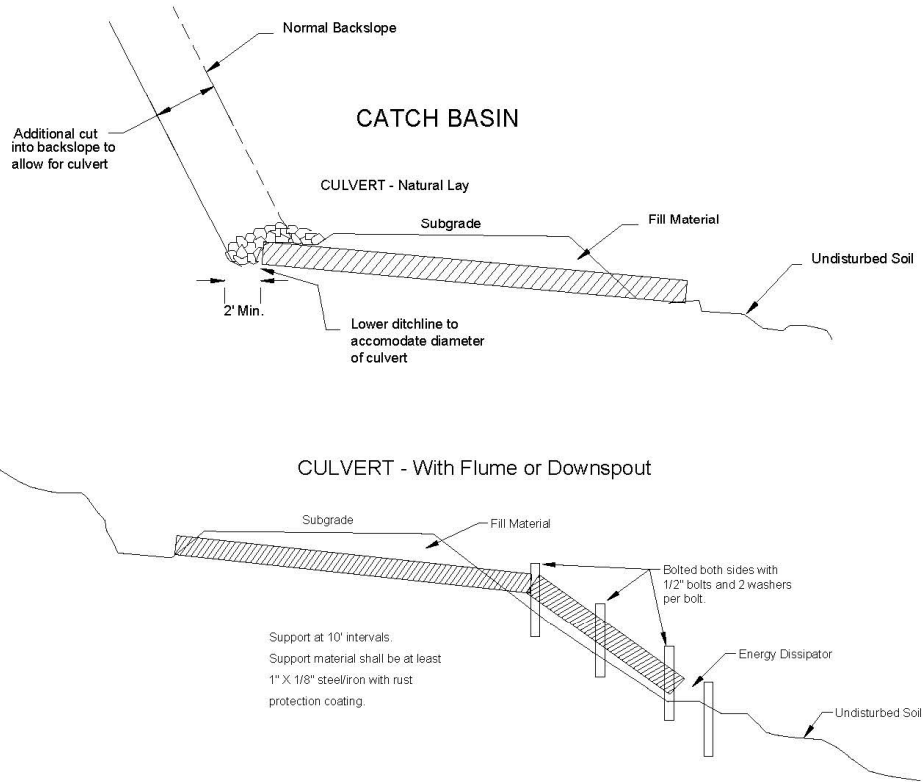
EXPIRES AUGUST 9, 2027

**LANE CLOSURE
WITH FLAGGER CONTROL
STANDARD PLAN K-20.40-00**

SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Ken L. Smith 02-15-07
STATE DESIGN ENGINEER DATE
Washington State Department of Transportation

CULVERT AND DRAINAGE SPECIFICATION DETAIL

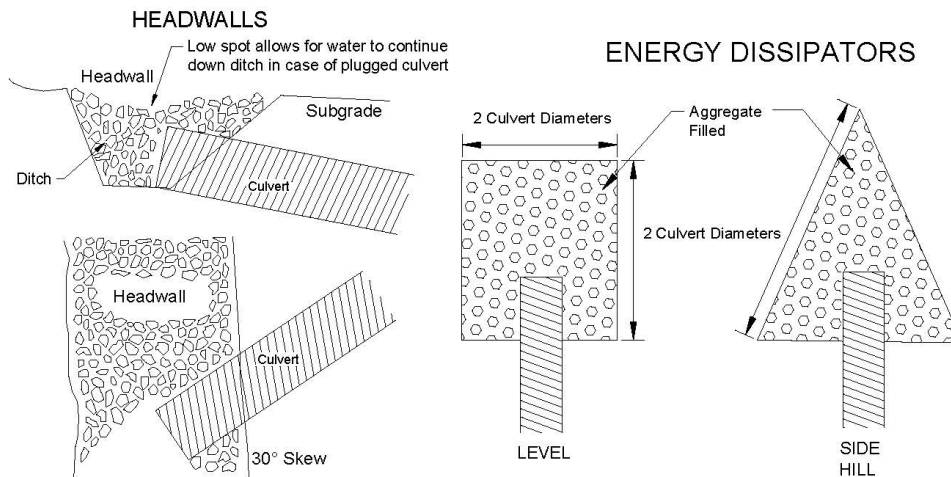
(Page 1 of 3)



CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 2 of 3)

Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense unyielding base. The backfill material shall be placed so that the pipe is uniformly supported along the barrel.



Headwalls to be constructed of material that will resist erosion.

Dissipator Specifications:
Depth: 1 culvert diameter
Aggregate: as specified in the CULVERT LIST.

CULVERT AND DRAINAGE SPECIFICATION DETAIL

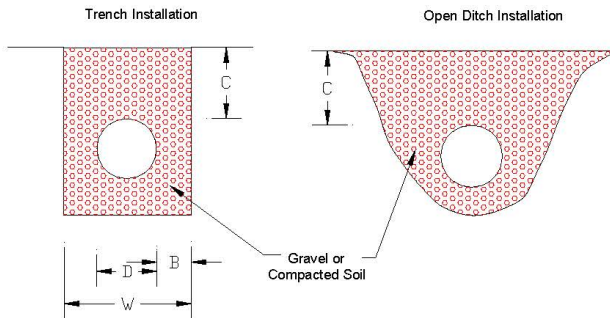
(Page 3 of 3)

POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.
2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.
3. Site conditions and availability of bedding materials often dictate the type of installation method used.
4. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.

MINIMUM DIMENSIONS
Trench or Open Ditch Installation

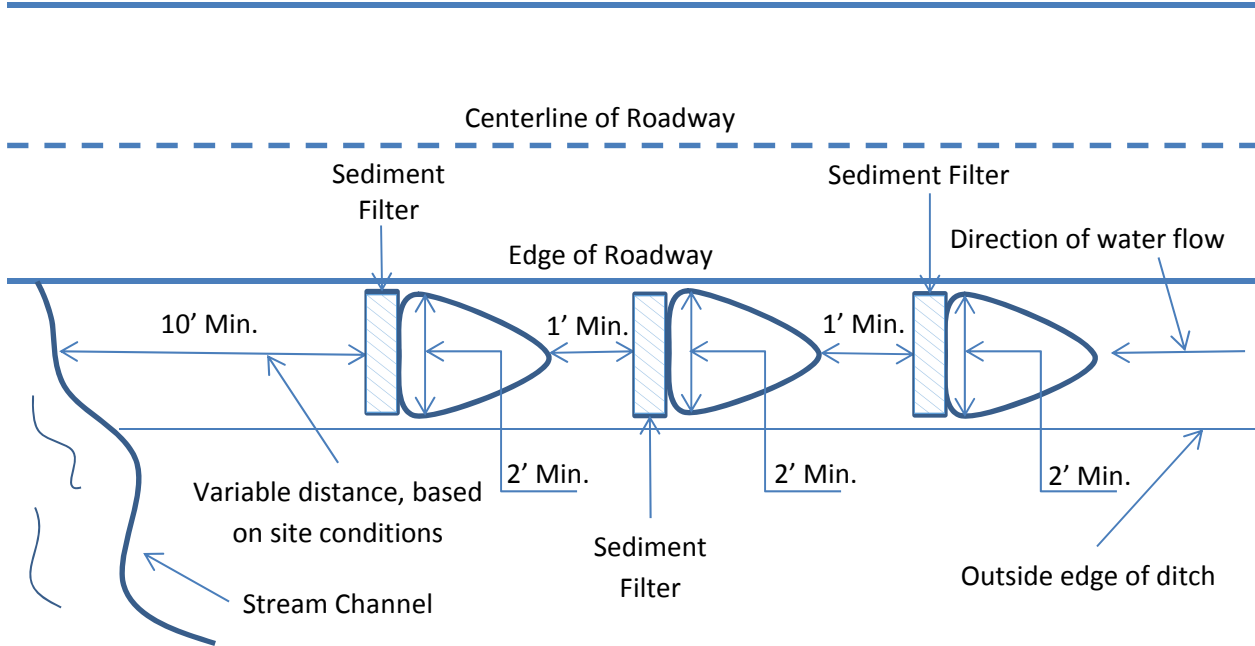


Nominal Diameter	Minimum Thickness	Minimum Cover	Min. Trench Width
D	B	C	W
18"	6"	12"	36"
24"	6"	12"	42"
30"	6"	12"	48"
36"	6"	12"	54"

