



TIMBER NOTICE OF SALE

SALE NAME: MM MM GOOD

AGREEMENT NO: 30-104153

AUCTION: December 14, 2023 starting at 10:00 a.m., **COUNTY:** Grays Harbor
Pacific Cascade Region Office, Castle Rock, WA

SALE LOCATION: Sale located approximately 15 miles west of Oakville

**PRODUCTS SOLD
AND SALE AREA:**

All timber, except leave trees bound by yellow "Leave Tree Area" tags, leave trees marked with blue paint, and all down timber existing 10 years prior to the day of sale, and snags bounded by the following:

Unit 1, white "Timber Sale Boundary" tags with pink "Timber Harvest Boundary" flagging, T-5000, T-5200, and T-5300 roads;

Unit 2, white "Timber Sale Boundary" tags with pink "Timber Harvest Boundary" flagging and the T-5200 road;

Unit 3 (ROW), orange "Right of Way Boundary" tags with pink "Timber Harvest Boundary" flagging;

All forest products above located on part(s) of Sections 25, 26 and 35 all in Township 16 North, Range 6 West, W.M., containing 95 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: BVC-SFIFM-018227)

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	27.9	8	2,814			49	389		2,085	250	29	12
Hemlock	19		1,885						1,368	408	94	15
Red alder	16.5		88						50	8	30	
Maple	15		64						23	12	29	
Redcedar	20.6		11							8	3	
Sale Total			4,862									

MINIMUM BID: \$1,036,000.00 **BID METHOD:** Sealed Bids

PERFORMANCE SECURITY: \$100,000.00 **SALE TYPE:** Lump Sum

EXPIRATION DATE: October 31, 2025 **ALLOCATION:** Export Restricted

BID DEPOSIT: \$103,600.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.



TIMBER NOTICE OF SALE

HARVEST METHOD: Cable, Cable-Assist, and Shovel. Harvesting activities are estimated to be 50 percent ground based yarding and 50 percent cable yarding. Ground based equipment is restricted to slopes of 45 percent and less, and shall operate only during dry soil conditions. Self-Leveling ground based yarding equipment will not be permitted on sustained slopes over 60 percent. Cable assist operations will not be permitted on slopes over 75 percent. See Clause H-140 for further harvest requirements.

ROADS: 29.63 stations of required construction. 25.97 stations of required reconstruction. 17.27 stations of optional construction. 6.80 stations of optional reconstruction. 114.30 stations of required prehaul maintenance. 13.00 stations of abandonment. Rock used in accordance with the quantities on the ROCK LIST may be obtained from any commercial source at the Purchaser's expense. Road construction will not be permitted from October 1 to April 30 unless authorized in writing by the Contract Administrator. All road work will not be permitted from October 1 to April 30 unless authorized in writing by the Contract Administrator.

ACREAGE DETERMINATION

CRUISE METHOD: The sale acres were determined by GPS. The sale area was cruised using a variable plot cruise method and 1/20th acre fixed plots.

FEES: \$82,654.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: This sale contains approximately 49 MBF of 3P DF, 389 MBF SM DF, 468 MBF high quality 2 Saw DF and 6 MBF high quality 3 Saw DF. See Cruise for additional for additional information.

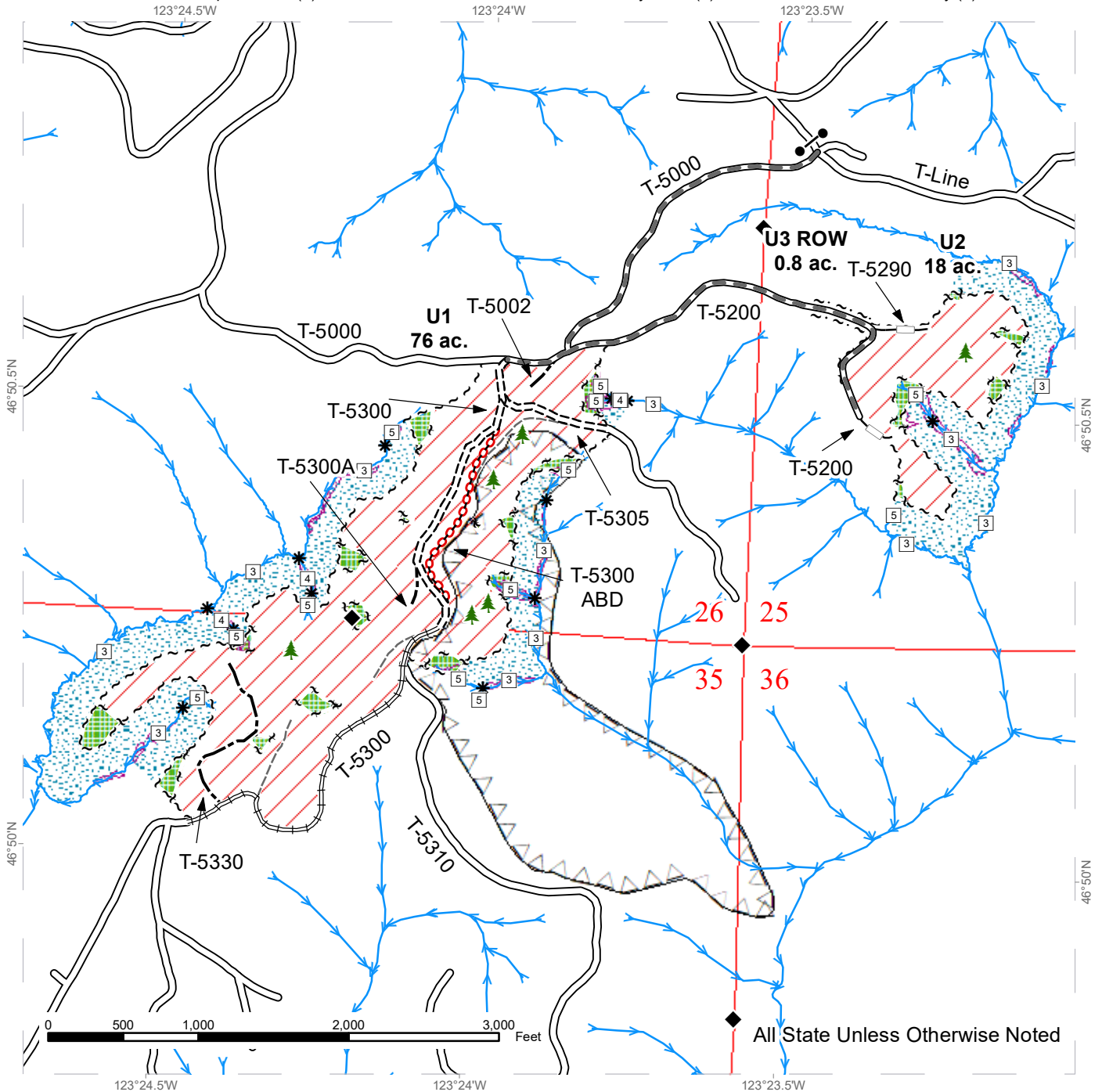
Timing restrictions apply in portions of Unit 1 from March 1 to August 31.

All trees 60 inches Diameter at Breast Height (DBH) and greater shall not be felled unless for safety reasons. If trees 60 inches DBH or greater needs to be felled for safety reasons, trees will be left where felled.

TIMBER SALE MAP

SALE NAME: MM MM GOOD
AGREEMENT #: 30-104153
TOWNSHIP(S): T16R6W
TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), State Forest Transfer (1)

REGION: Pacific Cascade Region
COUNTY(S): Grays Harbor
ELEVATION RGE: 560-880



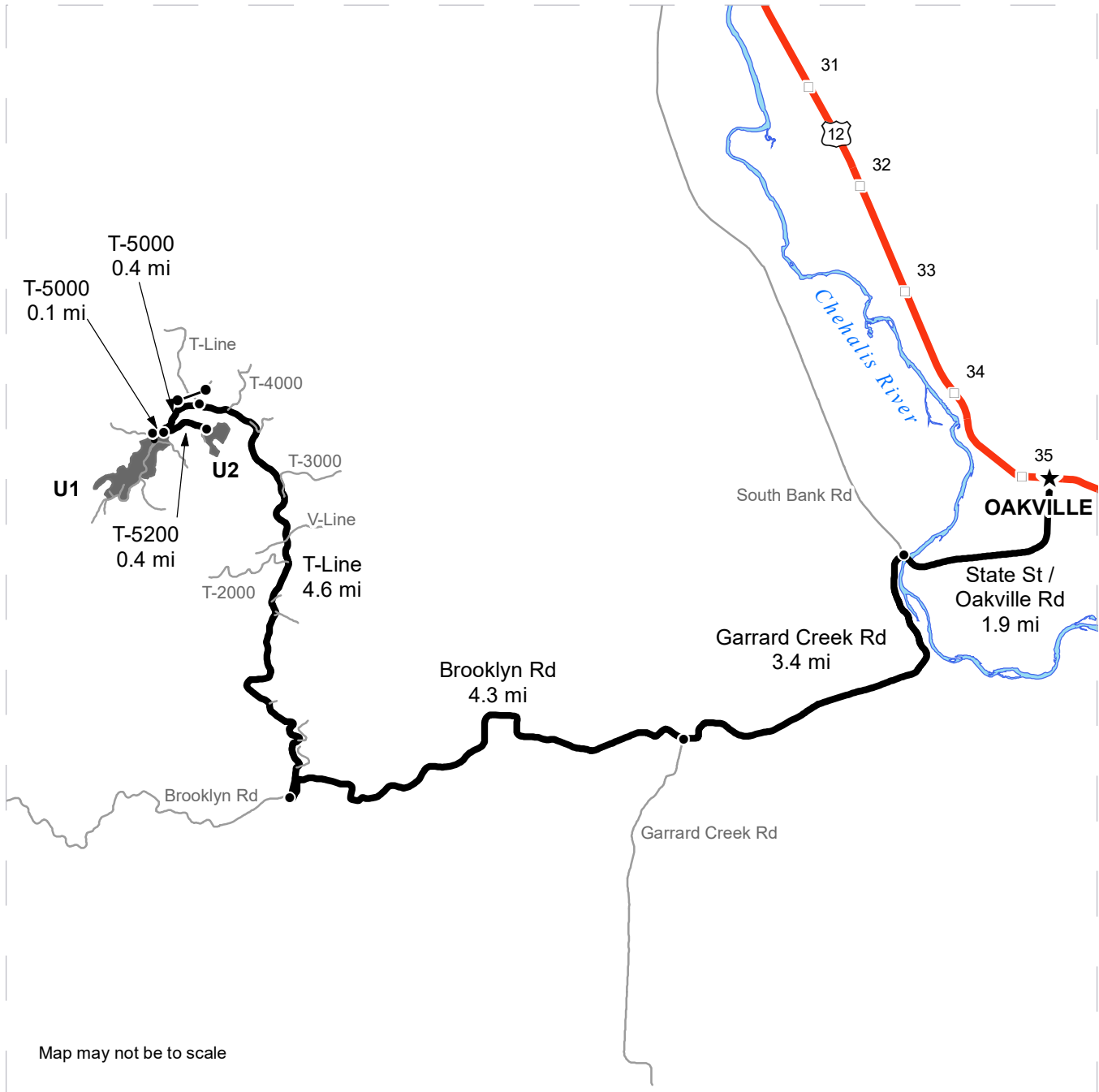
All State Unless Otherwise Noted

Sale Area	Existing Roads	Streams
Timing Restriction	Required Pre-Haul Maintenance	Stream Type
Leave Tree Area	Required Construction	Stream Type Break
Riparian Mgt Zone	Required Reconstruction	Survey Monument
Potentially Unstable Slopes	Optional Construction	Gate (PCP1)
Sale Boundary Tags	Optional Reconstruction	Leave Tree Area
Leave Tree Tags	Required Abandonment	
Right of Way Tags	Old Grades/Trails	

DRIVING MAP

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AGREEMENT#: 30-104153
TOWNSHIP(S): T16R6W
TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), State Forest Transfer (1)

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Map may not be to scale

- Timber Sale Unit
- Haul Route
- Other Road
- Milepost Markers
- Distance Indicator
- Gate
- Oakville

DRIVING DIRECTIONS:
 From the intersection of US-12/Pine and State St. in Oakville, head south on State St. for 1.9 miles, becoming Oakville Rd.
 From end of Oakville Rd., turn left onto Garrard Creek Rd. and follow 3.4 miles before making a slight right onto Brooklyn Rd.
 Follow Brooklyn Rd. 4.3 miles and turn right onto T-Line (marker 20)
 Follow T-Line for 4.6 miles and turn left at the gate onto the T-5000
Unit 1: Travel west on the T-5000 for 0.4 miles to reach Unit 1 and T-5200.
 Travel another 0.1 miles to reach the T-5300
Unit 2: Turn left on the T-5200 and follow for 0.4 miles to reach Unit 2



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

**BILL OF SALE AND CONTRACT FOR
FOREST PRODUCTS**

Export Restricted Lump Sum AGREEMENT NO. 30-0104153

SALE NAME: MM MM GOOD

**THE STATE OF WASHINGTON DEPARTMENT OF NATURAL
RESOURCES, HEREINAFTER ACTING SOLELY, IN ITS PROPRIETARY
CAPACITY, STATE, AND PURCHASER, AGREE AS FOLLOWS:**

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

Bill of Sale and Contract for Forest Products: 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. The Bill of Sale and Contract for Forest Products may include a Road Plan for any road construction or reconstruction, where applicable.

Contract Administrator: Region Manager'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 a Bill of Sale and Contract for Forest Products with the State for the right to harvest and remove forest products from the timber sale area.

Road Construction: Includes building new and maintaining existing forest roads and associated work that may be optional or required as described in the Road Plan.

State: The Washington State Department of Natural Resources, landowner and seller of Forest Products from the timber sale area. The State is represented by the Region Manager as designated on the contract signature page. Contractual obligations to the State are enforced by the Region Manager 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 Bill of Sale and Contract for Forest Products. The Purchaser is responsible for independently negotiating, procuring and paying for all subcontracted services rendered.

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on December 14, 2023 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees bound by yellow "Leave Tree Area" tags, leave trees marked with blue paint, and all down timber existing 10 years prior to the day of sale, and snags bounded by the following:

Unit 1, white "Timber Sale Boundary" tags with pink "Timber Harvest Boundary" flagging, T-5000, T-5200, and T-5300 roads;

Unit 2, white "Timber Sale Boundary" tags with pink "Timber Harvest Boundary" flagging and the T-5200 road;

Unit 3 (ROW), orange "Right of Way Boundary" tags with pink "Timber Harvest Boundary" flagging;

All forest products above located on approximately 95 acres on part(s) of Sections 25, 26, and 35 all in Township 16 North, Range 6 West W.M. in Grays Harbor County(s) as designated on the sale area and as shown on the attached timber sale map.

All forest products described above from the bole of the tree that meet or exceed 2 inches diameter inside bark on the small end are eligible for removal. Above ground components of a tree that remain as by-products after the manufacture of logs, including but not limited to tree tops, branches, limbs, needles, leaves, stumps, are not eligible for removal under the terms of this contract.

Forest products purchased under a contract that is designated as export restricted shall not be exported until processed. Forest products purchased under a contract that is designated as exportable may be exported prior to processing.

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.

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2025.

G-040 Contract Term Adjustment - No Payment

Purchaser may request an adjustment in the contract term. A claim must be submitted in writing and received by the State within 30 days after the start of interruption or delay. The claim 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. The cause must be one of the following and the adjustment may be granted only if operations or planned operations under this contract are actually interrupted or delayed:

- a. Road and bridge failures which deny access.
- b. Access road closures imposed by road owner.
- c. Excessive suspensions as provided in clause G-220.
- d. Regulatory actions not arising from Purchaser's failure to comply with this contract which will prevent timber harvest for a period less than 6 months.

G-051 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 is endeavoring to remove the forest products conveyed. The term of this contract may be extended for a reasonable time by the State if all of the following conditions are satisfied:

- a. A written request for extension of the contract term must be received prior to the expiration date of the contract.
- b. Completion of all required roads and compliance with all contract and regulatory requirements.
- c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the total contract price.

For the second extension, not to exceed 1 year, payment of at least 90 percent of the total contract price.

The payments shall not include the initial deposit which shall be held according to the provisions of RCW 79.15.100.

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

All payments, except the initial deposit, will be deducted from the total contract price to determine the unpaid portion of the contract.

- e. Payment of \$1,486.00 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 \$200.00.
- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

Whenever the State determines that a survey for sensitive, threatened, or endangered species is prudent, or when Purchaser determines a survey is prudent and the State agrees, Purchaser shall perform such surveys at Purchaser's expense and to the standards required by the State. The survey information shall be supplied to the State.

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 SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.
- g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.
- h. Items contained in any other documents prepared for or by the State.

G-061 Inadvertent Discovery of Cultural Resources

Purchaser acknowledges that cultural resources as defined in WAC 222-16-010 may exist within the timber sale area and that the existence and location of such resources may be unknown at the time this contract is executed. Purchaser has a duty to exercise due care in its operations and in the event any human skeletal remains are discovered by the Purchaser or the State during the course of operations Purchaser shall immediately halt operations and notify local law enforcement in the most expeditious manner possible then notifying the Contract Administrator. In the event cultural resources are discovered by the Purchaser or the State during the course of operations Purchaser shall immediately halt operations and notify the Contract Administrator. Any potential resources shall not be removed or disturbed. Purchaser shall resume operations as directed in writing by the Contract Administrator.

G-062 Habitat Conservation Plan

The State has entered into a Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) to address state trust land management issues relating to compliance with the Federal Endangered Species Act. The activities to be carried out under this contract are located within the State's HCP area and are subject to the terms and conditions of the HCP, and the Services' Incidental Take Permit Nos. TE812521-1 and 1168 (collectively referred to as ITP), or as amended hereafter by the Services. The ITP authorizes the incidental take of certain federally listed threatened and endangered species, as specified in the ITP conditions. All HCP materials, including the ITP, are available for review at the State's Regional Offices and the administrative headquarters in Olympia, Washington.

By signing this contract, Purchaser agrees to comply with the terms and conditions of the ITP, and the HCP, which shall become terms of this contract. The State agrees to authorize the lawful activities of the Purchaser carried out pursuant to this contract, PROVIDED the Purchaser remains in compliance with the terms and conditions of both

the HCP and ITP. The requirements set forth in this contract are intended to comply with the terms and conditions of the HCP and ITP. Accordingly, non-compliance with the terms and conditions of the HCP and ITP will render the authorization provided in this paragraph void, be deemed a breach of the contract and may subject Purchaser to liability for violation of the Endangered Species Act.

Any modifications to the contract shall be proposed in writing by Purchaser, shall continue to meet the terms and conditions of the HCP and ITP, and shall require the prior written approval of the Region Manager before taking effect.

G-063 Incidental Take Permit Notification Requirements

- a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.
- b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.
- c. Purchaser shall refer to a specific ITP number, ITP TE812521-1 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.
- d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

Purchaser is responsible for obtaining any permits not already obtained by the State that relate to Purchaser's operation. Forest Practice Application / Hydraulic Project Approval permits obtained by the State shall be transferred to Purchaser. Purchaser is responsible for all permits, amendments and renewals.

G-065 Regulatory Disclaimer

The State disclaims any responsibility for, or liability relating to, regulatory actions by any government agency, including actions pursuant to the Forest Practices Act, Ch. 76.09 RCW that may affect the operability of the timber sale.

G-066 Governmental Regulatory Actions

a. Risk

Purchaser shall be responsible for any increased operational costs arising from any applicable foreign or domestic governmental regulation or order that does not cause contract performance to become commercially impracticable or that does not substantially frustrate the purpose of the contract. If impracticability or frustration results from Purchaser's failure to comply with this contract, Purchaser shall remain responsible for payment of the total contract price notwithstanding the impracticability or frustration.

b. Sale Area

When portions of the sale area become subject to a foreign or domestic governmental regulation or order that will likely prevent timber harvest for a period that will exceed the expiration date of this contract, and Purchaser has complied with this contract, the following shall apply:

i. RCW 79.15.140 shall govern all adjustments to the contract area.

c. Adjustment of Price

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 subject to governmental regulation or order to be measured. The State shall calculate the percentage of the total sale area subject to the governmental regulation or order. 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 was unable to fully 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-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, unapplied payments, and credit for unamortized improvements made by Purchaser. The State shall not be liable for any damages, whether direct, incidental or consequential.

G-080 Scope of State Advice

No advice by any agent, employee, or representative of the State regarding the method or manner of performing 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 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 shall not be liable for any injuries resulting from Purchaser's reliance on any State advice regarding the method or manner of performance.

G-091 Sale Area Adjustment

The Parties may agree to adjustments in the sale area boundary. The cumulative changes to the sale area during the term of the contract shall not exceed more than four percent of the original sale area. If the sale area is increased, the added forest products become a part of this contract. The State shall determine the volume added and shall calculate the increase to the total contract price using the rates set forth in clause G-101, G-102, or G-103. If the sale area is reduced, the State shall determine the volume to be reduced. The State shall calculate the reduction to the total contract price using the rates set forth in clause G-101, G-102, or G-103.

G-101 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 the Scribner log scale volume, as defined by the Northwest Log Rules Advisory Group, shall be determined by the Contract Administrator. Added forest products shall be paid for at the following contract payment rates per Mbf Scribner log scale.

The pricing schedule has not been set for the sale.

G-111 Title and Risk of Loss

Title to the forest products under this contract passes to the Purchaser after they are removed from the sale area, if adequate advance payment or payment security has been provided to the State under this contract. Purchaser bears all risk of loss of, or damage to, and has an insurable interest in, the forest products described in this contract from the time the sale is confirmed under RCW 79.15.120. Breach of this contract shall have no effect on this provision.

G-116 Sustainable Forestry Initiative® (SFI®) Certification

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative 2022 Forest Management Standard under certificate number: BVC-SFIFM-018227.

Purchaser shall have at least one person regularly on-site during active operations that have completed training according to the requirements outlined within the SFI Standard. Purchaser shall designate in writing the name(s) of the individual(s) who will be on-site and provide proof of their successful completion of an approved training program prior to active operations.

G-120 Responsibility for Work

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

G-121 Exceptions

Exceptions to Purchaser's responsibility in clause G-120 shall be limited exclusively to the following. 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 State will bear the cost to repair damages caused by a third party. In all other cases, the Purchaser shall bear responsibility for the costs as described below.

Road is defined as the road bed, including but not limited to its component parts, such as cut and fill slopes, subgrade, ditches, culverts, bridges, and cattle guards.

For the purposes of this clause, damage will be identified by the State and is defined as:

1. Failure of (a) required improvements or roads designated in clause C-050, or (b) required or optional construction 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.

The repair work identified by the State shall be promptly completed by Purchaser at an agreed price. The State may elect to accomplish repairs by means of State-provided resources.

For each event, Purchaser shall be solely responsible for the initial \$5,000 in repairs. For repairs in excess of \$5,000, the parties shall share equally the portion of costs between \$5,000 and \$15,000. The State shall be solely responsible for the portion of the cost of repairs that exceed \$15,000.

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 Purchasers 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 State, agencies of State and all officials, agents and employees of State, from and against all claims arising out of or resulting from the performance of 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. Purchasers' obligations to indemnify, defend, and hold harmless includes any claim by Purchasers' agents, employees, representatives, or any subcontractor or its employees. Purchaser expressly agrees to indemnify, defend, and hold harmless State for any claim arising out of or incident to Purchasers' or any subcontractors' performance or failure to perform the contract. Purchasers' obligation to indemnify, defend, and hold harmless State shall not be eliminated or reduced by any actual or alleged concurrent negligence of State or its 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 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 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 region office of sale origin 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 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, its elected and appointed officials, agents and employees shall be named as an additional insured via endorsement 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, if necessary, 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, if necessary, 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, if necessary, 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 for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

G-160 Agents

The State's rights and duties will be exercised by the Region Manager at Castle Rock, Washington. The Region Manager will notify Purchaser in writing who is responsible for administering the contract. The Region Manager 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 has any authority to bind the State to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract.

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 from the State, and any limits to this person's authority.

G-170 Assignment and Delegation

No rights or interest in this contract shall be assigned by Purchaser without prior written permission of the State. 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, but Purchaser is not thereby relieved of any duty to perform or any liability. Any assignee or 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 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

Notices required to be given under the following clauses shall be in writing and shall be delivered to Purchaser's authorized agent or sent by certified mail to Purchaser's address of record:

G-210 Violation of Contract

G-220 State Suspends Operations

All other notices required to be given under this contract shall be in writing and delivered to the authorized agent or mailed to the Party's post office address. Purchaser agrees to notify the State of any change of address.

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 (such as a violation of WAC 240-15-015) 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.

- b. If the contract expires pursuant to clause G-030 or G-031 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 Operations

The Contract Administrator may suspend any operation of Purchaser under this contract when the State is suffering, or there is a reasonable expectation the State will suffer environmental, monetary, or other damage if the operation is allowed to continue.

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, Purchaser is entitled to request a contract term adjustment under clause G-040.

If it reasonably appears that the damage that the State 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 this contract, the provisions of clause G-066 shall govern just as if the harvest was prevented by an applicable foreign or domestic governmental 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 State law, is unauthorized. Such activity may subject Purchaser to liability for triple the value of said forest products under RCW 79.02.320 or RCW 79.02.300 and may result in prosecution under RCW 79.02.330 or other applicable statutes.

G-240 Dispute Resolution

The following procedures apply in the event of a dispute regarding interpretation or administration of this contract and the parties agree that these procedures must be followed before a lawsuit can be initiated.

- a. In the event of a dispute, Purchaser must make a written request to the Region Manager for resolution prior to seeking other relief.
- b. The Region Manager will issue a written decision on Purchaser's request within ten business days.
- c. Within ten business days of receipt of the Region Manager's decision, Purchaser may make a written request for resolution to the Deputy Supervisor - Uplands of the Department of Natural Resources.
- d. Unless otherwise agreed, a conference will be held by the Deputy Supervisor - Uplands within 30 calendar days of the receipt of Purchaser's request for review of the Region Manager's written decision. Purchaser and the Region Manager will have an opportunity to present their positions. The Deputy Supervisor - Uplands will issue a decision within a reasonable time of being presented with both Parties' positions.

G-250 Compliance with All Laws

Purchaser shall comply with all applicable statutes, regulations and laws, including, but not limited to; chapter 27.53 RCW, chapter 68.50 RCW, WAC 240-15 and WAC 296-54. Failure to comply may result in forfeiture 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 Left on State Land

All equipment owned or in the possession of Purchaser, its employees, agents, or invitees, including independent contractors, shall be removed from the sale area and other State land by the termination date of this contract. Equipment remaining unclaimed on State land 60 days after the expiration of the contract period is subject to disposition as provided by law. Purchaser shall pay to the State all costs of moving, storing, and disposing of such equipment. The State shall not be responsible for any damages to or loss of the equipment or damage caused by the moving, storing or disposal of the 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 timber sales 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 State roads and roads for which the State has acquired easements and road use permits; T-Line, T-5000, T-5002, T-5200, T-5290, T-5300, T-5300A , T-5305 and T-5330. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

Purchaser shall arrange with the Contract Administrator to review this contract and to examine the sale area before beginning any operations. A plan of operations shall be developed and agreed upon by the Contract Administrator and Purchaser before beginning any operations. 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

Any legal land subdivision survey corners and witness objects are to be preserved. If such are destroyed or disturbed, the Purchaser shall, at the Purchaser's own expense, re-establish them through a licensed land surveyor in accordance with U.S. General Land Office standards. Corners and/or witness objects that must be disturbed or destroyed in the process of road construction or logging shall be adequately referenced and/or replaced in accordance with RCW 58.24.040(8). Such references must be approved by the Contract Administrator prior to removal of said corners and/or witness objects.

G-360 Road Use Reservation

The State shall have the right to use, without charge, all existing roads and any road constructed or reconstructed on State lands by Purchaser under this contract. The State may extend such rights to others. If the State grants such rights to others, the State shall require performance or payment, as directed by the State, for their proportionate share of maintenance based on their use.

G-370 Blocking Roads

Purchaser shall not block the T-Line and T-5000, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

Purchaser agrees to comply with the terms and conditions of the attached:

Easement #55-000888 between State and Weyerhaeuser dated October 20, 1972.

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.