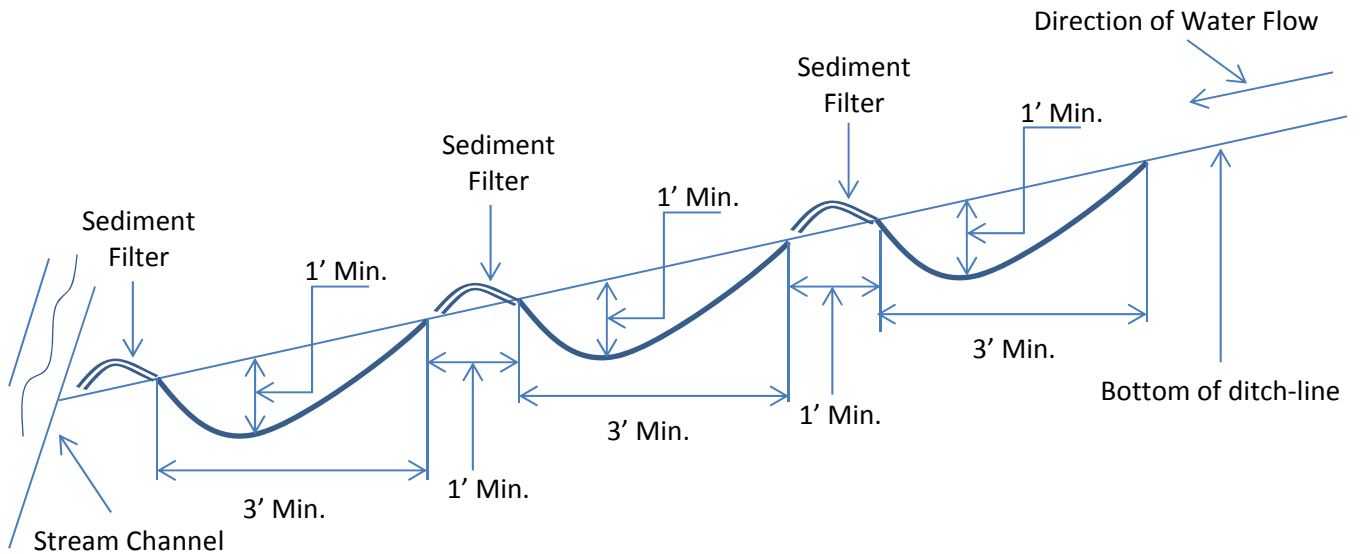
SEDIMENT TRAP DETAIL

Plan View

NOT TO SCALE



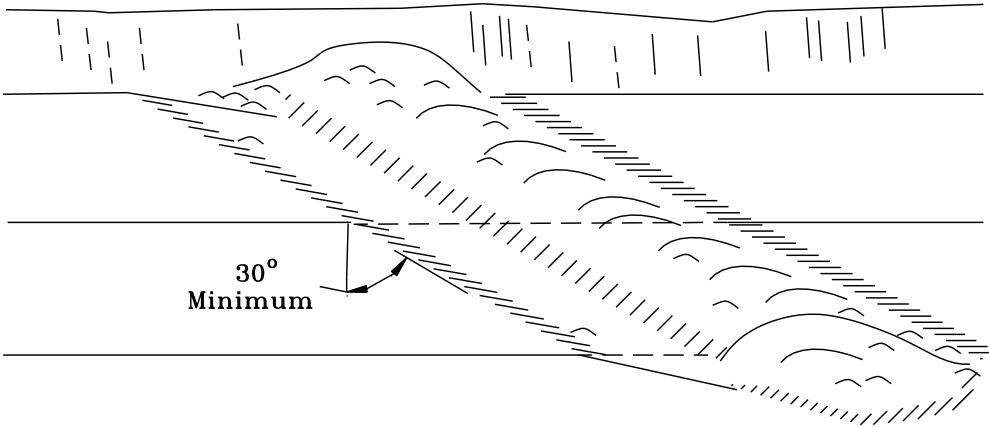
Profile View



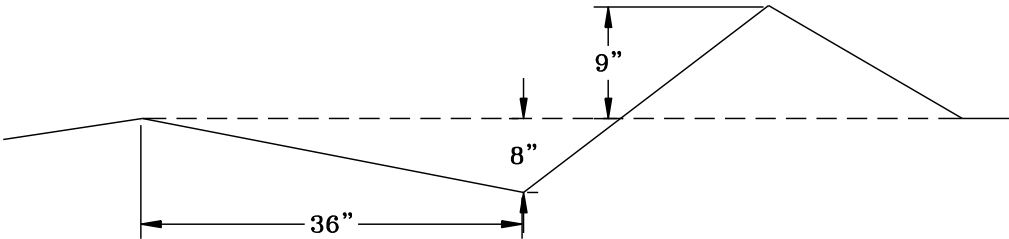
*Note. Sediment Filter's shall consist of either straw wattles, or a CLEAN ROCK berm.

Drivable Water Bar Detail


Cross Ditch



Cross Section at Centerline

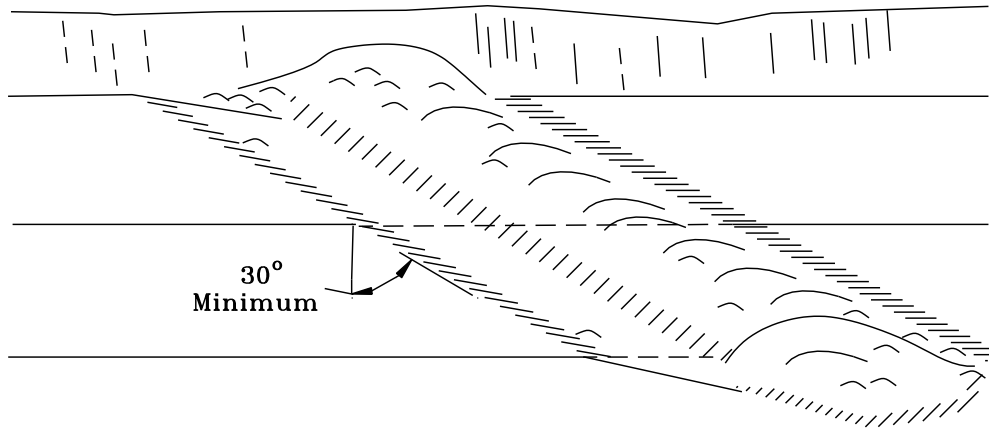


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App#
Drawn by: M.A.D.

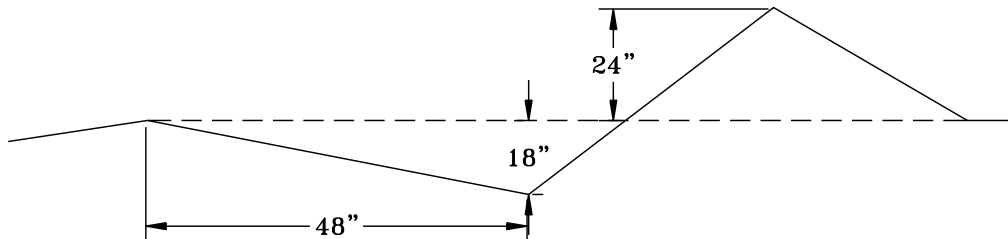
Water Bar Detail	
	WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES <small>SPS REGION</small>

Non-Drivable Water Bar Detail

Cross Ditch



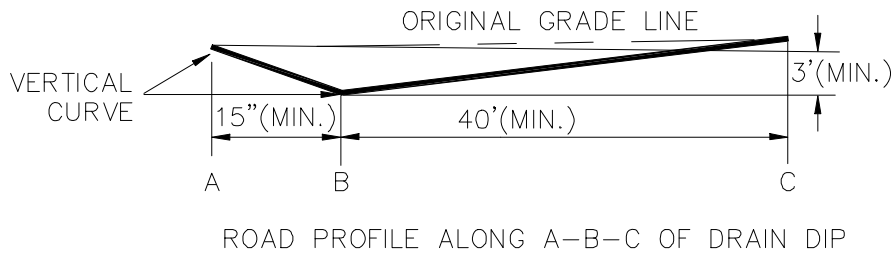
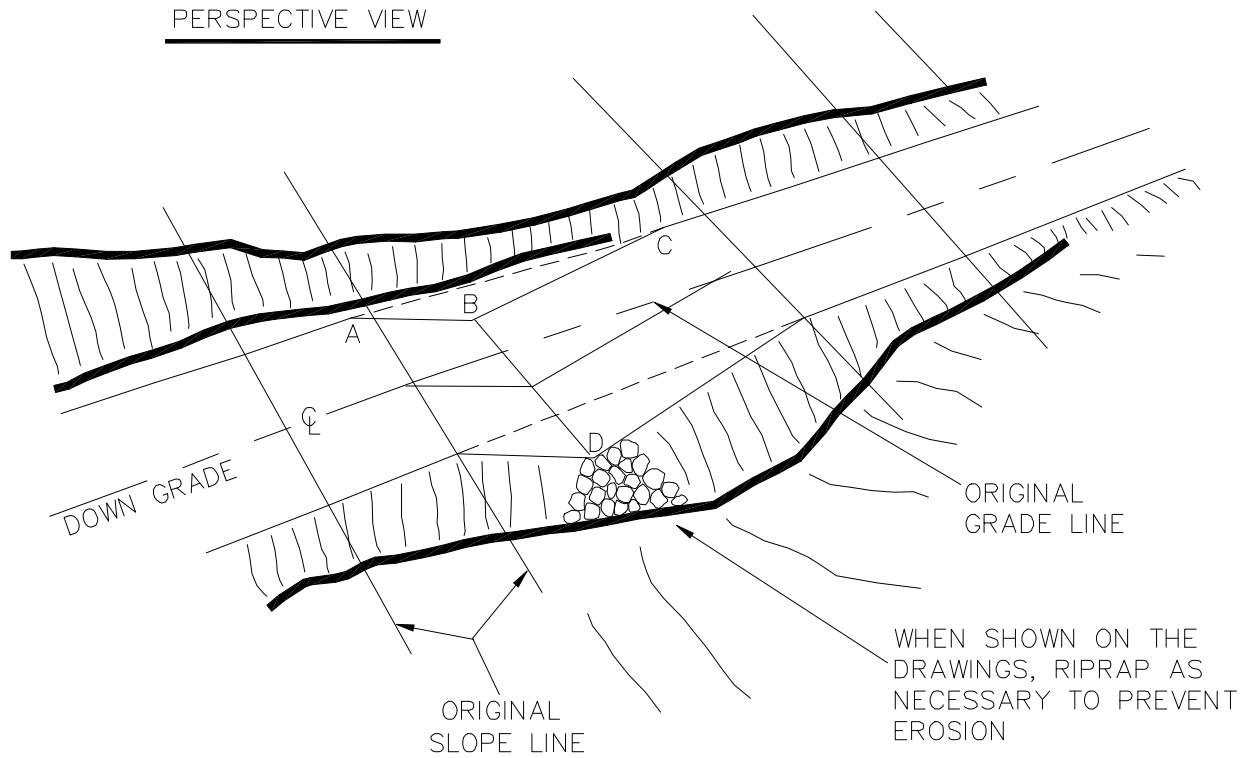
Cross Section at Centerline



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App#
Drawn by: M.A.D.

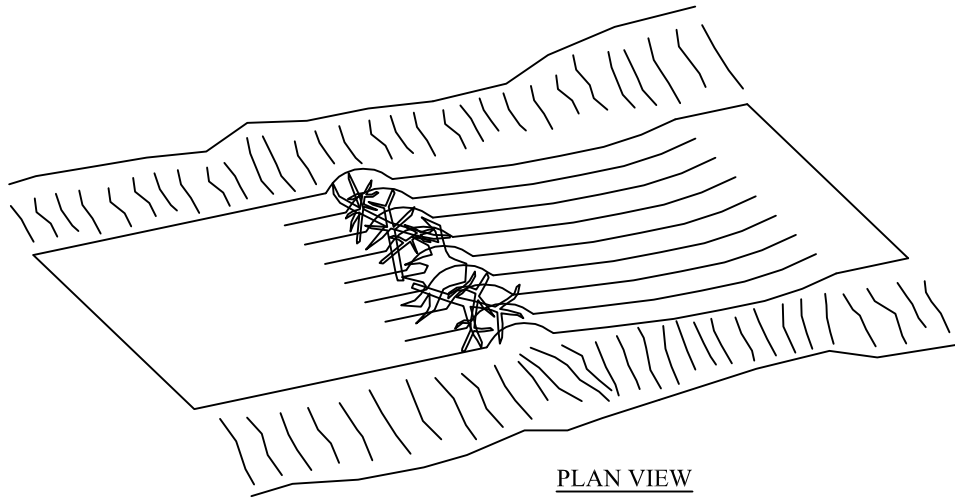
Water Bar Detail	
	WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
<small>SPS REGION</small>	

DRIVABLE DIP DETAIL

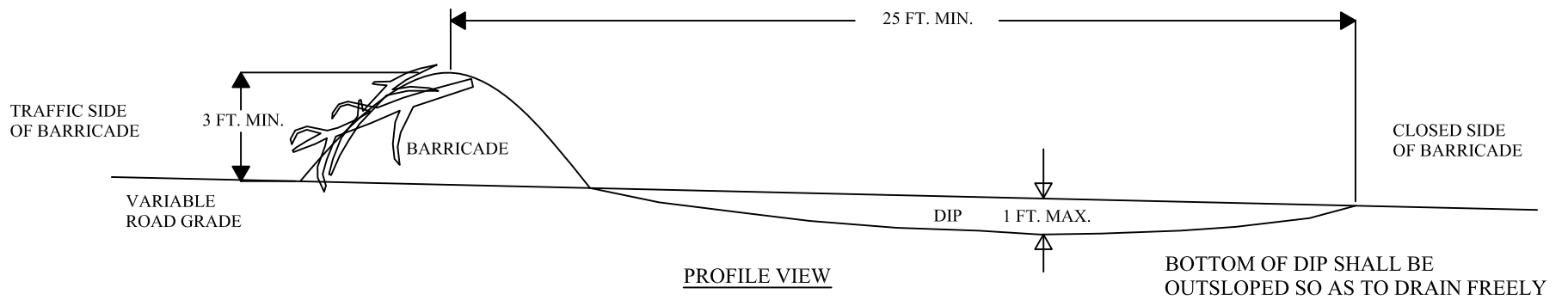


- Notes:
- 1) Plan shown is for outsloped dip. Dips may be either insloped or outsloped.
 - 2) When insloped, dips shall discharge into a culvert, drop inlet, or ditch out.
 - 3) The minimum cross grade from "B" to "D" shall be 6%.
 - 4) Skew line B-D to fit low point in draw if located in natural drain.
 - 5) Preferred construction is to excavate entire dip. If embankment is used, it shall be rock.

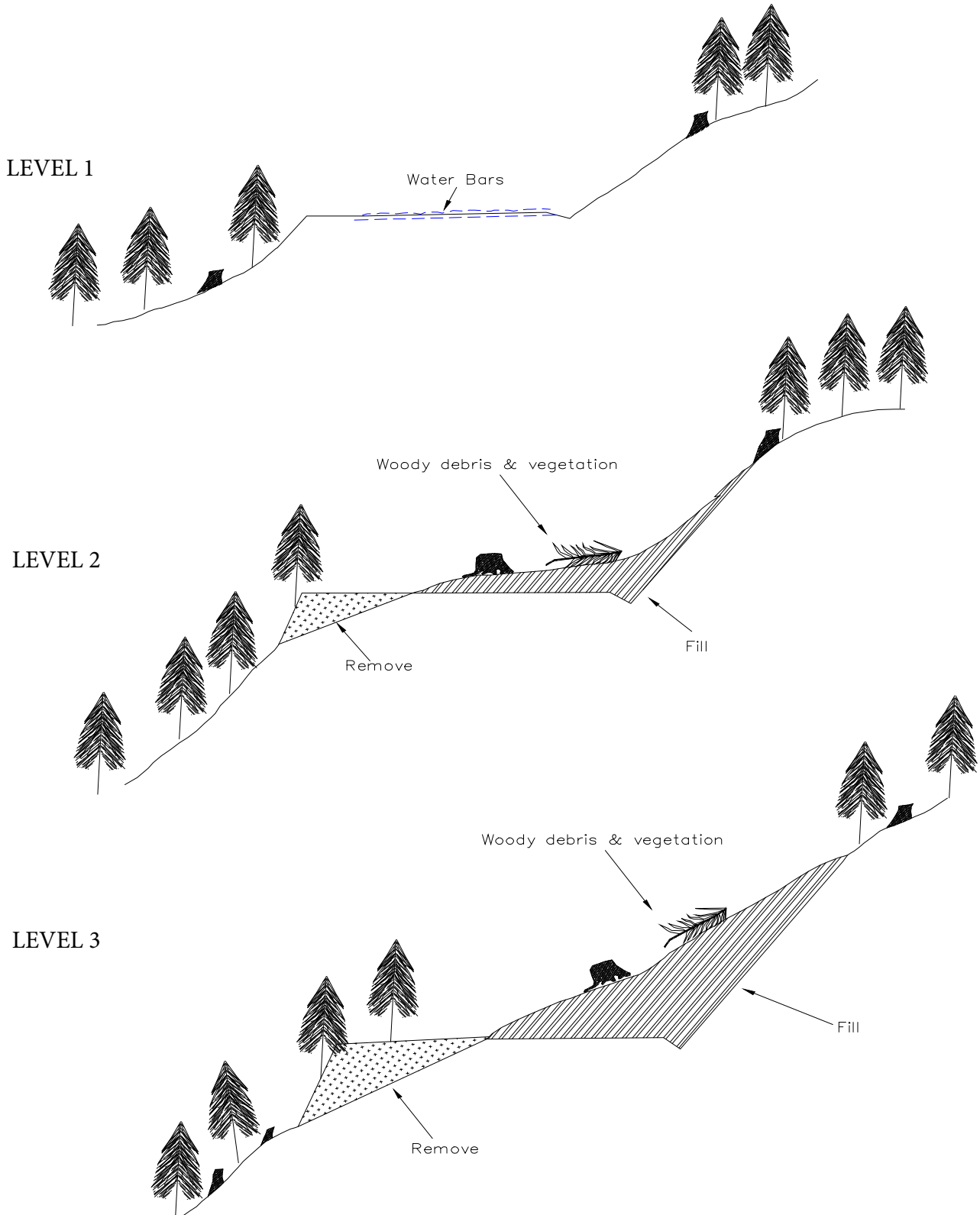
EARTHEN BARRICADE DETAIL



SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.