G-450 Encumbrances

This contract and Purchaser's activities are subject to the following:

DATA MISSING

Section P: Payments and Securities

P-011 Initial Deposit

Purchaser paid DATA MISSING initial deposit, which will be maintained pursuant to RCW 79.15.100(3). If the operating authority on this contract expires without Purchaser's payment of the full amount specified in Clause P-020, 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-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$126,412.00. The total contract price consists of a \$0.00 contract bid price plus \$126,412.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

THE PURCHASE PRICE SHALL NOT BE AFFECTED BY ANY FACTORS, INCLUDING: the amount of forest products actually present within the contract area, the actual acreage covered by the contract area, the amount or volume of forest products actually cut or removed by purchaser, whether it becomes physically impossible or uneconomic to remove the forest products, and whether the subject forest products have been lost or damaged by fire or any other cause. The only situations Purchaser may not be liable for the full purchase price are governed by clause G-066, concerning governmental regulatory actions taken during the term of the contract.

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-050 Billing Procedure

The State will compute and forward to Purchaser statements of charges provided for in the contract. Purchaser shall deliver payment to the State on or before the date shown on the billing statement.

P-080 Payment Account Refund

Advance payments made under P-045 or P-045.2 remaining on account above the value for the charges shall be returned to Purchaser within 30 days following the final report of charges. Refunds not made within the 30 day period will accrue interest at the interest rate, as established by WAC 332-100-030, computed on a daily basis until paid.

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, 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 5. 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 pursuant to RCW 79.15.100. 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 performance security after an operating release has been issued if the State determines that adequate security exists for any remaining obligations of Purchaser.

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-013 Reserve Tree Damage Definition

Reserve trees are trees required and designated for retention within the sale boundary. Purchaser shall protect reserve trees from being cut, damaged, or removed during operations.

Reserve tree damage exists when one or more of the following criteria occur as a result of Purchaser's operation, as determined by the Contract Administrator:

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 100 square inches.
- b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.

- c. A reserve 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 reserve tree has been cut or damaged, the Purchaser shall provide a replacement reserve tree of like condition, size, and species within the sale unit containing the damaged leave tree, as approved by the Contract Administrator. Purchaser may be required to pay liquidated damages for Excessive Reserve Tree Damage as detailed in clause D-041.

Removal of designated reserve trees from the sale area is unauthorized, and may invoke the use of the G-230 'Unauthorized Activity' clause. Purchaser is required to leave all cut or damaged reserve trees on site.

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 12 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

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 all units. The plan shall address the felling, bucking and yarding, which are part(s) of this contract. 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-051 Branding and Painting

Purchaser shall provide a State of Washington registered log brand, acceptable to the State, unless the State agrees to furnish the brand. All purchased timber shall be branded in a manner that meets the requirements of WAC 240-15-030(2)(a)(i). All timber purchased under a contract designated as export restricted shall also be painted in a manner that meets the requirements of WAC 240-15-030(2)(a)(ii).

For pulp loads purchased under a contract designated as export restricted, Purchaser shall brand at least 3 logs with legible brands at one end. Also, 10 logs shall be painted at one end with durable red paint.

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using cable, cable assist and shovel. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

If Purchaser tailholds on State land, methods to minimize damage to live trees outside the sale area shall be employed and must be approved in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

A. Active Haul Routes will be posted with CB channels by Purchaser.

B. Ground based yarding equipment shall only operate during dry soil conditions.

C. Track mounted machines with hydraulic boom and grapple will be allowed.

D. Shovels must be large enough to pick up one end of the largest log 35 feet from machine.

E. Ground based yarding equipment will not be permitted on sustained slopes over 45 percent.

F. Self-Leveling ground based yarding equipment will not be permitted on sustained slopes over 60 percent.

G. Cable assist operations will not be permitted on slopes over 75 percent.

H. All trees 60 inches Diameter at Breast Height (DBH) and greater shall not be felled unless for safety reasons. If trees 60 inches DBH or greater needs to be felled for safety reasons, trees will be left where felled.

I. Long butts remaining on the sale must be dispersed as directed by the Contract Administrator.

Permission to do otherwise must be granted in writing by the Contract Administrator.

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

A. Sediment delivery from roads will not be allowed. Hauling operations will be shut down as needed until conditions improve or work can be completed that eliminates the delivery of sediment.

B. No Yarding will be permitted through or over areas identified to be potentially unstable on the FPA Slope Stability Form and all maps.

Permission to do otherwise must be granted in writing by the State.

H-142 Wildlife Timing Restrictions

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

Northern Spotted Owl - Timing restrictions are described as no operation of heavy equipment within the critical nesting season (March 1 to August 31). Heavy equipment is identified as felling, yarding, and loading equipment for logging, and road maintenance and construction equipment in the Eastern portion of Unit 1 as shown on the Timber Sale Map.

Permission to do otherwise must be granted in writing by the State

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 authorized 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 Boundary

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

H-250 Additional Falling Requirements

Within all units, all non-merchantable hardwood stems 2 inches DBH or 10 feet tall, shall be felled concurrently with felling operations. Areas of young or immature timber may be excluded from this requirement by the Contract Administrator.

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 7/11/2023 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on Spur A, T-5000, T-5002, T-5200, T-5200 Recon, T-5290, T-5300 Reroute, T-5300 Recon, T-5305 Reroute, T-5330 Recon and T-5330 Ext roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on all roads not listed in the C-050 clause. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-080 Landing Locations Approved Prior to Construction

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

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, valid contact numbers and procedures for medical emergencies, fire, hazardous spills, forest practice violations and any unauthorized or unlawful activity 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 for inspection at the prework meeting and kept readily available to all personnel, including subcontractors, on site during active operations.

S-010 Fire Hazardous Conditions

Purchaser acknowledges that operations under this Contract may increase the risk of fire. Purchaser shall conduct all operations under this agreement 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.

In the event of an uncontrolled fire, Purchaser agrees to provide equipment and personnel working at the site to safely and effectively engage in first response fire suppression activity.

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.

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-050 Cessation of Operations for Low Humidity

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-070 Water Supply

Purchaser shall provide, during the "closed season", a water supply with a minimum capacity of 300 gallons for rapid filling of pump trucks or trailers at a location designated by the Contract Administrator.

S-100 Stream Cleanout

Slash or debris which enters any Type 5 stream as a result of operations under this contract and which is identified by the Contract Administrator shall be removed and deposited in a stable position. Removal of slash or debris shall be accomplished in a manner that avoids damage to the natural stream bed and bank vegetation.

S-110 Resource Protection

No ground based equipment may operate within 30 feet from Type 5 streams unless authority is granted in writing 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 or other releases of hazardous material/waste during operations conducted under this contract.

b. Hazardous Materials Spill Prevention

All operations shall be conducted in a manner that avoids the release of hazardous materials, including petroleum products, into the environment (water, air or land).

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 10 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. 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 & recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29CFR 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 covered in part a., the Purchaser is responsible for immediately notifying all the following:

- Department of Emergency Management at 1-800-258-5990
- National Response Center at 1-800-424-8802
- Appropriate Department of Ecology (ECY) at 1-800-645-7911
- DNR Contract Administrator

S-131 Refuse Disposal

As required by RCW 70.93, All Purchaser generated refuse shall be removed from state lands for proper disposal prior to termination of this contract. No refuse shall be burned, buried or abandoned on state forest 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-013 Liquidated Damages or Failure to Perform

The following clauses provide for payments by Purchaser to the State for breaches of the terms of this contract other than failure to perform. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State, which will be 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.

Clause P-020 governs Purchaser’s liability in the event Purchaser fails to perform any of the contract requirements other than the below liquidated damage clauses without written approval by the State. Purchaser’s failure to pay for all or part of the forest products sold in this contract prior to expiration of the contract term results in substantial injury to the State. Therefore, Purchaser agrees to pay the State the full lump sum contract price in P-020 in the event of failure to perform.

D-041 Reserve Tree Excessive Damage

When Purchaser’s operations exceed the damage limits set forth in clause H-013, Reserve Tree Damage Definition, and when the Contract Administrator determines that a suitable replacement for a damaged reserve tree is not possible, the damaged trees result in substantial injury to the State. The value of the damaged reserve trees at the time of the breach is not readily ascertainable. Therefore, the Purchaser agrees to pay the State as liquidated damages at the rate of \$1,000.00 per tree for all damaged reserve trees that are not replaced in all harvest units.

SIGNATURES

This agreement may be executed in any number of counterparts (including by electronic mail in portable document format (.pdf), or by facsimile) each of which shall be deemed an original but all of which, when taken together, shall constitute one and the same Agreement binding on all parties.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Print Name

Scott Sargent
Pacific Cascade Region Manager

Date: _____
Address: _____

Date: _____

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 _____

PRE-CRUISE NARRATIVE

Sale Name: Mm Mm Good	Region: Pacific Cascade
Agreement #: 30-104153	District: Lewis
Contact Forester: Brady Dier Phone / Location: 360-751-9188	County(s): Grays Harbor, Choose a county
Alternate Contact: Dave Sund Phone / Location: 360-880-5802	Other information: Click here to enter text.

Type of Sale: Lump Sum	
Harvest System: Ground based	50%
Harvest System: Uphill Cable or Cable Assist	50%

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method and error of closure if applicable)
				RMZ/WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1	S26 T16N R063	03, 06, 07	122.4	37.1	6.8	2.2		76.3	GPS (Trimble)
2	S25 T16N R06W	01	38.5	18.8	1.8	0.4		17.5	GPS (Trimble)
3 ROW	S25 T16N R06W	01	0.9	0	0	0.1		0.8	Laser/compass
TOTAL ACRES			161.8	55.9	8.6	2.7		94.6	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Unit 1 is a VRH unit. Northern unit boundary is the T-5000 and T-5200 roads. The southern and a portion of the eastern unit boundary is the T-5300 road. All other unit boundaries are marked with white "Timber Sale Boundary" tags and pink "Timber Harvest Boundary" flagging.	Timing restrictions apply in eastern portion of unit; see "Timber Sale Maps" and H-142.	8 leave trees per acre (clumped & scattered) bounded by yellow "Leave Tree Area" tags with pink flagging; individual leave trees are marked with a single band of blue paint.
2	Unit 2 is a VRH unit. A portion of the western unit boundary is the T-5200 road. All other unit boundaries are marked with white "Timber Sale Boundary" tags and pink "Timber Harvest Boundary" flagging.	None.	8 leave trees per acre (clumped & scattered) bounded by yellow "Leave Tree Area" tags with pink flagging; individual leave trees are marked with a single band of blue paint.
3	Unit 3 is a ROW unit along the T-5200 road. All boundaries are marked with orange "Right of Way Boundary" tags and pink "Timber Harvest Boundary" flagging.	None.	None.

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	Douglas-fir, western hemlock / 4058	No gates; see "Driving Map".	See "Logging Plan Maps"
2	Douglas-fir, western hemlock / 795	No gates; see "Driving Map".	See "Logging Plan Maps"
3	Douglas-fir / 8	No gates; see "Driving Map".	See "Logging Plan Maps"
TOTAL MBF	4861		

REMARKS: Areas of blowdown and standing dead timber with approx. 15-year old hemlock reprod. in U1.

Prepared By: Brady Dier Date: 3/7/2022	Title: State Lands Forester	CC:
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Timber Sale Cruise Report MM MM GOOD

Sale Name: MM MM GOOD

Sale Type: LUMP SUM

Region: PACIFIC CASC

District: LEWIS

Lead Cruiser: Blake Warnstadt

Other Cruisers: DBuchanan

Cruise Narrative:

Location: MM MM GOOD is located 10 miles west of Oakville and accessed from the T-5000 and T-5200 off the Brooklyn Rd.

Cruise Design: Units 1 and 2 were cruised using variable radius plots with a 62.5 BAF for DF and WH, and a 46.94 BAF for hardwoods and RC. Unit 1 was cruised with a cruise to count ratio of 1:1 and Unit 2 had a cruise to count ratio of 2:3. U3ROW was cruised using fixed plots of 1/20 acre. DF, WH, and RC were cruised to 40' preferred log lengths and hardwoods cruised to 30 "lengths. U1 DF DBH's averaged 28" with a good amount of High Quality A and B logs mixed in with the Domestic saw logs and occasional 3P. Other DBH averages were WH 19", MA 16", RA 15", RC 11". Unit 2 DF averaged 29" and also has good amount of High Quality logs present. Other DBH averages for U-2 include WH 18.5", RA 18", MA 13" and RC 32".

Timber Quality: Unit 1 and 2 volume consists mostly DF and WH with a fair amount of RA and MA. There is also a trace amount of RC and SS. DF has an abundance of HQ A and B logs with some 3P. Damages include epicormic branching in second segments, and some spike knots, crooks and forks. WH consists of Domestic 2,3, and 4Saw with some rot, spike knots, and forks. RA and MA has good lower segments with wind damage affecting some upper logs. There are some root rot pockets and wind damaged tops throughout this unit. Minimal insect damage and no conks on live trees observed. Unit 3ROW is younger and mostly DF consisting of Domestic logs and also has some wind damaged tops.

Logging and Stand Conditions: Harvest methods for MM MM GOOD are estimated to be 50% uphill cable logging and 50% ground based logging.

General Remarks:

Timber Sale Notice Volume (MBF)

Sp	DBH	Rings/In	Age	MBF Volume by Grade						
				All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	27.9	8.0		2,814	49	389	2,085	250	29	12
WH	19.0			1,885			1,368	408	94	15
RA	16.5			88			50	8	30	
MA	15.0			64			23	12	29	
RC	20.6			11				8	3	
ALL	21.4	8.0		4,861	49	389	3,526	685	184	27

Timber Sale Notice Weight (tons)

Sp	Tons by Grade						
	All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	17,756	258	2,265	12,748	2,128	265	93
WH	15,072			10,143	3,804	986	139
RA	786			374	58	354	
MA	670			197	160	313	
RC	89				71	18	
ALL	34,373	258	2,265	23,462	6,220	1,936	232

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 (%)
261.7	4.1	195.6	2.4	51,382	4.7

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
MM MM GOOD U1	B2C: VR, 2 BAF (62.5, 46.94 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	76.3	85.3	81	39	1
MM MM GOOD U2	B2C: VR, 2 BAF (62.5, 46.94 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	17.5	19.7	20	14	1
MM MM GOOD U3 ROW	FX: FR plots (20 tree / acre expansion)	0.8	0.9	2	2	0
All		94.6	105.9	103	55	2

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	17.7	40	18,006	17,092	5.1	9,902.0	1,616.9
DF	LIVE	2 SAW	HQ-A	21.0	40	255	255	0.0	125.8	24.2
DF	LIVE	2 SAW	HQ-B	17.8	40	4,874	4,690	3.8	2,720.2	443.6
DF	LIVE	3 PEELER	HQ-A	29.9	40	520	520	0.0	258.0	49.2
DF	LIVE	3 SAW	Domestic	9.6	37	2,670	2,577	3.5	2,082.5	243.7
DF	LIVE	3 SAW	HQ-B	11.6	40	67	67	0.0	45.2	6.3
DF	LIVE	4 SAW	Domestic	6.7	24	308	304	1.3	265.0	28.8
DF	LIVE	CULL	Cull	10.0	5	92	0	100.0	0.0	0.0

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	SPECIAL MILL	HQ-A	20.8	40	4,142	4,110	0.8	2,264.6	388.8
DF	LIVE	UTILITY	Pulp	8.8	14	139	131	5.7	93.0	12.4
MA	LIVE	2 SAW	Domestic	14.5	30	297	242	18.6	196.9	22.9
MA	LIVE	3 SAW	Domestic	11.6	33	161	124	23.5	160.4	11.7
MA	LIVE	4 SAW	Domestic	6.1	28	346	306	11.7	312.7	28.9
MA	LIVE	CULL	Cull	7.9	10	36	0	100.0	0.0	0.0
RA	LIVE	2 SAW	Domestic	14.1	30	588	528	10.2	373.9	49.9
RA	LIVE	3 SAW	Domestic	10.1	29	94	82	13.2	57.6	7.7
RA	LIVE	4 SAW	Domestic	6.5	28	368	317	13.9	354.2	30.0
RA	LIVE	CULL	Cull	13.2	29	40	0	100.0	0.0	0.0
RC	LIVE	3 SAW	Domestic	9.1	40	92	85	8.0	70.6	8.0
RC	LIVE	4 SAW	Domestic	5.0	21	32	32	0.0	18.3	3.1
RC	LIVE	CULL	Cull	9.1	3	0	0	100.0	0.0	0.0
WH	LIVE	2 SAW	Domestic	16.1	40	15,323	14,466	5.6	10,142.9	1,368.4
WH	LIVE	3 SAW	Domestic	9.4	38	4,456	4,308	3.3	3,804.2	407.5
WH	LIVE	4 SAW	Domestic	5.7	26	1,018	989	2.9	986.1	93.5
WH	LIVE	CULL	Cull	7.4	7	297	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	7.7	13	181	160	11.8	138.8	15.1

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 7	LIVE	Domestic	6.3	27	380	1.5	331.8	36.0
DF	5 - 7	LIVE	Cull	6.4	7	0	100.0	0.0	0.0
DF	5 - 7	LIVE	Pulp	7.0	15	35	0.0	28.6	3.3
DF	8 - 11	LIVE	Pulp	9.5	13	55	12.6	43.5	5.2
DF	8 - 11	LIVE	Domestic	9.6	36	2,501	3.5	2,015.8	236.6
DF	8 - 11	LIVE	Cull	10.5	5	0	100.0	0.0	0.0
DF	8 - 11	LIVE	HQ-B	11.6	40	67	0.0	45.2	6.3
DF	12 - 19	LIVE	Cull	13.0	4	0	100.0	0.0	0.0
DF	12 - 19	LIVE	Pulp	13.7	13	40	0.0	20.9	3.8
DF	12 - 19	LIVE	Domestic	15.4	39	8,706	4.8	5,457.0	823.6
DF	12 - 19	LIVE	HQ-B	15.9	40	2,860	3.3	1,766.6	270.5
DF	12 - 19	LIVE	HQ-A	18.1	40	1,486	0.5	860.3	140.6
DF	20+	LIVE	Domestic	23.6	40	8,387	5.4	4,445.1	793.4
DF	20+	LIVE	HQ-B	24.4	40	1,830	4.5	953.5	173.1
DF	20+	LIVE	HQ-A	24.8	40	3,399	0.7	1,788.1	321.6
MA	5 - 7	LIVE	Cull	5.5	13	0	100.0	0.0	0.0

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
MA	5 - 7	LIVE	Domestic	5.7	29	244	11.0	248.1	23.1
MA	8 - 11	LIVE	Cull	8.9	3	0	100.0	0.0	0.0
MA	8 - 11	LIVE	Domestic	9.8	29	143	23.3	192.0	13.5
MA	12 - 19	LIVE	Domestic	13.9	30	254	14.8	205.7	24.1
MA	20+	LIVE	Domestic	21.2	30	30	35.1	24.1	2.8
MA	20+	LIVE	Cull	31.8	6	0	100.0	0.0	0.0
RA	5 - 7	LIVE	Cull	5.0	5	0	100.0	0.0	0.0
RA	5 - 7	LIVE	Domestic	6.1	27	247	14.0	279.8	23.4
RA	8 - 11	LIVE	Domestic	9.2	29	152	13.3	132.0	14.4
RA	12 - 19	LIVE	Cull	13.5	30	0	100.0	0.0	0.0
RA	12 - 19	LIVE	Domestic	14.3	30	528	10.2	373.9	49.9
RC	5 - 7	LIVE	Domestic	5.0	21	32	0.0	18.3	3.1
RC	8 - 11	LIVE	Domestic	8.8	40	43	5.9	39.5	4.0
RC	8 - 11	LIVE	Cull	9.1	3	0	100.0	0.0	0.0
RC	12 - 19	LIVE	Domestic	19.3	40	42	10.0	31.1	4.0
WH	5 - 7	LIVE	Domestic	5.9	30	1,686	3.3	1,694.4	159.5
WH	5 - 7	LIVE	Cull	6.1	5	0	100.0	0.0	0.0
WH	5 - 7	LIVE	Pulp	6.3	13	67	0.0	57.0	6.4
WH	8 - 11	LIVE	Pulp	9.1	13	58	17.9	55.7	5.5
WH	8 - 11	LIVE	Domestic	10.0	36	3,296	2.7	2,828.2	311.8
WH	8 - 11	LIVE	Cull	10.2	9	0	100.0	0.0	0.0
WH	12 - 19	LIVE	Cull	12.0	6	0	100.0	0.0	0.0
WH	12 - 19	LIVE	Pulp	12.0	15	34	20.3	26.1	3.2
WH	12 - 19	LIVE	Domestic	15.1	40	11,115	5.1	8,104.4	1,051.5
WH	20+	LIVE	Domestic	22.7	40	3,664	7.4	2,306.3	346.6
WH	20+	LIVE	Cull	25.3	26	0	100.0	0.0	0.0

Cruise Unit Report MM MM GOOD U1

Unit Sale Notice Volume (MBF): MM MM GOOD U1

Sp	DBH	Rings/In	Age	MBF Volume by Grade						
				All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	27.7	8.0		2,337	37	277	1,762	222	27	11
WH	19.1			1,626			1,190	347	76	15
MA	15.7			45			14	12	20	
RA	14.8			43			19	6	18	
RC	10.9			6				3	3	
ALL	21.5	8.0		4,058	37	277	2,985	589	144	26

Unit Cruise Design: MM MM GOOD U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (62.5, 46.94 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	76.3	85.3	81	39	1

Unit Cruise Summary: MM MM GOOD U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	91	171	2.1	1
WH	62	151	1.9	0
MA	14	18	0.2	0
RA	6	10	0.1	0
RC	2	2	0.0	0
ALL	175	352	4.3	1

Unit Cruise Statistics: MM MM GOOD U1

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	131.9	87.7	9.7	232.1	19.8	2.1	30,627	89.9	10.0
WH	116.5	97.0	10.8	182.9	30.8	3.9	21,315	101.8	11.5
MA	11.0	385.6	42.8	53.8	54.9	14.7	592	389.5	45.3
RA	5.8	297.1	33.0	97.9	25.6	10.4	568	298.2	34.6
RC	1.2	632.4	70.3	67.5	27.6	19.5	78	633.0	72.9
ALL	266.4	40.3	4.5	199.6	35.8	2.7	53,180	53.9	5.2

Unit Summary: MM MM GOOD U1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	91	ALL	27.7	109	139	32,057	30,627	4.5	31.5	131.9	25.1	2,336.9
MA	LIVE	CUT	14	ALL	15.7	43	51	771	592	23.3	8.2	11.0	2.8	45.2
RA	LIVE	CUT	6	ALL	14.8	62	76	660	568	14.0	4.9	5.8	1.5	43.3
RC	LIVE	CUT	2	ALL	10.9	36	43	82	78	4.1	1.8	1.2	0.4	6.0
WH	LIVE	CUT	62	ALL	19.1	76	97	22,816	21,315	6.6	58.6	116.5	26.7	1,626.3
ALL	LIVE	CUT	175	ALL	21.6	82	104	56,386	53,180	5.7	105.0	266.4	56.4	4,057.7
ALL	ALL	ALL	175	ALL	21.6	82	104	56,386	53,180	5.7	105.0	266.4	56.4	4,057.7

Cruise Unit Report MM MM GOOD U2

Unit Sale Notice Volume (MBF): MM MM GOOD U2

Sp	DBH	Rings/In	Age	MBF Volume by Grade						
				All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	29.2	8.0		471	12	111	322	23	1	1
WH	18.5			257			179	60	18	1
RA	18.3			43			31	2	11	
MA	13.3			18			9		9	
RC	32.0			5				5		
ALL	21.1	8.0		795	12	111	541	90	39	2

Unit Cruise Design: MM MM GOOD U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (62.5, 46.94 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	17.5	19.7	20	14	1

Unit Cruise Summary: MM MM GOOD U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	27	36	1.8	1
WH	21	29	1.5	0
RA	11	12	0.6	0
MA	4	6	0.3	0
RC	1	1	0.1	0
ALL	64	84	4.2	1

Unit Cruise Statistics: MM MM GOOD U2

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	112.5	107.5	24.0	239.2	22.0	4.2	26,915	109.8	24.4
WH	90.6	98.7	22.1	162.3	40.3	8.8	14,709	106.6	23.8
RA	28.2	174.4	39.0	87.8	42.8	12.9	2,472	179.6	41.1
MA	14.1	219.0	49.0	74.3	19.8	9.9	1,046	219.9	50.0
RC	2.3	447.2	100.0	124.0	0.0	0.0	291	447.2	100.0
ALL	247.7	44.8	10.0	183.4	44.2	5.5	45,432	62.9	11.4

Unit Summary: MM MM GOOD U2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	27	ALL	29.2	110	143	27,827	26,915	3.3	24.2	112.5	20.8	471.0
MA	LIVE	CUT	4	ALL	13.3	33	49	1,179	1,046	11.3	14.6	14.1	3.9	18.3
RA	LIVE	CUT	11	ALL	18.3	54	67	2,950	2,472	16.2	15.4	28.2	6.6	43.3
RC	LIVE	CUT	1	ALL	32.0	86	110	319	291	8.7	0.4	2.3	0.4	5.1
WH	LIVE	CUT	21	ALL	18.5	73	92	15,482	14,709	5.0	48.6	90.6	21.1	257.4
ALL	LIVE	CUT	64	ALL	21.0	73	94	47,757	45,432	4.9	103.2	247.7	52.7	795.1
ALL	ALL	ALL	64	ALL	21.0	73	94	47,757	45,432	4.9	103.2	247.7	52.7	795.1

Cruise Unit Report MM MM GOOD U3 ROW

Unit Sale Notice Volume (MBF): MM MM GOOD U3 ROW

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	15.6			6	5	1
RA	8.8			1		1
WH	15.0			1	1	0
ALL	13.7			8	6	2

Unit Cruise Design: MM MM GOOD U3 ROW

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
FX: FR plots (20 tree / acre expansion)	0.8	0.9	2	2	0

Unit Cruise Summary: MM MM GOOD U3 ROW

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	7	7	3.5	0
RA	4	4	2.0	0
WH	1	1	0.5	0
ALL	12	12	6.0	0

Unit Cruise Statistics: MM MM GOOD U3 ROW

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	93.0	71.6	50.6	81.7	10.3	3.9	7,600	72.3	50.8
RA	16.9	82.9	58.6	82.5	18.6	9.3	1,390	84.9	59.3
WH	12.3	141.4	100.0	83.9	0.0	0.0	1,030	141.4	100.0
ALL	122.1	28.9	20.4	82.1	12.4	3.6	10,020	31.4	20.7

Unit Summary: MM MM GOOD U3 ROW

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	7	ALL	15.6	59	73	8,260	7,600	8.0	70.1	93.0	23.5	6.1
RA	LIVE	CUT	4	ALL	8.8	39	56	1,440	1,390	3.5	39.9	16.9	5.7	1.1
WH	LIVE	CUT	1	ALL	15.0	57	70	1,030	1,030	0.0	10.0	12.3	3.2	0.8
ALL	LIVE	CUT	12	ALL	13.7	52	67	10,730	10,020	6.6	120.0	122.1	32.4	8.0

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	ALL	ALL	12	ALL	13.7	52	67	10,730	10,020	6.6	120.0	122.1	32.4	8.0



Forest Practices Application/Notification Notice of Decision

FPA/N No: 2941766

Effective Date: 9/12/2023

Expiration Date: 9/12/2026

Shut Down Zone: 651N ; .

EARR Tax Credit: Eligible Non-eligible

Reference: Mm Mm Good

25, 26,35-16-6W

Decision

- Notification Accepted** Operations shall not begin before the effective date.
- Approved** This Forest Practices Application is subject to the conditions listed below.
- Disapproved** This Forest Practices Application is disapproved for the reasons listed below.
- Withdrawn** Applicant has withdrawn the Forest Practices Application/Notification (FPA/N).
- Closed** All forest practices obligations are met.

FPA/N Classification

Class II Class III Class IVG Class IVS

Number of Years Granted on Multi-Year Request

4 years 5 years

Conditions on Approval/Reasons for Disapproval

No additional conditions.