ROAD DECOMMISSIONING DETAIL



**POP TIMBER SALE
SUMMARY - Road Development Costs**

GOOD NEIGHBOR AUTHORITY
GIFFORD PINCHOT NATIONAL FOREST

MT. ADAMS RANGER DISTRICT
SKAMANIA COUNTY WASHINGTON

Compiled By Chad Vandehey

Agreement # 36-104453

Date: June 28, 2023

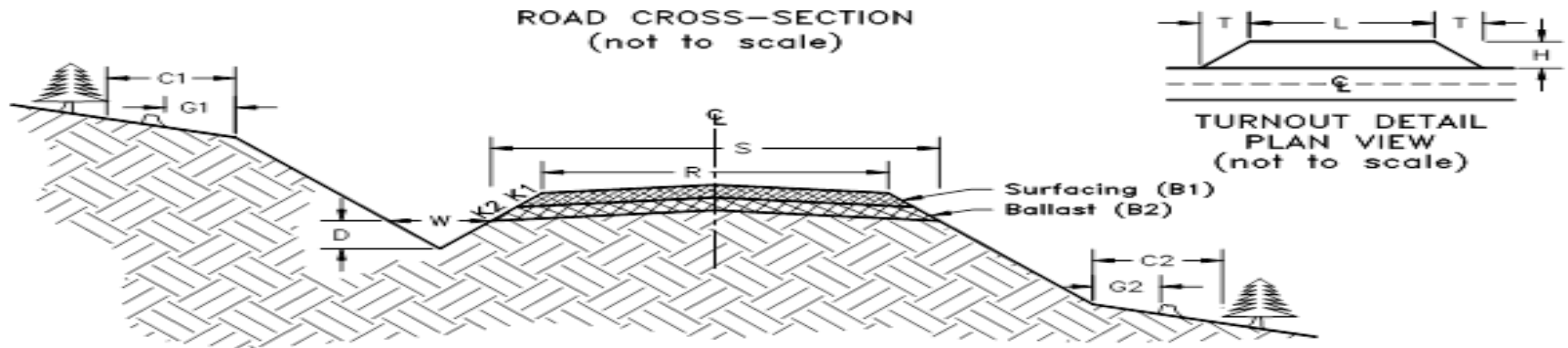
ROAD NUMBERS:	Temp 42--000.1P, 000.2P, 000.3P Temp 54--: 000.01, 000.02, 000.03, 000.04, 000.05, 000.06, 000.061, 000.062, 000.063, 000.064, 000.065, 000.066, 000.07, 000.08, 000.09, 000.10, 000.11, 000.12	4200000, 5400000	
ROAD STANDARD:	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS:	141+41	0+00	539+81
CLEARING & GRUBBING:	\$ 18,237.08	\$ -	\$ -
EXCAVATION AND FILL:	\$ 75,911.16	\$ -	\$ -
ROAD & LANDING ROCK:	\$ 101,345.54	\$ -	\$ 1,066.06
CULVERTS AND FLUMES:	\$ 59,674.51	\$ -	\$ -
MISC. MAINTENANCE:	\$ 1,001.87		\$ 15,426.13
STRUCTURES:	-	-	-
MOBILIZATION:	\$ 5,044.50		\$ 5,044.50
POST HAUL MAINTENANCE:	-	-	\$ 1,680.83
DECOMMISSIONING & CLOSURE	\$ 21,295.69	-	
MANAGEMENT & OVERHEAD (10%)	\$ 28,251.04	\$ -	\$ 2,153.67
COST PER STATION:	\$ 2,197.59		\$ 47.00
TOTAL COSTS:	\$ 310,761.39	\$ -	\$ 25,371.19
		TOTAL (All Roads):	\$336,132.58
		SALE VOLUME MBF:	2272
		TOTAL \$/MBF:	\$147.95

COMPACTION LIST

Page 1 of 1

Road Name	Stations		Type	Max. Depth per Left (in.)	Equipment Type	Equipment Weight (pounds)	Minimum # of Passes	Maximum Operating Speed
	From	To						
All	-	-	Maintenance grading	-	Vibratory Smooth Drum	12000	3 Low Freq. Vibe on	3
All	-	-	Subgrade	-	Vibratory Smooth Drum	12000	3 Low Freq. Vibe on	3
All	-	-	Embankment	12	Vibratory Smooth Drum	12000	3 Low Freq. Vibe on	3
All	-	-	Fill	24	Vibratory Smooth Drum	12000	3 Low Freq. Vibe on	3
All	-	-	Rock	6	Vibratory Smooth Drum	12000	3 Low Freq. Vibe on	3
All	-	-	Waste Area	24	Excavation	30000	-	-

ROCK LIST
3-Inch jaw
Page 1 of 3



Rock Sources

A

Commercial

L = 50'

T = 25'

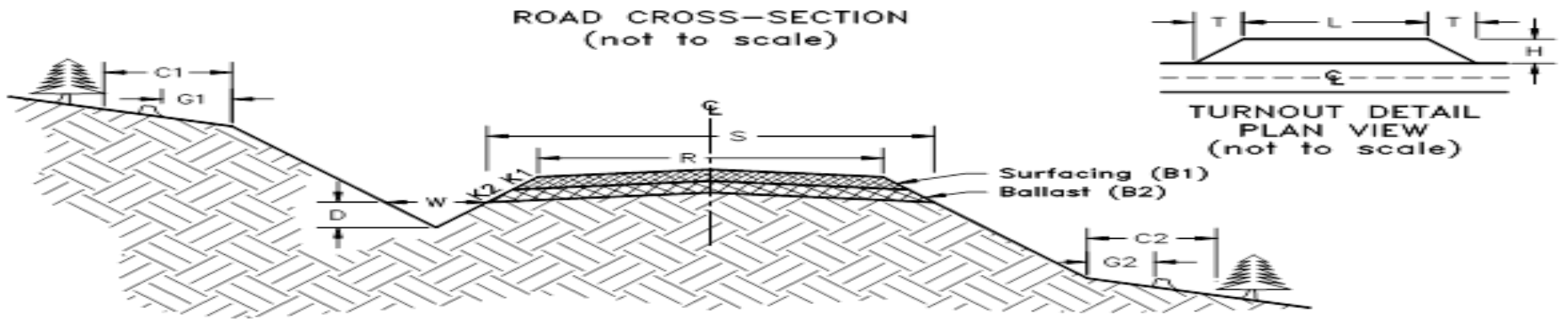
H = 12'

Road Name		Stations		Rock Slope K1	Compacted Depth (in) B1	C. Y./ Sta	Number of Stations	C.Y. Needed	Rock Source
		From	To						
Temp 42-000.2P	**	0+00	7+35	1.5 to 1	3	17	7.35	125	A
Temp 42-000.3P	**	0+00	7+50	1.5 to 1	3	17	7.50	128	A
Temp 54-000.01	**	0+00	2+16	1.5 to 1	3	17	2.16	37	A
Temp 54-000.03	**	0+00	2+72	1.5 to 1	3	17	2.72	46	A
Temp 54-000.04	**	0+00	2+78	1.5 to 1	3	17	2.78	47	A
Temp 54-000.05	**	0+00	0+42	1.5 to 1	3	17	0.42	7	A
Temp 54-000.061	**	0+00	3+77	1.5 to 1	3	17	3.77	64	A
Temp 54-000.062	**	0+00	2+84	1.5 to 1	3	17	2.84	48	A
Temp 54-000.063	**	0+00	1+30	1.5 to 1	3	17	1.30	22	A
Temp 54-000.064	**	0+00	2+54	1.5 to 1	3	17	2.54	43	A
Temp 54-000.065	**	0+00	1+89	1.5 to 1	3	17	1.89	32	A
Temp 54-000.066	**	0+00	2+76	1.5 to 1	3	17	2.76	47	A
Temp 54-000.08	**	0+00	1+89	1.5 to 1	3	17	1.89	32	A
Temp 54-000.09	**	0+00	7+10	1.5 to 1	3	17	7.10	121	A
Temp 54-000.10	**	0+00	0+45	1.5 to 1	3	17	0.45	8	A
Temp 54-000.11	**	0+00	6+59	1.5 to 1	3	17	6.59	112	A

OPTIONAL 3-INCH JAW BALLAST ROCK TOTAL 919 CUBIC YARDS
 REQUIRED 3-INCH JAW BALLAST ROCK TOTAL 0 CUBIC YARDS
 3-INCH JAW BALLAST ROCK TOTAL 919 CUBIC YARDS

** Optional rock, see Road Plan Clause 6-75

ROCK LIST
 1½" Minus Crushed Surfacing
 Page 2 of 3



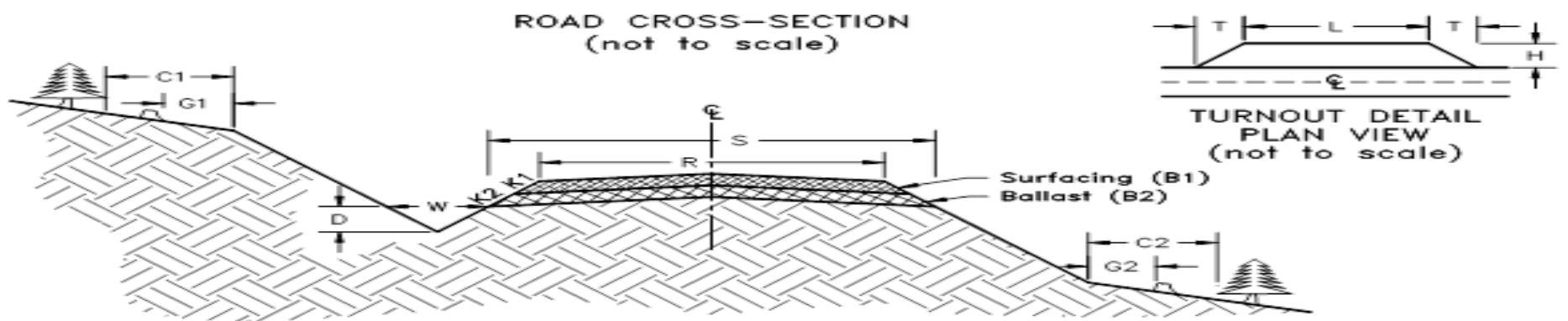
Road Name		Stations		Rock Slope K1	Compacted Depth (in) B1	C. Y./ Sta	Number of Stations	C.Y. Needed	Rock Source
		From	To						
4200000		0+00	61+56	1.5 to 1	Varies	Varies	Spot	20	A
Temp 54-000.01	**	0+00	2+16	1.5 to 1	3	17	2.16	37	A
Temp 54-000.06		0+00	41+03	1.5 to 1	3	17	41.03	698	A
Temp 54-000.064	**	0+00	2+54	1.5 to 1	3	17	2.54	43	A
Temp 54-000.07		6+58	8+28	1.5 to 1	3	17	1.7	29	A
		13+14	16+93	1.5 to 1	3	17	3.79	64	A
		21+52	25+78	1.5 to 1	3	17	4.26	72	A
Pipe Bedding	**			-	-	-	-	400	A

L = 50' T = 25' H = 12'

** Optional rock, see Road Plan Clause 6-75

TOTAL OPTIONAL 1½" MINUS CRUSHED ROCK	480 CUBIC YARDS
TOTAL REQUIRED 1½" MINUS CRUSHED ROCK	883 CUBIC YARDS
TOTAL 1½" MINUS CRUSHED ROCK	1363 CUBIC YARDS

ROCK LIST
 Light Loose Rip Rap
 Page 3 of 3
 Source



Road Name	Stations		Rock Slope K1	Compacted Depth (in) B1	C. Y./ Sta	Number of Stations	C.Y. Needed	Rock Source
	From	To						
Energy Dissipators/Armoring							185	A

L = 50' T = 25' H = 12'

Rock Summary

TOTAL LIGHT LOOSE RIP RAP	185 CUBIC YARDS
3-INCH JAW BALLAST ROCK TOTAL	919 CUBIC YARDS
OPTIONAL 3-INCH JAW BALLAST ROCK TOTAL	919 CUBIC YARDS
TOTAL 1½" MINUS CRUSHED ROCK	1363 CUBIC YARDS
TOTAL OPTIONAL 1½" MINUS CRUSHED ROCK	480 CUBIC YARDS

CULVERT AND DRAINAGE LIST

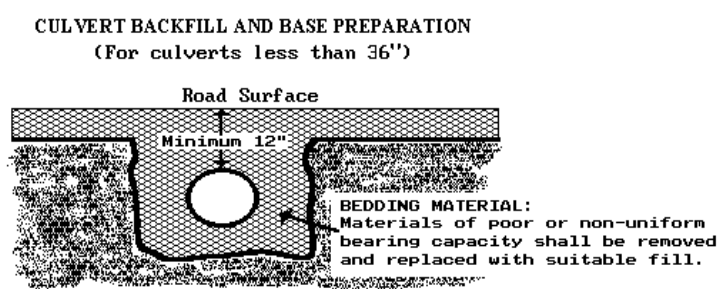
Page 1 of 1

Road	Location	Culvert		Length (feet)		Energy Dissapater (CY)				Backfill Material			Remarks
		Diameter (in.)	Gauge	Culvert	Flume	Inlet	Outlet	Type	Armor	Type	Volume (CY)	Source	
Temp 42-000.2P	0+00	18		40						NT		A	Cross Drain
	4+36	24		40			LLRR		10	1 1/4" Minus	20	A	Live Water
Temp 42-000.3P	0+00	18		40						NT		A	Cross Drain
	6+71	18		30						NT		A	Cross Drain
Temp 54-000.01	0+34	18		50						1 1/4" Minus	10	A	In 54 Ditch
Temp 54-000.02	1+38												Drivable
	2+74												Waterbar
Temp 54-000.03	2+72												Drivable
	2+72												Waterbar
Temp 54-000.05	0+00	18		40						1 1/4" Minus	20	A	In 54 Ditch
Temp 54-000.06	3+77	18		30						1 1/4" Minus	10	A	Install
	5+78	18		30						1 1/4" Minus	10	A	Install
	9+81												Ditchout R
	15+25	18		30						1 1/4" Minus	10	A	Install
	19+16	18		30		2.5	2.5	LLRR		1 1/4" Minus	10	A	Install
	23+35												Ditchout L&R
	25+60												Ditchout L&R
Temp 54-000.062	1+66												Drivable Dip
Temp 54-000.07	3+97	18		40						1 1/4" Minus	20	A	Cross Drain
	4+75	24		50		5	5	LLRR	30	1 1/4" Minus	30	A	Stream
	6+58	18		40						1 1/4" Minus	20	A	Cross Drain
	7+38	36		40		5	5	LLRR	20	1 1/4" Minus	20	A	Stream
	13+14	18		40						1 1/4" Minus	20	A	Cross Drain
	14+18	48		60		5	5	LLRR	40	1 1/4" Minus	40	A	Stream
	16+04	18		40						1 1/4" Minus	20	A	Cross Drain
	21+52	18		30						1 1/4" Minus	10	A	Cross Drain
	23+17	48		60		5	5	LLRR	40	1 1/4" Minus	40	A	Live Water
	25+78	18		40						1 1/4" Minus	20	A	Cross Drain
Temp 54-000.09	2+07	18		40						1 1/4" Minus	20	A	Cross Drain
	4+50	18		50						1 1/4" Minus	30	A	Cross Drain
	7+10												Ditchout L&R
Temp 54-000.10	0+00	18		40						1 1/4" Minus	20	A	Cross Drain
Temp 54-000.11	6+25												Drivable
Temp 54-000.12	3+04												Waterbar
	5+20												Drivable
	8+61												Waterbar

Culvert Totals

Type	Length (ft)
18-INCH HPDE	690
24-INCH HDPE	90
36-INCH HDPE	40
48-INCH PIPE	120

* Optional rock, see Road Plan Clause 6-75



Key:

- SR - Shot Rock
- NT - Native (bank run)
- SL - Select Fill
- HLRR - Heavy Loose Rip Rap
- LLRR - Light Loose Rip Rap
- Flume - Half round pipe
- Downspout - Full round pipe
- DOL-
- DOR-

SALE/PROJECT NAME: Pop

CONTRACT #: 36-104453

ROAD NUMBER: 5400000

Total road length (feet): 47825

Distance to Pit (feet) 104016

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (light)	478.25 stations @	\$21.85 per station	\$	10,449.76
Maintenance grading & compacting	16.48 stations @	\$21.54 per station	\$	354.95
Posthaul Grading and Compacting	16.48 stations @	\$21.54 per station	\$	354.95

PREHAUL MAINTENANCE TOTAL \$ 11,159.65
\$/STA \$ 23.33

SALE/PROJECT NAME: Pop

CONTRACT #: 36-104453

ROAD NUMBER: 4200000

Total road length (feet): 6156

Distance to Pit (feet) 118441

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (light)	61.56 stations @	\$21.85 per station	\$	1,345.09
Cleaning Inlets & Outlets	61.56 stations @	\$4.38 per station	\$	269.63
Maintenance grading & compacting	61.56 stations @	\$21.54 per station	\$	1,325.88
Posthaul Grading and Compacting	61.56 stations @	\$21.54 per station	\$	1,325.88
		Misc. Maintenance Total	\$	4,266.48

ROCK

1¼" Minus Purchase Price w/ tax	20 CY @	\$ 22.28 per CY	\$	445.60
Load dump truck	20 CY @	\$ 0.95 per CY	\$	18.93
Rock haul	Round Trip (feet) 249194	4 Hours @	\$ 135.00 per hour	\$ 563.72
Process/Compacting Surfacing (6" Lift)	20 CY @	\$ 1.89 per CY	\$	37.81
		Rock Total	\$	1,066.06

PREHAUL MAINTENANCE TOTAL \$ 5,332.54
\$/STA \$ 86.62

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 42-000.1P
 Total road length (feet): 366
 Distance to Place Pit (feet) 122743
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

RECONSTRUCTION

CLEARING & GRUBBING

MEDIUM Clearing and Grubbing	3.66 stations @	\$	195.00 per station	\$	713.70
				C & G Total	\$ 713.70

EXCAVATION AND FILL

Reconstruction (light)	3.66 stations @	\$	147.49 per station	\$	539.82
Landing (medium)	1.00 each @	\$	303.75 each	\$	303.75
				Excavation Total	\$ 303.75

MISC. MAINTENANCE

Grass seed (spread by hand)	8 pounds @	\$	3.34 per pound	\$	25.93
				Misc Maintenance Total	\$ 25.93

Reconstruction Total	\$	1,043.38
\$/STA		285.1

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 42-000.2P
 Total road length (feet): 735
 Distance to Pit (feet) 122925
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

MEDIUM Clearing and Grubbing	7.35 stations @	\$	195.00	per station	\$	1,433.25
					C & G Total	\$ 1,433.25

EXCAVATION AND FILL

Construction (balanced, medium)	7.35 stations @	\$	489.18	per station	\$	3,595.45
Landing (medium)	1 each @	\$	303.75	each	\$	303.75
Turnaround	1 each @	\$	203.73	each	\$	203.73
					Excavation Total	\$ 4,102.93

ROCK

3" Minus Purchase Price w/ tax	125 CY @	\$	14.85	per CY	\$	1,855.51
Load dump truck	125 CY @	\$	0.95	per CY	\$	118.29
Rock haul	Round Trip (feet) 247320	23.611 Hours @	\$	135.00	per Hour	\$ 3,187.50
Process/Compacting Ballast (12" Lift)	125 CY @	\$	1.35	per CY	\$	168.35
Light Loose Rip Rap	10 CY @	\$	15.00	per CY	\$	150.00
Rock haul	Round Trip (feet) 247320	2 Hours @	\$	135.00	per Hour	\$ 279.94
					Road Rock Total	\$ 5,759.58

CULVERTS & FLUMES

18" Polyethylene, double wall	40 feet @	\$24.14	per foot	\$965.59	
24" Polyethylene, double wall	40 feet @	\$30.49	per foot	\$1,219.58	
1¼" Minus Purchase Price w/ tax	20.00 CY @	\$22.28	per CY	\$445.60	
Rock haul	Round Trip (feet) 247320	4.15 Hours @	\$135.00	per hour	\$559.88
			Culvert, Flume, & Pipe Bedding Total	\$3,190.65	

MISC. MAINTENANCE

Grass seed (spread by hand)	16 pounds @	\$	3.34	per pound	\$	52.07
					Misc Maintenance Total	\$ 52.07

Construction Total	\$	14,538.47
\$/sta	\$	1,978.02

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 42-000.3P
 Total road length (feet): 750
 Distance to Pit (feet) 123958
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

MEDIUM Clearing and Grubbing	7.50 stations @	\$	195.00	per station	\$	1,462.50
					C & G Total	\$ 1,462.50

EXCAVATION AND FILL

Construction (balanced, medium)	7.50 stations @	\$	489.18	per station	\$	3,668.83
Landing (medium)	1 each @	\$	303.75	each	\$	303.75
Turnaround	1 each @	\$	203.73	each	\$	203.73
					Excavation Total	\$ 4,176.30