Issued By: Dan Walters

Region: Pacific Cascade Region

Title: Forest Practices Forester

Date: 9/12/2023

Copies to: Landowner, Timber Owner and Operator

Issued in person: LO TO OP

By:

Tonya Johnston
Tonya Johnston

Date:

9/12/2023

ROAD PLAN MAP

SALE NAME: MM MM GOOD

AGREEMENT#: 30-104153

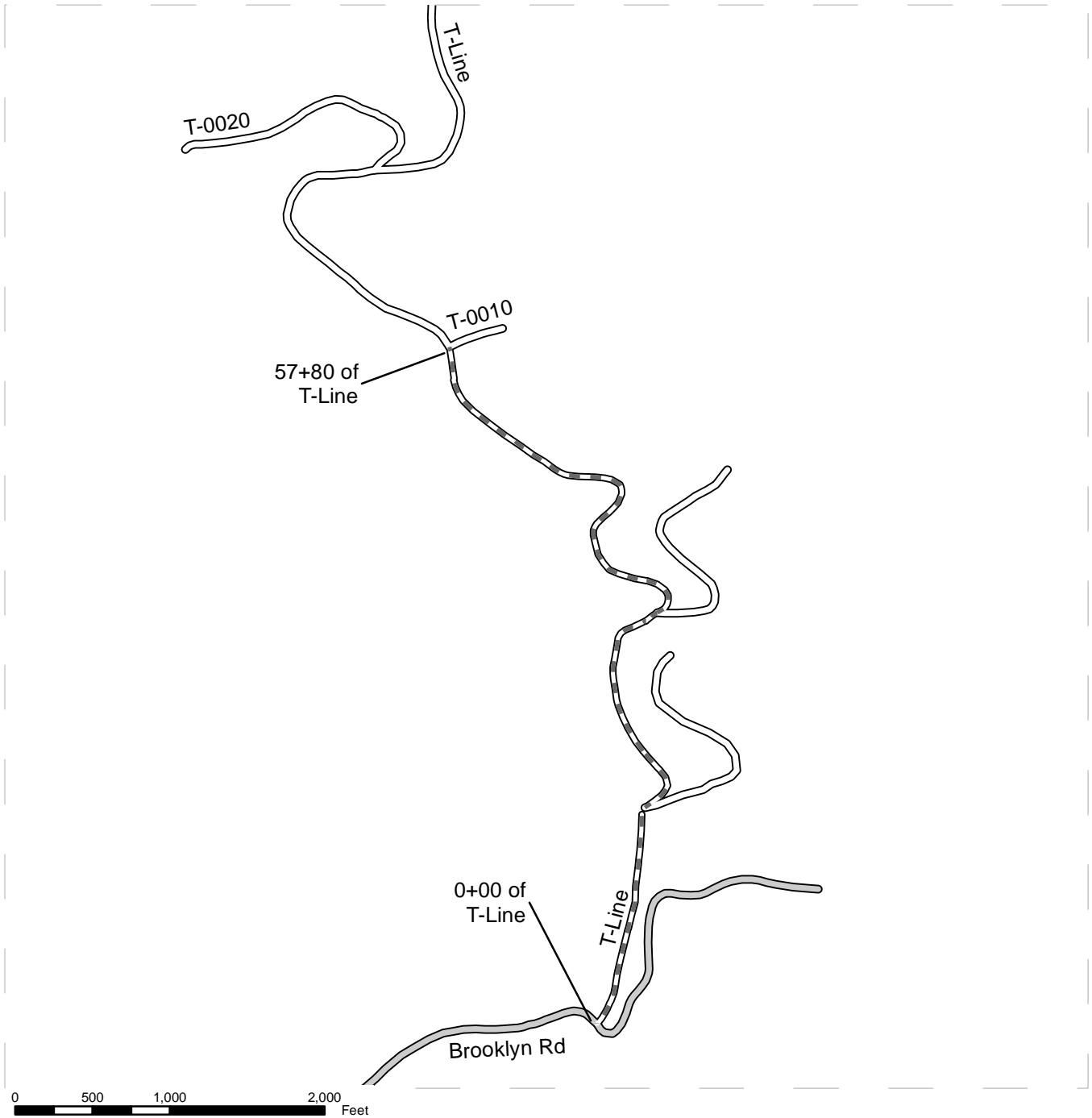
TOWNSHIP(S): T16R6W

TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), State Forest Transfer (1)

REGION: Pacific Cascade Region

COUNTY(S): Grays Harbor

ELEVATION RGE: 1000-2307



Legend:

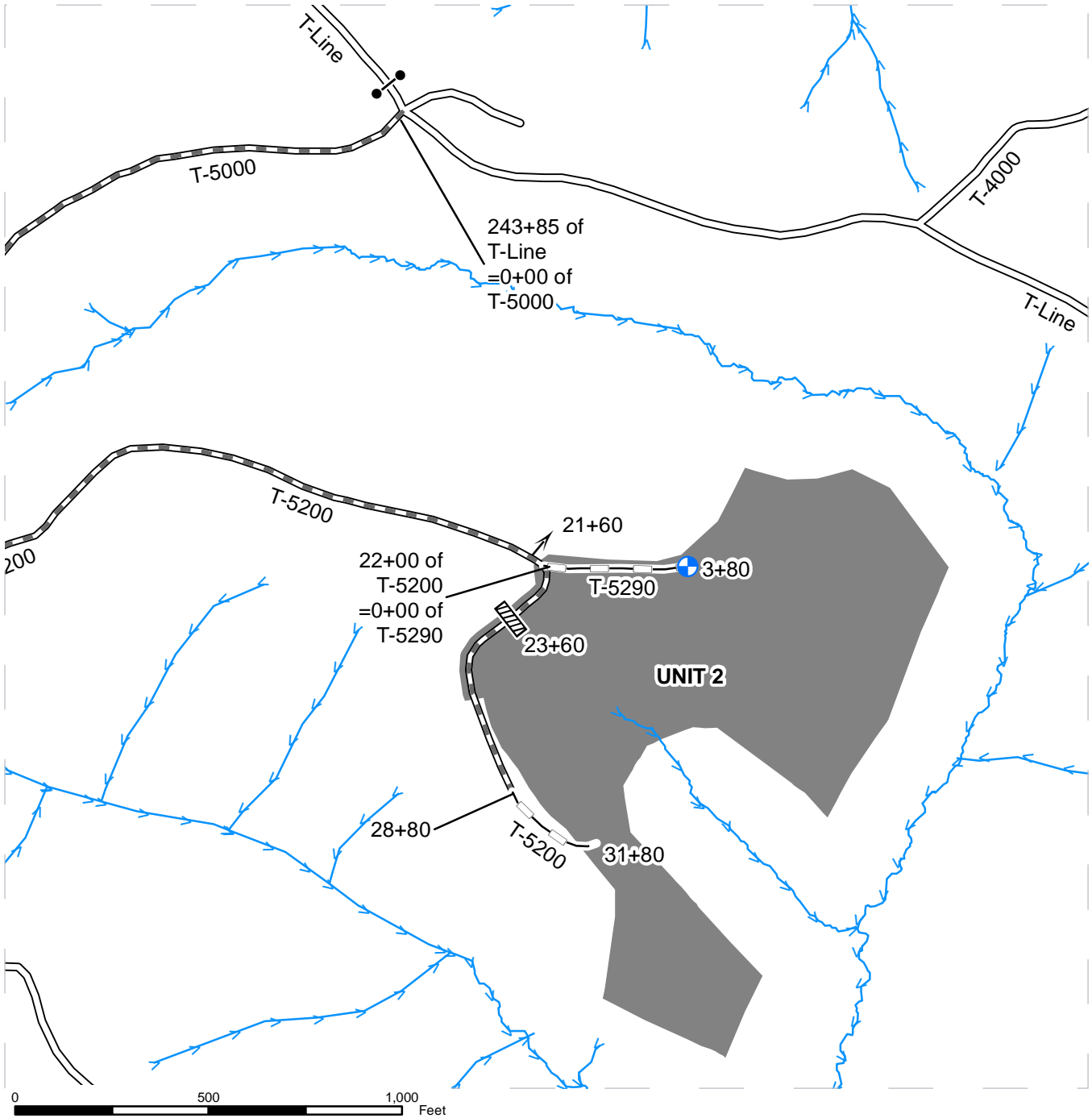
- County Road
- Existing Roads
- Required Pre-Haul Maintenance

North Arrow

ROAD PLAN MAP

SALE NAME: MM MM GOOD
 AGREEMENT#: 30-104153
 TOWNSHIP(S): T16R6W
 TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), State Forest Transfer (1)

REGION: Pacific Cascade Region
 COUNTY(S): Grays Harbor
 ELEVATION RGE: 1000-2307



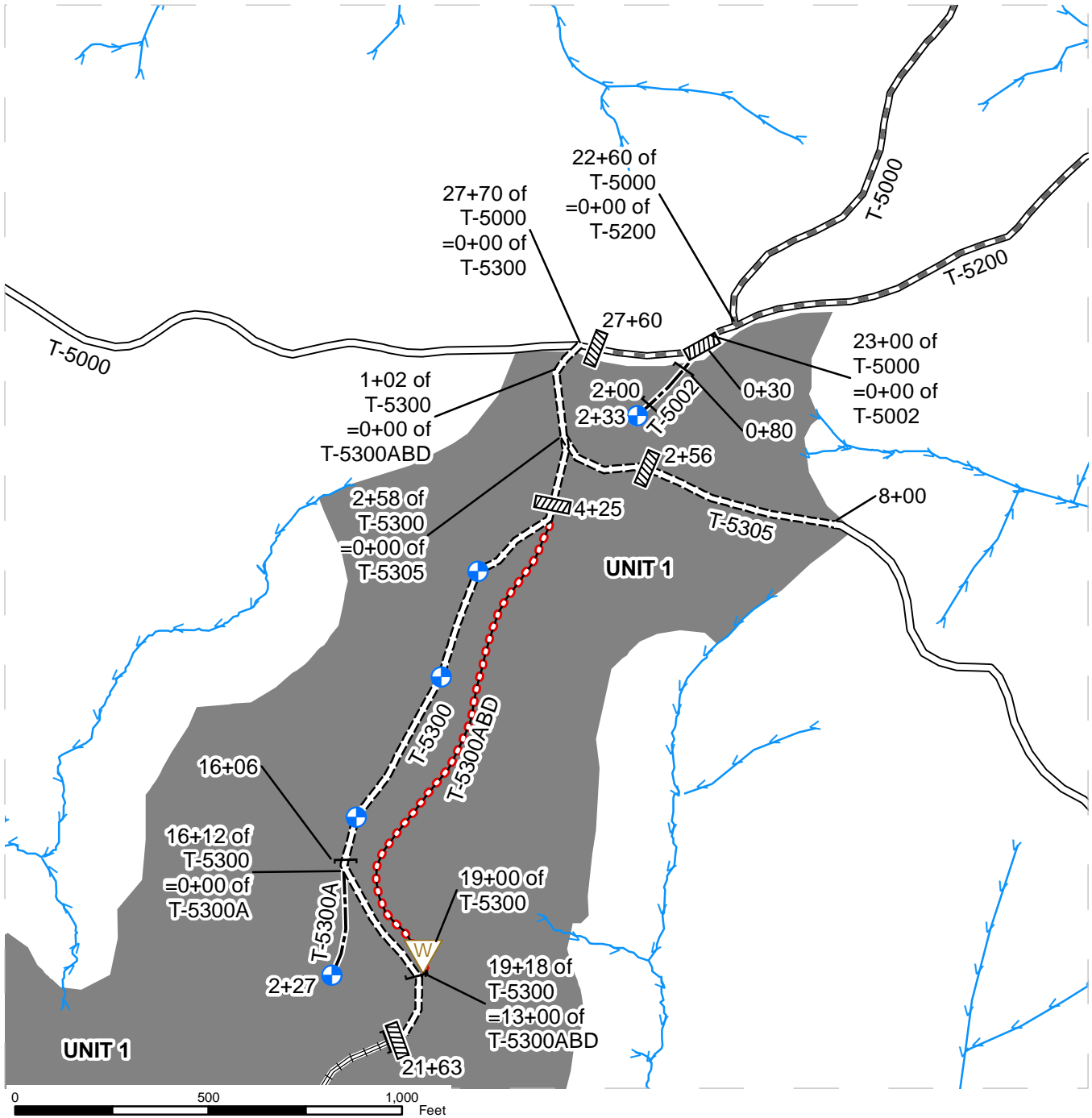
Existing Roads	Ditchout	Harvest Unit
Required Pre-Haul Maintenance	Culvert	Streams
Optional Reconstruction	Gate (PCP 1-1)	
	Landing - Proposed	



ROAD PLAN MAP

SALE NAME: MM MM GOOD
 AGREEMENT#: 30-104153
 TOWNSHIP(S): T16R6W
 TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), State Forest Transfer (1)

REGION: Pacific Cascade Region
 COUNTY(S): Grays Harbor
 ELEVATION RGE: 1000-2307



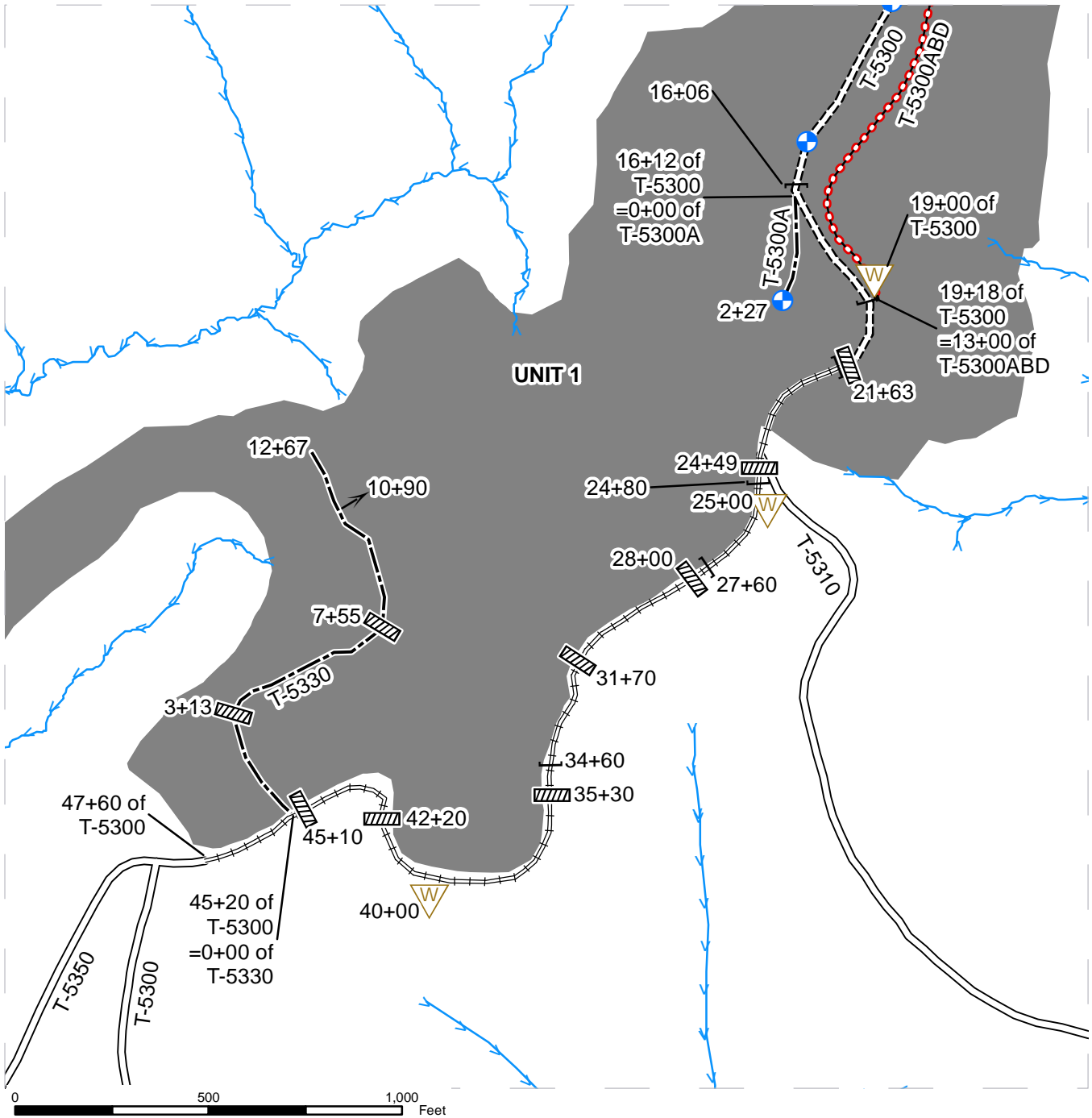
Existing Roads	End Haul	Harvest Unit
Required Pre-Haul Maintenance	Culvert	Streams
Required Construction	Landing - Proposed	
Required Reconstruction	Waste Area	
Optional Construction		
Required Abandonment		



ROAD PLAN MAP

SALE NAME: MM MM GOOD
 AGREEMENT#: 30-104153
 TOWNSHIP(S): T16R6W
 TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), State Forest Transfer (1)

REGION: Pacific Cascade Region
 COUNTY(S): Grays Harbor
 ELEVATION RGE: 1000-2307



Existing Roads	Ditchout	Harvest Unit
Required Construction	End Haul	Streams
Required Reconstruction	Culvert	
Optional Construction	Landing - Proposed	
Required Abandonment	Waste Area	

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
MM GOOD TIMBER SALE ROAD PLAN
GRAYS HARBOR COUNTY
LEWIS DISTRICT
PACIFIC CASCADE REGION

AGREEMENT NO.: 30-104153

STAFF ENGINEER: RICH WALLMOW

DRAWN & COMPILED BY: ALICIA COMPTON

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 acquisition, 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>
T-Line	0+00 to 57+80	Pre-haul Maintenance
T-5000	0+00 to 27+70	Pre-haul Maintenance
T-5200	0+00 to 28+80	Pre-haul Maintenance
T-5300	0+00 to 21+63	Construction
	21+63 to 47+60	Reconstruction
T-5305	0+00 to 8+00	Construction
T-5300ABD	0+00 to 13+00	Abandonment

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>
T-5200	28+80 to 31+80	Reconstruction
T-5290	0+00 to 3+80	Reconstruction
T-5002	0+00 to 2+33	Construction
T-5300A	0+00 to 2+27	Construction
T-5330	0+00 to 12+67	Construction

0-4 CONSTRUCTION

Construction includes, but is not limited to: clearing; grubbing; right-of-way debris disposal; excavation and/or embankment to subgrade; full bench construction; endhaul; compaction; waste area construction; landing construction; acquisition and installation of drainage structures; acquisition and application of rock.

0-5 RECONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
T-5200	28+80 to 31+80	Widen subgrade to the dimensions shown on the Typical Section Sheet; grade, shape and compact existing road surface; apply rock as shown on the ROCK LIST; grade, shape and compact the applied rock.
T-5290	0+00 to 3+80	Widen subgrade to the dimensions shown on the Typical Section Sheet; construct ditches; install culverts as shown on the CULVERT LIST; grade, shape and compact existing road surface; apply rock as shown on the ROCK LIST; grade, shape, and compact existing road surface;
T-5300	21+63 to 47+60	Widen subgrade to the dimensions shown on the Typical Section Sheet; construct ditches; install culverts as shown on the CULVERT LIST; grade, shape and compact existing road surface; apply rock as shown on the ROCK LIST; grade, shape, and compact existing road surface;

0-6 PRE-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
T-Line	0+00 to 57+80	Clean ditches and culverts. Grade, compact and apply rock in accordance with ROCK LIST.
T-5000	0+00 to 27+70	Grade, compact and apply rock in accordance with ROCK LIST.
T-5200	0+00 to 28+80	Brush in accordance with clause 3-1, clean ditches. Grade, compact and apply rock in accordance with ROCK LIST.

0-7 POST-HAUL MAINTENANCE

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

0-10 ABANDONMENT

This project includes abandonment listed in Clause 9-21 ROAD ABANDONMENT.

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 the submitted 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 Plan maps.

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

1-8 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, and may not begin without written approval from the Contract Administrator.

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.

1-15 ROAD MARKING

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

- Centerline construction stakes, orange paint and orange flagging for new construction and RP’s.
- Orange painted trees or construction stakes for pre-haul maintenance and reconstruction.

1-16 CONSTRUCTION STAKES SET BY STATE

Purchaser shall perform work on the following road in accordance with the construction stakes and reference points set in the field for grade and alignment.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
T-5300	0+00 to 21+63	RP’s, road design
T-5305	0+00 to 8+00	RP’s, road design

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.

1-21 HAUL APPROVAL

Purchaser shall not use roads under this road plan for timber hauling, other than timber cut on the right-of-way, without written approval from the Contract Administrator.

1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator a minimum of 3 business days before work begins.

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, compaction and drainage installation
- Rock application and compaction

1-25 ACTIVITY TIMING RESTRICTION

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

<u>Road</u>	<u>Activity</u>	<u>Closure Period</u>
All Roads	Construction, Reconstruction, Pre-haul Maintenance & Abandonment	October 1 to April 30

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 state 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.

1-29 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 6 inches on pit run, jaw run, or native surface roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Surface or base stability problems persist.
- 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. Before and during any suspension, Purchaser shall protect the work from damage or deterioration.

1-33 SNOW PLOWING RESTRICTION

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

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.

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.

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

Purchaser may be required to perform maintenance on roads listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER as directed by the Contract Administrator. Purchaser shall maintain roads in accordance with FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

2-4 PASSAGE OF LIGHT VEHICLES

Purchaser shall maintain roads in a condition that will allow the passage of light administrative vehicles.

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following roads, Purchaser shall use a grader to shape the existing surface before rock application and/or timber haul. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

<u>Road</u>	<u>Stations</u>
T-Line	0+00 to 57+80
T-5000	0+00 to 27+70
T-5200	0+00 to 28+80

2-6 CLEANING CULVERTS

On the following roads, Purchaser shall clean the inlets and outlets of all culverts and shall obtain written approval from the Contract Administrator before grading and rocking.

<u>Road</u>	<u>Stations</u>
T-Line	0+00 to 57+80
T-5200	17+70 to 28+80

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following roads, Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before grading and rocking and must be done in accordance with the TYPICAL SECTION SHEET. Pulling ditch material across the road or mixing in with the road surface is not allowed.

<u>Road</u>	<u>Stations</u>
T-Line	0+00 to 57+80
T-5200	17+70 to 28+80

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

On the following road, Purchaser shall cut vegetative material up to 4 inches in diameter, including limbs, as shown on the ROAD BRUSHING DETAIL. Brushing must be achieved by 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, ditchlines, and culvert inlets and outlets.

<u>Road</u>	<u>Stations</u>
T-5200	17+70 to 28+80

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 4 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.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 45%.
- Against standing trees, unless approved by the Contract Administrator.

3-10 GRUBBING

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

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the grubbing limits and in compliance with all other clauses in this road plan.

3-14 STUMPS WITHIN DESIGNATED WASTE AREAS

Purchaser is not required to remove stumps within waste areas if they are cut flush with the ground.

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 grubbing and brushing limits.

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, before subgrade compaction, the application of rock, and timber haul.

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris are located as listed below or within the cleared right-of-way or in natural openings as designated by the Contract Administrator.

<u>Road</u>	<u>Stations</u>	<u>Remarks</u>
T-5300	19+00, 25+00, 40+00	On left.

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 15 feet of a cross drain culvert.
- Within 50 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 45%.
- 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 grubbing limits and in natural openings. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of the Contract Administrator.

3-32 END HAULING ORGANIC DEBRIS

On the following roads and on slopes greater than 45%, Purchaser shall end haul or push organic debris to the designated waste areas specified in Clause 3-22 or to a waste area located by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
T-5300	16+06 to 19+18; 21+63 to 24+80; 27+60 to 34+60

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

On the following roads, Purchaser shall use a track mounted hydraulic excavator for construction work, unless authorized in writing by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
T-5300	16+06 to 19+18; 21+63 to 24+80; 27+60 to 34+60

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. 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.

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment, except as designed:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 15 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% 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% of the curve radius.
- Maximum favorable grades for switchbacks is 10%.
- 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, unless construction staked or designed:

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth (on side slopes up to 70%)	1:1	100
Common Earth (on slopes over 70%)	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, unless construction staked or designed:

<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.

4-12 FULL BENCH CONSTRUCTION

On the following road, and where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width. Purchaser shall end haul waste material to the location specified in Clause 4-37 WASTE AREA LOCATION.

<u>Road</u>	<u>Full Bench Location</u>
T-5002	0+80 to 2+00
T-5300	16+06 to 19+18; 21+63 to 24+80; 27+60 to 34+60

4-21 TURNOUTS

Purchaser shall construct turnouts as designated on the ROCK LIST. Locations changes are subject to written approval by the Contract Administrator. Minimum dimensions are shown on the ROCK LIST.

4-22 TURNAROUNDS

Purchaser shall construct turnarounds as designated on the ROCK LIST. Turnarounds must be no larger than 30 feet long and 30 feet wide.

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

Purchaser shall construct 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 in the table below, as needed and as directed by the Contract Administrator. 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.

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
T-5200	21+60	Left
T-5330	10+90	Right

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 45% if the waste material is compacted and free of organic debris. On side slopes greater than 45%, 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 the listed designated areas. 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.

<u>Road</u>	<u>Waste Area Location</u>	<u>Comments</u>
T-5300	19+00, 25+00, 40+00	On left.

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas, except as otherwise specified in this plan:

- Within 15 feet of a cross drain culvert.
- Within 50 feet of a live stream or wetland.
- On side slopes steeper than 45%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.

4-47 NATIVE MATERIAL

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 4 inches in any dimension.

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.

4-56 DRY WEATHER SHAPING

On the following road(s), the Contract Administrator may require the application of water to facilitate shaping activities. The method of water application is subject to written approval by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
T-Line	0+00 to 57+80

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. Waste material may be placed by end-dumping or sidecasting until sufficiently wide enough to support the equipment.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width, except ditch. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before rocking.

SECTION 5 – DRAINAGE

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 the CULVERT LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and meet the specifications in Clauses 10-17 through 10-22.

5-10 CULVERT MARKER INSTALLATION

At all new culverts, Purchaser shall provide and install culvert markers at the inlet in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-12 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL 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 shall be banded using lengths of no less than 10 feet, and no more than one length less than 16 feet. Shorter sections of banded culvert shall be installed at the inlet end.

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.

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT LIST that specify the placement of rock. The type of energy dissipater and the amount of material and must be consistent with the specifications on the CULVERT LIST, except for temporary culverts. Placement must be by zero drop-height method only. Energy dissipater installation is subject to approval by the Contract Administrator.

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 culverts on the CULVERT LIST that specify placement of rock, except for temporary culverts. Rock may not restrict the flow of water into culvert inlets or catch basins. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins.

SECTION 6 – ROCK AND SURFACING

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. Rock source(s) must be a WSDOT certified source.

<u>Possible Sources</u>	<u>Location</u>
Northwest Rock, Inc.	Oakville, WA

Purchaser shall provide the Contract Administrator with laboratory LA Abrasion (T96) and Degradation (T113) test results at the Purchaser’s expense at least 14 days prior to rock source approval. The Contract Administrator or representative shall be on site when the sample is collected prior to testing. The Contract Administrator or their representative may periodically sample rock from the hauling vehicle for additional testing. Rock not meeting minimum requirements listed below will not be approved.

1 ¼-INCH MINUS CRUSHED ROCK on the roads listed below shall meet a minimum Degradation value of 15% and a maximum LA Abrasion value of 35%.

<u>Roads</u>	<u>Possible Testing Facility</u>	<u>Location</u>
T-Line	Materials Testing and Consulting	Olympia, Washington
	WSDOT State Materials Laboratory	Tumwater, Washington

6-22 FRACTURE REQUIREMENT FOR ROCK

The following rock types shall have a minimum of 50% by visual inspection of coarse aggregate must have at least one fractured face. Coarse aggregate is the material greater than 1/4-inch in size.

6-23 ROCK GRADATION TYPES

Purchaser shall manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles. Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

6-28 1 ¼-INCH MINUS CRUSHED ROCK

- % Passing 1 ¼" square sieve 100%
- % Passing 5/8" square sieve 55 - 75%
- % Passing U.S. #4 sieve 20 - 50%

Of the fraction passing the No. 4 sieve, 40% to 60% must pass the No. 10 sieve.

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.

6-32 2 ½-INCH MINUS CRUSHED ROCK

% Passing 2 ½" square sieve	100%
% Passing 1 ¼" square sieve	55 - 75%
% Passing U.S. #4 sieve	20 - 45%

Of the fraction passing the No. 4 sieve, 40% to 60% must pass the No. 10 sieve.

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.

6-36 4-INCH MINUS CRUSHED ROCK

% Passing 4" square sieve	100%
% Passing 2" square sieve	55 - 75%
% Passing U.S. #4 sieve	15 - 45%

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.

6-43 QUARRY SPALLS

% Passing 8" square sieve	100%
% Passing U.S. #40 sieve	5% maximum

Rock may not contain more than 5 percent vegetative debris or trash. All percentages are by weight.