ROCK

3" Minus Purchase Price w/ tax	128 CY @	\$	14.85	per CY	\$	1,893.38
Load dump truck	128 CY @	\$	0.95	per CY	\$	120.70
Rock haul	Round Trip (feet) 249416	24.291 Hours @	\$	135.00	per Hour	\$ 3,279.33
Process/Compacting Ballast (12" Lift)	128 CY @	\$	1.35	per CY	\$	171.78
Rock haul	Round Trip (feet) 249416	0 Hours @	\$	135.00	per Hour	\$ 27.00
					Road Rock Total	\$ 5,492.18

CULVERTS & FLUMES

18" Polyethylene, double wall	70 feet @	\$24.14	per foot	\$1,689.78
			Culvert, Flume, & Pipe Bedding Total	\$1,689.78

MISC. MAINTENANCE

Grass seed (spread by hand)	16 pounds @	\$	3.34	per pound	\$	53.14
					Misc Maintenance Total	\$ 53.14

Construction Total	\$	12,873.90
\$/sta	\$	1,716.52

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.01
 Total road length (feet): 216
 Distance to Pit (feet) 123378
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

MEDIUM Clearing and Grubbing	2.16 stations @	\$	195.00	per station	\$	421.20
					C & G Total	\$ 421.20

EXCAVATION AND FILL

Construction (balanced, medium)	2.16 stations @	\$	489.18	per station	\$	1,056.62
Landing (medium)	1 each @	\$	303.75	each	\$	303.75
Turnaround	1 each @	\$	203.73	each	\$	203.73
					Excavation Total	\$ 1,564.10

ROCK

1¼" Minus Purchase Price w/ tax	37 CY @	\$	22.28	per CY	\$	818.12
3" Minus Purchase Price w/ tax	37 CY @	\$	14.85	per CY	\$	545.29
Load dump truck	73 CY @	\$	0.95	per CY	\$	69.52
Rock haul	Round Trip (feet) 247188	13.953 Hours @	\$	135.00	per Hour	\$ 1,883.61
Process/Compacting Ballast (12" Lift)	73 CY @	\$	1.35	per CY	\$	98.95
					Road Rock Total	\$ 3,415.49

CULVERTS & FLUMES

18" Polyethylene, double wall	50 feet @	\$24.14	per foot	\$1,206.99	
1¼" Minus Purchase Price w/ tax	10.00 CY @	\$22.28	per CY	\$222.80	
Rock haul	Round Trip (feet) 247188	2.07 Hours @	\$135.00	per hour	\$279.81
			Culvert, Flume, & Pipe Bedding Total	\$1,709.59	

MISC. MAINTENANCE

Grass seed (spread by hand)	5 pounds @	\$	3.34	per pound	\$	15.30
					Misc Maintenance Total	\$ 15.30

Construction Total	\$	7,125.68
\$/sta	\$	3,298.93

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.02
 Total road length (feet): 402
 Distance to Pit (feet) 123917
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	4.02 stations @	\$	101.64	per station	\$	408.59
					C & G Total	\$ 408.59

EXCAVATION AND FILL

Reconstruction (light)	4.02 stations @	\$	147.49	per station	\$	592.91
Landing (medium)	1 each @	\$	303.75	each	\$	303.75
Turnaround	1 each @	\$	203.73	each	\$	203.73
					Excavation Total	\$ 1,100.39

CULVERTS & FLUMES

Drivable Water Bar	2.00 each @		\$61.39	each		\$122.79
					Culvert, Flume, & Pipe Bedding Total	\$122.79

MISC. MAINTENANCE

Grass seed (spread by hand)	9 pounds @	\$	3.34	per pound	\$	28.48
					Misc Maintenance Total	\$ 28.48

					Construction Total	\$ 1,660.25
					\$/sta	\$ 413.00

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.03
 Total road length (feet): 272
 Distance to Pit (feet) 125251
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	2.72 stations @	\$	101.64	per station	\$	276.46
					C & G Total	\$ 276.46

EXCAVATION AND FILL

Construction (balanced, light)	2.72 stations @	\$	296.00	per station	\$	805.12
Landing (small)	1 each @	\$	205.50	each	\$	205.50
Turnaround	1 each @	\$	203.73	each	\$	203.73
					Excavation Total	\$ 1,214.35

ROCK

3" Minus Purchase Price w/ tax	46 CY @	\$	14.85	per CY	\$	686.66
Load dump truck	46 CY @	\$	0.95	per CY	\$	43.77
Rock haul	Round Trip (feet) 251046	8.994 Hours @	\$ 135.00	per Hour	\$	1,214.22
Process/Compacting Ballast (12" Lift)	46 CY @	\$	1.35	per CY	\$	62.30
Rock haul	Round Trip (feet) 251046	0 Hours @	\$ 135.00	per Hour	\$	27.00
					Road Rock Total	\$ 2,033.96

CULVERTS & FLUMES

Watebar	2.00 each @	\$61.39 each	\$122.79
		Culvert, Flume, & Pipe Bedding Total	\$122.79

MISC. MAINTENANCE

Grass seed (spread by hand)	6 pounds @	\$	3.34	per pound	\$	19.27
					Misc Maintenance Total	\$ 19.27

Construction Total	\$	3,666.82
\$/sta	\$	1,348.10

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.04
 Total road length (feet): 278
 Distance to Pit (feet) 127056
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	2.78 stations @	\$	101.64	per station	\$	282.56
					C & G Total	\$ 282.56

EXCAVATION AND FILL

Construction (balanced, light)	2.78 stations @	\$	296.00	per station	\$	822.88
Landing (small)	1 each @	\$	205.50	each	\$	205.50
Turnaround	1 each @	\$	203.73	each	\$	203.73
					Excavation Total	\$ 1,232.11

ROCK

3" Minus Purchase Price w/ tax	47 CY @	\$	14.85	per CY	\$	701.81
Load dump truck	47 CY @	\$	0.95	per CY	\$	44.74
Rock haul	Round Trip (feet) 254668	9.318 Hours @	\$	135.00	per Hour	\$ 1,257.91
Process/Compacting Ballast (12" Lift)	47 CY @	\$	1.35	per CY	\$	63.67
Rock haul	Round Trip (feet) 254668	0 Hours @	\$	135.00	per Hour	\$ 27.00
					Road Rock Total	\$ 2,095.14

MISC. MAINTENANCE

Grass seed (spread by hand)	6 pounds @	\$	3.34	per pound	\$	19.70
					Misc Maintenance Total	\$ 19.70

Construction Total	\$	3,629.50
\$/sta	\$	1,305.58

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.05
 Total road length (feet): 42
 Distance to Pit (feet) 129477
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

MEDIUM Clearing and Grubbing	0.42 stations @	\$	195.00	per station	\$	81.90
					C & G Total	\$ 81.90

EXCAVATION AND FILL

Construction (balanced, light)	0.42 stations @	\$	296.00	per station	\$	124.32
Landing (small)	1 each @	\$	205.50	each	\$	205.50
					Excavation Total	\$ 329.82

ROCK

3" Minus Purchase Price w/ tax	7 CY @	\$	14.85	per CY	\$	106.03
Load dump truck	7 CY @	\$	0.95	per CY	\$	6.76
Rock haul	Round Trip (feet) 259038	1.601 Hours @	\$	135.00	per Hour	\$ 216.16
Process/Compacting Ballast (12" Lift)	7 CY @	\$	1.35	per CY	\$	9.62
					Road Rock Total	\$ 338.56

CULVERTS & FLUMES

18" Polyethylene, double wall	40 feet @	\$24.14	per foot	\$965.59	
1½" Minus Purchase Price w/ tax	20.00 CY @	\$22.28	per CY	\$445.60	
Rock haul	Round Trip (feet) 259038	4.32 Hours @	\$135.00	per hour	\$583.85
			Culvert, Flume, & Pipe Bedding Total	\$1,995.04	

MISC. MAINTENANCE

Grass seed (spread by hand)	1 pounds @	\$	3.34	per pound	\$	2.98
					Misc Maintenance Total	\$ 2.98

Construction Total	\$	2,748.30
\$/sta	\$	6,543.57

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.06
 Total road length (feet): 4103
 Distance to Pit (feet) 130978
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	41.03 stations @	\$ 101.64	per station	\$ 4,170.29
			C & G Total	\$ 4,170.29

EXCAVATION AND FILL

Reconstruction (light)	36.53 stations @	\$ 147.49	per station	\$ 5,387.85
Construction (full bench/end haul, heavy) > 70% SS	4.50 stations @	\$ 3,027.89	per station	\$ 13,625.51
Construction (full bench/end haul, light) < 70% SS	4.50 stations @	\$ 2,131.24	per station	\$ 9,590.60
Landing (small)	6 each @	\$ 205.50	each	\$ 1,233.00
Turnaround	4 each @	\$ 203.73	each	\$ 814.90
			Excavation Total	\$ 30,651.86

ROCK

1¼" Minus Purchase Price w/ tax	698 CY @	\$ 22.28	per CY	\$ 15,540.52
Load dump truck	698 CY @	\$ 0.95	per CY	\$ 660.31
Rock haul	Round Trip (feet) 270162	142.958 Hours @	\$ 135.00 per Hour	\$ 19,299.34
Process/Compacting Ballast (12" Lift)	698 CY @	\$ 1.35	per CY	\$ 939.76
			Road Rock Total	\$ 36,439.93

CULVERTS & FLUMES

18" Polyethylene, double wall	120 feet @	\$24.14	per foot	\$2,896.77
Ditchout	3.00 each @	\$61.39	each	\$184.18
1¼" Minus Purchase Price w/ tax	40.00 CY @	\$22.28	per CY	\$891.20
Rock haul	Round Trip (feet) 270162	8.99 Hours @	\$135.00 per hour	\$1,213.21
			Culvert, Flume, & Pipe Bedding Total	\$5,185.36