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

Measurement of specified rock depths, are defined as the compacted depth using the compaction methods required in this road plan. Estimated quantities specified in the ROCK LIST are loose yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

6-56 ROCK MEASUREMENT BY TRUCK VOLUME

Measurement of energy dissipaters and landing rock is on a cubic yard truck measure basis. The Contract Administrator will 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 and shall give them to the Contract Administrator on a weekly basis during rocking operations.

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade construction and drainage installation 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. Road surfaces must be compacted in accordance with the COMPACTION 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, unless otherwise specified in the ROCK LIST.

6-75 OPTIONAL ROCK EXCEPTION

On the following roads, if hauling takes place from May 1 to September 30 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 and Clause 9-22, the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS, or other conditions of the approved plan.

<u>Road</u>	<u>Stations</u>
T-5290	0+00 to 3+80
T-5002	0+00 to 2+33
T-5300A	0+00 to 2+27
T-5330	0+00 to 12+67

6-76 DRY WEATHER ROCK COMPACTION

On the following roads, The Contract Administrator may require the application of water to facilitate compaction of the rock surfacing. The method of water application is subject to approval by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
T-Line	0+00 to 57+80

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL

Sediment control shall be accomplished using sediment traps, silt fences, settling ponds, or other methods as approved, in writing, by the Contract Administrator.

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 4-inch layer of straw to all exposed soils within 50 feet of a stream or wetland. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

8-15 REVEGETATION

On the following roads, Purchaser shall spread seed on all exposed soils resulting from road work activities using manual dispersion. Other methods of covering must be approved in writing by the Contract Administrator. Required seed not spread by the termination of this contract will become the property of the state.

<u>Road</u>	<u>Location</u>	<u>Qty (lbs)*</u>	<u>Type</u>
T-5200	28+80 to 31+80	9	Seed
T-5290	0+00 to 3+80	11	Seed
T-5002	0+00 to 2+33	6	Seed
T-5300	0+00 to 47+60	144	Seed
T-5300ABD	0+00 to 13+00	40	Seed
T-5305	0+00 to 8+00	24	Seed
T-5300A	0+00 to 2+27	6	Seed
T-5330	0+00 to 12+67	36	Seed
Waste Areas		40	Seed

*Quantities are estimates only. Actual quantities may vary and are the responsibility of the Purchaser.

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the seed.

8-17 REVEGETATION TIMING

Purchaser shall revegetate after road work is completed and between March 15 and September 30. 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.

8-19 ASSURANCE FOR SEEDED AREA

Purchaser shall ensure the growth of a uniform and dense crop (at least 50% coverage) of 2-inch tall grass. Purchaser shall reapply the grass seed 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 grass seed at no addition cost to the state.

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soil at a rate of 50 pounds per acre of exposed soil. Grass seed must meet the following specifications:

1. Weed seed may not exceed 0.5% by weight.
2. All seed species must have a minimum 90% germination rate, unless otherwise specified.
3. Seed must be certified.
4. Seed must be furnished in standard containers showing the following information:
 - a. Common name of seed
 - b. Net weight
 - c. Percent of purity
 - d. Percentage of germination
 - e. Percentage of weed seed and inert material
5. Seed must conform to the following mixture, unless a comparable mix is approved in writing by the Contract Administrator.

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>
Perennial Rye	35-45
Red Fescue	30-40
Highland Bent	5-15
White Clover	10-20
Inert and Other Crop	0.5

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

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

<u>Road</u>	<u>Stations</u>
T-5300ABD	0+00, 13+00

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

Culverts removed from roads become the property of the Contractor and must be removed from state land.

9-5 POST-HAUL MAINTENANCE

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

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.

9-21 ROAD ABANDONMENT

Contractor shall abandon the following roads before the termination of this contract. Work must be in accordance with the ROAD ABANDONMENT CROSS SECTIONS DETAIL.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
T-5300ABD	0+00 to 13+00	Medium

9-23 MEDIUM DECOMMISSIONING AND ABANDONMENT

- Fill in ditches.
- Rip the surface to a minimum depth of 10 inches.
- 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 abandonment and in accordance with Section 8 EROSION CONTROL.
- Scatter woody debris onto abandoned road surfaces.

SECTION 10 MATERIALS

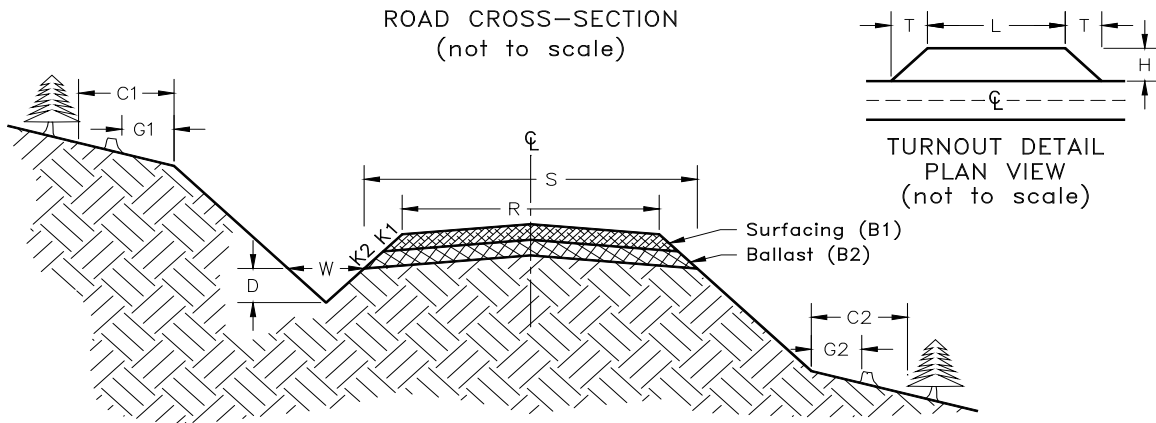
10-17 CORRUGATED PLASTIC CULVERT

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.

10-22 PLASTIC BAND

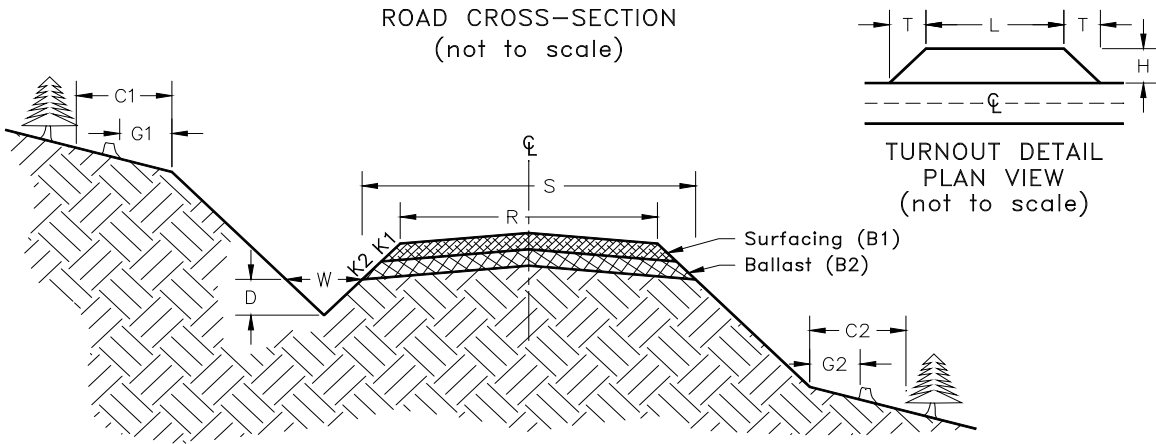
Plastic coupling and end bands must meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer may be used. Couplings must be split coupling band. Split coupling bands must have a minimum of four corrugations, two on each side of the pipe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

TYPICAL SECTION SHEET



Road Number	From Station	To Station	Tolerance Class	Subgrade Width		Ditch Width	Ditch Depth	Crown @ CL	Grubbing Limits		Clearing Limits	
				ft	ft				ft	ft	ft	ft
				S	R	W	D		G1	G2	C1	C2
T-Line	0+00	57+80	A	-	12	3	1	4	-	-	-	-
T-5000	0+00	27+70	A	-	12	-	-	4	-	-	-	-
T-5200	0+00	28+80	B	14	12	3	1	4	0	0	5	5
		28+80	C	16	12	3	1	4	2	2	10	10
T-5290	0+00	3+80	C	16	12	3	1	4	2	2	10	10
T-5002	0+00	2+33	C	16	12	3	1	4	2	2	10	10
T-5300	0+00	47+60	C	18	12	3	1	4	5	5	10	10
T-5305	0+00	8+00	C	18	12	3	1	4	5	5	10	10
T-5300A	0+00	2+27	C	16	12	3	1	4	2	2	10	10
T-5330	0+00	12+67	C	16	12	3	1	4	2	2	10	10

ROCK LIST



4-INCH MINUS CRUSHED BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (in)	C.Y. per Station or Unit	# of Stations or Units	C.Y. Subtotal	Rock Source	Turnout		
									Length L (ft)	Width H (ft)	Taper T (ft)
			K2	B2				Commercial			
T-5200	28+80	31+80	1 1/2:1	12	63	3.00	189		40	10	25
		Turnarounds			34	1	34				
		Turnouts			19	1	19				
		Curve Widening					7				
		Landings			70	1	70				
T-5290	* 0+00	3+80	1 1/2:1	15	81	3.80	308				
	*	Curve Widening					11				
	*	Junctions			15	1	15				
	*	Landings			70	2	140				
T-5002	* 0+00	2+33	1 1/2:1	15	81	2.33	189				
	*	Curve Widening					7				
	*	Junctions			15	1	15				
	*	Landings			70	1	70				
T-5300	0+00	47+60	1 1/2:1	12	68	47.60	3237		40	10	25
		Turnarounds			34	3	102				
		Turnouts			20	3	60				
		Curve Widening					113				
		Junctions			12	1	12				
		Landings			70	3	210				
T-5305	0+00	8+00	1 1/2:1	12	68	8.00	544		40	10	25
		Turnarounds			34	1	34				
		Turnouts			19	1	19				
		Curve Widening					19				
		Junctions			12	1	12				
		Landings			70	1	70				

ROCK LIST

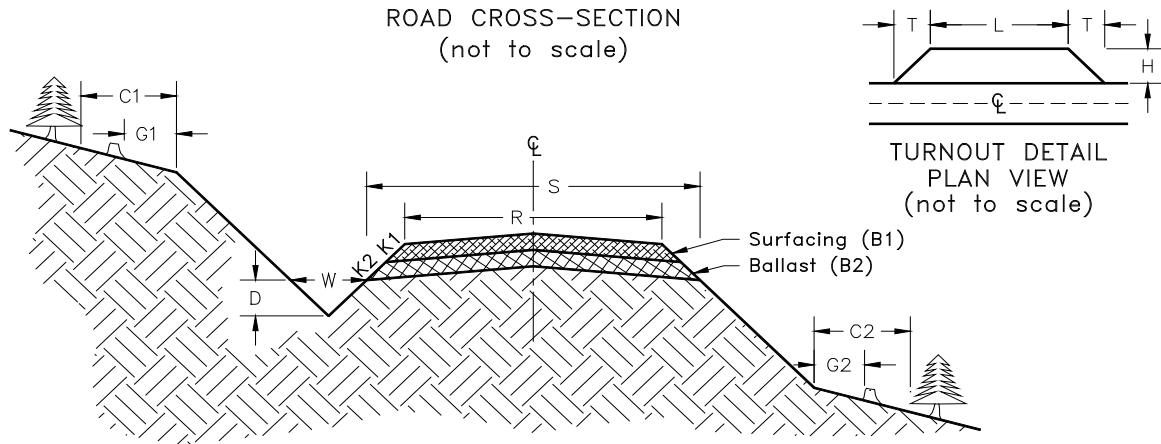
4-INCH MINUS CRUSHED BALLAST

Road Number		From Station	To Station	Rock Slope	Compacted Rock Depth (in)	C.Y. per Station or Unit	# of Stations or Units	C.Y. Subtotal	Rock Source	Turnout		
										Length	Width	Taper
				K2	B2				Commercial	L (ft)	H (ft)	T (ft)
T-5300A	*	0+00	2+27	1 1/2:1	15	81	2.27	184				
	*	Curve Widening						6				
	*	Junctions				15	1	15				
	*	Landings				70	1	70				
T-5330	*	0+00	12+67	1 1/2:1	15	81	12.67	1026				
	*	Turnarounds				43	1	43				
	*	Turnouts				23	1	23		40	10	25
	*	Curve Widening						36				
	*	Junctions				15	1	15				
	*	Landings				70	1	70				

*Optional Rock in accordance with 6-75

REQUIRED 4" MINUS CRUSHED: 4751 CY
 OPTIONAL 4" MINUS CRUSHED: 2243 CY
 TOTAL 4" MINUS CRUSHED: 6994 CY

ROCK LIST



1 1/4-INCH MINUS CRUSHED

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (in)	C.Y. per Station or Unit	# of Stations or Units	C.Y. Subtotal	Rock Source	Turnout		
									Length L (ft)	Width H (ft)	Taper T (ft)
			K1	B1				Commercial			
T-Line	0+00	57+80	1 1/2:1	8	41	57.80	2370				
	Turnarounds (1+60, 14+80, 27+50, 38+50, 46+20)				22	5	110				
	Turnouts (8+20, 19+50, 55+10)				12	3	36		40	10	25
	Curve Widening						71				
	Junctions				25	1	25				

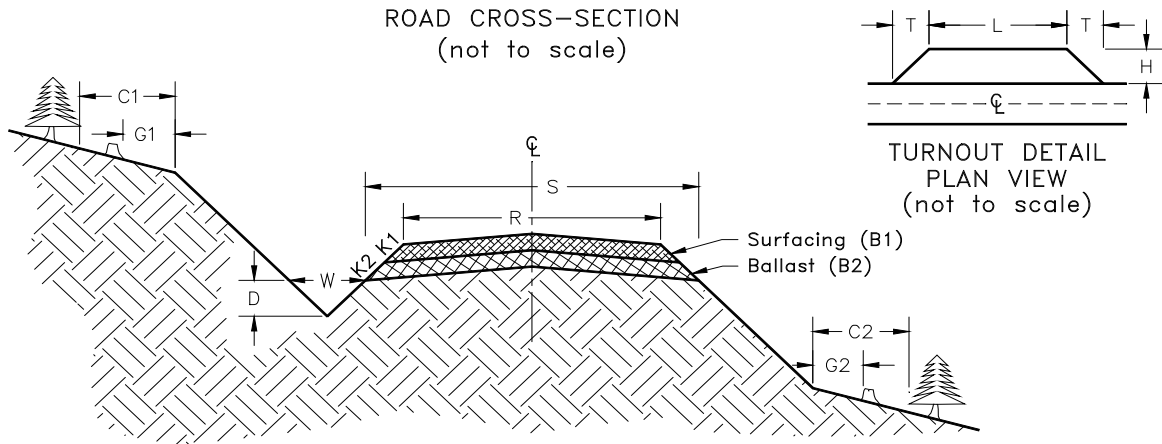
REQUIRED 1 1/4" MINUS CRUSHED: 2612 CY

QUARRY SPALLS

Road Number	CY Total	Rock Source
		Commercial
T-5000	1	
T-5200	1	
*T-5002	1	
T-5300	8	
T-5305	1	
*T-5330	2	
REQUIRED QUARRY SPALLS:		<u>11</u>
OPTIONAL QUARRY SPALLS:		<u>3</u>
TOTAL QUARRY SPALLS:		<u>14</u>

*Optional rock in accordance with 6-75.

ROCK LIST



2 1/2-INCH MINUS CRUSHED

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (in)	C.Y. per Station or Unit	# of Stations or Units	C.Y. Subtotal	Rock Source	Turnout		
									Length L (ft)	Width H (ft)	Taper T (ft)
			K1	B1				Commercial			
T-5000	0+00	27+70		6	30	27.70	831		40	10	25
		Culvert Backfill			20	1	20				
		Turnouts (10+80, 15+50)			10	2	20				
		Curve Widening					25				
		Junctions			6	1	6				
T-5200	0+00	17+70	1 1/2:1	4	20	17.70	354		40	10	25
		Culvert Backfill			20	1	20				
		Turnouts			6	1	6				
		Curve Widening					11				
		Junctions			4	1	4				
T-5200	17+70	28+80	1 1/2:1	8	41	11.10	455				
		Turnarounds			22	1	22				
		Curve Widening					16				
T-5300	0+00	47+60	1 1/2:1	4	20	47.60	952		40	10	25
		Turnarounds			11	3	33				
		Turnouts			6	3	18				
		Curve Widening					29				
		Junctions			4	1	4				
T-5305	0+00	8+00	1 1/2:1	4	20	8.00	160		40	10	25
		Turnarounds			11	1	11				
		Turnouts			6	1	6				
		Curve Widening					5				
		Junctions			4	1	4				

REQUIRED 2 1/2" MINUS CRUSHED: 3012 CY

CULVERT LIST

Road Number	Location	Culvert			Armoring (C.Y.)			Backfill	Bedding	Inlet	Remarks
		Dia (In)	Length	Type	Inlet	Outlet	Type	Material	Material	Marker	
T-5000	27+60	18	30	PD	0.5	0.5	QS	CR	NT	Y	May not be needed.
T-5200	23+60	18	30	PD	0.5	0.5	QS	CR	NT	Y	
T-5002	0+30	18	30	PD	0.5	0.5	QS	NT	NT	Y	
T-5300	4+25	18	50	PD	0.5	0.5	QS	NT	NT	Y	
	21+63	18	30	PD	0.5	0.5	QS	NT	NT	Y	
	24+49	18	30	PD	0.5	0.5	QS	NT	NT	Y	
	28+00	18	30	PD	0.5	0.5	QS	NT	NT	Y	
	31+70	18	40	PD	0.5	0.5	QS	NT	NT	Y	
	35+30	18	30	PD	0.5	0.5	QS	NT	NT	Y	
	42+20	18	30	PD	0.5	0.5	QS	NT	NT	Y	
	45+10	18	30	PD	0.5	0.5	QS	NT	NT	Y	
T-5305	2+56	18	30	PD	0.5	0.5	QS	NT	NT	Y	
T-5330	3+13	18	30	PD	0.5	0.5	QS	NT	NT	Y	
	7+55	18	30	PD	0.5	0.5	QS	NT	NT	Y	

Key:

- QS - Quarry Spalls
- NT - Native (bank run)
- CR - 2 1/2 Inch Minus Crushed
- LL - Light Loose Riprap
- PD - Polyethylene Pipe Double Wall
- PSDS - Polyethylene Downspout Single Wall

COMPACTION LIST

Road	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes
All Roads	Subgrade	12	Vibratory Smooth Drum	14,000	5
All Roads	Fill	18	Vibratory Smooth Drum	14,000	4
All Roads	Waste Area	24	Excavation	28,000	-
All Roads	Pre-haul Surface	6	Vibratory Smooth Drum	14,000	5
All Roads	Rock	12	Vibratory Smooth Drum	14,000	5

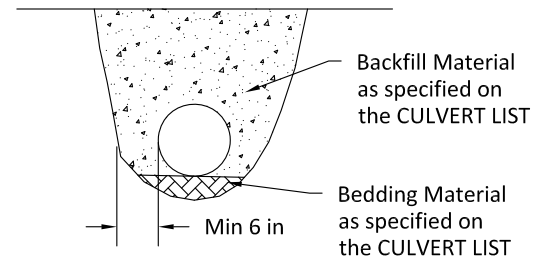
CULVERT AND DRAINAGE SPECIFICATION DETAIL
PAGE 1 OF 2

INSTALLATION REQUIREMENTS:

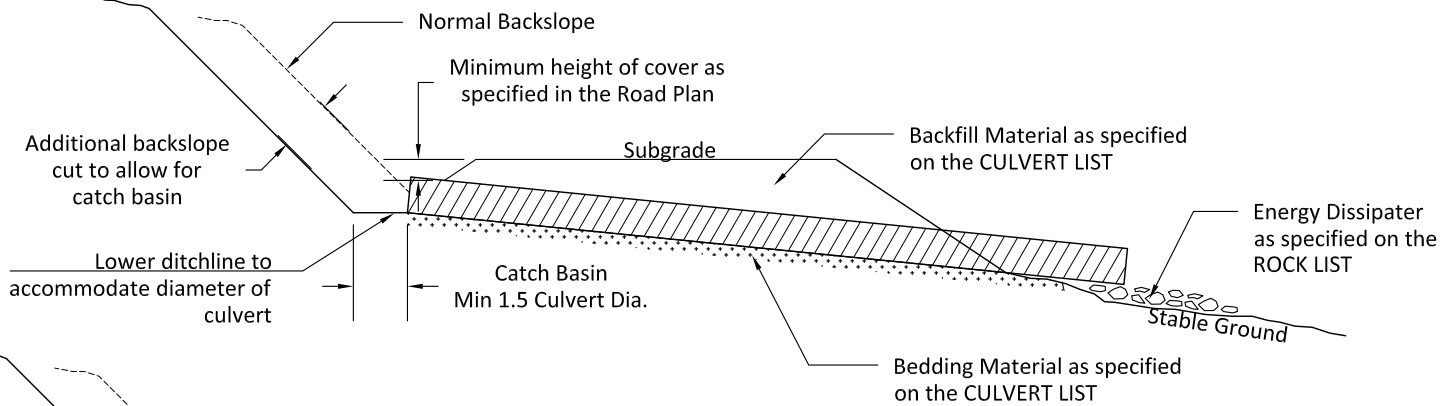
1. Proper preparation of foundation and placement of any required bedding material shall precede the installation of all culverts. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform, dense, unyielding base. The pipe must be uniformly supported along the barrel.
2. Backfill material shall be compacted under the culvert haunches, around the sides, and above the culvert in accordance with the COMPACTION LIST.

ALL DRAWINGS ARE NOT TO SCALE

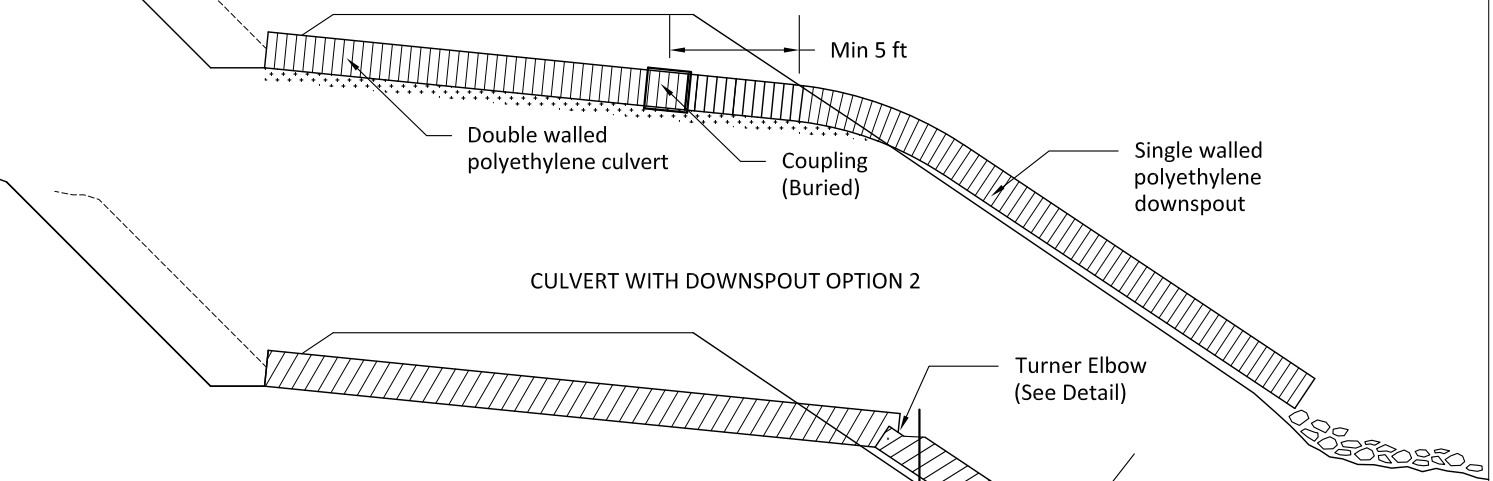
CROSS SECTION



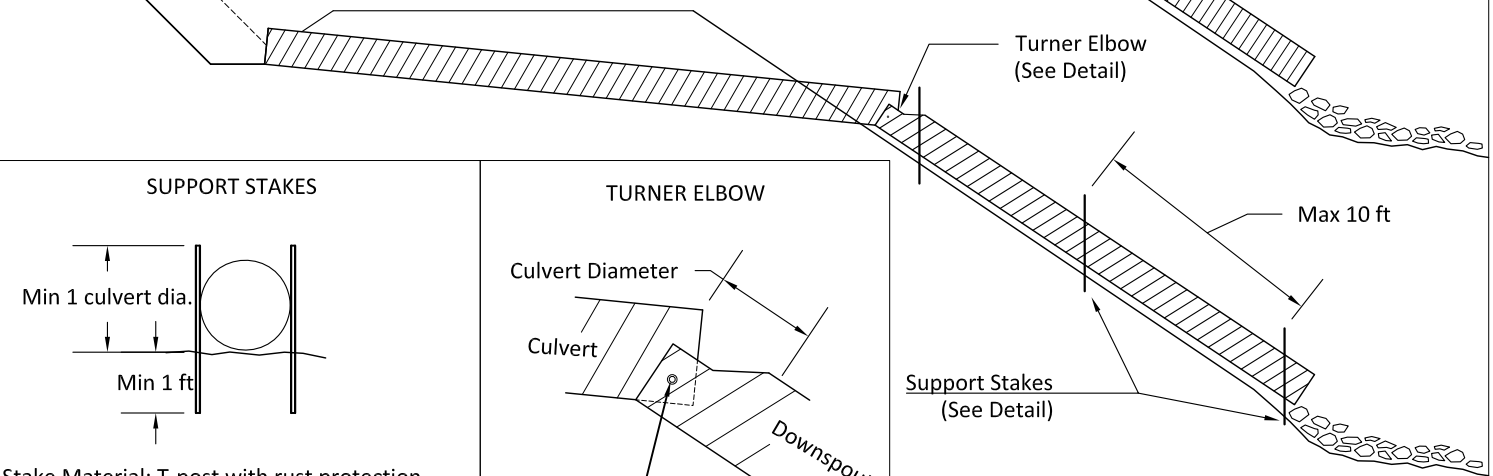
CULVERT PROFILE (TYPICAL)



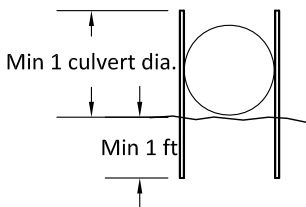
CULVERT WITH DOWNSPOUT OPTION 1



CULVERT WITH DOWNSPOUT OPTION 2

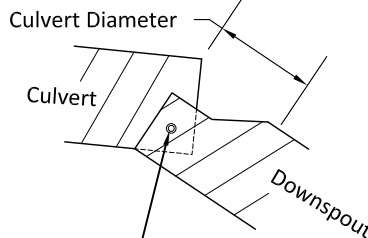


SUPPORT STAKES



Stake Material: T-post with rust protection coating.
Connections: Bolt support stakes to the culvert with $\frac{5}{8}$ " u-bolts, with washers on both the inside and outside of the culvert.
Alternative staking methods may be approved, in writing, by the Contract Administrator.

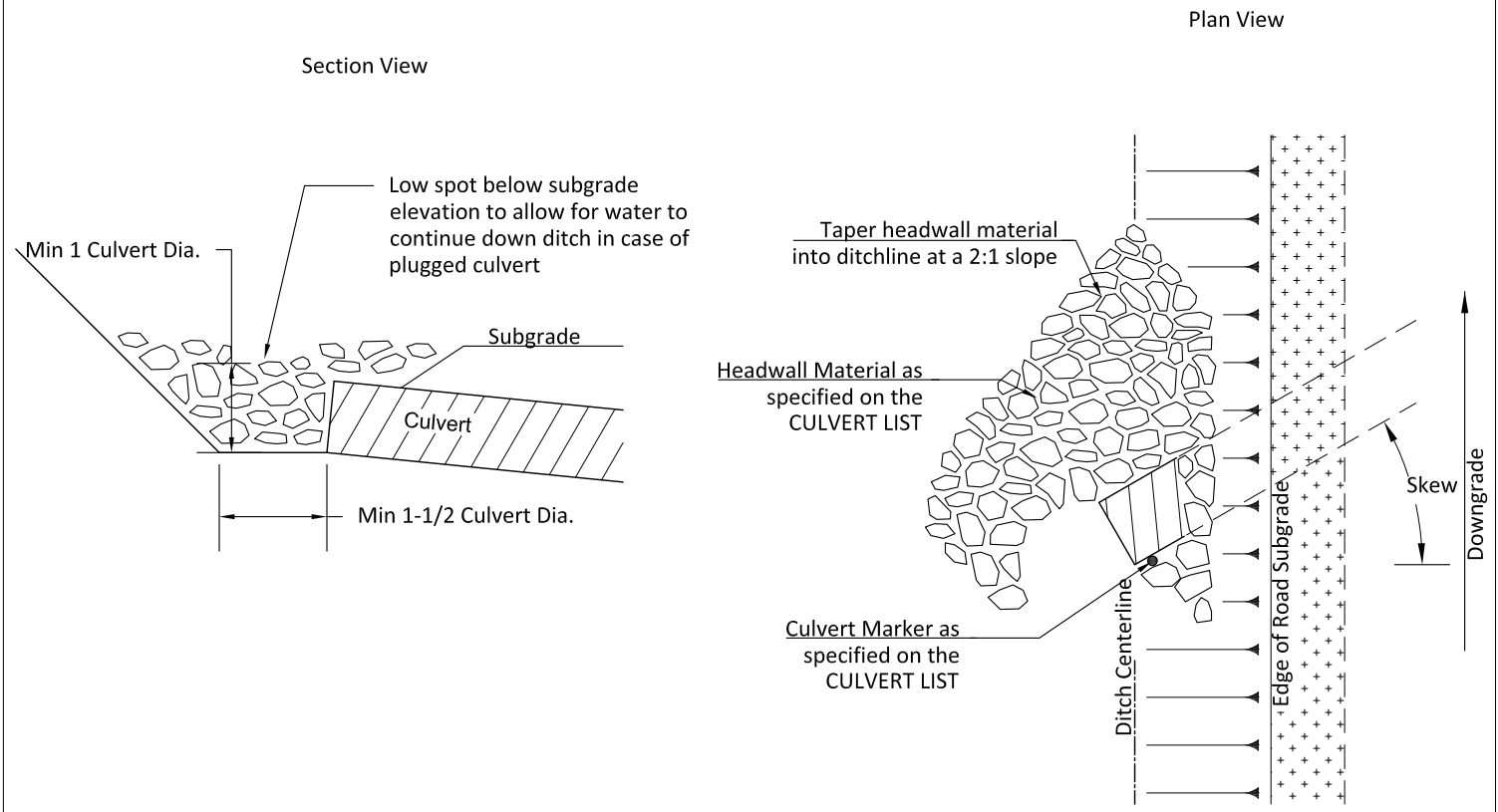
TURNER ELBOW



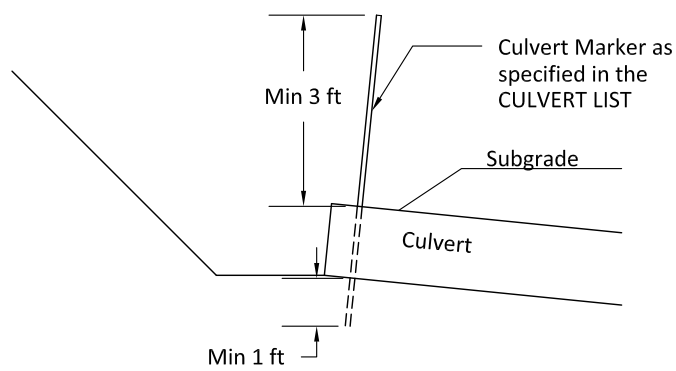
Bolted with $\frac{5}{8}$ " galvanized bolts and washers (both sides)
Downspout must be 6 inches larger in diameter than the culvert.

CULVERT AND DRAINAGE SPECIFICATION DETAIL
PAGE 2 OF 2

HEADWALLS

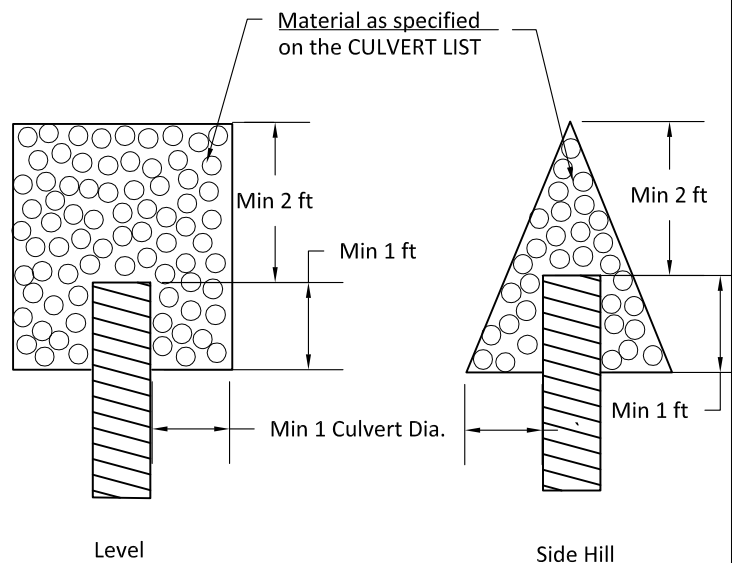


CULVERT MARKERS



Culvert Marker Material: 1 Inch I.D., Schedule 40 PVC Pipe, White. Marker must be capped on the top.
 Culvert Marker Placement: Place on uphill side of culvert, between corrugations if possible.
 Alternative culvert marker types may be approved, in writing, by the Contract Administrator.

ENERGY DISSIPATORS



Min Energy Dissipater Depth: 1 Culvert Dia.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the cut slope/fill slope ratios. 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 the road surface, turnouts, and shoulders to the original shape on the TYPICAL SECTION SHEET 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, created by grading, 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 rolling 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 dissipaters at culvert outlets with non-erodible material or rock.
- Keep ditches, culverts, and other drainage structures 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.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

Preventative Maintenance

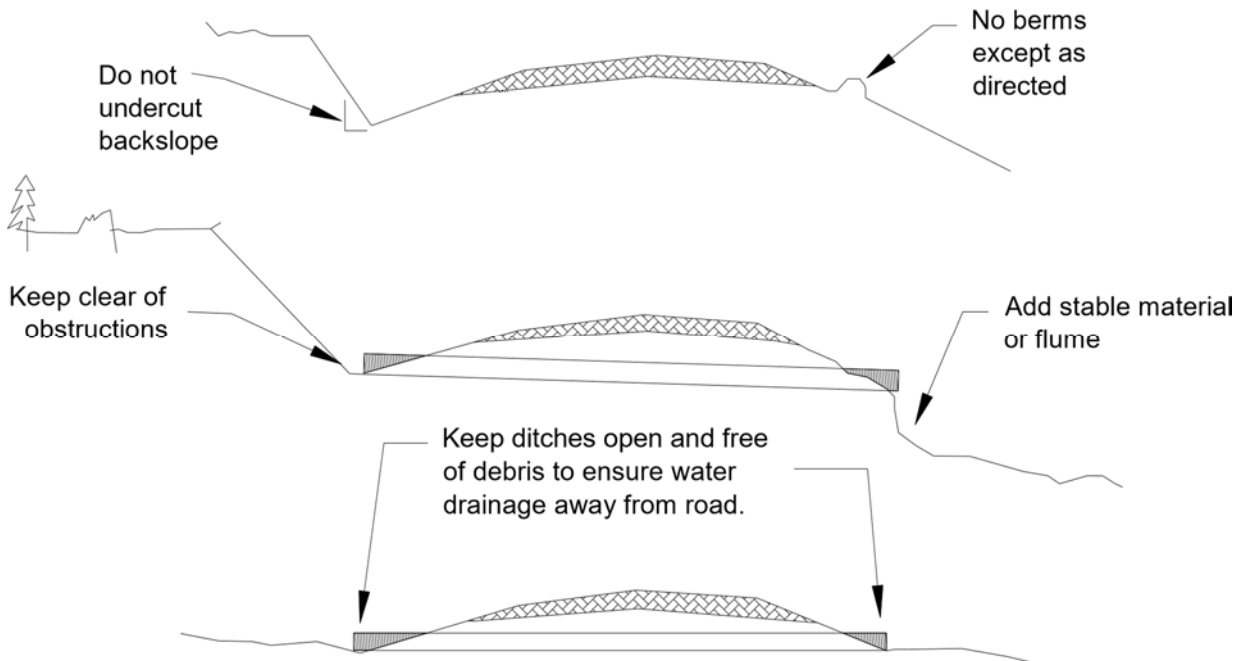
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

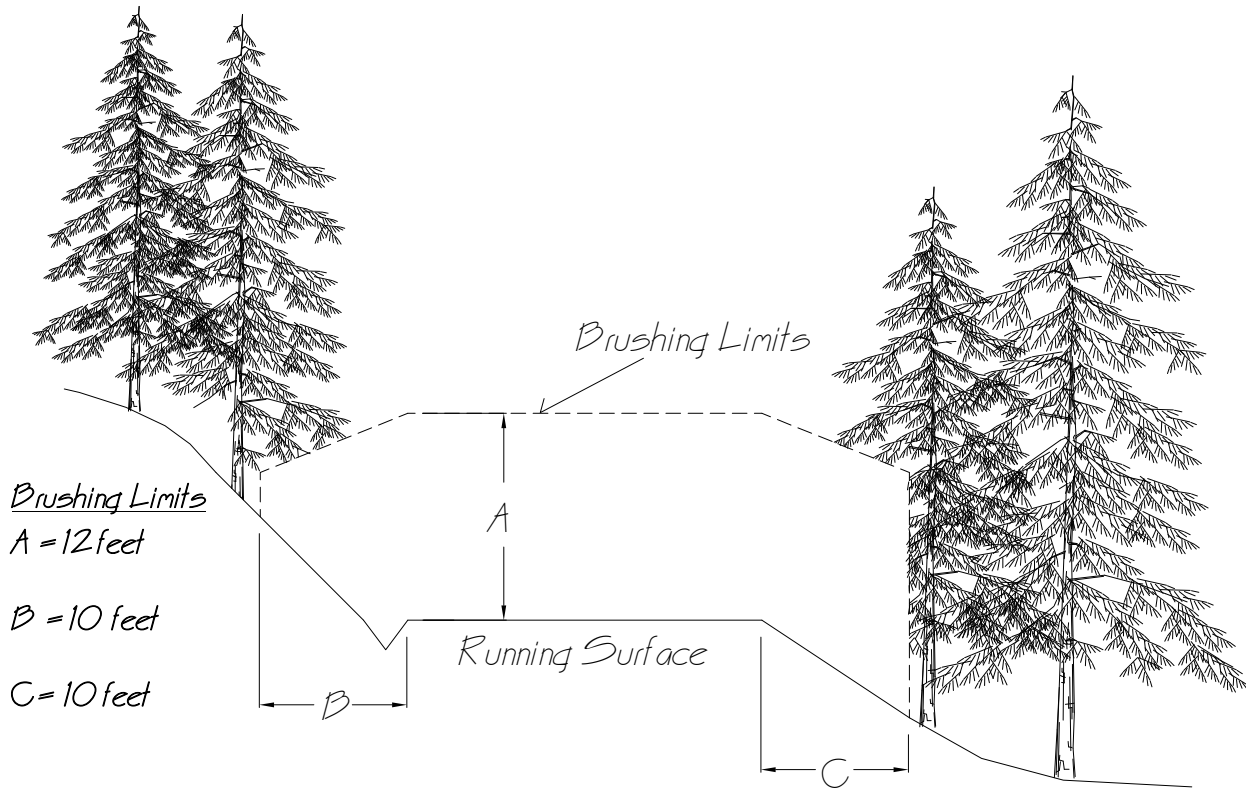
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

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



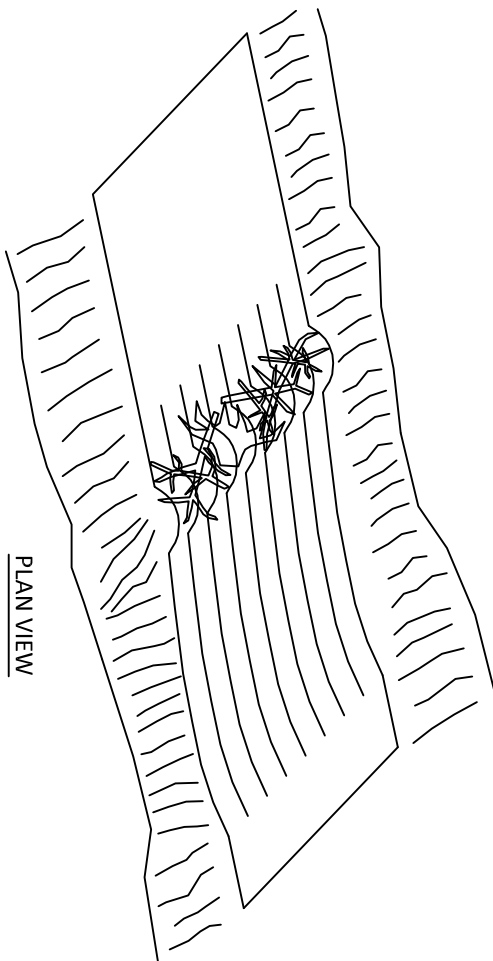
ROADSIDE BRUSHING DETAIL



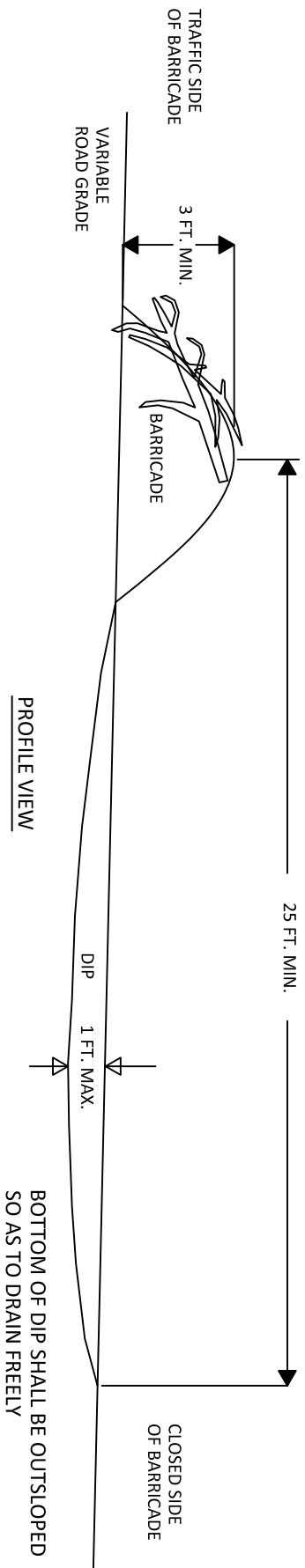
GENERAL NOTES

- 1) Vegetative material, including limbs, up to 4 inches in diameter shall be cut within the brushing limits shown on the drawing above. This includes vegetative material growing on the running surface.
- 2) Vegetative material shall be cut as near flush with the ground as possible, but shall not extend more than 6 inches above the ground.
- 3) Brushing Limit C may be increased on the inside of curves to improve sight distance if approved by the Contract Administrator

EARTHEN BARRICADE DETAIL

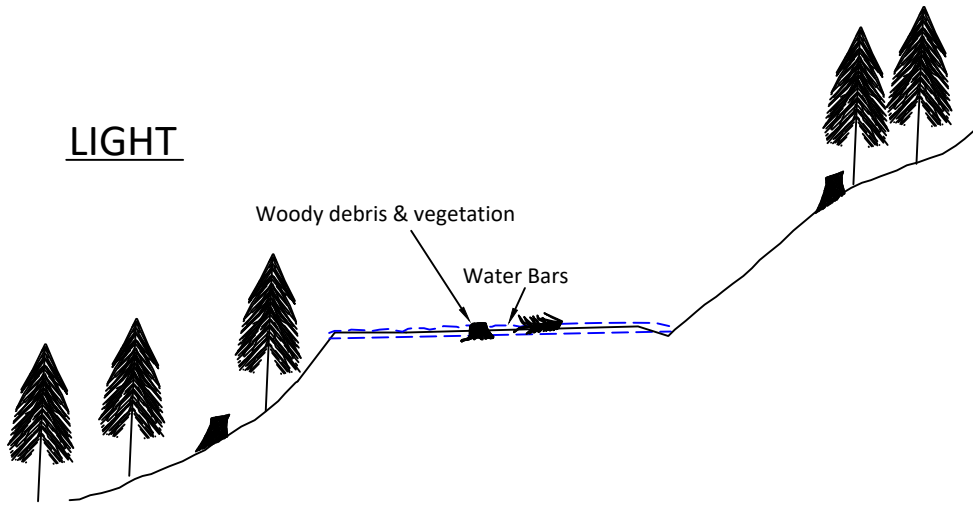


SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.

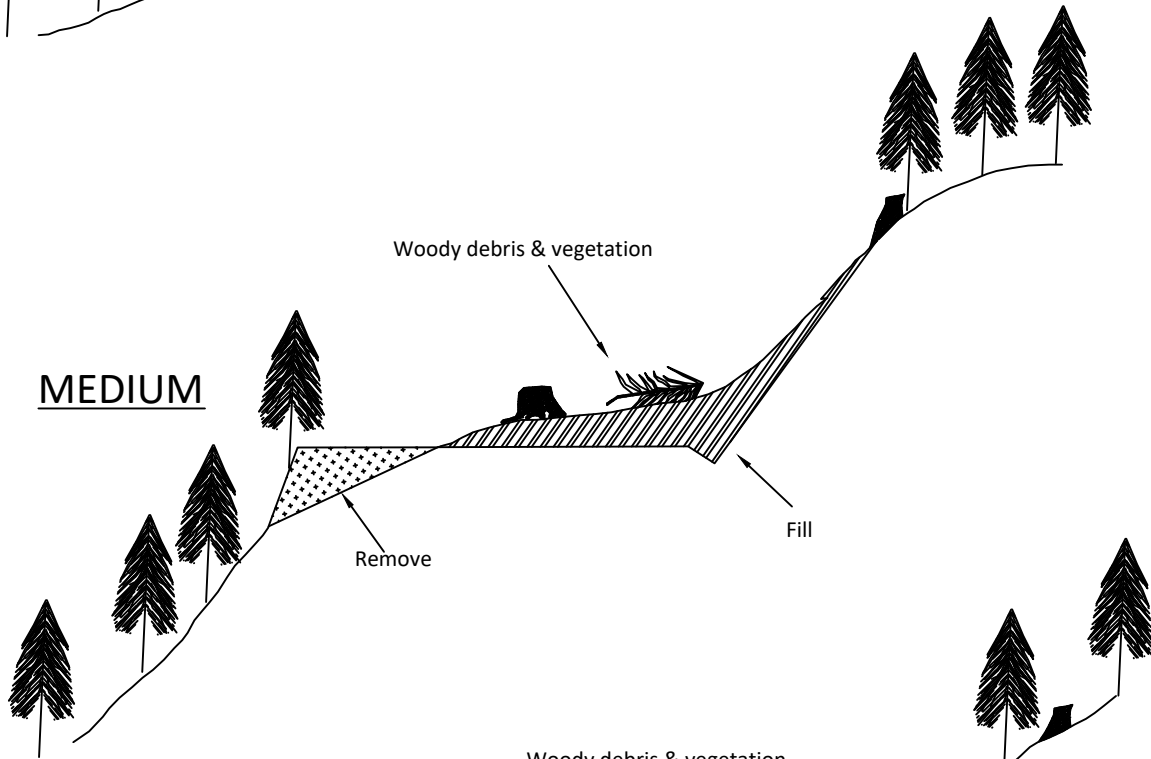


ROAD ABANDONMENT CROSS SECTIONS

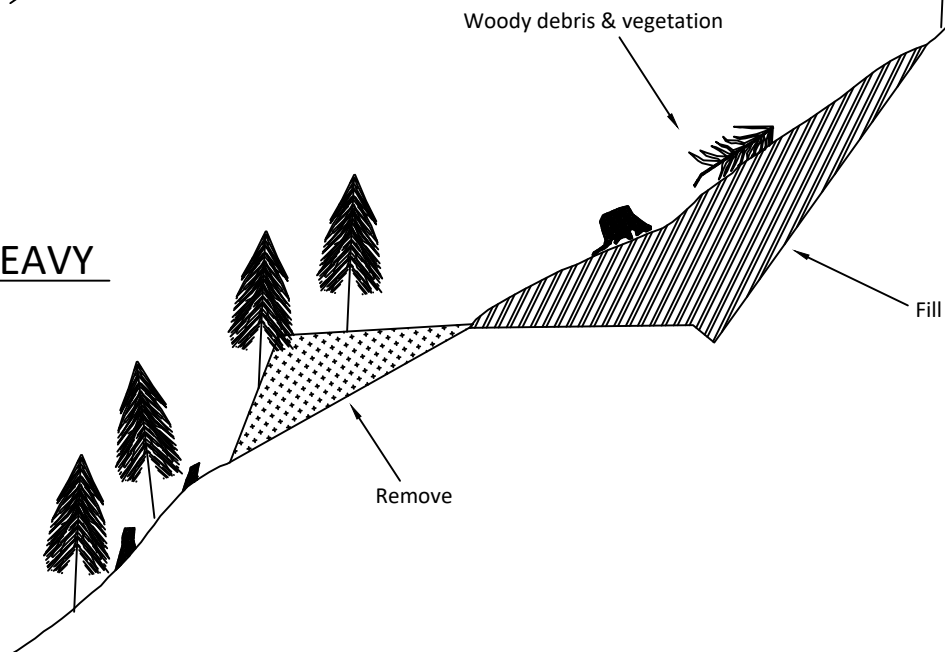
LIGHT



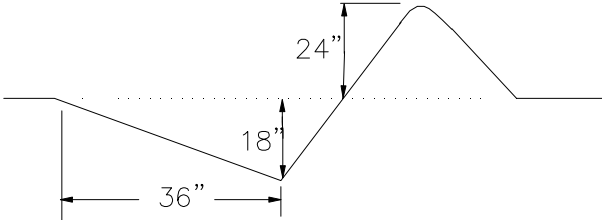
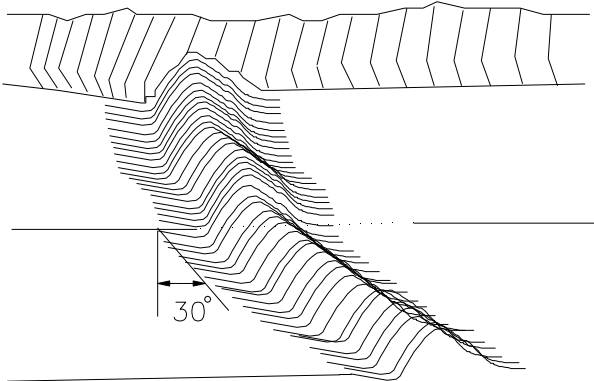
MEDIUM



HEAVY



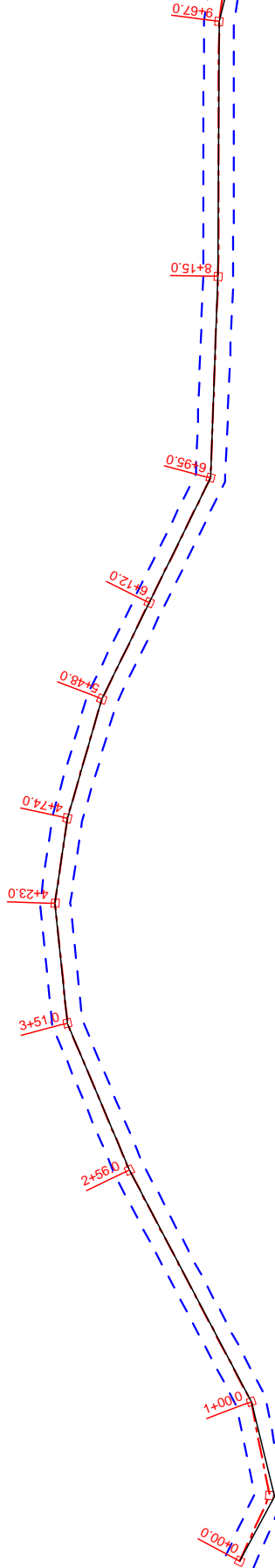
NON-DRIVABLE WATER BAR DETAIL



— L-line

— P-line

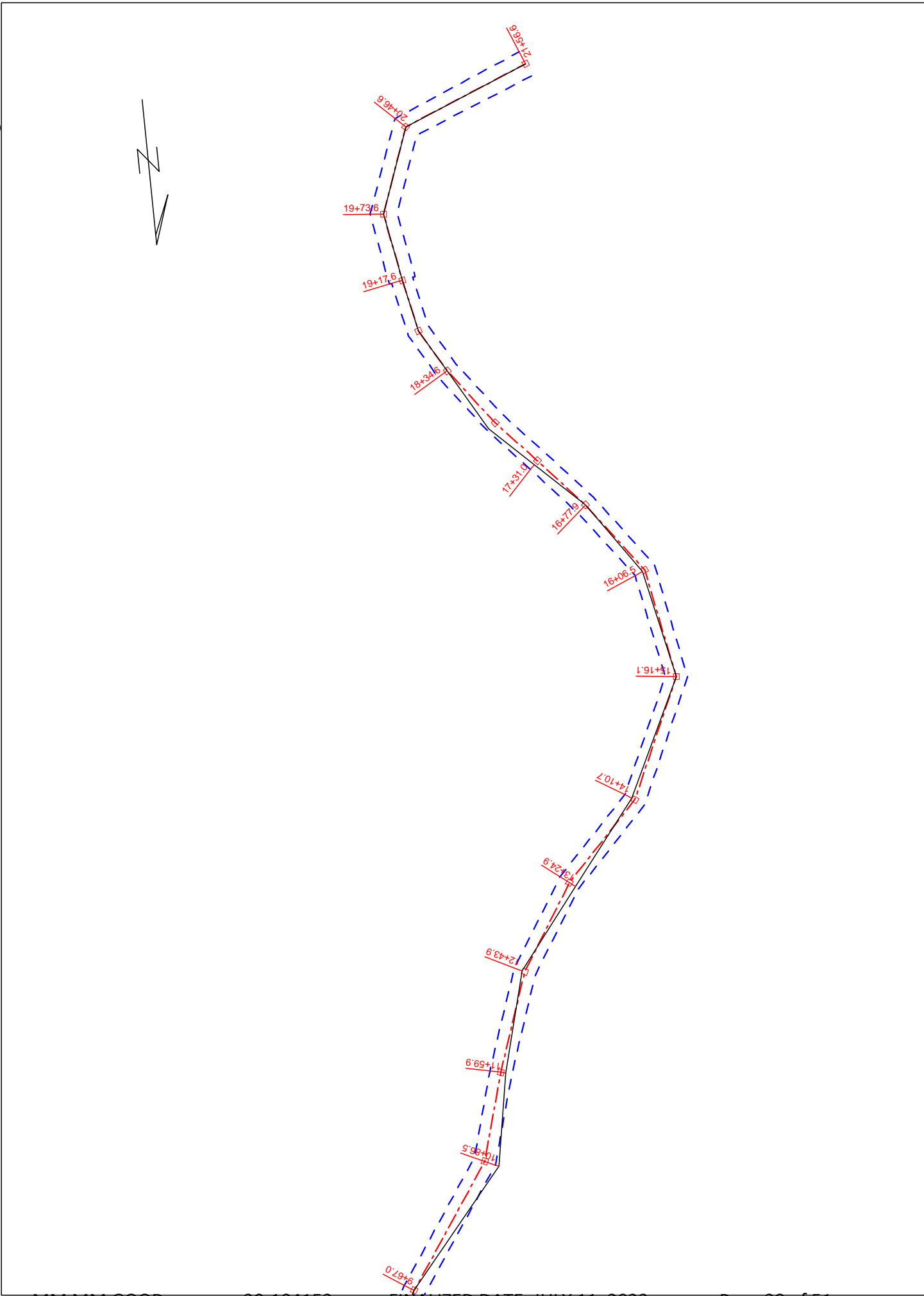
- - - Road Edges



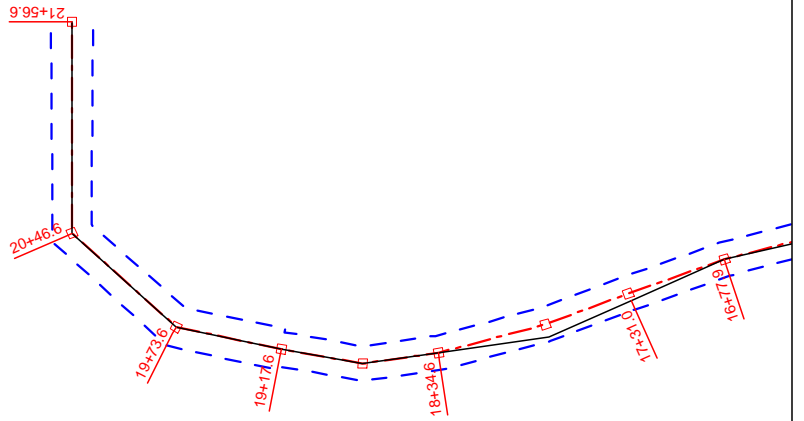
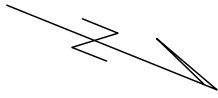
Road Edges