MISC. MAINTENANCE

Grass seed (spread by hand)	87 pounds @	\$ 3.34	per pound	\$ 290.69
			Misc Maintenance Total	\$ 290.69

Construction Total	\$ 76,738.13
\$/sta	\$ 1,870.29

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.061
 Total road length (feet): 377
 Distance to Pit (feet) 132196
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

MEDIUM Clearing and Grubbing	3.77 stations @	\$	195.00	per station	\$	735.15
					C & G Total	\$ 735.15

EXCAVATION AND FILL

Construction (balanced, light)	3.77 stations @	\$	296.00	per station	\$	1,115.92
Landing (small)	2 each @	\$	205.50	each	\$	411.00
Turnaround	1 each @	\$	203.73	each	\$	203.73
					Excavation Total	\$ 1,730.65

ROCK

3" Minus Purchase Price w/ tax	64 CY @	\$	14.85	per CY	\$	951.74
Load dump truck	64 CY @	\$	0.95	per CY	\$	60.67
Rock haul	Round Trip (feet) 265146	13.074 Hours @	\$	135.00	per Hour	\$ 1,764.94
Process/Compacting Ballast (12" Lift)	64 CY @	\$	1.35	per CY	\$	86.35
					Road Rock Total	\$ 2,863.70

CULVERTS & FLUMES

Ditchout	1.00 each @		\$61.39	each		\$61.39
					Culvert, Flume, & Pipe Bedding Total	\$61.39

MISC. MAINTENANCE

Grass seed (spread by hand)	8 pounds @	\$	3.34	per pound	\$	26.71
					Misc Maintenance Total	\$ 26.71

Construction Total	\$	5,417.60
\$/sta	\$	1,437.03

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.062
 Total road length (feet): 284
 Distance to Pit (feet) 132368
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

MEDIUM Clearing and Grubbing	2.84 stations @	\$	195.00	per station	\$	553.80
					C & G Total \$	553.80

EXCAVATION AND FILL

Construction (balanced, light)	2.84 stations @	\$	296.00	per station	\$	840.64
Landing (small)	2 each @	\$	205.50	each	\$	411.00
					Excavation Total \$	1,251.64

ROCK

3" Minus Purchase Price w/ tax	48 CY @	\$	14.85	per CY	\$	716.96	
Load dump truck	48 CY @	\$	0.95	per CY	\$	45.71	
Rock haul	Round Trip (feet) 265304	9.904 Hours @	\$	135.00	per Hour	\$	1,337.00
Process/Compacting Ballast (12" Lift)	48 CY @	\$	1.35	per CY	\$	65.05	
					Road Rock Total \$	2,164.71	

CULVERTS & FLUMES

Ditchout/Drivable Dip	2.00 each @		\$61.39	each		\$122.79
					Culvert, Flume, & Pipe Bedding Total	\$122.79

MISC. MAINTENANCE

Grass seed (spread by hand)	6 pounds @	\$	3.34	per pound	\$	20.12
					Misc Maintenance Total \$	20.12

Construction Total	\$	4,113.06
\$/sta	\$	1,448.26

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.063
 Total road length (feet): 130
 Distance to Pit (feet) 132503
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	1.30 stations @	\$	101.64	per station	\$	132.13
					C & G Total	\$ 132.13

EXCAVATION AND FILL

Construction (balanced, light)	1.30 stations @	\$	296.00	per station	\$	384.80
Landing (medium)	1 each @	\$	303.75	each	\$	303.75
					Excavation Total	\$ 688.55

ROCK

3" Minus Purchase Price w/ tax	22 CY @	\$	14.85	per CY	\$	328.19
Load dump truck	22 CY @	\$	0.95	per CY	\$	20.92
Rock haul	Round Trip (feet) 265266	4.641 Hours @	\$ 135.00	per Hour	\$	626.56
Process/Compacting Ballast (12" Lift)	22 CY @	\$	1.35	per CY	\$	29.78
					Road Rock Total	\$ 1,005.44

CULVERTS & FLUMES

Ditchout	2.00 each @		\$61.39	each		\$122.79
					Culvert, Flume, & Pipe Bedding Total	\$122.79

MISC. MAINTENANCE

Grass seed (spread by hand)	3 pounds @	\$	3.34	per pound	\$	9.21
					Misc Maintenance Total	\$ 9.21

Construction Total	\$	1,958.12
\$/sta	\$	1,506.25

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.064
 Total road length (feet): 254
 Distance to Pit (feet) 133139
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	2.54 stations @	\$	101.64	per station	\$	258.17
					C & G Total	\$ 258.17

EXCAVATION AND FILL

Construction (full bench/end haul, light) < 70% SS	2.54 stations @	\$	2,131.24	per station	\$	5,413.36
Landing (small)	1 each @	\$	205.50	each	\$	205.50
Landing (medium)	1 each @	\$	303.75	each	\$	303.75
					Excavation Total	\$ 5,922.61

ROCK

1¼" Minus Purchase Price w/ tax	43 CY @	\$	22.28	per CY	\$	962.05
3" Minus Purchase Price w/ tax	43 CY @	\$	14.85	per CY	\$	641.22
Load dump truck	86 CY @	\$	0.95	per CY	\$	81.75
Rock haul	Round Trip (feet) 266786	17.654 Hours @	\$	135.00	per Hour	\$ 2,383.33
Process/Compacting Ballast (12" Lift)	86 CY @	\$	1.35	per CY	\$	116.35
					Road Rock Total	\$ 4,184.71

MISC. MAINTENANCE

Grass seed (spread by hand)	5 pounds @	\$	3.34	per pound	\$	18.00
					Misc Maintenance Total	\$ 18.00

Construction Total	\$	10,383.48
\$/sta	\$	4,087.98

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.065
 Total road length (feet): 189
 Distance to Pit (feet) 133244
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	1.89 stations @	\$	101.64	per station	\$	192.10
					C & G Total	\$ 192.10

EXCAVATION AND FILL

Reconstruction (light)	1.89 stations @	\$	147.49	per station	\$	278.76
					Excavation Total	\$ 484.26

ROCK

3" Minus Purchase Price w/ tax	32 CY @	\$	14.85	per CY	\$	477.13
Load dump truck	32 CY @	\$	0.95	per CY	\$	30.42
Rock haul	Round Trip (feet) 266866	6.696 Hours @	\$	135.00	per Hour	\$ 903.93
Process/Compacting Ballast (12" Lift)	32 CY @	\$	1.35	per CY	\$	43.29
					Road Rock Total	\$ 1,454.76

CULVERTS & FLUMES

Ditchout	1.00 each @		\$61.39	each		\$61.39
					Culvert, Flume, & Pipe Bedding Total	\$61.39

MISC. MAINTENANCE

Grass seed (spread by hand)	4 pounds @	\$	3.34	per pound	\$	13.39
					Misc Maintenance Total	\$ 13.39

Construction Total	\$	2,205.91
\$/sta	\$	1,167.15

SALE/PROJECT NAME: Pop
 CONTRACT #: 35-104453
 ROAD NUMBER: Temp 54-000.066
 Total road length (feet): 276
 Distance to Pit (feet) 134011
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	2.76 stations @	\$	101.64	per station	\$	280.53
					C & G Total	\$ 280.53

EXCAVATION AND FILL

Reconstruction (light)	2.76 stations @	\$	147.49	per station	\$	407.08
Landing (small)	1 each @	\$	205.50	each	\$	205.50
					Excavation Total	\$ 612.58

ROCK

3" Minus Purchase Price w/ tax	47 CY @	\$	14.85	per CY	\$	696.76
Load dump truck	47 CY @	\$	0.95	per CY	\$	44.42
Rock haul	Round Trip (feet) 268574	9.747 Hours @	\$	135.00	per Hour	\$ 1,315.79
Process/Compacting Ballast (12" Lift)	47 CY @	\$	1.35	per CY	\$	63.22
					Road Rock Total	\$ 2,120.18

CULVERTS & FLUMES

Ditchout	1.00 each @		\$61.39	each		\$61.39
					Culvert, Flume, & Pipe Bedding Total	\$61.39

MISC. MAINTENANCE

Grass seed (spread by hand)	6 pounds @	\$	3.34	per pound	\$	19.55
					Misc Maintenance Total	\$ 19.55

Construction Total	\$	3,094.23
\$/sta	\$	1,121.10

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.07
 Total road length (feet): 2800
 Distance to Pit (feet) 135640
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	28.00 stations @	\$	101.64	per station	\$	2,845.92
					C & G Total	\$ 2,845.92

EXCAVATION AND FILL

Reconstruction (medium)	28.00 stations @	\$	247.09	per station	\$	6,918.55
Landing (small)	6 each @	\$	205.50	each	\$	1,233.00
Turnaround	4 each @	\$	203.73	each	\$	814.90
					Excavation Total	\$ 8,966.45

ROCK

1¼" Minus Purchase Price w/ tax	166 CY @	\$	22.28	per CY	\$	3,692.91
Load dump truck	166 CY @	\$	0.95	per CY	\$	156.91
Rock haul	Round Trip (feet) 276880	70.626 Hours @	\$	135.00	per Hour	\$ 9,534.52
Process/Compacting Ballast (12" Lift)	336 CY @	\$	1.35	per CY	\$	452.36
Light Loose Rip Rap	170 CY @	\$	32.50	per CY	\$	5,525.00
					Road Rock Total	\$ 19,361.70