P-line

L-line



— L-line
- - - P-line
- - - Road Edges



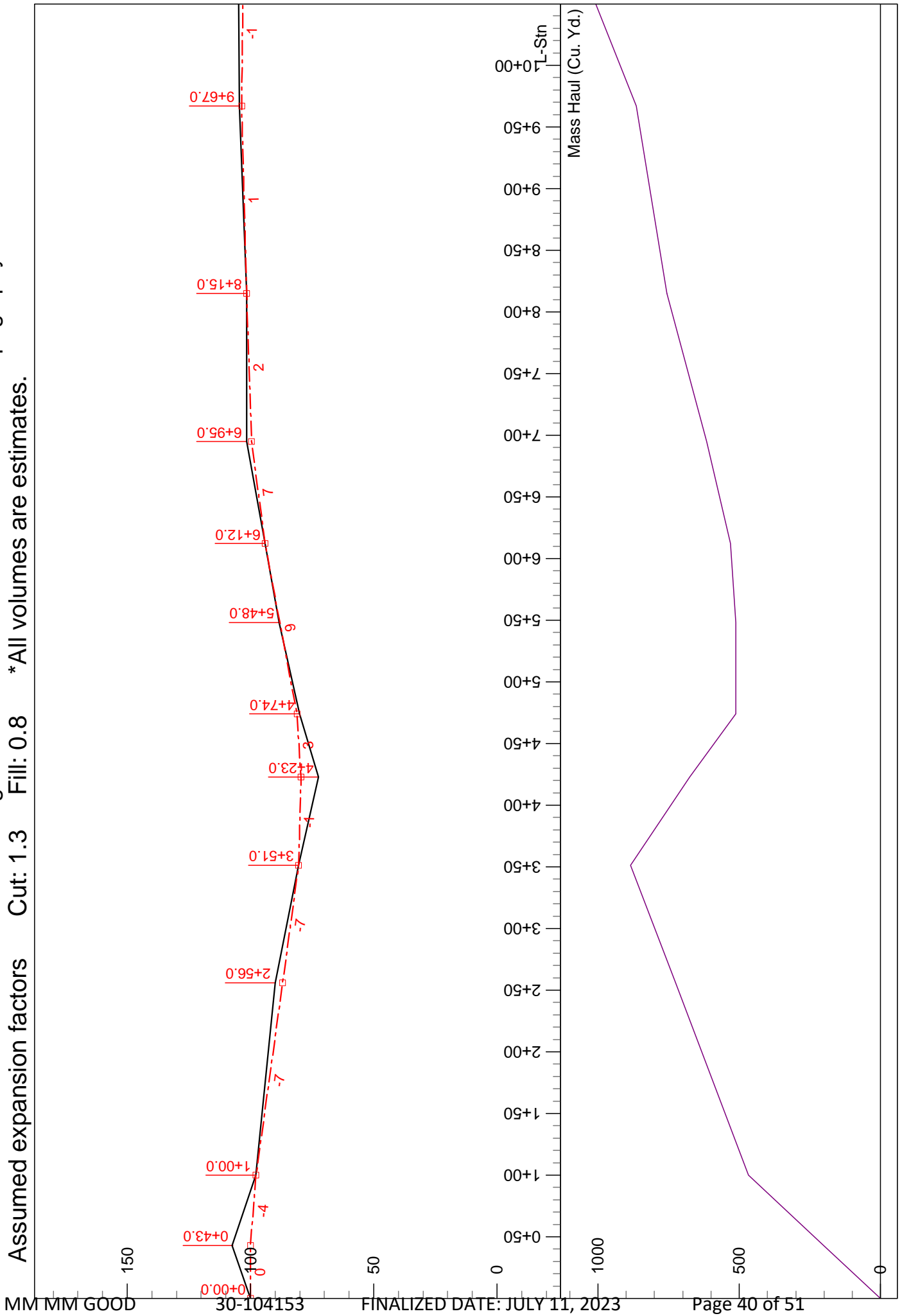
Profile Vert Scale 1:600
Profile Horz Scale 1:1200

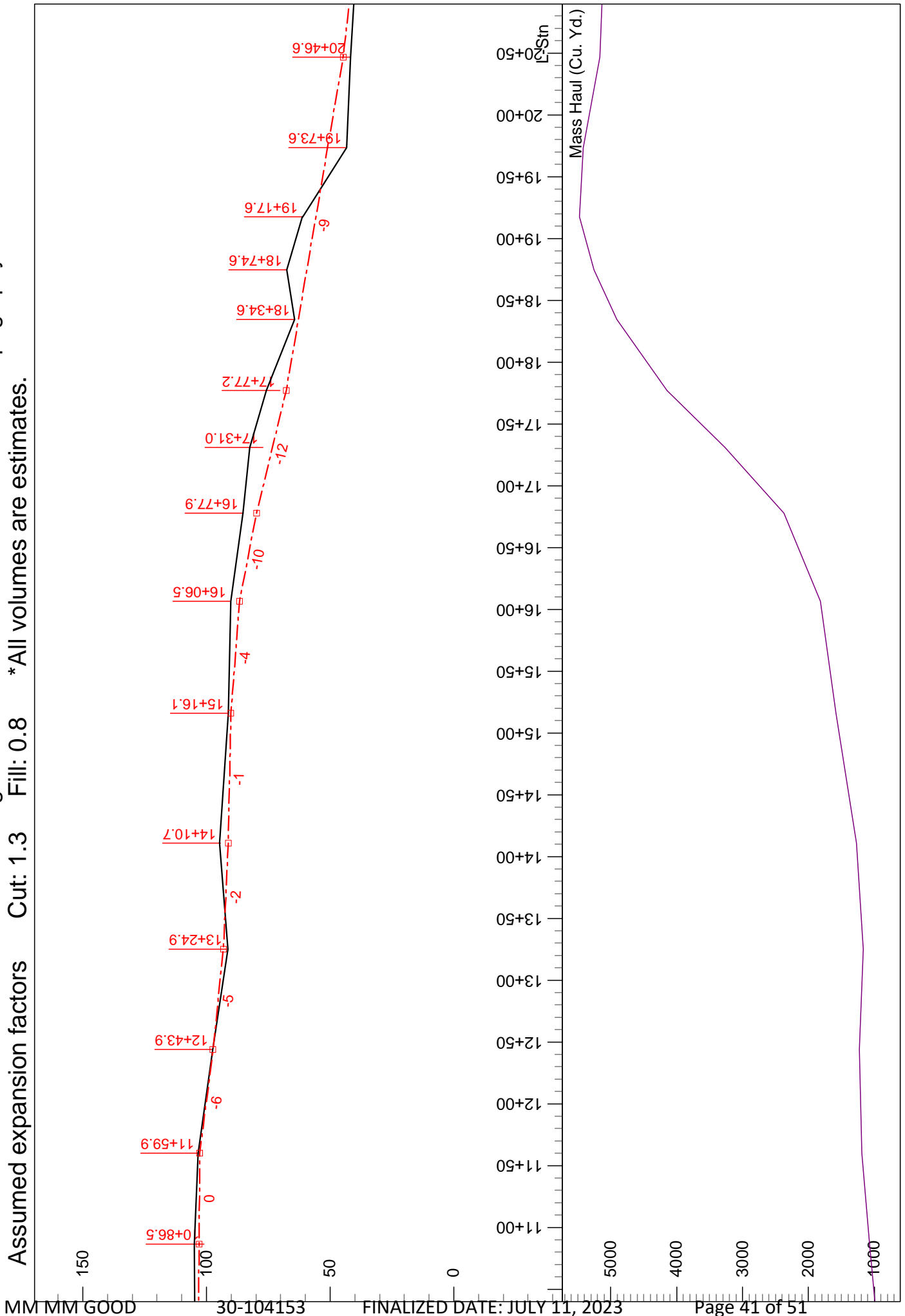
MM MM Good
T-5300 Reroute

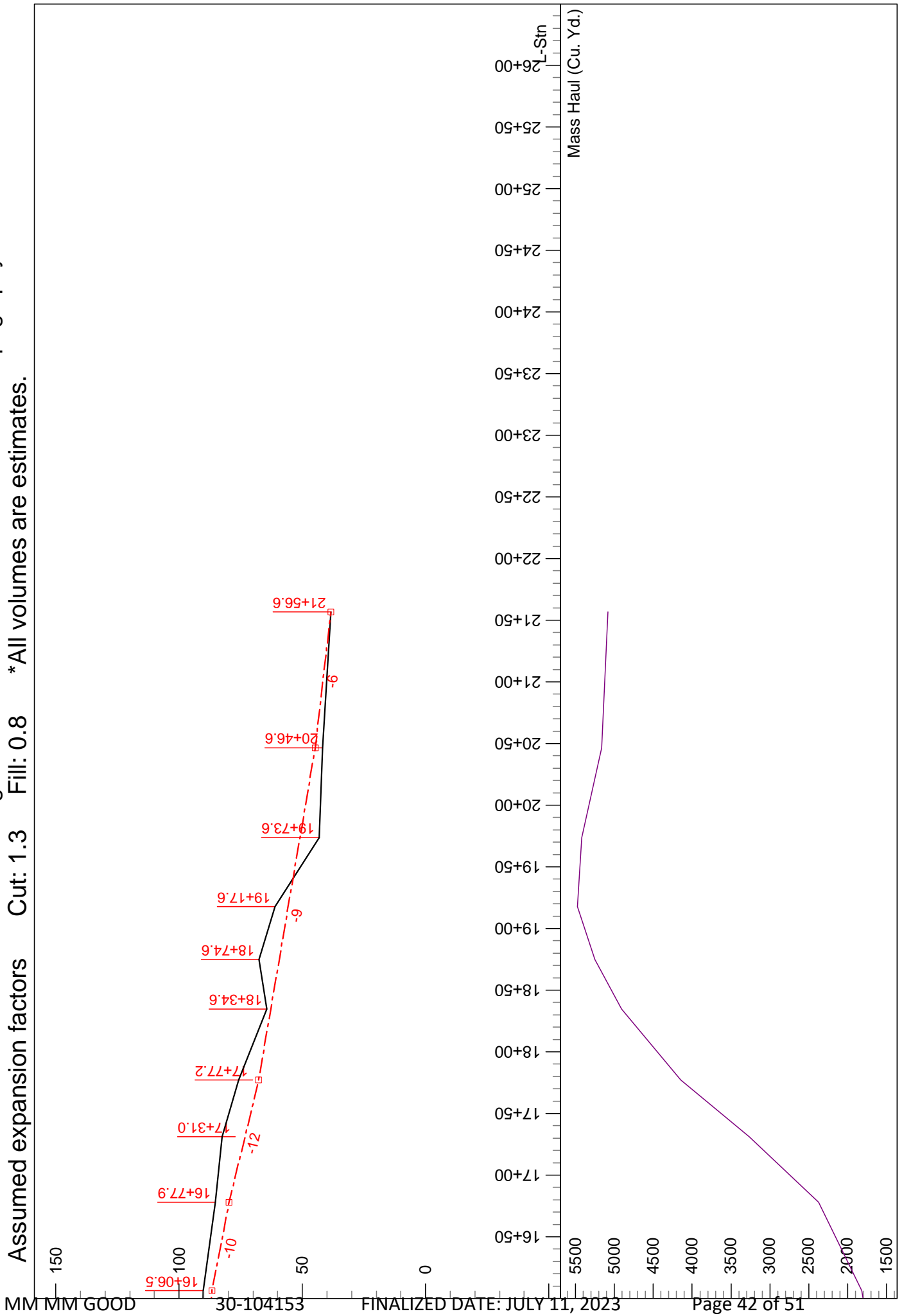
Subgrade Topography

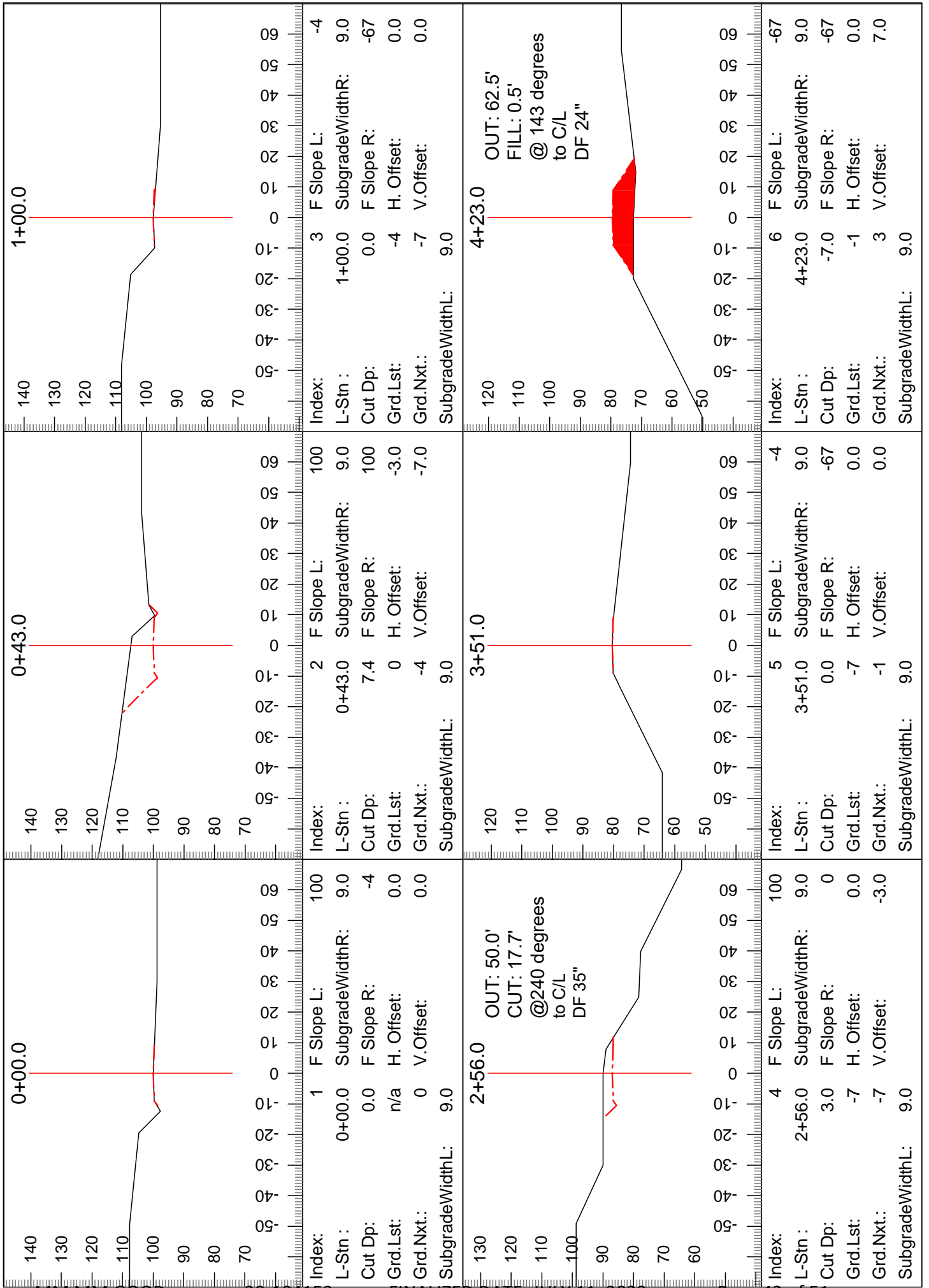
Subgrade

Assumed expansion factors
Cut: 1.3 Fill: 0.8 *All volumes are estimates.



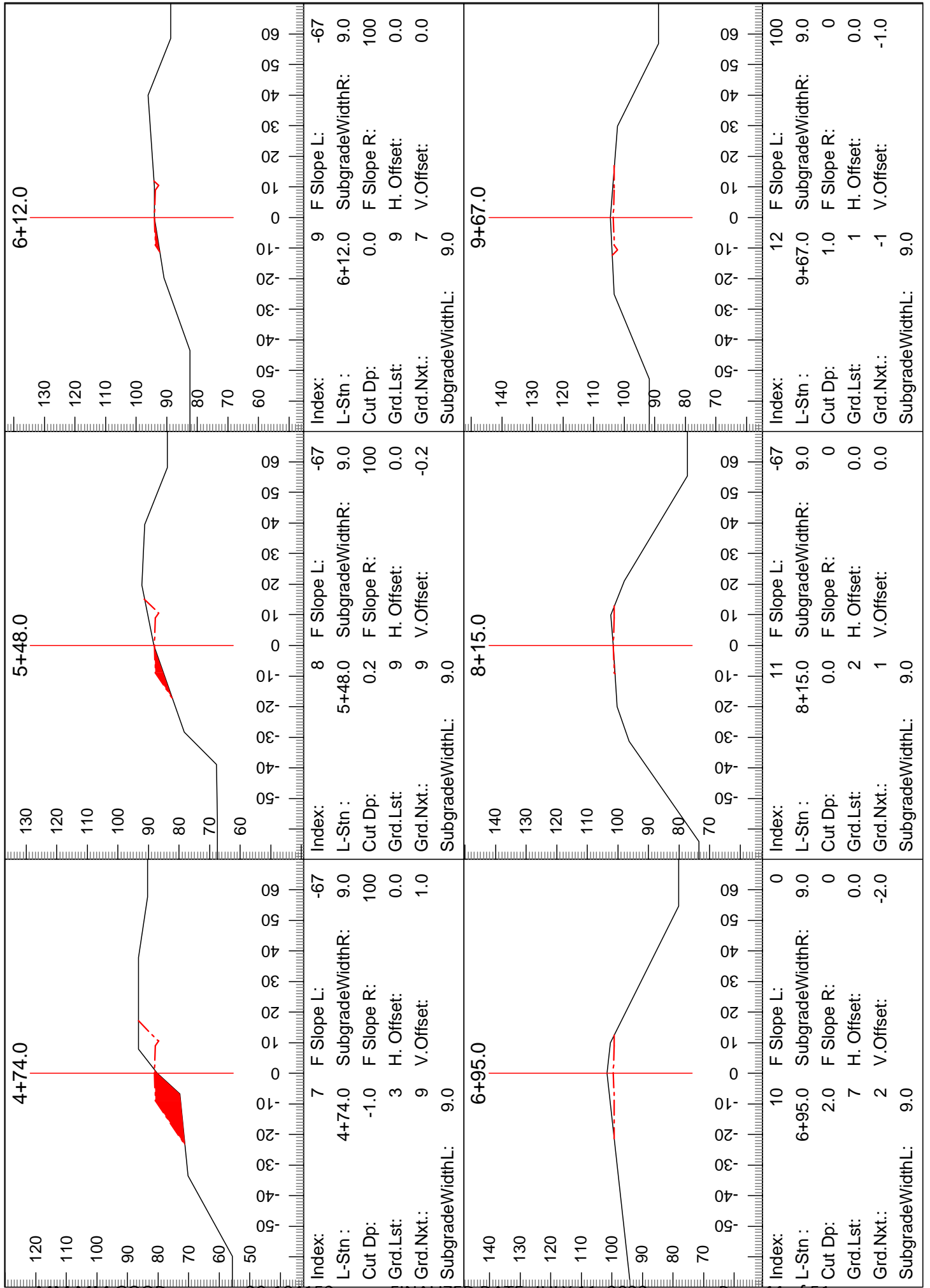




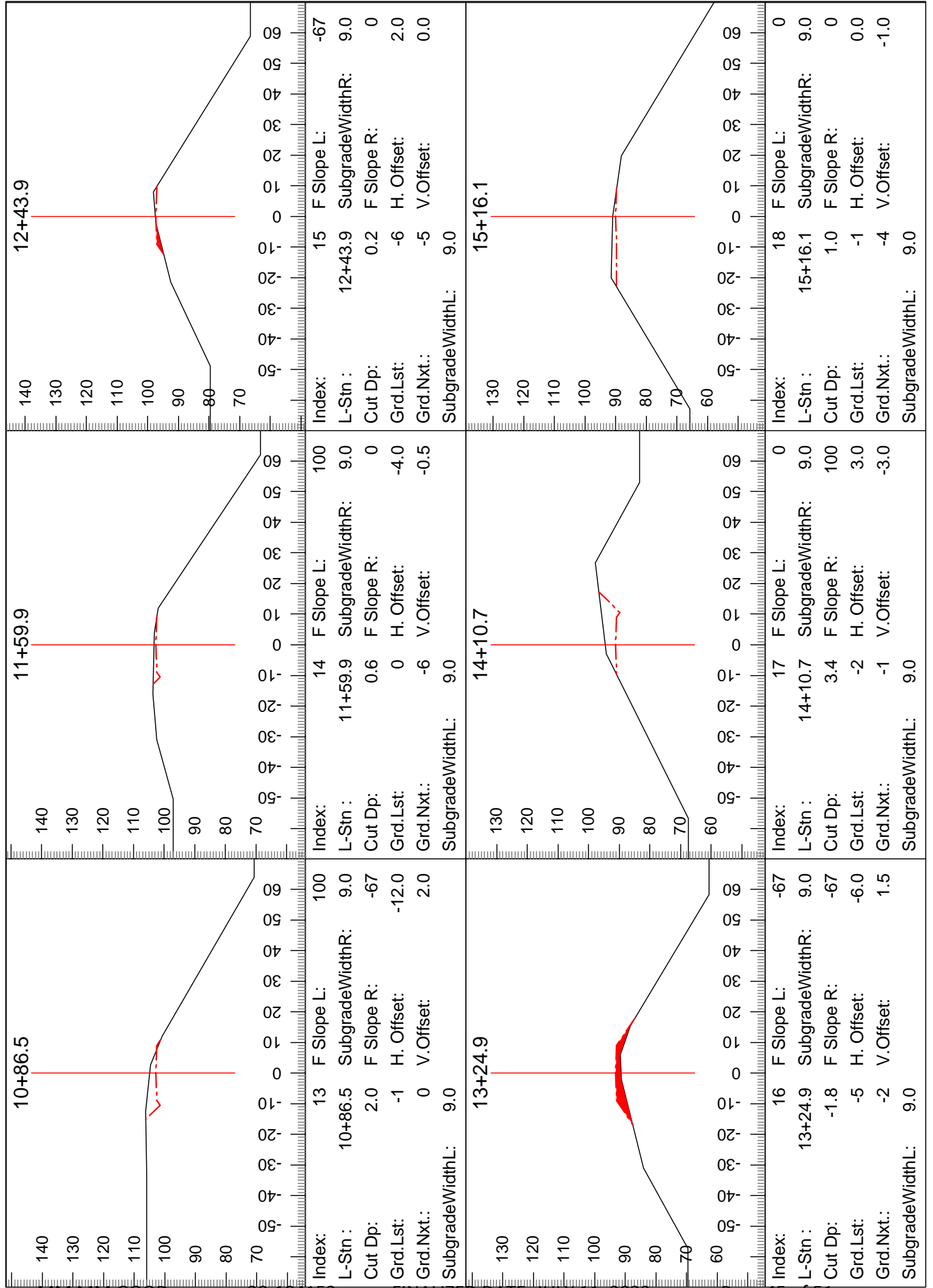


MM MM Good
T-5300 Reroute

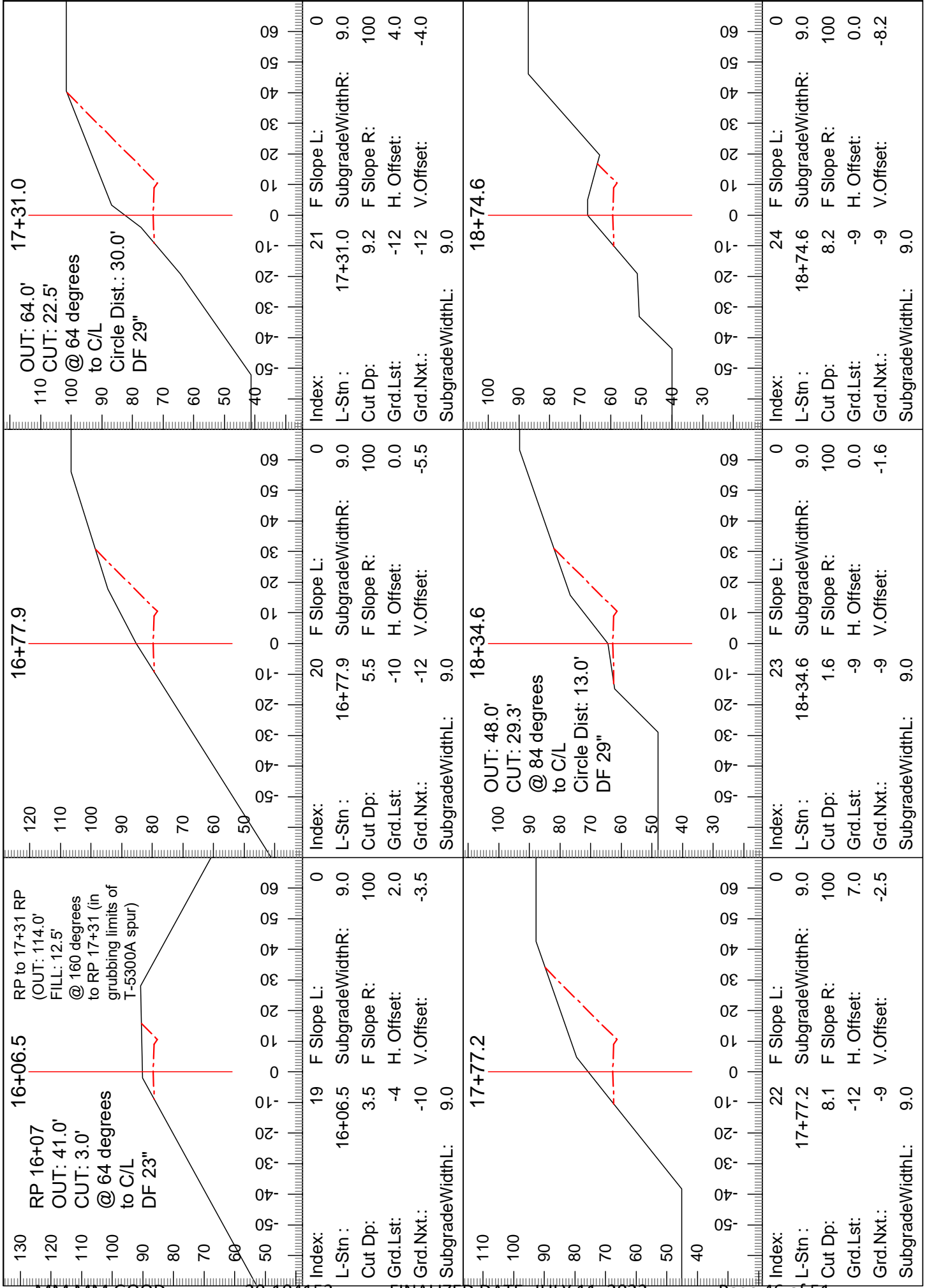
Cross Section View
Section Scale 1:480



T-5300 Reroute

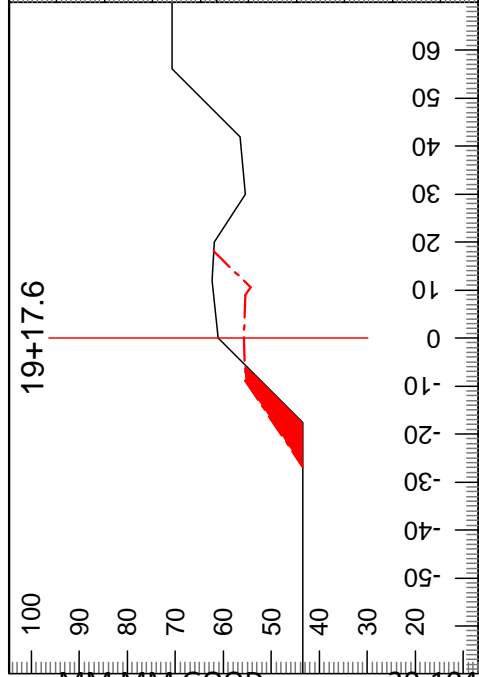


T-5300 Reroute

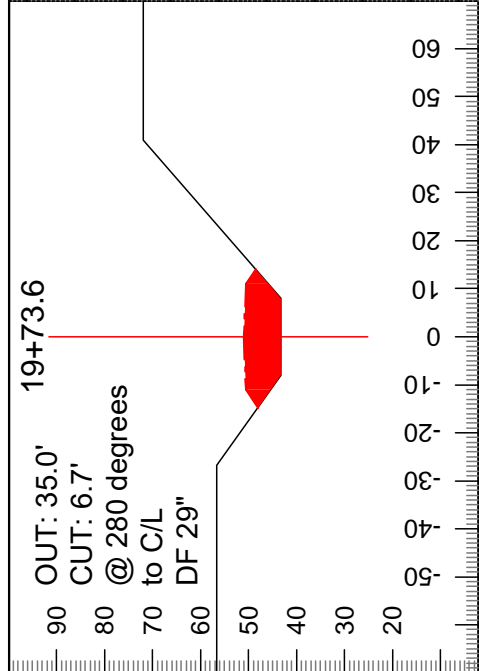


T-5300 Reroute

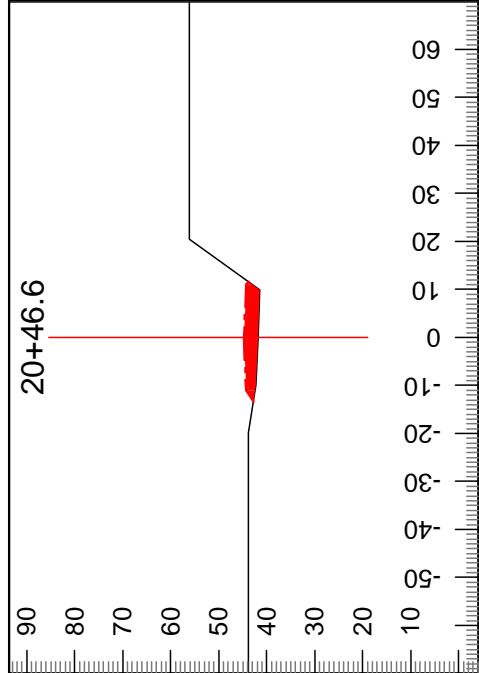
Section Scale 1:480



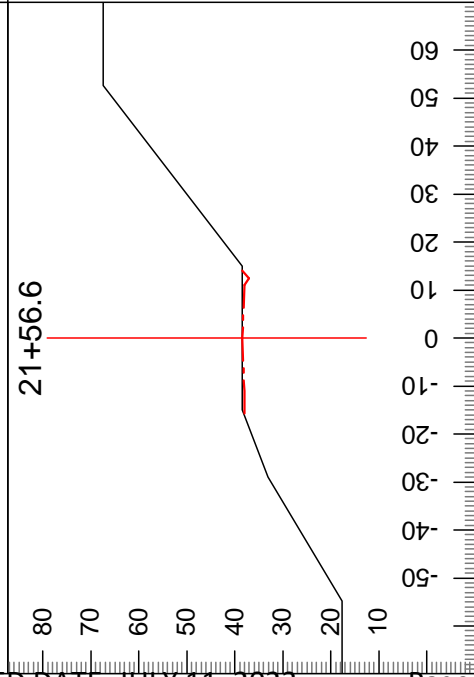
Index:	25	F Slope L:	-67
L-Stn :	19+17.6	SubgradeWidthR:	9.0
Cut Dp:	5.4	F Slope R:	100
Grd.Lst:	-9	H. Offset:	0.0
Grd.Nxt.:	-9	V. Offset:	-5.4
SubgradeWidthL:	9.0		



Index:	26	F Slope L:	-67
L-Stn :	19+73.6	SubgradeWidthR:	11.0
Cut Dp:	-7.8	F Slope R:	-67
Grd.Lst:	-9	H. Offset:	0.0
Grd.Nxt.:	-9	V. Offset:	7.8
SubgradeWidthL:	11.0		



Index:	27	F Slope L:	-67
L-Stn :	20+46.6	SubgradeWidthR:	11.0
Cut Dp:	-3.0	F Slope R:	-67
Grd.Lst:	-9	H. Offset:	0.0
Grd.Nxt.:	-6	V. Offset:	3.0
SubgradeWidthL:	11.0		

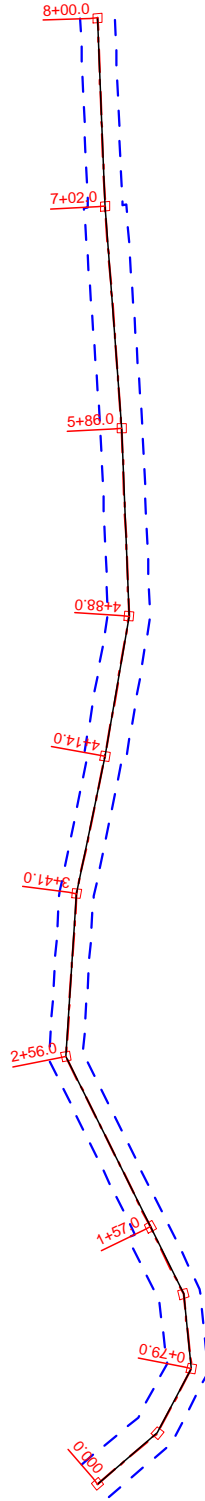
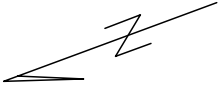


Index:	28	F Slope L:	0
L-Stn :	21+56.6	SubgradeWidthR:	11.0
Cut Dp:	0.0	F Slope R:	100
Grd.Lst:	-6	H. Offset:	0.0
Grd.Nxt.:	n/a	V. Offset:	0.0
SubgradeWidthL:	11.0		

Road Edges

P-line

L-line



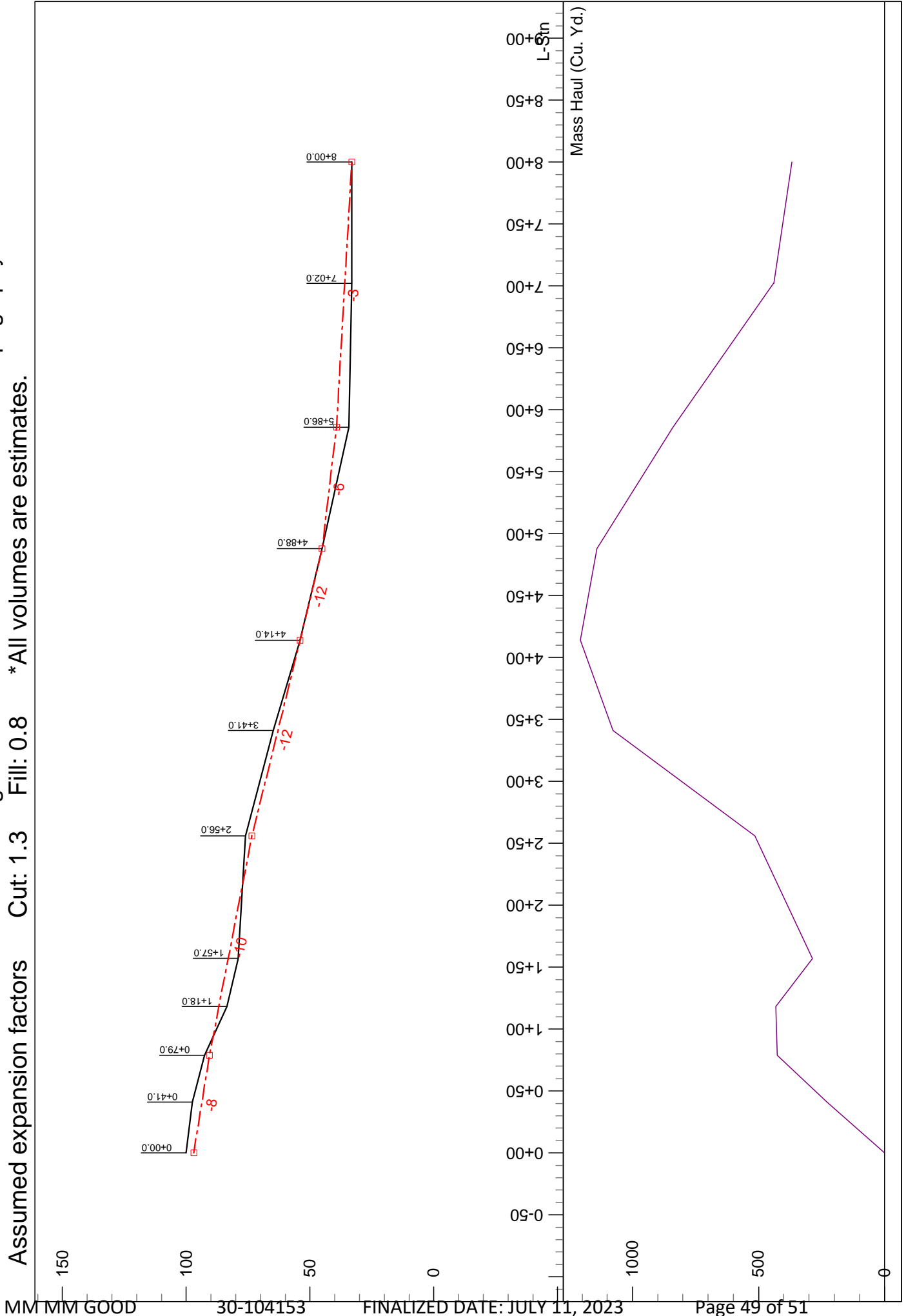
Profile Vert Scale 1:600
Profile Horz Scale 1:1200

MM MM Good
T-5305

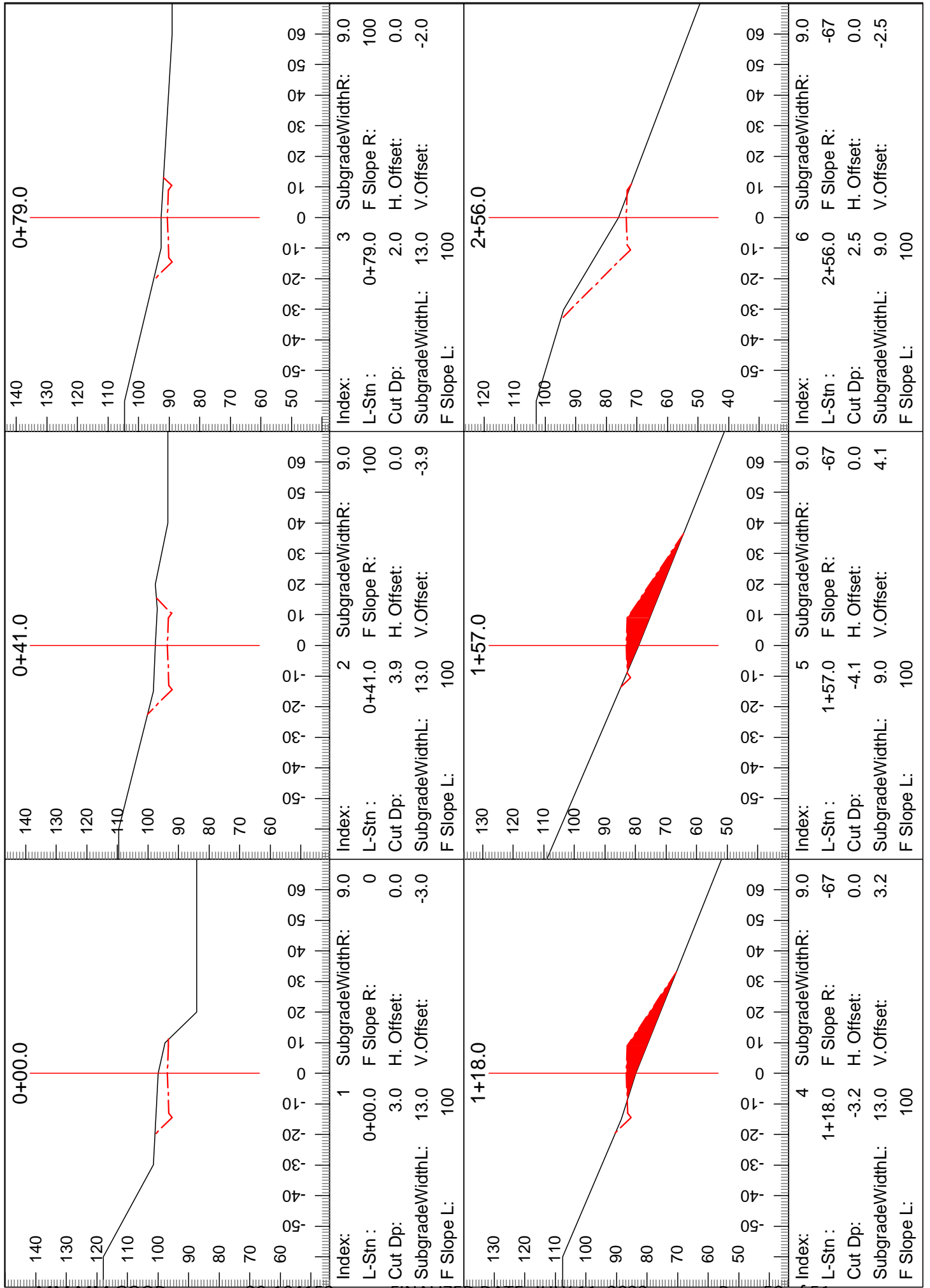
Topography

Subgrade

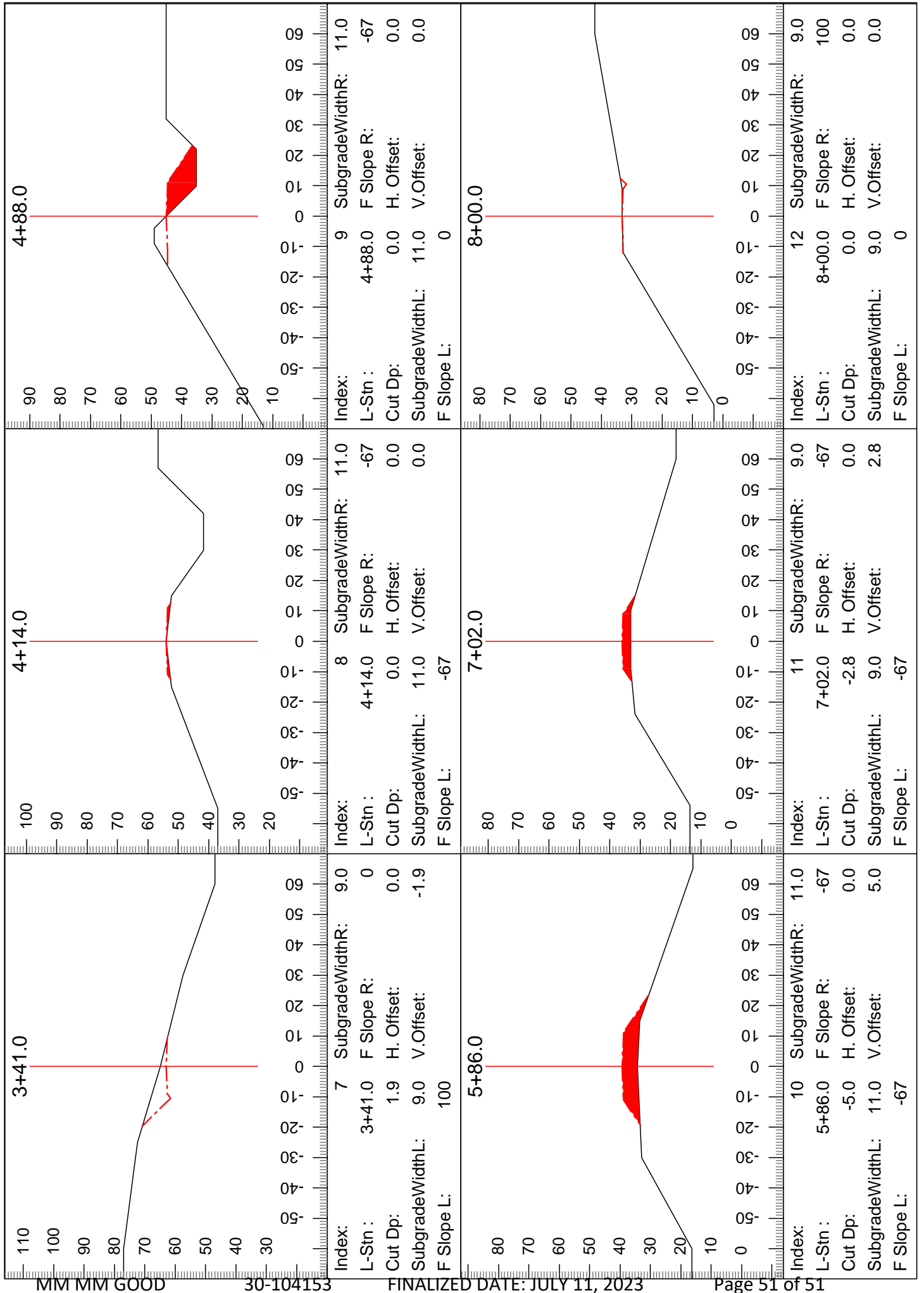
Grade %
Assumed expansion factors
Cut: 1.3 Fill: 0.8 *All volumes are estimates.



T-5305



MM MM Good
T-5305



SUMMARY - Road Development Costs

REGION: Pacific Cascade

DISTRICT: Lewis

SALE/PROJECT NAME: MM MM Good

AGREEMENT #: 30-104153

ROAD NUMBERS: Optional: T-5200 (28+80 to 31+80), T-5290, T-5002, T-5300A, T-5330

Required: T-Line, T-5000, T-5200 (0+00 to 28+80), T-5300, T-5305

ROAD STANDARD:	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS:	46.90	32.77	114.30
CLEARING & GRUBBING, EXCAVATION AND FILL, MISC.:	\$35,172.04	\$17,421.88	\$9,319.04
ROAD ROCK:			
Optional:	\$68,273.19	\$16,063.86	\$0.00
Required:	\$105,307.19	\$99,917.44	\$153,762.60
Total:	\$173,580.38	\$115,981.30	\$153,762.60
STOCKPILE:	-	-	\$0.00
CULVERTS AND FLUMES:	\$4,912.00	\$7,079.00	\$1,846.00
STRUCTURES:	-	-	-
MOBILIZATION:	\$5,275.50	\$2,613.13	\$1,397.77
TOTAL COSTS:	\$218,939.92	\$143,095.31	\$166,325.41
COST PER STATION:	\$4,668	\$4,367	\$1,455
ROAD DEACTIVATION & ABANDONMENT COSTS:	\$0.00	\$2,354.00	\$0

10% OVERHEAD AND GENERAL EXPENSE =	\$52,836.06
TOTAL (All Roads) =	\$583,550.70
TOTAL (Minus Optional Rock) =	\$499,213.65
SALE VOLUME MBF =	4,861
TOTAL \$/MBF =	\$120.05
TOTAL \$/MBF (Minus Optional Rock) =	\$102.70

Profit and Risk costs are accounted on an individual basis.

SUMMARY OF ROAD

Sale: MM MM Good

Road: T-Line

Required
Pre-Haul Maintenance- 57+80 stations
1.09 miles

Required
Reconstruction - 0+00 stations
0.00 miles

Required
Construction - 0+00 stations
0.00 miles

Required Abandonment- 0+00 stations
0.00 miles

Optional
Reconstruction - 0+00 stations
0.00 miles

Optional
Construction - 0+00 stations
0.00 miles

PRE-HAUL MAINTENANCE

EXCAVATION

Clean ditch & culverts- 57.80 stations @ \$67.19 per station \$3,883.58

MISC.

Grade and shape existing road surface - 57.80 stations @ \$18.25 per station \$1,054.85

Roll shaped road surface w/ vibratory roller prior to rocking - 57.80 stations @ \$9.70 per station \$560.66

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$5,499.09**

ROCK

0+00 to 57+80 2,612 cy. of DOT Spec 1.25" @ \$35.15 per c.y. = \$91,811.80

TOTAL ROCK **\$91,811.80**

SUBTOTAL **\$97,310.89**

MOBILIZATION

SUBTOTAL **\$824.82**

OVERHEAD & GENERAL EXPENSES

10%

SUBTOTAL **\$9,813.57**

Optional Rock? NO

TOTAL \$107,949.28

COST PER STATION \$1,867.63

SUMMARY OF ROAD

Sale: MM MM Good

Road: T-5000

Required Pre-Haul Maintenance- 27+70 stations 0.52 miles	Required Reconstruction - 0+00 stations 0.00 miles	Required Construction - 0+00 stations 0.00 miles
Required Abandonment- 0+00 stations 0.00 miles	Optional Reconstruction - 0+00 stations 0.00 miles	Optional Construction - 0+00 stations 0.00 miles

PRE-HAUL MAINTENANCE

CLEARING

MISC.

Grade and shape existing road surface -	27.70	stations @	\$18.25	per station	\$505.53
Roll shaped road surface w/ vibratory roller prior to rocking -	27.70	stations @	\$9.70	per station	\$268.69

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$774.22**

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>					
30	LF of 18"	\$915.00	0	LF of 24"	\$0.00
		\$915.00			\$0.00
<u>Culvert Stakes & Markers</u>					
1	markers	\$8.00			
		\$8.00			
			TOTAL CULVERTS		\$923.00

ROCK

0+00 to	27+70	882	cy. of	2.5" Crushed	@	\$34.07	per c.y.=	\$30,049.74
Culvert Backfill	27+60	20	cy. of	2.5" Crushed	@	\$31.46	per c.y.=	\$629.20
Energy Dissipator	27+60	1	cy. of	Quarry Spalls	@	\$46.59	per c.y.=	\$46.59
							TOTAL ROCK	\$30,725.53

SUBTOTAL **\$32,422.75**

MOBILIZATION

SUBTOTAL **\$116.13**

OVERHEAD & GENERAL EXPENSES

SUBTOTAL 10% **\$3,253.89**

TOTAL \$35,792.77

Optional Rock? NO

COST PER STATION \$1,292.16

SUMMARY OF ROAD

Sale: MM MM Good

Road: T-5200

Required
Pre-Haul Maintenance- 28+80 stations
0.55 miles

Required
Reconstruction - 0+00 stations
0.00 miles

Required
Construction - 0+00 stations
0.00 miles

Required Abandonment- 0+00 stations
0.00 miles

Optional
Reconstruction - 3+00 stations
0.06 miles

Optional
Construction - 0+00 stations
0.00 miles

PRE-HAUL MAINTENANCE

CLEARING

Roadside Brushing 0.21 miles @ \$1,170.00 per mile = \$245.70

EXCAVATION

Construct ditchouts - 21+60 1.00 @ \$60.00 each \$60.00
Pull and clean ditch- 28.80 stations @ \$67.19 per station \$1,935.07

MISC.

Grade and shape existing road surface - 28.80 stations @ \$18.25 per station \$525.60
Roll shaped road surface w/ vibratory roller prior to rocking - 28.80 stations @ \$9.70 per station \$279.36

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$3,045.73**

RECONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris 3.00 sta @ \$140.00 per sta \$420.00

EXCAVATION

Construct Ditches 3.00 stations @ \$67.19 per station \$201.57
Construct ditchouts - 1.00 @ \$60.00 each \$60.00
Grade and shape subgrade - 3.00 stations @ \$14.60 per station \$43.80

MISC.

Roll subgrade w/ vibratory roller prior to rocking - 3.00 stations @ \$12.12 per station \$36.36
Reconstruct turnouts @ sta. - 1.00 @ \$134.62 each \$134.62
Reconstruct turnaround @ sta. - 1.00 @ \$134.62 each \$134.62
Reconstruct landing - 31+80 1.00 @ \$269.23 each \$269.23
Grass seed and fertilize - 9.00 lbs @ \$4.00 per lbs \$36.00

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$1,336.20**

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>						
30	LF of 18"	\$915.00	0	LF of 24"	\$0.00	
		<u>\$915.00</u>			<u>\$0.00</u>	
<u>Culvert Stakes & Markers</u>						
1	markers	\$8.00				
		<u>\$8.00</u>				
					TOTAL CULVERTS	\$923.00

ROCK

0+00 to	17+70	375	cy. of	2.5" Crushed	@	\$35.12	per c.y.=	\$13,170.00	
Culvert Backfill	23+60	20	cy. of	2.5" Crushed	@	\$35.12	per c.y.=	\$702.40	
Energy Dissipator	23+60	1	cy. of	Quarry Spalls	@	\$38.71	per c.y.=	\$38.71	
28+80 to	31+80	319	cy. of	Ballast	@	\$33.71	per c.y.=	\$10,753.49	
17+70 to	28+80	493	cy. of	2.5" Crushed	@	\$35.12	per c.y.=	\$17,314.16	
								TOTAL ROCK	\$41,978.76

SUBTOTAL **\$47,283.69**

MOBILIZATION

SUBTOTAL **\$657.25**

OVERHEAD & GENERAL EXPENSES

10% SUBTOTAL **\$4,794.09**

TOTAL \$52,735.03

Optional Rock? NO

COST PER STATION \$1,658.33

SUMMARY OF ROAD

Sale: MM MM Good

Road: T-5290

Required
Pre-Haul Maintenance- 0+00 stations
0.00 miles

Required
Reconstruction - 0+00 stations
0.00 miles

Required
Construction - 0+00 stations
0.00 miles

Required Abandonment- 0+00 stations
0.00 miles

Optional
Reconstruction - 3+80 stations
0.07 miles

Optional
Construction - 0+00 stations
0.00 miles

RECONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris 3.80 sta @ \$140.00 per sta \$532.00

EXCAVATION

Construct ditch- 3.80 stations @ \$67.19 per station \$255.32

Construct ditchouts - 1.00 @ \$60.00 each \$60.00

Grade and shape subgrade - 3.80 stations @ \$14.60 per station \$55.48

MISC.

Roll subgrade w/ vibratory roller prior to rocking - 3.80 stations @ \$12.12 per station \$46.06

Reconstruct landing - 0+70, 3+80 2.00 @ \$269.23 each \$538.46

Grass seed and fertilize - 11.00 lbs @ \$4.00 per lbs \$44.00

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$1,531.32**

ROCK

0+00 to 3+80 474 cy. of Ballast @ \$33.89 per c.y. = \$16,063.86
TOTAL ROCK **\$16,063.86**

SUBTOTAL **\$17,595.18**

MOBILIZATION

SUBTOTAL **\$229.68**

OVERHEAD & GENERAL EXPENSES

10% SUBTOTAL **\$1,782.49**

TOTAL \$19,607.35

Optional Rock? YES

COST PER STATION \$5,159.83

SUMMARY OF ROAD

Sale: MM MM Good

Road: T-5002

Required Pre-Haul Maintenance- 0+00 stations 0.00 miles	Required Reconstruction - 0+00 stations 0.00 miles	Required Construction - 0+00 stations 0.00 miles
Required Abandonment- 0+00 stations 0.00 miles	Optional Reconstruction - 0+00 stations 0.00 miles	Optional Construction - 2+33 stations 0.04 miles

CONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris 2.33 sta @ \$280.00 per sta \$652.40

EXCAVATION

Road Construction Earthwork 2.33 sta. @ \$269.23 per sta. = \$627.31
 Grade and shape subgrade - 2.33 stations @ \$14.60 per station \$34.02
 Full Bench - Push 500 cy. @ \$2.00 per c.y.= \$1,000.00

MISC.