CULVERTS & FLUMES

18" Polyethylene, double wall	230 feet @	\$24.14	per foot	\$5,552.13	
24" Polyethylene, double wall	50 feet @	\$30.49	per foot	\$1,524.47	
36" Polyethylene, double wall	40 feet @	\$62.44	per foot	\$2,497.58	
48" Polyethylene, double wall	120 feet @	\$107.43	per foot	\$12,891.46	
Ditchout	3.00 each @	\$61.39	each	\$184.18	
1¼" Minus Purchase Price w/ tax	240.00 CY @	\$22.28	per CY	\$5,347.20	
Rock haul	Round Trip (feet) 276880	55.14 Hours @	\$135.00	per hour	\$7,444.15
			Culvert, Flume, & Pipe Bedding Total	\$35,441.17	

MISC. MAINTENANCE

Grass seed (spread by hand)	59 pounds @	\$	3.34	per pound	\$	198.38
					Misc Maintenance Total	\$ 198.38

Construction Total	\$	66,813.62
\$/sta	\$	2,386.20

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.08
 Total road length (feet): 189
 Distance to Pit (feet) 138427
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	1.89 stations @	\$	101.64	per station	\$	192.10
					C & G Total	\$ 192.10

EXCAVATION AND FILL

Construction (balanced, light)	1.89 stations @	\$	296.00	per station	\$	559.44
Landing (small)	1 each @	\$	205.50	each	\$	205.50
					Excavation Total	\$ 968.67

ROCK

3" Minus Purchase Price w/ tax	32 CY @	\$	14.85	per CY	\$	477.13
Load dump truck	32 CY @	\$	0.95	per CY	\$	30.42
Rock haul	Round Trip (feet) 277232	6.948 Hours @	\$	135.00	per Hour	\$ 937.99
Process/Compacting Ballast (12" Lift)	32 CY @	\$	1.35	per CY	\$	43.29
					Road Rock Total	\$ 1,488.83

MISC. MAINTENANCE

Grass seed (spread by hand)	4 pounds @	\$	3.34	per pound	\$	13.39
					Misc Maintenance Total	\$ 13.39

Construction Total	\$	2,662.98
\$/sta	\$	1,408.99

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.09
 Total road length (feet): 710
 Distance to Pit (feet) 138736
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

MEDIUM Clearing and Grubbing	7.10 stations @	\$	195.00	per station	\$	1,384.50
					C & G Total	\$ 1,384.50

EXCAVATION AND FILL

Construction (balanced, heavy)	7.10 stations @	\$	717.18	per station	\$	5,091.96
Landing (small)	3 each @	\$	205.50	each	\$	616.50
Turnaround	1 each @	\$	203.73	each	\$	203.73
					Excavation Total	\$ 5,912.18

ROCK

3" Minus Purchase Price w/ tax	121 CY @	\$	14.85	per CY	\$	1,792.40
Load dump truck	121 CY @	\$	0.95	per CY	\$	114.26
Rock haul	Round Trip (feet) 278892	25.702 Hours @	\$	135.00	per Hour	\$ 3,469.73
Process/Compacting Ballast (12" Lift)	121 CY @	\$	1.35	per CY	\$	162.62
					Road Rock Total	\$ 5,539.01

CULVERTS & FLUMES

18" Polyethylene, double wall	90 feet @	\$24.14	per foot	\$2,172.57
Ditchout	2.00 each @	\$61.39	each	\$122.79
			Culvert, Flume, & Pipe Bedding Total	\$2,295.36

MISC. MAINTENANCE

Grass seed (spread by hand)	15 pounds @	\$	3.34	per pound	\$	50.30
					Misc Maintenance Total	\$ 50.30

Construction Total	\$	15,181.36
\$/sta	\$	2,138.22

SALE/PROJECT NAME: Pop

CONTRACT #: 36-104453

ROAD NUMBER: Temp 54-000.10

Total road length (feet): 45

Distance to Pit (feet) 139276

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	0.45 stations @	\$	101.64	per station	\$	45.74
					C & G Total	\$ 45.74

EXCAVATION AND FILL

Construction (balanced, light)	0.45 stations @	\$	296.00	per station	\$	133.20
Landing (small)	1 each @	\$	205.50	each	\$	205.50
					Excavation Total	\$ 338.70

ROCK

3" Minus Purchase Price w/ tax	8 CY @	\$	14.85	per CY	\$	113.60
Load dump truck	8 CY @	\$	0.95	per CY	\$	7.24
Rock haul	Round Trip (feet) 278642	1.815 Hours @	\$ 135.00	per Hour	\$	245.01
Process/Compacting Ballast (12" Lift)	8 CY @	\$	1.35	per CY	\$	10.31
					Road Rock Total	\$ 376.16

CULVERTS & FLUMES

18" Polyethylene, double wall	40 feet @	\$24.14	per foot	\$965.59
1½" Minus Purchase Price w/ tax	20.00 CY @	\$22.28	per CY	\$445.60
Rock haul	Round Trip (feet) 278642	4.62 Hours @	\$135.00 per hour	\$623.95
			Culvert, Flume, & Pipe Bedding Total	\$2,035.14

MISC. MAINTENANCE

Grass seed (spread by hand)	1 pounds @	\$	3.34	per pound	\$	3.19
					Misc Maintenance Total	\$ 3.19

Construction Total \$ 2,798.92
 \$/sta \$ 6,219.83

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.11
 Total road length (feet): 659
 Distance to Pit (feet) 141773
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

MEDIUM Clearing and Grubbing	6.59 stations @	\$	195.00	per station	\$	1,285.05
					C & G Total	\$ 1,285.05

EXCAVATION AND FILL

Construction (balanced, medium)	6.59 stations @	\$	489.18	per station	\$	3,223.68
Landing (small)	1 each @	\$	205.50	each	\$	205.50
Landing (medium)	1 each @	\$	303.75	each	\$	303.75
					Excavation Total	\$ 3,732.93

ROCK

3" Minus Purchase Price w/ tax	112 CY @	\$	14.85	per CY	\$	1,663.65
Load dump truck	112 CY @	\$	0.95	per CY	\$	106.06
Rock haul	Round Trip (feet) 284864	24.377 Hours @	\$	135.00	per Hour	\$ 3,290.86
Process/Compacting Ballast (12" Lift)	112 CY @	\$	1.35	per CY	\$	150.94
					Road Rock Total	\$ 5,211.50

CULVERTS & FLUMES

Ditchout/Drivable Waterbar	1.00 each @	\$61.39	each	\$61.39	
Rock haul	Round Trip (feet) 284864	0.00 Hours @	\$135.00	per hour	\$0.00
				Culvert, Flume, & Pipe Bedding Total	\$61.39

MISC. MAINTENANCE

Grass seed (spread by hand)	14 pounds @	\$	3.34	per pound	\$	46.69
					Misc Maintenance Total	\$ 46.69

Construction Total	\$	10,337.56
\$/sta	\$	1,568.67

SALE/PROJECT NAME: Pop
 CONTRACT #: 36-104453
 ROAD NUMBER: Temp 54-000.12
 Total road length (feet): 1064
 Distance to Pit (feet) 148526
 Average Haul Speed (mph) 25
 Truck Load/Unload Time (minutes) 12
 Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	10.64 stations @	\$	101.64	per station	\$	1,081.45
					C & G Total	\$ 1,081.45

EXCAVATION AND FILL

Landing (small)	2 each @	\$	205.50	each	\$	411.00
Rip, Grade, shape, compact subgrade	10.64 stations @	\$	20.24	per station	\$	215.35
					Excavation Total	\$ 626.35

CULVERTS & FLUMES

Ditchout/Drivable Waterbar	4.00 each @		\$61.39	each		\$245.58
					Culvert, Flume, & Pipe Bedding Total	\$245.58

MISC. MAINTENANCE

Grass seed (spread by hand)	23 pounds @	\$	3.34	per pound	\$	75.38
					Misc Maintenance Total	\$ 75.38

Construction Total	\$	2,028.76
\$/sta	\$	190.67

SALE/PROJECT NAME: Pop

CONTRACT #: 36-104453

ROAD NAMES: Temp 42-: 000.1P, 000.2P, 000.3P, Temp 54-: 000.01, 000.02, 000.03, 000.04,
000.05, 000.06, 000.061, 000.062, 000.063, 000.064, 000.065, 000.066, 000.07,
000.08, 000.09, 000.10, 000.11, 000.12

DECOMMISSIONING

Decommissioning

Level 3 Decom	126.96 stations @	\$ 102.20 per station	\$ 12,975.31
Level 2 Decom	14.45 stations @	\$ 202.76 per station	\$ 2,929.88
Fill Removal - Shallow	200 CY @	\$ 2.96 per CY	\$ 592.00
Fill Removal - Deep	600 CY @	\$ 5.26 per CY	\$ 3,156.00
Earthen Barricade	15 Barricades	\$ 109.50 per each	\$ 1,642.50
		Decommissioning Cost	\$ 21,295.69

DECOM & CLOSURE TOTAL \$ 21,295.69

MOBILIZATION

SALE/PROJECT NAME: Pop

CONTRACT #: 36-104453

ROAD BUILDING EQUIPMENT

	hrs/trip	trips	Hours	\$/HR	Total
Grader	3	2	6	\$ 120.00	\$ 720
Dozer (small)	3	2	6	\$ 120	\$ 720
Excavator 120HP	3	2	6	\$ 116	\$ 696
Excavator (large)	0	2	0	\$ 200	\$ -
Roller	3	2	6	\$ 80	\$ 480
End Dump	3	2	6	\$ 135	\$ 810
Tractor Brusher	3	1	3	\$ 65	\$ 195
Dump Truck Tilt Deck	4	11	44	\$ 147.00	\$ 6,468

ROAD BUILDING EQUIPMENT SUBTOTAL: \$ 10,089