Roll subgrade w/ vibratory roller prior to rocking - 2.33 stations @ \$12.12 per station \$28.24
 Construct landing - 2+33 1.00 @ \$538.46 each \$538.46
 Grass seed and fertilize - 6.00 lbs @ \$4.00 per lbs \$24.00

ENDHAUL

Full Bench - Push 500 cy. @ \$2.11 per c.y.= \$1,055.00
TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. \$3,959.43

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>				
30	LF of 18"	<u>\$915.00</u>	0	LF of 24" \$0.00
		\$915.00		\$0.00
<u>Culvert Stakes & Markers</u>				
1	markers	<u>\$8.00</u>		
		\$8.00		
				TOTAL CULVERTS \$923.00

ROCK

0+00 to 2+33 281 cy. of Ballast @ \$33.44 per c.y.= \$9,396.64
TOTAL ROCK \$9,396.64

SUBTOTAL **\$14,279.07**

MOBILIZATION

SUBTOTAL **\$593.88**

OVERHEAD & GENERAL EXPENSES

10% SUBTOTAL **\$1,487.30**

TOTAL \$16,360.25

Optional Rock? YES

COST PER STATION \$7,021.57

SUMMARY OF ROAD

Sale:	MM MM Good		Road: T-5300
Required Pre-Haul Maintenance-	0+00 <hr style="border: 0; border-top: 1px solid black;"/> 0.00	stations miles	Required Reconstruction -
			25+97 <hr style="border: 0; border-top: 1px solid black;"/> 0.49
			stations miles
Required Abandonment-	0+00 <hr style="border: 0; border-top: 1px solid black;"/> 0.00	stations miles	Optional Reconstruction -
			0+00 <hr style="border: 0; border-top: 1px solid black;"/> 0.00
			stations miles
			Required Construction -
			21+63 <hr style="border: 0; border-top: 1px solid black;"/> 0.41
			stations miles
			Optional Construction -
			0+00 <hr style="border: 0; border-top: 1px solid black;"/> 0.00
			stations miles

RECONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris	25.97	sta @	\$140.00	per sta	\$3,635.80
Endhaul organic Debris	0.500	acres @	\$1,500.00	per acre	\$750.00
Construct waste areas -	4.00	hours @	\$350.00	per hour	\$1,400.00

EXCAVATION

Widening Road Prism	0.500	acres @	\$140.00	per acre	\$70.00
Pull and clean ditch-	25.97	stations @	\$67.19	per station	\$1,744.92
Construct ditchouts -	0.00	@	\$60.00	each	\$0.00
Grade and shape subgrade -	25.97	stations @	\$14.60	per station	\$379.16

MISC.

Roll subgrade w/ vibratory roller prior to rocking -	25.97	stations @	\$12.12	per station	\$314.76
Reconstruct turnouts @ sta. -	3.00	@	\$134.62	each	\$403.86
Reconstruct turnaround @ sta. -	3.00	@	\$134.62	each	\$403.86
Grass seed and fertilize -	78.00	lbs @	\$4.00	per lbs	\$312.00

ENDHAUL

Reconstruct slopes & ditches	2000	cy. @	\$2.57	per c.y.	\$5,140.00
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TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. \$14,554.36

CONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris	21.63	sta @	\$280.00	per sta	\$6,056.40
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EXCAVATION

Road Construction Earthwork	21.63	sta. @	\$194.44	per sta. =	\$4,205.74
Grade and shape subgrade -	21.63	stations @	\$14.60	per station	\$315.80

FILL

Fill roadway -	16.00	hours @	\$280.00	per hour	\$4,480.00
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MISC.

Roll subgrade w/ vibratory roller prior to rocking -	21.63	stations @	\$12.12	per station	\$262.16
Construct turnaround @ sta. -	1.00	@	\$134.62	each	\$134.62
Construct landing -	3.00	@	\$538.46	each	\$1,615.38
Grass seed and fertilize -	66.00	lbs @	\$4.00	per lbs	\$264.00

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. \$17,334.10

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>					
	270	LF of 18"	\$8,235.00		
			\$8,235.00	0	LF of 24"
					\$0.00
					\$0.00
<u>Culvert Stakes & Markers</u>					
	8	markers	\$64.00		
			\$64.00		
TOTAL CULVERTS					\$8,299.00

ROCK

0+00 to	47+60	1,036	cy. of	Crushed	@	\$35.30	per c.y. =	\$36,570.80
Energy Dissipator	See Rock List	8	cy. of	Quarry Spalls	@	\$38.89	per c.y. =	\$311.12
0+00 to	47+60	3,734	cy. of	Ballast	@	\$33.89	per c.y. =	\$126,545.26
TOTAL ROCK								\$163,427.18

SUBTOTAL **\$203,614.64**

MOBILIZATION

SUBTOTAL **\$4,782.99**

OVERHEAD & GENERAL EXPENSES

10% SUBTOTAL **\$20,839.76**

TOTAL \$229,237.39

Optional Rock?

COST PER STATION \$4,815.91

SUMMARY OF ROAD

Sale: MM MM Good

Road: T-5305

Required Pre-Haul Maintenance -	0+00 0.00	stations miles	Required Reconstruction -	0+00 0.00	stations miles	Required Construction -	8+00 0.15	stations miles
Required Abandonment -	0+00 0.00	stations miles	Optional Reconstruction -	0+00 0.00	stations miles	Optional Construction -	0+00 0.00	stations miles

CONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris 8.00 sta @ \$280.00 per sta \$2,240.00

EXCAVATION

Road Construction Earthwork 8.00 sta @ \$194.44 per sta. = \$1,555.52
 Grade and shape subgrade - 8.00 stations @ \$14.60 per station \$116.80

MISC.

Roll subgrade w/ vibratory roller prior to rocking - 8.00 stations @ \$12.12 per station \$96.96
 Construct turnouts @ sta. - 1.00 @ \$134.62 each \$134.62
 Construct turnaround @ sta. - 1.00 @ \$134.62 each \$134.62
 Construct landing - 1.00 @ \$538.46 each \$538.46
 Grass seed and fertilize - 24.00 lbs @ \$4.00 per lbs \$96.00

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$4,912.98**

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	30	LF of 18"	\$915.00	0	LF of 24"	\$0.00
			\$915.00			\$0.00
<u>Culvert Stakes & Markers</u>						
	1	markers	\$8.00			
			\$8.00			
					TOTAL CULVERTS	\$923.00

ROCK

0+00 to	8+00	186	cy. of	2.5" Crushed	@	\$40.53	per c.y.=	\$7,538.58
Energy Dissipator	2+56	1	cy. of	Quarry Spalls	@	\$38.62	per c.y.=	\$38.62
0+00 to	8+00	698	cy. of	Ballast	@	\$33.62	per c.y.=	\$23,466.76
							TOTAL ROCK	\$31,043.96

SUBTOTAL **\$36,879.94**

MOBILIZATION

SUBTOTAL **\$736.90**

OVERHEAD & GENERAL EXPENSES

10% SUBTOTAL **\$3,761.68**

TOTAL \$41,378.52

Optional Rock? NO

COST PER STATION \$5,172.32

SUMMARY OF ROAD

Sale: MM MM Good

Road: T-5300A

Required
Pre-Haul Maintenance- 0+00 stations
0.00 miles

Required
Reconstruction - 0+00 stations
0.00 miles

Required
Construction - 0+00 stations
0.00 miles

Required Abandonment- 0+00 stations
0.00 miles

Optional
Reconstruction - 0+00 stations
0.00 miles

Optional
Construction - 2+27 stations
0.04 miles

CONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris 2.27 sta @ \$280.00 per sta \$635.60

EXCAVATION

Road Construction Earthwork 2.27 sta. @ \$152.17 per sta. = \$345.43
Grade and shape subgrade - 2.27 stations @ \$14.60 per station \$33.14

MISC.

Roll subgrade w/ vibratory roller prior to rocking - 2.27 stations @ \$12.12 per station \$27.51
Construct landing - 1.00 @ \$538.46 each \$538.46
Grass seed and fertilize - 6.00 lbs @ \$4.00 per lbs \$24.00

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$1,604.14**

ROCK

0+00 to 2+27 275 cy. of Ballast @ \$33.71 per c.y. = \$9,270.25
TOTAL ROCK **\$9,270.25**

SUBTOTAL **\$10,874.39**

MOBILIZATION

SUBTOTAL **\$240.61**

OVERHEAD & GENERAL EXPENSES

10% SUBTOTAL **\$1,111.50**

TOTAL \$12,226.50

Optional Rock? YES

COST PER STATION \$5,386.12

SUMMARY OF ROAD

Sale: MM MM Good

Road: T-5330

Required Pre-Haul Maintenance- 0+00 stations 0.00 miles	Required Reconstruction - 0+00 stations 0.00 miles	Required Construction - 0+00 stations 0.00 miles
Required Abandonment- 0+00 stations 0.00 miles	Optional Reconstruction - 0+00 stations 0.00 miles	Optional Construction - 12+67 stations 0.24 miles

CONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris 12.67 sta @ \$280.00 per sta \$3,547.60

EXCAVATION

Road Construction Earthwork 12.67 sta. @ \$194.44 per sta. = \$2,463.55
 Construct ditchouts - 11+90 1.00 @ \$60.00 each \$60.00
 Grade and shape subgrade - 12.67 stations @ \$14.60 per station \$184.98

MISC.

Roll subgrade w/ vibratory roller prior to rocking - 12.67 stations @ \$12.12 per station \$153.56
 Construct turnouts @ sta. - 1.00 @ \$134.62 each \$134.62
 Construct turnaround @ sta. - 1.00 @ \$134.62 each \$134.62
 Construct landing - 1.00 @ \$538.46 each \$538.46
 Grass seed and fertilize - 36.00 lbs @ \$4.00 per lbs \$144.00

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$7,361.39**

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>					
60	LF of 18"	\$1,830.00	0	LF of 24"	\$0.00
<u>Culvert Stakes & Markers</u>					
2	markers	\$16.00			
		\$16.00		TOTAL CULVERTS	\$1,846.00

ROCK

Energy Dissipator	See Rock List	2	cy. of	Quarry Spalls	@	\$45.82	per c.y. =	\$91.64
0+00 to	12+67	1,213	cy. of	Ballast	@	\$40.82	per c.y. =	\$49,514.66
								TOTAL ROCK
								\$49,606.30

SUBTOTAL **\$58,813.69**

MOBILIZATION

SUBTOTAL **\$1,104.14**

OVERHEAD & GENERAL EXPENSES

10% SUBTOTAL **\$5,991.78**

TOTAL \$65,909.61

Optional Rock? YES

COST PER STATION \$5,202.02

SUMMARY OF ROAD

Sale: MM MM Good

Road: T-5300 Abandonment

Required
Pre-Haul Maintenance- 0+00 stations
0.00 miles

Required
Reconstruction - 0+00 stations
0.00 miles

Required
Construction - 0+00 stations
0.00 miles

Required Abandonment- 13+00 stations
0.25 miles

Optional
Reconstruction - 0+00 stations
0.00 miles

Optional
Construction - 0+00 stations
0.00 miles

ABANDONMENT

Construct waterbar -	9.00	@	\$180.00	each	\$1,620.00
Construct Earthen Berm -	2.00	@	\$180.00	each	\$360.00
Grass seed and fertilize -	40.00	lbs @	\$4.00	per lbs	\$160.00
			TOTAL ADDITIONAL REQUIREMENTS		\$2,140.00

SUBTOTAL **\$2,140.00**

OVERHEAD & GENERAL EXPENSES

10% SUBTOTAL **\$214.00**

TOTAL \$2,354.00

Optional Rock? NO

COST PER STATION \$181.08

ROCK DEVELOPMENT COST SUMMARY

Pit: Commercial Location: Oakville, WA
 Sale: MM MM Good Road: 7007 c.y.

Base Cost= \$15.86 Per Cu.Yd. (Purchase Price 4" Crushed)

Road Segment	Haul Cost /cu.yd.	Application Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	Speed (Mi/hr.)	One-Way Dist (ft)	ROCK COST
T-5000 Energy Dissipator	\$24.73	\$6.00	\$15.86	\$46.59	1	21	84000	\$46.59
T-5200 Energy Dissipator	\$16.85	\$6.00	\$15.86	\$38.71	1	21	86000	\$38.71
T-5200	\$16.85	\$1.00	\$15.86	\$33.71	319	21	86000	\$10,753.49
T-5290	\$17.03	\$1.00	\$15.86	\$33.89	474	21	87000	\$16,063.86
T-5002	\$16.58	\$1.00	\$15.86	\$33.44	281	21	84500	\$9,396.64
T-5300 Energy Dissipator	\$17.03	\$6.00	\$15.86	\$38.89	8	21	87000	\$311.12
T-5300	\$17.03	\$1.00	\$15.86	\$33.89	3734	21	87000	\$126,545.26
T-5305 Energy Dissipator	\$16.76	\$6.00	\$15.86	\$38.62	1	21	85500	\$38.62
T-5305	\$16.76	\$1.00	\$15.86	\$33.62	698	21	85500	\$23,466.76
T-5300A	\$16.85	\$1.00	\$15.86	\$33.71	275	21	86000	\$9,270.25
T-5330 Energy Dissipator	\$23.96	\$6.00	\$15.86	\$45.82	2	21	90000	\$91.64
T-5330	\$23.96	\$1.00	\$15.86	\$40.82	1213	21	90000	\$49,514.66
Total C.Y.					7007		Sub Total	\$245,537.60

TOTAL ROCKING COSTS \$245,537.60

ROCK DEVELOPMENT COST SUMMARY

Pit:	Commercial		Location:	Oakville, WA
Sale:	MM MM Good		Road:	5624 c.y.
Base Cost=	\$22.77	Per Cu.Yd.		(Purchase DOT 1 1/4" crushed)
Base Cost=	\$17.27	Per Cu.Yd.		(Purchase 2 1/2" Crushed)

Road Segment	Haul Cost /cu.yd.	Application Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	Speed (Mi/hr.)	One-way Dist (ft)	ROCK COST
T-Line	\$11.38	\$1.00	\$22.77	\$35.15	2612	23	61000	\$91,811.80
T-5000	\$15.80	\$1.00	\$17.27	\$34.07	882	22	84000	\$30,049.74
T-5000 Culvert Backfill	\$7.69	\$1.00	\$22.77	\$31.46	20	18	30200	\$629.20
T-5200	\$16.85	\$1.00	\$17.27	\$35.12	375	21	86000	\$13,170.00
T-5200 Culvert Backfill	\$16.85	\$1.00	\$17.27	\$35.12	20	21	86000	\$702.40
T-5200	\$16.85	\$1.00	\$17.27	\$35.12	493	21	86000	\$17,314.16
T-5300	\$17.03	\$1.00	\$17.27	\$35.30	1036	21	87000	\$36,570.80
T-5305	\$16.76	\$1.00	\$22.77	\$40.53	186	21	85500	\$7,538.58
				Total C.Y.	5624		Sub Total	\$197,786.68

TOTAL ROCKING COSTS \$197,786.68



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 (optional and required) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Construction: linear feet
Roads to be constructed (optional and required) and then abandoned

Temporary Reconstruction: linear feet
Roads to be reconstructed (optional and required) and then abandoned

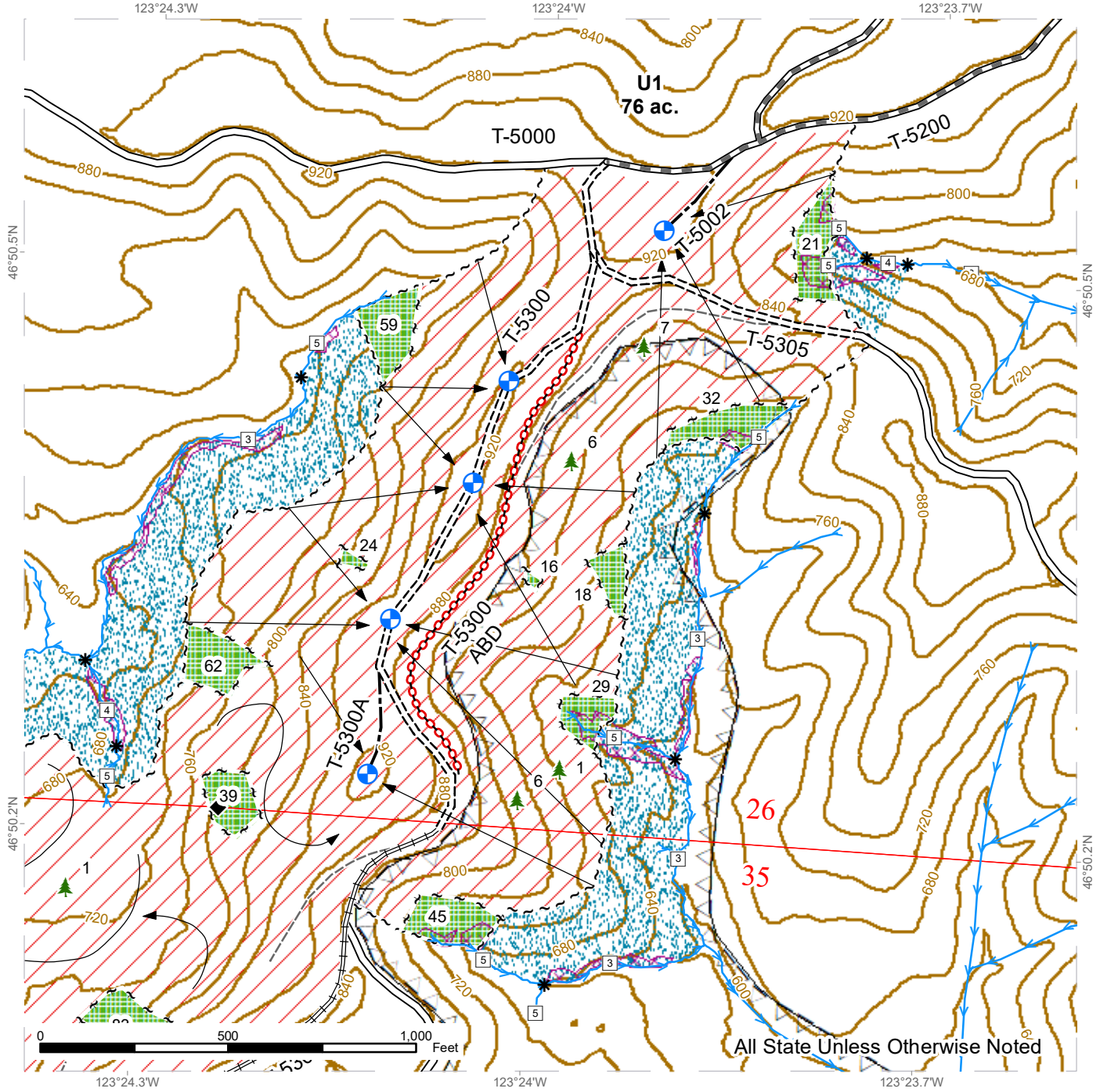
All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact 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 9/18)

LOGGING PLAN MAP

SALE NAME: MM MM GOOD
AGREEMENT#: 30-104153
TOWNSHIP(S): T16R6W
TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), State Forest Transfer (1)

REGION: Pacific Cascade Region
COUNTY(S): Grays Harbor
ELEVATION RGE: 560-880



All State Unless Otherwise Noted

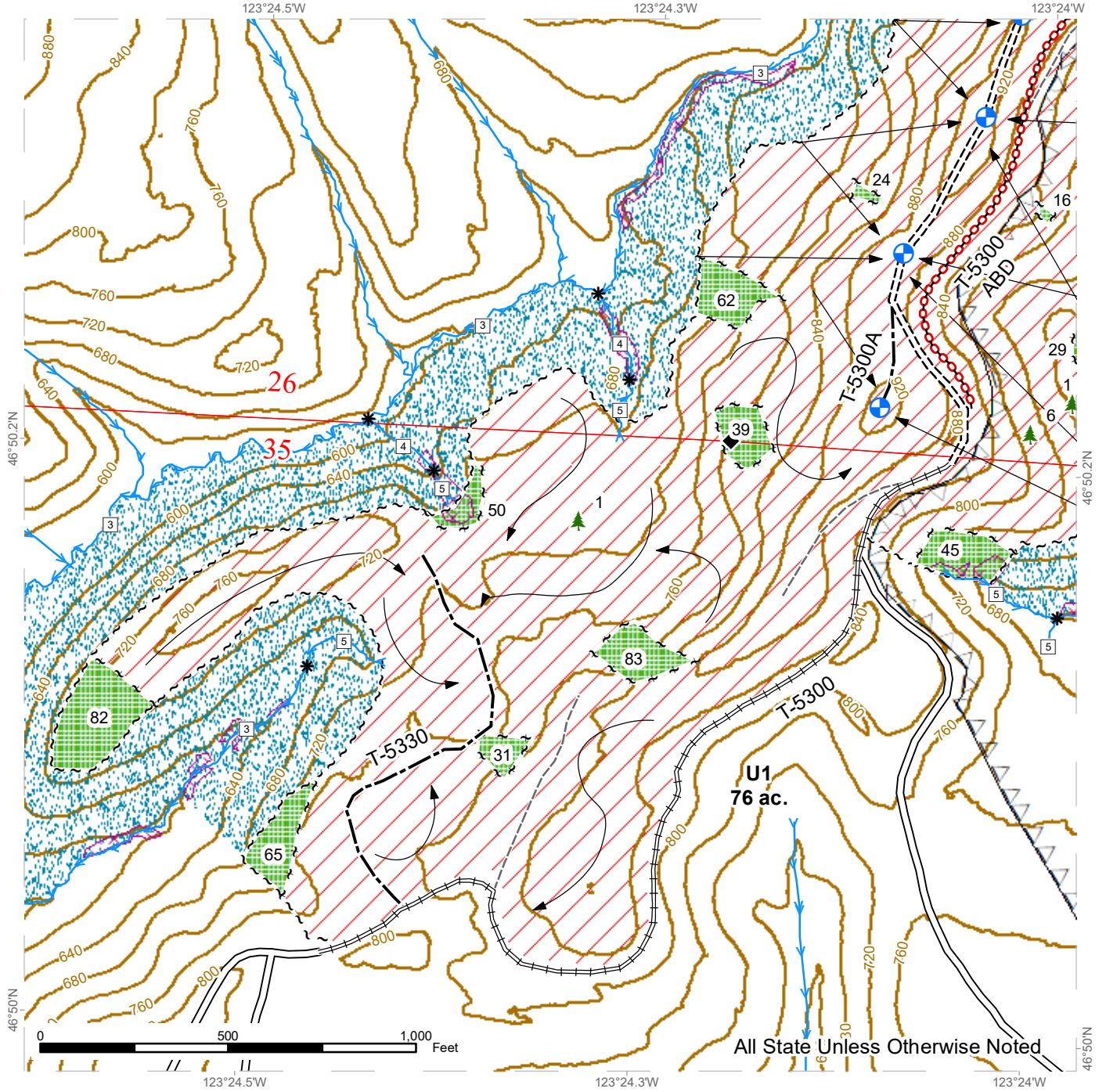
Sale Area	Existing Roads	Sale Boundary Tags	Streams
Riparian Mgt Zone	Required Pre-Haul Maintenance	Leave Tree Tags	Stream Type
Timing Restriction	Required Construction	Ground Harvest	Stream Type Break
Potentially Unstable Slopes	Required Reconstruction	Cable Harvest	Survey Monument
Leave Tree Area	Optional Construction	Landing - Proposed	Leave Tree Area
	Required Abandonment		
	Old Grades/Trails		



LOGGING PLAN MAP

SALE NAME: MM MM GOOD
AGREEMENT#: 30-104153
TOWNSHIP(S): T16R6W
TRUST(S): Capitol Grant (7), Charitable/Educational/Peal & Reformatory Instit. (6), Common School and Indemnity (3), State Forest Transfer (1)

REGION: Pacific Cascade Region
COUNTY(S): Grays Harbor
ELEVATION RGE: 560-880



All State Unless Otherwise Noted

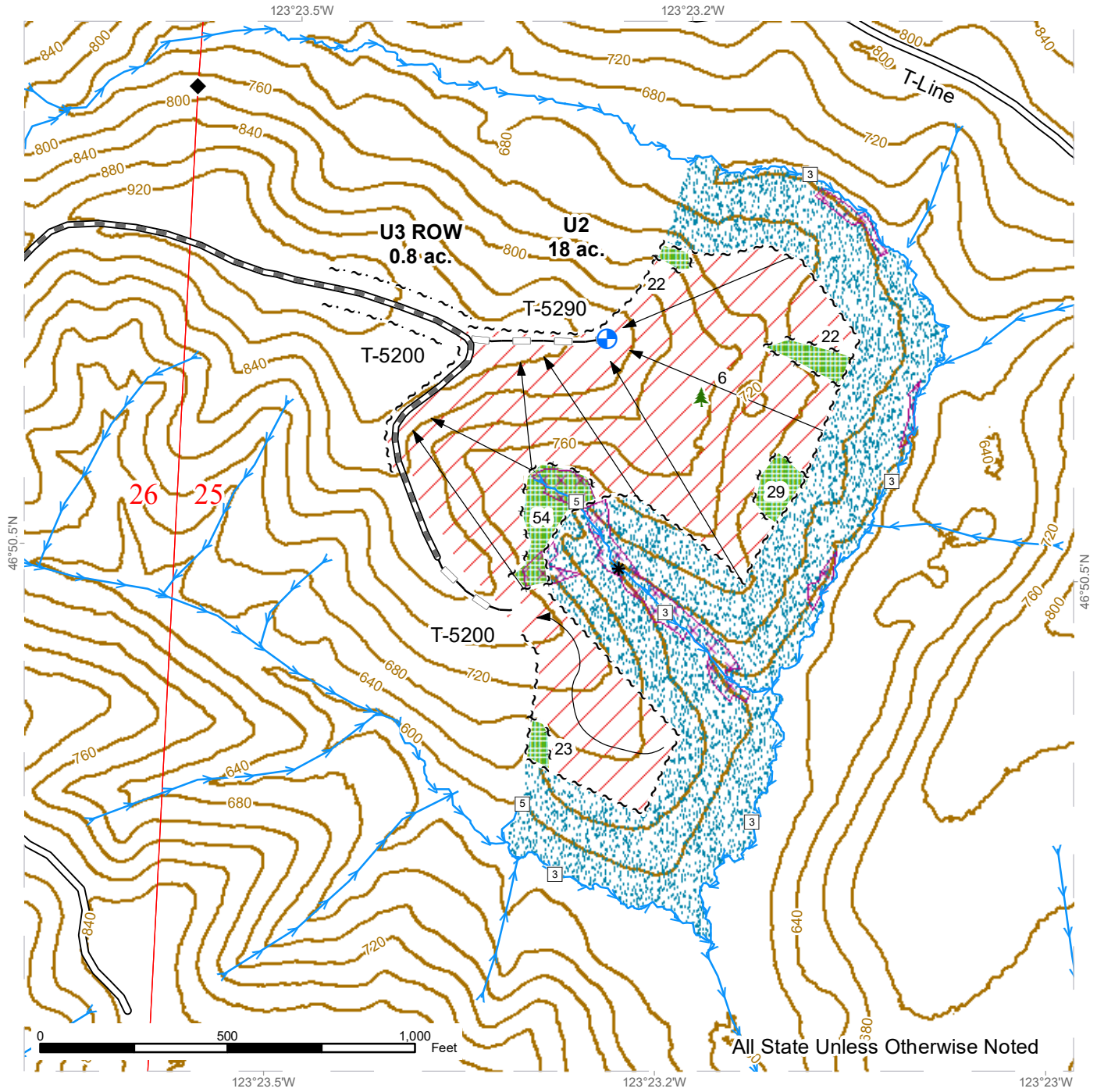
Sale Area	Existing Roads	Sale Boundary Tags	Streams
Riparian Mgt Zone	Required Construction	Leave Tree Tags	Stream Type
Timing Restriction	Required Reconstruction	Ground Harvest	Stream Type Break
Potentially Unstable Slopes	Optional Construction	Cable Harvest	Survey Monument
Leave Tree Area	Required Abandonment	Old Grades/Trails	Landing - Proposed
			Leave Tree Area



LOGGING PLAN MAP

SALE NAME: MM MM GOOD
AGREEMENT#: 30-104153
TOWNSHIP(S): T16R6W
TRUST(S): Capitol Grant (7), Charitable/Educational/Peal & Reformatory Instit. (6), Common School and Indemnity (3), State Forest Transfer (1)

REGION: Pacific Cascade Region
COUNTY(S): Grays Harbor
ELEVATION RGE: 560-880



Sale Area	Existing Roads	Sale Boundary Tags	Streams
Riparian Mgt Zone	Required Pre-Haul Maintenance	Leave Tree Tags	Stream Type
Potentially Unstable Slopes	Optional Reconstruction	Right of Way Tags	Stream Type Break
Leave Tree Area		Ground Harvest	Survey Monument
		Cable Harvest	Landing - Proposed
			Leave Tree Area

